



Introduction

The Little Lost 8-Digit Hydrologic Unit Code (HUC) subbasin contains 617,184 acres. Nine percent of the subbasin is in Lemhi County, 24 percent in Custer County, 1 percent in Clark County, and 66 percent in Butte County. Nine percent of the basin is privately owned and 91 percent is publicly owned.

Seventy three percent of the basin is in shrubland, rangeland, grass, pasture, or hayland, 5 percent is cropland, and the remainder is forest, water, wetlands, developed or barren.

Elevations range from 4,777 feet in the southern portion of the HUC to over 12,155 feet in the western portion of the HUC.

Conservation assistance is provided by 1 Soil Conservation District, 3 Soil and Water Conservation Districts, and 1 Resource Conservation and Development office.

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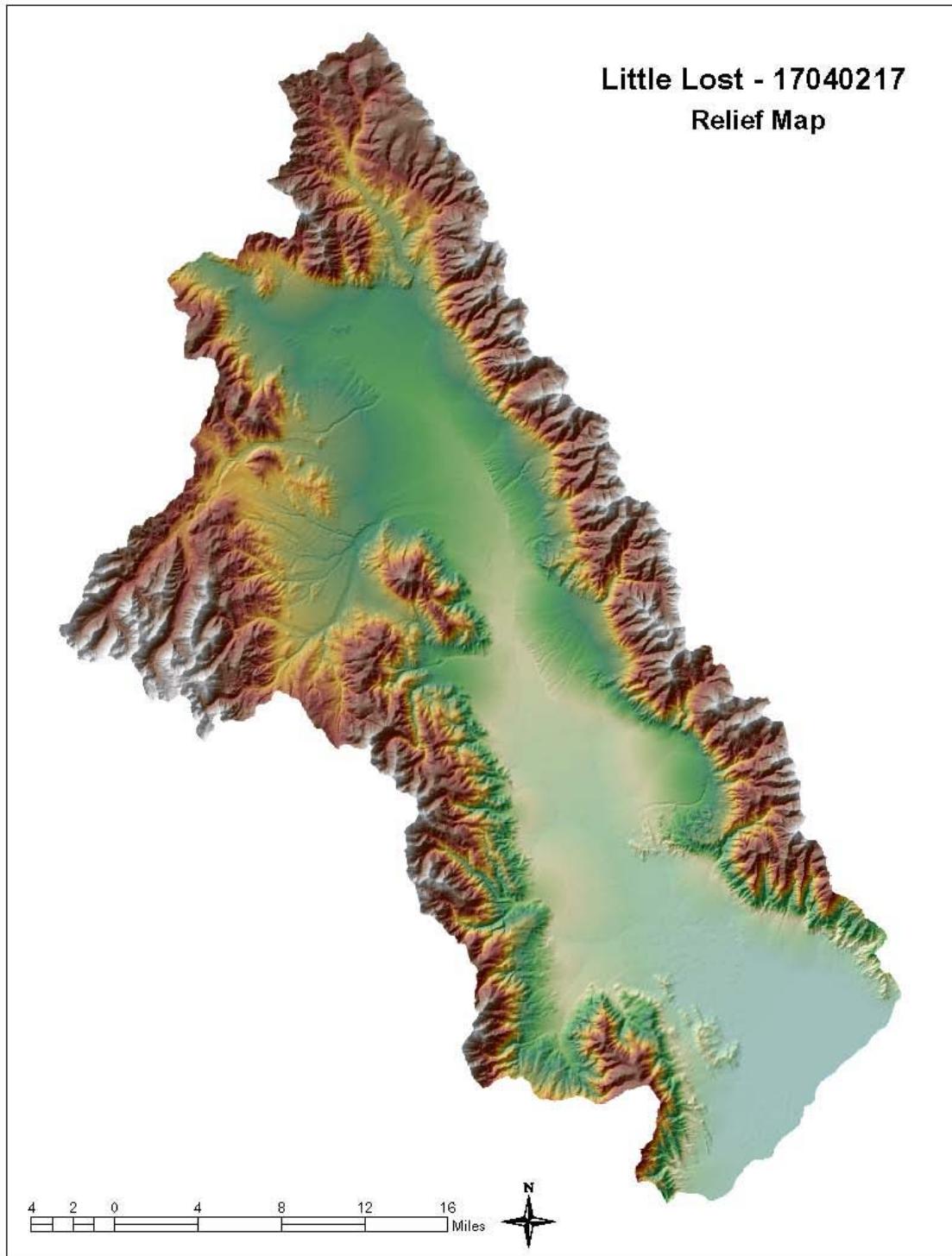
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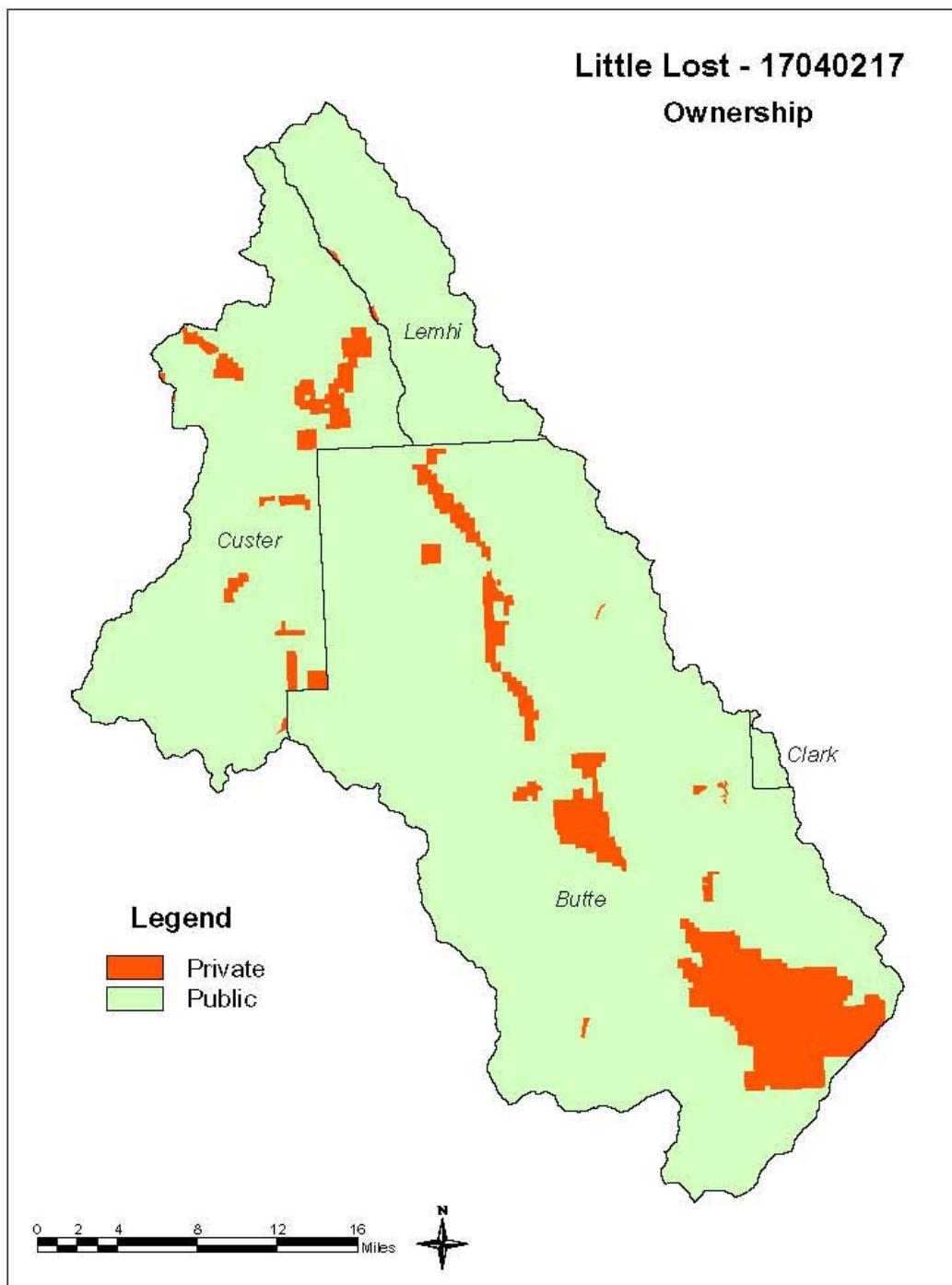
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General Ownership¹





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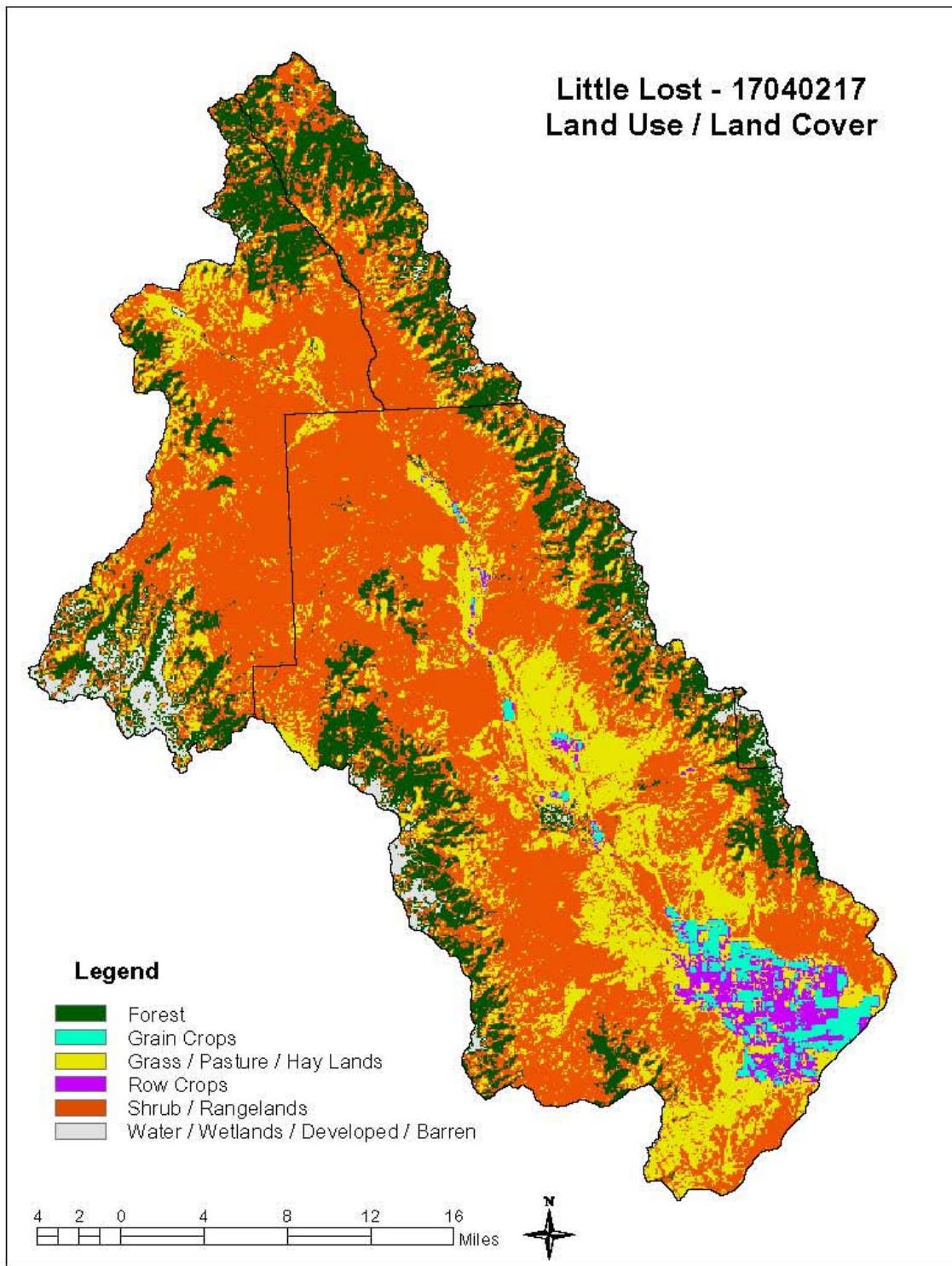
Physical Description

Land Cover/ Land Use (NLCD ^{/2})	Ownership - (2003 Draft BLM Surface Map Set ^{/1})						Totals	% of HUC		
	Public		Private		Tribal					
	Acres	%	Acres	%		%				
Forest	107,835	18%	79	<1%	--	--	107,914	18%		
Grain Crops	--	--	12,900	2%	--	--	12,900	2%		
Conservation Reserve ^{/3} Program (CRP) Land	--	--	140 ^{/3}	--	--	--	--	<1%		
Grass/Pasture/Hay Lands	101,587	16%	21,197	4%	--	--	122,784	20%		
Orchards/Vineyards/Berries	--	--	--	--	--	--	--	--		
Row Crops	--	--	8,263	1%	--	--	8,263	1%		
Shrub/Rangelands	317,881	52%	11,715	2%	--	--	329,596	53%		
Water/Wetlands/ Developed/Barren	33,550	5%	2,177	<1%	--	--	35,727	6%		
Idaho HUC Totals	560,853	91%	56,331	9%	--	--	617,184	100%		

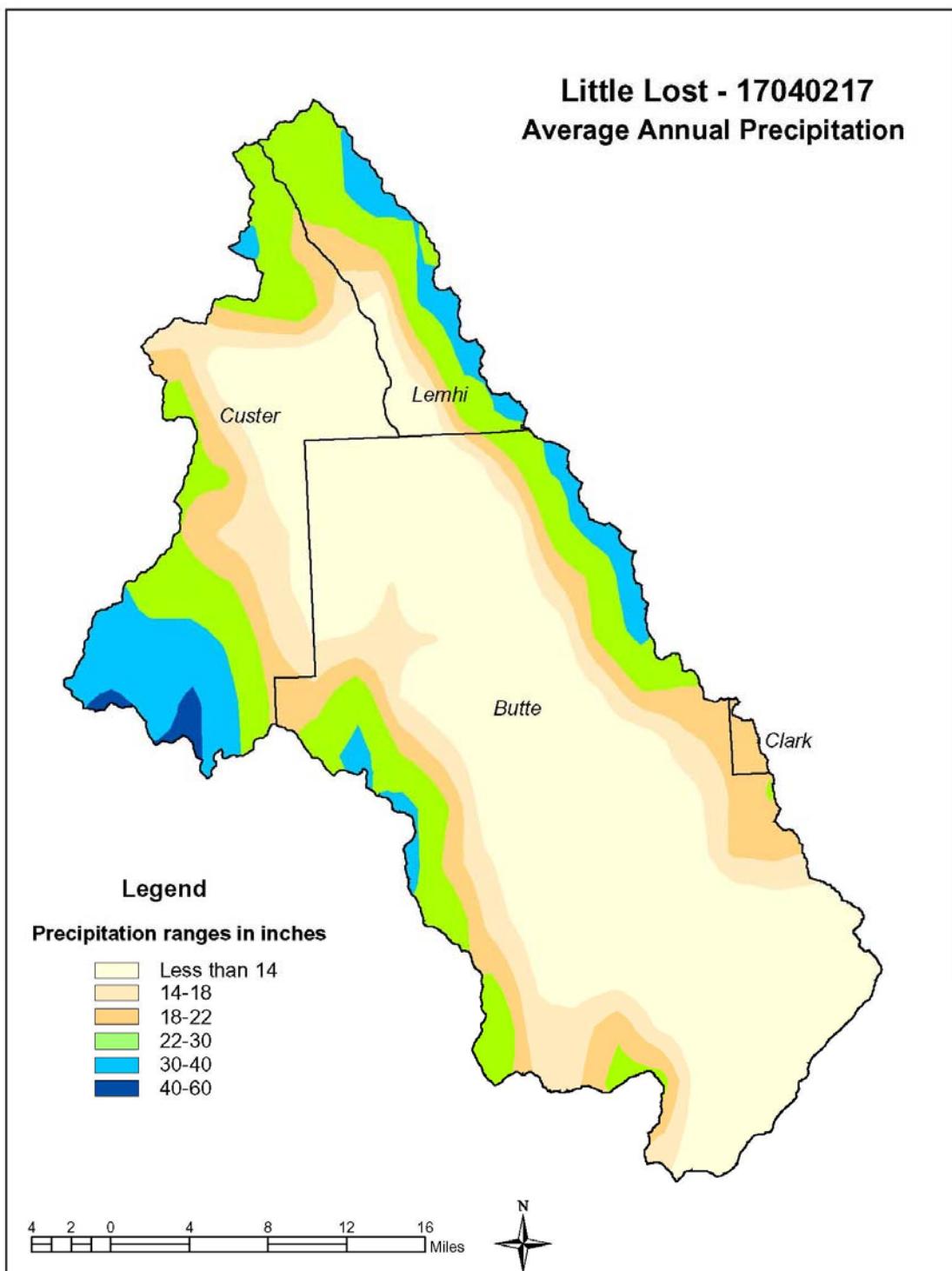
Irrigated Lands ^{/4}	Type of Land	ACRES	% of Irrigated Lands	% of HUC
	Cultivated Cropland	21,163	60%	3%
	Non-Cultivated Cropland *	7,065	20%	1%
	Pastureland	7,070	20%	1%
	Total Irrigated Lands	35,298	100%	5%

* Includes permanent hayland and horticultural cropland.

Land Use/Land Cover¹²

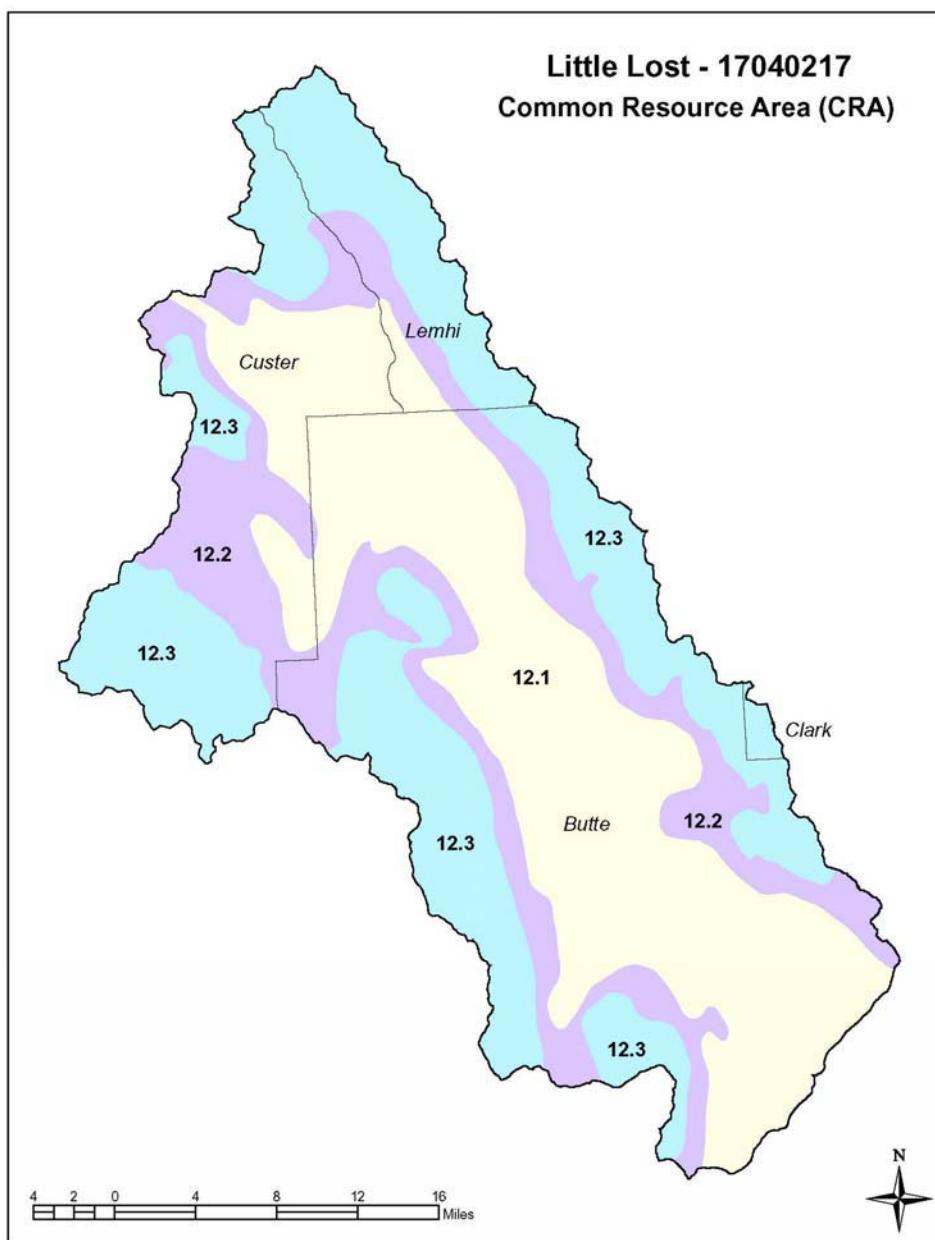


Average Annual Precipitation^{/5}



Common Resource Area Map

The Common Resource Areas (CRA) delineated below for the Little Lost HUC are described in the next section (for additional information, see http://www.id.nrcc.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.

12.1 Lost River Valleys and Mountains - Dry Intermontane Sagebrush Valleys: This unit contains stream terraces, floodplains, saline areas, and alluvial fans. Water availability and potential for cropland agriculture are low because this unit is in the rain shadow of high mountains, receives little mountain runoff, and is underlain by highly permeable valley fill deposits. Its deep gravel deposits are unlike the basalt bedrock of MLRA 11. Sagebrush grassland is widespread and contrasts with the open-canopied forests of the more rugged and higher mountains. Shadscale and greasewood grow on alkaline soils that receive less than 8 inches of precipitation annually. Grazing is the dominant land use. The Pahsimeroi and Lemhi Rivers were once important salmon and steelhead fisheries.

12.2 Lost River Valleys and Mountains - Dry Gneissic-Schistose-Volcanic Hills: This unit is shrub- and grass-covered and is underlain by Quaternary and Tertiary volcanics. It is less rugged and drier than the higher Barren Mountains CRA, but is more rugged and receives more precipitation than the Dry Intermontane Sagebrush Valleys CRA. Its sagebrush-grassland vegetation contrasts with the open-canopied forest-shrubland-grassland mosaic along the Continental Divide. Grazing is the most common land use.

12.3 Lost River Valleys and Mountains - Barren Mountains: This unit is largely underlain by quartzite and carbonate-rich rocks and is drier than mountainous units to the north. Elevations range from about 6,800 to 10,000 feet. Open-canopied Douglas-fir/lodgepole pine/subalpine fir forests, aspen groves, sagebrush, mountain brush, and grasses occur. Forests are limited to a narrow elevational band and are most widespread on north-facing slopes. Pacific forest elements are absent and barrens are common.



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Irrigated Adjudicated Water Rights ¹⁶		CFS	
	Surface Water	447	
	Groundwater	548	
	Total Irrigated Adjudicated Water Rights	995	
Stream Flow Data ¹⁷	USGS station 13118700 Little Lost River below Wet Creek near Howe. 440 square miles, analysis 1971-2000 period. The river disappears into an ephemeral playa, the Little Lost River Sink, just south of Howe on the margin of the Snake River Plain.		ACRE-FEET
		Average Annual	51,300
		Apr - July Q50	31,200
		Percent of Average Annual (Estimate)	Apr - Jul 61%
Stream Data <i>*Percent of Total Miles of streams in HUC</i>		MILES	PERCENT
	Total Stream Miles ⁸	1,162.2	--
	Water quality impaired streams ^{9,10}	424.7	36.5%
	Anadromous Fish Presence (Streamnet) ¹¹	0	--
	Bull Trout Presence (Streamnet) ¹¹	287.2	24.7%
Land Cover/Use ¹² based on a 100 ft. stretch on both sides of all streams in the 100K Hydro Layer		ACRES	PERCENT
	Forest	3,420	12%
	Grain Crops	230	1%
	Grass/Pasture/Hay Lands	7,440	27%
	Row Crops	160	1%
	Shrub/Rangelands – Includes CRP Lands	15,500	54%
	Water/Wetlands/Developed/Barren	1,330	5%
	Total Acres of 100 ft stream buffers	28,080	100%
Land Capability Class ¹⁴	I – slight limitations	0	--
	II – moderate limitations	900	5%
	III – severe limitations	7,700	45%
	IV – very severe limitations	6,100	35%
	V – no erosion hazard, but other limitations	0	--
	VI – severe limitations, unsuited for cultivation, limited to pasture, range, forest	2,600	15%
	VII – very severe limitations, unsuited for cultivation, limited to grazing, forest, wildlife	0	--
	VIII – misc areas have limitations, limited to recreation, wildlife, and water supply	0	--
	Total Crop & Pasture Lands	17,300	100%

Confined Animal Feeding Operations – Dairies/Feedlots ^{/12,13,26}						
	Number	<200	200-500	500-750	750-1000	>1000
Dairy	2	2	0	0	0	0
	Number	<300	300-999	1,000-4,999	5,000-9,999	>10,000
Feedlots	1	0	0	1	0	0

Resource Settings

Hayland: Non-irrigated upland hay consists of introduced perennial grasses and legumes. One cutting is common. Renovations occur every 6-10 years. Soils vary from loams to silt loams with slopes ranging from three to 30 percent. Precipitation is 14 inches or greater.

Irrigated hayland utilizes surface and sprinkler irrigation and is conventionally tilled. 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 12 to 16 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 typically does not meet Idaho standards.

Irrigated Crops: A small amount of conventionally tilled, surface or sprinkler irrigated cropland planted predominantly to row crops. Crops grown include potatoes and winter wheat. Alfalfa may be included in the rotation and is typically maintained for four to six years. Fertilizers and pesticides are applied. Nutrient, pest, and/or irrigation water management typically does not meet Idaho standards. Precipitation is 12 inches or less and the growing season is approximately 120-160 days. Typical soils are sandy loam or finer, approximately 15 inches in depth with slopes from zero to seven percent.

Forests and Grazed Forests: The forested area consists primarily of a mixture of western spruce-fir forest, often with sagebrush on the southern exposures and lower elevations. The riparian areas consist of mixed conifers and deciduous trees. The associated understory is comprised of grasses and brush species. Soils are variable, range from shallow to deep, and can have low to high rock fragment content. They range from somewhat poorly to well-drained. Average annual precipitation ranges from 18 to 35 inches. Riparian grazing units typically exhibit impacts to riparian vegetation and a loss of woody species. Important wildlife species include elk, deer, moose, bear, raptors and songbirds.

Rangeland

Low elevation desert to high elevation, steep rangeland. Low elevation desert characterized by sagebrush and perennial bunchgrasses. Frequent fires have eliminated some areas of sagebrush, with annual cheatgrass and other invaders dominant. Carrying capacity can be limited by available water. Land is utilized by antelope and livestock in winter and early spring. Mid-elevation rangeland has precipitation ranging from 12-16 inches. This range consists of sagebrush and perennial bunchgrasses with variable soils on nearly level flats to benches and rolling hills. High elevation range has precipitation greater than 16 inches, on steep slopes and high mountain valleys. Access to riparian areas on all rangeland types is not typically managed, and temperature, nutrients, and sediment may be an associated water quality concern. Areas are important sage grouse habitat.

Resource Settings - continued

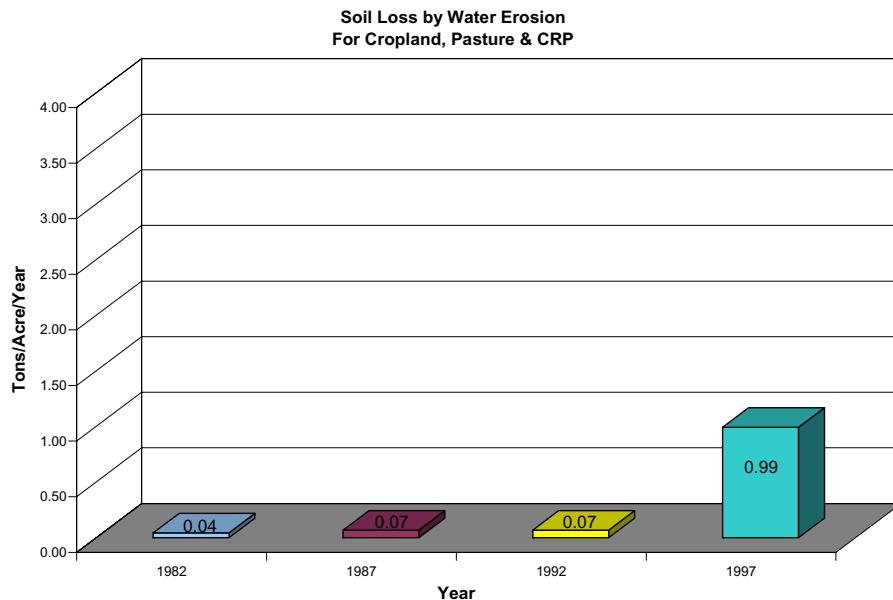
Pasture

Some improved dryland pasture with introduced forage species including wheatgrasses, fescues, bromes, and orchardgrass. The older established stands are of low vigor, with encroachment of noxious weeds. Continuous season-long grazing is typical, with below-optimum forage production. No commercial fertilizers are applied, and pest management practices are limited. Livestock water may be inadequate.

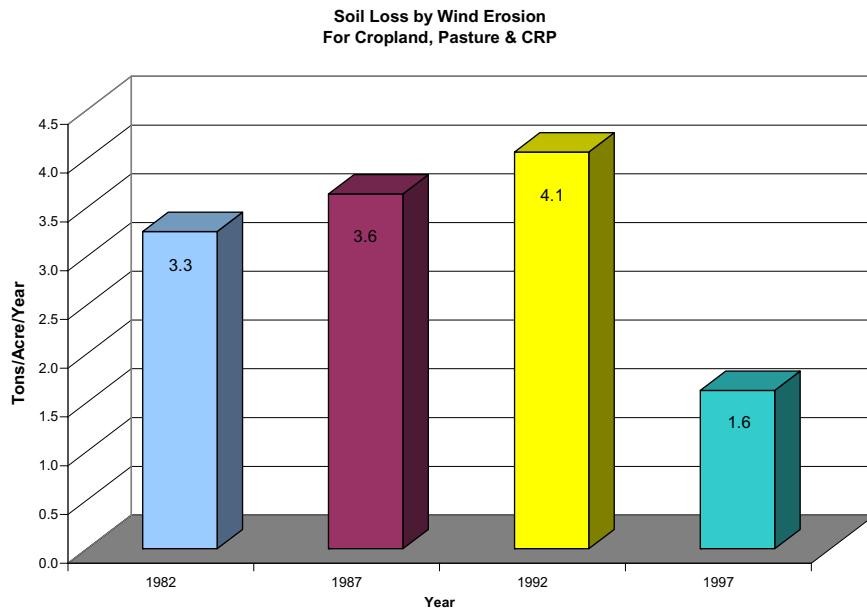
Irrigated pastureland includes both low elevation pastures and those in high elevation mountain valleys. Irrigated pastures are often surface irrigated on variable soils with slopes 1-5%.

Irrigation water distributed via earthen ditches or tarps, with tailwater eventually returning to rivers or streams. Fields may have been leveled. Irrigation efficiency is 20-35%. Plants are introduced forage species and native perennials, conventionally tilled when rotating pasture (10 years) and grain (2 years). Fertilizers are sometimes applied, but without soil testing or nutrient management. Adjacent riparian areas are important for wildlife.

Resource Concerns



Sheet and rill erosion by water on croplands and pasturelands in this watershed have been essentially static since 1982. Sheet and rill erosion is not a major issue on cropland in this sub basin. Susceptibility to sheet and rill erosion is low in this sub basin because the natural precipitation is low and the cropland is relatively flat.^{/4}



Wind erosion is a significant problem in the Little Lost Watershed especially when low residue annually planted crops are grown. Rates increased from 3.3 tons per acre per year in 1982 to 4.1 tons per acre per year in 1992, but decreased to 1.6 tons by 1997. Carefully planned and implemented conservation practices are needed to reduce the wind erosion hazard in this watershed.

Resource Concerns – Continued

Impacted Water Bodies ¹ (9,10) (ID17040217)	Stream Miles	Sediment, Siltation or TSS	Nutrients	Bacteria	Temperature	Dissolved Oxygen	Flow Alteration	Other or Unknown
Badger Creek (SK008_03)	6.6				x			
Big Spring Creek (SK003_02)	8.1				x			
Big Spring Creek (SK003_03)	7.1				x			
Big Spring Creek (SK003_04)	2.0				x			
Deer Creek (SK025_02)	17.2				x			
Dry Creek (SK020_03)	14.6				x			
Dry Creek (SK021_02)	46.7				x			
Dry Creek (SK021_03)	2.7				x			
Little Lost River (SK007_04)	14.1	x			x			x
Little Lost River (SK002_05)	5.8	x			x			x
Little Lost River (SK001_05)	18.6				x			
Little Lost River (SK010_04)	8.6	x			x			x
Little Lost River (SK009_02)	54.3				x			
Little Lost River (SK009_04)	8.9	x			x			x
Moffett Creek (SK019_02a)	45.0							x
Sawmill Creek (SK014_02)	33.8	x						
Sawmill Creek (SK014_04)	7.7	x			x			
Sawmill Creek (SK012_04)	8.1	x			x			
Squaw Creek (SK015_02)	12.5				x			
Squaw Creek (SK023_02)	25.9							x
Summit Creek (SK019_03)	9				x			
Wet Creek (SK024_02)	53.2	x		x	x			x
Wet Creek (SK024_03)	5.8	x			x		x	
Wet Creek (SK022_03)	8.4	x			x		x	
TOTAL STREAM MILES:	424.7							

¹ Shading indicates TMDL in place.

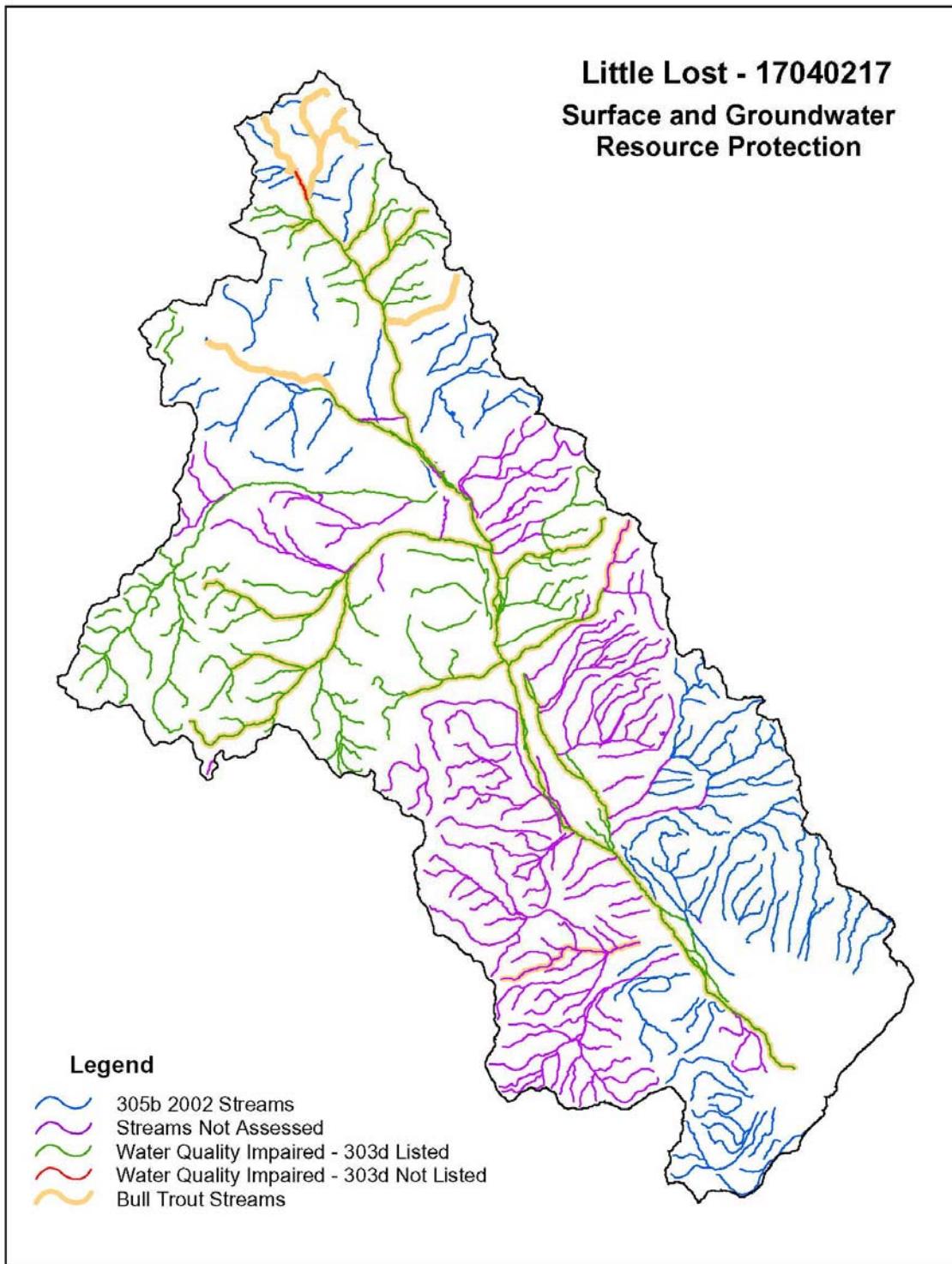
Water quality, native fish populations and riparian habitat conditions have been impacted by flooding, wildfires, grazing, introduction of exotic species and man-caused channelization and diversion of streams. Streambank erosion and reduction of riparian vegetation have lead to sedimentation and increased stream temperatures, negatively impacting salmonid spawning and coldwater biota. Many of the streams in the subbasin have not been assessed for water quality.

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

Watershed Projects, Plans, Studies, and Assessments*	
Federal:	State:
NRCS Watershed Plans/Studies/Assessments^{/14,15}	IDEQ TMDLs^{/16}
None	Little Lost River TMDL (2000)
	IDEQ 319 Projects^{/17}
	None
NWPCC Subbasin Plans and Assessments^{/18}	SCC Plans/Projects^{/19}
Upper Snake Subbasin Assessment (2004)	Little Lost River Agricultural Implementation Plan (2002)
	ISDA Regional Water Quality Projects^{/20}
	North Eastern Snake River Plain Regional Study (on-going)
	IDWR Comprehensive Basin Plans^{/21}
	None

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

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



Resource Concerns – Continued

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

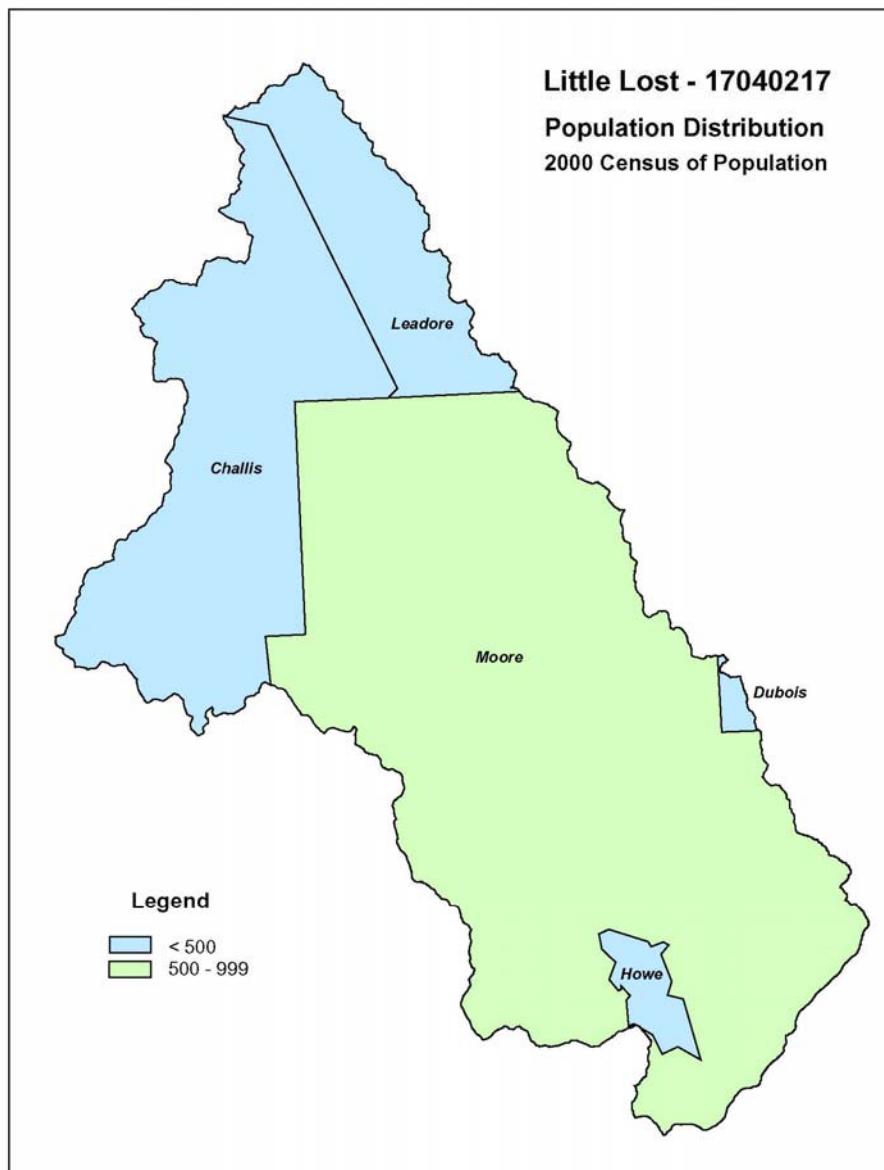
FEDERALLY LISTED THREATENED AND ENDANGERED SPECIES ^{/25}	
Threatened and Endangered Species	Candidate Species
Mammals – Canada Lynx Birds – Bald Eagle Fish – Bull Trout Invertebrates – None Plants – None	Birds –
	PROPOSED SPECIES – None
ESSENTIAL FISH HABITAT – None	CRITICAL FISH HABITAT – None

Census and Social Data [/26](#)

Population: 1,152

Number of Farms: 220

	0-49 acres	50-999 acres	1000+ acres
Number of Farms	64	120	36



Census and Social Data - continued

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 just 8.8 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 580 acres. Agricultural land in the watershed is a mix of cropland, range, pasture and hay land. Land users in the watershed utilize EQIP, CRP, Continuous CRP and other programs to implement conservation plans.

Farm size and market value of production to farmers are up over the past several years. Government payments to farmers are up for the same period. Farm sales range from less than \$1,000 to more than \$500,000 per year. Seventy-two percent of the farms reported sales of less than \$50,000 per year.

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

	Number of farms	Average size farm	Market Value of Production (Average Farm)	Government Payments (Average Farm)
1997	240	570	\$77,489	\$4.600
2002	220	580	\$199,500	\$5,700
Change	- 8.3%	1.8%	120.0%	24.0%

Economic Profile:

	Watershed	Idaho	United States
Population (2000)	1,152		
Per Capita Personal Income (2001)	\$21,300	\$24,500	\$30,400
Median Home Value (2000)	\$73,800	\$106,600	\$119,600
Percent Unemployment (2002)	5.%	5.4%	5.78%
Percent Below Poverty Level (2003)	13.6%	11.8%	12.5%

Progress/Status

PRS Data	FY04	FY05	FY06	Avg/Year	Total
Conservation Treatment Acres					
Waste Management (number)	0	0	0	0.0	0
Residue Management (acres)	0	0	0	0.0	0
Irrigation System (sprinkler)(acres)	74	471	2	182.3	547
Irrigation Water Conveyance, Pipeline, High Pressure, Underground Plastic (430DD) (ft)	2000	0	4854	2284.7	6854
Irrigation Water Management (acres)	0	21	74	31.7	95
Nutrient Management (acres)	0	0	0	0.0	0
Pest Management (acres)	204	961	268	477.7	1433
Prescribed Grazing (acres)	0	0	336	112.0	336
Fence (ft)	0	8000	17218	8406.0	25218
Pipeline (516) (ft)	0	0	0	0.0	0
Wildlife Habitat (acres)	0	405	160	188.3	565
Windbreak/Shelterbelt Establishment (380) (ft)	0	0	0	0.0	0

Progress in the last three years has been focused on:

- ~ irrigation water management
- ~ irrigation systems (conversion to sprinkler)
- ~ nutrient management
- ~ pest management
- ~ prescribed grazing

Resource concerns that require ongoing attention:

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

Lands Removed from Production through Farm Bill Programs

- Conservation Reserve Program (CRP): **140 acres**
- Wetland Reserve Program (WRP): **0 acres**



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Footnotes/Bibliography

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

1. Ownership Layer – Source: This spatial data contains surface management land status (sometimes known as "ownership") and Public Land Survey System (PLSS) information for Idaho. The Bureau of Land Management (BLM) in Idaho creates and maintains these spatial data layers. The primary source of the spatial features is the BLM Geographic Coordinate Database (GCDB), which contains official survey records and corresponding geodetic control information maintained by the BLM Cadastral program. In areas where GCDB records are unavailable, the spatial features are taken from a variety of sources including the BLM Idaho Resource Base Data collection, US Geological Survey Digital Line Graphs (DLGs), and US Forest Service Cartographic Feature Files (CFFs), among others. The source of the attribute information is the BLM Master Title Plats (MTPs) and careful cooperation with other government agencies that own or manage land parcels. The layer is available from the Inside Idaho (Interactive Numeric & Spatial Information Data Engine): <http://inside.uidaho.edu> For current ownership status, consult official records at appropriate federal, state or county offices. Ownership classes grouped to calculate Public Ownership vs. Private Ownership.
2. National Land Cover Dataset (NLCD): NLCD 92 (National Land Cover Data 1992) is a 21-category land cover classification scheme that has been applied consistently over the conterminous U.S. It is based primarily on the unsupervised classification of Landsat TM (Thematic Mapper) 1992 imagery. Ancillary data sources included topography, census, agricultural statistics, soil characteristics, other land cover maps, and wetlands data. The NLCD 92 classification is provided as raster data with a spatial resolution of 30 meters. The layer is available from: <http://edcwww.cr.usgs.gov/products/landcover/nlcd.html>
Description: Abstract: These data can be used in a geographic information system (GIS) for any number of purposes such as assessing wildlife habitat, water quality, pesticide runoff, land use change, etc. The State data sets are provided with a 300 meter buffer beyond the State border to facilitate combining the State files into larger regions.
3. Farm Services Agency, USDA, 2005. CRP acres from GIS (CLU) database.
4. ESTIMATES FROM THE 1997 NRI DATABASE (REVISED DECEMBER 2000) REPLACE ALL PREVIOUS REPORTS AND ESTIMATES. Comparisons made using data published for the 1982, 1987, or 1992 NRI may produce erroneous results. This is due to changes in statistical estimation protocols, and because all data collected prior to 1997 were simultaneously reviewed (edited) as 1997 NRI data were collected. All definitions are available in the glossary. In addition, this December 2000 revision of the 1997 NRI data updates information released in December 1999 and corrects a computer error discovered in March 2000. For more information: <http://www.nrcs.usda.gov/technical/NRI/>
5. PRISM Climate Mapping Project. Annual precipitation data. See http://www.ocs.orst.edu/prism_new.html for further information.
6. Irrigated Adjudicated Water Rights – Idaho Department of Water Resources <http://www.idwr.idaho.gov/water/srba/mainpage/>
7. USGS Idaho Streamflows, gaging station data (<http://waterdata.usgs.gov/id/nwis/sw/>) and estimates for ungaged streams based on statistical data (<http://streamstats.usgs.gov/html/idaho.html>).
8. National Hydrology Dataset (NHD). Developed by the US Geological Survey in cooperation with U.S. Environmental Protection Agency and other state and local partners (<http://nhd.usgs.gov>).
9. IDEQ. 2002 Integrated Report (approved December 2005).
http://www.deq.idaho.gov/water/data_reports/surface_water/monitoring/integrated_report.cfm.
10. IDEQ. 2000. Little Lost River Subbasin Assessment and TMDL.
http://www.deq.state.id.us/water/data_reports/surface_water/tmdls/little_lost_river/little_lost_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.state.id.us/gisdata/gis_data-new.htm
13. (Feedlot) Idaho State Department of Agriculture: <http://www.agri.state.id.us/> FOIA request.
14. Natural Resource Conservation Service, Watershed Projects Planned and Authorized, <http://www.nrcs.usda.gov/programs/watershed>
15. Natural Resource Conservation Service, Watershed Plans, Studies and Assessments completed, http://www.nrcs.usda.gov/programs/watershed/Surveys_Plng.html#Watershed%20Surveys%20and%20Plan
16. Idaho Department of Environmental Quality (DEQ), 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 com
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>
20. Idaho State Department of Agriculture (ISDA). Groundwater water quality regional projects.
<http://www.agri.idaho.gov/gw/gwdatasummary.htm>
21. Idaho Department of Water Resources (IDWR). State Comprehensive Water Plans.
http://www.idwr.idaho.gov/waterboard/planning/Comp_Basin_Plans.htm
22. 303d Listed Streams designated by the Idaho Department of Environmental Quality (1998) and approved by the Environmental Protection Agency, Section 303d Clean Water Act
23. Groundwater Management Areas and Critical Groundwater Management Areas designated by the Idaho Department of Water Resources. <http://www.idwr.idaho.gov/hydrologic/projects/gwma/>
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

Future Conservation Needs

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

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

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

Conservation Activities for Irrigated Cropland/Hayland

* The following Current Conditions Tables have been developed to estimate the present level of conservation installed within the HUC, based on what has been reported in the PRMS and PRS Reporting system for the Years 2004 through 2006.

Current Conditions		Total acres	
Total Irrigated Cropland/Hayland		28,230	
Typical Management Unit/Ownership		580	
Surface Irrigated Cropland/Hayland		5,650	
Sprinkler Irrigated Cropland/Hayland		22,580	
Current Farm Bill participation		15%	

Current Level of Treatment for Irrigated Cropland/Hayland:

Practices	Irrigated Cropland/Hayland		Quantity		Costs		Effects			Implementation		
	Unit	Quantity	Additional Investment Cost	Annual O&M and Mngt. Cost	Water Conservation	Water Storage	Fish Habitat	WQ	EQD	WHID	CREP	Other
Surface Irrigation	Ac.	5,650			-3	-/+	-2	-3				
Sprinkler Irrigation	Ac.	22,580			+1	-/+	+1	+3				
Irrigation System, Sprinkler (442)	Ac.	199	\$ -	\$ 2,786					X			X
Irrigation Water Conveyance (430DD)	Ft.	5,130	\$ -	\$ 200					X			X
Irrigation Water Management (449)	Ac.	1,635	\$ -	\$ 12,300					X			X
Pest Management (595)	Ac.	205	\$ -	\$ 2,100					X			X
Upland Wildlife Habitat Management (645)	Ac.	205	\$ -	\$ 1,000					X			X

Conservation Activities for Irrigated Cropland/Hayland – Continued

Future Conditions				Total Acres
Surface Irrigated Cropland/Hayland				2,820
Sprinkler Irrigated Cropland/Hayland				25,410
Total Irrigated Cropland/Hayland Acres				28,230

Project Future Level of Treatment for Irrigated Cropland/Hayland:

Practices	Unit	Quantity	Costs	Effects			Implementation		
				Annual O&M and Mngt. Cost	Water Conservation	Water Storage	Habitat	WQ	+2
Surface Irrigation	Ac.	2,820	\$ 126,900	\$ 42,300					
Anionic Polyacrylamide, (PAM) (450)	Ac.	2,820	\$ -	\$ -					X
Conservation Crop Rotation (328)	Ac.	2,820	\$ -	\$ -					X
Constructed Wetland (656)	No.	2	\$ 100,000	\$ 1,000					X
Forage Harvest Management (511)	Ac.	2,820	\$ -	\$ -					X
Irrigation System, Gated Surge (443)	Ac.	1,410	\$ 775,500	\$ 23,300					X
Irrigation Tailwater Recovery (447)	No.	35	\$ 528,500	\$ 15,900					X
Irrigation Water Conveyance (430 EE)	Ft.	92,400	\$ 366,800	\$ 1,800					X
Irrigation Water Conveyance (430 HH) (Gated Pipe)	Ft.	46,200	\$ 188,500	\$ 1,900					X
Irrigation Water Management (449) - Low Level	Ac.	1,410	\$ 31,700	\$ 10,600					X
Irrigation Water Management (449) - Meters and Moisture Sensors	Ac.	1,410	\$ 42,300	\$ 14,100					X
Land Leveling/Smoothing (464 & 466)	Ac.	1,410	\$ 282,000	\$ 8,500					X

Conservation Activities for Irrigated Cropland/Hayland – Continued

Project Future Level of Treatment for Irrigated Cropland/Hayland (Continued):

Irrigated Cropland/Hayland		Costs			Effects			Implementation		
Practices		Quantity	Unit	Additional Investment Cost	Annual O&M and Mngt. Cost	Water Conservation	Water Storage	Habitat	WQ	Other
Nutrient Management (590)	Ac.	2,820	\$ 42,300	\$ 14,100						X
Pest Management (595)	Ac.	2,820	\$ 84,600	\$ 28,200						X
Sediment Basin (350)	No.	20	\$ 55,000	\$ 1,700						X
Residue Management Mulch Till (345)	Ac.	2,820	\$ 126,900	\$ 42,300						X
Residue Management Seasonal (344)	Ac.	2,820	\$ 126,900	\$ 42,300						X
Structure for Water Control (587) -Fish Screen	No.	35	\$ 420,000	\$ 4,200						X
Surface Roughening (609)	Ac.	2,820	\$ 63,500	\$ 21,200						X
Upland Wildlife Habitat Management (645)	Ac.	420	\$ 6,300	\$ 2,100						X
Well Decommissioning (355)	No.	5	\$ 4,300	\$ -						X
Windbreak/Shelterbelt Establishment (380)	Ft.	4,880	\$ 228,000	\$ 2,300						X

Conservation Activities for Irrigated Cropland/Hayland – Continued

Project Future Level of Treatment for Irrigated Cropland/Hayland:										Implementation				
Practices	Quantity		Costs		Effects			WHP		EQP		CREP		Other
	Unit	Quantity	Additional Investment Cost	Annual O&M and Mngt. Cost	Water Conservation	Water Storage	Habitat	WQ	+3	+2	+2	+3		
Sprinkler Irrigation	Ac.	25,410												X
Conservation Crop Rotation (328)	Ac.	25,410	\$ -	\$ -										X
Constructed Wetland (656)	No.	3	\$ 90,000	\$ 900										X
Forage Harvest Management (511)	Ac.	25,410	\$ -	\$ -										X
Irrigation System, Sprinkler (442)	Ac.	25,410	\$17,647,700	\$ 353,000										X
Irrigation Water Conveyance (430DD)	Ft.	47,520	\$ 314,500	\$ 1,600										X
Irrigation Water Management (449) - Low level	Ac.	12,710	\$ 249,200	\$ 83,100										X
Irrigation Water Management (449) - Meters and Moisture Sensors	Ac.	12,700	\$ 381,000	\$ 127,000										X
Nutrient Management (590)	Ac.	25,410	\$ 381,200	\$ 127,100										X
Pest Management (595)	Ac.	25,410	\$ 756,200	\$ 252,100										X
Residue Mngt, Mulch Till (345)	Ac.	25,410	\$ 1,143,500	\$ 381,200										X
Residue Management Seasonal (344)	Ac.	25,410	\$ 1,143,500	\$ 381,200										X
Residue Mngt, No Till/Strip Till (329)	Ac.	2,540	\$ 114,300	\$ 38,100										X
Sediment Basin (350)	No.	40	\$ 110,000	\$ 3,300										X
Structure for Water Control (587) -Fish Screen	No.	160	\$ 1,920,000	\$ 19,200										X
Surface Roughening (609)	Ac.	25,410	\$ 571,700	\$ 190,600										X
Upland Wildlife Habitat Management (645)	Ac.	3,810	\$ 54,100	\$ 18,000										X
Well Decommissioning (355)	No.	40	\$ 34,000	\$ -										X
Windbreak/Shelterbelt Establishment (380)	Ft.	211,200	\$ 1,072,900	\$ 10,700										X
Total RMS Costs			\$29,583,800	\$2,264,900										Red

Conservation Activities for Irrigated Cropland/Hayland – Continued

Potential RMS Effects Summary for Irrigated Cropland/Hayland		Costs	O&M Costs
Cost Items and Programs			
Non Farm Bill Programs		\$ 1,479,200	\$ 113,200
Potential Farm Bill Programs		\$28,104,600	\$2,151,700
Operator O&M and Management Cost		\$2,264,900	
Annual Management Incentives (3 yrs - Incentive Payments)	\$ 5,446,100		
Operator Investment	\$ 7,143,800		
Federal Costs	\$16,993,900		
Total RMS Costs	\$29,583,800	\$2,264,900	
Estimated Level of Participation		75%	
Total Acres in RMS System		21,173	
Anticipated Cost at Estimated Level of Participation	\$	22,187,900	
Total Acre Feet of Water Saved Annually		15,155	
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

Current Conditions		Total Acres	Riparian/Wetland Potential
Surface Irrigated Pasture		2,475	
Sprinkler Irrigated Pasture		4,595	
Total Irrigated Pasture		7,070	920
Typical Management Unit/Ownership		580	
Current Farm Bill participation		15%	

Current Level of Treatment for Irrigated Pasture:

Practices	Unit	Quantity	Costs	Effects				Implementation			
				Additional Investment Cost	Annual O&M and Mngt. Cost	Water Conservation	Water Storage	Fish Habitat	WQ	EQIP	WHIP
Surface Irrigation	Ac.	2,475				-3	-/+	-2	-3		X
Fence (382)	Ft.	4,080	\$ 100							X	X
Pest Management (595)	Ac.	180	\$ 1,800							X	X
Prescribed Grazing (528)	Ac.	160	\$ 800							X	X
Watering Facility (614)	No.	3	\$ 30							X	X
Upland Wildlife Management (645)	Ac.	155	\$ 800							X	X
Sprinkler Irrigation	Ac.	4,595				+2	+1	+1	+3	X	X
Fence (382)	Ft.	7,580	\$ 300							X	X
Irrigation System Sprinkler (442)	Ac.	350	\$ 4,900							X	X
Prescribed Grazing (528)	Ac.	960	\$ 4,800							X	X

Conservation Activities for Irrigated Pasture – Continued

Future Conditions		Total Acres	
Surface Irrigated Pasture		920	
Sprinkler Irrigated Pasture		5,230	
Total Conversion to Riparian Pasture			
RMS		920	
Total Acres			7,070

Project Future Level of Treatment for Irrigated Pasture:

Practices	Unit	Quantity	Additional Investment Cost	Annual O&M and Mngt. Cost	Water Conservation	Water Storage	Habitat	WQ	Effects				Implementation			
									+1	+1	+1	+1	EQIP	WHP	CREP	Other
Surface Irrigation	Ac.	920														
Fence (382)	Ft.	15,840	\$ 20,600	\$ 400									X			X
Irrigation System Surface (443)	Ac.	920	\$ 138,000	\$ 4,100									X	X	X	X
Irrigation Tailwater Recovery (447)	No.	6	\$ 90,600	\$ 2,700									X			X
Irrigation Water Conveyance (430HH)	Ft.	30,360	\$ 123,900	\$ 1,200									X			X
Irrigation Water Conveyance (430EE)	Ft.	60,720	\$ 241,100	\$ 1,200									X			X
Irrigation Water Management (449)	Ac.	920	\$ 20,700	\$ 6,900									X			X
Nutrient Management (590)	Ac.	920	\$ 13,800	\$ 4,600									X			X
Pasture & Hayland Planting (512)	Ac.	370	\$ 37,000	\$ 400									X			X
Pest Management (595)	Ac.	920	\$ 22,200	\$ 7,400									X			X
Prescribed Grazing (528)	Ac.	920	\$ 11,400	\$ 3,800									X			X
Structure for Water Control (587)-Fish Screen	No.	23	\$ 276,000	\$ 2,800									X	X		X
Upland Wildlife Management (645)	Ac.	140	\$ -	\$ 700									X			X
Watering Facility (614)	No.	10	\$ 7,000	\$ 100									X			X
Windbreak/Shelterbelt Establish(380)	Ft.	15,840	\$ 80,500	\$ 800									X			X

Conservation Activities for Irrigated Pasture – Continued

Project Future Level of Treatment for Irrigated Pasture (Continued):										Implementation					
Practices	Quantity			Costs			Effects			WHD	EQIP	WQ	Other		
	Unit	Quantity	Additional Investment Cost	Annual O&M and Mngt. Cost	Water Conservation	Water Storage	Habitat	WQ	+3						
Sprinkler Irrigation	Ac.	5,230							+3						
Fence (382)	Ft.	84,480	\$ 134,600	\$ 2,700					+3					X	X
Irrigation Water Conveyance (430DD)	Ft.	10,560	\$ 78,400	\$ 400					+2					X	X
Irrigation System Sprinkler (442)	Ac.	5,230	\$ 3,416,000	\$ 68,300										X	X
Irrigation Water Management (449)	Ac.	5,230	\$ 117,700	\$ 39,200										X	X
Nutrient Management (590)	Ac.	5,230	\$ 78,500	\$ 26,200										X	X
Pasture & Hayland Planting (512)	Ac.	2,090	\$ 209,000	\$ 2,100										X	X
Pest Management (595)	Ac.	5,230	\$ 156,900	\$ 52,300										X	X
Prescribed Grazing (528)	Ac.	5,230	\$ 64,100	\$ 21,400										X	X
Structure for Water Control (587)- Fish Screen	No.	32	\$ 384,000	\$ 3,800										X	X
Upland Wildlife Management (645)	Ac.	785	\$ 11,800	\$ 3,900										X	X
Watering Facility (614)	No.	32	\$ 32,000	\$ 300										X	X
Windbreak/Shelterbelt Establish(380)	Ft.	84,480	\$ 429,200	\$ 4,300										X	X
Riparian Pastures	Ac.	920							+1					+3	+3
Channel Bank Vegetation (322)	Ac.	90	\$ 450,000	\$ 9,000										X	X
Channel Stabilization (584)	Ft.	2,620	\$ 47,200	\$ 200										X	X
Fence (382)	Ft.	30,360	\$ 53,100	\$ 1,100										X	X
Nutrient Management (590)	Ac.	920	\$ 13,800	\$ 4,600										X	X
Pasture & Hayland Planting (512)	Ac.	370	\$ 37,000	\$ 400										X	X
Pest Management (595)	Ac.	920	\$ 27,600	\$ 9,200										X	X
Pipeline (516)	Ft.	26,400	\$ 71,300	\$ 1,400										X	X
Prescribed Grazing (528)	Ac.	920	\$ 13,800	\$ 4,600										X	X
Riparian Forest Buffer (391)	Ac.	60	\$ 180,000	\$ 1,800										X	X
Riparian Herbaceous Cover (390)	Ac.	60	\$ 3,000	\$ 30										X	X

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Project Future Level of Treatment for Irrigated Pasture (Continued):

Practices	Unit	Quantity	Costs			Effects			Implementation		
			Additional Investment Cost	Annual O&M and Mngt. Cost	Water Conservation	Water Storage	Habitat	WQ	EQIP	WHP	CREP
Streambank & Shoreline Prot (580)	Ft.	6,560	\$ 157,400	\$ 15,700					X		
Tree/Shrub Establishment (612)	Ac.	30	\$ 13,500	\$ 100					X		
Upland Wildlife Management (645)	Ac.	140	\$ 2,100	\$ 700					X		
Use Exclusion (472)	Ac.	50	\$ 1,800	\$ 100					X	X	
Watering Facility (614)	No.	20	\$ 20,000	\$ 200					X		
Wetland Wildlife Management (644)	Ac.	90	\$ 1,400	\$ 500					X		
Total RMS Costs			\$ 7,288,000	\$ 311,630							

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RMS Cost Summary for Irrigated Pasture:			
Cost Items and Programs	Costs	O&M Costs	
Non Farm Bill Programs	\$ 364,400	\$ 15,600	
Potential Farm Bill Programs	\$ 6,923,600	\$296,030	
Operator O&M and Management Cost		\$ 311,630	
Annual Management Incentives (3 yrs - Incentive Payments)	\$ 555,800		
Operator Investment	\$ 1,956,400		
Federal Costshare	\$ 4,775,800		
Total RMS Farm Bill Costs	\$ 7,288,000		
Estimated Level of Participation		60%	
Total Acres in RMS System		4,242	
Anticipated Cost at Estimated Level of Participation	\$ 4,372,800		
Total Acre Feet of Water Saved Annually	4,930		
Total Annual Forage Production Benefits (animal unit months)	16,000		
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

Current Conditions	Grazed	Ungrazed	Riparian/Wetland/Potential	Total Acres
Private Rangeland and Dry Pasture	16,970		1,890	18,860
Typical Management Unit/Ownership	580			
Current Farm Bill participation	15%			

Current Level of Treatment for Grazed Rangeland, Dry Pasture and Forestland:

Practices	Unit	Quantity	Costs	Effects				Implementation
				Annual O&M and Mngt. Cost	Water Conservation	Water Storage	Habitat	
Range / Pasture (w/prescribed grazing)	Ac.	16,970	\$ -		+/-	+/-	+/-	
Fence (382)	Ft.	25,220	\$ -	\$ 900				X
Pest Management (595)	Ac.	46	\$ -	\$ 500				X
Prescribed Grazing (528)	Ac.	340	\$ -	\$ 1,700				X
Upland Wildlife Habitat Mgt (645)	Ac.	570	\$ -	\$ 2,900				X

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

Future Conditions	Rangeland / Pasture	Riparian	Total Acres
	16,970	1,890	18,860

Project Future Level of Treatment for Grazed Rangeland, Dry Pasture and Forestland:

Practices	Quantity			Costs			Effects			Implementation				
	Unit	Quantity	Investment Cost	Annual O&M and Mngt. Cost	Water Conservation	Water Storage	Habitat	WQ	+3	+3	EQIP	WHIP	WRP	CREP
Grazed Range, Pasture and Forestland	Ac.	16,970												
Brush Management (314)	Ac.	5,600	\$ 112,000	\$ 1,100							X			X
Fence (382)	Ft.	279,840	\$ 445,600	\$ 8,900							X			X
Firebreak (394)	Ft.	68,640	\$ 132,500	\$ 26,500							X			X
Pest Management (595)	Ac.	16,970	\$ 507,700	\$ 169,200							X			X
Pipeline (516)	Ft.	279,840	\$ 755,600	\$ 15,100							X			X
Pond (378)	No.	10	\$ 50,000	\$ 500							X			X
Prescribed Grazing (528)	Ac.	16,970	\$ 249,500	\$ 83,200							X			X
Range Planting (550)	Ac.	5,600	\$ 504,000	\$ 5,000							X			X
Spring Development (574)	No.	26	\$ 61,100	\$ 300							X			X
Upland Wildlife Management (645)	Ac.	1,700	\$ 17,000	\$ 5,700							X			X
Watering Facility (614)	No.	26	\$ 26,000	\$ 300							X			X
Well (642)	No.	12	\$ 36,000	\$ 400							X			X
Range & Pasture Riparian	Ac.	1,890							+3	+2	+3	+3		
Channel Bank Vegetation (322)	Ac.	190	\$ 950,000	\$ 19,000							X			X
Channel Stabilization (584)	Ft.	7,060	\$ 127,100	\$ 600							X			X
Fence (382)	Ft.	32,000	\$ 56,000	\$ 1,100							X	X	X	X

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

Project Future Level of Treatment for Grazed Rangeland, Dry Pasture and Forestland – Continued:

Practices	Quantity			Costs			Effects			Implementation			
	Unit	Quantity	Investment Cost	Annual O&M and Mngt. Cost	Water Conservation	Water Storage	Habitat	WQ	WHD	EQIP	WRP	WHP	Other
Pest Management (595)	Ac.	1,890	\$ 56,700	\$ 18,900						X			X
Pipeline (516)	Ft.	8,000	\$ 21,600	\$ 400						X			X
Prescribed Grazing (528)	Ac.	1,890	\$ 28,400	\$ 9,500						X			X
Pumping Plant (533)	No.	24	\$ 68,400	\$ 1,400						X			X
Riparian Forest Buffer (391)	Ac.	81	\$ 243,000	\$ 2,400						X			X
Riparian Herbaceous Cover (390)	Ac.	81	\$ 4,100	\$ 40						X	X	X	X
Range & Pasture Riparian (cont.)													
Streambank & Shoreline Prot (580)	Ft.	17,660	\$ 423,800	\$ 42,400						X	X		X
Tree/Shrub Establishment (612)	Ac.	41	\$ 18,500	\$ 200						X			X
Upland Wildlife Management (645)	Ac.	190	\$ 2,900	\$ 1,000						X	X		X
Use Exclusion (472)	Ac.	81	\$ 2,800	\$ 100						X	X		X
Watering Facility (614)	No.	24	\$ 24,000	\$ 200						X	X		X
Wetland Wildlife Management (644)	Ac.	190	\$ 2,900	\$ 1,000						X	X		X
Total RMS Costs					\$ 927,200	\$ 414,440							

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

RMS Cost Summary for Grazed Rangeland, Pasture and Forestland:

Cost Items and Programs	Costs	O&M Costs
Non Farm Bill Programs	\$ 246,400	\$ 20,700
Potential Farm Bill Programs	\$4,680,800	\$ 393,740
Operator O&M and Management Cost		\$ 414,440
Annual Management Incentives (3 yrs - Incentive Payments)	\$ 865,100	
Operator Investment	\$1,200,300	
Federal Costshare	\$2,861,800	
Total RMS Farm Bill Costs	\$4,927,200	
Estimated Level of Participation		35%
Total Acres in RMS System		5,900
Anticipated Cost at Estimated Level of Participation	\$ 1,724,500	
Total Annual Forage Production Benefits (acre unit months)	1,000	
Improves infiltration and storage of water in soil profile		
Improves upland wildlife habitat for deer, elk, antelope and other species		
Improves water quality by reducing erosion and sediment delivery to streams		