NRCS Natural Resources Conservation Service

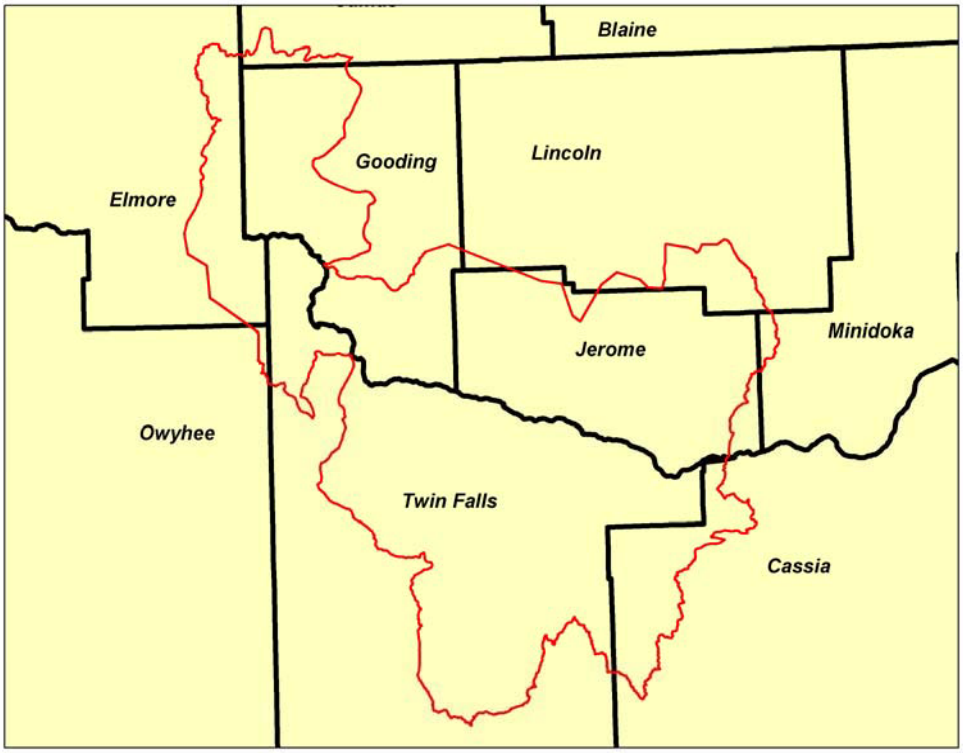
Upper Snake-Rock - 17040212

Idaho | 8 Digit Hydrologic Unit Profile | March 2006

Introduction

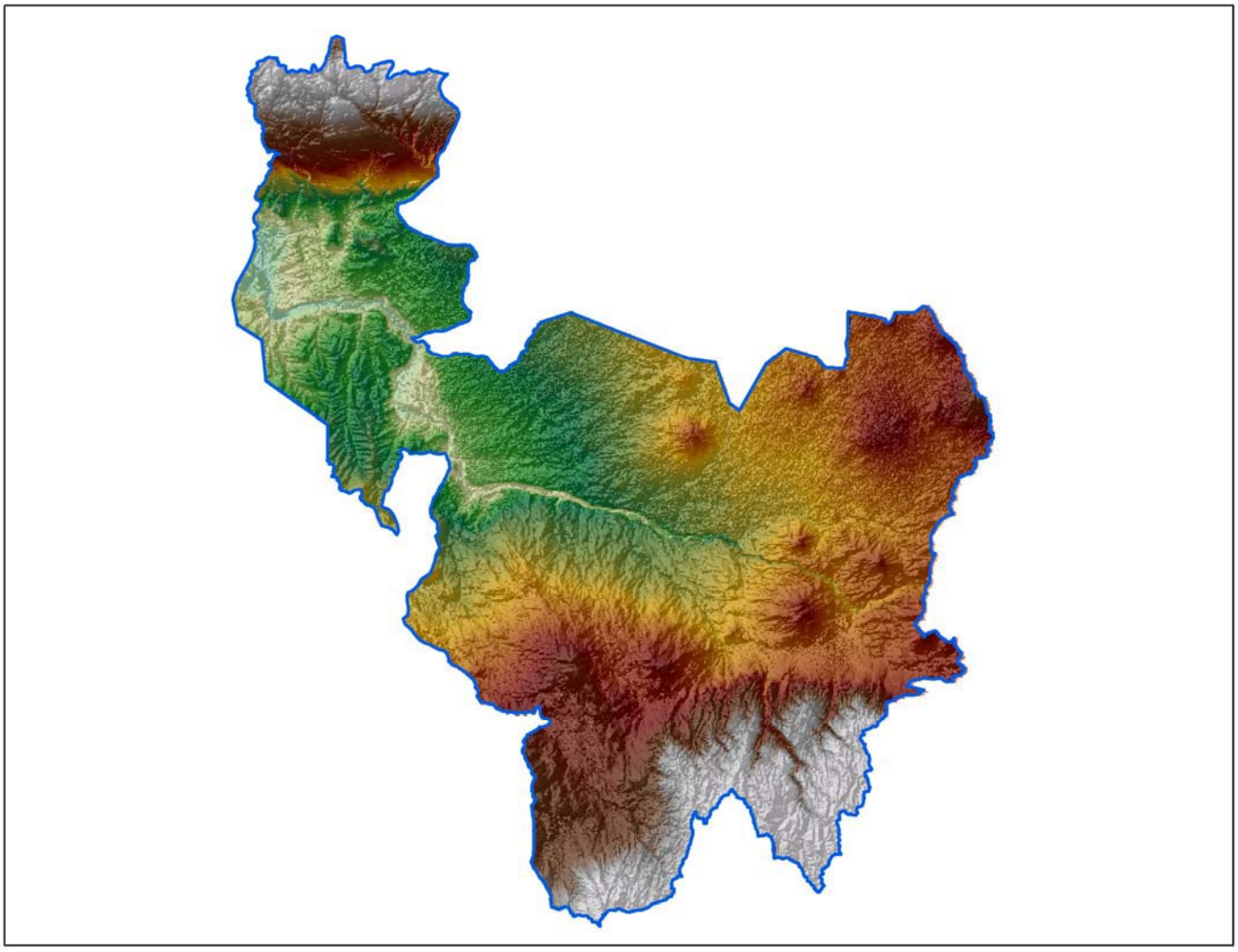
The Upper Snake-Rock 8-Digit Hydrologic Unit Code (HUC) subbasin contains 1,609,490 acres. The subbasin encompasses portions of nine counties, broken out as follows: 42 percent of the subbasin is in Twin Falls County, 22 percent in Jerome County, 17 percent in Gooding County, seven percent each in Cassia and Elmore Counties, and the remainder in Camas, Lincoln, Minidoka and Owyhee Counties. Fifty-four percent of the subbasin is privately owned.

Sixty-eight percent of the subbasin is in shrubland, rangeland, grass, pasture or hayland. Thirty percent is cropland, and the remainder is forest, water, wetlands, developed or barren. Elevations range from 2,500 feet in the western portion to nearly 8,000 feet in the southeastern portion. Conservation assistance is provided by seven Soil and Water Conservation Districts, two Soil Conservation Districts and the Wood River and Southwest Idaho Resource Conservation and Development offices.

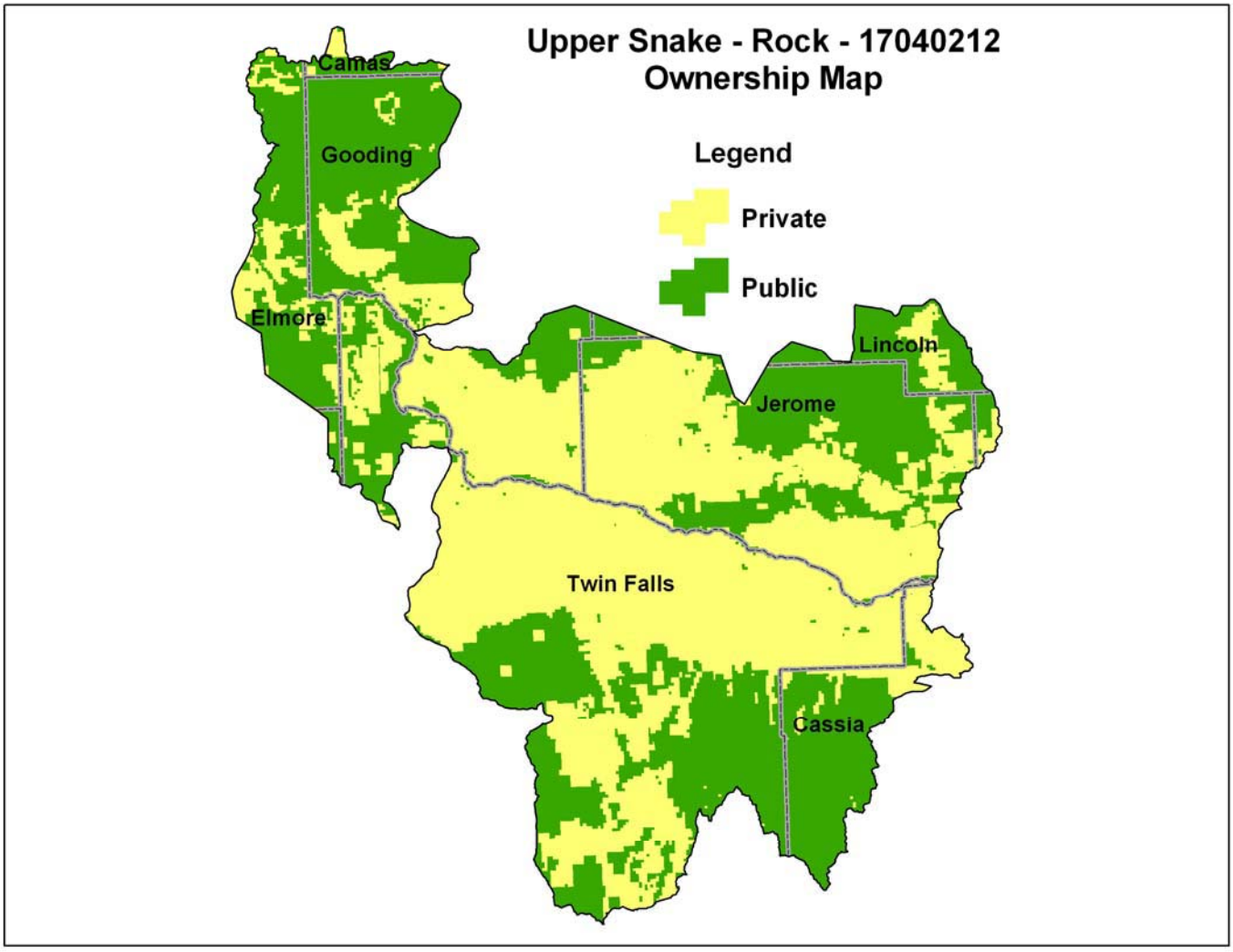


Profile Contents

Relief Map



General Ownership[/1]



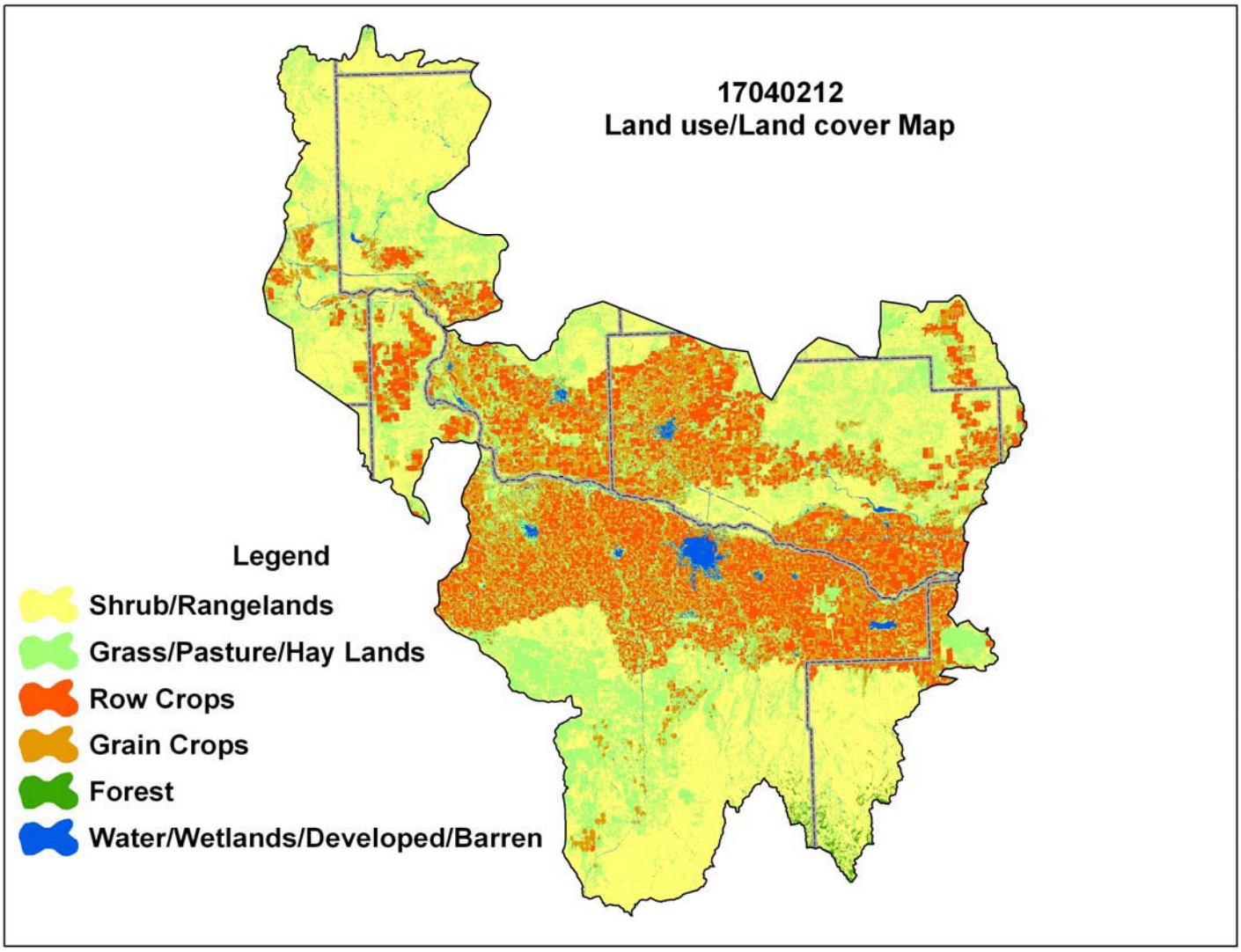
Physical Description

Land Cover/ Land Use (NLCD[2])	Ownership - (2003 Draft BLM Surface Map Set[1])							
	Public		Private		Tribal		Totals	% of HUC
	Acres	%	Acres	%		%		
Forest	5,850	<1%	500	<1%		--	**6,350**	**<1%**
Grain Crops		--	179,310	11%		--	**179,310**	**11%**
Conservation Reserve Program (CRP) Land [3]		--	8,250	<1%		--	**8,250**	**<1%**
Grass/Pasture/Hay Lands	179,080	11%	239,540	15%		--	**418,620**	**26%**
Orchards/Vineyards/Berries		--		--		--		**--**
Row Crops			298,710	19%		--	**298,710**	**19%**
Shrub/Rangelands	543,850	34%	129,000	8%		--	**672,850**	**42%**
Water/Wetlands/ Developed/Barren	4,840	<1%	20,060	1%		--	**24,900**	**1%**
Idaho HUC Totals	**733,620**	**46%**	**875,370**	**54%**		**--**	**1,608,990**	**100%**

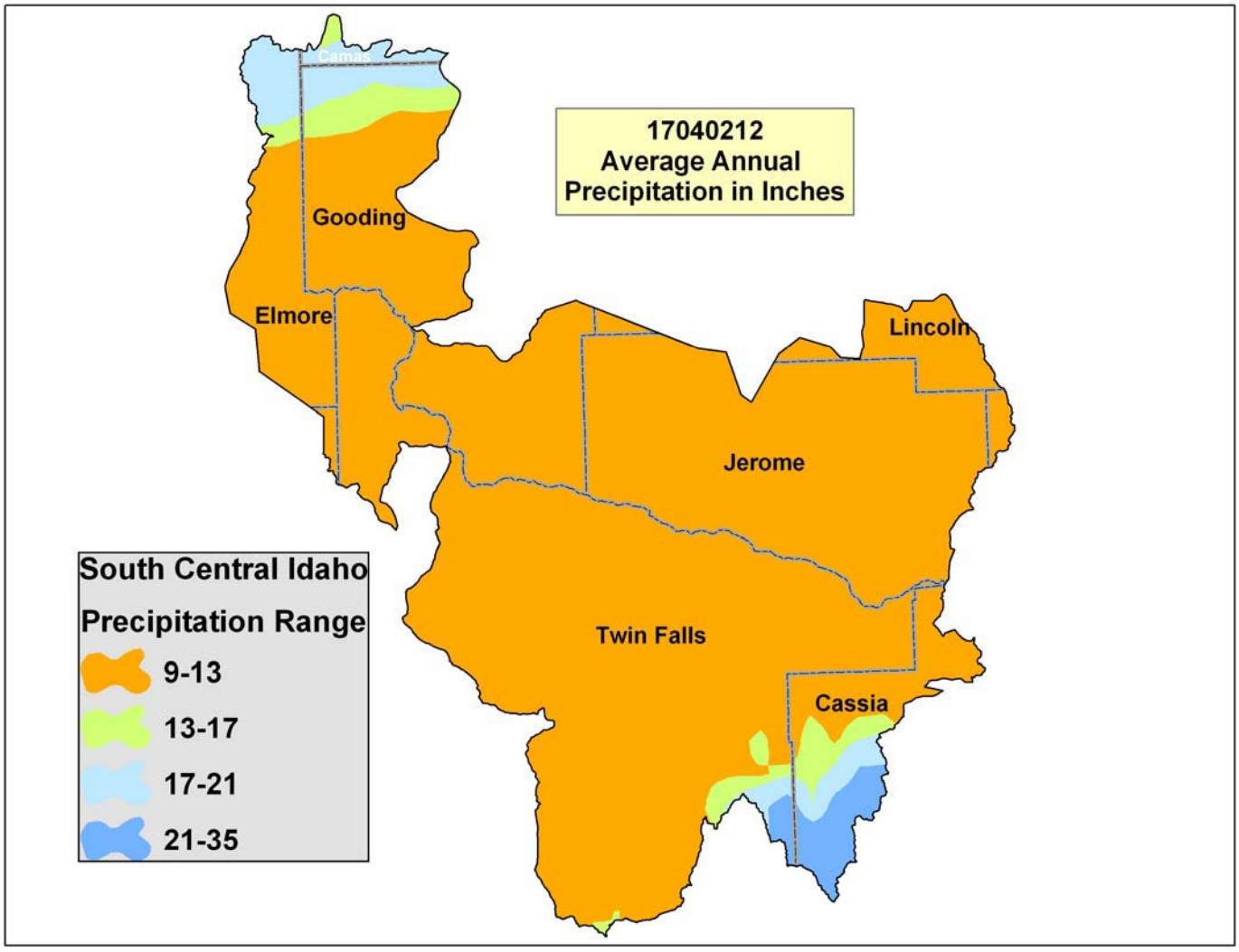
Irrigated Lands[4]	Type of Land	ACRES	% of Irrigated Lands	% of HUC
	Cultivated Cropland	512,600	86%	32%
	Non-Cultivated Cropland*	31,200	5%	2%
	Pastureland	54,600	9%	3%
	Total Irrigated Lands	**598,400**	**100%**	**37%**

* Includes permanent hayland and horticultural cropland.

Land Use/Land Cover[/2]

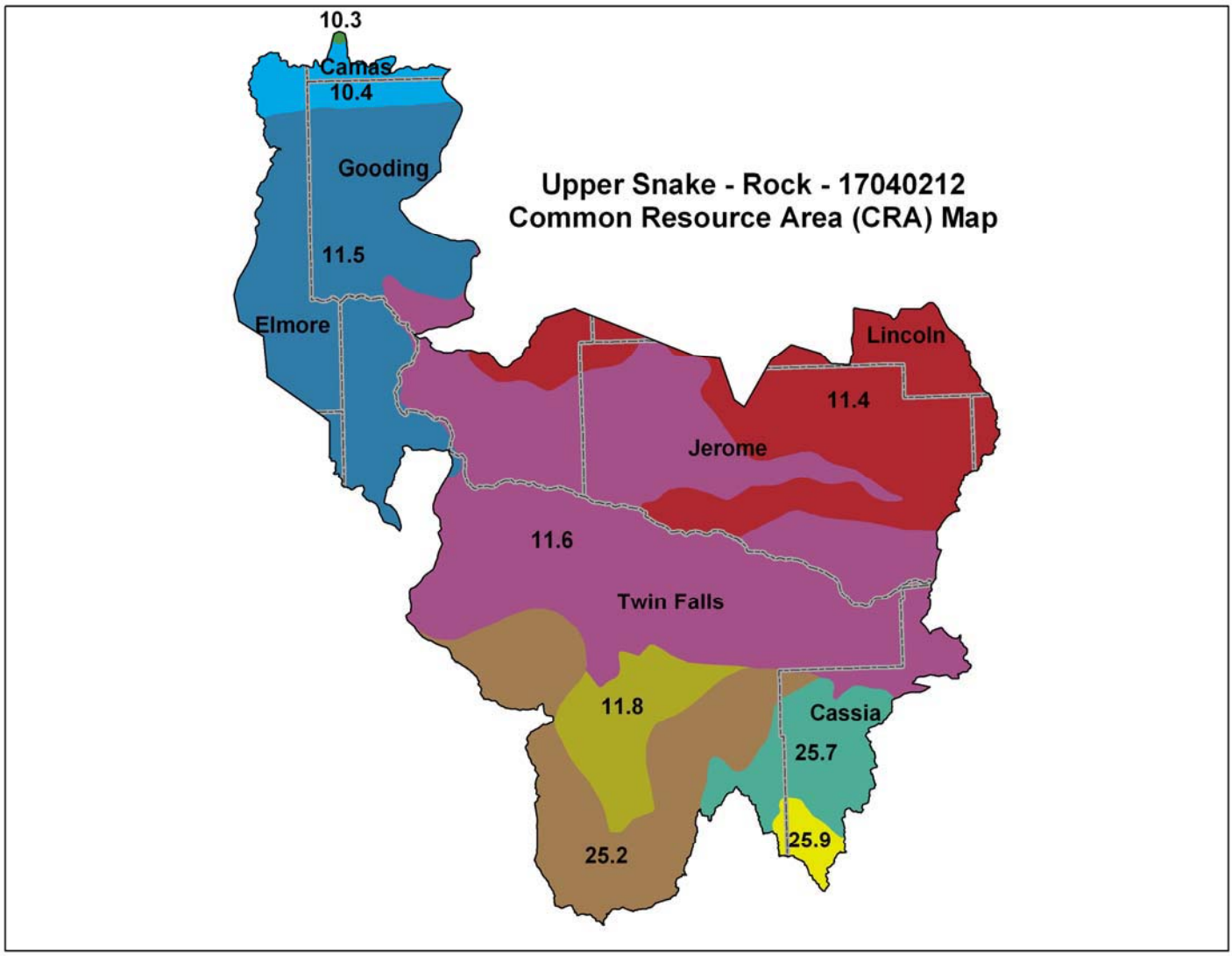


Average Annual Precipitation[/5]



Common Resource Area Map

The Common Resource Areas (CRA) delineated below for the Upper Snake-Rock HUC are described in the next section (for additional information, see http://www.id.nrcs.usda.gov/technical/soils/common_res_areas.html). A CRA is defined as a geographical area where resource concerns, problems, or treatment needs are similar. It is considered a subdivision of an existing Major Land Resource Area (MLRA) map delineation or polygon. Landscape conditions, soil, climate, human considerations, and other natural resource information are used to determine the geographic boundaries of a Common Resource Area (General Manual Title 450 Subpart C 401.21).



Common Resource Area Descriptions

The National Coordinated CRA Geographic Database provides:

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

10.3 Central Rocky and Blue Mountain Foothills - Camas Prairie: This unit is a cold, wet valley used for small grain and alfalfa farming, pasture, range and wildlife refuge. It is flanked by the foothills of the Rocky Mountains to the north and the Bennett Hills to the south. These foothills trap mountain runoff. Resultant wet soils and flooding occur and are local and seasonal problems. Frigid mollisols are common and are colder than the soils of the lower Treasure Valley. Wet bottomlands support meadow grasses and sedges. Alluvial fans and terraces are covered by grasses and sagebrush.

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

11.4 Snake River Plains - Eastern Snake River Basalt Plains: This unit is characterized by shallow, stony soils that are unsuitable for cultivation. Only small areas have soils deep enough to be farmed under sprinkler irrigation. Rangeland is widespread. Potential natural vegetation is mostly sagebrush and bunchgrass. It is cool enough to have some regeneration capacity and still contains native plants.

11. 5 Snake River Plains - Mountain Home Uplands: This upland shrub- and grass-covered unit is sparsely populated. Local relief is between that of the flanking foothills and the Magic and Treasure Valleys. Soils are warmer than the frigid soils of the Owyhee Mountains. Today, cheatgrass, medusahead, wild rye and sagebrush occur and livestock carrying capacity is low; native grasses are rare and vegetative regeneration capacity is limited.

11.6 Snake River Plains - Magic Valley: This unit is underlain by alluvium, loess and basalt lava flows. Its aridic soils require irrigation to grow commercial crops. Many canals, reservoirs, and diversions supply water to its pastureland and cropland, and residential, commercial and industrial developments. Small grains, alfalfa, sugar beets, potatoes and beans are grown. Livestock and dairy farms are common. Dams, irrigation diversions, pollution and channel alteration have affected water quality. Over-irrigation has raised groundwater levels and created artificial wetlands. Natural vegetation is mostly sagebrush and bunchgrass but low terraces have salt tolerant plants. Population density is greater than in adjacent rangeland-dominated units.

Common Resource Area Descriptions – continued

11.8 Snake River Plains - Dissected High Lava Plateau: This unit consists of alluvial fans, rolling plains and shear-walled canyons cut into extrusive rocks. Sagebrush grassland is common and scattered woodland grows on rocky uplands. This unit has more cool season grasses than the valleys to the south and lacks the saltbush–greasewood of the Raft River Valley. Frigid and mesic aridisols and mollisols occur. Grazing is the primary land use. Cropland is much less common than in other CRAs. Areas of high water quality and native fish assemblages occur in isolated canyons.

25.2 Owyhee High Plateau - Dissected High Lava Plateau: This unit has alluvial fans, rolling plains and shear-walled canyons that are cut into extrusive rocks. Sagebrush grassland is common and scattered woodland grows on rocky uplands. This region has more cool season grasses than the valleys to the south and lacks saltbush–greasewood. Frigid and mesic aridisols and mollisols occur. Grazing is the primary land use. Cropland is less common than in the Snake River Plain. High water quality and native fish assemblages occur in isolated canyons.

25.7 Owyhee High Plateau - Semiarid Hills and Low Mountains: This unit occupies an elevational band between the higher mountains and the lower inter-montane valleys. Potential natural vegetation is mostly sagebrush steppe. Cool season grasses are more common than in the adjacent, drier regions. Juniper woodland grows on rock outcrops. Land use is primarily livestock grazing.

25.9 Owyhee High Plateau - High Elevation Forests and Shrublands: The High Elevation Forests and Shrublands Ecoregion is mountainous and occupies the elevational band above Sagebrush Steppe- and Woodland-Covered Hills and Low Mountains Region. 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 mean annual precipitation is greater than in lower regions.

Streamflow Summary[7]

The average annual flow of the Snake River at Milner Dam is 3,096,230 acre-feet, and the average annual flow at King Hill is 7,250,100. The majority of Snake River streamflow is diverted at Milner Dam for irrigation. The flow for the Snake River at Milner represents the discharge passing the dam plus water that is diverted for irrigation. The entire river flow may be diverted leaving the stream dry at times. Average April-October diversions from Milner Reservoir for the three main canals servicing the HUC are: Milner-Gooding – 435,800 acre-feet, Northside – 703, 215 acre-feet, and Southside (Twin Falls Canal Co.) – 1,071,345 acre-feet. Upstream reservoir releases may be made for flood control or for passing water for downstream use. There are only minor diversions from the Snake River below Milner. Return flow, spring flow and seepage flow enters the Snake River Canyon below the Milner gage and above the Snake River at King Hill gage. As a result, the flows at King Hill are more constant year round and display less of the typical snowmelt hydrograph pattern.

Irrigated Adjudicated Water Rights[6])		**CFS**	
	Surface Water	14,680	
	Groundwater	2,987	
	Total Irrigated Adjudicated Water Rights	17,667	
Stream Flow Data[7]	USGS 13154500, Snake River at King Hill, 1993-2003		**ACRE-FEET**
		Average Annual	7,250,100
		February-June Average	3,447,200
		Percent of Average Annual	February-June 48%
Stream Data **Percent of Total Miles of streams in HUC*		**MILES**	**PERCENT**
	Total Miles – Major (100K Hydro GIS Layer – Named)	1,269	--
	Total Stream Miles[8]	4,595	
	Impaired streams[9,10]	894.1	19.5%*
	Anadromous Fish Presence (Streamnet)[11]	0	--
	Bull Trout Presence (Streamnet)[11]	0	--
Land Cover/Use[2] based on a 100 ft. stretch on both sides of all streams in the 100K Hydro Layer		**ACRES**	**PERCENT**
	Forest	230	<1%
	Grain Crops	10,880	14%
	Grass/Pasture/Hay Lands	22,880	29%
	Row Crops	16,410	21%
	Shrub/Rangelands – Includes CRP Lands	25,800	33%
	Water/Wetlands/Developed/Barren	2,600	3%
	Total Acres of 100 ft stream buffers	**77,800**	100%
Land Capability Class[4]	**I** – slight limitations	0	
	II – moderate limitations	222,100	36%
	III – severe limitations	282,300	46%
	IV – very severe limitations	6,500	11%
	V – no erosion hazard, but other limitations	1,200	<1%
	VI – severe limitations, unsuited for cultivation, limited to pasture, range, forest	12,200	2%
	VII – very severe limitations, unsuited for cultivation, limited to grazing, forest, wildlife	25,700	4%
	VIII – misc areas have limitations, limited to recreation, wildlife, and water supply	0	
	Total Crop & Pasture Lands	**608,500**	100%

Confined Animal Feeding Operations – Dairies/Feedlots[/12,13]						
	Number	**<200**	**200-500**	**500-750**	**750-1000**	**>1000**
Dairy	254	84	69	29	23	49
	Number	**<300**	**300-999**	**1,000-4,999**	**5,000-9,999**	**>10,000**
Feedlots	73	17	18	28	4	6

Resource Settings

Hayland: Non-irrigated upland hay consists of introduced perennial grasses and legumes; one cutting is common. Renovations occur every six to ten years. Soils vary from loam to silt loams with slopes ranging from three to 30 percent. Precipitation is 16 to 20 inches per year with very dry summer months. Vegetation ranges from grass/sedge/rush complexes to improved species like timothy, smooth bromegrass, creeping meadow foxtail, orchard grass and clover. Fertilizers and/or pesticides are periodically applied. Soil testing and fertility management is lacking.

Irrigated hayland is conventionally tilled, and includes sprinkler and surface irrigation. Small grains and alfalfa hay are grown in rotation, with alfalfa typically maintained for four to six years. Grazing of crop aftermath may occur. Precipitation is 15 to 20 inches per year with a growing season ranging from 80 to 160 days. Typical soils are loamy sands or finer with slopes of zero to seven percent. Fertilizers and pesticides are applied. Nutrient, pest, and/or irrigation water management is less than desirable.

Pasture: Surface irrigated pastureland. Annual precipitation is eight to 18 inches, and the growing season is 100 to 160 days. Soils vary from silt loams to gravelly sands, with slopes from one to five percent. Irrigation water is distributed by earthen ditches. Tailwater from fields may be reused and eventually returns to a perennial stream or river. Some fields may have been leveled, smoothed or shaped to allow for irrigation. Estimated irrigation efficiency is 25 to 35 percent. Plants are introduced perennial forage species. Conventional tillage is used when rotating pasture and grain. The average rotation is ten years of pasture and two years of small grain. Commercial fertilizers are occasionally used, but soil testing is rarely done.

High elevation irrigated pastureland has annual precipitation of 16 to 30 inches, and the growing season is 50 to 100 days. Soils vary from silt loams to gravelly sands, with slopes from one to five percent. Irrigation water is diverted from streams and distributed by earthen ditches. In the fields, water is controlled and directed by ditch tarps on contour ditches, and the tailwater returns to the perennial streams. Some fields may have been leveled, smoothed or shaped to allow for irrigation. Plants are a mixture of introduced and native perennial forage species. Conventional tillage is used when rotating pasture and grain. The average rotation is ten years of pasture and two years of small grain. Commercial fertilizers are occasionally used, but soil testing is rarely done.

Resource Settings - continued

Dry Crop: Dry cropland planted to winter wheat/fallow rotation. Precipitation is 10 to 14 inches per year. Growing season ranges from 90 to 120 days. Typical soils are silt loams with slopes from zero to eight percent. Conventional tillage results in five to ten percent residue after planting. Tillage practices are typically fall disc, spring disc, chisel and rod weeding. Fertilizers and/or pesticides are applied. Wildlife includes deer, elk, moose, small game and nongame birds.

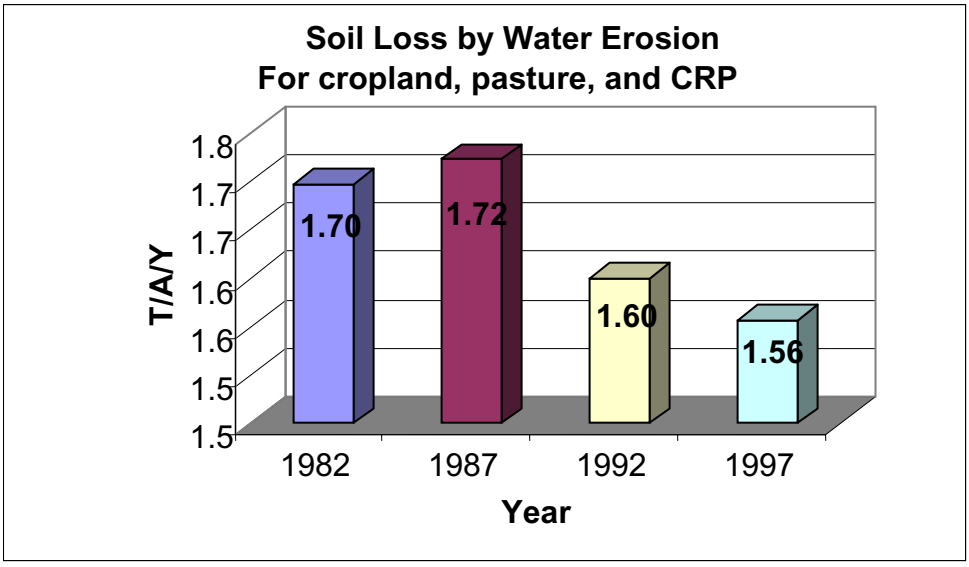
Surface Irrigated Crops: Conventionally tilled, surface-irrigated cropland planted predominantly to row crops. Crops grown include: beans, peas. onions, sugar beets, silage corn, sweet corn, grain corn and winter wheat. Alfalfa may be included in the rotation and is typically maintained for three to four years. Fertilizers and pesticides are applied. Nutrient, pest, and/or irrigation water management in some cases is less than desirable. Precipitation is 12 inches or less and the growing season is approximately 120 to 160 days. Typical soils are sandy loam or finer, approximately 15 inches in depth with slopes from zero to seven percent.

Sprinkler Irrigated Crops: Cropland is conventionally tilled and planted predominantly to row crops. Typical crops grown include beans, potatoes, sugar beets, peas, silage corn, grain corn, sweet corn, small grains and alfalfa. Crop rotations generally contain less than 50 percent high residue crops. Wind erosion typically occurs in the spring following potatoes and other low residue crops and causes visibility concerns. Typical tillage includes plow, heavy offset disc or deep ripping with seasonal residue management. Fertilizers and pesticides are applied. Typical soils are loamy fine sand to course sand with slopes from zero to four percent. Growing season is approximately 100 to 160 days. Precipitation is eight to 12 inches per year. The irrigation water source is groundwater and surface water from irrigation districts. Hand-lines, wheel-lines and pivots are commonly used to irrigate crops. Fertilizers and pesticides and manure are commonly applied. Nutrient, pest and/or irrigation water management is less than desirable. Wildlife includes antelope, small game, upland game birds and small mammals.

Resource Concerns

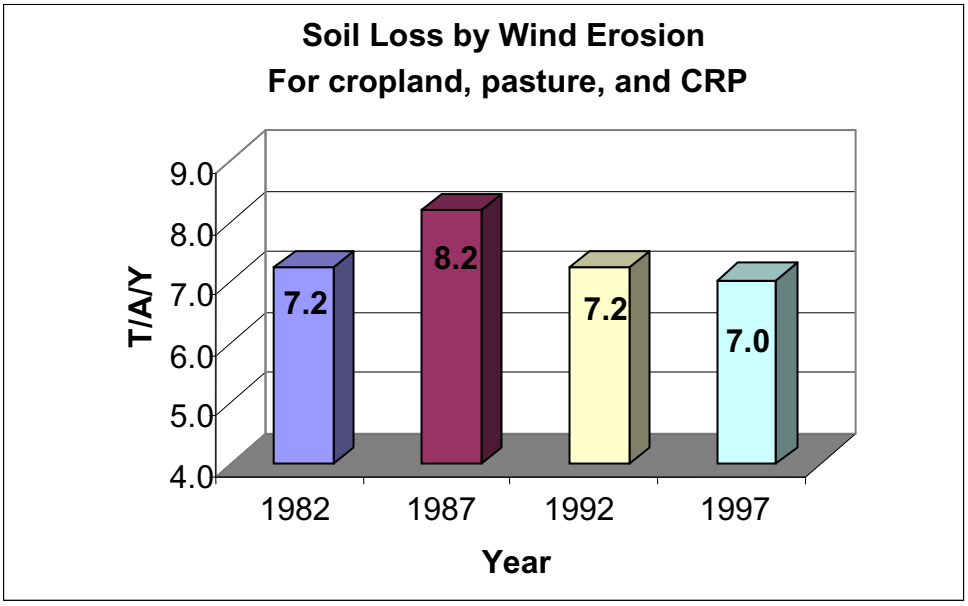
The erosion from surface irrigated row crops in this watershed is considered a serious problem. Erosion rates on 0-3 percent slopes can average 10 tons/acre/year. The worst crops are sugar beets, beans and corn, which can have surface irrigation-induced erosion rates ranging from 30 to 53 tons/acre/years. Slopes over three percent can average 30 tons/acre/year for a typical rotation. Soil loss from sugar beets, beans and corn, for any one year, can be as great as 51 to 89 tons/acre/year on these steeper slopes. These erosion rates were measured by the USDA-ARS in the 1980s and 1990s.

Resource Concerns - continued



Sheet and rill erosion by water on the subbasin croplands, pasturelands and CRP have been essentially static since 1982. Sheet and rill erosion is not a major issue on cropland in this subbasin. Susceptibility to sheet and rill erosion is low in this subbasin because the natural precipitation is low and the cropland is relatively flat.[/4]

Wind erosion on the subbasin croplands and pasturelands has held essentially static since 1982 with a small increase shown in 1987. [/4]



Resource Concerns – continued

Through NRCS programs many farmers and ranchers have applied conservation practices to reduce the effects of erosion by wind. The acreage of low residue crops in the subbasin increased by about 50 percent in the time period between 1982 and 1997 but the corresponding wind erosion rate remained virtually static.

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.

Impacted Water Bodies[9,10]	Stream Miles	Sediment, Siltation or TSS	Nutrients	Bacteria	Temperature	Dissolved Oxygen	Flow Alteration	Other or Unknown
Pioneer Reservoir		x	x	x	x	x	x	
Clear Lakes			x	x	x	x		
Billingsley Creek (SK033_02)	8.1	x	x	x		x	x	x
Calf Creek (SK040_03)	6.6	x	x	x	x		x	
Calf Creek (SK040_02)	35.9				x			
Catchall Creek (SK038_02)	15.9							x
Cedar Draw (SK012_02,03)	20.9	x	x	x	x*		x*	
Clover Creek (SK034_04)	10.0	x	x	x	x			
Cottonwood Creek (SK014_02,04)	44.5	x	x	x	x*		x	x*
Deep Creek Lake (SK008_02,03)	27.5	x	x	x				
Dry Creek (SK022_02,03)	55.8	x	x	x	x*		x*	
McMullen Creek (SK015_02,03)	59.4	x	x	x	x	x*	x*	
Mud Creek (SK010_02,03, SK011_02)	13.9	x	x	x			x*	
Rock Creek (SK016_04, SK013_04,05)	33.0	x	x	x		x	x	
Snake River (SK005_02)	17.4	x	x	x		x		
Snake River (SK005_07)	16.5	x	x			x	x	
Snake River (SK001_04)	0.2	x	x	x	x			
Snake River (SK001_07	26.6	x	x			x	x	
Snake River (SK020_07)	21.3	x	x		x	x	x	
Snake River (SK007_02)	15.7	x	x	x		x	x	
Snake River (SK007_07)	18.3	x	x			x	x	
Snake River (SK019_07)	11.9	x	x			x	x	
Thousand Springs (SK031_02)	4.6	x	x				x	
Tuana Gulch (SK004_03)	14.1	x						
Unnamed in (SK000_02)	392.3	x	x	x		x	x	
Vinyard Creek (SK027_02)	10.8	x	x					
West Fork Dry Creek (SK023_02)	10.7	x	x	x		x	x	
Yahoo Creek (SK000_03)	2.2	x		x				
TOTAL STREAM MILES:	894.1							

* Impairment pertains to only portions of the segments listed. Shading indicates an EPA-approved TMDL.

Resource Concerns – continued

Nutrients, sediment and temperature are the major pollutants which impact beneficial uses of surface waters in this subbasin. The middle Snake River is a managed water system with altered flow regimes. The middle Snake River and its tributaries are impacted by runoff from irrigated crop production, rangeland, pastureland, animal holding areas, feedlots, dredging, hydro-modification, and urban runoff. Natural springs have exhibited hydro-modification and stream bank alteration has occurred from activities relating to sedimentation, aquaculture, hydropower, irrigated crop production, and land development. Additionally, the watershed contains three areas where groundwater is impacted by nitrates (designated Nitrate Priority Areas). Conservation practices that can be used to address these water quality issues include erosion control, grazing management, irrigation water management, residue management, nutrient management and riparian buffers.

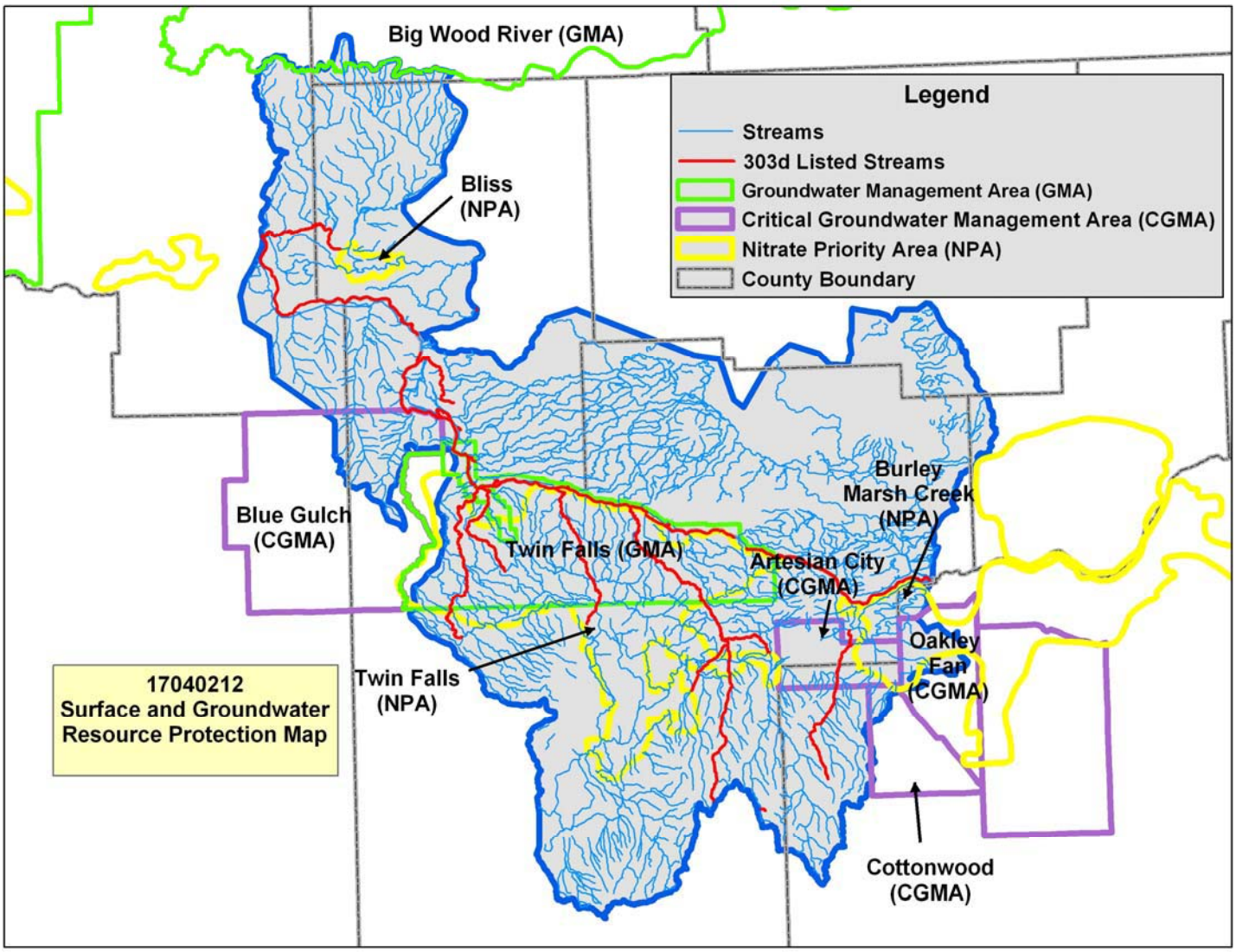
Watershed Projects, Plans, Studies, and Assessments*	
Federal:	***State:***
NRCS Watershed Projects, Plans, Studies and Assessments[14,15]	**IDEQ TMDLs[16]**
Hazelton Butte PL-566 Watershed (1981)	Mid-Snake TMDL (phosphorus) (1999)
Scott's Pond PL-566 Watershed (active) (2001)	Upper Snake-Rock TMDL (2000)
Gooding Wind Erosion Study (RBS) (1991)	**IDEQ 319 Projects[17]**
	Bliss Nitrate Priority Area Partnership (2004)
	East Perrine Coulee Wetland (2004)
	Jeff Woody Wetland (2004)
	Augar Falls Nutrient Removal (2003)
	Rock Creek Small Acreage Demonstration (2004)
NWPCC Subbasin Plans and Assessments[18]	**SCC Plans/Projects[19]**
Middle Snake Subbasins Assessment (2004)	- Perrine Coulee SAWQP (1998) - Scotts Pond SAWQP (1994) - Vineyard Creek SAWQP (1987) - E.&W. Upper Deep Creek SAWQP (1988, 1991) - Cedar Draw SAWQP (1982)
Additional Plans: Twin Falls County Groundwater Quality Management Plan, 2001	**ISDA Regional Groundwater Quality Studies[20]**
	Twin Falls and Jerome-Gooding-Lincoln (on-going)
	IDWR Comprehensive State Water Plans[21]
	Snake River: Milner Dam to King Hill (1993)

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

Special Project - CEAP

The Upper Snake - Rock Watershed (USRWS) is one of nine special emphasis Conservation Effects Assessment Project (CEAP) watersheds in the country. The CEAP program began in 2003 as a multi-agency effort to quantify the environmental benefits of conservation practices used by private landowners participating in selected U.S. Department of Agriculture (USDA) conservation programs. The USRWS as a special emphasis watershed will provide basic research on conservation practices to provide a framework for evaluating and improving performance of national assessment models. The objectives of the USRWS CEAP project are to identify the effect of converting surface irrigation to overhead irrigation on selected water quality parameters at the irrigated field, drainage, and watershed/tract scale; to calibrate and validate watershed assessment model(s) for irrigated tracts; and to determine the most effective placement of the overhead irrigation systems.

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



NOTE: The 303(d) list (IDEQ 1998) has recently been replaced with the Integrated Report (IDEQ 2005). There may be slight discrepancies between this map and impacted waters listed in the Integrated Report.

Resource Concerns – continued

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

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

Human considerations: Implementation of conservation practices and enhancements 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.

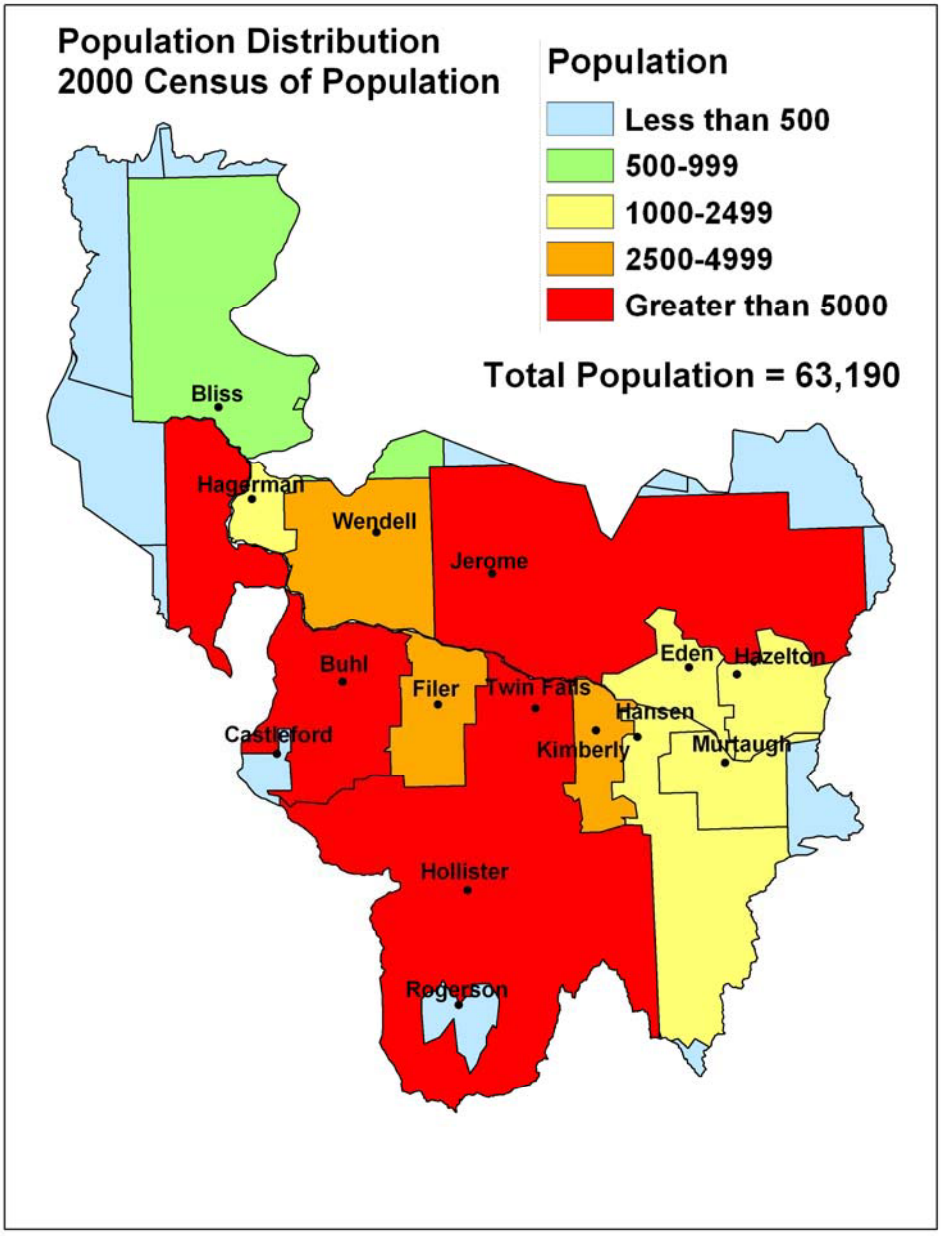
FEDERALLY LISTED THREATENED AND ENDANGERED SPECIES[1/25]	
Threatened Species	**Candidate Species**
Mammals – Lynx **Birds –** Bald Eagle **Fish –** None **Invertebrates –** Bliss Rapids Snail, Idaho Springsnail, Banbury Springs Limpit **Plants –** Desert Valvata, Snake River Plysa	**Fish** - None **Birds –** None **PROPOSED SPECIES** None
ESSENTIAL FISH HABITAT – None	

Census and Social Data[/26]

Population: 63,190

Number of Farms: 1,922

	0-49 acres	50-999 acres	1000+ acres
Number of Farms	944	849	129



Census and Social Data - continued

Sixty-two percent of farm operators are farmers by occupation. The remaining operators have off-farm jobs as their primary occupation. The majority of operators are male; women make up nine percent of the total. Ninety-three percent of all operators are white. Non-white operators are of Hispanic, American Indian and Asian background.

Farm size ranges from less than 10 acres to more than 1,000 acres with an average of 320 acres. Agricultural land in the Upper Snake-Rock subbasin is a mix of cropland, range, pasture and hayland. Landusers in the watershed utilize EQIP, CRP, Continuous CRP and other programs to implement conservation plans.

Farm size and market value of production to farmers are up over the past several years. Government payments to farmers are up substantially for the same period. Farm sales range from less than $1,000 to more than $500,000 per year. Sixty-five 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.

	Average size farm (acre)	Market Value of Production (Average Farm)	Government Payments (Average Farm)
1997	280	$240,500	$5,400
2002	320	$355,300	$11,200
Change	14.0%	48%	101.0%

Economic Profile:

	Subbasin	Idaho	United States
Population	63,190		
Per Capita Personal Income	$24,000	$24,500	$30,400
Median Home Value	$90,300	$106,600	$119,600
Percent Unemployment	4.2%	5.4%	5.8%
Percent Below Poverty Level	12.6%	11.7%	12.1%

Progress/Status

PRMS Data	FY99	FY00	FY01	FY02	FY03	FY04	FY05	Avg /Year	Total
Total Conservation Systems Planned Acres	4792	11615	10467	23692	7780				
Total Conservation Systems Applied Acres	7334	9581	5923	4103	17129				
Conservation Treatment									
Waste Management (number)	0	5	9	1	0	0	5	2.9	20
Riparian Forest Buffers (acres)	0	10	3	21	53	5	0	13.1	92
Erosion Control (acres)	7029	14159	3196	2062	6579			6605.0	33025
Irrigation Water Management (acres)	106	5554	6297	5608	8678	1081	421	3963.6	27745
Nutrient Management (acres)	0	161	2833	1421	4933	2401	419	1738.3	12168
Pest Management (acres)	0	420	3331	339	3326	373	740	1218.4	8529
Prescribed Grazing (acres)	0	0	0	1497	0	3	0	214.3	1500
Trees & Shrubs (acres)	0	1644	80	39	12	0	0	253.6	1775
Residue Management (acres)	168	910	316	235	0	304	684	373.9	2617
Wildlife Habitat (acres)	0	74	93	328	1626	7	6	304.9	2134
Wetlands (acres)	0	3	0	15	28	0	0	6.6	46

Progress in the last seven years has been focused on:

~ erosion control

~ irrigation water management

~ nutrient management

~ pest management

Resource concerns that require ongoing attention:

~ erosion control

~ irrigation water management

~ nutrient management

~ water quality and water quantity

~ prescribed grazing

Lands Removed from Production through Farm Bill Programs

- Conservation Reserve Program (CRP): **8,250 acres**
- Wetland Reserve 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. IDEQ. 2005. Upper Snake-Rock Subbasin Assessment and TMDL. http://www.deq.state.id.us/water/data_reports/surface_water/tmdls/snake_rock_upper/upper_snake_rock.cfm, and Middle Snake River Watershed Management Plan (total phosphorus only) http://www.deq.state.id.us/water/data_reports/surface_water/tmdls/snake_river_middle/snake_river_middle.cfm

11. StreamNet is a cooperative venture of the Pacific Northwest's fish and wildlife agencies and tribes and is administered by the Pacific States Marine Fisheries Commission. Streamnet provided data and data services in support of the region's Fish and Wildlife Program and other efforts to manage and restore the region's aquatic resources. Official Streamnet website: http://www.streamnet.org/
12. (Dairy) Idaho Department of Water Resources: http://www.idwr.state.id.us/gisdata/gis_data.htm
13. (Feedlot) Idaho State Department of Agriculture: http://www.agri.state.id.us/ FOIA request.
14. Natural Resource Conservation Service, Watershed Projects Planned and Authorized, http://www.nrcs.usda.gov/programs/watershed
15. Natural Resource Conservation Service, Watershed Plans, Studies and Assessments completed, http://www.nrcs.usda.gov/programs/watershed/Surveys_Plng.html#Watershed%20Surveys%20and%20Plan
16. Idaho Department of Environmental Quality (IDEQ), Surface Water Quality: Subbasin Assessments, TMDLs, and Implementation Plans. http://www.deq.state.id.us/water/data_reports/surface_water/tmdls/sba_tmdl_master_list.cfm
17. Idaho Department of Environmental Quality, Watershed protection: Nonpoint source management (319 grant), reports and program resources. http://www.deq.state.id.us/water/data_reports/surface_water.nps/reports.cfm
18. Subbasin assessments and plans are developed by local groups (SWCDs, Watershed Councils, Tribes and others) as part of the Northwest Power and Conservation Council's fish and wildlife program in the Columbia River Basin. This program is funded and implemented by the Bonneville Power Administration. http://www.nwcouncil.org/fw/subbasinplanning/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.cfm. http://www.scc.state.id.us/PDF/Ag%Component%20Status%20Report%20-%202004.pdf, and Water Quality Program. http://www.scc.state.id.us/Docs/WQPA%20FACT%20SHEET.doc
20. Idaho State Department of Agriculture (ISDA). Groundwater water quality regional projects. http://www.agri.state.id.us/Categories/Environment/water/gwReports.php
21. Idaho Department of Water Resources (IDWR). State Comprehensive Water Plans. http://www.idwr.idaho.gov/waterboard/planning/Comp_Basin_Plans.htm
22. 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/
24. Nitrate Priority Areas. IDEQ has developed a list of degraded ground water areas. This list focuses on nitrate and ranks the top 25 nitrate-degraded areas (referred to as "nitrate priority areas") in the state based on the severity of the degradation, the population affected, and the trend; the rank of "1" indicates the most severely impacted area in the state. http://www.deq.state.id.us/water/prog_issues/ground_water/nitrate.cfm#ranking
25. NRCS Field Office Technical Guide, Section II, Threatened and Endangered List and the Idaho Conservation Data Center, Idaho Department of Fish and Game http://fishandgame.idaho.gov/cms/tech/CDC/
26. Data were taken from the 2002 Agricultural Census and adjusted by percent of HUC in the county or by percent of zip code area in the HUC, depending on the level of data available. Data were also taken from the U.S. Census, 2000 by zip code and adjusted by percent of zip code in the HUC. http://www.nass.usda.gov/Census_of_Agriculture/Census_by_State/Idaho/index.asp

Conservation Activities for Rangeland and Dry Pasture

(The following Current Conditions tables have been developed to estimate the present level of conservation installed within the HUC, based on what has been reported in the PRMS and PRS reporting systems for the years 1999 through 2005.)

Current Conditions	Grazed	Ungrazed	Riparian/Wetland/Potential	Total Acres
Private Rangeland and Dry Pasture	283,240		28,320	283,240
Typical Range Management Unit	320			
Current Farm Bill participation	15%			

Current Level of Treatment for Rangeland and Dry Pasture:

	Quantity		Costs		Effects				Implementation				
Practices	Unit	Quantity	Investment Cost	Annual O&M and Mngt. Cost	Water Conservation	Water Storage	Habitat	WQ	EQIP	WHIP	WRP	CREP	Other
Range / Pasture (w/prescribed grazing)	Ac.	283,240	$0		+/-	+/-	+/-	+/-					
Prescribed Grazing (528)	Ac.	2,177	$0	$ 10,900					X				X
Pest Management (595)	Ac.	80	$0	$ 8,000					X				X
Spring Development (574)	No.	-	$0	$ -					X				X
Watering Facility (614)	No.	-	$0	$ -					X				X
Pipeline (516)	Ft.	-	$0	$ -					X				X
Fence (382)	Ft.	-	$0	$ -					X				X

Conservation Activities for Rangeland and Dry Pasture – continued

Future Conditions	Rangeland / Pasture	Riparian	Total Acres
	254,920	28,320	283,240

Project Future Level of Treatment for Rangeland and Dry Pasture:													
	Quantity		Costs		Effects				Implementation				
Practices	Unit	Quantity	Investment Cost	Annual O&M and Mngt. Cost	Water Conservation	Water Storage	Habitat	WQ	EQIP	WHIP	WRP	CREP	Other
Rangeland and Dry Pastureland	Ac.	254,920			+3	+2	+3	+3					
Brush Management (314)	Ac.	83,900	$ 1,678,000	$ 16,800					X				X
Fence (382)	Ft.	4,191,660	$ 7,335,400	$ 146,700					X				X
Firebreak (394)	Ft.	1,046,470	$ 2,019,700	$ 403,900					X				X
Pest Management (595)	Ac.	254,920	$ 7,645,200	$ 2,548,400					X				X
Pipeline (516)	Ft.	1,046,470	$ 2,825,500	$ 56,500					X				X
Pond (378)	No.	100	$ 500,000	$ 5,000					X				X
Prescribed Grazing (528)	Ac.	254,920	$ 3,791,100	$ 1,263,700					X				X
Range Planting (550)	Ac.	83,900	$ 7,551,000	$ 75,500					X				X
Spring Development (574)	No.	390	$ 916,500	$ 4,600					X	X			X
Upland Wildlife Management (645)	Ac.	25,490	$ 382,400	$ 127,500					X	X			X
Watering Facility (614)	No.	390	$ 390,000	$ 3,900					X				X
Well (642)	No.	190	$ 570,000	$ 5,700					X				X

Conservation Activities for Rangeland and Dry Pasture – continued

Project Future Level of Treatment for Rangeland and Dry Pasture:													
	Quantity		Costs		Effects				Implementation				
Practices	Unit	Quantity	Investment Cost	Annual O&M and Mngt. Cost	Water Conservation	Water Storage	Habitat	WQ	EQIP	WHIP	WRP	CREP	Other
Range & Pasture Riparian	Ac.	28,320			+3	+2	+3	+3					
Channel Bank Vegetation (322)	Ac.	2,830	$ 14,150,000	$ 283,000					X				X
Channel Stabilization (584)	Ft.	84,120	$ 1,514,200	$ 7,600					X				X
Fence (382)	Ft.	232,320	$ 406,600	$ 8,100					X	X	X		X
Pest Management (595)	Ac.	28,320	$ 849,600	$ 283,200					X				X
Pipeline (516)	Ft.	58,080	$ 156,800	$ 3,100					X				X
Prescribed Grazing (528)	Ac.	28,320	$ 424,800	$ 141,600					X				X
Pumping Plant (533)	No.	11	$ 31,400	$ 600					X				X
Riparian Forest Buffer (391)	Ac.	960	$ 2,880,000	$ 28,800					X				X
Riparian Herbaceous Cover (390)	Ac.	960	$ 48,000	$ 500					X	X	X		X
Streambank & Shoreline Prot (580)	Ft.	210,310	$ 5,047,400	$ 504,700					X	X			X
Tree/Shrub Establishment (612)	Ac.	480	$ 216,000	$ 2,200					X				X
Upland Wildlife Management (645)	Ac.	2,830	$ 42,500	$ 14,200					X	X			X
Use Exclusion (472)	Ac.	960	$ 33,600	$ 1,000					X	X	X		X
Watering Facility (614)	No.	44	$ 44,000	$ 400					X		X		X
Wetland Wildlife Management (644)	Ac.	2,830	$ 42,500	$ 14,200					X		X		X
Total RMS Costs			$ 61,492,200	$ 5,951,400									

Conservation Activities for Rangeland and Dry Pasture – continued

RMS Cost Summary for Rangeland:		
Cost Items and Programs	Costs	O&M Costs
Non Farm Bill Programs (5 percent of total)	$ 3,074,600	$ 297,600
Potential Farm Bill Programs 95 percent of total	$ 58,417,600	$ 5,653,800
Operator O&M and Management Cost		$ 5,951,400
Annual Management Incentives (3 yrs - Incentive Payments)	$ 13,178,100	
Operator Investment	$ 14,384,500	
Federal Cost share	$ 33,929,600	
Total RMS Farm Bill Costs	$ 61,492,200	
Estimated Level of Participation		35%
Total Acres in RMS System		89,200
Anticipated Cost at Estimated Level of Participation	$	21,522,300
Total Annual Forage Production Benefits (acre unit months)		14,800
Improves infiltration and storage of water in soil profile		
Improves upland wildlife habitat for deer, elk, antelope and other species		
Improves water quality by reducing erosion and sediment delivery to streams		

Conservation Activities for Irrigated Pasture

Current Conditions		Total Acres	Riparian/ Wetland Potential
Surface Irrigated Pasture		32,760	
Sprinkler Irrigated Pasture		21,840	
Total Irrigated Pasture		54,600	7,100
Typical Management Unit/Ownership		730	40
Current Farm Bill participation		15%	

Current Level of Treatment for Irrigated Pasture:

	Quantity		Costs		Effects				Implementation			
Practices	Unit	Quantity	Additional Investment Cost	Annual O&M and Mngt. Cost	Water Conservation	Water Storage	Fish Habitat	WQ	EQIP	WHIP	CREP	Other
Surface Irrigation	Ac.	32,760			-3	-/+	-2	-3				
Fence (382)	Ft.	4,700	$0	$ 200					X			X
Heavy Use Area Protection (561)	Ac.	3	$0	$ 700					X			X
Irrigation Water Conveyance (430EE)	Ft.	2,550	$0	$ 50					X			X
Irrigation Water Management (449)	Ac.	67	$0	$ 500					X			X
Nutrient Management (590)	Ac.	64	$0	$ 300					X			X
Pest Management (595)	Ac.	40	$0	$ 400					X			X
Watering Facility (614)	No.	2	$0	$ -					X			X
Sprinkler Irrigation	Ac.	21,840			+2	+1	+1	+3				X
Fence (382)	Ft.	4,789	$0	$ 200					X			X
Heavy Use Area Protection (561)	Ac.	3	$0	$ 700					X			X
Irrigation System Sprinkler (442)	Ac.	246	$0	$ 3,400					X			X
Irrigation Water Conveyance (430DD)	Ft.	2,675	$0	$ 100					X			X
Irrigation Water Management (449)	Ac.	73	$0	$ 500					X			X
Nutrient Management (590)	Ac.	44	$0	$ 200					X			X
Pasture and Hayland Planting (512)	Ac.	33	$0	$ 30					X			X
Pest Management (595)	Ac.	80	$0	$ 800					X			X
Prescribed Grazing (528)	Ac.	25	$0	$ 100					X			X

Conservation Activities for Irrigated Pasture - continued

Future Conditions			Total Acres
Surface Irrigated Pasture			6,550
Sprinkler Irrigated Pasture			40,950
Total Conversion to Riparian Pasture RMS			7,100
Total Acres			54,600

Project Future Level of Treatment for Irrigated Pasture:												
	Quantity		Costs		Effects				Implementation			
Practices	Unit	Quantity	Additional Investment Cost	Annual O&M and Mngt. Cost	Water Conservation	Water Storage	Habitat	WQ	EQIP	WHIP	CREP	Other
Surface Irrigation	Ac.	6,550			+/-	+/-	+1	+1				
Fence (382)	Ft.	108,240	$ 181,200	$ 3,600					X			X
Irrigation Tailwater Recovery (447)	No.	41	$ 6,191,000	$ 185,700					X			X
Irrigation System Surface (443)	Ac.	4,910	$ 736,500	$ 22,100					X	X	X	X
Irrigation Water Conveyance (430HH)	Ft.	215,160	$ 877,900	$ 8,800					X			X
Irrigation Water Conveyance (430EE)	Ft.	430,320	$ 1,698,200	$ 8,500					X			X
Irrigation Water Management (449)	Ac.	6,550	$ 145,900	$ 48,600					X			X
Nutrient Management (590)	Ac.	6,550	$ 97,300	$ 32,400					X			X
Pasture & Hayland Planting (512)	Ac.	2,620	$ 262,000	$ 2,600					X			X
Pest Management (595)	Ac.	6,550	$ 195,300	$ 65,100					X			X
Prescribed Grazing (528)	Ac.	6,550	$ 98,300	$ 32,800					X			X
Structure for Water Control (587)-Fish Screen	No.	80	$ 960,000	$ 9,600					X	X		X
Upland Wildlife Management (645)	Ac.	980	$ 14,700	$ 4,900					X			X
Watering Facility (614)	No.	40	$ 40,000	$ 400					X			X
Windbreak/Shelterbelt Establish(380)	Ft.	105,600	$ 536,400	$ 5,400					X			X

Conservation Activities for Irrigated Pasture – continued

Project Future Level of Treatment for Irrigated Pasture (Continued):												
	Quantity		Costs		Effects				Implementation			
Practices	Unit	Quantity	Additional Investment Cost	Annual O&M and Mngt. Cost	Water Conservation	Water Storage	Habitat	WQ	EQIP	WHIP	CREP	Other
Sprinkler Irrigated	Ac.	40,950			+3	+3	+2	+3				
Fence (382)	Ft.	673,200	$ 1,169,700	$ 23,400					X			X
Irrigation Water Conveyance (430DD)	Ft.	314,160	$ 2,311,200	$11,600					X			X
Irrigation System Sprinkler (442)	No.	40,950	$28,492,800	$569,900					X			X
Irrigation Water Management (449)	Ac.	40,950	$919,700	$306,600					X			X
Nutrient Management (590)	Ac.	40,950	$613,600	$204,500					X			X
Pasture & Hayland Planting (512)	Ac.	16,380	$1,634,700	$16,300					X			X
Pest Management (595)	Ac.	40,950	$1,226,100	$408,700					X			X
Prescribed Grazing (528)	Ac.	40,950	$613,900	$204,600					X			X
Structure for Water Control (587)-Fish Screen	No.	120	$1,440,000	$14,400					X	X		X
Upland Wildlife Management (645)	Ac.	6,140	$92,100	$30,700					X			X
Watering Facility (614)	No.	250	$250,000	$2,500					X			X
Windbreak/Shelterbelt Establish(380)	Ft.	673,200	$3,419,900	$34,200					X			X

Conservation Activities for Irrigated Pasture – continued

Project Future Level of Treatment for Irrigated Pasture (Continued):												
	Quantity		Costs		Effects				Implementation			
Practices	Unit	Quantity	Additional Investment Cost	Annual O&M and Mngt. Cost	Water Conservation	Water Storage	Habitat	WQ	EQIP	WHIP	CREP	Other
Riparian Pastures	Ac.	7,100			+1	+1	+3	+3				
Channel Bank Vegetation (322)	Ac.	710	$ 3,550,000	$ 71,000					X			X
Channel Stabilization (584)	Ft.	15,300	$ 275,400	$ 13,800					X			X
Fence (382)	Ft.	116,160	$203,300	$4,100					X	X	X	X
Nutrient Management (590)	Ac.	7,100	$106,500	$35,500					X			X
Pasture & Hayland Planting (512)	Ac.	2,840	$284,000	$2,800					X			X
Pest Management (595)	Ac.	7,100	$213,000	$71,000					X			X
Pipeline (516)	Ft.	116,160	$ 313,600	$ 6,300					X			X
Prescribed Grazing (528)	Ac.	7,100	$106,500	$35,500					X			X
Riparian Forest Buffer (391)	Ac.	350	$1,050,000	$10,500					X			X
Riparian Herbaceous Cover (390)	Ac.	350	$17,500	$200					X	X	X	X
Streambank & Shoreline Prot (580)	Ft.	38,240	$917,800	$91,800					X			X
Tree/Shrub Establishment (612)	Ac.	90	$ 40,500	$ 400					X			X
Upland Wildlife Management (645)	Ac.	1,070	$16,100	$5,400					X			X
Use Exclusion (472)	Ac.	360	$12,600	$400					X	X	X	X
Watering Facility (614)	No.	88	$88,000	$900					X		X	X
Wetland Wildlife Management (644)	Ac.	710	$10,700	$3,600					X			X
Total RMS Costs			$ 61,423,900	$ 2,611,100								

Conservation Activities for Irrigated Pasture – continued

RMS Cost Summary for Irrigated Pasture:		
Cost Items and Programs	Costs	O&M Costs
Non Farm Bill Programs (5 percent of total)	$ 3,071,200	$ 130,600
Potential Farm Bill Programs 95 percent of total	$ 58,352,700	$2,480,500
Operator O&M and Management Cost		$ 2,611,100
Annual Management Incentives (3 yrs - Incentive Payments)	$ 4,469,700	
Operator Investment	$ 16,542,000	
Federal Costs	$ 40,412,200	
Total RMS Farm Bill Costs	$ 61,423,900	
Estimated Level of Participation		60%
Total Acres in RMS System		32,800
Anticipated Cost at Estimated Level of Participation	$	36,854,300
Total Acre Feet of Water Saved Annually		56,980
Total Annual Forage Production Benefits (animal unit months)		129,500
Improves ground water and surface water quality by minimizing off-site transport		
Improves riparian habitat for ESA endangered & threatened species		

Conservation Activities for Irrigated Cropland/Hayland

Current Conditions		Total acres
Total Irrigated Cropland/Hayland		509,220
Typical Management Unit/Ownership		320
Surface Irrigated Cropland/Hayland		254,610
Sprinkler Irrigated Cropland/Hayland		254,610
Current Farm Bill participation		15%

Current Level of Treatment for Irrigated Cropland/Hayland:

Irrigated Cropland/Hayland	Quantity		Costs		Effects				Implementation			
Practices	Unit	Quantity	Additional Investment Cost	Annual O&M and Mngt. Cost	Water Conservation	Water Storage	Fish Habitat	WQ	EQIP	WHIP	CREP	Other
Surface Irrigation	Ac.	254,610			-3	-/+	-2	-3				
Conservation Crop Rotation (328)	Ac.	4,972	$ -	$ -					X			X
Irrigation System, Surface (443)	Ac.	104	$ -	$ 500					X			X
Irrigation Water Conveyance (430EE)	Ft.	745	$ -	$ -					X			X
Irrigation Tail Water Recovery (447)	No.	7	$ -	$ 3,200					X			X
Irrigation Water Management (449)	Ac.	8580	$ -	$ 64,400					X			X
Pasture and Hayland Planting (512)	Ac.	213	$ -	$ 2,100					X			X
Pest Management (595)	Ac.	3694	$ -	$ 36,900					X			X
Pumping Plant (533)	No.	9	$ -	$ 1,500					X			X
Nutrient Management (590)	Ac.	5912	$ -	$ 29,600					X			X
Residue Management Mulch Till (345)	Ac.	2000	$ -	$ 30,000					X			X
Residue Management Seasonal (344)	Ac.	3304	$ -	$ 49,600					X			X
Structure for Water Control (587)	No.	4	$ -	$ -					X			X
Surface Roughening (609)	Ac.	620	$ -	$ 4,700					X			X
Windbreak/Shelterbelt Establishment (380)	Ft.	4196	$ -	$ 200					X			X

Conservation Activities for Irrigated Cropland/Hayland – continued

Irrigated Cropland/Hayland	Quantity		Costs		Effects				Implementation			
Practices	Unit	Quantity	Additional Investment Cost	Annual O&M and Mngt. Cost	Water Conservation	Water Storage	Fish Habitat	WQ	EQIP	WHIP	CREP	Other
Sprinkler Irrigation	Ac.	254,610			-/+	-/+	-/+	-/+				
Conservation Crop Rotation (328)	Ac.	12,000	$ -	$ -					X			X
Irrigation System, Sprinkler (442)	Ac.	5,605	$ -	$ 78,500					X			X
Irrigation Water Conveyance (430DD)	Ft.	47,782	$ -	$ 1,800					X			X
Irrigation Water Management (449)	Ac.	13521	$ -	$ 101,400					X			X
Pest Management (595)	Ac.	5221	$ -	$ 52,200					X			X
Pumping Plant (533)	No.	5	$ -	$ 800					X			X
Nutrient Management (590)	Ac.	4082	$ -	$ 20,400					X			X
Residue Management Mulch Till (345)	Ac.	2995	$ -	$ 44,900					X			X
Residue Management Seasonal (344)	Ac.	6174	$ -	$ 92,600					X			X
Structure for Water Control (587)	No.	8	$ -	$ 100					X			X
Surface Roughening (609)	Ac.	10364	$ -	$ 77,700					X			X
Upland Wildlife Habitat Management (645)	Ac.	387	$ -	$ 1,900					X			X
Windbreak/Shelterbelt Establishment (380)	Ft.	43	$ -	$ -					X			X

Conservation Activities for Irrigated Cropland/Hayland – continued

Future Conditions			Total Acres
Surface Irrigated Cropland/Hayland			127,300
Sprinkler Irrigated Cropland/Hayland			381,920
Total Irrigated Cropland/Hayland Acres			509,220

Project Future Level of Treatment for Irrigated Cropland/Hayland:												
Irrigated Cropland/Hayland	Quantity		Costs		Effects				Implementation			
Practices	Unit	Quantity	Additional Investment Cost	Annual O&M and Mngt. Cost	Water Conservation	Water Storage	Habitat	WQ	EQIP	WHIP	CREP	Other
Surface Irrigation	Ac.	127,300			+1	+1	+3	+1				
Anionic Polyacrylamide, (PAM) (450)	Ac.	127,300	$ 5,728,500	$ 1,909,500					X			X
Conservation Crop Rotation (328)	Ac.	121,000	$ -	$ -					X			X
Constructed Wetland (656)	No.	13	$ 636,500	$ 6,400					X			X
Forage Harvest Management (511)	Ac.	127,300	$ -	$ -					X			X
Irrigation System, Surface (443)	Ac.	113,200	$ 16,964,400	$ 508,900					X			X
Irrigation System, Gated Pipe/Surge (443)	No/Ac	6,300	$ 3,465,000	$ 104,000					X			X
Irrigation Tailwater Recovery (447)	No.	1,500	$ 22,650,000	$ 679,500					X			X
Irrig. System, Micro Irrigation (Drip) (441)	No/Ac	6,300	$ 7,875,000	$ 393,800					X			X
Irrigation Water Conveyance (430 EE)	Ft.	844,800	$ 3,350,900	$ 16,800					X	X		X
Irrigation Water Conveyance (430 HH)	Ft.	844,800	$ 3,446,800	$ 34,500					X	X		X
Irrigation Water Management (449) - Low Level	Ac.	89,100	$ 603,900	$ 603,900					X			X
Irrigation Water Management (449) - Meters and Moisture Sensors	Ac.	38,200	$ 1,146,000	$ 382,000					X			X
Land Leveling/Smoothing (466 & 464)	Ac.	31,830	$ 6,366,000	$ 191,000					X			X
Nutrient Management (590)	Ac.	127,300	$ 1,820,800	$ 606,900					X			X
Pest Management (595)	Ac.	127,300	$ 3,708,200	$ 1,236,100					X			X
Sediment Basin (350)	No.	800	$ 2,200,000	$ 66,000					X			X
Residue Management Mulch Till (345)	Ac.	127,300	$ 5,728,500	$ 1,909,500					X			X
Residue Management Seasonal (344)	Ac.	127,300	$ 5,579,800	$ 1,859,900					X			X

Conservation Activities for Irrigated Cropland/Hayland – continued

Irrigated Cropland/Hayland	Quantity		Costs		Effects				Implementation			
Surface Irrigation Continued	Unit	Quantity	Additional Investment Cost	Annual O&M and Mngt. Cost	Water Conservation	Water Storage	Habitat	WQ	EQIP	WHIP	CREP	Other
Structure for Water Control (587) -Fish Screen	No.	1,590	$ 1,908,000	$ 19,100					X			X
Surface Roughening (609)	Ac.	127,300	$ 2,850,300	$ 950,100					X			X
Upland Wildlife Habitat Management (645)	Ac.	19,100	$ 286,500	$ 95,500					X			X
Well Decommissioning (355)	No.	50	$ 42,500	$ -					X			X
Windbreak/Shelterbelt Establishment (380)	Ft.	2,100,450	$ 10,649,000	$ 106,500					X			X
Sprinkler Irrigation	Ac.	381,920			+3	+2	+2	+3				
Cover Crop (340)	Ac.	95,480	$ 4,774,000	$ 47,700					X			X
Conservation Crop Rotation (328)	Ac.	381,920	$ -	$ -					X			X
Constructed Wetland (656)	No.	19	$ 572,900	$ 5,700					X			X
Forage Harvest Management (511)	Ac.	95,480	$ -	$ -					X			X
Irrigation System, Sprinkler (442)	Ac.	381,920	$ 263,420,500	$ 5,268,400					X			X
Irrigation Water Conveyance (430DD)	Ft.	2,098,800	$ 15,218,600	$ 76,100					X			X
Irrigation Water Management (449) - Low level	Ac.	267,320	$ 1,903,500	$ 1,903,500								
Irrigation Water Management (449) - Meters and Moisture Sensors	Ac.	114,600	$ 3,438,000	$ 1,146,000					X			X
Nutrient Management (590)	Ac.	381,920	$ 5,667,600	$ 1,889,200					X			X
Pest Management (595)	Ac.	381,920	$ 3,767,000	$ 3,767,000					X			X
Residue Mngt, Mulch Till (345)	Ac.	381,920	$ 17,051,600	$ 5,683,900					X			X
Residue Management Seasonal (344)	Ac.	381,920	$ 16,908,600	$ 5,636,200					X			X
Residue Mngt, No Till/Strip Till (329)	Ac.	38,190	$ 1,718,600	$ 572,900					X			X
Sediment Basin (350)	No.	590	$ 1,622,500	$ 48,700					X			X
Structure for Water Control (587) -Fish Screen	No.	800	$ 9,600,000	$ 96,000					X			X
Surface Roughening (609)	Ac.	381,920	$ 8,360,000	$ 2,786,700					X			X
Upland Wildlife Habitat Management (645)	Ac.	57,290	$ 859,400	$ 286,500					X			X
Well Decommissioning (355)	No.	100	$ 85,000	$ -								
Windbreak/Shelterbelt Establishment (380)	Ft.	3,150,840	$ 16,006,000	$ 160,100					X			X
Total RMS Costs			$ 477,980,400	$ 41,054,500								

Conservation Activities for Irrigated Cropland/Hayland – continued

Potential RMS Effects Summary for Irrigated Cropland/Hayland		
Cost Items and Programs	Costs	O&M Costs
Non Farm Bill Programs	$ 23,899,000	$ 2,052,700
Potential Farm Bill Programs	$ 454,081,400	$ 39,001,800
Operator O&M and Management Cost		$ 41,054,500
Annual Management Incentives (3 yrs - Incentive Payments)	$ 80,401,000	
Operator Investment	$ 117,319,100	
Federal Costshare	$ 280,260,300	
Total RMS Costs	$ 477,980,400	$ 41,054,500
Estimated Level of Participation		75%
Total Acres in RMS System		381,915
Anticipated Cost at Estimated Level of Participation	$	358,485,300
Total Acre Feet of Water Saved Annually		449,580
Increases infiltration and storage of water in soil profile		
Participating landowners will be in compliance with TMDLs		
Improves habitat for ESA endangered & threatened species		
Reduces impact to ground and surface water quality		

Conservation Activities for Headquarters

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

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

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

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

Current Conditions		Total
CAFOs		254
AFOs		73
Current Farm Bill participation	15%	-
Total CAFOs and AFOs		327

Conservation Activities for Headquarters -continued

Current Level of Treatment for Headquarters													
	Quantity		Costs		Effects				Implementation				
Practices	Unit	Quantity	Investment Cost	Annual O&M and Mngt. Cost	Water Conservation	Water Storage	Habitat	WQ	EQIP	WHIP	WRP	CREP	Other
Dairy	Ac.	254			+/-	-1	-3	-3					
Waste Storage Facility (313) CAFO	No.	4	$ -	7,000					X				
Waste Storage Facility (313) AFO	No.	9	$ -	8,100					X				
Feed Lot	Ac.	73			+/-	+/-	+/-	+/-					
Waste Storage Facility (313) CAFO	No.	1	$ -	1,800					X				
Waste Storage Facility (313) AFO	No.	1	$ -	900					X				

Conservation Activities for Headquarters -continued

Future Conditions		Total Dairies & Feedlots
Dairies Needing Structural Practices		25
Dairies Needing Management Practices		130
Feedlots Needing Management and Structural Practices		51
Total Dairies and Feedlots		206

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

Project Future Level of Treatment for Headquarters

	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	Ac.				+3	+2	+3	+3					
Structural/Management Practices		25											
Waste Storage Facility (313) CAFO	No.	7	$ 262,500	$ 5,250					X				X
Waste Storage Facility (313) AFO	No.	18	$ 405,000	$ 8,100					X				X
Management Practices		130											
Waste Storage Facility (313) CAFO	No.	100	$ 1,000,000	$ 20,000					X				X
Waste Storage Facility (313) AFO	No.	30	$ 156,000	$ 3,120					X				X
Feed Lot	Ac.				+3	+1	+3	+3					
Structural/Management Practices		51											
Waste Storage Facility (313) CAFO	No.	27	$ 2,275,000	$ 45,500					X				X
Waste Storage Facility (313) AFO	No.	24	$ 1,035,000	$ 20,700									
Total RMS Costs			$ 5,133,500	$ 102,670									

Conservation Activities for Headquarters -continued

RMS Cost Summary for Headquarters		
Cost Items and Programs	Costs	O&M Costs
Non Farm Bill Programs	$ 256,700	$ 5,100
Potential Farm Bill Programs	$ 4,876,800	$ 97,570
Operator O&M and Management Cost		$ 102,670
Annual Management Incentives (3 yrs - Incentive Payments)	$ 1,322,600	
Operator Investment	$ 1,145,300	
Federal Costshare	$ 2,665,600	
Total RMS Costs	$ 5,133,500	
Estimated Level of Participation		90%
Total CAFO/AFO in RMS System		294
Anticipated Cost at Estimated Level of Participation	$	4,620,200
Reduces impact to ground and surface water quality		
90% participation reflects Local, State and Federal regulations		