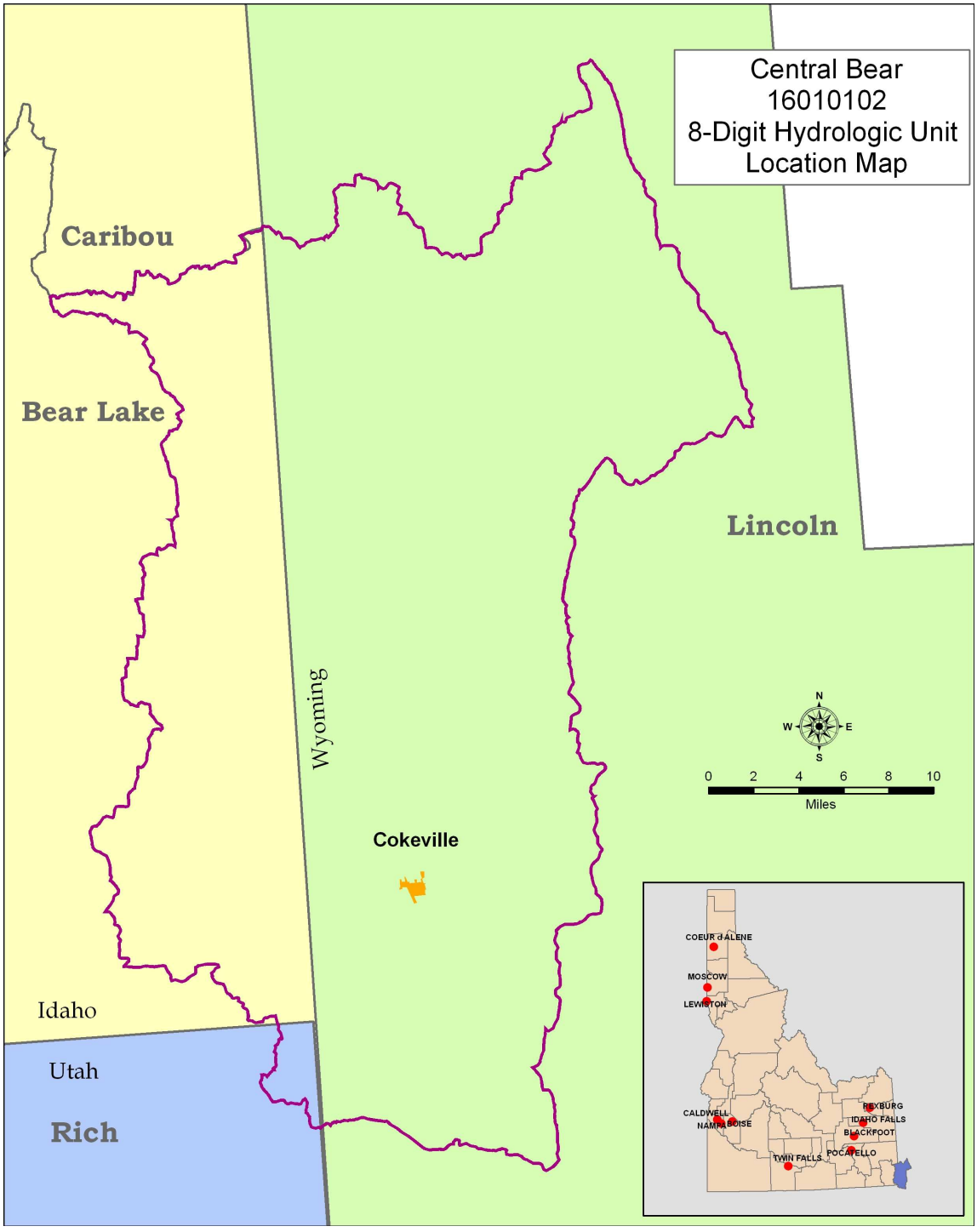
Central Bear – 16010102

Idaho 8 Digit Hydrologic Unit Profile September 2007



Introduction

The Central Bear 8-Digit Hydrologic Unit Code (HUC) subbasin is 527,307 acres and extends into Wyoming and Utah. ***Only the Idaho portion of the subbasin will be described in this document.*** The Idaho portion of the subbasin is 140,619 acres and located entirely in Bear Lake County. Fifty seven percent of the basin is privately owned, the remainder is public land.

Sixty six percent of the subbasin is rangeland and 15 percent is grass, pasture or hay. Forest lands comprise six percent of the area. Cropland comprises 5 percent of the acreage; less than 1 percent of the watershed is enrolled in the Conservation Reserve Program (CRP). The remaining seven percent is water, wetland, developed or barren lands.

Elevations range from 5,990 feet in the east-central portion of the subbasin to over 9,700 feet in the northern portion of the watershed.

Conservation assistance is provided by one Soil and Water Conservation District and one Resource Conservation and Development office.

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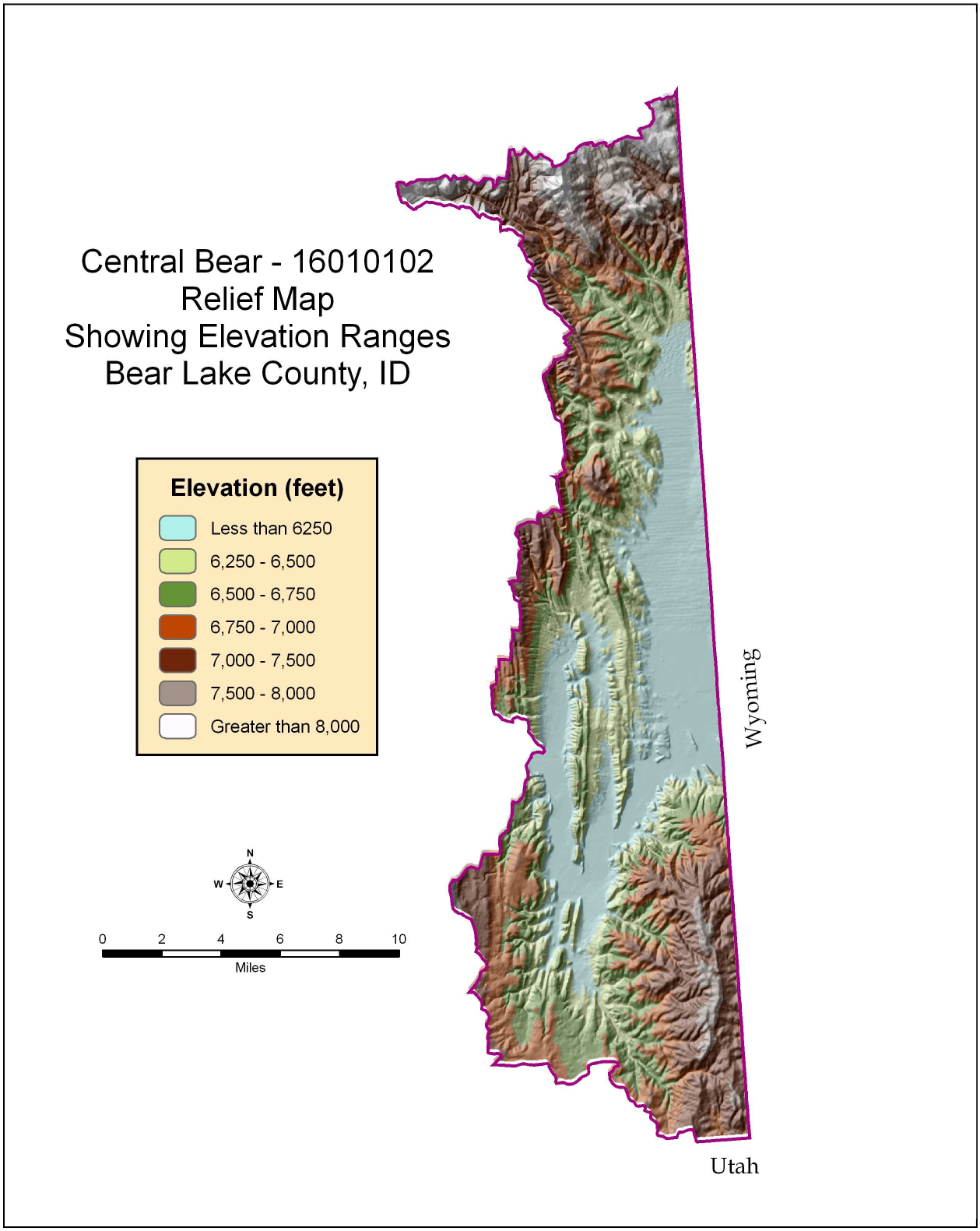
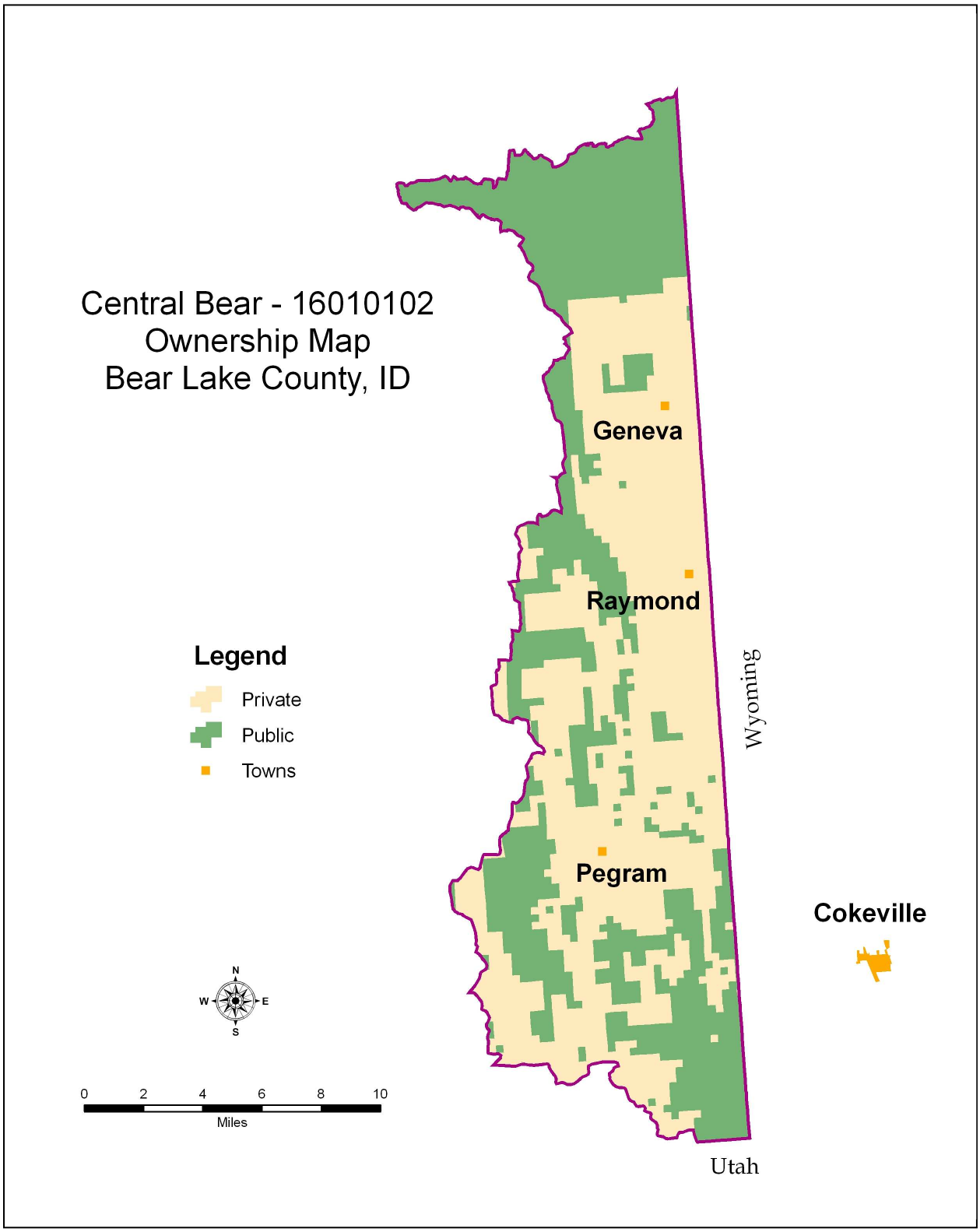
Relief Map


Central Bear - 16010102
Relief Map
Showing Elevation Ranges
Bear Lake County, ID
Elevation (feet)
Less than 6250
6,250 - 6,500
6,500 - 6,750
6,750 - 7,000
7,000 - 7,500
7,500 - 8,000
Greater than 8,000
N
W
E
S
0 2 4 6 8 10
Miles
Wyoming
Utah

General Ownership



Physical Description

ALL NUMBERS WITHIN THIS PROFILE ARE FOR IDAHO ONLY

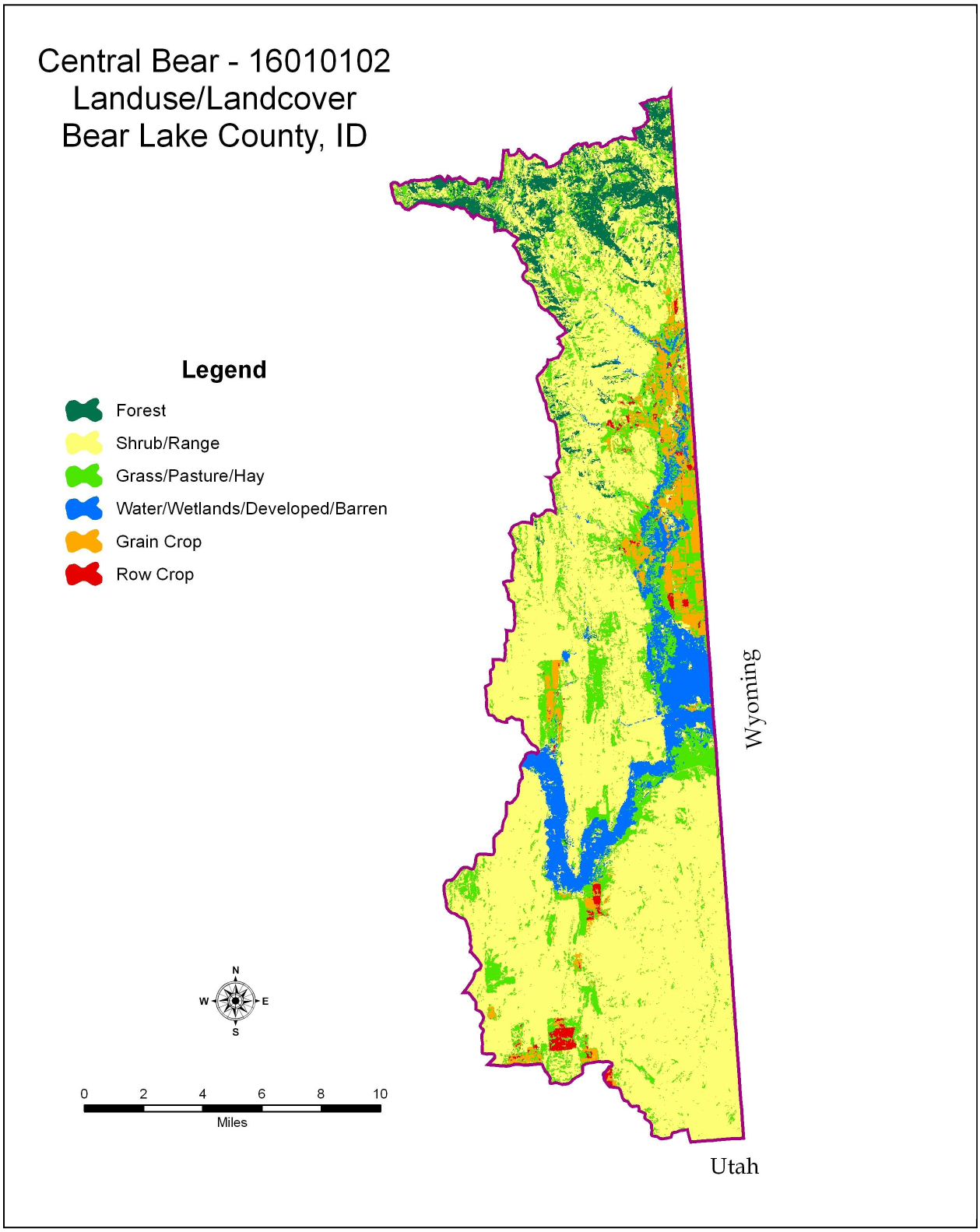
Land Cover/ Land Use (NLCD[2])	Ownership - (2003 Draft BLM Surface Map Set[1])							
	Public		Private		Tribal		Totals	% of HUC
	Acres	%	Acres	%	Acres	%		
Forest	7,950	6%	415	<1%	--	--	**8,365**	**6%**
Grain Crops	6	<1%	6,035	4%	--	--	**6,041**	**4%**
Conservation Reserve[3] Program (CRP) Land	--	--	620	--	--	--	**620**	**<1%**
Grass/Pasture/Hay Lands	5,679	4%	15,080	11%	--	--	**20,759**	**15%**
Orchards/Vineyards/Berries	--	--	--	--	--	--	**--**	**--**
Row Crops	6	<1%	1,198	<1%	--	--	**1,204**	**1%**
Shrub/Rangelands	46,760	33%	46,485	33%	--	--	**93,245**	**66%**
Water/Wetlands/ Developed/Barren	284	<1%	10,101	7%	--	--	**10,385**	**7%**
Idaho HUC Totals*	**60,685**	**43%**	**79,934**	**57%**	**--**	**--**	**140,619**	**100%**

**Totals are approximate due to calculation methods used*

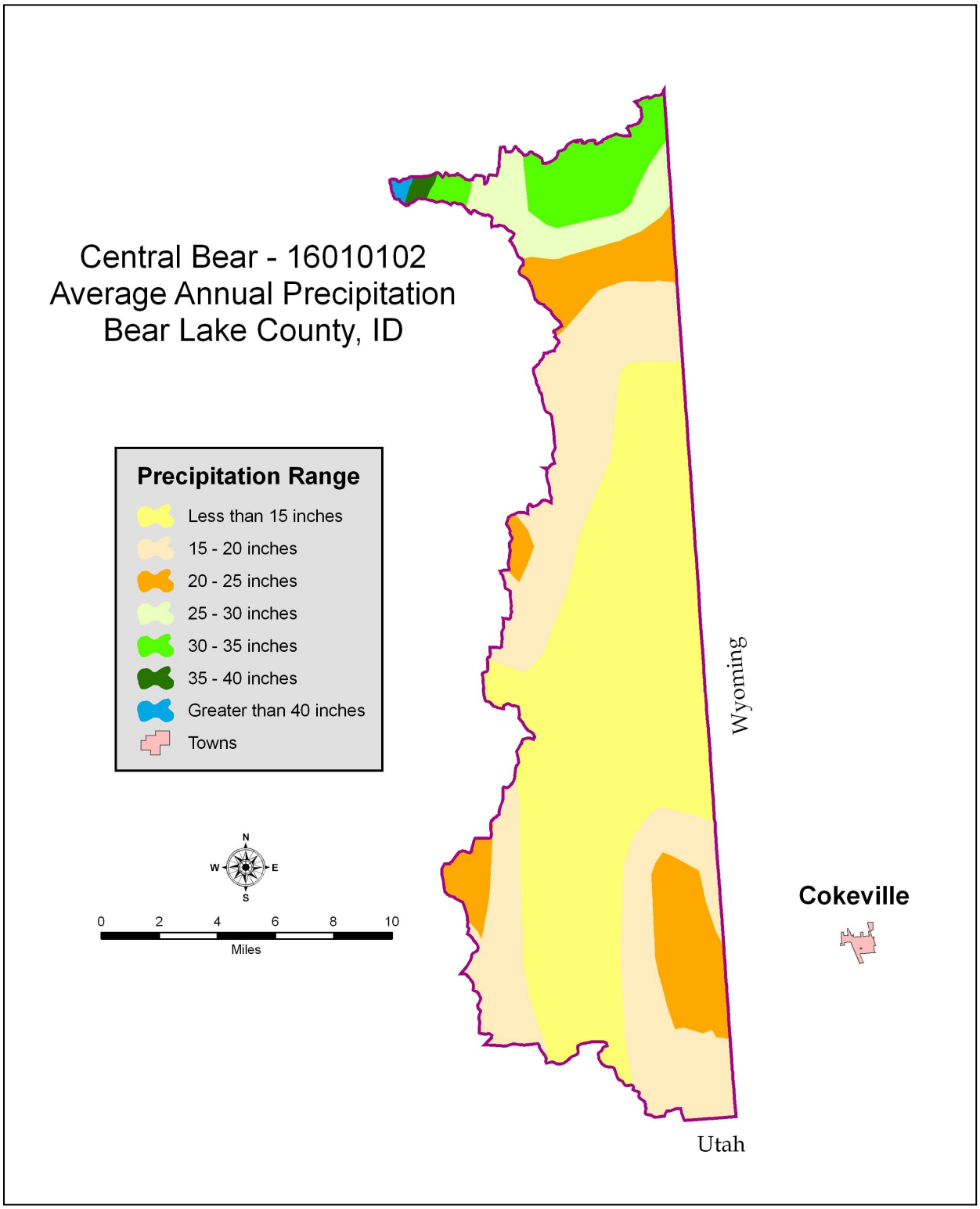
Irrigated Lands[4]	Type of Land	ACRES	% of Irrigated Lands	% of HUC
	Cultivated Cropland	1,100	31%	<1%
	Non-Cultivated Cropland**	2,400	69%	2%
	Pastureland	0		--
	Total Irrigated Lands	**3,500**	**100%**	**2%**

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

Land Use / Land Cover

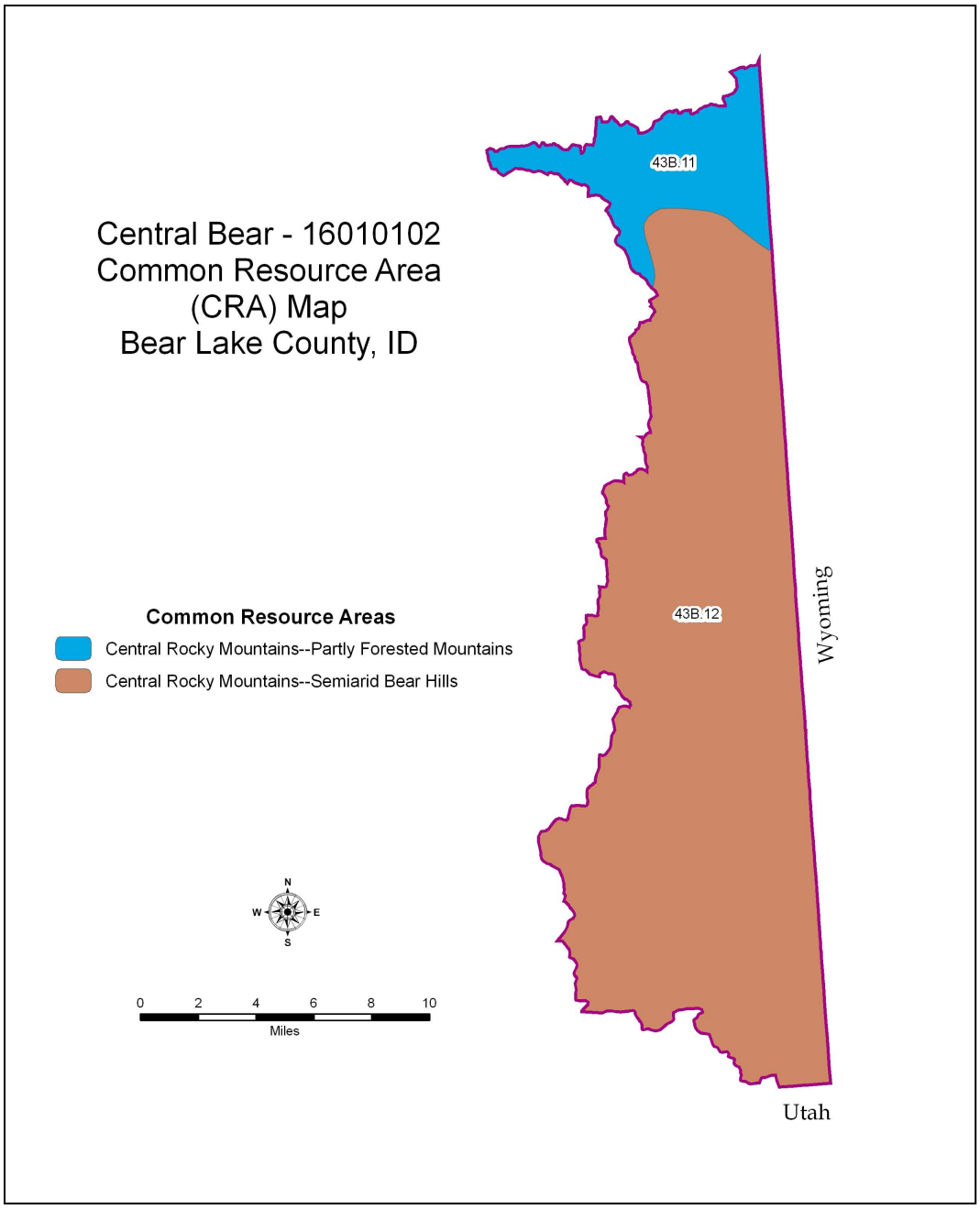


Average Annual Precipitation



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)



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

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.

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.

Streamflow Summary [/7, 27, 29, 30]

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

> "The Central Watershed in the Bear River Basin encompasses lands draining to the Bear River as it travels from Pixley Dam, a diversion structure located on the Bear River midway between Cokeville and Sage Creek Junction in Wyoming, to Stewart Dam in Idaho, just northeast of Bear Lake . The river travels through open sagebrush valleys, dropping just 60 meters over its 71-kilometer course as it travels northward through this watershed.
>
> Smith's Fork *(WY)* and Thomas Fork *(ID)* are the two largest tributaries that enter the Bear River in this watershed. With only six small reservoirs scattered throughout the watershed, the Central Watershed has the least amount of water storage in the entire Bear River Basin. All of these reservoirs supply water for irrigation. Annual average precipitation ranges from 28 to 120 centimeters per year, most of which falls as snow. Temperatures vary throughout the watershed because of changes in elevation. Flows in the Bear River triple as it travels through this watershed, increasing from about 4 cubic meters per second to over 15 cubic meters per second. This is due to the substantial inputs from Smith's Fork and other smaller tributaries. Average daily flows in the river, however, vary greatly due to seasonal patterns of runoff and annual cycles of low and high water years. For example the lowest recorded daily flow just below the Smith's Fork was about 0.8 cubic meters per second in 1977, and the highest recorded daily flow at this site was 153 cubic meters per second, in 1983.
>
> Major water diversions from the river in this reach occur just below Pixley Dam in Wyoming and near Harer, Idaho, with other major diversions found on the Smith's Fork and Thomas Fork. Major uses of this diverted water include agriculture, industry and recreation. Most of the water used for domestic purposes in this watershed is supplied by groundwater instead of surface water."

The main tributary to the Bear River in the Idaho portion of the subbasin is Thomas Fork and its tributaries of Preuss and Dry Creeks. Pegram Creek is the major tributary stream to the Bear River in the Central subbasin below Thomas Fork. The only gaging station with a substantial period of data recorded is near the Wyoming state line where the Bear River flows into Idaho. The average annual (daily) flow of the Bear River at the Wyoming stateline is 453 cfs; this is based on 30 years of flow data (1976 to 2005).

Peak flows generally occur in May or June, but have been recorded during March to November as well. Highest peak flow for the discharge period examined was 4,880 cfs (6/7/83), with the lowest flow estimated at 24 cfs.

			Acre-Feet
Stream Flow Data	USGS #10039500 Bear River At Idaho-WY State Line, 1976-2005	Average Annual	327,930
		Mar-July Average	217,956
		Percent of Average Annual	66.5%

		CFS	Number
Irrigated Adjudicated Water Rights[/6])	Surface Water	284	260
	Groundwater	40	49
	Total Irrigated Adjudicated Water Rights	324	309
		MILES	**PERCENT**
Stream Data **Percent of Total Miles of streams in HUC*	Total Miles[/8]	270	--
	Water quality impaired streams [/9]	170	63%*
	Anadramous Fish Presence (Streamnet)[/11]	--	--
	Bull Trout Presence (Streamnet)[/11]	--	--
		ACRES	**PERCENT**
Land Cover/Use[/2] based on a 100 ft. stretch on both sides of all streams in the 24K Hydro Layer	Forest	443	4%
	Grain Crops	392	4%
	Grass/Pasture/Hay Lands	1,744	18%
	Row Crops	79	1%
	Shrub/Rangelands – Includes CRP Lands	6,389	64%
	Water/Wetlands/Developed/Barren	882	9%
	Total Acres of 100 ft stream buffers	**9,930**	**100%**
Land Capability Class[/4]	**I** – slight limitations	--	--
	II – moderate limitations	--	--
	III – severe limitations	13,200	37%
	IV – very severe limitations	4,800	14%
	V – no erosion hazard, but other limitations	16,400	47%
	VI – severe limitations, unsuited for cultivation, limited to pasture, range, forest	--	--
	VII – very severe limitations, unsuited for cultivation, limited to grazing, forest, wildlife	700	2%
	VIII – misc areas have limitations, limited to recreation, wildlife, and water supply	--	--
	Total Crop & Pasture Lands	**35,100**	**100%**

Confined Animal Feeding Operations – Dairies/Feedlots [/31]

Operation Type	Number	<300	300-999	1000-4999
Dairy	3			
Feedlots	12	12		

Resource Settings

Pasture

Dryland Pasture

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.

In areas where dry pastureland is heavily grazed the recommended system includes a prescribed grazing plan with rotational pastures, and water developments. This system provides adequate clean water and forage for livestock and wildlife as it improves plant productivity, diversity, quality and quantity.

Irrigated Pasture

Most irrigated pastures in this watershed are flood irrigated, with farmers damming up irrigation waters during or shortly after spring runoff events. There are some fields that are irrigated by center pivots in this area. Annual precipitation is 12 inches or less per year, with most of the precipitation coming in the form of winter snow or summer thunderstorms.

Elevations containing irrigated pastures average 4,500-5,500 feet above sea level. Irrigation water is diverted from perennial streams and transferred to irrigated pastures through earthen ditches. In some cases tail water from flood irrigated fields may be reused or returned back into perennial streams or rivers.

The growing season is generally 80-120 days with periods of occasional frost. The typical 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

Dry cropland is found in areas with long cold winters and hot dry summers. Average precipitation is 12 inches or less per year. Most precipitation comes during the winter months in the form of snowfall or as summer thunderstorms.

The growing season is typically 80-120 days with occasional frost. Typical soils in the area consist of silt-loam, along with some clay present. Wildlife is abundant; the larger species present are deer, elk, and moose.

Resource Settings - continued

Elevations containing dry cropland range from 4,000-5,500 feet above sea level. Crop rotation is 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.

Irrigated Cropland

Irrigated cropland rotation is typically 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. Most of the cropland is surface irrigated. Some cropland is sprinkler irrigated by center pivots.

The growing season ranges from 80-120 days, with occasional periods of frost in between. Precipitation is 12 inches or less with most of the precipitation coming during winter months. Winter months are long and cold and are generally followed by dry summers receiving moisture from thunderstorms.

Water quality limited water bodies may be present in cropland areas. Wildlife present includes deer, elk, and moose as well as a variety of waterfowl.

Hayland

Hayland is usually found on slopes ranging from 0-7%.Elevation is generally around 5,000-5,800 feet above sea level. Precipitation is 12 inches or less below 5,500 feet with most of the precipitation occurring as winter snow or summer thunderstorms.

Hayland found in higher elevations around 5,500-5,800 feet receives 16 inches of precipitation or less. The growing period is 80-120 days with periodic frost occurring. Hay rotation is typically 6 years of alfalfa and 2 years of small grains (wheat, barley, and oats). Wildlife that can be found in these areas includes deer, elk, and moose.

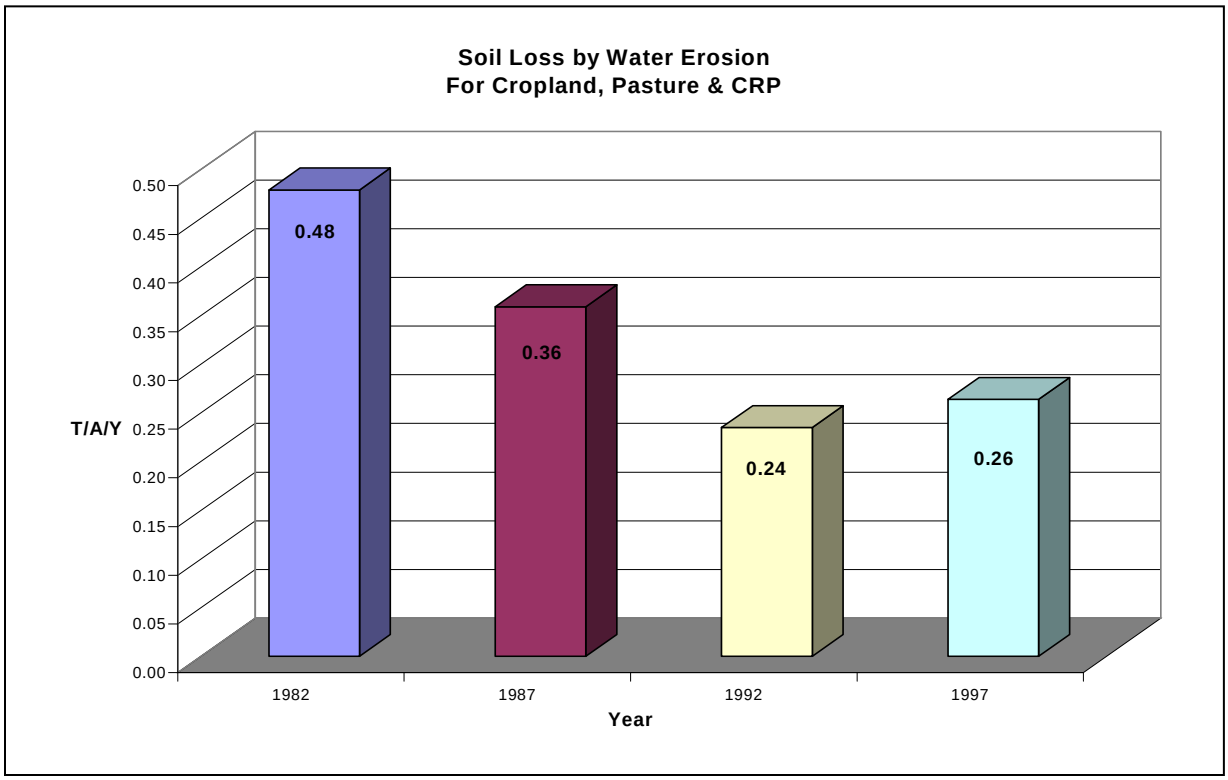
Range

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 range vary from 5,000-6,500 feet above sea level. Topography consists of steep slopes and high mountain valleys. Soils are loamy to gravelly. The average frost free period ranges from 50-100 days. These areas serve as a source of habitat and food source for various types of wildlife and birds. Wildlife that can be found in the area consists of deer, elk, and moose.

Fencing is generally an existing practice; most fences are 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 that bring various amounts of precipitation.

Resource Concerns

Water erosion rates on Cropland, Pasture & CRP in this watershed are very low and have decreased slightly since 1982. Rates have decreased from about 0.5 tons per acre year in 1982 to approximately 0.3 tons per acre per year in 1997.

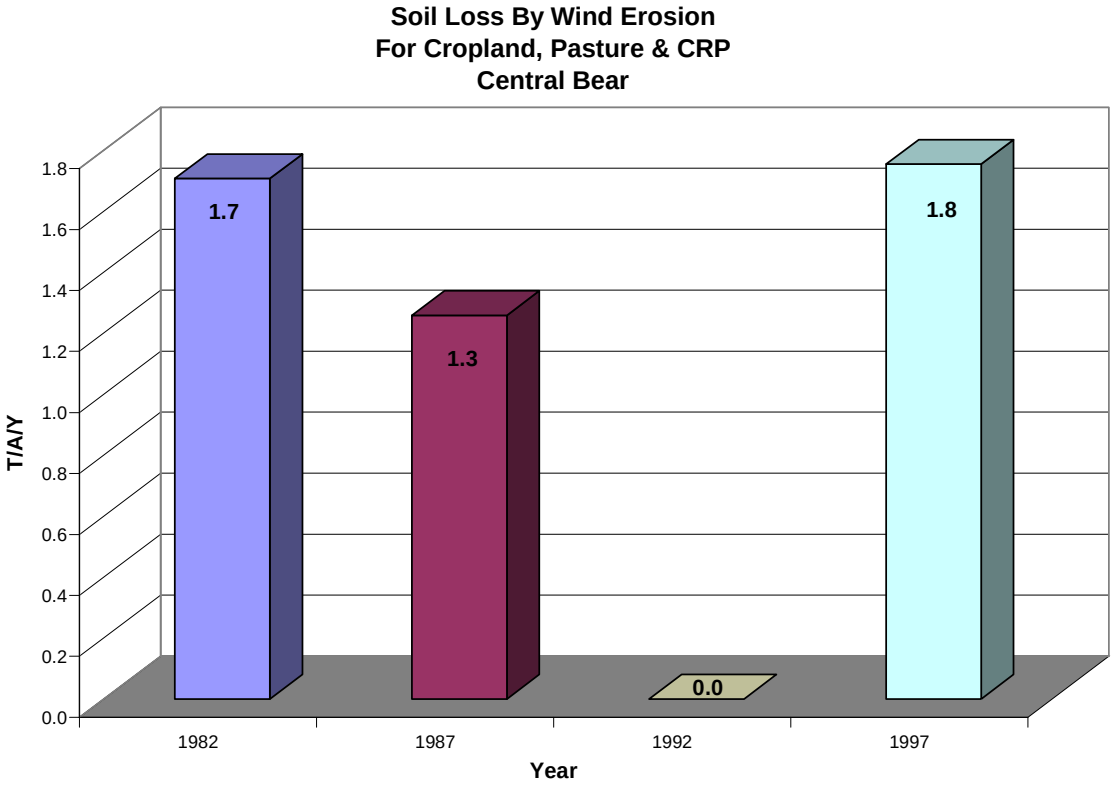


Controlling erosion not only sustains the long-term productivity of the land, but also affects the amount of soil, pesticides, fertilizer, and other substances that move into the nation's waters.

A few streams are impaired by multiple 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.

Wind erosion has remained static on cropland, pasture and CRP in this subbasin between 1982 and 1997. Following a drop in wind erosion to approximately zero in 1992, wind erosion rebounded to its 1982 level 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.

Resource Concerns - continued

The Bear River is a 303(d) listed water body and is home to Bonneville Cutthroat Trout. These trout migrate upstream to the Thomas Fork and Smith Fork Rivers to spawn in the early spring. Several agencies have donated monies and time to implement BMP's (Best Management Practices) to improve stream channel conditions and stabilize shorelines to improve the habitat of these fish, which are considered a species of concern.

Impacted Water Bodies[9, 29] (ID 16010102) Named Streams	Stream Miles*	Bacteria	Nutrients	Sediment	Temperature	Dissolved Oxygen	Other or Unknown
Bear River (BR001_05)	30.9						X
Dry Creek (BR005_02)	8.2		X	X			
Pegram Creek (BR002_03)	6.3			X			
Preuss Creek (BR006_02)	6.1			X			
Sheep Creek (BR008_02)	22.6			X			
Thomas Fork(BR003_04)	30.1		X	X			
Total Stream Miles:	**104.2**						

Shading indicates TMDL in place

Shading indicates TMDL in progress

Resource Concerns - continued

Watershed Projects, Plans, Studies and Assessments

NRCS Watershed Plans, Studies and Assessments[/14,15,18]

USDA 1976 Irrigation Conveyance System Inventory Summary. Bear River Basin Type IV Study. United States Dept of Agriculture SCS. 135 pages

IDEQ TMDLs[/16]

Bear River/Malad River Subbasin Assessment and Total Maximum Daily Load Plan. Prepared by Ecosystems Research Institute, Inc. Submitted by IDEQ, 2006.

IDEQ/SWCD 319 Projects[/17]

Streambank Restoration Projects-(5) grants

SCC/SWCD Projects[/31]

Bear Lake SWCD Streambank Demonstration Project
Bear Lake SWCD Conservation Improvement Grants–(3)

Other Projects[/18, 27, 29]

Bear Lake Regional Commission. 2000. Thomas Fork Watershed Stream Bank Restoration Project. Prepared for the Idaho Division of Environmental Quality. Fish Haven, ID: Bear Lake Regional Commission.

Trout Unlimited et al. 2005. Esche Diversion Fish Passage and Thomas Fork Habitat Restoration for Bonneville Cutthroat Trout Conservation. Trout Unlimited, in partnership with the Bear Lake Regional Commission, Faucet Irrigation Co. (private landowners and water users along Thomas Fork River, ID), and Idaho Department of Fish and Game

Other Assessments[/18, 27, 29]

Perry, J. 1978. Water Quality Status Report. Bear River (Wyoming Border to the Utah Border). Idaho Department of Health and Welfare, Division of Environment. Pocatello, Idaho.

Ecosystem Research Institute. 1998. Water Quality Study for the Bear River in Idaho. Prepared for the Bureau of Reclamation.

Ecosystems Research Institute. 1992. Water Quality in the Upper Bear River, Problems and Mitigation. Logan, UT: Ecosystem Research Institute.

SWCD Plans[/18,19, 27]

Thomas Fork SAWQP Planning Study

Watershed Projects, Plans, Studies and Assessments-continued

Utah State University[18, 27, 29, 30]

Barker, K.W., D.L. Sorensen, J.C. Anderson, J.M. Ihnat. 1989. Bear River Water Quality: Bioavailable Phosphorus Measurement, Sources and Control. UWRL, Utah State University, Logan, Utah.

Sorensen, D.L., C.W. Ariss, P. Ludrigsen, S.Eberl, W.J. Greeney, V.D. Adams. 1984. Water Quality Management Studies for Water Resources Development in the Bear River Basin: Second Progress Report. Utah Water Research Laboratory, Utah State University, Logan, Utah.

Sorensen, D.L., C. Caupp, W.J. Grenney. S Eberl, J.J. Messer, P. Ludrigsen, C.W. Ariss. 1986. Water Quality Management Studies of Water Resources Development in the Bear River Basin. Utah Water Research Laboratory, Utah State University. Logan, Utah.

Van Miegroet, Helga; Chandler, David; Baker, Michelle, and Boettinger, Janis, 2007. A Preliminary Investigation of Climate Change Impacts on Soil Water and Carbon Dynamics

USEPA Targeted Watersheds Grant Program Studies, Bear River Basin, 2004 to 2007.

US Geological Survey[23, 30]

Gerner, Steven J.; Spangler, Lawrence E.,2006. Water quality in the Bear River Basin of Utah, Idaho, and Wyoming prior to and following snowmelt runoff. In 2001 Scientific Investigations Report 2006-5292

Reheis, Marith C., 2005. Surficial geologic map of the upper Bear River and Bear Lake drainage basins, Idaho, Utah, and Wyoming. Scientific Investigations Map 2890.

Burnham, W. L.; Harder, A. H.; Dion, N. P., 1969. Availability of ground water for large-scale use in the Malad Valley-Bear River areas of southeastern Idaho : an initial assessment. Open File Report 69-28.

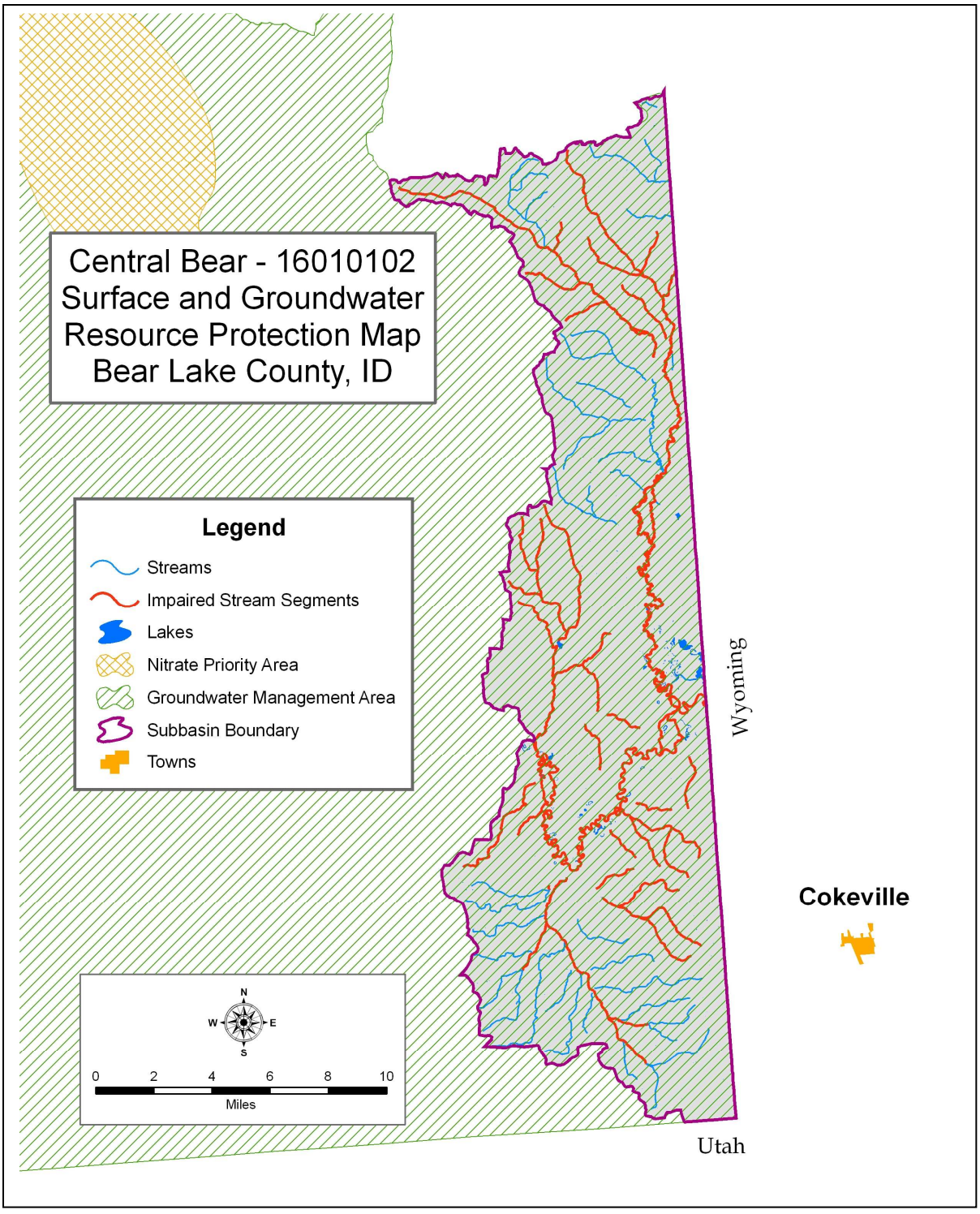
USGS 1969. Hydrologic Reconnaissance of the Bear River Basin in Southeastern Idaho. Water Information Bulletin No. 13, Idaho Dept of Reclamation, 66 pages.

Waddell, K.M. 1970. Quality of Surface Water in the Bear River Basin, Utah, Wyoming and Idaho. Utah Basic Data Release No. 18. U.S. Geological Survey in Cooperation with the Utah Division of Water Rights.

Robert L. Baskin, Kidd M. Waddell, Susan A. Thiros, Elise M. Giddings, Heidi K.Hadley, Doyle W. Stephens, and Steven J. Gerner, 2002. Water-Quality Assessment of the Great Salt Lake Basins, Utah, Idaho, and Wyoming-Environmental Setting and Study Design.

Resource Concerns – continued

Surface and Groundwater Resource Protection



Resource Concerns – continued

Resource Concerns/ Issues by Land Use								
SWAPA **Soil, Water, Air, Plants, Animals**	**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	
Water Quantity	Inefficient use on irrigated lands	X	X		X	X		
Water Quality, Surface	Suspended sediment	X	X	X	X	X	X	
	Nutrients and organics	X	X	X	X	X	X	
Water Quality, Ground	Nutrients and organics		X	X	X	X		
	Pesticides		X	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	
	Wildfire hazard						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.

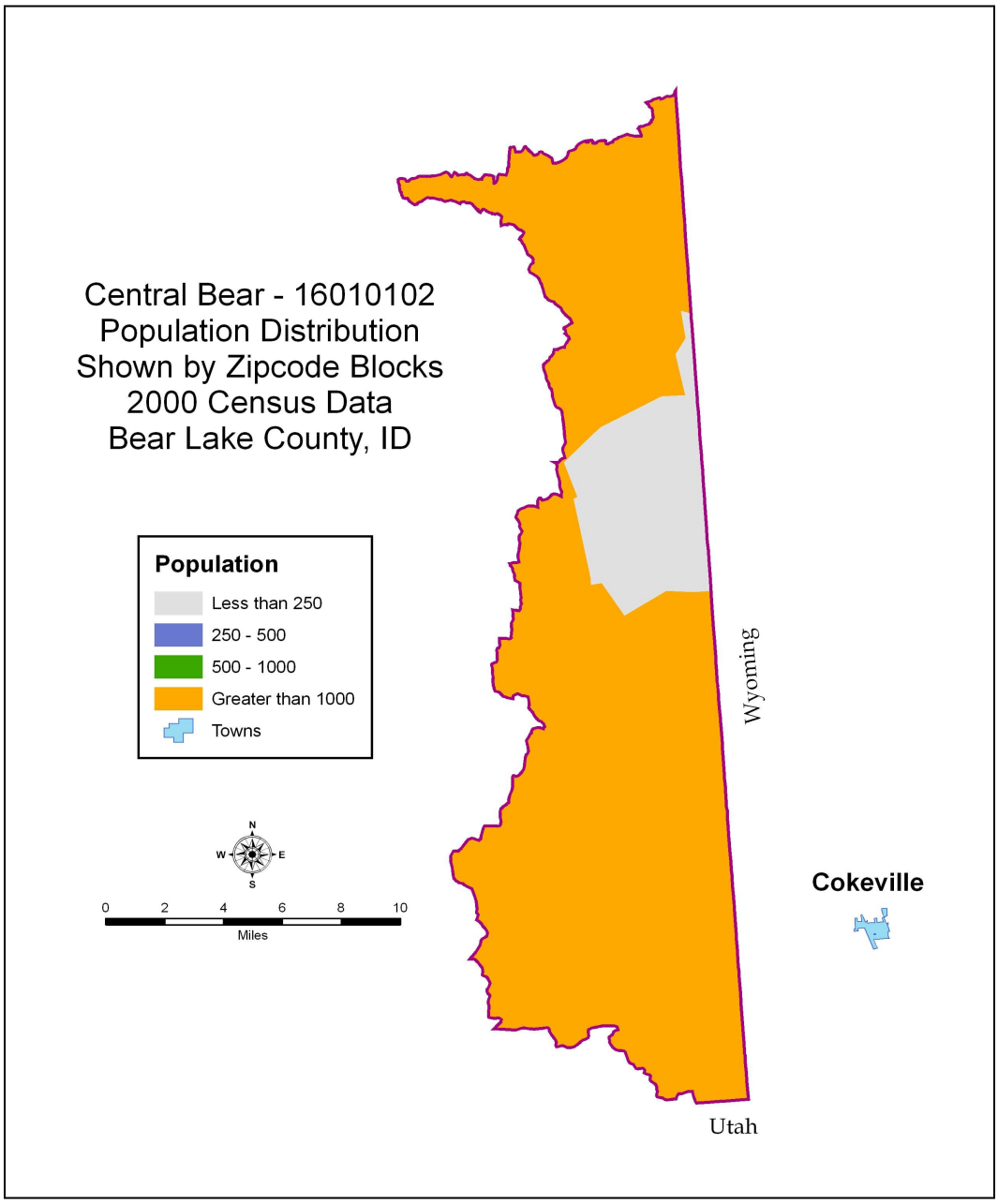
FEDERALLY LISTED THREATENED AND ENDANGERED SPECIES[25]	
Threatened Species	**Candidate Species**
Mammals – Lynx **Birds –** Bald Eagle **Fish –** None **Invertebrates –** None **Plants –** None	**Fish** - None **Birds –** None **PROPOSED SPECIES** None
ESSENTIAL FISH HABITAT – None	**CRITICAL FISH HABITAT-**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

Census and Social Data[/26]

Population: 191

Number of Farms: 95

	0-49 acres	50-999 acres	1000+ acres
Number of Farms	29	54	12



Census and Social Data - continued

Fifty six 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 30% of the total. Ninety-seven percent of all operators are white. Non-white operators are of Hispanic background.

Farm size ranges from less than 10 acres to more than 1,000 acres with an average of 500 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 have remained relatively stable over the last few years. Market value of production has decreased slightly. Government payments to farmers are up over the past several years. Farm sales range from less than $1,000 to more than $500,000 per year. Seventy-six percent of farms reported sales of less than $50,000 per year.

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

	Number of farms	Average size farm	Market Value of Production (Average Farm)	Government Payments (Average Farm)
1997	101	500	$32,100	$7,400
2002	95	500	$30,500	$8,400
Change	-5.9%	0%	-5.0%	13.5%

Economic Profile

	Watershed	Idaho	United States
Population (2000)	191		
Per Capita Personal Income (2002)	$18,600	$25,476	$30,906
Median Home Value (2000)	$72,600	$106,300	$119,600
Percent Unemployment (2004)	4.7%	4.7%	5.5%
Percent Below Poverty Level (2003)	11.1%	11.8%	12.5%

Progress / Status

PRS DATA				
Conservation Treatment Applied	**FY04**	**FY05**	**FY06**	**Total**
Conservation Cover (327) (ac)		154	643	797
Fence (382) (ft)		448		448
Forage Harvest Management (511) (ac)	167			167
Grade Stabilization Structure (410) (no)			5	5
Irrigation System, Microirrigation (441) (ac)		1		1
Irrigation Water Management (449) (ac)		1		1
Mulching (484) (ac)		1		1
Nutrient Management (590) (ac)	461			461
Pest Management (595) (ac)		1	800	801
Pipeline (516) (ft)		1,156	300	1,456
Prescribed Grazing (528) (ac)		154		154
Prescribed Grazing (528A) (ac)	502			502
Range Planting (550) (ac)			4	4
Riparian Forest Buffer (391) (ac)		22		22
Upland Wildlife Habitat Management (645) (ac)		177	596	773
Use Exclusion (472) (ac)		1	689	690
Watering Facility (614) (no)		4	1	5
Windbreak/Shelterbelt Establishment (380) (ft)		2,275		2,275

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): **620**
- Wetland Restoration Program (WRP): **None**

Footnotes/Bibliography

1. Ownership Layer – Source: This spatial data contains surface management land status (sometimes known as "ownership") and Public Land Survey System (PLSS) information for Idaho. The Bureau of Land Management (BLM) in Idaho creates and maintains these spatial data layers. The primary source of the spatial features is the BLM Geographic Coordinate Database (GCDB), which contains official survey records and corresponding geodetic control information maintained by the BLM Cadastral program. In areas where GCDB records are unavailable, the spatial features are taken from a variety of sources including the BLM Idaho Resource Base Data collection, US Geological Survey Digital Line Graphs (DLGs), and US Forest Service Cartographic Feature Files (CFFs), among others. The source of the attribute information is the BLM Master Title Plats (MTPs) and careful cooperation with other government agencies that own or manage land parcels. The layer is available from the Inside Idaho (Interactive Numeric & Spatial Information Data Engine): http://inside.uidaho.edu For current ownership status, consult official records at appropriate federal, state or county offices. Ownership classes grouped to calculate Public Ownership vs. Private Ownership.

2. National Land Cover Dataset (NLCD): NLCD 92 (National Land Cover Data 1992) is a 21-category land cover classification scheme that has been applied consistently over the conterminous U.S. It is based primarily on the unsupervised classification of Landsat TM (Thematic Mapper) 1992 imagery. Ancillary data sources included topography, census, agricultural statistics, soil characteristics, other land cover maps, and wetlands data. The NLCD 92 classification is provided as raster data with a spatial resolution of 30 meters. The layer is available from: http://edcwww.cr.usgs.gov/products/landcover/nlcd.html Description: Abstract: These data can be used in a geographic information system (GIS) for any number of purposes such as assessing wildlife habitat, water quality, pesticide runoff, land use change, etc. The State data sets are provided with a 300 meter buffer beyond the State border to facilitate combining the State files into larger regions.

3. Farm Services Agency, USDA, 2005. CRP acres from GIS (CLU) database.

4. ESTIMATES FROM THE 1997 NRI DATABASE (REVISED DECEMBER 2000) REPLACE ALL PREVIOUS REPORTS AND ESTIMATES. Comparisons made using data published for the 1982, 1987, or 1992 NRI may produce erroneous results. This is due to changes in statistical estimation protocols, and because all data collected prior to 1997 were simultaneously reviewed (edited) as 1997 NRI data were collected. All definitions are available in the glossary. In addition, this December 2000 revision of the 1997 NRI data updates information released in December 1999 and corrects a computer error discovered in March 2000. For more information: http://www.nrcs.usda.gov/technical/NRI/

5. PRISM Climate Mapping Project. Annual precipitation data.
See http://www.ocs.orst.edu/prism_new.html for further information.

6. Irrigated Adjudicated Water Rights – Idaho Department of Water Resources
http://www.idwr.idaho.gov/water/srba/mainpage/

7. USGS Idaho Streamflows, gaging station data (http://waterdata.usgs.gov/id/nwis/sw/) and estimates for ungaged streams based on statistical data (http://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.

10. Idaho Soil Conservation Commission (SCC), Water Quality Program for Agriculture (WQPA). 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.

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 complete. http://www.nrcs.usda.gov/programs/watershed/Surveys_Plng.html#Watershed%20Surveys%20and%20Plan

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

17. Idaho Department of Environmental Quality, Watershed protection: Nonpoint source management (319 grant), Reports and program resources. http://www.deq.state.id.us/water/data reports/surfacewater.nps/reports/cfm

18. Subbasin assessments and plans are developed by local groups (SWCDs, Watershed Councils, Tribes and others) as part of the Northwest Power and Conservation Council's fish and wildlife program in the Columbia River Basin. This program is funded and implemented by the Bonneville Power Administration. http://www.nwcouncil.org/fw/subbasinplanning/Default.htm

19. Idaho Soil Conservation Commission (SCC), TMDL watershed implementation plans: agricultural component http://www.deq.state.id.us/water/data reports/surface water/nps/reports.cfmponent. http://www.scc.state.id.us/PDF/Ag%Component%20Status%20Report%20-%202004.pdf

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

22. 303d Listed Streams designated by the Idaho Department of Environmental Quality (1998) and approved by the Environmental Protection Agency, Section 303d Clean Water Act 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/

23. USGS Publications Warehouse. http://pubs.er.usgs.gov/usgspubs/

24. Nitrate Priority Areas. IDEQ has developed a list of degraded ground water areas. This list focuses on nitrate and ranks the top 25 nitrate-degraded areas (referred to as "nitrate priority areas") in the state based on the severity of the degradation, the population affected, and the trend; the rank of "1" indicates the most severely impacted area in the state. http://www.deq.state.id.us/water/prog_issues/ground_water/nitrate.cfm#ranking

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

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

27. Utah State University. www.bearriverinfo.org.

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29. Bear River/Malad River Subbasin Assessment and Total Maximum Daily Load Plan. Prepared by Ecosystems Research Institute, Inc. Submitted by IDEQ, 2006.

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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		6,133
Typical Management Unit/Ownership		500
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.	6,133			-3	-/+	-2	-3				
Conservation Cover (327)	Ac.	199	$ -	$ 600					X			X
Nutrient Management (590)	Ac.	115	$ -	$ -					X			X
Pest Management (595)	Ac.	200	$ -	$ 2,000					X			X
Upland Wildlife Habitat Management (645)	Ac.	387	$ -	$ 1,940					X	X		X
Total RMS Costs			**$ 0**	**$ 4,540**								

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Future Conditions		Total Acres
Total Dry Cropland		6,133

Project Future 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.	6,133			+2	+1	+1	+2				
Conservation Cover (327)	Ac.	583	$ 46,100	$ 1,380					X	X		X
Conservation Crop Rotation (328)	Ac.	3067	$ -	$ -					X			
Contour Farming (330)	Ac.	3680	$27,600	$ 9,200					X			X
Deep Tillage (324)	Ac.	61	$ 2,700	$ 920					X			
Filter Strip (393)	Ac.	123	$ 12,300	$ 250					X			X
Grassed Waterway (412)	Ac.	61	$ 109,800	$ 2,200					X			X
Nutrient Management (590)	Ac.	307	$ 2,900	$ 960					X			X
Pasture and Hay Planting (512)	Ac.	613	$ 61,300	$ 610					X			X
Pest Management (595)	Ac.	307	$ 3,200	$ 1,070					X			X
Residue Mgmt. Mulch Till (345)	Ac.	1227	$ 55,200	$ 18,410					X			X
Residue Mgmt. No Till/Direct Seed (329)	Ac.	1840	$ 165,600	$ 8,280					X			X
Upland Wildlife Habitat Management (645)	Ac.	613	$ 3,400	$ 1,130					X	X		X
Water and Sediment Control Basins (638)	Ea.	26	$ 26,000	$ 780					X			X
Total RMS Costs			**$ 516,100**	**$ 45,190**								

Note: There are no riparian acres within the Dry Cropland

Potential RMS Effects for Dry Cropland

Cost Items and Programs	Costs	O&M Costs
Non Farm Bill Programs	$51,600	$4,520
Potential Farm Bill Programs	$464,500	$40,670
Operator O&M and Management Cost		$45,190
Annual Management Incentives (3yrs - Incentive Payments)	$175,100	
Operator Investment	$196,300	
Federal Costshare	$144,700	
Total RMS Costs	**$516,100**	**$45,190**
Estimated Level of Participation		90%
Total Acres in RMS System		5,500
Anticipated Cost at Estimated Level of Participation		$464,500
Participating landowners will be in compliance with TMDLs		
Improves habitat for ESA endangered and threated species		

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Current Conditions			Total Acres
Surface Irrigated Cropland			330
Sprinkler Irrigated Cropland			770
Total Irrigated Cropland			1,100
Typical Management Unit/Ownership			500
Current Farm Bill Participation			90%

Current Level of Treatment for Irrigated Cropland

Irrigated 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
Surface Irrigated Cropland	Ac.	330			-3	-/+	-3	-3				
Conservation Cover (327)	Ac.	60	$ -	$ 220					X			X
Fence (382)	Ft.	67	$ -	$ -					X			X
Forage Harvest Management (511)	Ac.	50	$ -	$ -					X			X
Heavy Use Area Protection (561)	Ac.	1	$ -	$ 2,250					X			X
Irrigation Sys. Microirrigation (441)	Ac.	1	$ -	$ 80					X			X
Nutrient Management (590)	Ac.	35	$ -	$ 180					X			X
Pest Management (595)	Ac.	100	$ -	$ 1,000					X			X
Windbreak/Shelterbelt Estab.(380)	Ac.	341	$ -	$ 10					X			X

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Current Level of Treatment for Irrigated Cropland												
Irrigated 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
Sprinkler Irrigated Cropland	Ac.	770			-3	-/+	-2	-2				
Conservation Cover (327)	Ac.	139	$ -	$ 500					X			X
Fence (382)	Ft.	159	$ -	$ 10					X			X
Forage Harvest Management (511)	Ac.	117	$ -	$ -					X			X
Irrigation Water Management (449)	Ac.	1	$ -	$ 0					X			X
Nutrient Management (590)	Ac.	81	$ -	$ 410					X			X
Pest Management (595)	Ac.	100	$ -	$ 1,000					X			X
Windbreak/Shelterbelt Estab.(380)	Ac.	796	$ -	$ 10					X			X
Total RMS Costs			**$ 0**	**$ 5,670**								

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Future Conditions		Total Acres
Surface Irrigated Cropland		165
Sprinkler Irrigated Cropland		935
Total Irrigated Cropland		1,100

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.	165			+2	+1	+1	+3				
Critical Area Planting (342)	Ac.	11	$ 5,200	$ 160					X			X
Fence (382)	Ft.	539	$ 800	$ 20					X	X		X
Filter Strip (393)	Ac.	8	$ 800	$ 20					X			X
Heavy Use Protection (561)	Ac.	2	$ 15,000	$ 2,250					X			X
Irr Sys Micro Irrigation (441)	Ac.	3	$ 3,000	$ 150					X			X
Irrigation Water Conveyance, Pipeline, Low Pressure, Undergrd. Plastic, (430EE)	Ft.	340	$ 2,700	$ 10					X			X
Irrigation Water Mgmt (449)	Ac.	35	$ 1,100	$ 350					X			X
Nutrient Mgmt (590)	Ac.	83	$ 700	$ 240					X			X
Pest Mgmt (595)	Ac.	107	$ 200	$ 70					X			X
Residue Management, NoTill, Direct Seed (3290	Ac.	33	$ 3,000	$ 150					X			X
Riparian Forest Buffer (391)	Ac.	5	$ 7,500	$ 80					X	X		X
Riparian Herbaceous Cover (390)	Ac.	5	$ 1,500	$ 20					X	X		X
Upland Wildlife Hab Mgmt (645)	Ac.	3	$ -	$ 20					X	X		X
Windbreak/Shelterbelt Est. (380)	Ft.	340	$ -	$ 20					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
Sprinkler Irrigated Cropland	Ac.	935			+2	+/-	+2	+3				
Critical Area Planting (342)	Ac.	28	$ 13,300	$ 400					X			X
Fence (382)	Ft.	808	$ 1,100	$ 20					X	X		X
Filter Strip (393)	Ac.	19	$ 1,900	$ 40					X			X
Heavy Use Protection (561)	Ac.	5	$ 75,000	$ 11,250					X			X
Irrigation Water Conveyance, Pipeline, High Pressure, Undergrd. Plastic, (430DD)	Ft.	1928	$ 10,400	$ 50					X			X
Irrigation Water Mgmt (449)	Ac.	561	$ 16,800	$ 5,600					X			X
Irrigation System, Sprinkler (442)	Ac.	165	$ 90,800	$ 1,820					X			X
Prescribed Grazing (528)	Ac.	47	$ 700	$ 240					X			
Pumping Plant (533)	No.	2	$ 12,800	$ 260					X			X
Riparian Forest Buffer (391)	Ac.	9	$ 13,500	$ 140					X	X		X
Riparian Herbaceous Cover (390)	Ac.	14	$ 4,200	$ 40					X	X		X
Structure for Water Control (587)	No.	2	$ 1,000	$ 10					X			X
Upland Wildlife Hab Mgmt (645)	Ac.	47	$ 700	$ 240					X	X		X
Windbreak/Shelterbelt Est. (380)	Ft.	962	$ 200	$ -					X	X		X
Total RMS Costs			**$ 283,900**	**$ 23,670**								

Potential RMS Effects for Irrigated Cropland		
Cost Items and Programs	Costs	O&M Costs
Non Farm Bill Programs	$28,400	$2,370
Potential Farm Bill Programs	$255,500	$21,300
Operator O&M and Management Cost		$23,670
Annual Management Incentives (3yrs - Incentive Payments)	$23,200	
Operator Investment	$144,600	
Federal Costshare	$116,100	
Total RMS Costs	**$283,900**	**$23,670**
Estimated Level of Participation		90%
Total Acres in RMS System		1,000
Anticipated Cost at Estimated Level of Participation		$255,500
Total Acre Feet of Water Saved Annually		910
Participating landowners will be in compliance with TMDLs		
Improves habitat for ESA endangered and threated species		

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Current Conditions (Private)		Total Acres
Total Dry Grass/Pasture/Hay		12,680
Typical Management Unit/Ownership		500
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.	12,680			-3	-/+	-2	-3				
Nutrient Management (590)	Ac.	115	$ -	$ 580					X			X
Pest Management (595)	Ac.	200	$ -	$ 2,000					X			X
Upland Wildlife Habitat Management (645)	Ac.	387	$ -	$ 1,940					X			X
Total RMS Costs			**$ -**	**$ 4,520**								

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Future Conditions		Total Acres
Total Dry Grass/Pasture/Hay Lands		12,680

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.	12,680			+3	+2	+2	+3				
Brush Management (314)	Ac.	254	$ 5,100	$ 50					X			X
Fence (wire-4 strand) (382)	Ft.	13,076	$ 26,200	$ 520					X	X		X
Forage Harvest Management (511)	Ac.	5,072	$ -	$ -					X			
Nutrient Management (590)	Ac.	254	$ 2,100	$ 700					X			X
Pest Management (595)	Ac.	634	$ 13,000	$ 4,340					X			X
Pipeline (516)	Ft.	6,538	$ 17,700	$ 350					X			X
Prescribed Grazing (528)	Ac.	9,510	$ 142,700	$ 47,550					X			X
Pumping Plant (533)	No.	21	$ 134,400	$ 2,690					X			X
Spring Development (574)	No.	21	$ 49,400	$ 2,470					X			X
Upland Wildlife Habitat Management (645)	Ac.	507	$ 1,800	$ 600					X	X		X
Water and Sediment Control Basins (638)	Ea.	50	$ 50,000	$ 1,500					X			X
Watering Facility (614)	No.	21	$ 31,500	$ 320					X			X
Water Well (642)	No.	6	$ 24,000	$ 240					X			X
Windbreak/Shelterbelt Estab. (380)	Ft.	380	$ 600	$ 10					X	X		X
Total RMS Costs			**$ 498,500**	**$ 61,340**								

Potential RMS Effects for Dry Grass/Pasture/Hayland

Cost Items and Programs	Costs	O&M Costs
Non Farm Bill Programs	$49,900	$6,100
Potential Farm Bill Programs	$448,600	$55,200
Operator O&M and Management Cost		$61,300
Annual Management Incentives (3yrs - Incentive Payments)	$ 159,600	
Operator Investment	$194,400	
Federal Costshare	$144,500	
Total RMS Costs	**$498,500**	**$61,300**
Estimated Level of Participation		90%
Total Acres in RMS System		11,400
Anticipated Cost at Estimated Level of Participation		$448,700
Total Annual Forage Production Benefits (animal unit months)		1,284
Participating landowners will be in compliance with TMDLs		
Improves habitat for ESA endangered and threated species		

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Current Conditions (Private)		Total Acres	Riparian Acres
Surface Irrigated Grass/Pasture/Hay		720	
Sprinkler Irrigated Grass/Pasture/Hay		1,680	
Total Irrigated Grass/Pasture/Hay		2,400	202
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			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.	720			-3	-/+	-2	-3				
Conservation Cover (327)	Ac.	60	$ -	$ 180					X			
Forage Harvest Management (511)	Ac.	41	$ -	$ -					X			X
Nutrient Management (590)	Ac.	35	$ -	$ 180					X			X
Pest Management (595)	Ac.	60	$ -	$ 600					X			X
Windbreak/Shelterbelt Establishment (380)	Ft.	341	$ -	$ 20					X	X		X

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Current Level of Treatment for Irrigated Grass/Pasture/Hay:												
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
Sprinkler Irrigated Grass/Pasture/Hay	Ac.	1,680			-2	-/+	-1	-1				
Conservation Cover (327)	Ac.	139	$ -	$ 420					X			
Forage Harvest Management (511)	Ac.	42	$ -	$ -								
Nutrient Management (590)	Ac.	81	$ -	$ 410					X			X
Pest Management (595)	Ac.	140	$ -	$ 1,400					X			X
Windbreak/Shelterbelt Establishment (380)	Ft.	796	$ -	$ 40					X	X		X
Irrigated Grass/Pasture/Hayland Riparian (Surface and Sprinkler)	Ac.	202			-2	-/+	-2	-3				
Fence (382)	Ft.	224	$ -	$ 10					X			X
Pipeline (516)	Ft.	728	$ -	$ 40					X			X
Riparian Forest Buffer (391)	Ac.	22	$ -	$ 330					X			X
Use Exclusion (472)	Ac.	162	$ -	$ 170					X			X
Watering Facility	No.	2	$ -	$ 30					X			X
Total RMS Costs			**$ 0**	**$3,830**								

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Future Conditions		Total Acres	Riparian Acres
Surface Irrigated Grass/Pasture/Hay		360	
Sprinkler Irrigated Grass/Pasture/Hay		2,040	
Total Irrigated Grass/Pasture/Hay		2,400	
Conversion to Riparian RMS			202

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.	360			+2	+/-	+2	+2				
Conservation Cover (327)	Ac.	162	$ 12,200	$ 370					X			
Conservation Crop Rotation (328)	Ac.	234	$ -	$ -					X			
Fence (382)	Ft.	1,485	$ 3,000	$ 60					X	X		X
Forage Harvest Management (511)	Ac.	162	$ -	$ -								
Heavy Use Area Protection (561)	Ac.	2	$ 30,000	$ 4,500					X			X
Irr. System, Microirrigation (441)	Ac.	7	$ 10,500	$ 530					X			X
Irrigation Water Conveyance, Low Pressure, Pipeline, (430EE)	Ft.	743	$ 2,900	$ 10					X			X
Irr. Wtr. Conveyance, Pipeline, Rigid Gated Pipeline (430HH)	Ft.	743	$ 3,000	$ 30					X			X
Irrigation Water Management (449)	Ac.	162	$ 4,900	$ 1,620					X			X
Nutrient Management (590)	Ac.	36	$ -	$ 10					X			
Pasture and Hay Planting (512)	Ac.	36	$ 3,600	$ 40					X			X
Pest Management (595)	Ac.	72	$ 400	$ 120					X			X
Pipeline (516)	Ft.	743	$ 2,000	$ 40					X			X
Prescribed Grazing (528)	Ac.	180	$ 2,700	$ 900					X			X
Upland Wildlife Habitat Management (645)	Ac.	18	$ 300	$ 90					X	X		X
Watering Facility (614)	No.	1	$ 1,100	$ 10					X			X
Windbreak/Shelterbelt Establishment (380)	Ft.	11	$ -	$ -					X	X		X

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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.	2,040			+2	+/-	+2	+2				
Fence (382)	Ft.	1,052	$ 2,100	$ 40					X	X		X
Forage Harvest Management (511)	Ac.	1,387	$ -	$ -								
Heavy Use Area Protection (561)	Ac.	5	$ 75,000	$ 11,250					X			X
Irr. Wtr. Conveyance, Pipeline, High Pressure, Undergrd, Plastic (430DD)	Ft.	694	$ 3,800	$ 20					X			X
Irrigation System, Sprinkler (442)	Ac.	360	$ 198,000	$ 3,960					X			X
Irrigation Water Management (449)	Ac.	1,326	$ 39,780	$ 13,260					X			X
Nutrient Management (590)	Ac.	204	$ 1,800	$ 620					X			
Pasture and Hay Planting (512)	Ac.	510	$ 51,000	$ 510					X			X
Pest Management (595)	Ac.	204	$ 1,900	$ 640					X			X
Pipeline (516)	Ft.	526	$ 1,400	$ 30					X			X
Prescribed Grazing (528)	Ac.	1,632	$ 24,500	$ 8,160					X			X
Upland Wildlife Habitat Management (645)	Ac.	82	$ 1,200	$ 410					X	X		X
Watering Facility (614)	No.	3	$ 4,500	$ 50					X			X
Windbreak/Shelterbelt Establishment (380)	Ft.	122	$ 500	$ 10					X	X		X

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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
Irrigated Grass/Pasture/Hayland Riparian (Surface and Sprinkler)	Ac.	202			+2	+2	+3	+3				
Channel Bank Vegetation (322)	Ac.	2	$ 10,400	$ 210					X	X		X
Channel Stabilization (584)	Ft.	539	$ 10,800	$ 50					X			X
Fence (382)	Ft.	417	$ 400	$ 10					X	X		X
Filter Strip (393)	Ac.	8	$ 800	$ 20					X			X
Heavy Use Protection (561)	Ac.	2	$ 30,000	$ 4,500					X			X
Pest Management (595)	Ac.	10	$ 300	$ 100					X			X
Prescribed Grazing (528)	Ac.	61	$ 900	$ 310					X			
Riparian Forest Buffer (391)	Ac.	30	$ 12,000	$ 450					X	X		X
Riparian Herbaceous Cover (390)	Ac.	7	$ 2,100	$ 20					X	X		X
Stream Crossing (578)	No.	2	$ 7,000	$ 350					X			X
Stream Habitat Improvement and Management (395)	Ac.	1	$ 17,900	$ 360					X	X		X
Streambank/Shoreline Prot. (580)	Ft.	1,346	$ 63,900	$ 6,390					X			X
Tree/Shrub Establishment (612)	Ac.	10	$ 4,500	$ 50					X	X		X
Use Exclusion (472)	Ac.	172	$ 400	$ 180					X			X
Wetland Creation (658)	Ac.	4	$ 20,000	$ 200					X			
Wetland Enhancement (659)	Ac.	4	$ 8,000	$ 80					X			X
Wetland Wildlife Hab. Mgmt (644)	Ac.	9	$ 100	$ 50					X	X		X
Total RMS Costs			**$ 671,580**	**$ 60,620**								

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Potential RMS Effects for Irrigated Grass/Pasture/Hayland

Cost Items and Programs	Costs	O&M Costs
Non Farm Bill Programs	$67,200	$6,100
Potential Farm Bill Programs	$604,400	$54,500
Operator O&M and Management Cost		$60,600
Annual Management Incentives (3yrs - Incentive Payments)	$78,480	
Operator Investment	$330,200	
Federal Costshare	$262,900	
Total RMS Costs	**$671,580**	**$60,600**
Estimated Level of Participation		90%
Total Acres in RMS System		2,160
Anticipated Cost at Estimated Level of Participation		$604,400
Total Annual Forage Production Benefits (animal unit months)		2,390
Total Acre Feet of Water Saved Annually		2,285
Increases infiltration and storage of water in soil profile		
Participating landowners will be in compliance with TMDLs		
Improves habitat for ESA endangered and threated species		

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Current Conditions		Total Acres	Riparian Acres
Total Shrub/Range Land		46,485	3,185
Typical Management Unit/Ownership		500	
Current Farm Bill Participation		90%	

Current Level of Treatment for Shrub/Range Land												
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/Range Land	Ac.	46,485			-3	-1	-2	-2				
Prescribed Grazing (528)	Ac	656	$ -	$ 3,280					X			X
Range Planting (550)	Ac	4	$ -	$ -					X			X
Upland Wildlife Habitat Management (645)	Ac	386	$ -	$ 1,930					X			X
Watering Facility (614)	No	3	$ -	$ 30					X			X
Shrub/Rangeland Riparian	Ac.	3,185			-3	-1	-2	-2				
Total RMS Costs			**$ 0**	**$ 5,240**								

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Future Conditions		Total Acres	Riparian Acres
Total Shrub/Rangeland		46,485	
Conversion to Riparian RMS			3,185

Future Level of Treatment for Shrub/Rangeland												
Shrub/Range 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
Shrub/Rangeland	Ac.	46,485			+2	+2	+3	+2				
Brush Management (314)	Ac	2,324	$ 58,100	$ 580					X			
Fence (wire-4 strand) (382)	Ft	23,969	$ 47,900	$ 960					X	X		X
Heavy Use Area Protection (561)	Ac	10	$ 150,000	$ 7,500					X			X
Pest Management (590)	Ac	1,395	$ 41,900	$ 13,950					X			X
Pipeline (516)	Ft	15,979	$ 43,100	$ 860					X			X
Prescribed Grazing (528)	Ac	18,594	$ 269,100	$ 89,690					X			X
Pumping Plant (533)	No	52	$ 179,400	$ 3,590					X			X
Range Planting (550)	Ac	4,649	$ 418,400	$ 4,180					X			X
Spring Development (574)	No	39	$ 91,700	$ 4,580					X			X
Upland Wildlife Habitat Management (645)	Ac	2,789	$ 36,000	$ 12,020					X	X		X
Watering Facility (614)	No	77	$ 115,500	$ 1,160					X			X
Water Well (642)	No	15	$ 120,000	$ 1,200					X			X

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Future Level of Treatment for Shrub/Rangeland												
Shrub/Range 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
Shrub/Rangeland Riparian	Ac.	3,185			+2	+1	+3	+2				
Channel Bank Vegetation (322)	Ac.	32	$ 96,000	$ 1,920					X			X
Critical Area Planting (342)	Ac.	159	$ 75,500	$ 2,270					X			X
Fence (382)	Ft.	6,569	$ 13,100	$ 260					X	X		X
Heavy Use Area Protection (561)	Ac.	5	$ 75,000	$ 11,250					X			X
Pest Management (595)	Ac.	96	$ 2,900	$ 960					X			X
Pipeline (516)	Ft.	3,285	$ 8,900	$ 180					X			X
Prescribed Grazing (528)	Ac.	159	$ 2,400	$ 800					X			X
Pumping Plant (533)	Ea.	5	$ 8,800	$ 180					X			X
Riparian Forest Buffer (391)	Ac.	96	$ 144,000	$ 1,440					X			X
Spring Development (574)	Ea.	5	$ 11,800	$ 60					X			X
Stream Crossing (578)	No.	32	$ 112,000	$ 5,600					X			X
Structure for Water Control (587)	Ea.	5	$ 5,600	$ 60					X			X
Tree/Shrub Establishment (612)	Ac.	127	$ 57,200	$ 570					X	X		X
Use Exclusion (472)	Ac.	96	$ 3,400	$ 100					X			X
Watering Facility	No.	5	$ 7,500	$ 80					X			X
Total RMS Costs			**$ 2,195,200**	**$ 166,000**								

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Potential RMS Effects for Shrub/Rangeland

Cost Items and Programs	Costs	O&M Costs
Non Farm Bill Programs	$219,500	$16,600
Potential Farm Bill Programs	$1,975,700	$149,400
Operator O&M and Management Cost		$166,000
Annual Management Incentives (3yrs - Incentive Payments)	$352,300	
Operator Investment	$1,031,200	
Federal Costshare	$811,700	
Total RMS Costs	**$2,195,200**	**$166,000**
Estimated Level of Participation		90%
Total Acres in RMS System		41,800
Anticipated Cost at Estimated Level of Participation		$1,975,700
Total Annual Forage Production Benefits (animal unit months)		2,834
Participating landowners will be in compliance with TMDLs		
Improves habitat for ESA endangered and threated species		

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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), Acess 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		3
AFOs		12
Current Farm Bill participation	90%	
Total CAFOs and AFOs		15

Current Level of Treatment for Headquarters:

	Quantity		Costs		Effects				Implementation				
Practices	Unit	Quantity	Investment Cost	Annual O&M and Mngt. Cost	Water Conservation	Water Storage	Habitat	WQ	EQIP	WHIP	WRP	CREP	Other
Dairy	No.				-1	-1	-3	-3					
Waste Storage Facility (313) CAFO	No.	3	$ -	$ 5,300					X				X
Waste Storage Facility (313) AFO	No.												
Feed Lot	No.				-1	-1	-3	-3					
Waste Storage Facility (313) CAFO	No.												
Waste Storage Facility (313) AFO	No.	12	$ -	$ 10,800.00					X				X

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

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Projected Additional Treatment Needs for Headquarters:

	Quantity		Costs		Effects				Implementation				
Practices	Unit	Quantity	Additional Investment Cost	Annual O&M and Mngt. Cost	Water Conservation	Water Storage	Habitat	WQ	EQIP	WHIP	WRP	CREP	Other
Dairy	No.				+2	+1	+3	+2					
Structural/Management Practices													
Waste Storage Facility (313) CAFO	No.	3	$ 262,500	$ 5,250					X				X
Waste Storage Facility (313) AFO	No.												
Feed Lot	No.				+2	+1	+3	+2					
Structural/Management Practices													
Waste Storage Facility (313) CAFO	No.												
Waste Storage Facility (313) AFO	No.	5	$ 225,000	$ 4,500					X				X
Total RMS Costs		**8**	**$487,500**	**$ 9,750**									

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RMS Cost Summary for Headquarters

Cost Items and Programs	Costs	O&M Costs
Non Farm Bill Programs	$ 24,400	$ 490
Potential Farm Bill Programs	$ 463,100	$ 9,260
Operator O&M and Management Cost		$ 9,750
Annual Management Incentives (3 yrs - Incentive Payments)	$ 48,800	
Operator Investment	$ 128,000	
Federal Costshare	$ 310,700	
Total RMS Costs	**$ 487,500**	
Estimated Level of Participation		90%
Total CAFO/AFO in RMS System		7
Anticipated Cost at Estimated Level of Participation		$438,800
Reduces impact to ground and surface water quality		
90% participation reflects Local, State and Federal regulations		