

Bear Lake – 16010201

Idaho

8 Digit Hydrologic Unit Profile September 2007



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Introduction

The Bear Lake 8-Digit Hydrologic Unit Code (HUC) subbasin is 814,888 acres. The Idaho portion of the subbasin totals 642,359 acres. **Only the Idaho portion of the subbasin will be described in this document.** Approximately eighty three percent of the subbasin is located in Bear Lake County. Caribou County comprises 17 percent of the Bear Lake subbasin; less than 200 acres are located in Franklin County. Fifty five percent of the basin is privately owned and 45 percent is public land.

Twenty percent of the basin is in forest, 36 percent is shrubland or rangeland, 14 percent is cropland and 14 percent is grass, pasture or hayland. Approximately 3 percent of the watershed is enrolled in the Conservation Reserve Program (CRP). The remaining thirteen percent is water, wetland, developed or barren.

Elevations range from 5700 feet below Alexander Reservoir in the northwestern portion of the subbasin to over 10,000 feet for Meade Peak several miles southeast of Soda Springs along the eastern watershed boundary.

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

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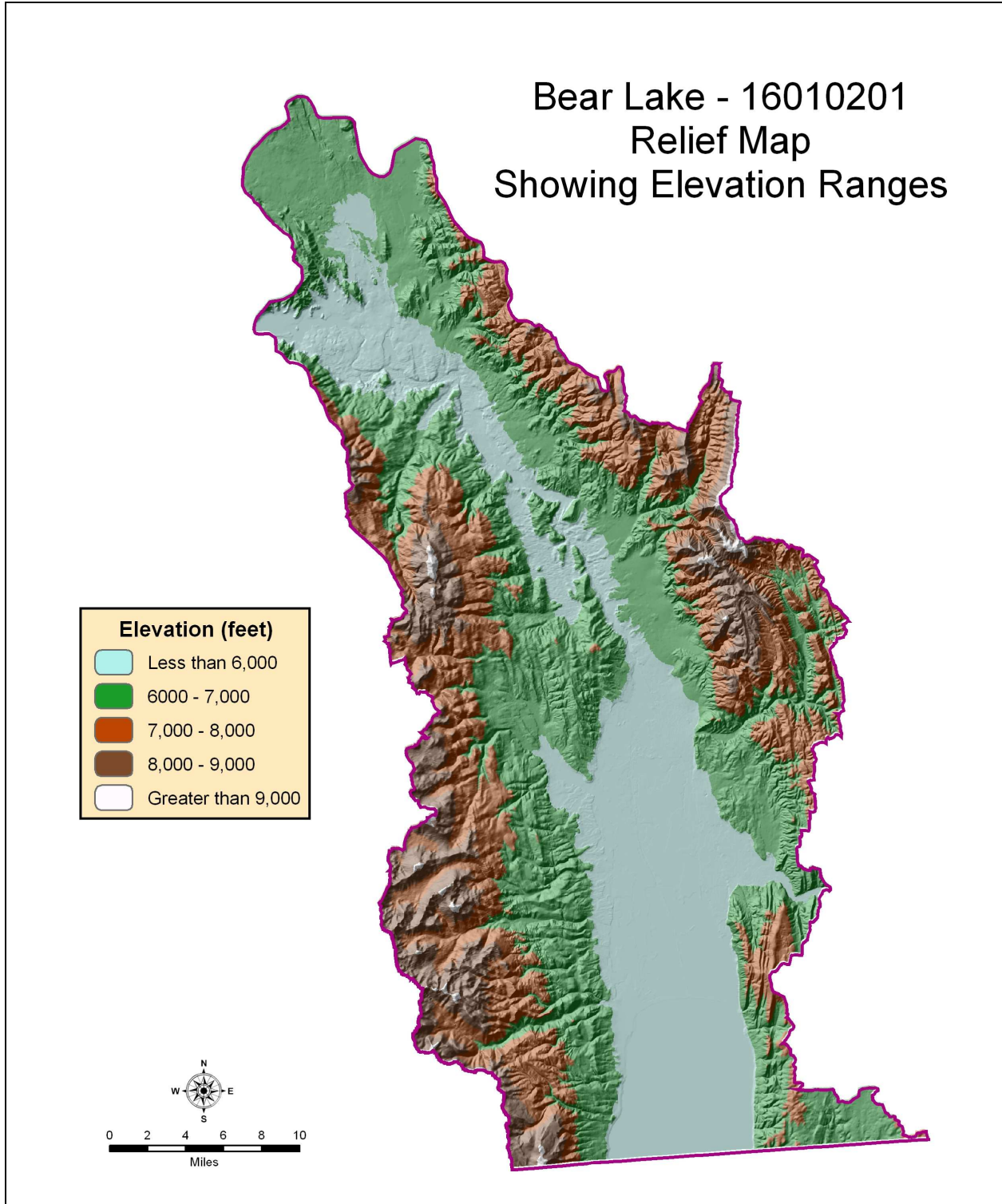
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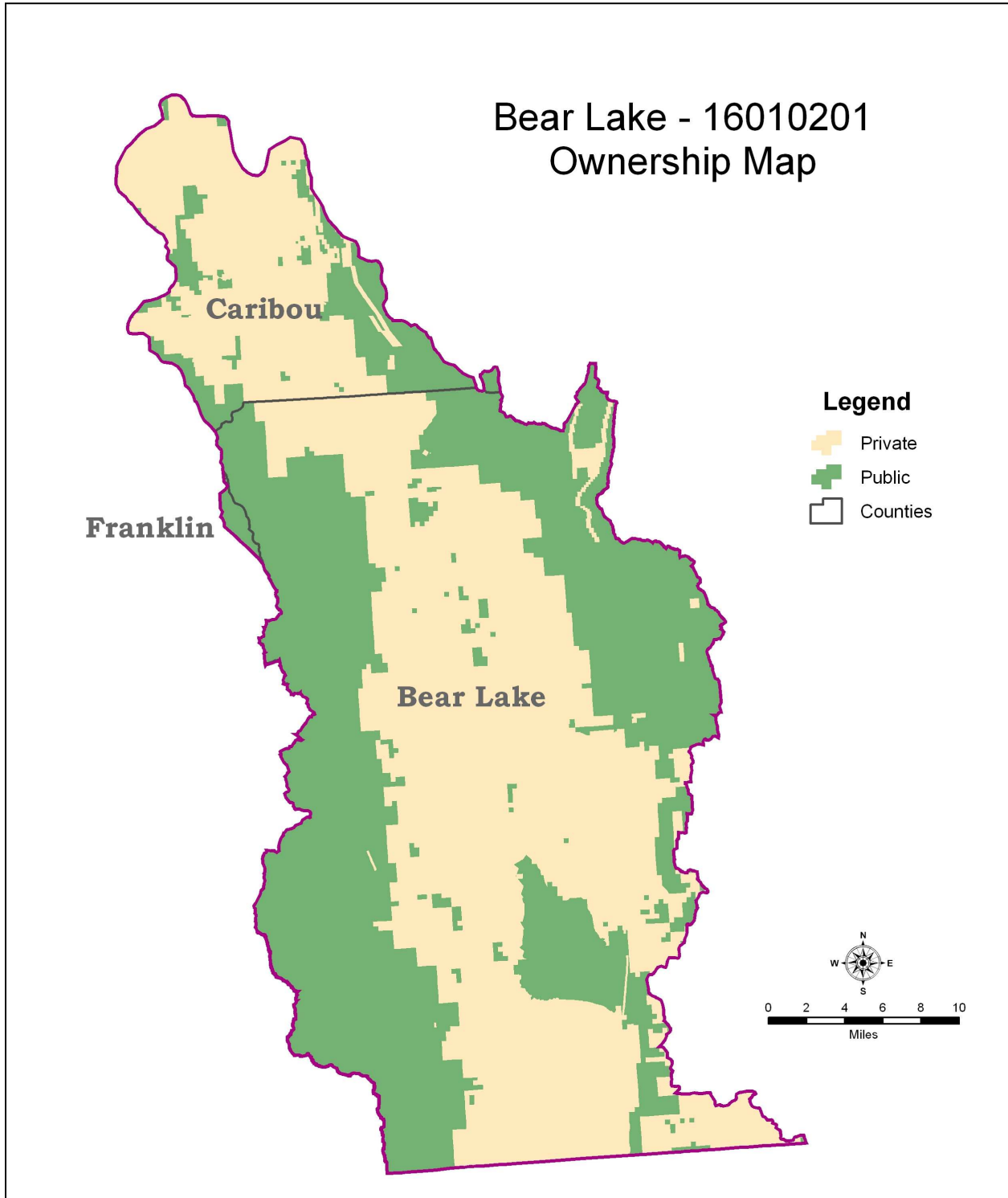
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Relief Map



General Ownership





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Physical Description

ALL NUMBERS WITHIN THIS PROFILE ARE FOR IDAHO ONLY

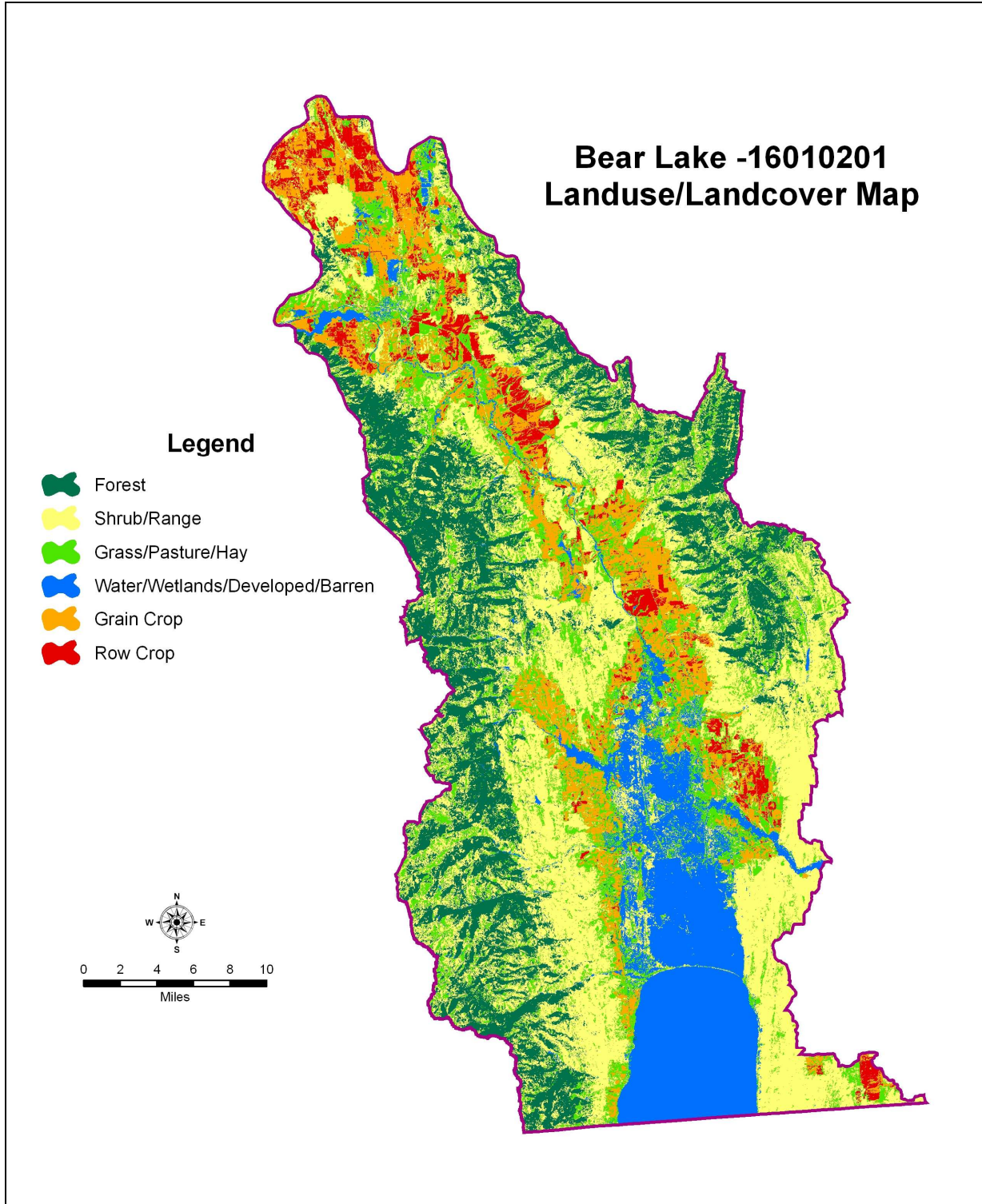
Land Cover / Land Use (NLCD ^{/2})	Ownership - (2003 Draft BLM Surface Map Set ^{/1})						Totals	% of HUC
	Public		Private		Tribal			
	Acres	%	Acres	%	Acres	%		
Forest	118,481	18%	12,781	2%	--	--	131,262	20%
Grain Crops	387	<1%	66,020	10%	--	--	66,407	10%
Conservation Reserve ^{/3} Program (CRP) Land		--	17,109	3%	--	--	17,109	3%
Grass/Pasture/Hay Lands	34,114	5%	55,086	9%	--	--	89,200	14%
Orchards/Vineyards/Berries		--		--	--	--	--	--
Row Crops	148	<1%	26,610	4%	--	--	26,758	4%
Shrub/Rangelands	116,689	18%	111,397	17%	--	--	228,086	36%
Water/Wetlands/ Developed/Barren	17,916	3%	65,609	10%	--	--	83,525	13%
Idaho HUC Totals*	287,735	45%	354,612	55%	--	--	642,347	100%

*Totals are approximate due to calculation methods used

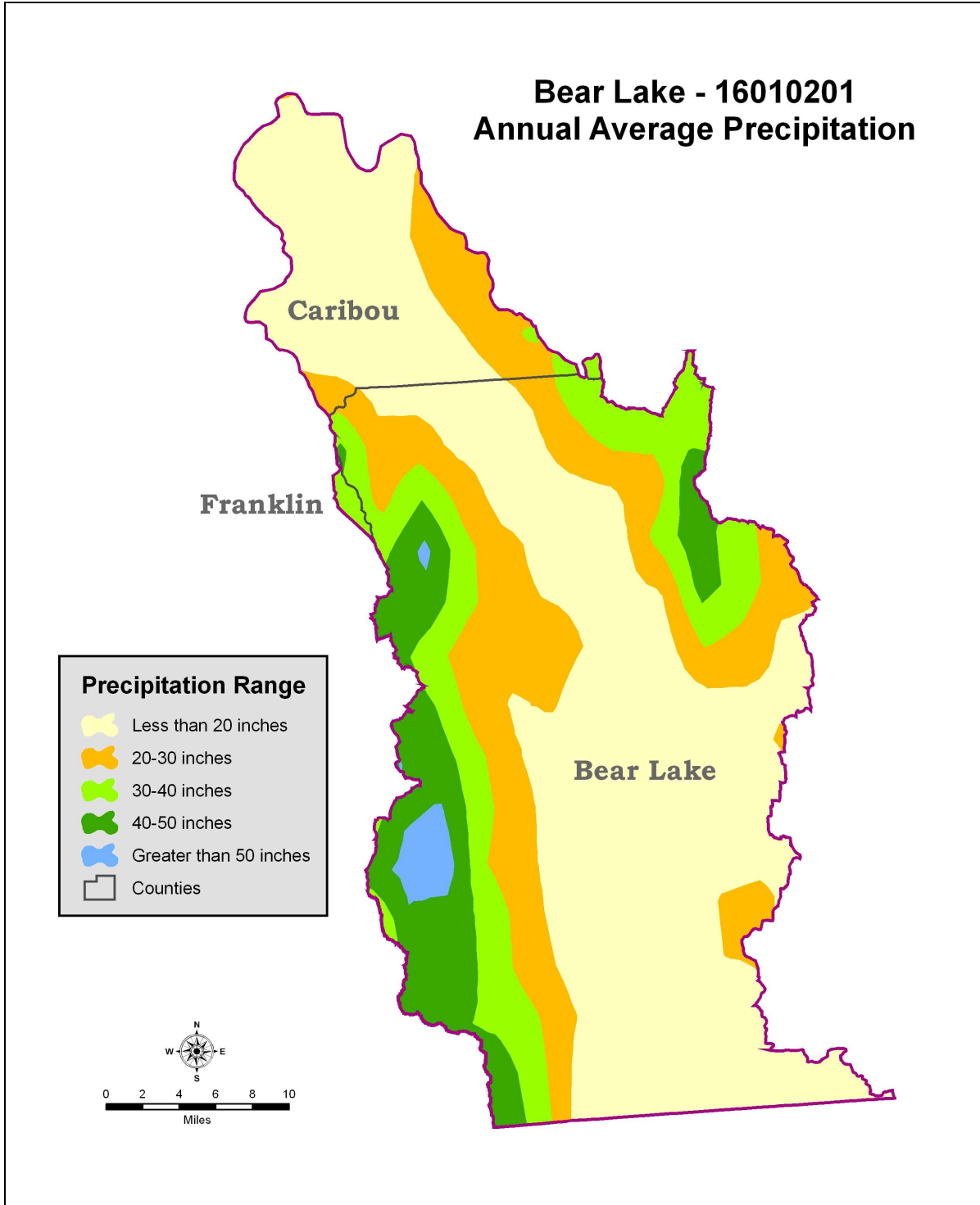
Irrigated Lands ^{/4}	Type of Land	ACRES	% of Irrigated Lands	% of HUC
	Cultivated Cropland	9,100	29%	1%
	Non-Cultivated Cropland**	19,300	60%	3%
	Pastureland	3,400	11%	<1%
	Total Irrigated Lands	31,800	100%	5%

**Includes permanent hayland and horticultural cropland.

Land Use / Land Cover



Average Annual Precipitation

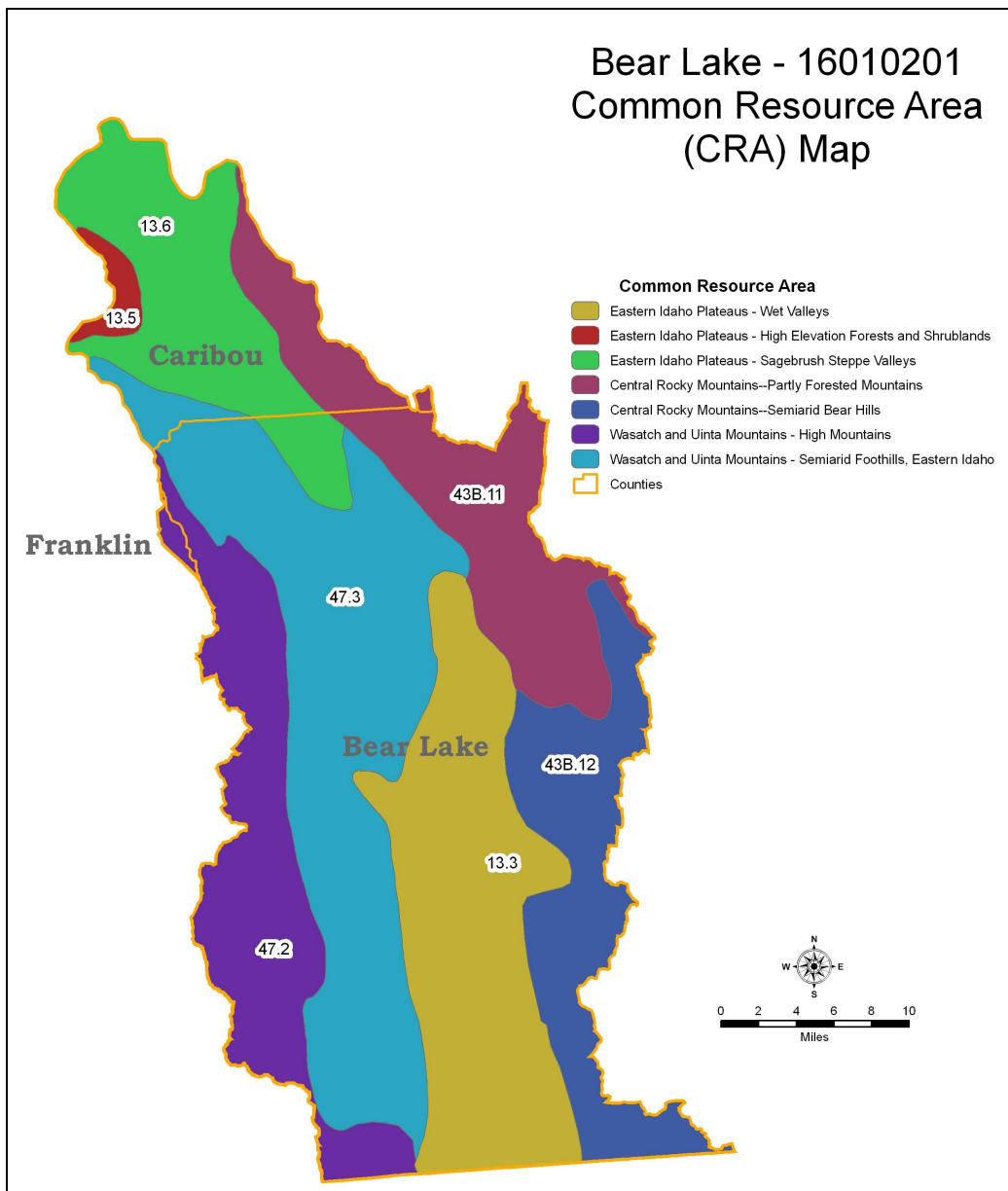


Common Resource Area Map

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

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

[\(General Manual Title 450 Subpart C 401.21\)](#)





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Common Resource Area Descriptions

The National Coordinated CRA Geographic Database provides:

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

13.3 Eastern Idaho Plateaus - Wet Valleys

This unit is characterized by wetlands, lakes, canals, cold winters, and a short growing season. Nearly level, poorly-drained floodplains and low terraces are widespread and support sedges, rushes, cattails, marsh grasses, annual bluegrass, and clover. Well-drained alluvial fans and foothills covered in sagebrush grassland act as a transition to the surrounding and much more rugged Partly Forested Mountains, Semiarid Bear Hills, and Semiarid Foothills CRA Units. Mollisols occur and have a frigid temperature regime. Land use is irrigated hayland, meadow pastureland, and rangeland. Land use and drainage conditions are all different from neighboring units.

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).

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.



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Common Resource Area Descriptions - continued

43B.12 Central Rocky Mountains--Semiarid Bear Hills

The Semiarid Bear Hills ecoregion is located in the rain shadow of high mountains. Its terrain is hilly and is distinct from the nearly flat Wet Valleys and the much more rugged Wasatch and Uinta Mountains. Bunchgrasses and mountain big sagebrush occur and contrast with the forests of nearby, mountainous ecoregions. Land use is primarily grazing.

47.2 Wasatch and Uinta Mountains - High Mountains

This area is in the higher elevations of the Wasatch and Uinta Mountains. Precipitation ranges from 16 to about 30 inches. Elevations are usually more than 6,000 feet and range to more than 10,000 feet. The mountains are covered in a mixture of mountain big sagebrush, mountain brush, and coniferous forests; with alpine vegetation on the highest mountain summits.

47.3 Wasatch and Uinta Mountains - Semiarid Foothills, Eastern Idaho

The Semiarid Foothills ecoregion ranges in elevation from about 5,500 to 8,200 feet. Widely spaced junipers occur in a matrix dominated by mountain big sagebrush and bluebunch wheatgrass. Overall, the vegetation is distinct from that of the higher, wetter Wasatch Montane Zone. Livestock grazing is common. Some rangeland has been cleared of trees and reseeded to grasses.

Streamflow Summary [/7, 27, 29,30](#)

From the Bear River Watershed Information System (bearriverinfo.org) website:

“Bear Lake forms the centerpiece of this watershed. The historical channel of the Bear River is north of Bear Lake, traveling about 100 miles northwest from Stewart Dam to Alexander Reservoir. In 1911, a canal was constructed that now diverts almost all flow in the Bear River south at Stewart Dam through Mud Lake and into Bear Lake. The upper 21.5 feet of the lake now function as a reservoir, with water released through the Lifton Pumping Station to the Bear River during the summer for irrigation use. Five major and sixteen smaller tributaries feed the Bear River in the Bear Lake Watershed, including Montpelier Creek, Liberty Creek, Georgetown Creek, Stauffer Creek, Eight Mile Creek, and Soda Creek which contribute to the Bear River directly, and St. Charles Creek, Paris Creek and others drain directly into Bear Lake or Mud Lake. This watershed has a total of 14 lakes and reservoirs.”

“The Bear Lake Watershed contains the largest amount of water storage in the entire Bear River Basin. At its high water mark, Bear Lake holds about 1.42 million acre-feet of Bear River water, and Alexander Reservoir at the downstream end provides 15,000 acre-feet of storage.”

“Flows in the Bear River average 540 cfs as it enters this watershed. At Stewart Dam, most of this flow is diverted south into a canal. The original channel of the Bear River is essentially dewatered below Stewart Dam, and has an average flow of 18 cfs. Water is returned to the river below the Bear Lake outlet, and flows near Alexander, Idaho average 790 cfs due to inputs from tributaries. Flows are measured at two sites in this watershed. An active USGS gaging station near Pescadero below the Bear Lake outlet and an active Pacificorp gage maintained above Alexander Reservoir provide current streamflow information.”

“Water in this watershed is used for irrigation, hydroelectric power, municipal, stock, and industrial needs. Bear Lake County has the largest number of irrigation companies (47), which provide water to 75,680 acres. Water releases from Bear Lake are controlled by agreements outlined in the Bear River Compact, and the lake levels fluctuate annually due to these releases. Because of an extended drought, Bear Lake reached its lowest level in 70 years in 2004, nearly 18 feet below a normal elevation of about 5924 feet.”

A comparison between the Bear River near Cokeville, Wyoming (above Bear Lake), and the Bear River at Pescadero, Idaho (just downstream from Bear Lake), shows that peak streamflow above the lake occurs in June; just below the lake at the Pescadero site, peak streamflow occurs in July. The different peak streamflow pattern at the Pescadero site compared to the Cokeville site is the result of storage and release patterns from Bear Lake for irrigation downstream (USGS, 2002). Although peak flows generally occur in June or July, they have been recorded from April to October. Highest peak flow for the discharge period examined was 4,280 cfs (6/21/86). Flows are highly variable due to irrigation diversions and reservoir release schedules.



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Principal uses of water in the subbasin are irrigation and hydroelectric power generation. Additional uses include domestic, livestock, and industrial purposes.

			Acre-Feet
Stream Flow Data	USGS #10068500 Bear River At Pescadero, ID (1976-2005)	Average Annual	464,243
		Mar-July Average	227,789
		Percent of Average Annual	49.1%



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		CFS	Number	
Irrigated Adjudicated Water Rights ^{/6)}	Surface Water	4,824	2,812	
	Groundwater	71	110	
	Total Irrigated Adjudicated Water Rights	4,895	2,922	
		MILES	PERCENT	
Stream Data	Total Miles ^{/8}	1,085	--	
	Water quality impaired streams ^{/9}	503	46%*	
	Anadromous Fish Presence (Streamnet) ^{/11}	--	--	
	Bull Trout Presence (Streamnet) ^{/11}	--	--	
<i>*Percent of Total Miles of streams in HUC</i>				
		ACRES	PERCENT	
Land Cover/Use ^{/2} based on a 100 ft. stretch on both sides of all streams in the 100K Hydro Layer	Forest	6,029	18%	
	Grain Crops	3,026	9%	
	Grass/Pasture/Hay Lands	7,540	22%	
	Row Crops	1,071	3%	
	Shrub/Rangelands – Includes CRP Lands	13,854	41%	
	Water/Wetlands/Developed/Barren	2,273	7%	
	Total Acres of 100 ft stream buffers	33,793	100%	
Land Capability Class ^{/4}	I – slight limitations	--	--	
	II – moderate limitations	--	--	
	III – severe limitations	51,300	50%	
	IV – very severe limitations	30,700	30%	
	V – no erosion hazard, but other limitations	19,000	19%	
	VI – severe limitations, unsuited for cultivation, limited to pasture, range, forest	1,200	1%	
	VII – very severe limitations, unsuited for cultivation, limited to grazing, forest, wildlife	--	--	
	VIII – misc areas have limitations, limited to recreation, wildlife, and water supply	--	--	
	Total Crop & Pasture Lands	102,200	100%	
Confined Animal Feeding Operations – Dairies/Feedlots ^{/31}				
Operation Type	Number	<300	300-999	1000-4999
Dairy	15			
Feedlots	35	35		



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Resource Settings

Pasture

Dryland Pastures

Dry Pastures are typically used for grazing livestock in the spring and fall months with a rest period during the summer months when the livestock are taken to higher elevations. These pastures are generally managed for forage production and high intensity grazing. Dry pastures consist of forage species consisting of wheat grasses, fescues, brome, orchard grass, sanfoin, clovers, and alfalfa.

Irrigated Pastures

Most irrigated pastures in this watershed are flood irrigated, with farmers backing up irrigation waters during or shortly after spring runoff events. Annual precipitation is 12 inches or less per year; most of the precipitation occurs as winter snow or summer thunderstorms. Irrigated pastures can be found from 4,500-6,000 feet above sea level. Irrigation water is diverted from perennial streams and transferred to irrigated pastures through earthen ditches. In some cases tailwater from flood irrigated fields may be reused or returned back into perennial streams or rivers. The growing season is generally 80-120 days with occasional periods of frost. The average rotation for irrigated pastures in the watershed is 10 years of pasture and 2 years of small grains (wheat, barley, and oats) or alfalfa. Conventional tillage is the typical method used when rotating crops.

Cropland

Dry Cropland

Long cold winters and hot dry summers are typical, with average precipitation usually 14 inches or less per year. Most of the precipitation occurs as winter snow or summer thunderstorms. The growing season is typically 80-120 days with with occasional periods of frost. Typical soils in the area consist of silt-loam with some clay present. Wildlife in the area includes deer, elk, and moose. A species of concern in the area is the Bonneville Cutthroat Trout. Several projects in the area have been implemented to improve the habitat for this fish.

Elevations range from 4,000-5,500 feet above sea level. Conservation crop rotation is generally an existing practice with rotations typically 6 years of alfalfa hay or legumes followed by 2 years of small grains (wheat, barley, or oats). Some dry cropland has been converted to permanent vegetative cover, (such as CRP).

Irrigated Cropland

Irrigated cropland typically has a rotation of 6 years of alfalfa or legumes and 2 years of small grains (wheat, barley, and oats). Irrigated cropland can be found on slopes ranging from 0-3%. Irrigation water is normally plentiful. The growing season ranges from 80-120 days, with occasional periods of frost. Precipitation is 12 inches or less with most of the precipitation occurring as snowfall. Winter months are long and cold and followed by dry summers receiving moisture from thunderstorms. Sprinkler irrigation is a common practice as well as flood irrigation along the lowlands. Water quality limited water bodies may be present in the area.



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Resource Settings - continued

Wildlife found in the area includes deer, elk, and moose. The area is rich with various types of waterfowl as well. A species of concern in the area is the Bonneville Cutthroat Trout. Several projects in the area have been implemented to improve fish habitat.

Hayland

Hayland is usually found on slopes ranging from 0-7%. Precipitation is 12 inches or less with most of the precipitation coming during the winter months followed by summer thunderstorms. Hay rotation is typically 6 years of alfalfa and 2 years of small grains (wheat, barley, and oats). Bonneville Cutthroat Trout is a species of concern in the area. Wildlife that can be found in these areas generally consists of deer, elk, and moose.

Range

Riparian vegetation generally consists of grasses, sedges, rushes, and a variety of different woody species. Streams are generally low gradient and depend on vegetation for stability. Elevations for grazed rangeland range from 5,000-6,500 feet above sea level. These areas serve as a habitat and food source for various types of wildlife and birds. Wildlife that can be found in the area consists of deer, elk, moose, and the occasional black bear. Fencing is generally an existing practice, mostly drift fences or perimeter fences. Rangeland vegetation consists of sagebrush, perennial grasses and forbs. Precipitation is generally 16 inches or less with most coming during the winter months. The summer months are hot and dry with thunderstorms common.

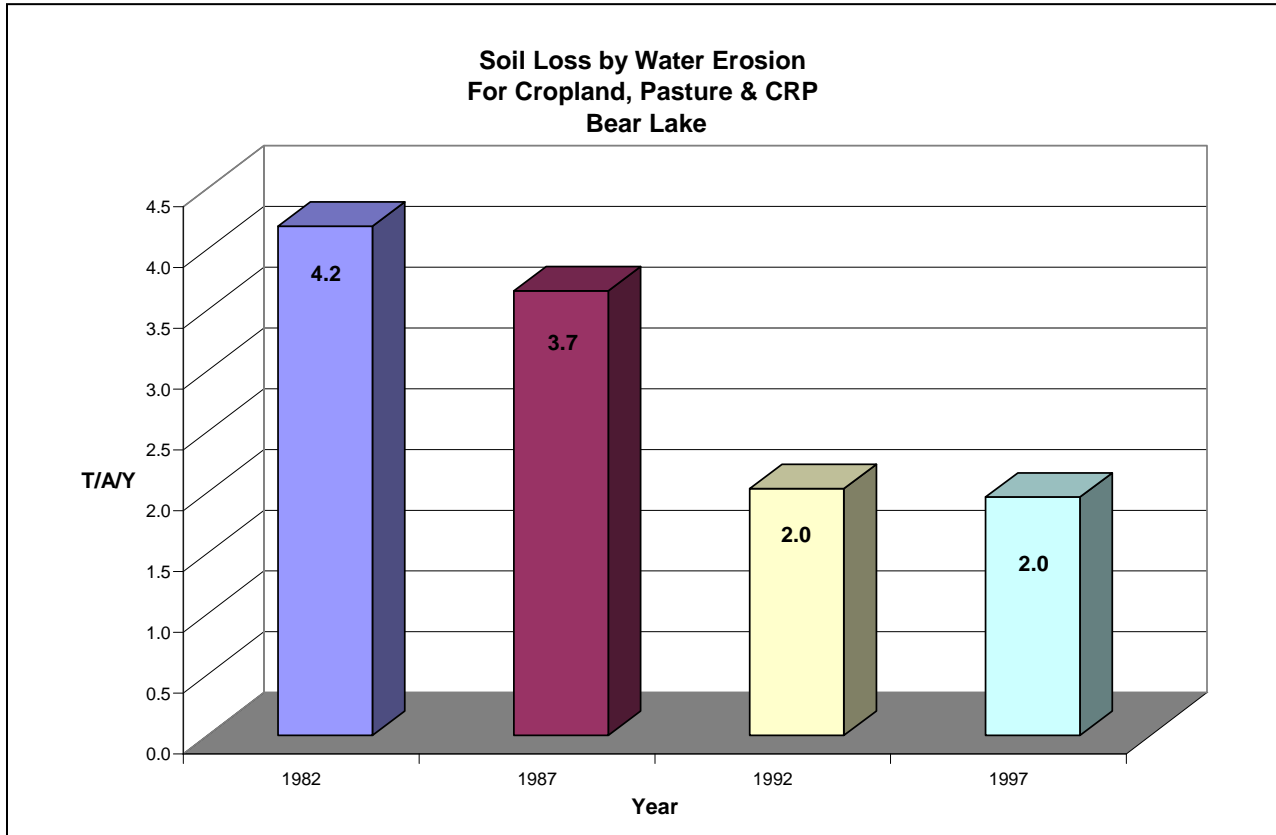
Forests and Grazed Forests

Grazed forest generally averages 4,500 to 6,500 feet in elevation. Fencing is usually an existing practice. Grazed forest borders US Forest Service lands. Cattle are typically moved from one area to another throughout the summer months to ensure forage quality and to avoid overgrazing.

Grazed forest receives 16 to 23 inches of precipitation. Most of the precipitation comes in the form of winter snow or summer thunderstorms. Winters are usually cold with temperatures dropping below zero; summers are typically hot with temperatures running around 90 degrees. When lack of moisture and drought like conditions occur, cattle might have to come off the ranges to lower pastures to ensure that forested areas are not overgrazed.

Resource Concerns

Water erosion on cropland, pasture & CRP in this watershed has decreased significantly since 1982. Rates have decreased from about 4.2 tons per acre year in 1982 to approximately 2 tons per acre per year in 1997.



Controlling erosion not only sustains the long-term productivity of the land, but also affects the amount of soil, pesticides, fertilizer, and other substances that move into the nation’s waters.

Many of the listed streams are impaired by several pollutants, primarily nutrients and sediment. Agricultural land uses contribute to water quality impacts. Other pollutant sources include timber harvest activities, stormwater runoff and land development. Flow and habitat alteration problems exist within the watershed.

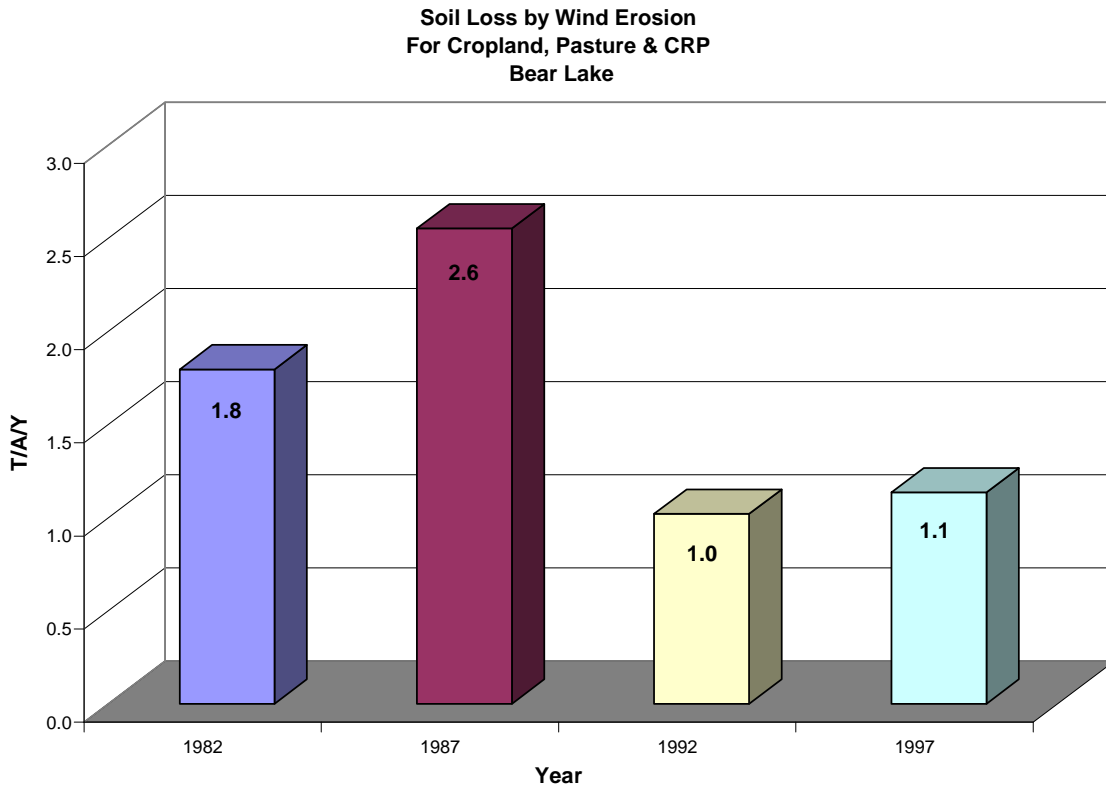
Conservation practices that can be used to address these water quality issues include erosion control, grazing management, residue management, and riparian buffers.

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Wind erosion has decreased by 0.7 tons per acre per year on cropland, pasture and CRP in this subbasin between 1982 and 1997. Following a spike in wind erosion to approximately 2.6 tons per acre per year in 1987, wind erosion has decreased to approximately 1.1 tons per acre per year in 1997.



Conservation practices that can be used to address wind erosion include: surface wetting, surface roughening, windbreaks, seedbed preparation (delayed seeding), mulching, and pasture and hayland planting.



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Resource Concerns - continued

Impacted Water Bodies ^{9.29} (ID 16010201) Named Streams	Stream Miles*	Bacteria	Nutrients	Sediment	Temperature	Dissolved Oxygen	Other or Unknown
Alexander Reservoir (BR001_0L)	1013.1 acres		X	X			
Indian Creek Lake (BR018_0La)	5.8 acres			X			
Bear River (BR002_05)	54.4		X	X			
Bear River (BR002_02)	187.8		X	X			
Bear River (BR002_06)	44.4		X	X			
Sulphur Canyon (BR002_02a)	12.2						X
Coop Creek (BR008_02)	3.4		X	X			
Eightmile Creek (BR004_03)	4.4			X			
South Wilson Creek(BR004_02a)	4.6			X			
Lower Georgetown Creek(BR022_03a)	3.9			X			X
Upper Georgetown Creek (BR022_02b)	10.9			X			
Right Hand Fork Georgetown Creek (BR022_02a)	5.4						X
Liberty Creek (BR011_02a)	6.0						X
Middle Mill Creek (BR011_03a)	2.0						X
Whiskey Creek (BR020_02b)	5.2			X			X
Little Beaver Creek (BR020_02a)	3.6			X			
Montpelier Creek(BR020_02)	32.1			X			
North Creek(BR010_02)	18.0						X
Meadow Creek (BR010_02c)	3.2			X			
Ovid Creek (BR009_04)	16.0			X			
Upper Paris Creek(BR013_02b)	5.5			X			
Sleight Canyon (BR013_02a)	11.3						X
Lower Pearl Creek (BR005_02)	0.5		X	X			
Skinner Creek (BR007_02)	9.6		X	X			
Snowslide Creek (BR021_02)	5.5			X			
Lower Soda Creek (BR023_02b)	1.0			X			X
Spring Creek (BR013_03)	2.7		X	X			
Total Stream Miles:	453.6						

Shading indicates TMDL in place

Shading indicates TMDL in progress



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Resource Concerns - continued

Watershed Projects, Plans, Studies and Assessments

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Martin Mast Installation Project beginning Fall 2007

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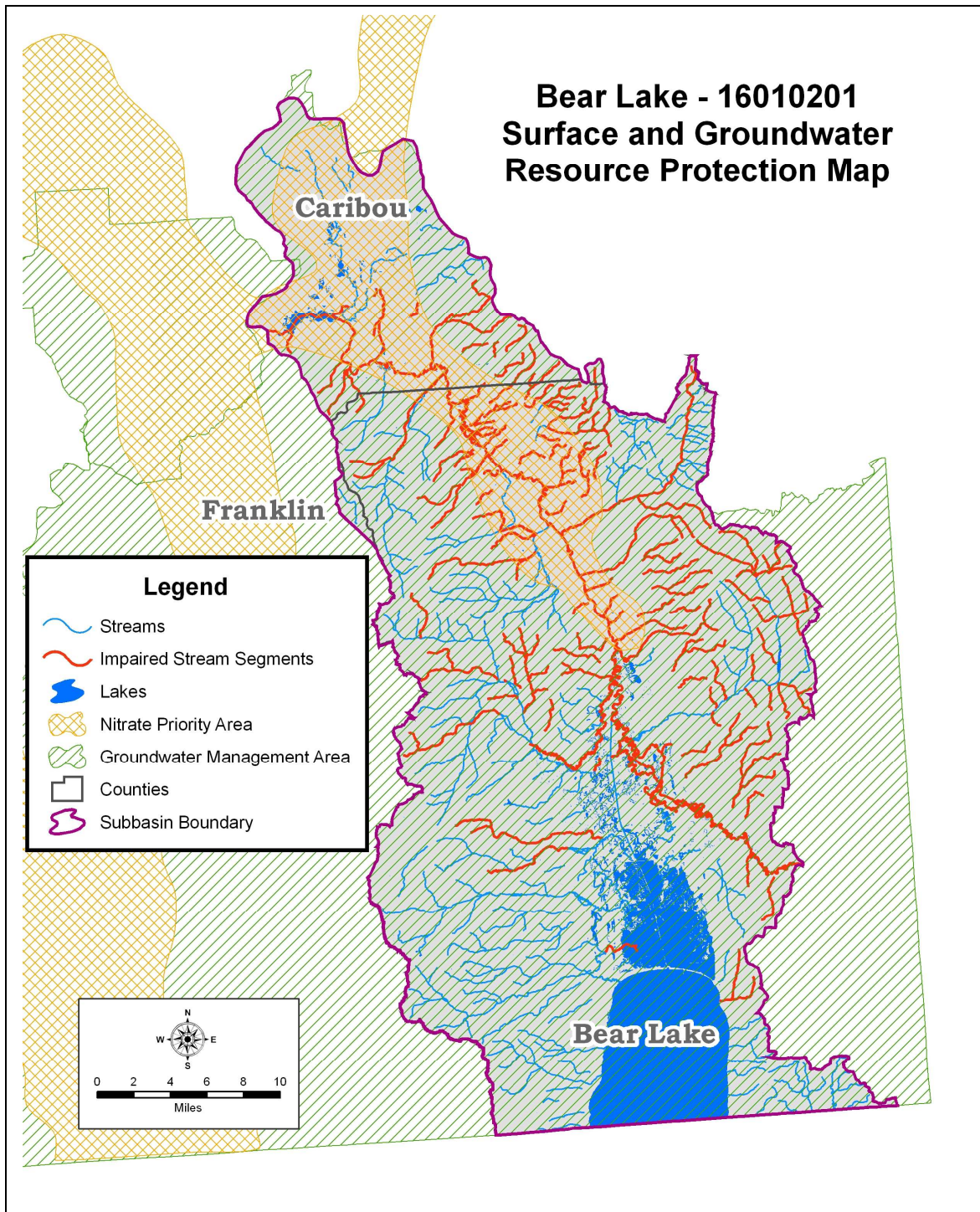
Watershed Projects, Plans, Studies and Assessments - continued

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Resource Concerns – continued

Surface and Groundwater Resource Protection





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Resource Concerns – continued

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

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

FEDERALLY LISTED THREATENED AND ENDANGERED SPECIES ^{/25}	
Threatened Species	Candidate Species
Mammals – Lynx Birds – Bald Eagle Fish – None Invertebrates – None Plants – None	Fish - None Birds – None
	PROPOSED SPECIES None
ESSENTIAL FISH HABITAT – None	CRITICAL FISH HABITAT - None

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Idaho

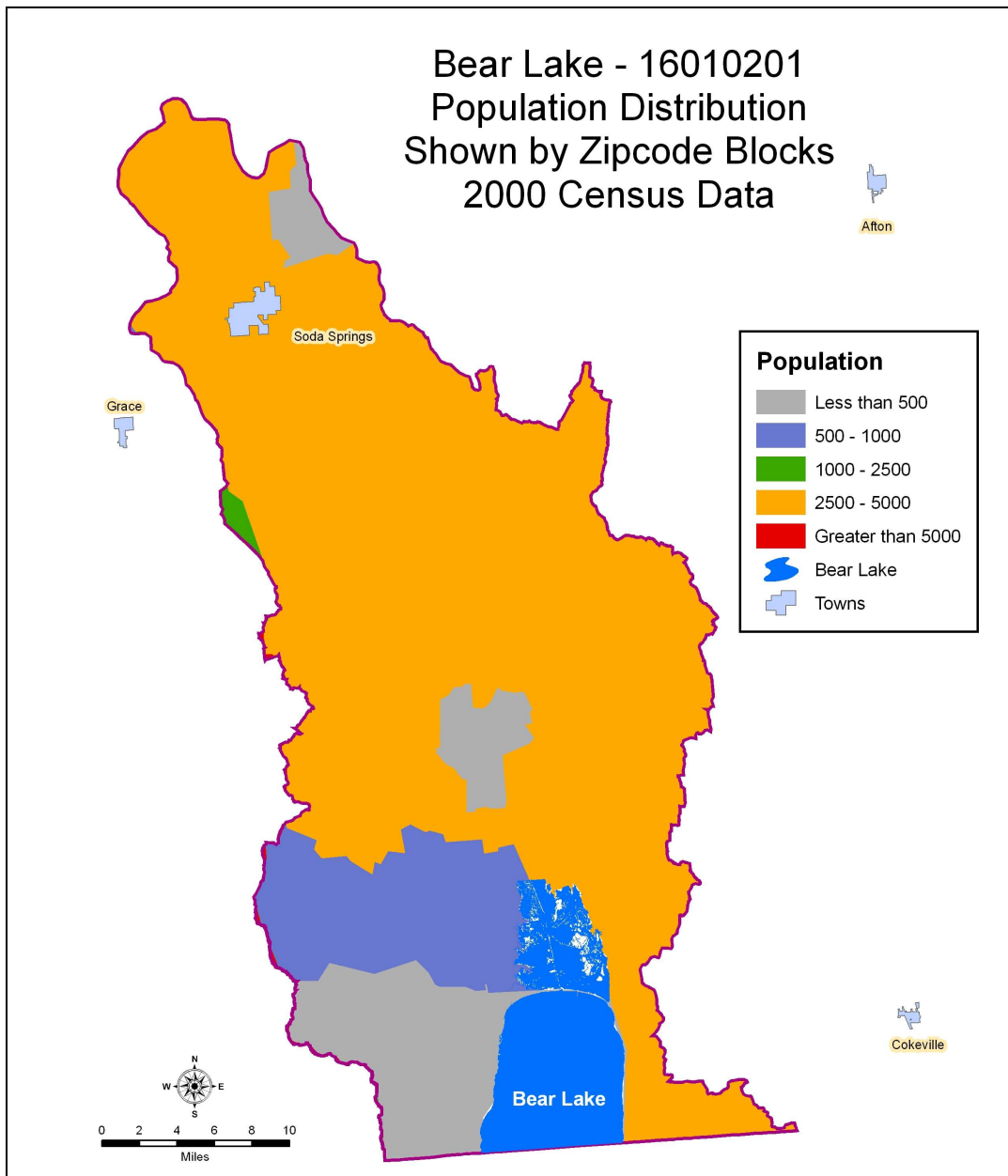
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Census and Social Data ^{/26}

Population: 10,341

Number of Farms: 403

	0-49 acres	50-999 acres	1000+ acres
Number of Farms	119	226	58





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Census and Social Data - continued

Fifty seven percent of farm operators are farmers by occupation. The remaining operators have off-farm jobs as their primary occupation. The majority of operators are male but women make up 28% of the total. Ninety-seven percent of all operators are white. Non-white operators are of Hispanic and Native American background.

Farm size ranges from less than 10 acres to more than 1,000 acres with an average of 580 acres. Agricultural land in the watershed is a mix of woodland, cropland, range, pasture and hayland. Land users in the watershed utilize EQIP, CRP, WHIP, Continuous CRP, CIP, ECC and other programs to implement conservation plans, as well as the state WQPA and 319 programs.

Farm numbers and size are down over the past several years; market value of production is down as well. Government payments to farmers are up over the past few years. Farm sales range from less than \$1,000 to more than \$500,000 per year. Eighty 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	420	620	\$45,000	\$9,100
2002	400	580	\$42,700	\$10,300
Change	-4.8%	-6.5%	-5.1%	13.2%

Economic Profile

	Watershed	Idaho	United States
Population (2000)	10,341		
Per Capita Personal Income (2002)	\$19,400	\$25,476	\$30,906
Median Home Value (2000)	\$74,300	\$106,300	\$119,600
Percent Unemployment (2004)	5.1%	4.7%	5.5%
Percent Below Poverty Level (2003)	10.9%	11.8%	12.5%



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Progress / Status

PRS DATA				
Conservation Treatment Applied	FY04	FY05	FY06	Total
Conservation Cover (327) (ac)	3,912	1,071	332	5,315
Fence (382) (ft)		3,175	44,085	47,260
Forage Harvest Management (511) (ac)	1,487	371		1,858
Irrigation System, Sprinkler (442) (ac)		33	103	136
Irrigation Water Conveyance, Pipeline, High-Pressure, Underground, Plastic (430DD) (ft)	620	1,370	20,443	22,433
Irrigation Water Conveyance, Pipeline, Low-Pressure, Underground, Plastic (430EE) (ft)			2,365	2,365
Irrigation Water Conveyance, Pipeline, Rigid Gated Pipeline (430HH) (ft)			60	60
Irrigation Water Management (449) (ac)		44	17	61
Nutrient Management (590) (ac)	1,339			1,339
Pasture and Hay Planting (512) (ac)		30	51	81
Pest Management (595) (ac)		249	1,070	1,319
Pipeline (516) (ft)		31,515	2,972	34,487
Prescribed Grazing (528) (ac)	25	620	940	1,585
Prescribed Grazing (528A) (ac)	2,684	113		2,797
Pumping Plant (533) (no)	1			1
Riparian Forest Buffer (391) (ac)		1		1
Shallow Water Development and Management (646) (ac)			93	93
Spring Development (574) (no)		5	3	8
Structure for Water Control (587) (no)	1	1	8	10
Upland Wildlife Habitat Management (645) (ac)		1,341	1,141	2,482
Use Exclusion (472) (ac)		1	366	367
Waste Storage Facility (313) (no)		1		1
Water Well (642) (no)			4	4
Watering Facility (614) (no)		13	5	18
Wetland Enhancement (659) (ac)			93	93
Wetland Wildlife Habitat Management (644) (ac)		1	126	127
Windbreak/Shelterbelt Establishment (380) (ft)			110	110



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Progress / Status - continued

Progress in the last seven years has been focused on:

- ~ erosion control
- ~ irrigation water management
- ~ nutrient management
- ~ water quality
- ~ upland wildlife habitat management

Resource concerns that require ongoing attention:

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

Lands Removed from Production through Farm Bill Programs

- Conservation Reserve Program (CRP): **17,109**
- Wetland Restoration 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 for further information.
6. Irrigated Adjudicated Water Rights – Idaho Department of Water Resources <http://www.idwr.idaho.gov/water/srba/mainpage/>
7. USGS Idaho Streamflows, gaging station data (<http://waterdata.usgs.gov/id/nwis/sw/>) and estimates for ungaged streams based on statistical data (<http://streamstats.usgs.gov/html/idaho.html>).
8. National Hydrology Dataset (NHD). Developed by the US Geological Survey in cooperation with U.S. Environmental Protection Agency and other state and local partners (<http://nhd.usgs.gov>).



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http://www.deq.idaho.gov/water/data_reports/surface_water/monitoring/integrated_report.cfm.
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<http://www.scc.state.id.us/waq.htm>
11. StreamNet is a cooperative venture of the Pacific Northwest's fish and wildlife agencies and tribes and is administered by the Pacific States Marine Fisheries Commission. Streamnet provided data and data services in support of the region's Fish and Wildlife Program and other efforts to manage and restore the region's aquatic resources. Official Streamnet website:
<http://www.streamnet.org/>
12. (Dairy) Idaho Department of Water Resources: http://www.idwr.state.id.us/gisdata/gis_data_new.htm
13. (Feedlot) Idaho State Department of Agriculture: <http://www.agri.state.id.us/> FOIA request.
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15. Natural Resource Conservation Service: Watershed Plans, Studies and Assessments complete.
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<http://www.scc.state.id.us/PDF/Aq%Component%20Status%20Report%20-%202004.pdf>
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Future Conservation Needs

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

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

1. Estimates of total conservation needs based on benchmark conditions in the watershed
2. Present level of conservation installation reported in the NRCS web based reporting system
3. Local knowledge of the area, past and ongoing project activities and professional judgement

Note: Where numbers of acres for individual treatment units differ from those presented in the preceding report tables, this is attributed to local field office/staff input.

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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Current Conditions (Private)		Total Acres
Total Dry Cropland		83,530
Typical Management Unit/Ownership		580
Current Farm Bill Participation		90%

Current Level of Treatment for Dry Cropland												
Dry Cropland	Quantity		Costs		Effects				Implementation			
Practices	Unit	Quantity	Investment Cost	Annual O&M and Mngt. Cost	Water Conservation	Water Storage	Habitat	WQ	EQIP	WHIP	CREP	Other
Dry Cropland	Ac.	83,530			-3	-/+	-2	-3				
Conservation Cover (327)	Ac.	1329	\$ -	\$ 3,990					X			X
Fence (382)	Ft.	15596	\$ -	\$ -					X			X
Nutrient Management (590)	Ac.	335	\$ -	\$ -					X			X
Pest Management (595)	Ac.	330	\$ -	\$ 3,300					X			X
Upland Wildlife Habitat Management (645)	Ac.	1241	\$ -	\$ 6,210					X	X		X
Total RMS Costs			\$ 0	\$ 13,500								



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Future Conditions		Total Acres
Total Dry Cropland		83,530

Project Future Level of Treatment for Dry Cropland												
Dry Cropland	Quantity		Costs		Effects				Implementation			
	Unit	Quantity	Investment Cost	Annual O&M and Mngt. Cost	Water Conservation	Water Storage	Habitat	WQ	EQIP	WHIP	CREP	Other
Dry Cropland	Ac.	83,530			+2	+1	+1	+2				
Conservation Cover (327)	Ac.	7935	\$ 792,700	\$ 23,780					X	X		X
Conservation Crop Rotation (328)	Ac.	41,765	\$ -	\$ -					X			
Contour Farming (330)	Ac.	50,118	\$ 375,900	\$ 125,300					X			X
Deep Tillage (324)	Ac.	835	\$ 37,600	\$ 12,530					X			
Filter Strip (393)	Ac.	1,671	\$ 167,100	\$ 3,340					X			X
Grassed Waterway (412)	Ac.	418	\$ 752,400	\$ 15,050					X			X
Nutrient Management (590)	Ac.	4,177	\$ 57,600	\$ 19,210					X			X
Pasture and Hay Planting (512)	Ac.	8,353	\$ 835,300	\$ 8,350					X			X
Pest Management (595)	Ac.	4177	\$ 115,400	\$ 38,470					X			X
Residue Mgmt. Mulch Till (345)	Ac.	16,706	\$ 751,800	\$ 250,590					X			X
Residue Mgmt. No Till/Direct Seed (329)	Ac.	25,059	\$ 2,255,300	\$ 112,770					X			X
Upland Wildlife Habitat Management (645)	Ac.	4,177	\$ 44,000	\$ 14,680					X	X		X
Water and Sediment Control Basins (638)	Ea.	84	\$ 84,000	\$ 2,520					X			X
Total RMS Costs			\$ 6,269,100	\$ 626,590								



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Potential RMS Effects for Dry Cropland			
Cost Items and Programs		Costs	O&M Costs
Non Farm Bill Programs		\$626,900	\$62,660
Potential Farm Bill Programs		\$5,642,200	\$563,930
Operator O&M and Management Cost			\$626,590
Annual Management Incentives (3yrs - Incentive Payments)		\$2,472,300	
Operator Investment		\$2,211,900	
Federal Costshare		\$1,584,900	
Total RMS Costs		\$6,269,100	\$626,590
Estimated Level of Participation			90%
Total Acres in RMS System			75,200
Anticipated Cost at Estimated Level of Participation			\$5,642,200
Participating landowners will be in compliance with TMDLs			
Improves habitat for ESA endangered and threatened species			



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Current Conditions		Total Acres
Surface Irrigated Cropland		6,370
Sprinkler Irrigated Cropland		2,730
Total Irrigated Cropland		9,100
Typical Management Unit/Ownership		580
Current Farm Bill Participation		90%

Current Level of Treatment for Irrigated Cropland												
Irrigated Cropland	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
Surface Irrigated Cropland	Ac.	6,370			-3	-/+	-3	-3				
Conservation Cover (327)	Ac.	930	\$ -	\$ 3,350					X			X
Forage Harvest Management (511)	Ac.	326	\$ -	\$ -					X			X
Irrigation Water Conveyance, Pipeline, Low Pressure, (430EE)	Ft.	473	\$ -	\$ 10					X			X
Irrigation Water Management (449)	Ac.	43	\$ -	\$ 400					X			X
Nutrient Management (590)	Ac.	235	\$ -	\$ 1,180					X			X
Pest Management (595)	Ac.	230	\$ -	\$ 2,300					X			X
Prescribed Grazing (528)	Ac.	767	\$ -	\$ 3,840					X			X
Sprinkler Irrigated Cropland	Ac.	2,730			-3	-/+	-2	-2				
Conservation Cover (327)	Ac.	399	\$ -	\$ 1,440					X			X
Forage Harvest Management (511)	Ac.	139	\$ -	\$ -					X			X
Irrigation System, Sprinkler (442)	Ac.	68	\$ -	\$ 750					X			X
Irrigation Water Conveyance, Pipeline, High Pressure,(430DD)	Ft.	11,215	\$ -	\$ 300					X			X
Irrigation Water Management (449)	Ac.	18	\$ -	\$ 200					X			X
Nutrient Management (590)	Ac.	100	\$ -	\$ 500					X			X
Pest Management (595)	Ac.	99	\$ -	\$ 990					X			X
Prescribed Grazing (528)	Ac.	328	\$ -	\$ 1,640					X			X
Structure for Water Control (587)	No.	5	\$ -	\$ 60					X			X



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Current Level of Treatment for Irrigated Cropland												
Irrigated Cropland	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
Riparian (Surface & Sprinkler) Irrigated Cropland	Ac.	400										
Use Exclusion (472)	Ac.	184	\$ -	\$ 190					X			X
Total RMS Costs			\$ 0	\$ 17,150								



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	Total Acres	Riparian Acres
Future Conditions		
Surface Irrigated Cropland	6,370	
Sprinkler Irrigated Cropland	2,730	
Total Irrigated Cropland	9,100	400

Project Future Level of Treatment for Irrigated Cropland												
Irrigated 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
Surface Irrigated Cropland	Ac.	6,370			+2	+1	+1	+3				
Conservation Cover (327)	Ac.	1,585	\$ 78,600	\$ 2,360					X			
Fence (382)	Ft.	1,594	\$ 2,800	\$ 60					X	X		X
Filter Strip (393)	Ac.	319	\$ 31,900	\$ 640					X			X
Heavy Use Protection (561)	Ac.	8	\$ 120,000	\$ 18,000					X			X
Irr Sys Micro Irrigation (441)	Ac.	127	\$ 190,500	\$ 9,530					X			X
Irrigation Water Conveyance, Pipeline, Low Pressure, Undergrd. Plastic, (430EE)	Ft.	13,138	\$ 99,000	\$ 500					X			X
Irrigation Water Mgmt (449)	Ac.	1,338	\$ 38,900	\$ 12,950					X			X
Nutrient Mgmt (590)	Ac.	319	\$ 1,300	\$ 420					X			X
Pest Mgmt (595)	Ac.	319	\$ 2,700	\$ 890					X			X
Residue Management, NoTill, Direct Seed (3290)	Ac.	1,274	\$ 114,700	\$ 5,730					X			X
Riparian Forest Buffer (391)	Ac.	191	\$ 286,500	\$ 2,870					X	X		X
Riparian Herbaceous Cover (390)	Ac.	82	\$ 24,600	\$ 250					X	X		X
Upland Wildlife Hab Mgmt (645)	Ac.	127	\$ 1,900	\$ 640					X	X		X
Windbreak/Shelterbelt Est. (380)	Ft.	6,414	\$ 28,900	\$ 290					X	X		X



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Project Future Level of Treatment for Irrigated Cropland												
Irrigated Cropland	Quantity		Costs		Effects				Implementation			
	Unit	Quantity	Investment Cost	Annual O&M and Mngt.Cost	Water Conservation	Water Storage	Habitat	WQ	EQIP	WHIP	CREP	Other
Sprinkler Irrigated Cropland	Ac.	2,730			+2	+/-	+2	+3				
Conservation Cover (327)	Ac.	679	\$ 81,500	\$ 2,440					X			
Fence (382)	Ft.	2,390	\$ 4,200	\$ 80					X	X		X
Filter Strip (393)	Ac.	55	\$ 5,500	\$ 110					X			X
Heavy Use Protection (561)	Ac.	8	\$ 120,000	\$ 18,000					X			X
Irrigation Water Conveyance, Pipeline, High Pressure, Undergrd. Plastic, (430DD)	Ft.	11,261	\$ 200	\$ -					X			X
Irrigation Water Mgmt (449)	Ac.	1,638	\$ 48,600	\$ 16,200					X			X
Prescribed Grazing (528)	Ac.	410	\$ 1,200	\$ 410					X			
Pumping Plant (533)	No.	5	\$ 32,000	\$ 640					X			X
Riparian Forest Buffer (391)	Ac.	27	\$ 40,500	\$ 410					X	X		X
Riparian Herbaceous Cover (390)	Ac.	41	\$ 12,300	\$ 120					X	X		X
Structure for Water Control (587)	No.	6	\$ 500	\$ 10					X			X
Upland Wildlife Hab Mgmt (645)	Ac.	137	\$ 2,100	\$ 690					X	X		X
Windbreak/Shelterbelt Est. (380)	Ft.	2,815	\$ 4,200	\$ 40					X	X		X



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Project Future Level of Treatment for Irrigated Cropland												
Irrigated 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
Riparian (Surface & Sprinkler) Irrigated Cropland	Ac.	400			+2	+1	+2	+3				
Channel Bank Vegetation (322)	Ac.	4	\$ 20,700	\$ 410					X	X		X
Channel Stabilization (584)	Ft.	3,984	\$ 79,700	\$ 400					X			X
Critical Area Planting (342)	Ac.	12	\$ 5,700	\$ 170					X	X		X
Fence (382)	Ft.	3,984	\$ 8,000	\$ 160					X	X		X
Heavy Use Protection (561)	Ac.	4	\$ 60,000	\$ 3,000					X			X
Prescribed Grazing (528)	Ac.	683	\$ 10,200	\$ 3,420					X			X
Riparian Forest Buffer (391)	Ac.	40	\$ 60,000	\$ 600					X	X		X
Riparian Herbaceous Cover (390)	Ac.	20	\$ 6,000	\$ 60					X	X		X
Tree/Shrub Establishment (612)	Ac.	20	\$ 9,000	\$ 90					X	X		X
Use Exclusion (472)	Ac.	12	\$ 400	\$ 10					X			X
Wetland Enhancement (659)	Ac.	8	\$ 16,000	\$ 160					X	X		X
Wetland Wildlife Hab. Mgmt.(644)	Ac.	16	\$ 200	\$ 80					X	X		X
Total RMS Costs			\$ 1,651,000	\$ 102,840								



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Potential RMS Effects for Irrigated Cropland			
Cost Items and Programs		Costs	O&M Costs
Non Farm Bill Programs		\$165,100	\$10,280
Potential Farm Bill Programs		\$1,485,900	\$92,560
Operator O&M and Management Cost			\$102,840
Annual Management Incentives (3yrs - Incentive Payments)		\$221,800	
Operator Investment		\$797,200	
Federal Costshare		\$632,000	
Total RMS Costs		\$1,651,000	\$102,840
Estimated Level of Participation			90%
Total Acres in RMS System			8,200
Anticipated Cost at Estimated Level of Participation			\$1,485,900
Total Acre Feet of Water Saved Annually			6,530
Participating landowners will be in compliance with TMDLs			
Improves habitat for ESA endangered and threatened species			



Bear Lake – 16010201

Idaho

8 Digit Hydrologic Unit Profile

September 2007

Current Conditions (Private)		Total Acres
Total Dry Grass/Pasture/Hay		32,386
Typical Management Unit/Ownership		580
Current Farm Bill Participation		90%

Current Level of Treatment for Dry Grass/Pasture/Hay												
Dry Grass/Pasture/Hay	Quantity		Costs		Effects				Implementation			
Practices	Unit	Quantity	Investment Cost	Annual O&M and Mngt.Cost	Water Conservation	Water Storage	Habitat	WQ	EQIP	WHIP	CREP	Other
Dry Grass/Pasture/Hay	Ac.	32,386			-3	-/+	-2	-3				
Fence (382)	Ft.	15,596	\$ -	\$ 620					X	X		X
Pasture and Hay Planting (512)	Ac.	40	\$ -	\$ 40					X			X
Pipeline (516)	Ft.	11,381	\$ -	\$ 610					X			X
Spring Development (574)	Ea.	4	\$ -	\$ 50					X			X
Well (642)	Ea.	1	\$ -	\$ 40					X			X
Windbreak/Shelterbelt Establishment (380)	Ft.	36	\$ -	\$ -					X	X		X
Total RMS Costs			\$ 0	\$ 1,360								



Bear Lake – 16010201

Idaho

8 Digit Hydrologic Unit Profile

September 2007

Future Conditions		Total Acres										
Total Dry Grass/Pasture/Hay Lands		32,386										
Project Future Level of Treatment for Dry Grass/Pasture/Hay Lands												
Dry Grass/Pasture/Hay Land	Quantity		Costs		Effects				Implementation			
Practices	Unit	Quantity	Investment Cost	Annual O&M and Mngt. Cost	Water Conservation	Water Storage	Habitat	WQ	EQIP	WHIP	CREP	Other
Dry Grass/Pasture/Hay Land	Ac.	32,386			+3	+2	+2	+3				
Brush Management (314)	Ac.	648	\$ 13,000	\$ 130					X			X
Fence (wire-4 strand) (382)	Ft.	33,398	\$ 35,600	\$ 710					X	X		X
Forage Harvest Management (511)	Ac.	12,954	\$ -	\$ -					X			
Nutrient Management (590)	Ac.	648	\$ 9,700	\$ 3,240					X			X
Pest Management (595)	Ac.	1,619	\$ 48,600	\$ 16,190					X			X
Pipeline (516)	Ft.	16,699	\$ 14,400	\$ 290					X			X
Prescribed Grazing (528)	Ac.	24,290	\$ 364,400	\$ 121,450					X			X
Pumping Plant (533)	No.	25	\$ 160,000	\$ 3,200					X			X
Spring Development (574)	No.	13	\$ 30,600	\$ 1,530					X			X
Upland Wildlife Habitat Management (645)	Ac.	1,295	\$ 19,400	\$ 6,480					X	X		X
Water and Sediment Control Basins (638)	Ea.	64	\$ 64,000	\$ 1,920					X			X
Watering Facility (614)	No.	25	\$ 37,500	\$ 380					X			X
Water Well (642)	No.	16	\$ 60,000	\$ 600					X			X
Windbreak/Shelterbelt Estab. (380)	Ft.	972	\$ 1,400	\$ 10					X	X		X
Total RMS Costs			\$ 858,600	\$ 156,130								



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Bear Lake – 16010201
8 Digit Hydrologic Unit Profile

September 2007

Potential RMS Effects for Dry Grass/Pasture/Hayland							
Cost Items and Programs						Costs	O&M Costs
Non Farm Bill Programs						\$85,900	\$15,600
Potential Farm Bill Programs						\$772,700	\$140,500
Operator O&M and Management Cost							\$156,100
Annual Management Incentives (3yrs - Incentive Payments)						\$461,500	
Operator Investment						\$241,500	
Federal Costshare						\$155,600	
Total RMS Costs						\$858,600	\$156,100
Estimated Level of Participation							90%
Total Acres in RMS System							29,100
Anticipated Cost at Estimated Level of Participation							\$772,700
Total Annual Forage Production Benefits (animal unit months)							3,279
Participating landowners will be in compliance with TMDLs							
Improves habitat for ESA endangered and threatened species							



Bear Lake – 16010201

Idaho

8 Digit Hydrologic Unit Profile

September 2007

Current Conditions (Private)	Total Acres	Riparian Acres
Surface Irrigated Grass/Pasture/Hay	15,890	
Sprinkler Irrigated Grass/Pasture/Hay	6,810	
Total Irrigated Grass/Pasture/Hay	22,700	1,919
Typical Management Unit/Ownership	580	
Current Farm Bill Participation	90%	

Current Level of Treatment for Irrigated Grass/Pasture/Hay												
Grass/Pasture/Hay	Quantity		Costs		Effects	Effects	Effects	Effects	Implementation			
	Unit	Quantity	Investment Cost	Annual O&M and Mngt. Cost					Water Conservation	Water Storage	Habitat	WQ
Surface Irrigated Grass/Pasture/Hay	Ac.	15,890			-3	-/+	-2	-3				
Conservation Cover (327)	Ac.	1,329	\$ -	\$ 3,990					X			
Forage Harvest Management (511)	Ac.	209	\$ -	\$ -								
Irrigation Water Conveyance, Low Pressure, Pipeline, (430EE)	Ft.	1,183	\$ -	\$ 20					X			X
Irrigation Water Conveyance, Gated Pipeline, (430HH)	Ft.	60	\$ -	\$ -					X			X
Irrigation Water Management (449)	Ac.	30	\$ -	\$ 300					X			X
Nutrient Management (590)	Ac.	167	\$ -	\$ 840					X			X
Pasture and Hay Planting (512)	Ac.	20	\$ -	\$ 20					X			X
Pest Management (595)	Ac.	164	\$ -	\$ 1,640					X			X
Prescribed Grazing (528)	Ac.	2,191	\$ -	\$ 10,960					X			X
Structure for Water Control (587)	Ea.	5	\$ -	\$ 60					X			X
Watering Facility (614)	No.	9	\$ -	\$ 140					X			X



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8 Digit Hydrologic Unit Profile

September 2007

Current Level of Treatment for Irrigated Grass/Pasture/Hay:												
Grass/Pasture/Hay	Quantity		Costs		Effects				Implementation			
	Unit	Quantity	Investment Cost	Annual O&M and Mngt.Cost	Water Conservation	Water Storage	Habitat	WQ	EQIP	WHIP	CREP	Other
Sprinkler Irrigated Grass/Pasture/Hay	Ac.	6,810			-2	-/+	-1	-1				
Forage Harvest Management (511)	Ac.	316	\$ -	\$ -					X			X
Irrigation System Sprinkler (442)	Ac.	68	\$ -	\$ 750					X			X
Irrigation Water Conveyance, High Pressure Pipeline, (430DD)	Ft.	11,217	\$ -	\$ 300					X			X
Irrigation Water Management (449)	Ac.	31	\$ -	\$ 310					X			X
Nutrient Management (590)	Ac.	168	\$ -	\$ 840					X			X
Pasture and Hay Planting (512)	Ac.	21	\$ -	\$ 20					X			X
Pest Management (595)	Ac.	165	\$ -	\$ 1,650					X			X
Prescribed Grazing (528)	Ac.	2,191	\$ -	\$ 10,960					X			X
Structure for Water Control (587)	Ea.	5	\$ -	\$ 60					X			X
Watering Facility (614)	No.	9	\$ -	\$ 140					X			X
Irrigated Riparian Grass/Pasture/Hayland (Surface and Sprinkler)	Ac.	1,919			-2	-/+	-2	-3				
Total RMS Costs			\$ 0	\$ 33,000								



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8 Digit Hydrologic Unit Profile

September 2007

Future Conditions		Total Acres	Riparian Acres										
Surface Irrigated Grass/Pasture/Hay		15,055											
Sprinkler Irrigated Grass/Pasture/Hay		7,645											
Total Irrigated Grass/Pasture/Hay		22,700											
Conversion to Riparian RMS			1,919										
Project Future Level of Treatment for Irrigated Grass/Pasture/Hay Lands													
Irrigated Grass/Pasture/Hay Land		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	
Surface Irrigated Grass/Pasture/Hay	Ac.	15,055			+1	+/-	+1	+2					
Conservation Cover (327)	Ac.	2258	\$ 111,500	\$ 3,340					X				
Conservation Crop Rotation (328)	Ac.	9786	\$ -	\$ -					X				
Fence (382)	Ft.	15,525	\$ 31,100	\$ 620					X	X		X	
Forage Harvest Management (511)	Ac.	6,775	\$ -	\$ -									
Heavy Use Area Protection (561)	Ac.	8	\$ 120,000	\$ 18,000					X			X	
Irr. System, Microirrigation (441)	Ac.	301	\$ 451,500	\$ 22,580					X			X	
Irrigation Water Conveyance, Low Pressure, Pipeline, (430EE)	Ft.	7763	\$ 26,100	\$ 130					X			X	
Irr. Wtr. Conveyance, Pipeline, Rigid Gated Pipeline (430HH)	Ft.	5,122	\$ 20,700	\$ 210					X			X	
Irrigation Water Management (449)	Ac.	6,775	\$ 202,400	\$ 67,450					X			X	
Nutrient Management (590)	Ac.	568	\$ 6,000	\$ 2,010					X				
Pasture and Hay Planting (512)	Ac.	1,506	\$ 148,600	\$ 1,490					X			X	
Pest Management (595)	Ac.	2,258	\$ 62,800	\$ 20,940					X			X	
Pipeline (516)	Ft.	15,525	\$ 41,900	\$ 840					X			X	
Prescribed Grazing (528)	Ac.	7,528	\$ 80,100	\$ 26,690					X			X	
Upland Wildlife Habitat Management (645)	Ac.	753	\$ 11,300	\$ 3,770					X	X		X	
Watering Facility (614)	No.	25	\$ 16,800	\$ 170					X			X	
Windbreak/Shelterbelt Establishment (380)	Ft.	452	\$ 700	\$ 10					X	X		X	



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8 Digit Hydrologic Unit Profile

September 2007

Project Future Level of Treatment for Irrigated Grass/Pasture/Hay Lands												
Irrigated Grass/Pasture/Hay Land	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
Sprinkler Irrigated Grass/Pasture/Hay	Ac.	7,645			+2	+/-	+1	+2				
Fence (382)	Ft.	4,097	\$ 8,200	\$ 160					X	X		X
Forage Harvest Management (511)	Ac.	5,403	\$ -	\$ -								
Heavy Use Area Protection (561)	Ac.	12	\$ 180,000	\$ 27,000					X			X
Irr. Wtr. Conveyance, Pipeline, High Pressure, Undergrd, Plastic (430DD)	Ft.	15,768	\$ 24,700	\$ 120					X			X
Irrigation System, Sprinkler (442)	Ac.	1,130	\$ 584,100	\$ 11,680					X			X
Irrigation Water Management (449)	Ac.	5,164	\$ 153,990	\$ 51,330					X			X
Nutrient Management (590)	Ac.	567	\$ 6,000	\$ 2,000					X			
Pasture and Hay Planting (512)	Ac.	1,986	\$ 196,500	\$ 1,970					X			X
Pest Management (595)	Ac.	795	\$ 18,900	\$ 6,300					X			X
Pipeline (516)	Ft.	2,048	\$ 5,500	\$ 110					X			X
Prescribed Grazing (528)	Ac.	6,356	\$ 62,500	\$ 20,830					X			X
Upland Wildlife Habitat Management (645)	Ac.	318	\$ 4,800	\$ 1,590					X	X		X
Watering Facility (614)	No.	13	\$ 6,000	\$ 60					X			X
Windbreak/Shelterbelt Establishment (380)	Ft.	477	\$ 2,100	\$ 20					X	X		X



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8 Digit Hydrologic Unit Profile

September 2007

Project Future Level of Treatment for Irrigated Grass/Pasture/Hay Lands												
Irrigated Grass/Pasture/Hay Land	Quantity		Costs		Effects				Implementation			
	Unit	Quantity	Investment Cost	Annual O&M and Mngt. Cost	Water Conservation	Water Storage	Habitat	WQ	EQIP	WHIP	CREP	Other
Irrigated Grass/Pasture/Hayland Riparian (Surface and Sprinkler)	Ac.	1,919			+2	+1	+3	+3				
Channel Bank Vegetation (322)	Ac.	19	\$ 98,300	\$ 1,970					X	X		X
Channel Stabilization (584)	Ft.	2,656	\$ 53,100	\$ 270					X			X
Fence (382)	Ft.	3,958	\$ 7,900	\$ 160					X	X		X
Filter Strip (393)	Ac.	77	\$ 7,700	\$ 150					X			X
Heavy Use Protection (561)	Ac.	8	\$ 120,000	\$ 18,000					X			X
Pest Management (595)	Ac.	96	\$ 2,900	\$ 960					X			X
Prescribed Grazing (528)	Ac.	576	\$ 8,600	\$ 2,880					X			
Riparian Forest Buffer (391)	Ac.	58	\$ 87,000	\$ 870					X	X		X
Riparian Herbaceous Cover (390)	Ac.	58	\$ 17,400	\$ 170					X	X		X
Stream Crossing (578)	No.	19	\$ 66,500	\$ 3,330					X			X
Stream Habitat Improvement and Management (395)	Ac.	9	\$ 161,100	\$ 3,220					X	X		X
Streambank/Shoreline Prot. (580)	Ft.	3,984	\$ 189,200	\$ 18,920					X			X
Tree/Shrub Establishment (612)	Ac.	96	\$ 43,200	\$ 430					X	X		X
Use Exclusion (472)	Ac.	384	\$ 13,400	\$ 400					X			X
Wetland Creation (658)	Ac.	38	\$ 190,000	\$ 1,900					X			
Wetland Enhancement (659)	Ac.	38	\$ 76,000	\$ 760					X			X
Wetland Wildlife Hab. Mgmt (644)	Ac.	77	\$ 1,200	\$ 390					X	X		X
Total RMS Costs			\$3,728,290	\$346,200								



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8 Digit Hydrologic Unit Profile

September 2007

Potential RMS Effects for Irrigated Grass/Pasture/Hayland							
Cost Items and Programs						Costs	O&M Costs
Non Farm Bill Programs						\$372,800	\$34,600
Potential Farm Bill Programs						\$3,355,500	\$311,600
Operator O&M and Management Cost							\$346,200
Annual Management Incentives (3yrs - Incentive Payments)						\$547,690	
Operator Investment						\$1,776,700	
Federal Costshare						\$1,403,900	
Total RMS Costs						\$3,728,290	\$346,200
Estimated Level of Participation							90%
Total Acres in RMS System							20,430
Anticipated Cost at Estimated Level of Participation							\$3,355,500
Total Annual Forage Production Benefits (animal unit months)							24,110
Total Acre Feet of Water Saved Annually							13,995
Increases infiltration and storage of water in soil profile							
Participating landowners will be in compliance with TMDLs							
Improves habitat for ESA endangered and threatened species							



Bear Lake – 16010201

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8 Digit Hydrologic Unit Profile

September 2007

Current Conditions	Total Acres	Riparian Acres
Total Shrub/Range Land	111,397	6,766
Typical Management Unit/Ownership	580	
Current Farm Bill Participation	90%	

Current Level of Treatment for Shrub/Range Land												
Shrub/Range Land	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
Shrub/Range Land	Ac.	111,397			-2	-1	-2	-2				
Fence (wire-4 strand) (382)	Ft.	15,596	\$ -	\$ 3,120					X	X		X
Pest Management (590)	Ac.	330	\$ -	\$ 3,300					X			X
Pipeline (516)	Ft.	11,381	\$ -	\$ 610					X			X
Prescribed Grazing (528)	Ac.	1,096	\$ -	\$ 5,480					X			X
Pumping Plant (533)	No.	1	\$ -	\$ 40					X			X
Spring Development (574)	No.	4	\$ -	\$ 50					X			X
Upland Wildlife Habitat Management (645)	Ac.	1,241	\$ -	\$ 6,210					X			X
Water Well (642)	No.	2	\$ -	\$ 80					X			X
Shrub/Rangeland Riparian	Ac.	6,766			-2	-/+	-2	-2				
Total RMS Costs			\$ 0	\$ 18,890								



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8 Digit Hydrologic Unit Profile

September 2007

Future Conditions		Total Acres	Riparian Acres									
Total Shrub/Rangeland		111,397										
Conversion to Riparian RMS			6,766									
Future Level of Treatment for Shrub/Rangeland												
Shrub/Range Land	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
Shrub/Rangeland	Ac.	111,397			+3	+2	+3	+3				
Brush Management (314)	Ac.	5,570	\$ 139,300	\$ 1,390					X			
Fence (wire-4 strand) (382)	Ft.	57,439	\$ 83,700	\$ 1,670					X	X		X
Heavy Use Area Protection (561)	Ac.	20	\$ 300,000	\$ 15,000					X			X
Pest Management (590)	Ac.	3,342	\$ 90,400	\$ 30,120					X			X
Pipeline (516)	Ft.	38,293	\$ 72,700	\$ 1,450					X			X
Prescribed Grazing (528)	Ac.	44,559	\$ 651,900	\$ 217,320					X			X
Pumping Plant (533)	No.	74	\$ 251,900	\$ 5,040					X			X
Range Planting (550)	Ac.	11,140	\$ 1,002,600	\$ 10,030					X			X
Spring Development (574)	No.	93	\$ 209,200	\$ 10,460					X			X
Upland Wildlife Habitat Management (645)	Ac.	6,684	\$ 81,600	\$ 27,220					X	X		X
Watering Facility (614)	No.	56	\$ 84,000	\$ 840					X			X
Water Well (642)	No.	22	\$ 160,000	\$ 1,600					X			X



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September 2007

Future Level of Treatment for Shrub/Rangeland												
Shrub/Range Land	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
Shrub/Rangeland Riparian	Ac.	6,766			+2	+1	+3	+2				
Channel Bank Vegetation (322)	Ac.	203	\$ 609,000	\$ 12,180					X			X
Critical Area Planting (342)	Ac.	338	\$ 160,600	\$ 4,820					X			X
Fence (382)	Ft.	13,955	\$ 27,900	\$ 560					X	X		X
Heavy Use Area Protection (561)	Ac.	8	\$ 120,000	\$ 18,000					X			X
Pest Management (595)	Ac.	203	\$ 6,100	\$ 2,030					X			X
Pipeline (516)	Ft.	6,977	\$ 18,800	\$ 380					X			X
Prescribed Grazing (528)	Ac.	338	\$ 5,100	\$ 1,690					X			X
Pumping Plant (533)	Ea.	11	\$ 19,300	\$ 390					X			X
Riparian Forest Buffer (391)	Ac.	203	\$ 304,500	\$ 3,050					X			X
Spring Development (574)	Ea.	11	\$ 25,900	\$ 130					X			X
Stream Crossing (578)	No.	68	\$ 238,000	\$ 11,900					X			X
Structure for Water Control (587)	Ea.	11	\$ 12,300	\$ 120					X			X
Tree/Shrub Establishment (612)	Ac.	271	\$ 122,000	\$ 1,220					X	X		X
Use Exclusion (472)	Ac.	203	\$ 7,100	\$ 210					X			X
Watering Facility	No.	11	\$ 16,500	\$ 170					X			X
Total RMS Costs			\$ 4,820,400	\$ 378,990								



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September 2007

Potential RMS Effects for Shrub/Rangeland								
Cost Items and Programs							Costs	O&M Costs
Non Farm Bill Programs							\$482,000	\$37,900
Potential Farm Bill Programs							\$4,338,400	\$341,090
Operator O&M and Management Cost								\$378,990
Annual Management Incentives (3yrs - Incentive Payments)							\$835,100	
Operator Investment							\$2,233,700	
Federal Costshare							\$1,751,600	
Total RMS Costs							\$4,820,400	\$378,990
Estimated Level of Participation								90%
Total Acres in RMS System								100,300
Anticipated Cost at Estimated Level of Participation								\$4,338,400
Total Annual Forage Production Benefits (animal unit months)								6,704
Participating landowners will be in compliance with TMDLs								
Improves habitat for ESA endangered and threatened species								



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8 Digit Hydrologic Unit Profile

September 2007

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 of 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/Shelter 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).

Current Conditions		Total
CAFOs		15
AFOs		35
Current Farm Bill participation	90%	
Total CAFOs and AFOs		50

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.				+/-	-1	-3	-3					
Waste Storage Facility (313) CAFO	No.	15	\$ -	\$ 26,300					X				X
Waste Storage Facility (313) AFO	No.												
Feed Lot	No.				+/-	+/-	+/-	+/-					
Waste Storage Facility (313) CAFO	No.												
Waste Storage Facility (313) AFO	No.	35	\$ -	\$ 31,500					X				X

Numbers of Dairies and Feedlots needing treatment were estimated based on input from Idaho Department of Agriculture and the local NRCS Field Offices with input from SCC/IASCD field staff



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Projected Additional Treatment Needs for Headquarters:													
Practices	Quantity		Costs		Effects				Implementation				
	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.	15	\$ 1,312,500	\$ 26,250					X				X
Waste Storage Facility (313) AFO	No.												
Feed Lot	No.				+3	+1	+3	+3					
Structural/Management Practices													
Waste Storage Facility (313) CAFO	No.												
Waste Storage Facility (313) AFO	No.	21	\$ 945,000	\$ 18,900					X				X
Total RMS Costs		36	\$ 2,257,500	\$ 45,150									



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8 Digit Hydrologic Unit Profile

September 2007

RMS Cost Summary for Headquarters		
Cost Items and Programs	Costs	O&M Costs
Non Farm Bill Programs	\$ 112,900	\$ 2,260
Potential Farm Bill Programs	\$ 2,144,600	\$ 42,890
Operator O&M and Management Cost		\$ 45,150
Annual Management Incentives (3 yrs - Incentive Payments)	\$ 225,800	
Operator Investment	\$ 592,600	
Federal Costshare	\$ 1,439,100	
Total RMS Costs	\$ 2,257,500	
Estimated Level of Participation		90%
Total CAFO/AFO in RMS System		32
Anticipated Cost at Estimated Level of Participation		\$ 2,031,800
Reduces impact to ground and surface water quality		
90% participation reflects Local, State and Federal regulations		