

Introduction

The Upper Salmon 8-Digit Hydrologic Unit Code (HUC) subbasin contains 1,550,000 acres. Ninety-five percent of the subbasin is in Custer County and five percent is in Blaine County. Ninety-five percent of the basin is publicly owned and 5 percent is privately owned.

Fifty-three percent of the basin is in forest, water, wetlands, developed or barren. Nearly 46 percent of the basin is in shrub, rangeland, grass, pasture or hayland. Less than 1 percent is cropland.

Elevations range from 11,720 feet in the southwest portion of the HUC to 4,635 feet at the basin outlet on the northeast.

Conservation assistance is provided by 2 Soil and Water Conservation Districts and 2 Resource Conservation and Development offices.

Profile Contents

[Introduction](#)

[Physical Description](#)

[Landuse Map & Precipitation Map](#)

[Common Resource Area](#)

[Resource Settings](#)

[Progress/Status](#)

[Resource Concerns](#)

[Census and Social Data](#)

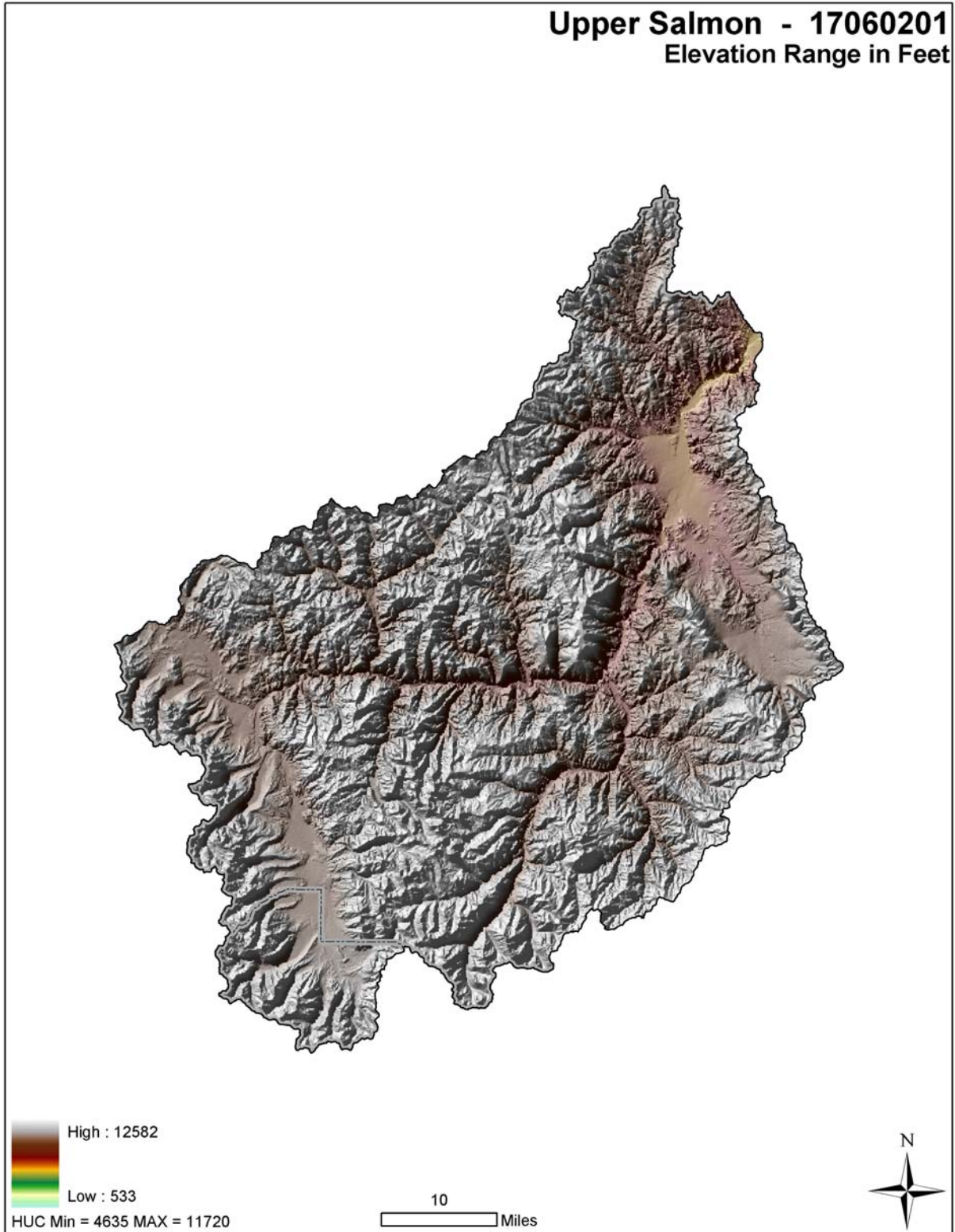
[Footnotes/Bibliography](#)

[Future Conservation Needs](#)

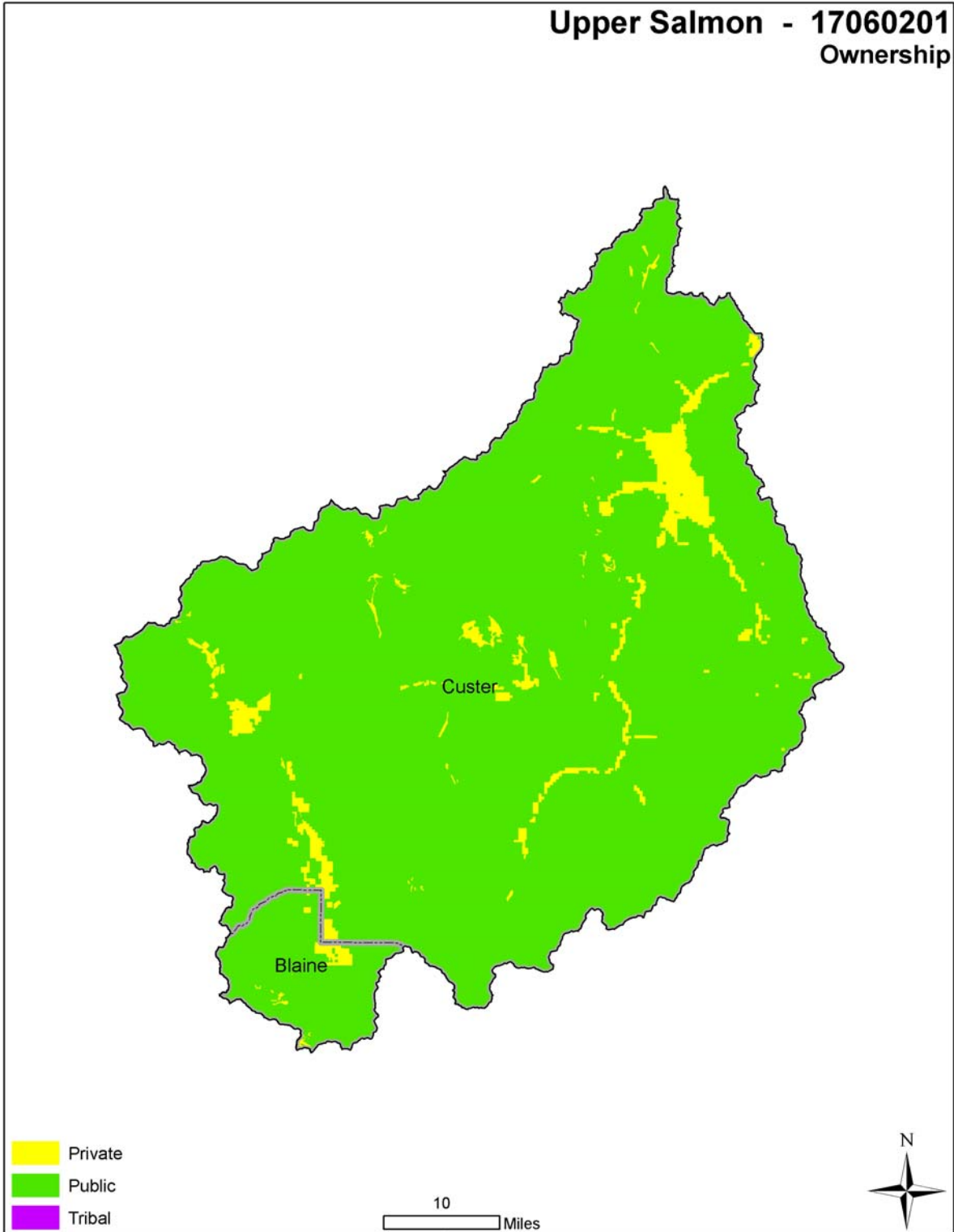
The United States Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, sex, religion, age, disability, political beliefs, sexual orientation, and marital or family status. (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at 202-720-2600 (voice and TDD).

To file a complaint of discrimination, write USDA, Director, Office of Civil Rights, Room 326W, Whitten Building, 14th and Independence Avenue, SW, Washington DC 20250-9410 or call (202) 720-5964 (voice and TDD). USDA is an equal opportunity provider and employer.

Relief Map



General Ownership¹





Idaho

Upper Salmon - 17060201
8 Digit Hydrologic Unit Profile

January 2008

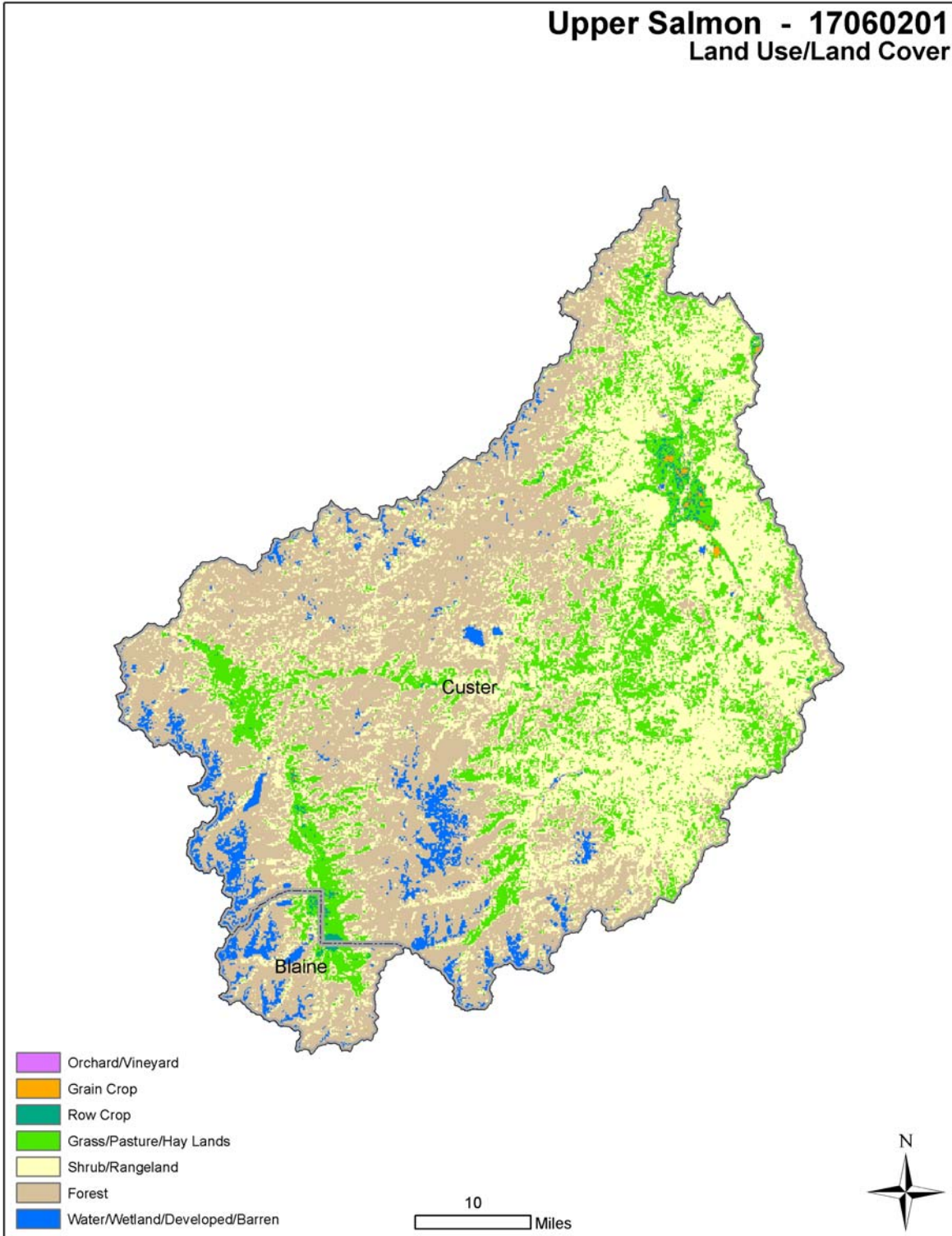
Physical Description

Land Cover/ Land Use (NLCD ²)	Ownership - (2003 Draft BLM Surface Map Set ¹)							Totals	% of HUC
	Public		Private		Tribal				
	Acres	%	Acres	%		%			
Forest	669,800	43	4,800	<1	0	--	674,600	43	
Grain Crops	--	--	3,800	<1	0	--	3,800	<1	
Conservation Reserve ³ Program (CRP) Land	--	--	0	--	0	--	0	--	
Grass/Pasture/Hay Lands	207,900	13	37,300	2	0	--	245,200	16	
Orchards/Vineyards/Berries	--	--	0	--	0	--	0	--	
Row Crops	--	--	1,800	<1	0	--	1,800	<1	
Shrub/Rangelands	446,200	29	15,400	1	0	--	461,600	30	
Water/Wetlands/ Developed/Barren	155,000	10	8,300	1	0	--	163,300	11	
Idaho HUC Totals	1,478,600	95	71,400	5	0	0	1,550,000	100	
Irrigated Lands⁴	Type of Land		ACRES		% of Irrigated Lands		% of HUC		
	Cultivated Cropland		5,500		18		<1		
	Non-Cultivated Cropland *		11,100		35		<1		
	Pastureland		14,800		47		1		
	Total Irrigated Lands		31,400		100		2		

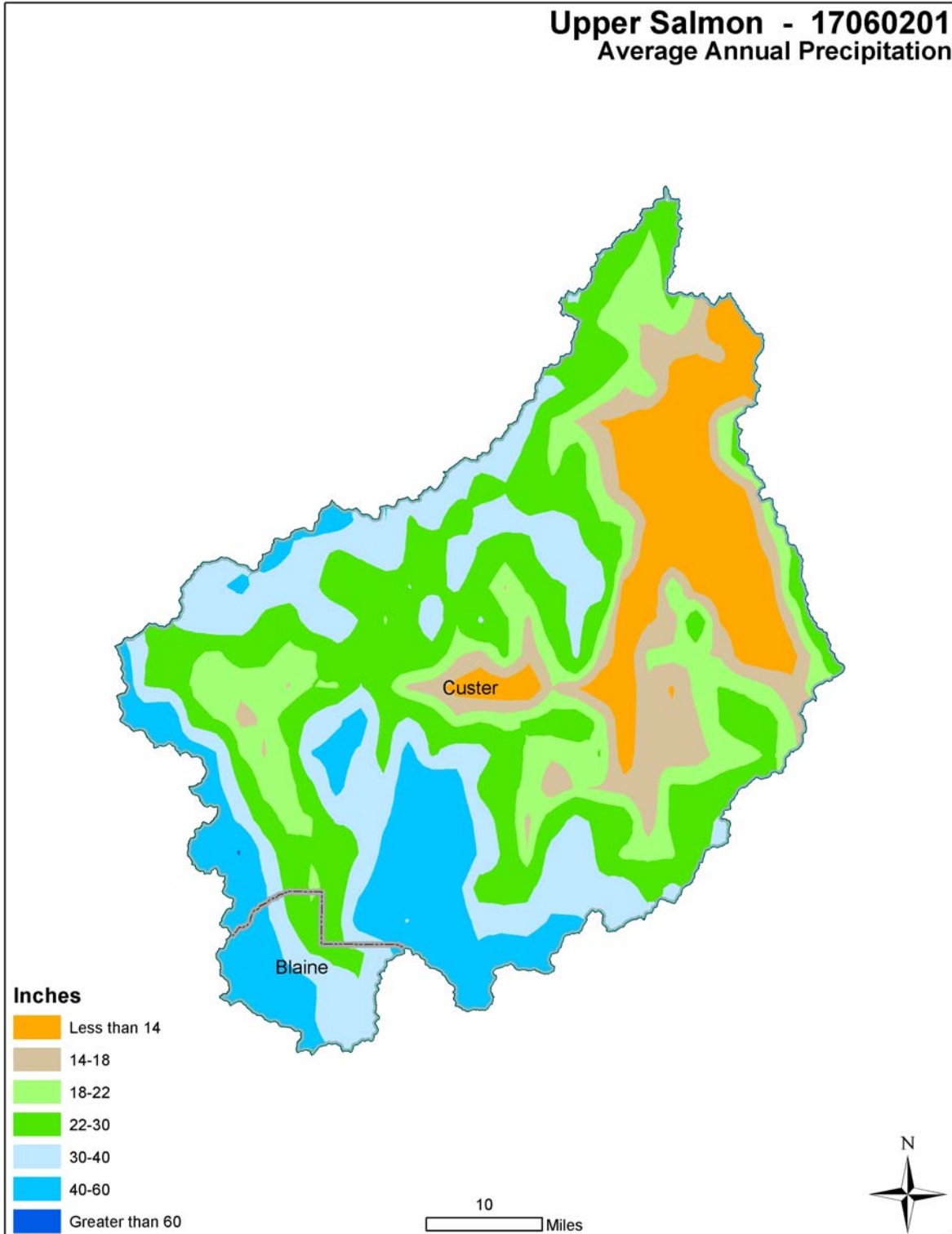
* Includes permanent hayland and horticultural cropland.

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 do balance between the Land Use and Land Cover acres.

Land Use/Land Cover²

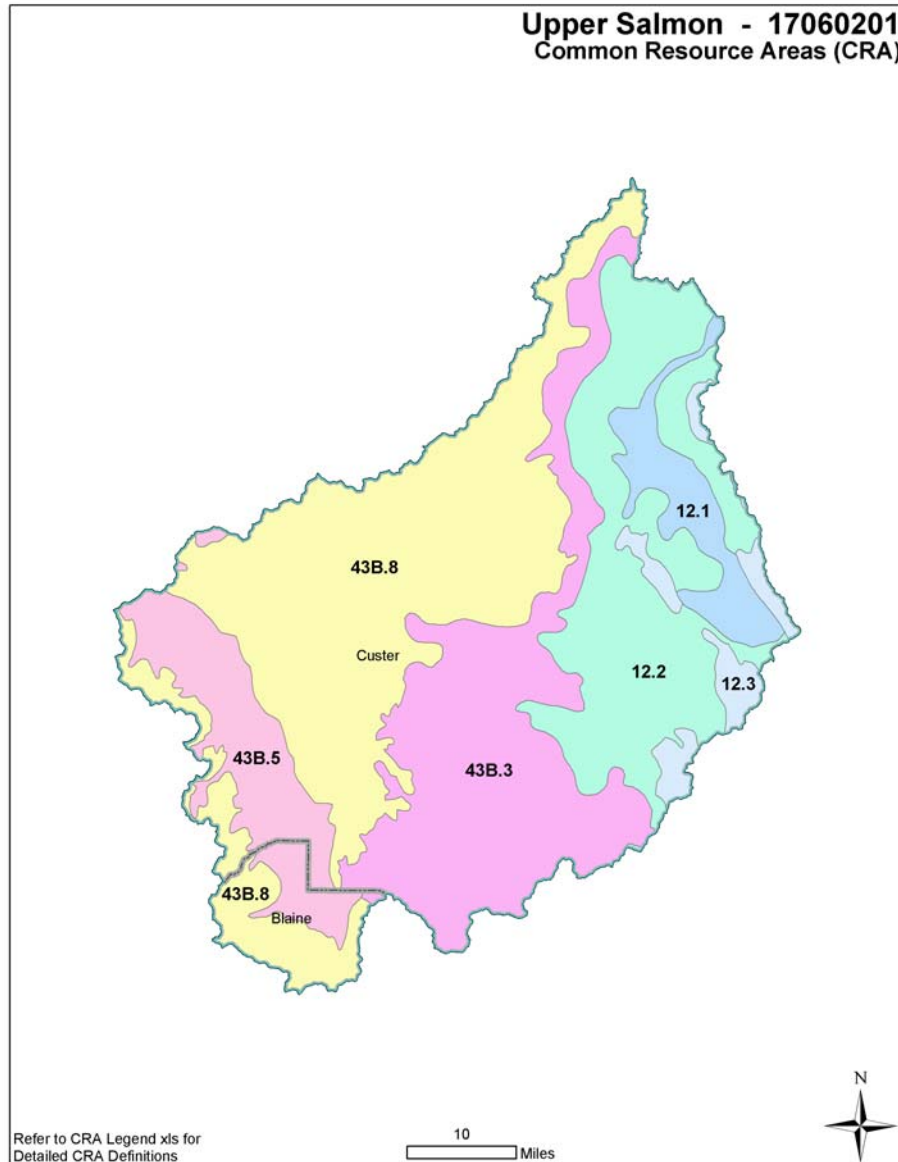


Average Annual Precipitation¹⁵



Common Resource Area Map

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



Common Resource Area Descriptions

The National Coordinated CRA Geographic Database provides:

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

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.

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.

43B.3 Central Rocky Mountains - Dry, Partly Wooded Mountains: The Dry, Partly Wooded Mountains ecoregion is largely underlain by sedimentary and extrusive rocks; granitics are less common than in other parts of the Idaho Batholith. This region is in the rain shadow of high mountains. A mosaic of shrubland, open Douglas-fir forest, and aspen occurs. Mining has affected water quality.

43B.5 Central Rocky Mountains--High Glacial Drift-Filled Valleys: The High Glacial Drift-Filled Valleys ecoregion contains terraces, outwash plains, moraines, wetlands, and hills that are much less rugged and less forested than the Southern Forested Mountains. Originally, sedges and rushes were common on wet soils, bunchgrasses and mountain big sagebrush occurred on drier soils, and lodgepole pine and ponderosa pine grew on valley floors. Winters are cold and snowy. It receives large amounts of spring runoff from mountain snow pack. It is summer pasture for large numbers of livestock; cropland and growing residential and recreational developments also occur. Flood irrigation and grazing have raised sediment and phosphorus levels in streams.

Common Resource Area Descriptions - continued

43B.8 Central Rocky Mountains - Southern Forested Mountains: The Southern Forested Mountains ecoregion is mantled by droughty soils derived from granitic rocks and is only marginally affected by maritime influence. Open Douglas-fir is common, grand fir and subalpine fir occur at higher elevations, and ponderosa pine grows in canyons. Mountain sagebrush and forest are found in the south. Streams are subject to high sediment loading when soils are disturbed.

Snow and Climate Measuring Stations

There are seven snow and climatic measuring stations (Snow Survey Data Network operated and maintained by the USDA NRCS) in or adjacent to the Upper Salmon watershed. Five of these stations are automated and part of the SNOTEL (SNOW TELEmetry) Network (Mill Creek, Vienna Mine, Galena Summit, Morgan Creek, and Banner Summit). These SNOTEL stations report hourly climatic data including snow water equivalent, precipitation and air temperature while some stations also report snow depth, soil moisture and soil temperature. Two stations are snow courses with permanently marked sample points where snow depth and snow water equivalent are manually measured monthly in the winter; Bruno Creek and Morse Creek Sawmill. The only long-term National Weather Service station in the subbasin is at the Stanley Ranger Station.

Streamflow Summary⁷

The Upper Salmon watershed is upstream of the confluence of the Pahsimeroi River and contains the headwaters of the main stem of the Salmon River as well as the East Fork Salmon River, Yankee Fork and a number of smaller tributaries. The entire length of the Salmon River remains one of the last free-flowing rivers in the west, but this was not always the case. Sunbeam Dam, located a few miles north of Stanley in the Upper Salmon subbasin, was completed in 1910 to provide power to mining operations, but was later dynamited in 1934 after the mine failed.

The downstream end of the watershed lacks a streamflow station. The only long-term USGS gaging station on the Salmon River within the subbasin is located 63 miles upstream from the watershed outlet (Station 13296500, Salmon River below Yankee Fork near Clayton, ID). This gage measures runoff from 33% (802 square miles) of the subbasin total drainage area; the average annual runoff is 707,100 acre-feet. Diversions above this station irrigate about 10,500 acres. The next gage downstream is located 108 miles from the Yankee Fork gage and 45 miles from the Upper Salmon watershed outlet (Station 13302500, Salmon River at Salmon, ID). The mean annual runoff at the Salmon, ID station is nearly twice that of the Yankee Fork station at 1,392,000 acre-feet. The April through July runoff accounts for 68% of the annual total for the Yankee Fork station and 60% of the annual total for the Salmon River at Salmon station.

Four tributaries with long-term streamflow records enter the Upper Salmon River (Station 13295000, Valley Creek at Stanley, ID; Station 13297330, Thompson Creek near Clayton, ID; Station 13297350, Bruno Creek near Clayton, ID; Station 13297355, Squaw Creek below Bruno Creek near Clayton, ID). These four tributaries contribute an average of over 186,000 acre-feet to the Salmon River. Diversions above the Valley Creek station irrigate about 3,000 acres.

Streamflow Summary ⁷ – continued

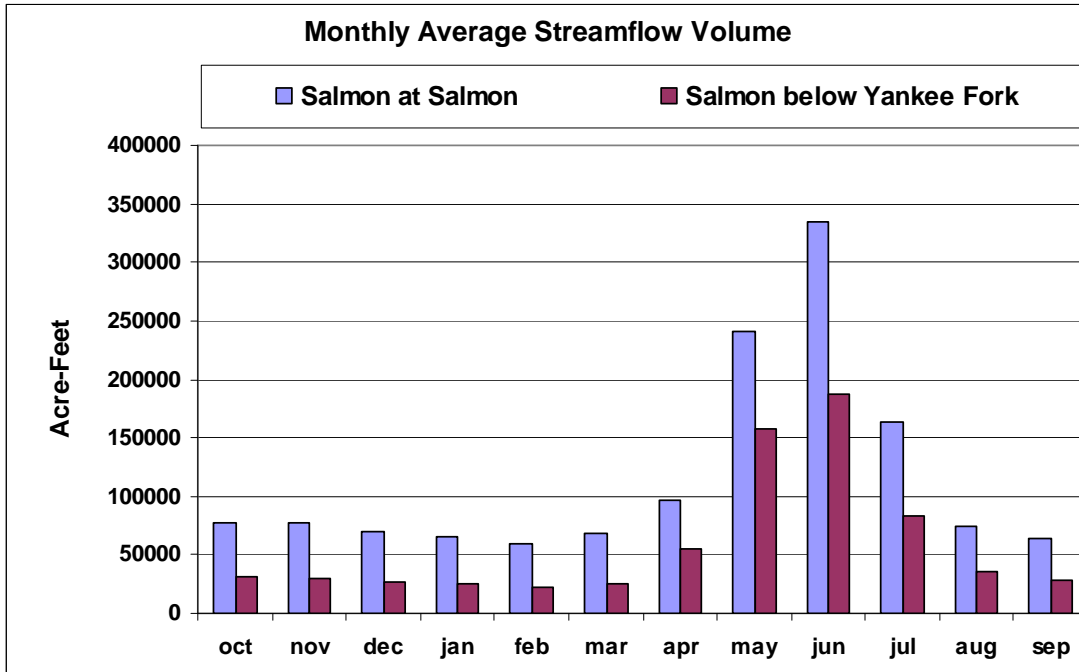


Figure 1: Average Annual Streamflow at Stations on the Upper Salmon River

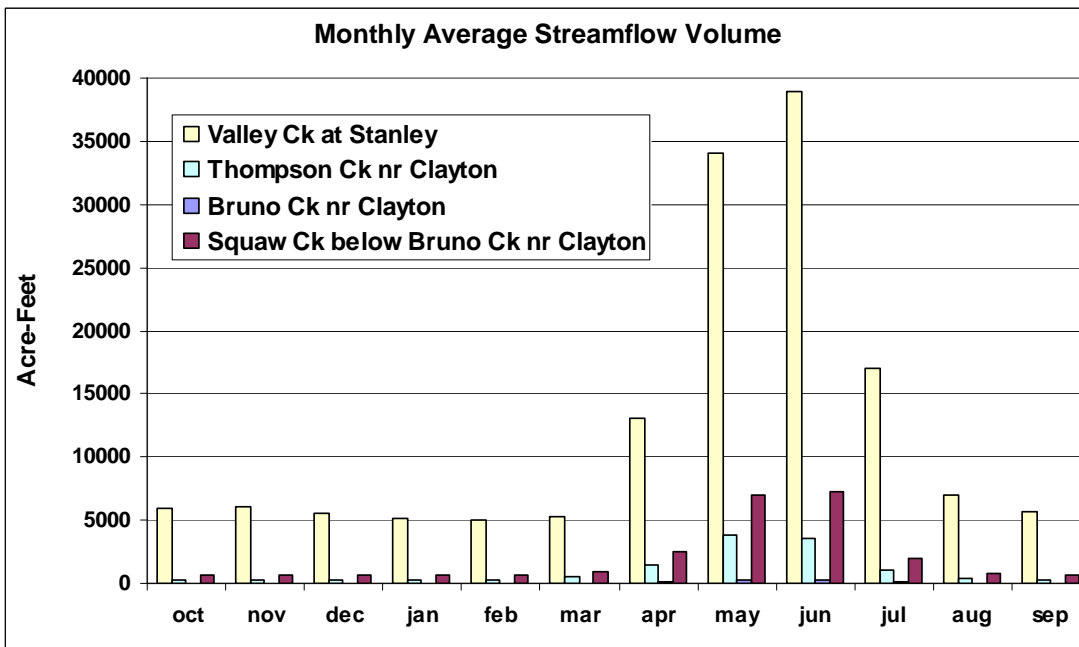


Figure 2: Average Annual Streamflow on four tributaries to the Upper Salmon River.



Idaho

Upper Salmon - 17060201
8 Digit Hydrologic Unit Profile

January 2008

		CFS	
Irrigated Adjudicated Water Rights ^{/6)}	Surface Water	1,448	
	Groundwater	34	
	Total Irrigated Adjudicated Water Rights	1,482	
Stream Flow Data ^{/7}	USGS 13296500 Salmon River below Yankee Fork near Clayton, ID; years 1921-1991, 2000-present	Average Annual	707,100
		April - July Average	482,800
		Percent of Average Annual	68%
Stream Data <i>*Percent of Total Miles of streams in HUC</i>	Total Stream Miles ^{/8}	5,955	--
	Water quality impaired streams ^{/9,10}	663	11
	Anadromous Fish Presence (Streamnet) ^{/11}	1,355	23
	Bull Trout Presence (Streamnet) ^{/11}	1,031	17
Land Cover/Use ^{/2} based on a 100 ft. stretch on both sides of all streams in the 100K Hydro Layer			ACRES
	Forest	80,300	38
	Grain Crops	760	<1
	Grass/Pasture/Hay Lands	39,120	19
	Row Crops	460	<1
	Shrub/Rangelands – Includes CRP Lands	71,200	34
	Water/Wetlands/Developed/Barren	19,450	9
	Total Acres of 100 ft stream buffers	211,290	100
Land Capability Class ^{/4}	I – slight limitations	0	0
	II – moderate limitations	0	0
	III – severe limitations	9,100	24
	IV – very severe limitations	11,600	31
	V – no erosion hazard, but other limitations	4,300	11
	VI – severe limitations, unsuited for cultivation, limited to pasture, range, forest	12,800	34
	VII – very severe limitations, unsuited for cultivation, limited to grazing, forest, wildlife	0	0
	VIII – misc areas have limitations, limited to recreation, wildlife, and water supply	0	0
	Total Crop & Pasture Lands	37,800	100



Upper Salmon - 17060201

Idaho

8 Digit Hydrologic Unit Profile

January 2008

Confined Animal Feeding Operations – Dairies/Feedlots ^{/12,13,26}						
	Number	<200	200-500	500-750	750-1000	>1000
Dairy	0	-	-	-	-	-
	Number	<300	300-999	1,000-4,999	5,000-9,000	>10,000
Feedlots	7	7	-	-	-	-

Resource Settings

General

Agricultural lands in this watershed occur in four distinct areas with significant differences in land use and management between them. The high elevation Stanley Basin is where most of the pastureland private forest acres occur, with about 85 percent of the area surface irrigated. Irrigation systems in this area need to be improved, however the basin is within Sawtooth National Recreation Area and improvements such as pipelines and conversion to sprinkler systems are not allowed. Additionally, the growing season is very short and the area lacks the power infrastructure to support conversion of irrigation methods. Because of this, little change or participation is forecasted for this area.

The East Fork Salmon River drainage is predominantly surface irrigated hayland. Again, the area lacks the power infrastructure to support conversion of irrigation methods.

The Round Valley area surrounding the town of Challis is also predominantly hayland with about 5 percent of the irrigated lands considered true "cropland". The crop and haylands in this area are over 85 percent sprinkler irrigated, and the pasture acres are about 50 percent sprinkler irrigated. Most of the acres that can be converted to sprinkler irrigation already have been. Potential to convert additional surface-irrigated acres to more efficient sprinkler systems is very low due to access, location, field size and shape and power.

Riparian corridors connect the above three different areas. The riparian corridors are typically managed for hay production in smaller fields than hayland in the other areas. These fields are about 90 percent sprinkler irrigated.

Hayland

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 typically occurs. Precipitation is 16 inches or less per year with a growing season ranging from 100 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 and wildlife habitat typically does not meet Idaho standards.

Irrigated Cropland

A small amount of conventionally tilled, surface and sprinkler irrigated cropland planted predominantly to row crops. Crops grown include potatoes, spring wheat and barley and grass seed, spring oats and clover seed. Alfalfa may be included in the rotation and is typically

Resource Settings – Continued

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 16 inches or less and the growing season is approximately 90-120 days except in the Stanley basin above 6,000 feet elevation where the precipitation is 22-30 inches and the growing season is 50-100 days. There is little or no cropland in the Stanley Basin area. Typical soils are sandy loam or finer with slopes from zero to four percent.

Pasture

Scattered minor fields of improved dryland pasture with introduced forage species including wheatgrasses, fescues, bromes, orchard grass, sanfoin, clover and alfalfa. 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 and/or poorly managed.

The majority of the irrigated pastureland in the watershed is in high elevation mountain valleys with annual precipitation of 16-30 inches, and growing season of 50-100 days, predominantly in the Stanley Basin area. Soils vary from silt loams to gravelly sands, with slopes from 1 to 5 percent. Irrigation water is diverted from streams and distributed by earthen ditches. In the field, water is controlled and directed by ditch tarps on contour ditches and tailwater returns to perennial streams. Some fields have been leveled, smoothed or shaped to allow for irrigation. Plants are a mixture of introduced and native perennial forage species. Conventional tillage is used when rotating pasture and grain. The average rotation is ten years of pasture and two years of small grain. Commercial fertilizers are occasionally used, animal waste is applied irregularly and soil testing is rarely done.

Non-irrigated riparian pastures of native grass, sedge and rush species mixed with introduced timothy, smooth brome grass, creeping meadow foxtail, orchard grass and clover forage species. Annual precipitation is 20 inches or less with a growing season of 120-185 days. Soils are variable in texture on slopes of 0 to 2 percent. Nutrients are occasionally applied.

Rangeland

Mid elevation desert to high elevation, steep rangeland. Mid-elevation rangeland has precipitation ranging from 14-18 inches. This range consists of sagebrush and perennial bunchgrasses with variable soils on nearly level flats to benches and rolling hills. Land is utilized by antelope, deer, elk and livestock in winter and early spring. Areas are important sage grouse habitat. High elevation range has precipitation greater than 18 inches, on steep slopes and high mountain valleys. Private range lands in this HUC typically occupy steep, dry hillsides that are incidental to other land uses or odd areas that are isolated and not utilized. Most grazing operations use Forest Service permitted pastures spring to fall with crop/hay aftermath grazing in late fall and winter feeding. Access to riparian areas on all rangeland types is not typically managed, and temperature, nutrients, and sediment may be an associated water quality concern. Riparian grazing units typically exhibit impacts to riparian vegetation and a loss of woody species. Riparian vegetation consists of grasses, sedges, rushes and a variety of woody species. These areas are important habitat for a variety of fish and wildlife. Soils vary from gravelly to loamy. Elevation and precipitation vary widely throughout the area.

Resource Settings – Continued

Forests and Grazed Forests

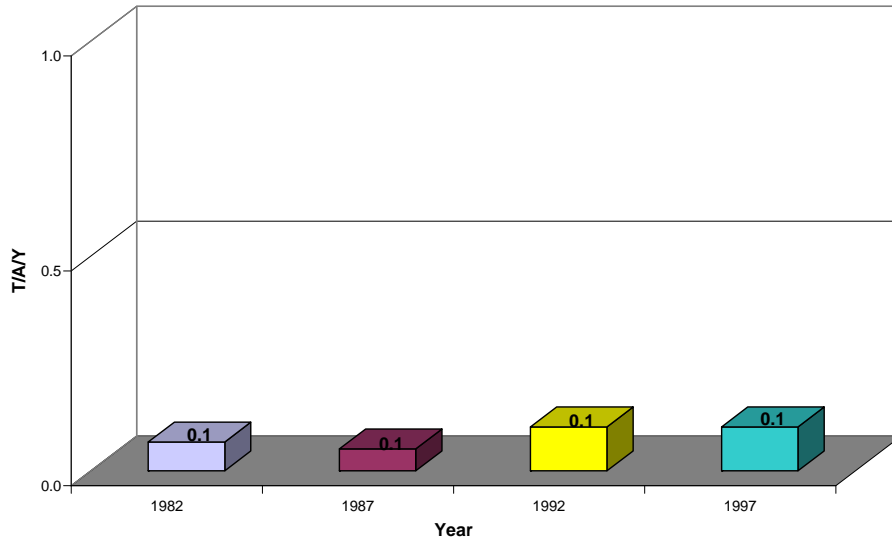
The riparian forest consists of mixed conifers and deciduous trees. The associated understory is comprised of grasses and brush species with inclusions of wetter areas. Soils are silt loams and clay loams that are shallow to deep, and can have low to high rock fragment content. They range from somewhat poorly to well-drained. Average annual precipitation ranges from 18 to 35 inches. The forest landscape is characterized by level to nearly level landforms. 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.

Ponderosa pine and dryer Douglas fir habitat types are found at elevation ranges from 4,800 to 8,000 feet on a variety of soil types. Annual precipitation is less than 25 inches with hot, dry summers. Slopes are less than 35 percent. The forest understory is dominated by ninebark/oceanspray and associated brush species. Grass and forb species are common. Livestock grazing occurs during the summer and early fall period, and overgrazing is common. Important wildlife species include elk, deer, moose, bear, raptors and songbirds.

Douglas fir, Grand fir, and wetter habitat types are found at elevations greater than 6,000 feet on a variety of soil types. Slopes are less than 35 percent. Annual precipitation is greater than 25 inches, most of which falls in the winter and spring. Summers are warm and relatively dry. The forest understory is dominated by forbs and scattered grass species, with associated brush species such as snowberry, willow and alder. Livestock grazing occurs during the mid-summer and early fall period, and overgrazing is common. Livestock tend to concentrate along the road corridors and riparian areas. Important wildlife species include elk, deer, moose, bear, raptors and songbirds.

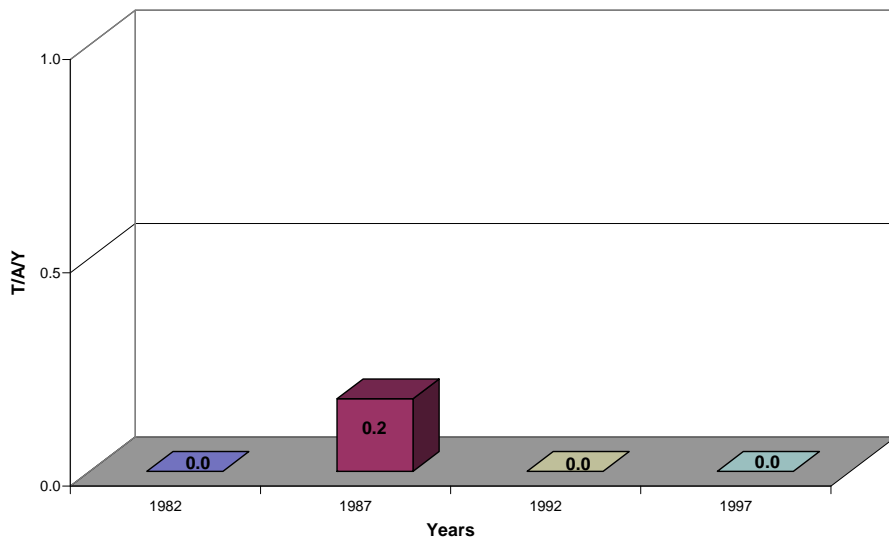
Resource Concerns

**Soil Loss by Water Erosion
for Cropland, Pasture & CRP
Upper Salmon**



Sheet and rill erosion by water on the sub basin croplands, pasturelands and CRP 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.

**Soil Loss by Wind Erosion
for Cropland, Pasture and CRP
Upper Salmon**



Wind erosion is not a significant issue in the Upper Salmon Watershed because of a moist climate during seasons of potential wind erosion and large acreages of non-cultivated crops that reduce the hazard of wind erosion.

Resource Concerns – Continued

Impacted Water Bodies ^{9,10} (ID17060201)	Stream Miles	Sediment, Siltation or TSS	Nutrients	Bacteria	Temperature	Dissolved Oxygen	Flow Alteration ¹	Other or Unknown
Aspen Creek (SL024_04,02,03)	60.2				x			
Big Lake Creek (SL104_03)	2.3							x
Broken Wagon Creek (SL133_03,02)	47.9	x	x					
Bruno Creek (SL026_02)	8.8							x
Challis Creek (SL009_03;SL007_04)	8.4	x					x ¹	
Challis Creek (SL009_04)	1.5	x	x					
Corral Basin Creek (SL127_03)	1.6							x
East Fork Salmon River (SL110_04,SL103_02)	64.4							x
Garden Creek (SL015_02)	45.1						x ¹	x ¹
Garden Creek (SL015_03,04)	12.7	x ²	x ²					
Kinnikinic Creek (SL020_02)	18.5							x ²
Meadow Creek (SL056_02)	4.4							x
Mosquito Creek (SL126_02)	12.4							x
Road Creek (SL124_04,02)	36.7						x ¹	
Road Creek (SL125_03)	2.9							x
Salmon River (SL073_05, SL072_05)	13.5	x ²						
Salmon River (SL001_02)	94.7			x				x
Salmon River (SL063_05)	5.4	x			x			
Salmon River (SL027_05,SL047_05)	17.0	x ²			x			
Slate Creek (SL099_02)	37.1							x
Squaw Creek (SL021_04)	7.8				x ²			
Squaw Creek (SL023_04)	0.5				x			
Thompson Creek (SL028_03)	8.9	x ²						
Valley Creek (SL051_02)	30.0							x
Warm Springs Creek (SL131_04,SL132_04)	11.4	x ²	x ²					
Warm Springs (SL132_02,SL132_03)	109.7	x	x					
Yankee Fork Creek (SL034_04)	7.1	x ²						x ¹
TOTAL STREAM MILES:	663.1							

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

² TMDL recommends delisting, or BMPs in place that will address impairment

Shading indicates TMDL in place.

Water quality, native fish populations, and riparian habitat conditions have been impacted by human activities in the Upper Salmon River watershed. The cumulative effects of mining, grazing, over-utilization of riparian areas, timber harvest and associated roads, exotic species, residential and recreational development, and human-caused stream alteration and diversion both within the subbasin and downstream on the Snake and Columbia Rivers have combined to impair water quality and limit the production and survival of native resident and anadromous fishes throughout the subbasin.

Resource Concerns – Continued

The waters of the Upper Salmon have been identified as an essential component for anadromous fish and for bull trout restoration in Idaho. There are a number of restoration projects that have been completed, are under construction, or are planned to offset historic management and land use and improve habitat. These projects should help meet the instream sediment targets (28% fines) set for spawning habitat.

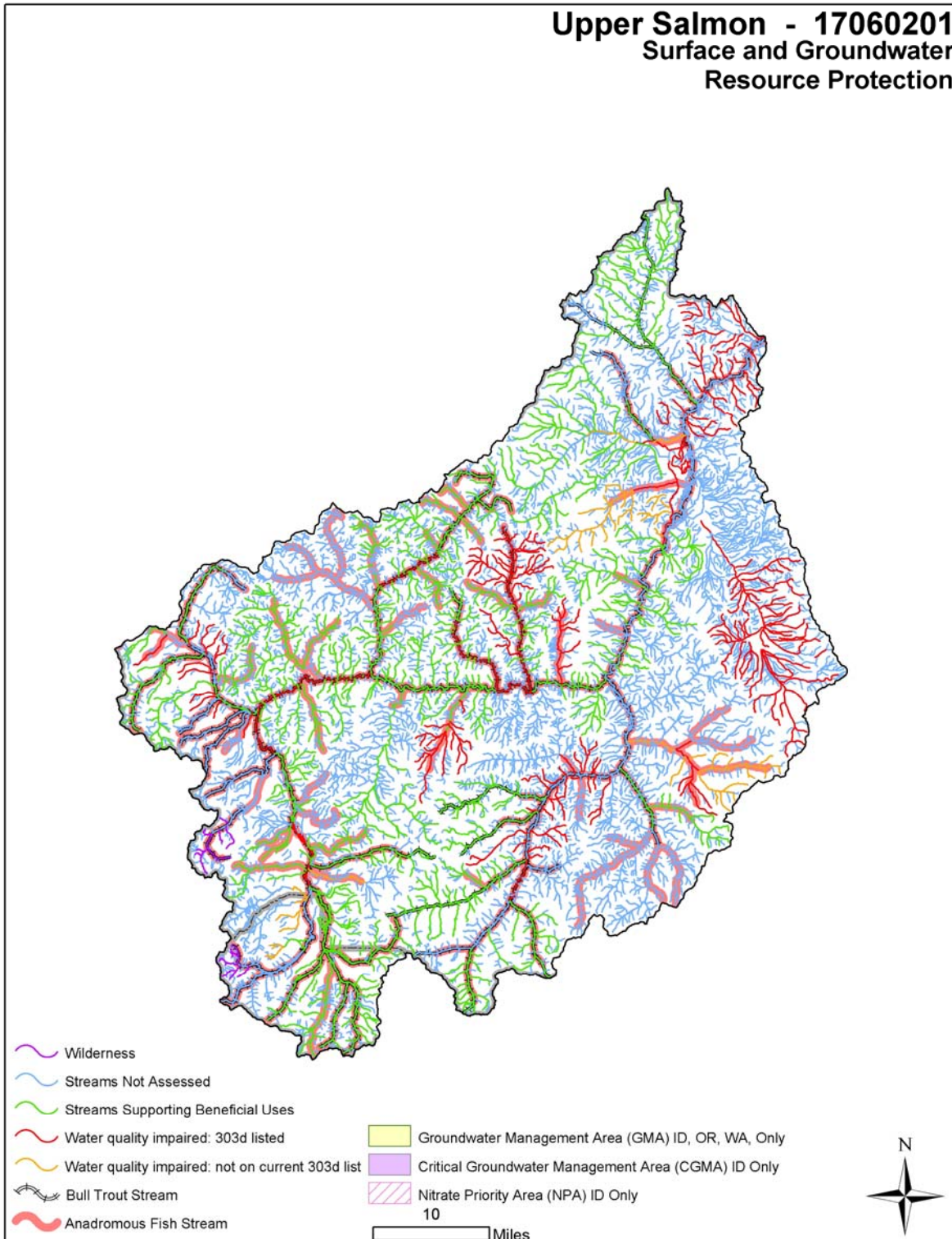
Agricultural landuse contributes to water quality impairment. Livestock grazing (sheep, cattle and horses) is widespread throughout the subbasin. Dewatering streams for hay and pasture irrigation has impacted water quality and anadromous fish populations in areas of the watershed. Beneficial uses will not be restored in streams where dewatering from surface water diversion occurs during significant periods of the year. The potential exists, however, for voluntary and cooperative management agreements that improve flow conditions without negatively impacting the rural economy of the subbasin. A Water Transactions Program to address streams that are impacted by flow alteration from irrigation diversions is ongoing in the watershed.

Conservation practices that can be used to address these water quality issues include erosion control, grazing management, irrigation water management, pest and nutrient 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	Upper Salmon Subbasin Assessment and TMDL (2003)
	IDEQ 319 Projects ^{/17}
	Implementation of Nonpoint Source Controls (BMPs) to achieve Riparian Restoration on the East Fork of the Salmon River Watershed (2002)
	East Fork Salmon/Lake Creek Demonstration (2003)
NWPC Subbasin Plans and Assessments ^{/18}	SCC Plans/Projects ^{/19}
Salmon Subbasin Assessment (2004)	Upper Salmon Basin Ag Implementation Plan (in progress)
Salmon Subbasin Management Plan (2004)	Model Watershed Plan: Lemhi, Pahsimeroi, and East Fork Salmon River (1995)
	ISDA Regional Water Quality Projects ^{/20}
	None
	IDWR Comprehensive Basin Plans ^{/21}
	Upper Salmon Water Transactions Program (on-going)
	Instream flow characterization of upper Salmon River streams (USGS study in support of water transactions)(ongoing)

* 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	Sprinkler Irrigated Crops	Rangeland	Grazed and Ungrazed Forest
Soil Erosion	Sheet and rill			X		
	Ephemeral or classic gully			X		
	Irrigation-induced			X		
	Wind					
	Streambank	X			X	X
	Road					X
Water Quantity	Inefficient use on irrigated lands	X	X	X		
	Aquifer Overdraft			X		
Water Quality, Surface	Suspended sediment	X	X	X	X	X
	Nutrients and organics	X	X	X	X	
	Temperature	X			X	X
	Pathogens	X				
Water Quality, Ground	Nutrients and organics		X	X		
	Pesticides		X	X		
Soil Condition	Organic matter depletion			X		
	Compaction	X		X		X
Plant Condition	Productivity, health and vigor	X	X		X	X
	Noxious and invasive plants	X	X		X	X
	Wildfire hazard				X	X
	Not adapted or suited	X	X		X	X
	Plant pests					X
Domestic Animals	Inadequate feed or water	X			X	
Fish and Wildlife	Inadequate water	X	X	X		
	Inadequate cover/shelter	X	X	X	X	X
	Habitat fragmentation				X	
	Declining Species	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.



Idaho

Upper Salmon - 17060201
8 Digit Hydrologic Unit Profile

January 2008

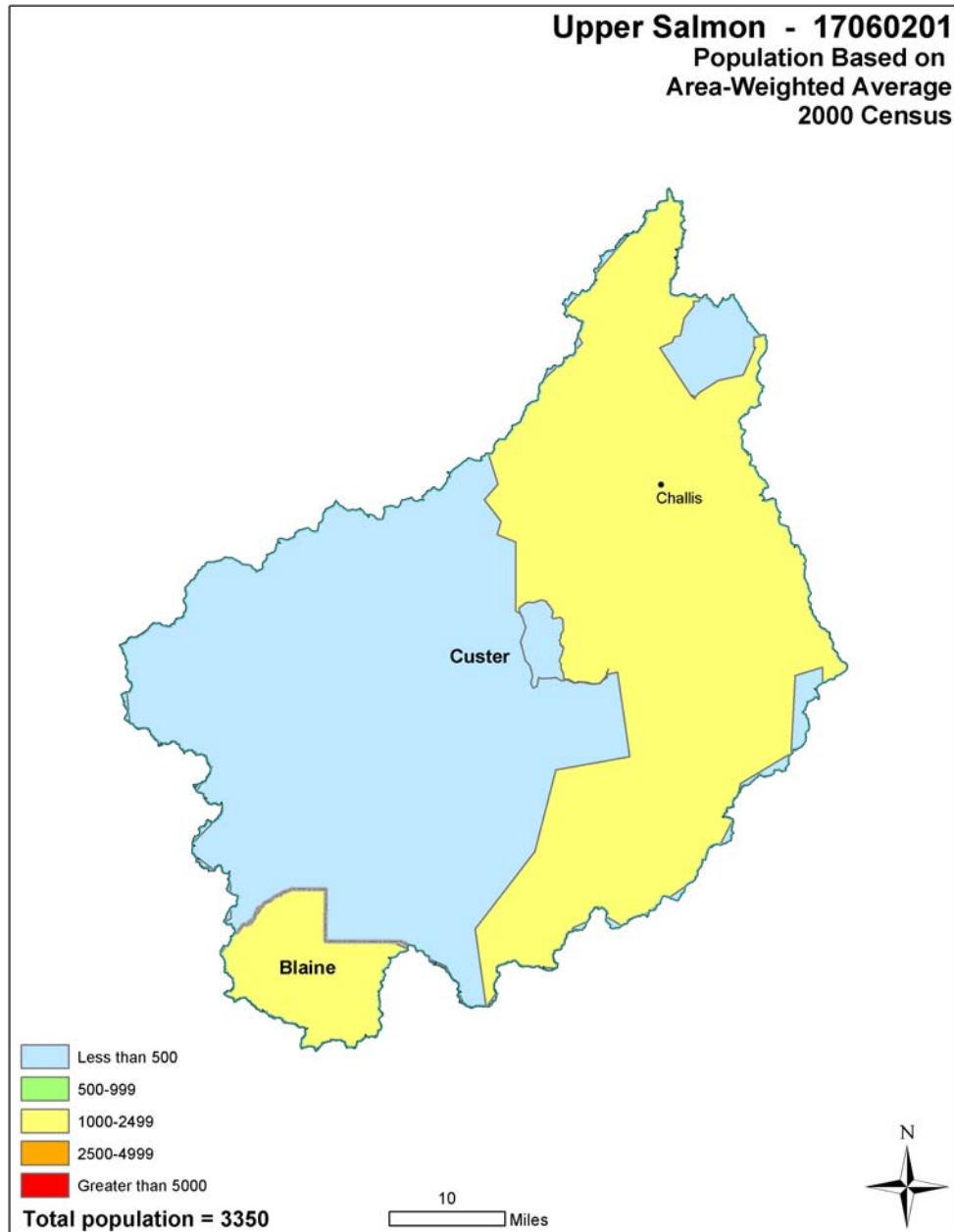
Resource Concerns – Continued

FEDERALLY LISTED THREATENED AND ENDANGERED SPECIES^{/25}	
Threatened and Endangered Species	Candidate Species
Mammals – Gray Wolf, Lynx Birds – None Fish – Steelhead trout, Bull trout Invertebrates – None Plants – None	Plants – None
	PROPOSED SPECIES - None
ESSENTIAL FISH HABITAT – 1,355 miles	CRITICAL FISH HABITAT – 1,031 miles

Census and Social Data [/26](#)

Population: 3,350

Number of Farms: 280





Census and Social Data - continued

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

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.

Sixty-one 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 13.0 percent of the total. Ninety-seven percent of all operators are white. Non-white operators are of Hispanic or American Indian background.

Farm size ranges from less than 10 acres to more than 1,000 acres with an average of 480 acres. Agricultural land in the watershed is a mix of cropland, range, pasture and hay land. Land users in the watershed utilize EQIP, CRP and other programs to implement conservation plans.

For the period of 1997 through 2002, farm size is down 2.1 percent. The market value of production is also down, decreasing by 19.2 percent. Government payments to farmers are up 53.7 percent. Farm sales range from less than \$1,000 to more than \$500,000 per year. Eight-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	300	480	\$56,460	\$3,890
2002	280	470	\$45,600	\$5,980
Change	- 6.7%	- 2.1%	- 19.2%	53.7%

Economic Profile:

	Watershed	Idaho	United States
Population (2006)	3,350	1,466,500	299,398,500
Per Capita Personal Income (2005)	\$24,000	\$28,500	\$34,500
Median Home Value (2000)	\$94,900	\$106,600	\$119,600
Percent Unemployment (2006)	4.1%	3.4%	4.6%
Percent Below Poverty Level (2004)	10.7%	11.5%	12.7%



Progress/Status

The following tables include conservation activities that have been cost-shared under federal and state funded programs and applied and reported in agency databases or reporting systems. Individual conservation efforts applied without cost-share assistance are not reflected. The Future Needs Tables included at the end of this report are based on the conservation activities shown here as well as estimates of percentage of each land use that already meets Resource Quality Criteria as defined in the USDA NRCS electronic Field Office Technical Guide.

PRS Data						
Conservation Treatment Acres	FY04	FY05	FY06	FY07	Avg/Year	Total
Conservation Cover (327) (acres)	0	10	0	0	2.5	10
Upland Wildlife Habitat (645) (acres)	0	10	0	0	2.5	10
Fence (382) (ft)	0	4,832	0	0	1,208	4,832
Pipeline (516) (ft)	218	0	0	580	200	798
Watering Facility (614) (no.)	2	0	0	4	1.5	6
Wetland Wildlife Habitat Management (644)(acres)	0	12	0	0	3.0	12
Water Well (642) (no.)	1		0	0	0.3	1
Waste Storage Facility (313) (no.)	0	1	0	0	0.3	1

Activities reported by others	FY04-06
Riparian Fencing (ft)	13,450
Irrigation water diversion (Structure for Water Control) (no.)	2
Fish Screen (Structure for Water Control) (no.)	1

Progress in the last three years has been focused on:

- ~ grazing management
- ~ pest management
- ~ livestock water availability

Resource concerns that require ongoing attention:

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

Lands Removed from Production through Farm Bill Programs

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

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://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.
10. IDEQ. 2004. Upper Salmon River Subbasin Assessment and TMDL.
http://www.deq.idaho.gov/water/data_reports/surface_water/tmdls/salmon_river_upper/salmon_river_upper.cfm

11. StreamNet is a cooperative venture of the Pacific Northwest's fish and wildlife agencies and tribes and is administered by the [Pacific States Marine Fisheries Commission](#). Streamnet provided data and data services in support of the region's Fish and Wildlife Program and other efforts to manage and restore the region's aquatic resources. Official Streamnet website: <http://www.streamnet.org/>
12. (Dairy) Idaho Department of Water Resources: http://www.idwr.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_Plng.html#Watershed%20Surveys%20and%20OPlan
16. Idaho Department of Environmental Quality (IDEQ), Surface Water Quality: Subbasin Assessments, TMDLs, and Implementation Plans. http://www.deq.state.id.us/water/data_reports/surface_water/tmdls/sba_tmdl_master_list.cfm
17. Idaho Department of Environmental Quality, Watershed protection: Nonpoint source management (319 grant), Reports and program resources. http://www.deq.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
22. IDEQ. 2002 Integrated Report (approved December 2005). 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
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



Idaho

Upper Salmon - 17060201
8 Digit Hydrologic Unit Profile

January 2008

Conservation Activities and Future Conservation Needs

The following Future Conditions Tables are estimates of the future needs of conservation practices in the watershed. The Tables are based on the already applied conservation activities as well as estimates of percentage of each land use that already meets Resource Quality Criteria as defined in the USDA NRCS electronic Field Office Technical Guide.

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.



Idaho

Upper Salmon - 17060201
8 Digit Hydrologic Unit Profile

January 2008

Conservation Activities for Irrigated Cropland/Hayland

Current Conditions		Total acres
Total Irrigated Cropland/Hayland		16,700
Typical Management Unit/Ownership		320
Surface Irrigated Cropland/Hayland		4,175
Sprinkler Irrigated Cropland/Hayland		12,525
Current Farm Bill participation		5%

Future Conditions		Total Acres
Surface Irrigated Cropland/Hayland		4,175
Sprinkler Irrigated Cropland/Hayland		12,525
Total Irrigated Cropland/Hayland Acres		16,700



Idaho

Upper Salmon - 17060201
8 Digit Hydrologic Unit Profile

January 2008

Conservation Activities for Irrigated Cropland/Hayland - Continued

Projected Additional Treatment Needs for Irrigated Cropland/Hayland:												
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
Surface Irrigation	Ac.				+1	+1	+3	+1				
Conservation Cover (327)	Ac.	1,880	\$ 244,400	\$ 7,300					X			X
Conservation Crop Rotation (328)	Ac.	-	-	-					X			X
Forage Harvest Management (511)	Ac.	1,880	-	-					X			X
Irrigation System, Surface (443)	Ac.	420	63,000	1,900					X			X
Irrigation Water Conveyance (430 EE)	Ft.	2,580	13,900	100					X			X
Irrigation Water Mgmt (449) Low Level	Ac.	4,175	62,600	12,500					X			X
Nutrient Management (590)	Ac.	4,175	62,600	12,500					X	X		X
Pasture and Hayland Planting (512)	Ac.	630	100,800	1,000					X	X		X
Pest Management (595)	Ac.	4,175	100,200	33,400					X			X
Prescribed Grazing (528)	Ac.	420	6,300	2,100					X			X
Residue Management Mulch Till (345)	Ac.	630	56,700	18,900					X			X
Residue Management Seasonal (344)	Ac.	840	18,900	6,300					X			X
Structure for Water Control (587) Fish Screen	No.	2	6,700	100					X			
Use Exclusion (472)	Ac.	130	4,400	100					X			X
Upland Wildlife Habitat Management (645)	Ac.	80	2,400	800					X			X



Idaho

Upper Salmon - 17060201
8 Digit Hydrologic Unit Profile

January 2008

Conservation Activities for Irrigated Cropland/Hayland - Continued

Projected Additional Treatment Needs for Irrigated Cropland/Hayland:												
Irrigated Cropland/Hayland	Quantity		Costs		Effects				Implementation			
Practices	Unit	Quantity	Additional Investment Cost	Annual O&M and Mngt. Cost	Water Conservation	Water Storage	Habitat	WQ	EQIP	WHIP	CREP	Other
Sprinkler Irrigation	Ac.				+3	+2	+2	+3				
Conservation Cover (327)	Ac.	3,130	\$ 406,900	\$ 12,200					X			X
Conservation Crop Rotation (328)	Ac.	-	-	-					X			X
Contour Farming (330)	Ac.	1,250	9,400	3,100					X			X
Deep Tillage (324)	Ac.	1,250	56,300	18,800					X			X
Forage Harvest Management (511)	Ac.	8,020	-	-					X			X
Irrigation System, Sprinkler (442)	Ac.	630	346,500	6,900					X			X
Irrigation Water Conveyance (430EE)	Ft.	1,320	7,100	-					X			X
Irrigation Water Management (449) - Low level	Ac.	12,525	187,900	37,600					X			X
Nutrient Management (590)	Ac.	12,525	187,900	37,600					X			X
Pasture and Hayland Planting (512))	Ac.	2,510	401,600	4,000					X	X		X
Pest Management (595)	Ac.	12,525	300,600	100,200					X			X
Prescribed Grazing (528)	Ac.	6,260	93,900	31,300					X			X
Residue Management Seasonal (344)	Ac.	2,510	56,500	18,800					X			X
Residue Mngt, Mulch Till (345)	Ac.	1,880	84,600	28,200					X			X
Structure for Water Control (587) Fish Screen	No.	5	16,700	200					X			X
Surface Roughening (609)	Ac.	630	14,200	4,700					X			X
Upland Wildlife Habitat Management (645)	Ac.	250	7,500	2,500					X	X		X
Use Exclusion (472)	Ac.	380	12,900	400					X			X
Total RMS Costs			\$ 2,933,400	\$ 403,500								



Idaho

Upper Salmon - 17060201
8 Digit Hydrologic Unit Profile

January 2008

Conservation Activities for Irrigated Cropland/Hayland - Continued

Potential RMS Effects Summary for Irrigated Cropland/Hayland		
Cost Items and Programs	Costs	O&M Costs
Non Farm Bill Programs	\$ 46,700	\$ 20,200
Potential Farm Bill Programs	\$ 2,786,700	\$ 383,300
Operator O&M and Management Cost		\$ 403,500
Annual Management Incentives (3 yrs - Incentive Payments)	\$ 1,308,500	
Operator Investment	\$ 885,800	
Federal Costshare	\$ 739,100	
Total RMS Costs	\$ 2,933,400	\$ 403,500
Estimated Level of Participation	35%	
Total Acres in RMS System*	8,400	
Anticipated Cost at Estimated Level of Participation	\$ 1,026,700	
Total Acre Feet of Water Saved Annually**	4,385	
Increases infiltration and storage of water in soil profile		
Participating landowners will be in compliance with TMDLs		
Improves habitat for ESA endangered & threatened species		
Reduces impact to ground and surface water quality		

* Total Acres in RMS includes 15% of acres already meets Quality Criteria

** savings related to participation in NRCS Program.



Idaho

Upper Salmon - 17060201
8 Digit Hydrologic Unit Profile

January 2008

Conservation Activities for Irrigated Pasture

Current Conditions	Total Acres	Riparian/ Wetland Potential
Surface Irrigated Pasture	12,200	660
Sprinkler Irrigated Pasture	2,600	140
Total Irrigated Pasture	14,800	800
Typical Management Unit/Ownership	160	
Current Farm Bill participation	1%	
Future Conditions	Total Acres	Total Acres
Surface Irrigated Pasture		11,540
Sprinkler Irrigated Pasture		2,460
Total Conversion to Riparian Pasture RMS		800
Total Acres		14,800



Idaho

Upper Salmon - 1706201
8 Digit Hydrologic Unit Profile

January 2008

Conservation Activities for Irrigated Pasture - Continued

Project Additional Treatment Needs for Irrigated Pasture:												
Practices	Quantity		Costs		Effects				Implementation			
	Unit	Quantity	Additional Investment Cost	Annual O&M and Mngt. Cost	Water Conservation	Water Storage	Habitat	WQ	EQIP	WHIP	CREP	Other
Surface Irrigation	Ac.				+/-	+/-	+1	+1				
Fence (382)	Ft.	47,600	\$ 103,300.00	\$2,100.00					X			X
Heavy Use Area Protection (561)	Ac.	10	290,000	14,500					X			X
Irrigation Field Ditch (388)	Ft.	9,020	27,100	500					X			X
Irrigation System Surface (443)	Ac.	4,040	606,000	18,200					X	X	X	X
Above Ground, Multi-Outlet Pipeline (431)	Ft.	11,900	53,600	500					X			X
Irrigation Water Management (449)	Ac.	11,540	173,100	57,700					X			X
Nutrient Management (590)	Ac.	4,620	69,300	23,100					X			X
Pasture & Hayland Planting (512)	Ac.	1,150	184,000	1,800					X	X		X
Pest Management (595)	Ac.	2,310	55,400	18,500					X			X
Pipeline (516)	Ft.	47,600	139,500	700					X			X
Prescribed Grazing (528)	Ac.	11,540	173,100	57,700					X			X
Pumping Plant ((533)	No.	18	225,200	2,300					X			X
Spring Development (574)	No.	36	86,400	400					X			X
Structure for Water Control (587)	No.	36	45,700	500					X			X
Structure for Water Control (587) Fish Screen	No.	36	119,900	1,200					X	X		X
Tree and Shrub Establishment (612)	Ac.	580	272,600	2,700					X	X		X
Upland Wildlife Management (645)	Ac.	580	17,400	5,800					X	X		X
Use Exclusion (472)	Ac.	580	19,700	600					X			X
Watering Facility (614)	No.	36	31,300	300					X			X
Well (642)	No.	9	60,800	600					X			X



Idaho

Upper Salmon - 17060201
 8 Digit Hydrologic Unit Profile

January 2008

Conservation Activities for Irrigated Pasture - Continued

Projected Additional Treatment Needs for Irrigated Pasture (Continued):												
Practices	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
Sprinkler Irrigated	Ac.				+3	+3	+2	+3				
Fence (382)	Ft.	1,270	\$ 2,800.00	\$ 100.00					X			X
Heavy Use Area Protection (561)	Ac.	2	58,000	2,900					X			X
Irrigation System Sprinkler (442)	No.	490	269,500	5,400					X			X
Irrigation Water Management (449)	Ac.	2,460	36,900	12,300					X			X
Nutrient Management (590)	Ac.	980	14,700	4,900					X			X
Pasture & Hayland Planting (512)	Ac.	620	99,200	1,000					X	X		X
Pest Management (595)	Ac.	250	6,000	2,000					X			X
Pipeline (516)	Ft.	1,270	3,700	-					X			X
Prescribed Grazing (528)	Ac.	2,460	36,900	12,300					X			X
Pumping Plant (533)	No.	8	100,100	1,000					X			X
Spring Development (574)	No.	4	9,600	-					X			X
Structure For Water Control (587)	No.	4	5,100	100					X			X
Tree and Shrub Establishment (612)	Ac.	120	56,400	600					X	X		X
Upland Wildlife Management (645)	Ac.	120	3,600	1,200					X	X		X
Use Exclusion (472)	Ac.	120	4,100	100					X			X
Water Well ((642)	No.	2	13,500	100					X			X
Watering Facility (614)	No.	8	7,000	100					X			X



Idaho

Upper Salmon - 17060201 8 Digit Hydrologic Unit Profile

January 2008

Conservation Activities for Irrigated Pasture - Continued

Projected Additional Treatment Needs for Irrigated Pasture (Continued):												
Practices	Quantity		Costs		Effects				Implementation			
	Unit	Quantity	Additional Investment Cost	Annual O&M and Mngt. Cost	Water Conservation	Water Storage	Habitat	WQ	EQIP	WHIP	CREP	Other
Riparian Pastures	Ac.				+1	+1	+3	+3				
Conservation Cover (327)	Ac.	160	\$ 20,800	\$ 600					X			X
Fence (382)	Ft.	8,800	15,400	300					X	X	X	X
Heavy Use Area Protection (561)	Ac.	1	29,000	1,500					X			X
Irrigation System Sprinkler (442)	No.	160	88,000	1,800					X			X
Irrigation Water Management (449)	Ac.	800	12,000	4,000					X			X
Nutrient Management (590)	Ac.	320	4,800	1,600					X			X
Pasture & Hayland Planting (512)	Ac.	160	25,600	300					X			X
Pest Management (595)	Ac.	240	5,800	1,900					X			X
Pipeline (516)	Ft.	1,200	3,500	-					X			X
Prescribed Grazing (528)	Ac.	800	12,000	4,000					X			X
Pumping Plant (533)	No.	2	25,000	300					X			X
Restoration/Mgmt Declining Species (643)	Ac.	160	24,000	200					X	X		X
Riparian Forest Buffer (391)	Ac.	60	90,000	900					X			X
Riparian Herbaceous Cover (390)	Ac.	20	6,000	100					X	X	X	X
Shallow Water Development/Mgmt (646)	Ac.	4	72,000	700					X	X		X
Stream Habitat Improvement (395)	Ft.	8,800	44,000	400					X	X		X
Streambank & Shoreline Prot (580)	Ft.	540	25,700	1,300					X			X
Structure For Water Control (587)	No.	2	2,500	-					X			X
Structure For Water Control (587) Fish Screen	No.	1	3,300						X	X		X
Tree/Shrub Establishment (612)	Ac.	40	18,800	200					X	X		X
Upland Wildlife Management (645)	Ac.	80	2,400	800					X	X		X
Use Exclusion (472)	Ac.	40	1,400	-					X	X	X	X
Watering Facility (614)	No.	3	2,600	-					X		X	X
Wetland Enhancement (659)	Ac.	40	11,200	100					X	X		X
Wetland Wildlife Management (644)	Ac.	40	1,200	400					X	X		X
Total RMS Costs			\$ 4,027,500	\$ 275,200								



Idaho

Upper Salmon - 17060201
8 Digit Hydrologic Unit Profile

January 2008

Conservation Activities for Irrigated Pasture – Continued

RMS Cost Summary for Irrigated Pasture:		
Cost Items and Programs	Costs	O&M Costs
Non Farm Bill Programs (5 percent of total)	\$ 201,400	\$ 13,800
Potential Farm Bill Programs 95 percent of total	\$ 3,826,100	\$ 261,400
Operator O&M and Management Cost		\$ 275,200
Annual Management Incentives (3 yrs - Incentive Payments)	\$ 612,600	
Operator Investment	\$ 1,486,800	
Federal Costshare	\$ 1,928,100	
Total RMS Farm Bill Costs	\$ 4,027,500	
Estimated Level of Participation		15%
Total Acres in RMS System		4,400
Anticipated Cost at Estimated Level of Participation	\$	604,100
Total Acre Feet of Water Saved Annually		1,275
Total Annual Forage Production Benefits (animal unit months)		30,700
Improves ground water and surface water quality by minimizing off-site transport		
Improves riparian habitat for ESA endangered & threatened species		

*Total acres in RMS includes 15% of acres already meeting Quality Criteria.



Idaho

Upper Salmon - 17060201
8 Digit Hydrologic Unit Profile

January 2008

Conservation Activities for Rangeland, Non-Irrigated Pasture and Forestland

Current Conditions	Grazed	Ungrazed	Riparian/Wetland/Potential	Total Acres
Private Range, N-I Pasture & Forest	31,600		1,500	31,600
Typical Range Management Unit	160			
Current Farm Bill participation	0%			

Future Conditions	Rangeland /Pasture	Riparian	Total Acres
	30,100	1,500	31,600



Idaho

Upper Salmon - 17060201
8 Digit Hydrologic Unit Profile

January 2008

Conservation Activities for Rangeland, Non-Irrigated Pasture and Forestland - Continued

Projected Additional Treatment Needs for Rangeland, Non-Irrigated 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
Rangeland, Non-Irr Pasture, Forest	Ac.				+3	+2	+3	+3					
Access Road (560)	Ft.	-	\$ -	\$ -					X				X
Animal Trails and Walkways (575)	Ft.	-	-	-					X				X
Brush Management (314)	Ac.	1,510	75,500	800					X				X
Critical Area Planting (342)	Ac.	25	11,800	1,200					X				X
Fence (382)	Ft.	15,520	33,700	700					X				X
Firebreak (394)	Ft.	7,760	15,500	800					X				X
Forest Stand Improvement (666)	Ac.	720	223,200	1,100					X				X
Forest Trails and Landings (655)	No.	120	114,000	600					X				X
Heavy Use Area Protection (561)	Ac.	24	696,000	34,800					X				X
Pest Management (595)	Ac.	4,520	108,500	36,200					X				X
Pipeline (516)	Ft.	10,350	30,300	200					X				X
Pond (378)	No.	6	40,800	400					X				X
Prescribed Burning (338)	Ac.	600	9,000	-					X				X
Prescribed Grazing (528)	Ac.	19,570	117,400	39,100					X				X
Range Planting (550)	Ac.	3,010	301,000	3,000					X				X
Spring Development (574)	No.	24	57,600	300					X	X			X
Tree and Shrub Establishment (612)	Ac.	1,510	709,700	3,500					X	X			X
Tree/Shrub Site Preparation (490)	Ac.	1,510	407,700	-					X	X			X
Upland Wildlife Management (645)	Ac.	7,530	225,900	75,300					X	X			X
Watering Facility (614)	No.	24	20,900	200					X				X



Idaho

Upper Salmon - 17060201
8 Digit Hydrologic Unit Profile

January 2008

Conservation Activities for Rangeland, Non-Irrigated Pasture and Forestland – Continued

Projected Additional Treatment Needs for Rangeland, Non-Irrigated 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
Range, N-I Pasture & Forest Riparian	Ac.				+3	+2	+3	+3					
Access Road (560)	Ft.	-	\$ -	\$ -					X				X
Animal Trails and Walkways (575)	Ft.	-	-	-					X				X
Channel Bank Vegetation (322)	Ft.	7,420	15,200	100					X				X
Channel Stabilization (584)	Ft.	1,340	33,500	1,700					X				X
Critical Area Planting (342)	Ac.	15	5,400	200					X				X
Fence (382)	Ft.	3,090	6,700	100					X	X	X		X
Firebreak (394)	Ft.	-	-	-					X				X
Forest Stand Improvement (666)	Ac.	230	71,300	400					X				X
Forest Trails and Landings (655)	No.	40	38,000	200					X				X
Heavy Use Area Protection (561)	Ac.	2	58,000	2,900					X				X
Pest Management (595)	Ac.	450	10,800	3,600					X				X
Pipeline (516)	Ft.	520	1,500	-					X				X
Prescribed Grazing (528)	Ac.	1,500	9,000	3,000					X				X
Pumping Plant (533)	No.	2	5,800	100					X				X
Riparian Forest Buffer (391)	Ac.	50	75,000	800					X				X
Riparian Herbaceous Cover (390)	Ac.	15	4,500	-					X	X	X		X
Spring Development (574)	No.	2	4,800	-					X	X			X
Stream Habitat Improvement (395)	Ft.	3,090	15,500	200					X	X			X
Streambank & Shoreline Prot (580)	Ft.	1,040	49,400	2,500					X	X			X
Tree/Shrub Establishment (612)	Ac.	50	23,500	100					X	X			X
Tree/Shrub Site Preparation (490)	Ac.	50	13,500	-					X	X			X
Upland Wildlife Management (645)	Ac.	300	9,000	3,000					X	X			X
Use Exclusion (472)	Ac.	80	2,700	100					X	X	X		X
Watering Facility (614)	No.	2	1,700	-					X				X
Total RMS Costs			\$ 3,653,300	\$ 217,200									



Idaho

Upper Salmon - 17060201
 8 Digit Hydrologic Unit Profile

January 2008

Conservation Activities for Rangeland, Non-Irrigated Pasture and Forestland – Continued

RMS Cost Summary for Range, Non-Irr Pasture & Forestland:		
Cost Items and Programs	Costs	O&M Costs
Non Farm Bill Programs (5 percent of total)	\$ 182,700	\$ 10,900
Potential Farm Bill Programs 95 percent of total	\$ 3,470,600	\$ 206,300
Operator O&M and Management Cost		\$ 217,200
Annual Management Incentives (3 yrs – Incentive Payments)	\$ 480,600	
Operator Investment	\$ 930,200	
Federal Costshare	\$ 2,242,500	
Total RMS Farm Bill Costs	\$ 3,653,300	
Estimated Level of Participation		15%
Total Acres in RMS System *		9,500
Anticipated Cost at Estimated Level of Participation	\$	548,000
Total Annual Forage Production Benefits (acre unit months)		500
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		

* Total acres in RMS includes 15% of acres already meet Quality Criteria



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 of a Waste Management Facility (313) 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), Pumping Plant (533), Roof Runoff Structure (558), Separator, Structure for Water Control (587), Underground Outlet (620), Waste Treatment Lagoon (359), Watering Facility (614), Well Decommissioning (355), Windbreak/Shelterbelt Establishment (380), Dry Stack Areas and Ramps. Management practices commonly used include. Critical Area Planting (342), Filter Strip (393), Manure Transfer (634), Nutrient Management (590), Pest Management (595) and Waste Utilization (633).

Current Conditions		Total
CAFOs		-
AFOs		7
Current Farm Bill participation	43%	
Total CAFOs and AFOs		7

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



Idaho

Upper Salmon - 17060201
8 Digit Hydrologic Unit Profile

January 2008

Conservation Activities for Headquarters - Continued

Projected Additional Treatment Needs for Headquarters													
Practices	Quantity		Costs		Effects				Implementation				
	Unit	Quantity	Additional Investment Cost	Annual O&M and Mngt. Cost	Water Conservation	Water Storage	Habitat	WQ	EQIP	WHIP	WRP	CREP	Other
Dairy	No.				+3	+2	+3	+3					
Structural/Management Practices													
Waste Storage Facility (313) AFO	No.	-	-	-									
Feed Lot	No.				+3	+1	+3	+3					
Structural/Management Practices													
Waste Storage Facility (313) AFO	No.	4	180,000	3,600					X				X
Total RMS Costs		4	180,000	3,600									

RMS Cost Summary for Headquarters		
Cost Items and Programs	Costs	O&M Costs
Non Farm Bill Programs	\$ 9,000	\$ 200
Potential Farm Bill Programs	\$ 171,000	\$ 3,400
Operator O&M and Management Cost		\$ 3,600
Annual Management Incentives (3 yrs - Incentive Payments)	\$ 18,000	
Operator Investment	\$ 70,200	
Federal Costshare	\$ 91,800	
Total RMS Costs	\$ 180,000	
Estimated Level of Participation		75%
Total CAFO/AFO in RMS System		3
Anticipated Cost at Estimated Level of Participation	\$	135,000
Reduces impact to ground and surface water quality		
Participation reflects Local, State and Federal regulations		