



## Introduction

The Raft River 8-Digit Hydrologic Unit Code (HUC) subbasin contains 967,150 acres, of which 788,881 are located in Idaho. Seventy nine percent of the subbasin is in Cassia County and 3 percent is in Power and Oneida County, Idaho. Approximately eighteen percent of the basin is located in Box Elder County, Utah.

Twenty nine percent of the basin is privately owned and 71 percent is publicly owned.

Seventy three percent of the basin is in shrubland, rangeland and forest and 16 percent is in grass, pasture, or hayland. Eleven percent is cropland, and the remainder is water, wetlands, developed or barren.

Elevations range from 10,339 feet on Mt. Independence in the western portion of the HUC to 4,240 feet in the northern portion of the HUC.

Conservation assistance is provided by 3 Conservation Districts in Idaho, 1 in Utah and 2 Resource Conservation and Development offices.

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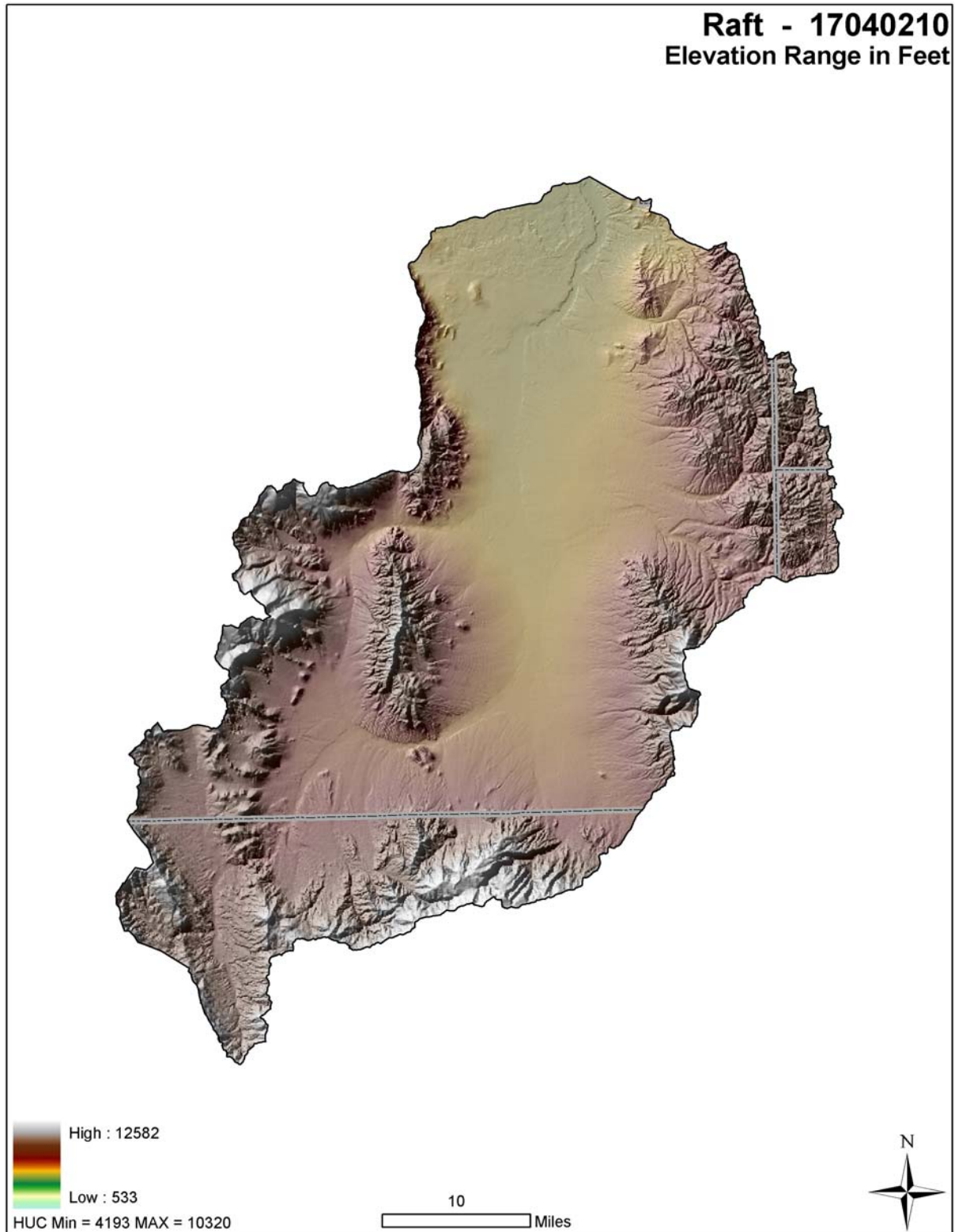
[Footnotes/Bibliography](#)

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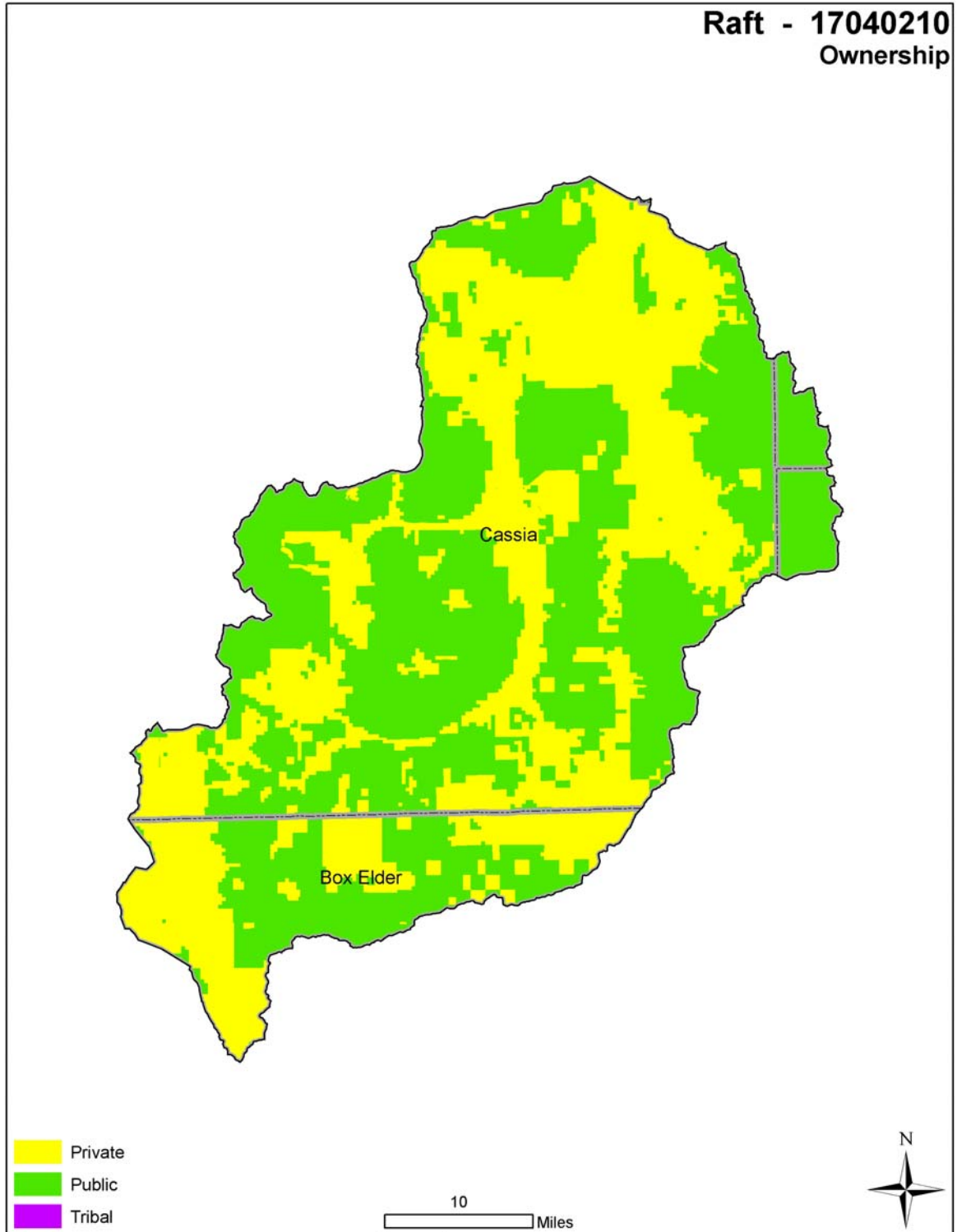
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**Relief Map**



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





Idaho

# Raft River – 17040210

## 8 Digit Hydrologic Unit Profile November 2008

### Physical Description

(IDAHO ACRES ONLY)

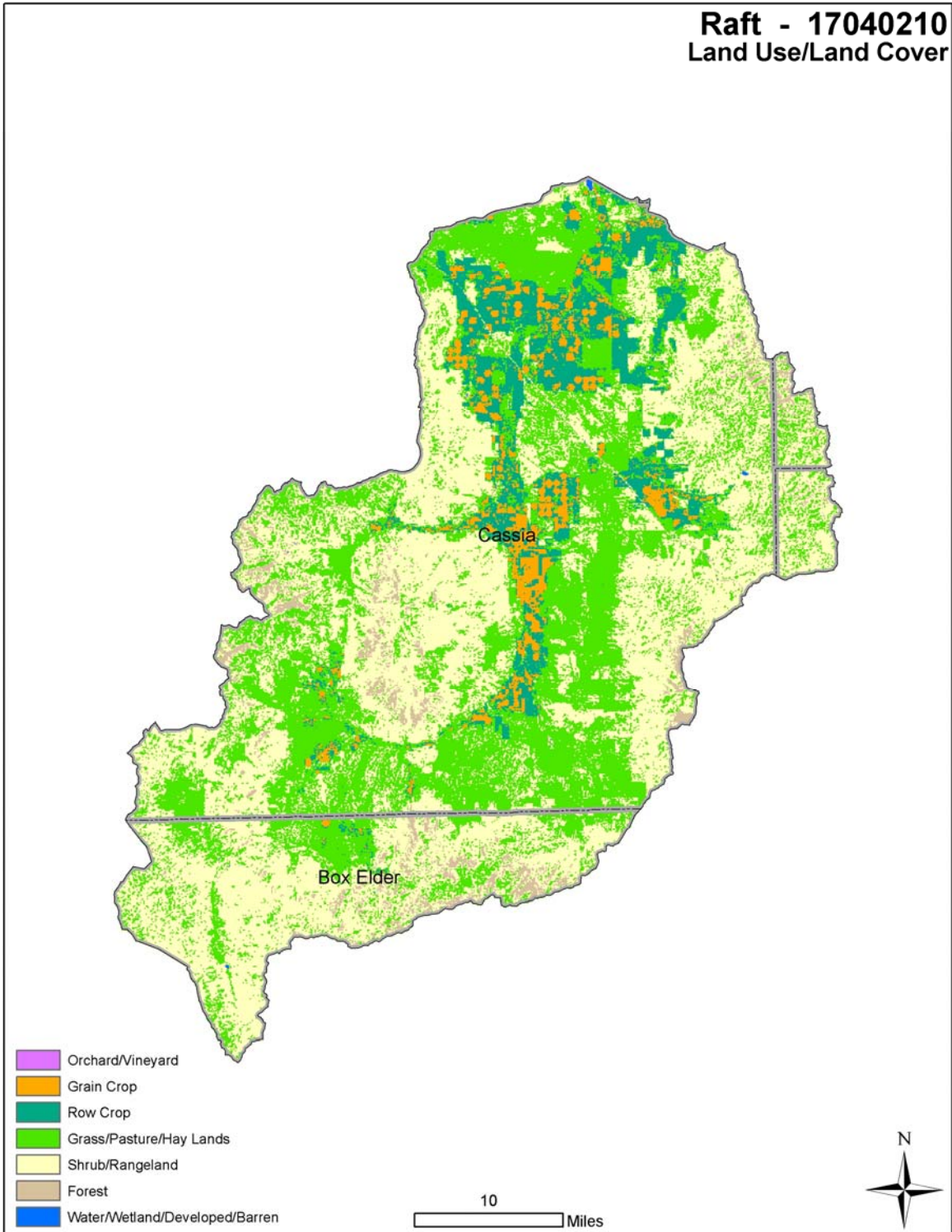
Land Cover/ Land Use (NLCD <sup>2</sup> )	Ownership - (2003 Draft BLM Surface Map Set <sup>1</sup> )							Totals	% of HUC
	Public		Private		Tribal				
	Acres	%	Acres	%		%			
Forest	30,230	4%	730	<1%		--	30,960	4%	
Grain Crops		--	38,820	5%		--	38,820	5%	
Conservation Reserve <sup>3</sup> Program (CRP) Land		--	(43,590)	(6%)		--	(43,590)	(6%)	
Grass/Pasture/Hay Lands	136,130	17%	124,590	16%		--	260,720	33%	
Orchards/Vineyards/Berries		--		--		--		0%	
Row Crops		--	65,140	8%		--	65,140	8%	
Shrub/Rangelands	277,780	35%	113,240	14%		--	391,020	50%	
Water/Wetlands/ Developed/Barren	950	<1%	1,280	<1%		--	2,230	<1%	
<b>Idaho HUC Totals</b>	<b>445,090</b>	<b>56%</b>	<b>343,800</b>	<b>44%</b>		<b>--</b>	<b>788,890</b>	<b>100%</b>	

Irrigated Lands <sup>4</sup>	Type of Land	ACRES	% of Irrigated Lands	% of HUC
	Cultivated Cropland	72,100	61.7	7.4
	Non-Cultivated Cropland *	31,700	27.1	3.3
	Pastureland	13,100	11.2	1.4
	<b>Total Irrigated Lands</b>	<b>116,900</b>	<b>100.0</b>	<b>12.1</b>

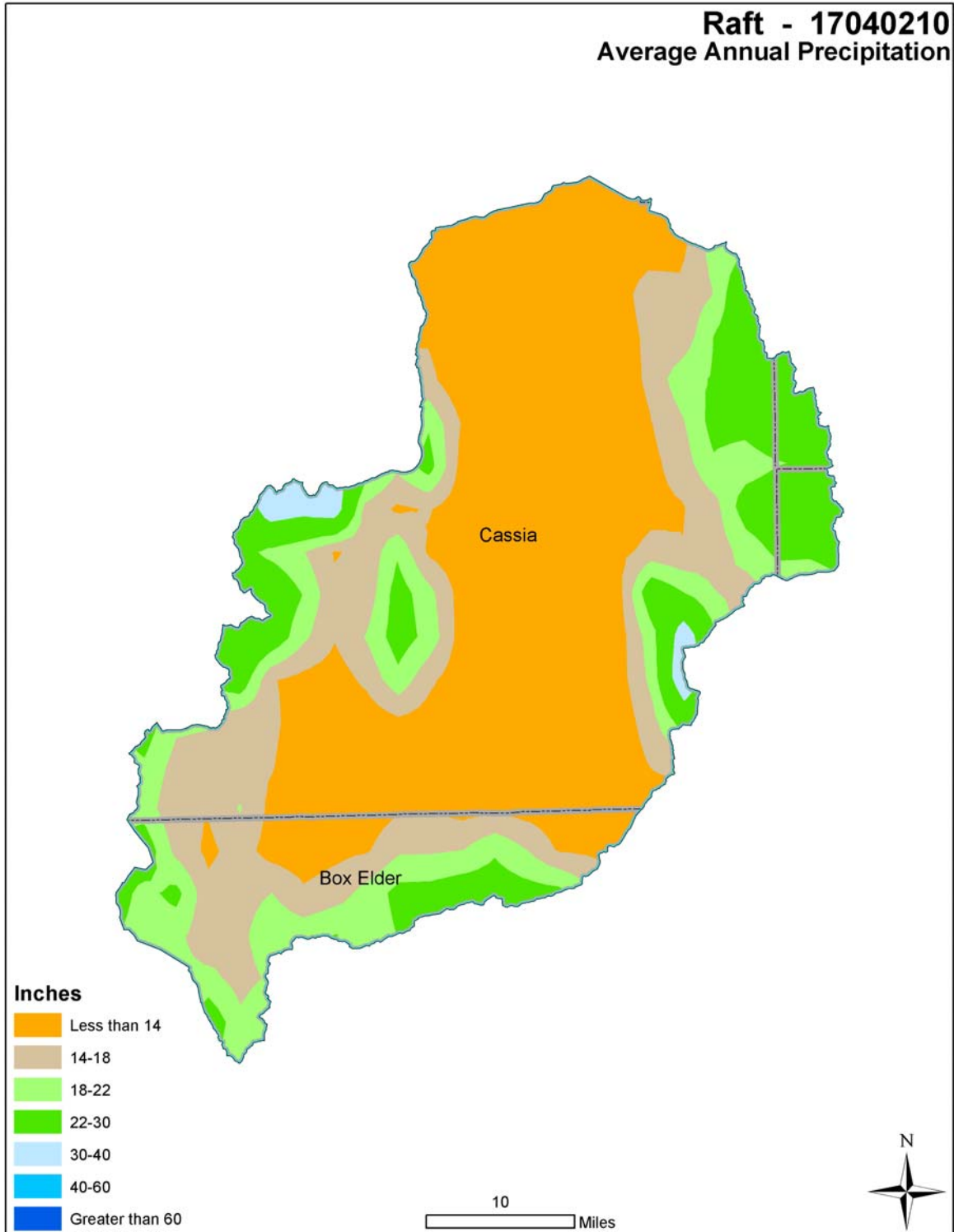
- \* Includes permanent hayland and horticultural cropland.
- <sup>3</sup> CRP acres are included in Grass/Pasture/Haylands.

\* Any differences between the acres in the above Table and the Future Conservation Needs Tables in the back of this document are due to the differences in Land Cover acres as opposed to Land Use acres. However the Total Private acres balance between the Land Use and Land Cover acres

**Land Use/Land Cover<sup>2</sup>**

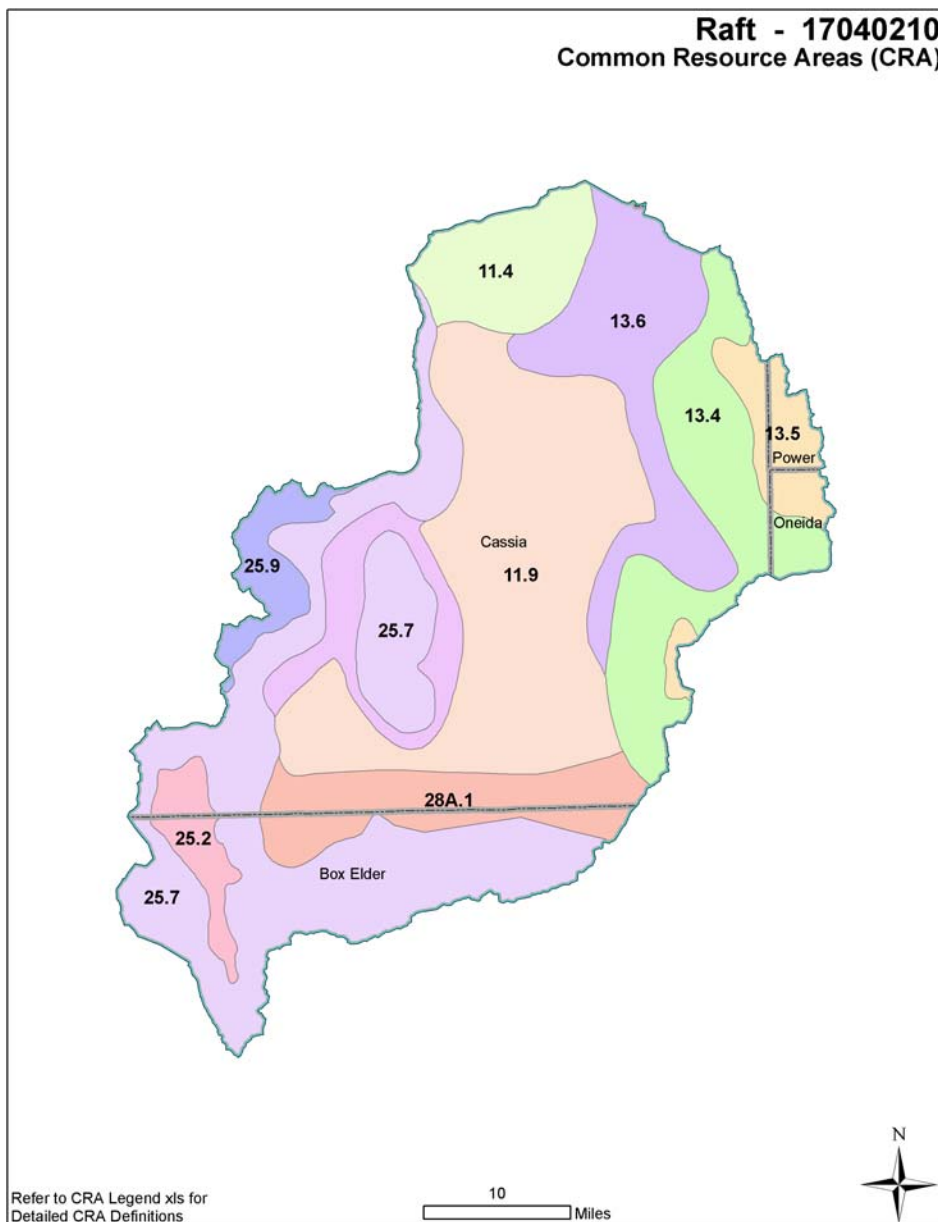


**Average Annual Precipitation<sup>15</sup>**



### Common Resource Area Map

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



## Common Resource Area Descriptions

The National Coordinated CRA Geographic Database provides:

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

**11.4 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.

**11.9 Snake River Plains - Saltbush-Dominated Valleys:** This arid, gently sloping unit is dominated by shadscale and greasewood vegetation. Light-colored saline and alkali soils are common; they are dry for extended periods and may be leached of salt by irrigation water. Potential natural vegetation is shadscale and greasewood; this vegetative community is distinct from surrounding units. The primary land use is grazing but irrigated cropland occurs.

**13.4 Eastern Idaho Plateaus – Sagebrush Steppe- and Woodland-Covered Hills and Low Mountains:** This unit occupies an elevational band between the higher mountains and the lower inter-montane valleys. Potential natural vegetation is mostly sagebrush steppe. Cool season grasses are more common than in the adjacent, drier units. Juniper woodland vegetative sites occur on shallow rocky soils. Land use is primarily livestock grazing.

**13.5 Eastern Idaho Plateaus – High Elevation Forests and Shrublands:** This unit is mountainous and occupies the elevational band above Sagebrush Steppe Valleys and Woodland-Covered Hills and Low Mountains CRA units. It is characterized by a mix of conifers, mountain brush, and sagebrush grassland. North-facing slopes and many flatter areas support open stands of Douglas-fir, aspen and lodgepole pine. Winters are colder and the mean annual precipitation is higher than in lower elevational units.

**13.6 Eastern Idaho Plateaus – Sagebrush Steppe Valleys:** This valley unit is flanked by hills and mountains. It is dominated by sagebrush grassland and lacks woodlands, open conifer forest, and the saltbush-greasewood vegetation. Perennial bunchgrasses are more abundant than in the Sagebrush Basins and Slopes in Utah. Valleys mostly drain to the Snake River and fish assemblages are unlike those of the internally-drained basins to the south (MLRA 28A). Grazing is the dominant land use but nonirrigated wheat and barley farming is much more common than in MLRA 28A. This unit is less suitable for cropland and has less available water than many parts of the Snake River Plain (MLRA 11).

**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.

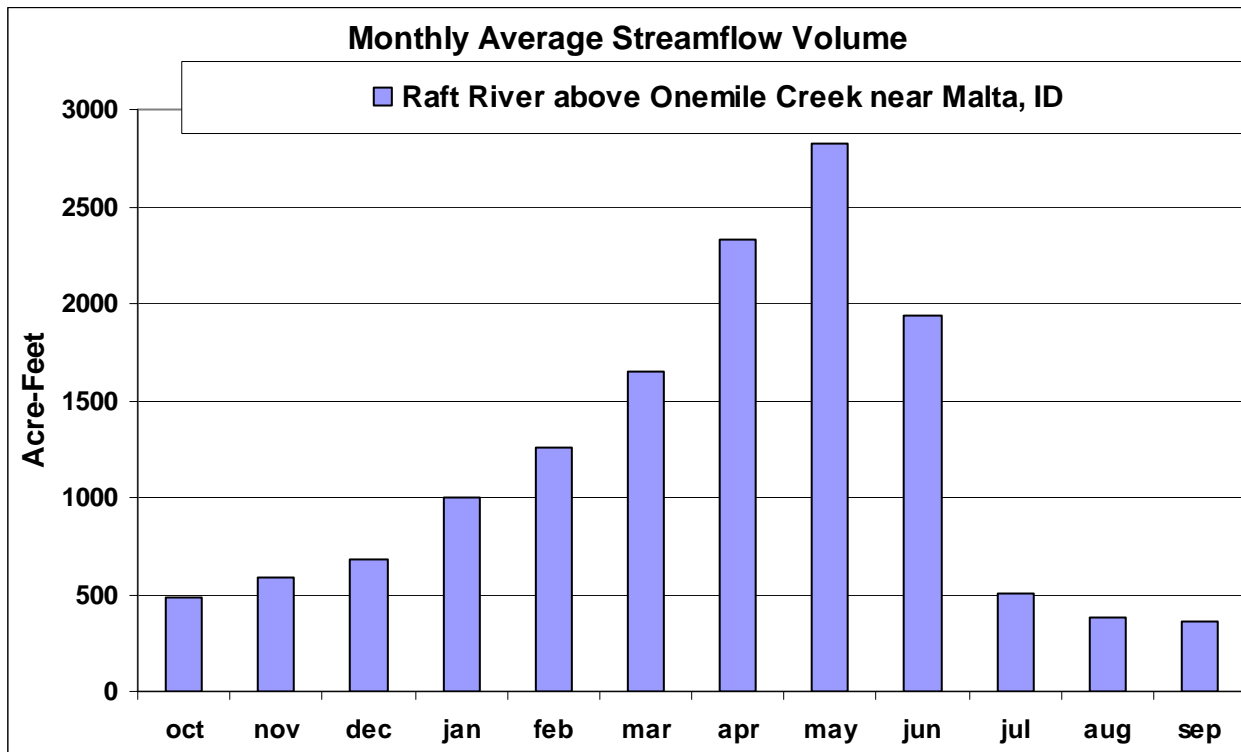
**25.9 Owyhee High Plateau – High Elevation Forests and Shrublands:** The High Elevation Forests and Shrublands ecoregion is mountainous and occupies the elevational band above Sagebrush Steppe- and Woodland-Covered Hills and Low Mountains region. It is characterized by a mix of conifers, mountain brush, 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.

**25.10 Owyhee High Plateau – Sagebrush Steppe Valleys:** The unit in valleys is flanked by hills and mountains. It is dominated by sagebrush grassland. Grazing is the dominant land use but non-irrigated wheat and barley farming is much more common than in the semiarid Central Basin and Range region. The Sagebrush Steppe Valleys region is less suitable for cropland agriculture and has less available water than many parts of the Snake River Plain.

**28A.1 Great Salt Lake Area – Sagebrush Basins and Slopes:** This unit consists of basins, fan piedmonts and low terraces that are often internally drained. Soil temperature regimes are mostly mesic, and soil moisture regimes are typically aridic bordering xeric with some xeric areas mainly in the urban and cropland zones along the western slopes and valleys of the Wasatch Mountains. Soils range from shallow to very deep. Lime- and silica-cemented hardpans are common on stable landscapes. Typical vegetation includes Wyoming big sagebrush, black sagebrush, winterfat, Indian ricegrass, with singleleaf pinyon and Utah juniper in some areas.

## Streamflow Summary [\[1\]](#)

The Raft River above Onemile Creek near Malta, Idaho USGS real-time gage has a drainage area of 412 square miles and the mean elevation is 6,300 feet. The headwaters of the Raft River begin in Northern Utah and the river flows north to the middle Snake River just above Lake Walcott and downstream from American Falls Reservoir. Upstream from the USGS gage on the Raft River, there are diversions that provide irrigated water to about 16,000 acres, which is the main use of water from this River. Aside from irrigation, there is a Raft River project development underway that plans to generate electricity from geothermal resources located in the Raft River valley. This plant would affect streamflow minimally but may benefit local agriculture. The surface water is limited in this valley and causes the water users to also depend on groundwater from the Raft River Valley Aquifer. As pumping occurs, the surface water percolates into the ground to recharge the deficit and decreases the streamflow downstream from the USGS gage. There are four snow courses scattered throughout the basin and Howell Canyon SNOTEL site, located in Pomerelle Ski Area, that all provide information about the winter snowpack and precipitation. This information helps predict spring runoff volumes. From data based on years 1947-2007, the main spring runoff period for this river occurs from March through June. The March through June streamflow averages 8,755 Acre-Feet and accounts for 62% of the average annual flow (14,011 Acre-Feet). There are historical data available from the USGS from discontinued gages on the Raft River and its tributary, Cassia Creek. The Raft River stream gage below Onemile Creek was discontinued after it was destroyed from a heavy rainstorm in 1984.





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		CFS	
<b>Irrigated Adjudicated Water Rights<sup>/6)</sup></b>	Surface Water	1,404.56	
	Groundwater	1,742.95	
	Total Irrigated Adjudicated Water Rights	3,147.51	
<b>Stream Flow Data<sup>/7)</sup></b>	Raft River above Onemile Creek near Malta, Idaho; USGS ID #13078000; 1947-2007=years of data used in analysis.	Average Annual	14,011
		March-June Average	8755
		Percent of Average Annual	62
<b>Stream Data</b>			<b>MILES</b>
			<b>PERCENT</b>
	Total Stream Miles <sup>/8)</sup>	3,986	
	Water quality impaired streams <sup>/9,10)</sup>	488	12
	Anadromous Fish Presence (Streamnet) <sup>/11)</sup>	--	-
<i>*Percent of Total Miles of streams in HUC</i>	Bull Trout Presence (Streamnet) <sup>/11)</sup>	--	-
<b>Land Cover/Use<sup>/2)</sup></b> based on a 100 ft. stretch on both sides of all streams in the 100K Hydro Layer			<b>ACRES</b>
			<b>PERCENT</b>
	Forest	3,990	3
	Grain Crops	4,355	3
	Grass/Pasture/Hay Lands	49,474	35
	Row Crops	8,618	6
	Shrub/Rangelands – Includes CRP Lands	73562	52
	Water/Wetlands/Developed/Barren	616	1
<b>Total Acres of 100 ft stream buffers</b>		<b>140,615</b>	<b>100</b>
<b>Land Capability Class<sup>/4)</sup></b>	<b>I</b> – slight limitations	0	0
	<b>II</b> – moderate limitations	67,800	35
	<b>III</b> – severe limitations	58,800	30.4
	<b>IV</b> – very severe limitations	20,000	10.3
	<b>V</b> – no erosion hazard, but other limitations	0	0.0
	<b>VI</b> – severe limitations, unsuited for cultivation, limited to pasture, range, forest	47,000	24.3
	<b>VII</b> – very severe limitations, unsuited for cultivation, limited to grazing, forest, wildlife	0	0.0
	<b>VIII</b> – misc areas have limitations, limited to recreation, wildlife, and water supply	0	0.0
	<b>Total Crop, Pasture Lands &amp; CRP</b>		<b>193,600</b>

Confined Animal Feeding Operations – Dairies/Feedlots <a href="#">/12,13, 26</a>						
	Number	<200	200-500	500-750	750-1000	>1000
Dairy	11	5	3	1	1	1
	Number	<300	300-999	1,000-4,999	5,000-9,000	>10,000
Feedlots	3	0	0	2	0	1

## Resource Settings

### Pasture

Improved dryland pasture with introduced forage species including wheatgrasses, fescues, bromes, and orchardgrass. Older established pasture stands of low vigor, with encroachment of noxious weeds. Continuous season-long grazing is typical. No commercial fertilizers are applied, and pest management practices are limited. Livestock water may be inadequate. Irrigated pastures are often surface irrigated on variable soils with slopes of 1-5%. Irrigation water distributed via earthen ditches, with tailwater eventually returning to rivers or streams. Fields may have been leveled. Irrigation efficiency is 25-35%. Plants are introduced forage species, conventionally tilled when rotating pasture (10 years) and grain (2 years). Fertilizers are sometimes applied, but without soil testing or nutrient management.

### Dry Cropland

Primarily winter wheat/fallow (precipitation 10-14 inches) or annual spring barley (precipitation 16-22 inches), on silt loams with slopes 0-15%. Often characterized by significant ephemeral and concentrated flow erosion. Conventional tillage results in <15% residue after planting. Application of nutrients and pesticides typically does not meet Idaho standards.

### Surface Irrigated Cropland

Conventionally tilled, intensively cultivated cropland on slopes 0-7%. Precipitation is 12 inches or less. Small grains and alfalfa are grown in most rotations, with corn (silage, sweet, grain), sugar beets, potatoes and beans. Irrigation-induced erosion exceeds the threshold. Wind erosion may be a problem following low residue row crops. Nutrient, pest, and/or irrigation water management may be less than desirable.

### Sprinkler Irrigated Cropland

Conventionally tilled cropland on soils ranging from sands to sandy loams. Wind erosion is typically a problem from March to June, creating air quality and visibility hazards. Various combinations of small grains, alfalfa, beets, potatoes, beans and barley are grown. Some rotations contain less than 50% high residue crops. Nutrient and pest management may be less than desirable. Irrigation water management and maintenance of sprinkler systems may be less than desirable. Wildlife habitat is often inadequate with limited permanent cover.

### Hayland

Conventionally tilled, surface irrigated on 0-7% slopes. Small grains and alfalfa are grown in rotation, with alfalfa typically maintained for 4-6 years. Grazing of crop aftermath is common. Nutrient, pest or irrigation water management may be less than desirable.

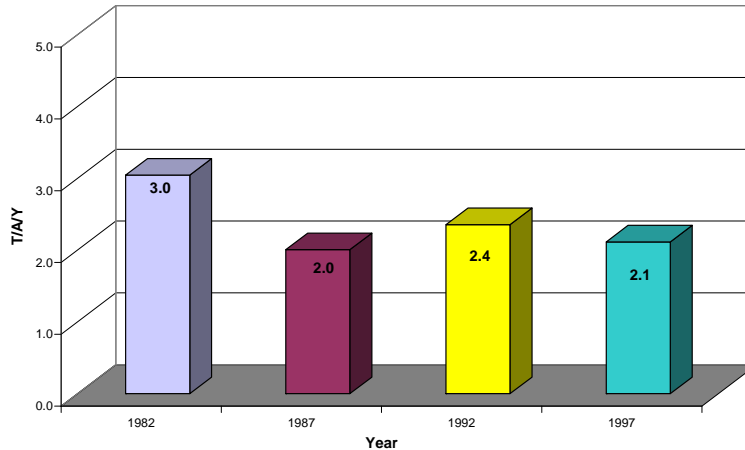
### Rangeland

Low elevation desert to high elevation, steep rangeland. Low elevation desert characterized by sagebrush and perennial bunchgrasses. Frequent fires have eliminated some areas of sagebrush, with annual cheatgrass and other invaders dominant. Carrying capacity can be limited by available water. Land is utilized by antelope and livestock in winter and early spring. Mid-elevation rangeland has precipitation ranging from 12-16 inches. Sagebrush and perennial bunchgrasses with variable soils are on nearly level flats to benches and rolling hills.

High elevation range has precipitation greater than 16 inches, on steep slopes and high mountain valleys. Access to riparian areas on all rangeland types is not typically managed.

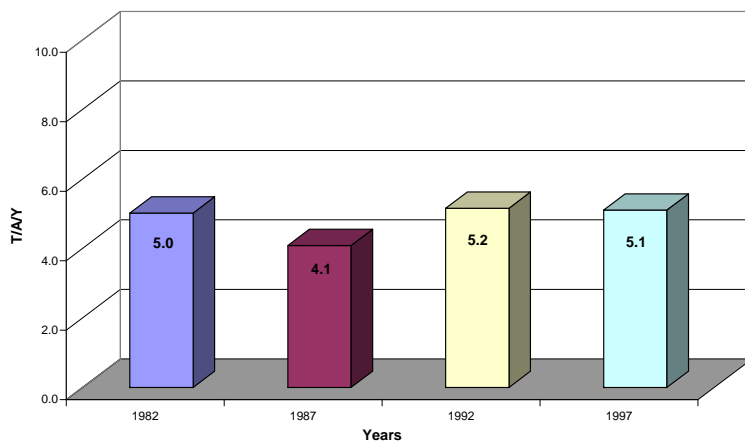
## Resource Concerns

**Soil Loss by Water Erosion  
For Cropland, Pasture & CRP  
Raft**



Water erosion rates on cropland, pasture and CRP in the Raft HUC have been mostly static, with a slight trend downward. The water erosion rate in 1982 was about 3 tons per acre per year, but by 1997 had decreased to just over 2 tons per acre per year. An increase in CRP acreage probably accounts for most of this decrease.

**Soil Loss by Wind Erosion  
Cropland, Pasture and CRP  
Raft**



Wind erosion rates on cropland, pasture & CRP in the Raft HUC have been essentially static since 1982. Erosion rates have range from just over 4 tons per acre per year to about 5 tons.

**Resource Concerns – Continued**

Impacted Water Bodies <sup>1,9,10</sup> (ID17040210)	Stream Miles	Sediment, Siltation, TSS or Bedload	Nutrients	Bacteria	Temperature	Dissolved Oxygen	Flow/Habitat Alteration <sup>1</sup>	Other or Unknown
Sublett Reservoir (SK020_0L)	79.1	x <sup>2</sup>	x			x <sup>2</sup>	x	
Cassia Creek (SK005_04)	4.5			x				
Cassia Creek (SK003_04)	12.8	x					x	
Cassia Creek (SK007_05)	4.8	x	x	x		x	x	x
Cassia Creek (SK007_02)	39.0			x				
Clyde Creek (SK006_02)	24.9			x				
Fall Creek (SK022_02)	2.3		x <sup>3</sup>	x <sup>3</sup>				
Lake Fork (SK022_02)	17.0		x <sup>3</sup>					x
Raft River (SK002_02)	167.2	x	x <sup>2</sup>	x <sup>2</sup>	x <sup>3</sup>	x <sup>2</sup>	x	x <sup>2</sup>
Raft River (SK002_05)	21.4	x	x <sup>2</sup>	x <sup>2</sup>	x <sup>3</sup>	x <sup>2</sup>	x	x <sup>2</sup>
Raft River (SK008_04)	22.9	x		x	x	x <sup>2</sup>	x	x
Raft River (SK001_05)	12.4	x	x <sup>2</sup>	x <sup>2</sup>	x <sup>3</sup>	x <sup>2</sup>	x	x <sup>2</sup>
Raft River (SK013_04)	9.0	x		x	x	x <sup>2</sup>	x	x
Raft River (SK010_04)	19.1				x <sup>3</sup>	x <sup>2</sup>	x	
Sublett Creek (SK019_02)	51.4	x <sup>2</sup>	x	x <sup>2</sup>		x <sup>2</sup>	x	
<b>TOTAL STREAM MILES:</b>	<b>487.8</b>							

<sup>1</sup> Flow and habitat alteration are not considered pollutants by the Idaho Department of Environmental Quality, and are not addressed by the TMDL.

<sup>2</sup> Subbasin assessment recommends delisting on the next Integrated Report.

<sup>3</sup> Subbasin assessment proposes adding to the next Integrated Report and has had a TMDL developed. Shading indicates TMDL in place.

The history of natural and human disturbances, along with environmental changes in the Raft River subbasin, has affected the water quality of the region. Altered hydrology due to land use changes has contributed to water quality impacts and reduced streamflows in areas of the basin. The water from the local aquifer influences the water quality of many of the streams, because in part, it is often the only water source to many streams throughout most of the summer. Unregulated water diversions and pasture flood irrigation contribute to eroding banks and the movement of large amounts of sediment. Significant sediment losses from dryland farming also occur in the Raft River and Sublett Creek subwatersheds. Burned areas within the subbasin likely contribute large amounts of sediment the first several years following fire. In the lower portion of the subbasin, wind erosion primarily occurs during the spring months when wind velocities are highest. Wind erosion's effect on water quality is probably not significant on an average annual basis, but is likely a significant localized problem when events occur.

The coarse, granitic soils from the Albion Mountains are transported primarily as bed load, not as suspended load, and this is the primary concern in the Raft River. Potential sources of bacteria include wildlife, livestock and septic systems. Intense grazing and uncontrolled access appears to



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be limiting the establishment of riparian vegetation along some stream channels. Areas within the subbasin may also be influenced by recreation activities along the roaded portions.

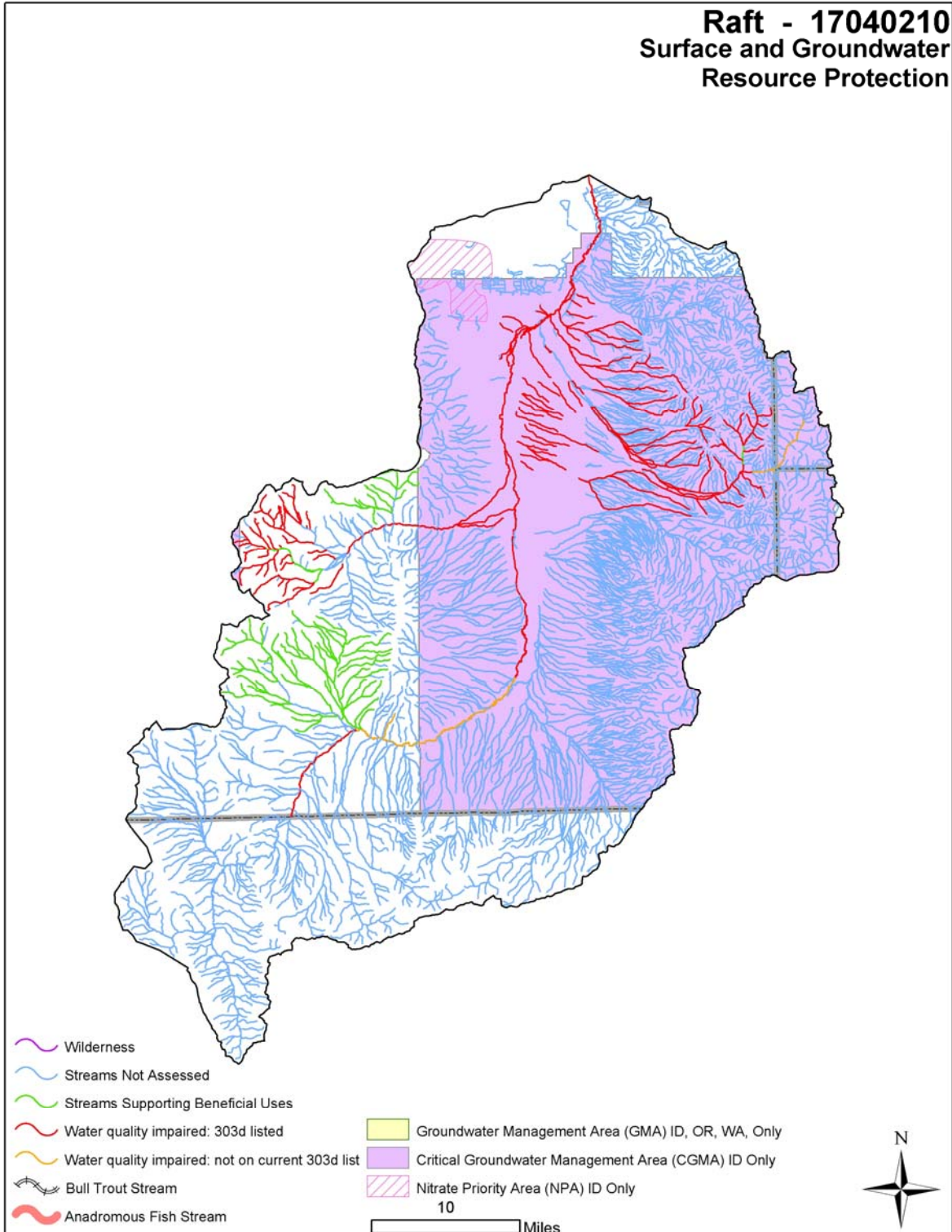
The northern part of the watershed has a small area where groundwater is impacted by nitrates. The Burley/Marsh Creek Nitrate Priority Area is ranked third on the IDEQ list of twenty-five priority areas. As of 2002, the entire area had a median nitrate value of 7.8 mg/L, with over 20% of wells sampled exceeding the drinking water standard (10 mg/L). Some pesticides have also been detected. The Cassia County Groundwater Management Plan (IDEQ) was completed in 2004 to address issues from all land uses impacting ground water in the area.

Conservation practices that can be used to address these water quality issues include grazing management, erosion control measures, irrigation water management, irrigation system upgrades, nutrient and pest management, residue management, and riparian buffers on perennial streams.

Watershed Projects, Plans, Studies, and Assessments*	
<b>Federal:</b>	<b>State:</b>
<b>NRCS Watershed Plans/Studies/Assessments</b> <sup>/14,15</sup>	<b>IDEQ TMDLs</b> <sup>/16</sup>
Raft River Cooperative River Basin Study (1991)	Raft River Subbasin Assessment and TMDL 2004
	<b>IDEQ 319 Projects</b> <sup>/17</sup>
	Raft River Riparian and Watershed Demo (1998)
	Burley Marsh Creek Nitrate Priority Area (2006)
<b>NWPC Subbasin Plans and Assessments</b> <sup>/18</sup>	<b>SCC Plans/Projects</b> <sup>/19</sup>
Upper Snake Province Assessment (2004)	
	<b>ISDA Regional Water Quality Projects</b> <sup>/20</sup>
	Cassia County Regional Groundwater Monitoring Project (On-going)
	Upper Raft River Water Quality Monitoring Project (IASCD 2001)
	<b>IDWR Comprehensive Basin Plans</b> <sup>/21</sup>
	None

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

**Surface and Groundwater Resource Protection** [/22.23.24](#)







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## 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			x				
	Irrigation-induced				x			
	Wind				x	x		
	Streambank	x	x	x		x	x	
Water Quantity	Inefficient use on irrigated lands	x	x		x	x		
Water Quality, Surface	Suspended sediment	x	x	x	x		x	
	Nutrients and organics	x	x		x			
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	
	Noxious and invasive plants	x		x	x	x	x	x
	Wildfire hazard						x	
Domestic Animals	Inadequate feed or water	x					x	x
Fish and Wildlife	Inadequate water	x					x	x
	Inadequate cover/shelter	x			x	x	x	

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

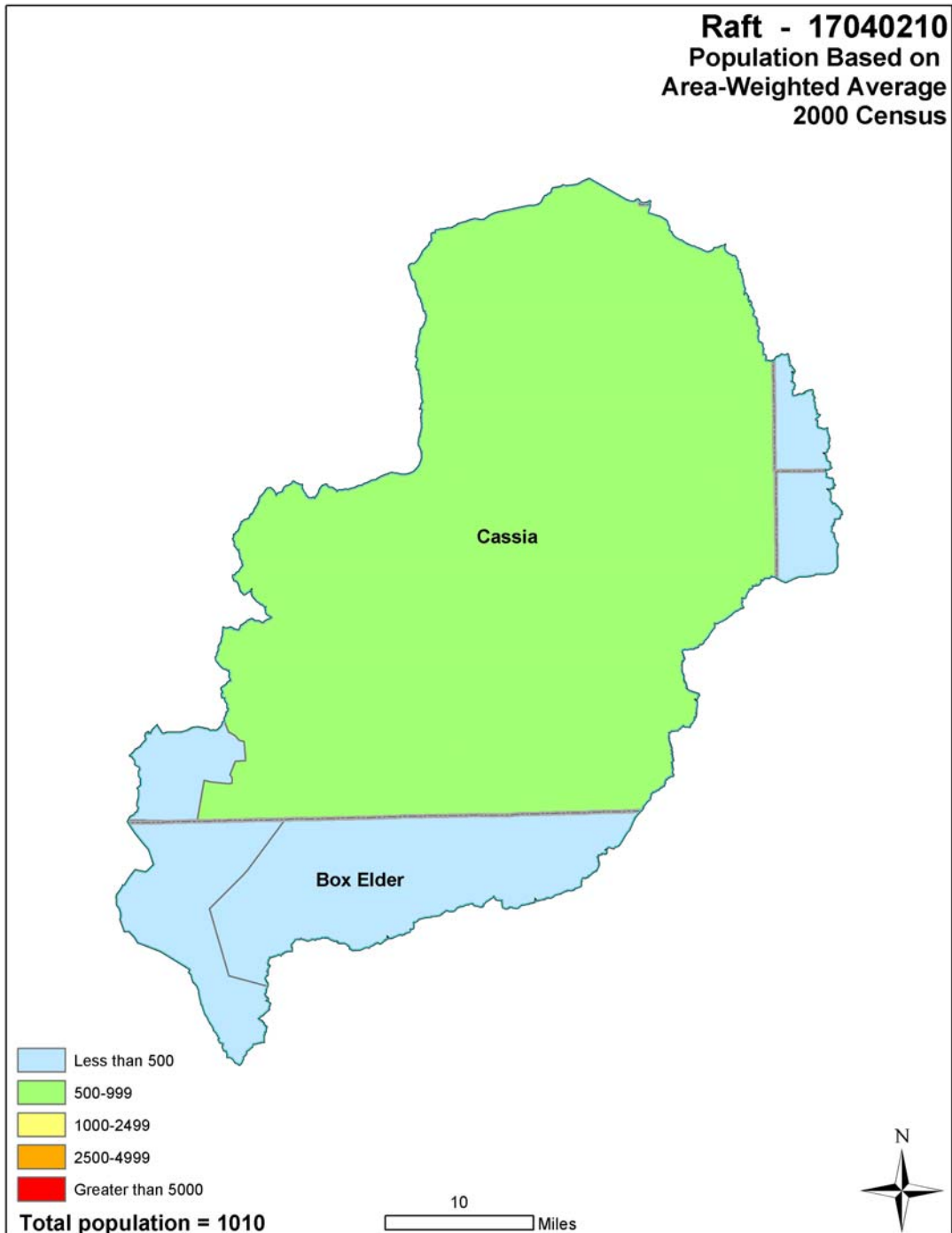
**Human considerations:** Implementation of conservation practices and enhancement has the potential for change in management and cost of production. Installation of practices will have an upfront cost and require maintenance. In the short run increased management may be required as new techniques are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

FEDERALLY LISTED THREATENED AND ENDANGERED SPECIES <sup>/25</sup>	
Threatened and Endangered Species	Candidate Species
<b>Mammals</b> – Lynx <b>Birds</b> – None <b>Fish</b> – None <b>Invertebrates</b> – None <b>Plants</b> – None	<b>Plants</b> – Christ's Indian Paintbrush
	<b>PROPOSED SPECIES</b>
<b>ESSENTIAL FISH HABITAT</b> – None	<b>CRITICAL FISH HABITAT</b> – None

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

**Population: 1010**

**Number of Farms: 320**





### Census and Social Data - continued

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.

Census and Social data shown below are based on county-wide statistics and may not accurately reflect the actual watershed-specific portion of the counties.

Sixty-four 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 7 percent of the total. Ninety-six percent of all operators are white. Non-white operators are of Hispanic, American Indian and Asian background.

Farm size ranges from less than 10 acres to more than 1,000 acres with an average of 1,080 acres. Agricultural land in the watershed is a mix of cropland, range, pasture and hay land. Land users in the watershed utilize EQIP, CRP, Continuous CRP and other programs to implement conservation plans.

For the period of 1997 through 2002, the number of farms in the watershed has decreased by 17.9 percent. Farm size is up 22.7 percent. The market value of production is up by 32.7 percent. Government payments to farmers have increased by 78.1 percent. Farm sales range from less than \$1,000 to more than \$500,000 per year. Sixty-one percent of farms reported sales of less than \$50,000 per year.

	Number of farms	Average size farm	Market Value of Production (Average Farm)	Government Payments (Average Farm)
1997	390	880	\$416,700	\$16,900
2002	320	1,080	\$552,800	\$30,100
Change	-17.9%	22.7%	32.7%	78.1%

#### Economic Profile:

	Watershed	Idaho	United States
Population	1,010	1,466,000	299,398,000
Per Capita Personal Income (2005)	\$25,200	\$28,500	\$34,500
Median Home Value (2000)	\$83,100	\$106,600	\$119,600
Percent Unemployment (2006)	3.8%	3.4%	4.6%
Percent Below Poverty Level (2004)	14.7%	11.5%	12.7%



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### Progress/Status

PRS Data							
Conservation Treatment Acres	FY04	FY05	FY06	FY07	FY08	Avg/Year	Total
Access Control (472) acres	0	0	0	0	3598	719.6	3598
Brush Management (314) (acres)	520	4458	4606	618	613	2163.0	10815
Conservation Cover (327) (acres)	0	5186	2570	3548	7270	3714.8	18574
Conservation Crop Rotation (328) (acres)	0	6819	5146	7288	0	3850.6	19253
Contour Farming (330) acres	0	2363	1729	1334	0	1085.2	5426
Critical Area Planting (342) acres	22	20	0	0	0	8.4	42
Deep Tillage (324) acres	0	3880	0	1352	0	1046.4	5232
Diversion (362) ft	0	0	1000	0	0	200.0	1000
Fence (382) (ft)	0	27320	52303	16171	8692	20897.2	104486
Filter Strip (386) acres	0	0	2	0	0	0.4	2
Forage Harvest Management (511) acres	0	455	0	0	0	91.0	455
Grade Stabilization Structure (410) number	11	11	18	0	0	8.0	40
Heavy Use Area Protection (561) acres	0	11	1	0	0	2.4	12
Irrigation Regulating Reservoir (552) number	0	0	0	0	1	0.2	1
Irrigation System, Sprinkler (442) (acres)	0	3	3965	19	449	887.2	4436
Irrigation System, Surface (443) (acres)	0	162	0	1	0	32.6	163
IWC High & Low Pressure Pipeline (430DD) & (430EE) (ft)	0	5140	31585	0	11835	9712.0	48560
Irrigation Water Management (449) acres	0	2511	4372	5628	174	2537.0	12685
Nutrient Management (590) (acres)	0	3115	1044	808	1013	1196.0	5980
Pasture and Hay Planting (512) (acres)	0	1350	179	70	0	319.8	1599
Pest Management (595) (acres)	0	3923	4579	1460	0	1992.4	9962
Pipeline (516) (ft)	0	16659	19670	12860	25324	14902.6	74513
Pond (378) no	0	1	3	0	0	0.8	4
Prescribed Grazing (528&528A) (acres)	0	7268	9635	6966	10878	6949.4	34747
Pumping Plant (533) number	0	1	3	0	7	2.2	11
Range Planting (550) acres	200	1585	88	25		474.5	1898
Residue Management Mulch Till (345&329B) (acres)	0	5528	4746	2204	1659	2827.4	14137
Residue Management Seasonal (344) (acres)	0	3456	3317	1404	882	1811.8	9059
Riparian Forest Buffer (391) acres	0	0	42	1	0	8.6	43



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### Progress/Status (continued)

PRS Data							
Conservation Treatment Acres	FY04	FY05	FY06	FY07	FY08	Avg/Year	Total
Sediment Basin (350) no	0	5	0	0	0	1.0	5
Spring Development (574) no	0	0	9	0	0	1.8	9
Streambank and Shoreline Protection (580) (ft)	1035	0	0	0	0	207.0	1035
Stripcropping (585) acres	0	1531	0	0	882	482.6	2413
Structure For Water Control (587) (no.)	0	0	2	1	2	1.0	5
Surface Roughening (609) acres	0	1293	3317	1915	0	1305.0	6525
Tree/Shrub Establishment (612) acres	0	4	1	44	0	9.8	49
Upland Wildlife Management (645)(acres)	0	12525	12122	8822	8668	8427.4	42137
Use Exclusion (472) acres	42	680	1139	2180	0	808.2	4041
Waste Storage Facility (313) (no.)	0	1	0	0	0	0.2	1
Waste Utilization (633) acres	0	31	0	0	0	6.2	31
Water and Sediment Control Basin (638) number	0	0	6	0	12	3.6	18
Water Well (642) number	0	0	0	1	1	0.4	2
Watering Facility (614) number	0	8	32	4	11	11.0	55
Wetland Enhancement (659) (acres)	0	32	71	8	57	33.6	168
Wetland Wildlife Habitat Management (644) acres	0	0	0	2	0	0.4	2
Windbreak/Shelterbelt Establishment (380) ft	0	5280	0	1775	850	1581.0	7905

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

- ~ grazing management-brush management and fencing
- ~ wildlife habitat management-riparian management
- ~ livestock water availability- pipelines, water supply and troughs

#### Resource concerns that require ongoing attention:

- ~ rangeland health-prescribed grazing
- ~ water quality & water quantity-Riparian management
- ~ prescribed grazing
- ~ pest management
- ~ wildlife habitat improvements-sage grouse

#### Lands Removed from Production through Farm Bill Programs

- Conservation Reserve Program (CRP): **43,595 Acres**
- Wetland Reserve Program (WRP): **None**

## Footnotes/Bibliography

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

1. Ownership Layer – Source: This spatial data contains surface management land status (sometimes known as "ownership") and Public Land Survey System (PLSS) information for Idaho. The Bureau of Land Management (BLM) in Idaho creates and maintains these spatial data layers. The primary source of the spatial features is the BLM Geographic Coordinate Database (GCDB), which contains official survey records and corresponding geodetic control information maintained by the BLM Cadastral program. In areas where GCDB records are unavailable, the spatial features are taken from a variety of sources including the BLM Idaho Resource Base Data collection, US Geological Survey Digital Line Graphs (DLGs), and US Forest Service Cartographic Feature Files (CFFs), among others. The source of the attribute information is the BLM Master Title Plats (MTPs) and careful cooperation with other government agencies that own or manage land parcels. The layer is available from the Inside Idaho (Interactive Numeric & Spatial Information Data Engine): <http://inside.uidaho.edu> For current ownership status, consult official records at appropriate federal, state or county offices. Ownership classes grouped to calculate Public Ownership vs. Private Ownership.
2. National Land Cover Dataset (NLCD): NLCD 92 (National Land Cover Data 1992) is a 21-category land cover classification scheme that has been applied consistently over the conterminous U.S. It is based primarily on the unsupervised classification of Landsat TM (Thematic Mapper) 1992 imagery. Ancillary data sources included topography, census, agricultural statistics, soil characteristics, other land cover maps, and wetlands data. The NLCD 92 classification is provided as raster data with a spatial resolution of 30 meters. The layer is available from: <http://edcwww.cr.usgs.gov/products/landcover/nlcd.html>  
Description: Abstract: These data can be used in a geographic information system (GIS) for any number of purposes such as assessing wildlife habitat, water quality, pesticide runoff, land use change, etc. The State data sets are provided with a 300 meter buffer beyond the State border to facilitate combining the State files into larger regions.
3. Farm Services Agency, USDA, 2005. CRP acres from GIS (CLU) database.
4. ESTIMATES FROM THE 1997 NRI DATABASE (REVISED DECEMBER 2000) REPLACE ALL PREVIOUS REPORTS AND ESTIMATES. Comparisons made using data published for the 1982, 1987, or 1992 NRI may produce erroneous results. This is due to changes in statistical estimation protocols, and because all data collected prior to 1997 were simultaneously reviewed (edited) as 1997 NRI data were collected. All definitions are available in the glossary. In addition, this December 2000 revision of the 1997 NRI data updates information released in December 1999 and corrects a computer error discovered in March 2000. For more information: <http://www.nrcs.usda.gov/technical/NRI/>
5. PRISM Climate Mapping Project. Annual precipitation data. See [http://www.ocs.orst.edu/prism\\_new.html](http://www.ocs.orst.edu/prism_new.html) for further information.
6. Irrigated Adjudicated Water Rights – Idaho Department of Water Resources  
<http://www.idwr.idaho.gov/water/srba/mainpage/>
7. USGS Idaho Streamflows, gaging station data (<http://waterdata.usgs.gov/id/nwis/sw/>) and estimates for ungaged streams based on statistical data (<http://water.usgs.gov/osw/streamstats/idaho.html>).
8. National Hydrography Dataset (NHD). Developed by the US Geological Survey in cooperation with U.S. Environmental Protection Agency and other state and local partners (<http://nhd.usgs.gov>).
9. IDEQ. 2002 Integrated Report (approved December 2005).  
[http://www.deq.idaho.gov/water/data\\_reports/surface\\_water/monitoring/integrated\\_report.cfm](http://www.deq.idaho.gov/water/data_reports/surface_water/monitoring/integrated_report.cfm).
10. IDEQ. 2004. Raft River Subbasin Assessment and TMDL.  
[http://www.deq.idaho.gov/water/data\\_reports/surface\\_water/tmdls/raft\\_river/raft\\_river.cfm](http://www.deq.idaho.gov/water/data_reports/surface_water/tmdls/raft_river/raft_river.cfm)



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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.idaho.gov/gisdata/gis\\_data.htm](http://www.idwr.idaho.gov/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\\_Plnng.html#Watershed%20Surveys%20and%20Plan](http://www.nrcs.usda.gov/programs/watershed/Surveys_Plnng.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/tmdl/sba\\_tmdl\\_master\\_list.cfm](http://www.deq.state.id.us/water/data_reports/surface_water/tmdl/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.idaho.gov/water/data\\_reports/surface\\_water/nps/reports.cfm](http://www.deq.idaho.gov/water/data_reports/surface_water/nps/reports.cfm)
18. Subbasin assessments and plans are developed by local groups (SWCDs, Watershed Councils, Tribes and others) as part of the Northwest Power and Conservation Council's fish and wildlife program in the Columbia River Basin. This program is funded and implemented by the Bonneville Power Administration. <http://www.nwcouncil.org/fw/subbasinplanning/>
19. Idaho Soil Conservation Commission (SCC), TMDL watershed implementation plans: agricultural component, <http://www.scc.state.id.us/waq.htm>, and Water Quality Program, <http://www.scc.state.id.us/Docs/WOPA%20FACT%20SHEET.doc>
20. Idaho State Department of Agriculture (ISDA). Groundwater water quality regional projects. <http://www.agri.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](http://www.idwr.idaho.gov/waterboard/planning/Comp_Basin_Plans.htm)
22. IDEQ. 2002 Integrated Report (approved December 2005). [http://www.deq.idaho.gov/water/data\\_reports/surface\\_water/monitoring/integrated\\_report.cfm](http://www.deq.idaho.gov/water/data_reports/surface_water/monitoring/integrated_report.cfm).
23. Groundwater Management Areas and Critical Groundwater Management Areas designated by the Idaho Department of Water Resources. <http://www.idwr.idaho.gov/hydrologic/projects/gwma/>
24. Nitrate Priority Areas. IDEQ has developed a list of degraded ground water areas. This list focuses on nitrate and ranks the top 25 nitrate-degraded areas (referred to as "nitrate priority areas") in the state based on the severity of the degradation, the population affected, and the trend; the rank of "1" indicates the most severely impacted area in the state. [http://www.deq.state.id.us/water/prog\\_issues/ground\\_water/nitrate.cfm#ranking](http://www.deq.state.id.us/water/prog_issues/ground_water/nitrate.cfm#ranking)
25. NRCS Field Office Technical Guide, Section II, Threatened and Endangered List and the Idaho Conservation Data Center, Idaho Department of Fish and Game <http://fishandgame.idaho.gov/cms/tech/CDC/>
26. Data were taken from the 2002 Agricultural Census and adjusted by percent of HUC in the county or by percent of zip code area in the HUC, depending on the level of data available. Data were also taken from the U.S. Census, 2000 by zip code and adjusted by percent of zip code in the HUC. [http://www.agcensus.usda.gov/Publications/2002/Census\\_by\\_State/Idaho/index.asp](http://www.agcensus.usda.gov/Publications/2002/Census_by_State/Idaho/index.asp)

## **Conservation Activities and Future Conservation Needs**

The following Current Conditions tables have been developed to estimate the present level of conservation installed within the HUC, based on what has been reported in the PRMS and PRS reporting systems for the years 2004 through 2008.

The following Future Conditions Tables are estimates of the future needs of conservation practices in the watershed.

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

1. Estimates of total additional conservation needs to reach "Resource Management System" level of treatment based on benchmark conditions in the watershed
2. Local knowledge of the area, past and ongoing project activities and professional judgment
3. Practices previously installed which have exceeded their expected life (life span), are no longer accomplishing the conservation objective, and may need to be replaced or upgraded.
4. Urban development of land that was open space as farmland or rangeland presents its own type of resource problems that will require treatment as well as reduce the projected needs for traditional conservation associated with existing cropland and rangeland that is converted to urban use.





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## Raft River - 17040210

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### Conservation Activities for Dry Cropland

Current Conditions	Total acres	Riparian Potential
Total Dry Cropland	21,000	1,900
Typical Management Unit/Ownership	1,080	
Current Farm Bill participation	30%	

Future Conditions	Riparian Potential	Total Acres
Dry Cropland Acres		19,100
Conversion to Riparian RMS	1,900	
Total Acres		21,000

Projected Treatment Needs for Dry Cropland:												
Dry Cropland	Quantity		Costs		Effects				Implementation			
Practices	Unit	Quantity	Additional Investment Cost	Annual O&M and Mngt. Cost	Water Conservation	Water Storage	Habitat	WQ	EQIP	WHIP	CREP	Other
<b>Dry Cropland</b>	Ac.	19,100			+3	+2	+2	+3				
Conservation Crop Rotation (328)	Ac.	19,100	\$ -	\$ -					X			X
Contour / Cross Slope Farming (330)	Ac.	19,100	171,900	57,300					X			X
Deep Tillage (324)	Ac.	9,500	427,500	142,500					X			X
Diversion (362)	Ft.	39,300	117,900	2,400					X			X
Forage Harvest Management (511)	Ac.	5,700	-	-					X			X
Grassed Waterway (412)	Ac.	220	412,500	8,300					X	X		X
Nutrient Management (590)	Ac.	19,100	573,000	191,000					X			X
Pasture & Hayland Planting (512)	Ac.	7,640	1,146,000	11,500					X		X	X
Pest Management (595)	Ac.	19,100	659,000	219,700					X			X
Residue Management, Mulch Till (345)	Ac.	9,500	427,500	142,500					X			X

**Conservation Activities for Dry Cropland – Continued**

<b>Projected Treatment Needs for Dry Cropland (Continued):</b>												
Dry Cropland	Quantity		Costs		Effects				Implementation			
Practices	Unit	Quantity	Additional Investment Cost	Annual O&M and Mngt. Cost	Water Conservation	Water Storage	Habitat	WQ	EQIP	WHIP	CREP	Other
<b>Dry Cropland</b>	<b>Ac.</b>	<b>19,100</b>			<b>+3</b>	<b>+2</b>	<b>+2</b>	<b>+3</b>				
Residue Management, No Till/Strip Till/Direct Seed (329)	Ac.	19,100	1,719,000	573,000					X			X
Sediment Basin (350)	No.	120	240,000	7,200					X		X	X
Stripcropping (585)	Ac.	4,800	120,000	120,000					X			X
Terrace (600)	Ft.	944,100	2,643,500	26,400					X			X
Upland Wildlife Habitat Management (645)	Ac.	2,900	87,000	29,000					X			X
Water and Sediment Control Basin (638)	No.	240	288,000	8,600					X			X
Windbreak/Shelterbelt Establishment (380)	Ft.	78,700	122,000	1,200					X			X
<b>Dry Cropland Riparian</b>	<b>Ac.</b>	<b>1,900</b>			<b>+3</b>	<b>+2</b>	<b>+3</b>	<b>+3</b>				
Access Control (472)	Ac.	100	3,500	100					X	X		X
Channel Bank Vegetation (322)	Ft.	6,810	\$ 20,400	\$ 400					X			X
Channel Stabilization (584)	Ft.	6,810	170,300	900					X			X
Fence (382)	Ft.	31,680	55,400	1,100					X	X		X
Nutrient Management (590)	Ac.	1,900	57,000	19,000					X	X		X
Pest Management (595)	Ac.	1,900	65,600	21,900					X			X
Pipeline (516)	Ft.	31,680	87,100	1,700					X			X
Prescribed Grazing (528)	Ac.	1,900	28,500	9,500					X			X
Pumping Plant (533)	No.	10	22,800	200					X			X
Riparian Forest Buffer (391)	Ac.	160	368,000	3,700					X			X
Riparian Herbaceous Cover (390)	Ac.	160	27,800	300					X	X		X
Streambank & Shoreline Prot (580)	Ft.	34,060	170,300	3,400					X	X		X
Tree/Shrub Establishment (612)	No.	2,720	3,500	-					X			X



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**Conservation Activities for Dry Cropland – Continued**

<b>Projected Treatment Needs for Dry Cropland (Continued):</b>												
Dry Cropland	Quantity		Costs		Effects				Implementation			
Practices	Unit	Quantity	Additional Investment Cost	Annual O&M and Mngt. Cost	Water Conservation	Water Storage	Habitat	WQ	EQIP	WHIP	CREP	Other
Dry Cropland Riparian	Ac.	1,900			+3	+2	+3	+3				
Upland Wildlife Management (645)	Ac.	290	8,700	2,900					X	X		X
Watering Facility (614)	No.	24	33,600	300					X			X
Wetland Wildlife Management (644)	Ac.	190	5,700	1,900					X			X
<b>Total RMS Costs</b>			<b>\$ 10,283,000</b>	<b>\$1,607,900</b>								

<b>Potential RMS Effects Summary for Dry Cropland</b>		
Cost Items and Programs	Costs	O&M Costs
Non Farm Bill Programs	\$ 514,200	\$ 80,400
Potential Farm Bill Programs	\$ 9,768,800	\$1,527,500
Operator O&M and Management Cost		\$ ,607,900
Annual Management Incentives (3 yrs - Incentive Payments)	\$ 4,230,400	
Operator Investment	\$ 3,283,400	
Federal Costshare	\$ 2,769,200	
<b>Total RMS Costs</b>	<b>\$ 10,283,000</b>	<b>\$1,607,900</b>
Estimated Level of Participation		75%
Total Acres in RMS System		15,750
Anticipated Cost at Estimated Level of Participation	\$	7,712,300
Participating landowners will be in compliance with TMDLs		
Improves habitat for ESA endangered & threatened species		



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**Conservation Activities for Irrigated Cropland/Hayland**

<b>Current Conditions</b>	Total acres	Riparian Potential
Total Irrigated Cropland/Hayland	103,800	
Typical Management Unit/Ownership	1,080	
Surface Irrigated Cropland/Hayland	31,200	
Sprinkler Irrigated Cropland/Hayland	72,600	
Current Farm Bill participation	15%	
Conversion to Riparian RMS		10,380

<b>Future Conditions</b>	Riparian Potential	Total Acres
Sprinkler Irrigated Cropland/Hayland		93,420
Conversion to Riparian RMS		10,380
Total Irrigated Cropland/Hayland Acres		103,800

<b>Projected Treatment Needs for Irrigated Cropland/Hayland:</b>												
Irrigated Cropland/Hayland	Quantity		Costs		Effects				Implementation			
	Unit	Quantity	Additional Investment Cost	Annual O&M and Mngt. Cost	Water Conservation	Water Storage	Habitat	WQ	EQIP	WHIP	CREP	Other
<b>Sprinkler Irrigation</b>	Ac.	93,420			+3	+2	+2	+3				
Cover Crop (340)	Ac.	23,360	\$ 1,401,600	\$ 14,000					X			X
Conservation Crop Rotation (328)	Ac.	93,420	-	-					X			X
Constructed Wetland (656)	No.	10	110,000	1,100					X			X
Forage Harvest Management (511)	Ac.	23,360	-	-					X			X
Irrigation System, Microirrigation (441)	Ac.	4,500	6,885,000	344,300					X			X
Irrigation System, Sprinkler (442)	Ac.	31,200	19,344,000	386,900					X			X
Irrigation Water Conveyance (430DD)	Ft.	514,800	4,221,400	21,100					X			X



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

<b>Projected Treatment Needs for Irrigated Cropland/Hayland (Continued):</b>												
Irrigated Cropland/Hayland	Quantity		Costs		Effects				Implementation			
	Unit	Quantity	Additional Investment Cost	Annual O&M and Mngt. Cost	Water Conservation	Water Storage	Habitat	WQ	EQIP	WHIP	CREP	Other
<b>Sprinkler Irrigation</b>	Ac.	93,420			+3	+2	+2	+3				
Irrigation Water Management (449) - Low level	Ac.	65,390	\$ 980,900	\$ 327,000					X			X
Irrigation Water Management (449) - Meters and Moisture Sensors	Ac.	28,030	840,900	280,300					X			X
Nutrient Management (590)	Ac.	93,420	2,802,600	934,200					X			X
Pest Management (595)	Ac.	93,420	3,223,000	1,074,300					X			X
Pumping Plant (533)	No.		-	-					X			X
Residue Mngt, Mulch Till (345)	Ac.	93,420	8,407,800	30					X			X
Residue Management Seasonal (344)	Ac.	93,420	2,802,600	934,200					X			X
Residue Mngt, No Till/Strip Till (329)	Ac.	9,340	840,600	280,200					X			X
Sediment Basin (350)	No.	75	150,000	4,500					X			X
Structure for Water Control (587) -Fish Screen	No.	200	730,000	7,300					X			X
Surface Roughening (609)	Ac.	93,420	2,802,600	934,200					X			X
Upland Wildlife Habitat Management (645)	Ac.	14,010	420,300	140,100					X			X
Well Decommissioning (355)	No.	70	59,500	-					X			X
Windbreak/Shelterbelt Establishment (380)	Ft.	369,600	572,900	5,700					X			X



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

<b>Projected Treatment Needs for Irrigated Cropland/Hayland (Continued):</b>												
Irrigated Cropland/Hayland	Quantity		Costs		Effects				Implementation			
	Unit	Quantity	Additional Investment Cost	Annual O&M and Mngt. Cost	Water Conservation	Water Storage	Habitat	WQ	EQIP	WHIP	CREP	Other
<b>Riparian</b>	Ac.	10,380			+1	+1	+3	+3				
Channel Bank Vegetation (322)	Ft.	34,060	\$ 102,200	\$ 2,000					X			X
Channel Stabilization (584)	Ft.	34,060	851,500	4,300					X			X
Pasture & Hayland Planting (512)	Ac.	4,150	622,500	6,200					X			X
Pest Management (595)	Ac.	10,380	358,100	119,400					X			X
Riparian Herbaceous Cover (390)	Ac.	780	136,500	1,400					X	X	X	X
Streambank & Shoreline Prot (580)	Ft.	170,280	9,365,400	468,300					X			X
Tree/Shrub Establishment (612)	No.	13,620	17,700	200					X			X
Upland Wildlife Management (645)	Ac.	1,550	46,500	15,500					X			X
Wetland Wildlife Management (644)	Ac.	1,040	31,200	10,400					X			X
<b>Total RMS Costs</b>			<b>\$ 68,127,300</b>	<b>\$ 6,317,130</b>								



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

<b>Potential RMS Effects Summary for Irrigated Cropland/Hayland</b>		
<b>Cost Items and Programs</b>	<b>Costs</b>	<b>O&amp;M Costs</b>
Non Farm Bill Programs	\$ 3,406,400	\$ 315,900
Potential Farm Bill Programs	\$64,720,900	\$6,001,230
Operator O&M and Management Cost		\$6,317,130
Annual Management Incentives (3 yrs - Incentive Payments)	\$23,557,100	
Operator Investment	\$23,988,300	
Federal Cost Share	\$20,581,900	
<b>Total RMS Costs</b>	<b>\$68,127,300</b>	<b>\$6,317,130</b>
Estimated Level of Participation		75%
Total Acres in RMS System		77,850
Anticipated Cost at Estimated Level of Participation	\$	51,095,500
Total Acre Feet of Water Saved Annually		113,675
Increases infiltration and storage of water in soil profile		
Participating landowners will be in compliance with TMDLs		
Improves habitat for ESA endangered & threatened species		



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### Conservation Activities for Irrigated Pasture

<b>Current Conditions</b>	Total Acres	Riparian/ Wetland Potential
Surface Irrigated Pasture	9,170	
Sprinkler Irrigated Pasture	3,930	
Total Irrigated Pasture	13,100	1,180
Typical Management Unit/Ownership	1,080	
Current Farm Bill participation	30%	

<b>Future Conditions</b>	Total Acres
Surface Irrigated Pasture	
Sprinkler Irrigated Pasture	11,920
Total Conversion to Riparian Pasture RMS	1,180
Total Acres	13,100

Projected Treatment Needs for Irrigated Pasture:												
Practices	Quantity		Costs		Effects				Implementation			
	Unit	Quantity	Investment Cost	Annual O&M and Mngt. Cost	Water Conservation	Water Storage	Habitat	WQ	EQIP	WHIP	CREP	Other
Sprinkler Irrigation	Ac.	11,920			+3	+3	+2	+3				
Fence (382)	Ft.	198,000	\$ 465,300	\$ 9,300					X			X
Irrigation Water Conveyance (430DD)	Ft.	297,000	2,435,400	12,200					X			X
Irrigation System Sprinkler (442)	Ac.	8,360	5,183,200	103,700					X			X
Irrigation Water Management (449)	Ac.	11,920	268,200	89,400					X			X
Nutrient Management (590)	Ac.	11,920	357,600	119,200					X			X
Pasture & Hayland Planting (512)	Ac.	4,770	763,200	7,600					X			X
Pest Management (595)	Ac.	11,920	411,200	137,100					X			X



**Conservation Activities for Irrigated Pasture - Continued**

<b>Projected Treatment Needs for Irrigated Pasture (Continued):</b>												
Practices	Quantity		Costs		Effects				Implementation			
	Unit	Quantity	Investment Cost	Annual O&M and Mngt. Cost	Water Conservation	Water Storage	Habitat	WQ	EQIP	WHIP	CREP	Other
<b>Sprinkler Irrigation</b>	Ac.	11,920			+3	+3	+2	+3				
Pipeline (516)	Ft.	99,000	\$ 272,300	\$ 1,400					X			X
Prescribed Grazing (528)	Ac.	11,920	178,800	59,600					X			X
Structure for Water Control (587)- Fish Screen	No.	75	273,800	2,700					X	X		X
Upland Wildlife Management (645)	Ac.	1,790	53,700	17,900					X			X
Watering Facility (614)	No.	75	105,000	1,100					X			X
Windbreak/Shelterbelt Establish(380)	Ft.	198,000	306,900	3,100					X			X
<b>Riparian Pastures</b>	Ac.	1,180			+1	+1	+3	+3				
Access Control (472)	Ac.	60	2,100	100					X	X	X	X
Animal Trails and Walkways (575)	Ft.	39,600	\$ 198,000	\$ 2,000					X			X
Channel Bank Vegetation (322)	Ft.	4,540	13,600	300					X			X
Channel Stabilization (584)	Ft.	4,540	113,500	600					X			X
Fence (382)	Ft.	79,200	186,100	3,700					X	X	X	X
Nutrient Management (590)	Ac.	1,180	35,400	11,800					X			X
Pasture & Hayland Planting (512)	Ac.	470	70,500	700					X			X
Pest Management (595)	Ac.	1,180	40,700	13,600					X			X
Pipeline (516)	Ft.	39,600	108,900	500					X			X
Prescribed Grazing (528)	Ac.	1,180	17,700	5,900					X			X
Riparian Forest Buffer (391)	Ac.	100	230,000	2,300					X			X
Riparian Herbaceous Cover (390)	Ac.	100	17,500	200					X			X
Streambank & Shoreline Prot (580)	Ft.	22,700	1,248,500	62,400					X	X	X	X
Stream Crossing (578)	No.	30	105,000	5,300					X			X



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**Conservation Activities for Irrigated Pasture - Continued**

<b>Projected Treatment Needs for Irrigated Pasture (Continued):</b>												
Practices	Quantity		Costs		Effects				Implementation			
	Unit	Quantity	Investment Cost	Annual O&M and Mngt. Cost	Water Conservation	Water Storage	Habitat	WQ	EQIP	WHIP	CREP	Other
Riparian Pastures	Ac.	1,180			+1	+1	+3	+3				
Tree/Shrub Establishment (612)	No.	1,820	2,400	-					X			X
Upland Wildlife Management (645)	Ac.	180	5,400	1,800					X			X
Watering Facility (614)	No.	30	42,000	400					X		X	X
Wetland Wildlife Management (644)	Ac.	120	3,600	1,200					X			X
<b>Total RMS Costs</b>			<b>\$ 13,515,500</b>	<b>\$ 677,100</b>								

<b>RMS Cost Summary for Irrigated Pasture:</b>		
Cost Items and Programs	Costs	O&M Costs
Non Farm Bill Programs	\$ 675,800	\$ 33,900
Potential Farm Bill Programs	\$ 12,839,700	\$643,200
Operator O&M and Management Cost		\$677,100
Annual Management Incentives (3 yrs - Incentive Payments)	\$ 1,644,600	
Operator Investment	\$ 6,273,400	
Federal Costshare	\$ 5,597,500	
<b>Total RMS Farm Bill Costs</b>	<b>\$ 13,515,500</b>	
Estimated Level of Participation		75%
Total Acres in RMS System		9,800
Anticipated Cost at Estimated Level of Participation	\$	10,136,600
Total Acre Feet of Water Saved Annually		19,590
Total Annual Forage Production Benefits (animal unit months)		47,700
Improves ground water and surface water quality by minimizing off-site transport		
Improves riparian habitat for ESA endangered & threatened species		

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

<b>Current Conditions</b>	Grazed	Ungrazed	Riparian/Wetland/Potential	Total Acres
Private Rangeland and Dry Pasture	204,600		20,460	204,600
Typical Management Unit/Ownership	1,080			
Current Farm Bill participation	30%			

<b>Future Conditions</b>	Rangeland / Pasture	Riparian	Total Acres
	184,140	20,460	204,600

<b>Projected Treatment Needs for Grazed Rangeland, Dry Pasture and Forestland:</b>													
Practices	Quantity		Costs		Effects				Implementation				
	Unit	Quantity	Investment Cost	Annual O&M and Mngt. Cost	Water Conservation	Water Storage	Habitat	WQ	EQIP	WHIP	WRP	CREP	Other
<b>Grazed Range, Dry Pasture &amp; Forestland</b>	<b>Ac.</b>	<b>184,140</b>			<b>+3</b>	<b>+2</b>	<b>+3</b>	<b>+3</b>					
Animal Trails and Walkways (575)	Ft.	570,240	\$ 2,851,200	\$ 28,500					X				X
Brush Management (314)	Ac.	36,830	1,104,900	11,000					X				X
Fence (382)	Ft.	1,520,640	3,573,500	71,500					X				X
Firebreak (394)	Ft.	760,320	1,520,600	30,400					X				X
Pest Management (595)	Ac.	184,140	4,419,400	1,473,100					X				X
Pipeline (516)	Ft.	760,320	2,090,900	104,500					X				X
Pond (378)	No.	75	510,000	5,100					X				X
Prescribed Grazing (528)	Ac.	184,140	2,762,100	920,700					X				X
Range Planting (550)	Ac.	60,770	8,507,800	85,100					X				X
Spring Development (574)	No.	288	720,000	3,600					X	X			X
Upland Wildlife Management (645)	Ac.	36,830	1,104,900	368,300					X	X			X

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

Projected Treatment Needs for Grazed Rangeland, Dry Pasture and Forestland:													
Practices	Quantity		Costs		Effects				Implementation				
	Unit	Quantity	Investment Cost	Annual O&M and Mngt. Cost	Water Conservation	Water Storage	Habitat	WQ	EQIP	WHIP	WRP	CREP	Other
<b>Grazed Range, Dry Pasture &amp; Forestland (Continued)</b>	Ac.	184,140			+3	+2	+3	+3					
Watering Facility (614)	No.	288	403,200	4,000					X				X
Well (642)	No.	140	630,000	6,300					X				X
<b>Range &amp; Dry Pasture Riparian</b>	Ac.	20,460			+3	+2	+3	+3					
Access Control (472)	Ac.	1,020	35,700	1,100					X	X	X		X
Channel Bank Vegetation (322)	Ft.	68,110	204,300	4,100					X				X
Channel Stabilization (584)	Ft.	68,110	1,702,800	8,500					X				X
Fence (382)	Ft.	168,960	366,600	7,300					X	X	X		X
Pasture & Hayland Planting (512)	Ac.	2,050	307,500	3,100					X				X
Pest Management (595)	Ac.	20,460	491,000	163,700					X				X
Pipeline (516)	Ft.	84,480	232,300	1,200					X				X
Prescribed Grazing (528)	Ac.	20,460	306,900	102,300					X				X
Pumping Plant (533)	No.	10	28,800	300					X				X
Riparian Forest Buffer (391)	Ac.	1,560	3,588,000	35,900					X				X
Riparian Herbaceous Cover (390)	Ac.	1,560	273,000	2,700					X	X	X		X
Stream Crossing (578)	No.	65	192,400	9,600					X	X	X		X
Streambank & Shoreline Prot (580)	Ft.	340,560	18,730,800	936,500					X	X			X
Tree/Shrub Establishment (612)	No.	27,250	35,400	400					X				X
Upland Wildlife Management (645)	Ac.	4,090	122,700	40,900					X	X			X
Watering Facility (614)	No.	30	42,000	400					X		X		X
Wetland Wildlife Management (644)	Ac.	2,050	61,500	20,500					X		X		X
<b>Total RMS Costs</b>			<b>\$56,920,200</b>	<b>\$4,450,600</b>									



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

<b>RMS Cost Summary for Grazed Rangeland, Pasture and Forestland:</b>		
<b>Cost Items and Programs</b>	<b>Costs</b>	<b>O&amp;M Costs</b>
Non Farm Bill Programs	\$ 2,846,000	\$ 222,500
Potential Farm Bill Programs	\$54,074,200	\$4,228,100
Operator O&M and Management Cost		\$4,450,600
Annual Management Incentives (3 yrs - Incentive Payments)	\$ 9,472,800	
Operator Investment	\$20,686,600	
Federal Costshare	\$26,760,800	
<b>Total RMS Farm Bill Costs</b>	<b>\$56,920,200</b>	
Estimated Level of Participation		35%
Total Acres in RMS System		71,600
Anticipated Cost at Estimated Level of Participation		\$ 19,922,100
Total Annual Forage Production Benefits (acre unit months)		10,700
Improves infiltration and storage of water in soil profile		
Improves upland wildlife habitat for deer, elk, antelope and other species		
Improves water quality by reducing erosion and sediment delivery to streams		



### Conservation Activities for Headquarters

Confined Animal Feed Operations (CAFO - 700 Head Dairies or 1,000 Head Feeder Cattle) and Animal Feed Operations (AFO 200-700 Head 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. Note that an AFO can be designated as a CAFO regardless of number of animals if it is found to be a significant polluter.

Kinds and amounts of component practices required for proper operation are site specific, but typically include the following: 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).

<b>Current Conditions</b>		Total
CAFOs		6
AFOs		8
Current Farm Bill participation	15%	
Total CAFOs and AFOs		14

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



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**Conservation Activities for Headquarters - Continued**

Projected Treatment Needs for Headquarters:													
Practices	Quantity		Costs		Effects				Implementation				
	Unit	Quantity	Additional Investment Cost	Annual O&M and Mngt. Cost	Water Conservation	Water Storage	Habitat	WQ	EQIP	WHIP	WRP	CREP	Other
Dairy	No.	11			+3	+2	+3	+3					
Structural/Management Practices													
Waste Storage Facility (313) CAFO	No.	3	262,500	5,250					X				X
Waste Storage Facility (313) AFO	No.	8	360,000	7,200					X				X
Feed Lot	No.				+3	+1	+3	+3					
Structural/Management Practices													
Waste Storage Facility (313) CAFO	No.	3	262,500	5,250					X				X
Waste Storage Facility (313) AFO	No.	-	-	-					X				X
<b>Total RMS Costs</b>			<b>\$ 885,000</b>	<b>\$ 17,700</b>									



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**Conservation Activities for Headquarters – Continued**

<b>RMS Cost Summary for Headquarters</b>		
<b>Cost Items and Programs</b>	<b>Costs</b>	<b>O&amp;M Costs</b>
Non Farm Bill Programs	\$44,300	\$ 900
Potential Farm Bill Programs	\$840,700	\$ 16,800
Operator O&M and Management Cost		\$ 17,700
Annual Management Incentives (3 yrs - Incentive Payments)	\$ 88,500	
Operator Investment	\$420,400	
Federal Costshare	\$376,100	
<b>Total RMS Costs</b>	<b>\$885,000</b>	
Estimated Level of Participation		35%
Total CAFO/AFO in RMS System		5
Anticipated Cost at Estimated Level of Participation	\$	309,800
Reduces impact to ground and surface water quality		
90% participation reflects Local, State and Federal regulations		