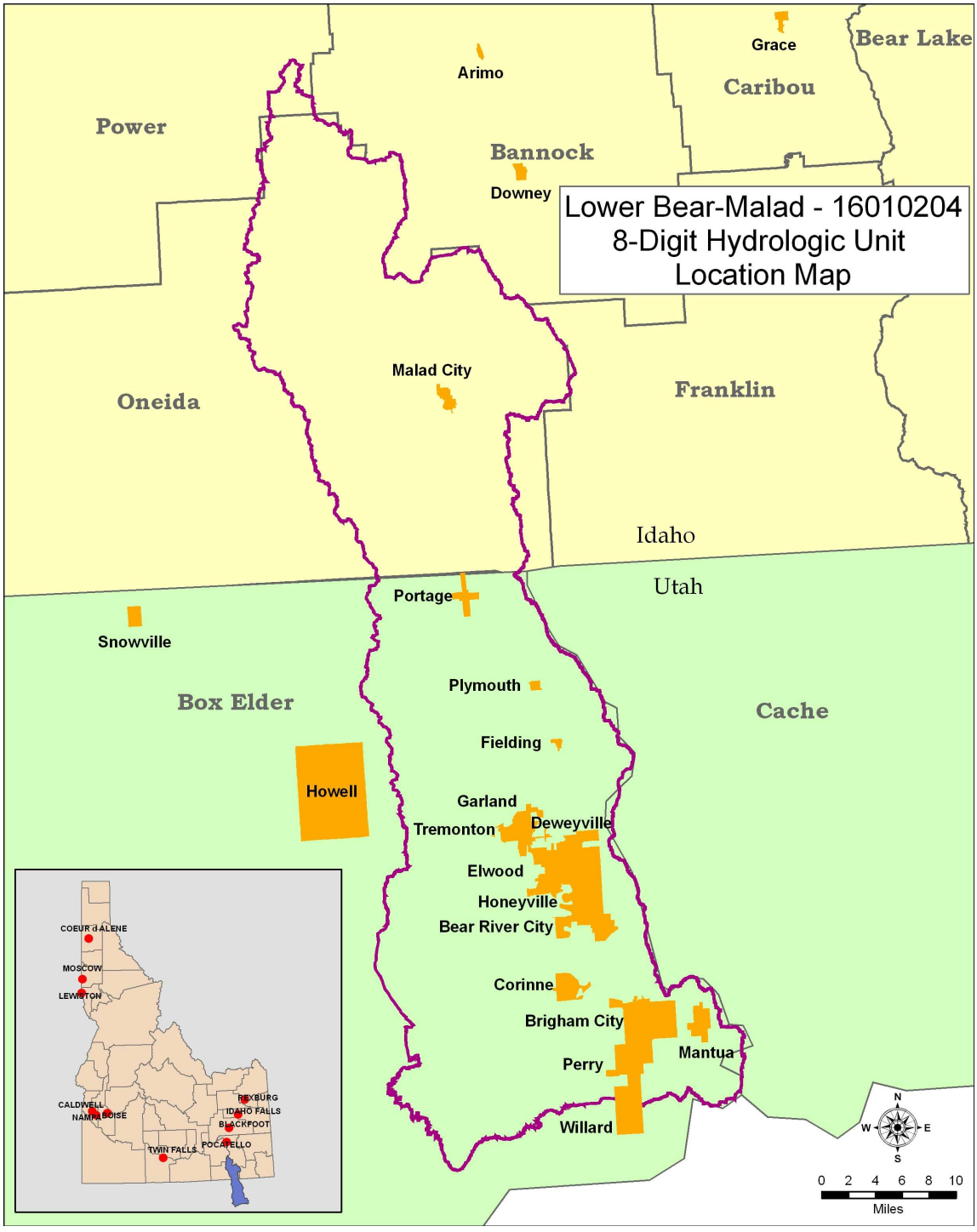
Lower Bear-Malad - 16010204

Idaho 8 Digit Hydrologic Unit Profile September 2007



Introduction

The Lower Bear-Malad 8-Digit Hydrologic Unit Code (HUC) subbasin is 803,200 acres. The Idaho portion of the subbasin is 323,614 acres in size. ***Only the Idaho portion of the subbasin will be described in this document.*** Oneida county accounts for approximately 98 percent of the subbasin in Idaho. Power County makes up 1.7 percent of the acreage; the remaining 0.3 percent is divided between Franklin and Bannock counties. Fifty seven percent of the basin is privately owned, the remaining 43 percent is public land.

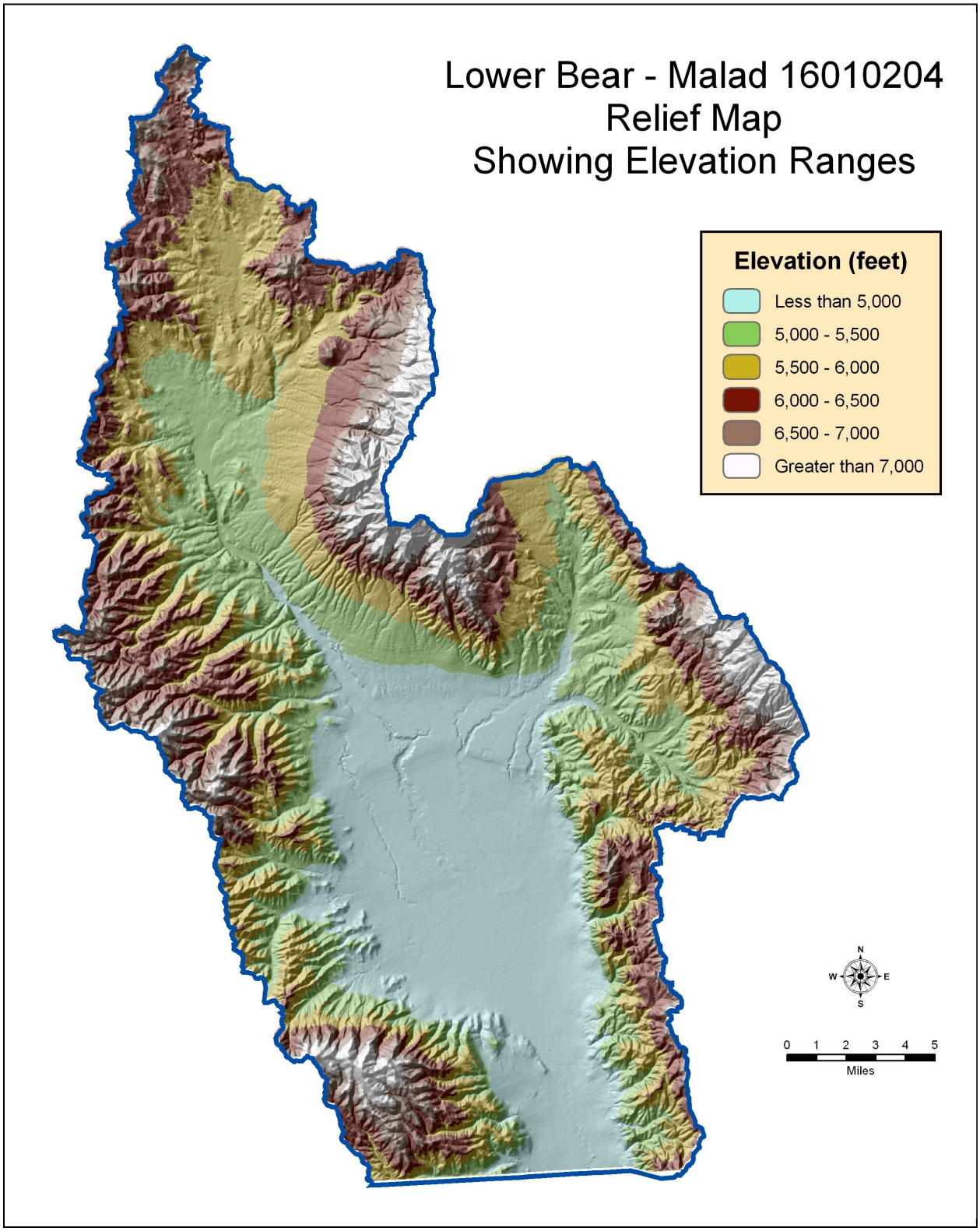
Forty nine percent of the basin is rangeland, 10 percent is cropland, and 23 percent is grass, pasture or hayland. Approximately 10 percent of the watershed is enrolled in the Conservation Reserve Program (CRP). Forest makes up seven percent of the subbasin. The remaining one percent is water, wetland, developed or barren.

Elevations range from 4,370 feet in the southern portion to over 9,000 feet in the eastern portion.

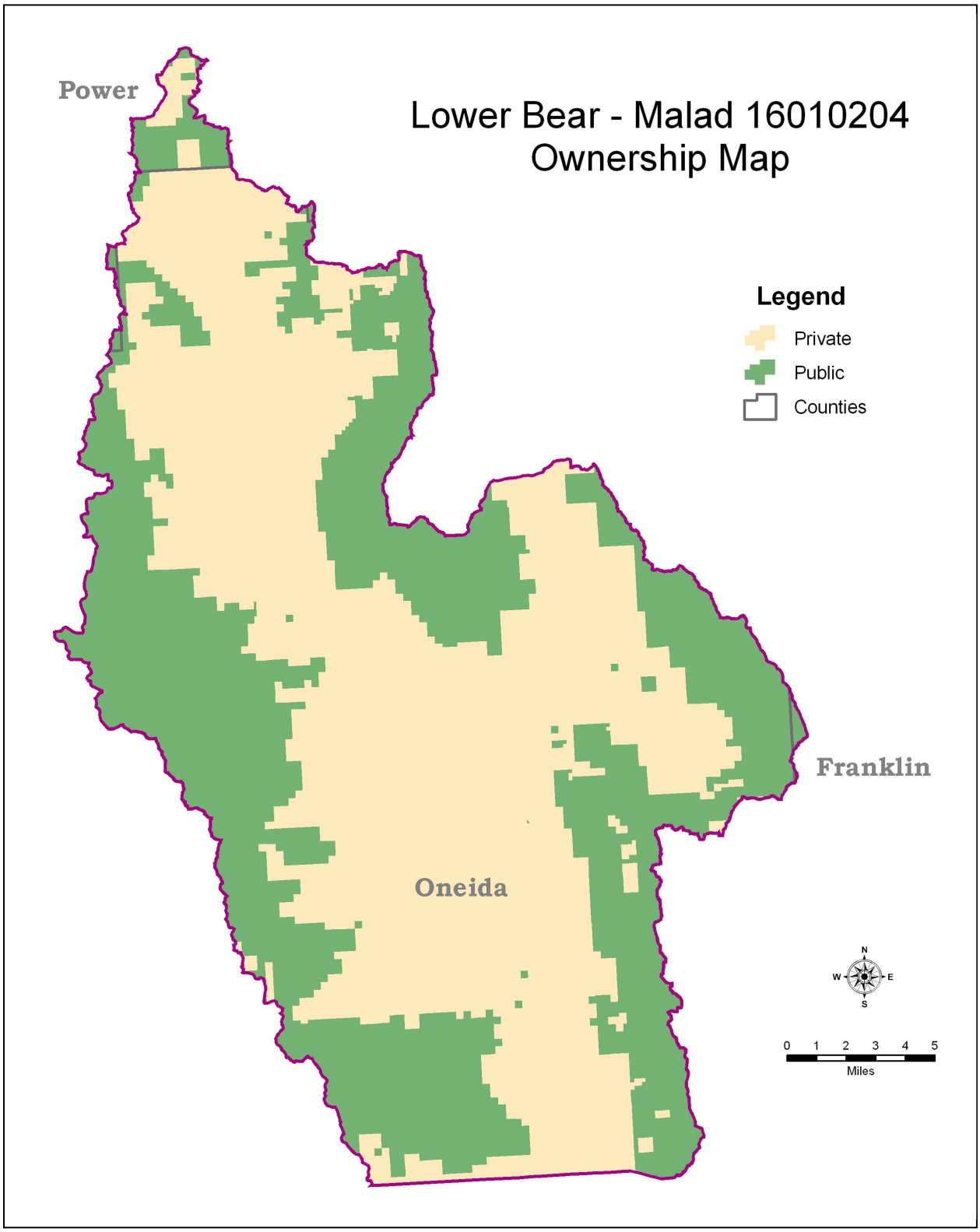
Conservation assistance is provided by two Soil and Water Conservation Districts, and two Resource Conservation and Development offices.

Profile Contents

Relief Map


Lower Bear - Malad 16010204
Relief Map
Showing Elevation Ranges
Elevation (feet)
Less than 5,000
5,000 - 5,500
5,500 - 6,000
6,000 - 6,500
6,500 - 7,000
Greater than 7,000
N
W
E
S
0 1 2 3 4 5
Miles

General Ownership



Physical Description

ALL NUMBERS WITHIN THIS PROFILE ARE FOR IDAHO ONLY

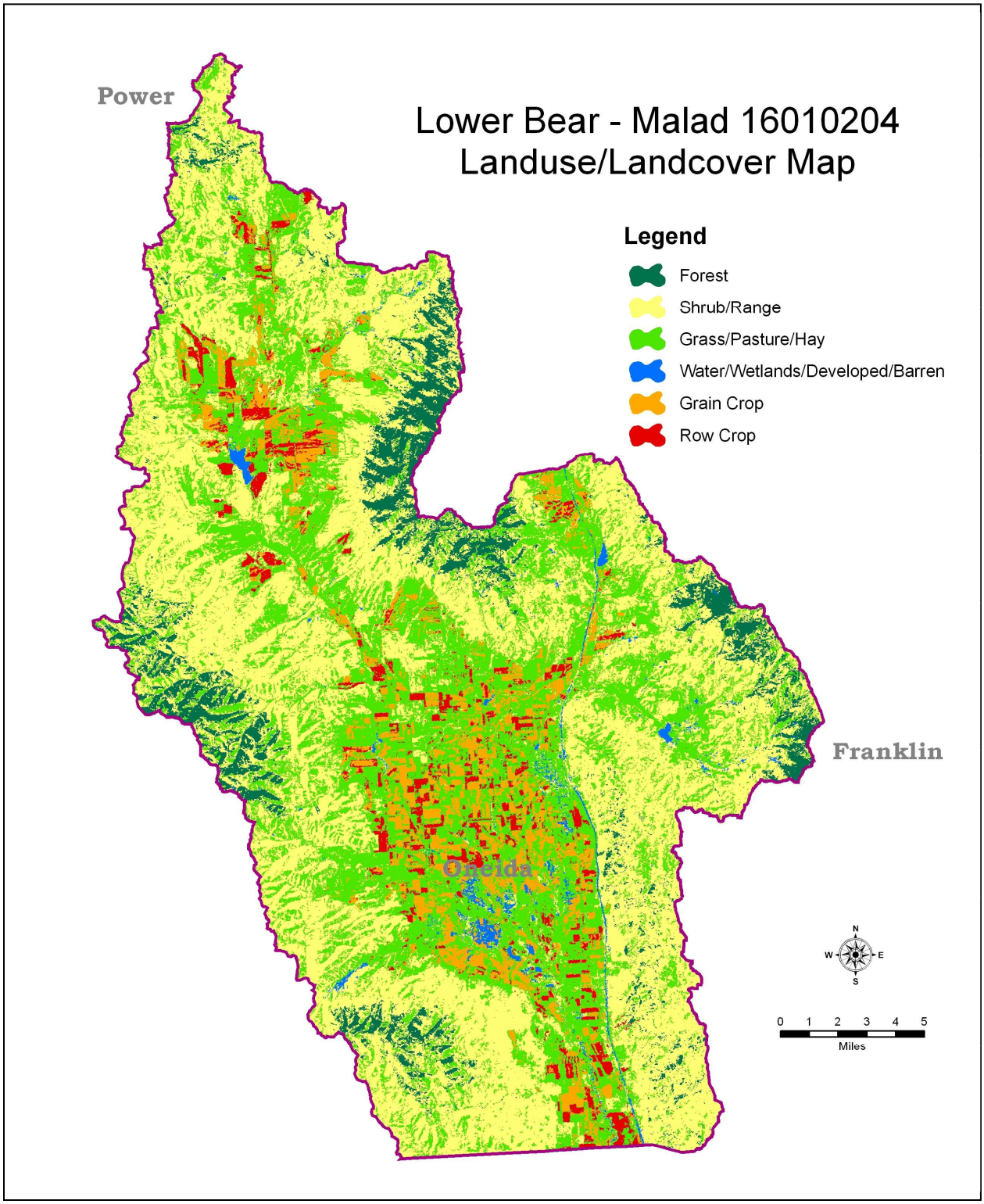
Land Cover/ Land Use (NLCD[2])	Ownership - (2003 Draft BLM Surface Map Set[1])							
	Public		Private		Tribal		Totals	% of HUC
	Acres	%	Acres	%	Acres	%		
Forest	21,127	7%	825	<1%	--	--	**21,952**	**7%**
Grain Crops	15	<1%	22,346	7%	--	--	**22,361**	**7%**
Conservation Reserve[3] Program (CRP) Land	--	--	33,055	10%	--	--	**33,055**	**10%**
Grass/Pasture/Hay Lands	23,541	7%	50,676	16%	--	--	**74,217**	**23%**
Orchards/Vineyards/Berries	--	--	--	--	--	--	**--**	**--**
Row Crops	35	<1%	10,788	3%	--	--	**10,823**	**3%**
Shrub/Rangelands	93,664	29%	64,161	20%	--	--	**157,825**	**49%**
Water/Wetlands/ Developed/Barren	190	<1%	3,191	1%	--	--	**3,381**	**1%**
Idaho HUC Totals*	**138,572**	**43%**	**185,042**	**57%**	--	--	**323,614**	**100%**

**Totals are approximate due to calculation methods used*

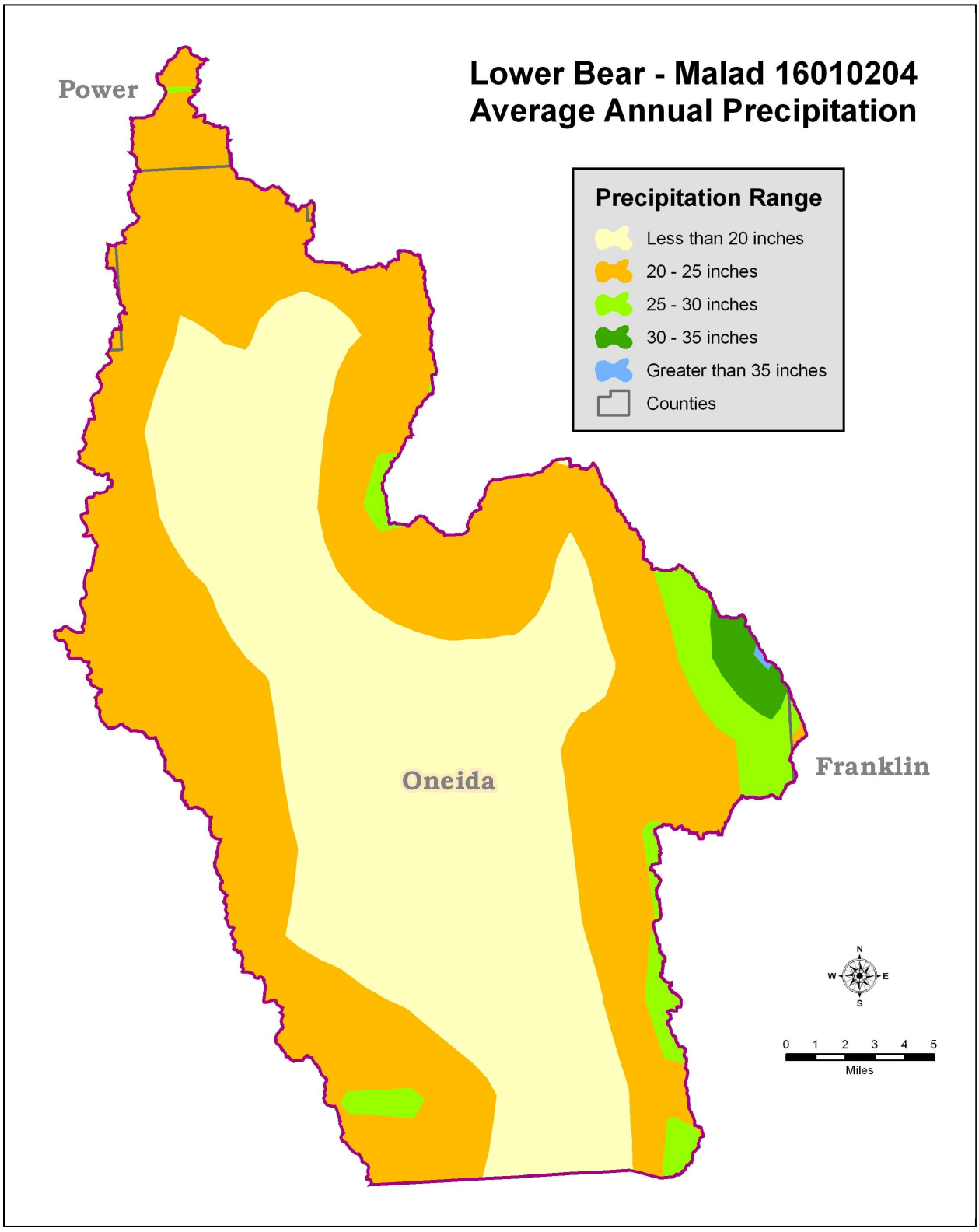
Irrigated Lands[4]	Type of Land	ACRES	% of Irrigated Lands	% of HUC
	Cultivated Cropland	17,500	63%	5%
	Non-Cultivated Cropland**	7,100	26%	2%
	Pastureland	3,200	11%	1%
	Total Irrigated Lands	**27,800**	**100%**	**8%**

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

Land Use / Land Cover

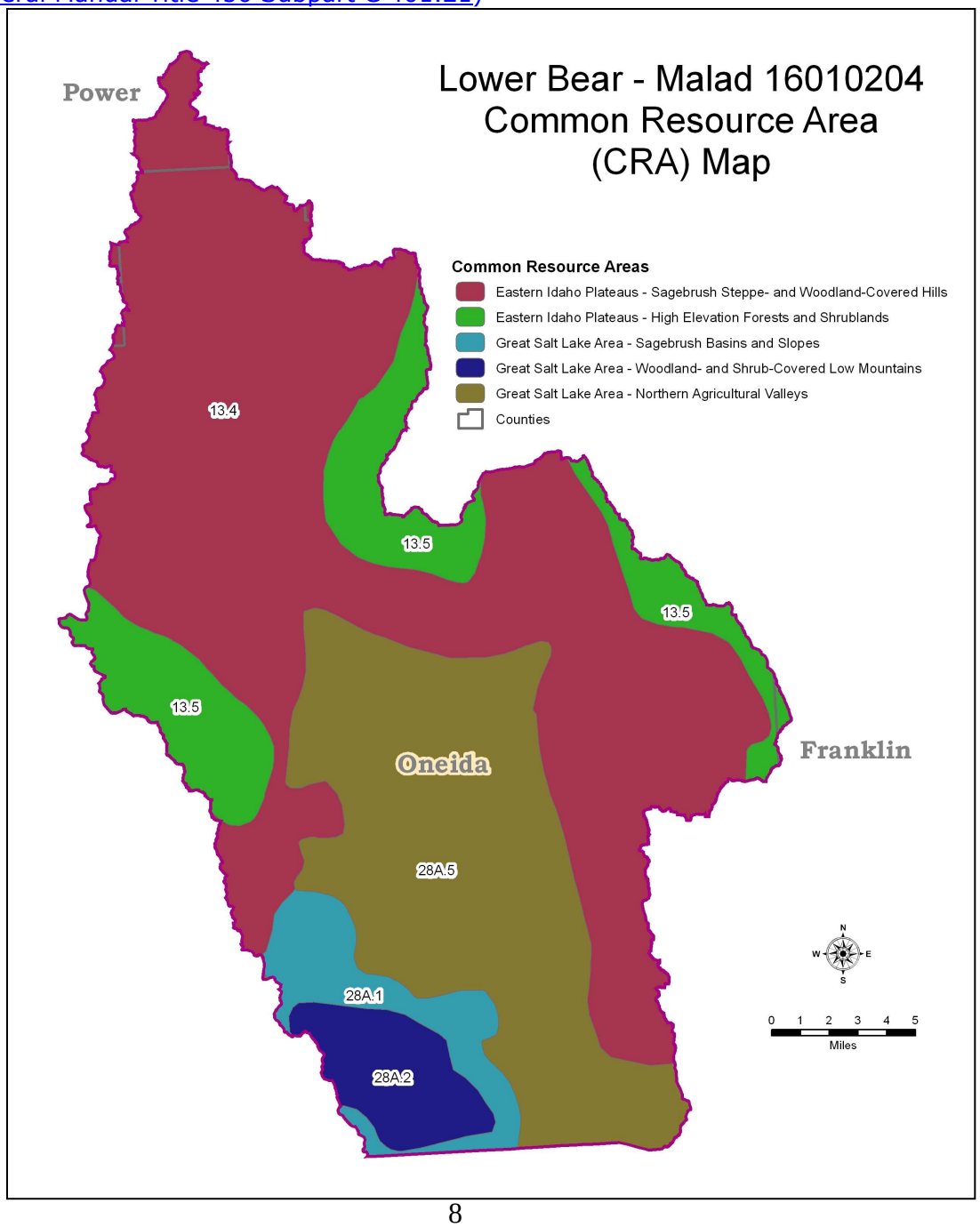


Average Annual Precipitation



Common Resource Area Map

CRA Map - areas with a majority are listed below - for descriptions of every class within the HUC, go to: http://ice.id.nrcs.usda.gov/website/cra/viewer.htm
A Common Resource Area (CRA) is defined as a geographical area where resource concerns, problems, or treatment needs are similar. It is considered a subdivision of an existing Major Land Resource Area (MLRA) map delineation or polygon. Landscape conditions, soil, climate, human considerations, and other natural resource information are used to determine the geographic boundaries of a Common Resource Area.
(General Manual Title 450 Subpart C 401.21)



Common Resource Area Descriptions

The National Coordinated CRA Geographic Database provides:

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

13.4 **Eastern Idaho Plateaus - Sagebrush Steppe - and Woodland-Covered Hills and Low Mountains**

This unit occupies an elevational band between the higher mountains and the lower inter-montane valleys. Potential natural vegetation is mostly sagebrush steppe. Cool season grasses are more common than in the adjacent, drier units. Juniper woodland vegetative sites occur on shallow rocky soils. Land use is primarily livestock grazing.

13.5 **Eastern Idaho Plateaus - High Elevation Forests and Shrublands**

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

28A.1 **Great Salt Lake Area - Sagebrush Basins and Slopes**

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

28A.2 **Great Salt Lake Area - Woodland- and Shrub-Covered Low Mountains**

The Woodland- and Shrub-Covered Low Mountains ecoregion is higher, wetter, rockier, and more rugged than nearby grass- and shrub-covered ecoregions. Shallow soils support mountain big sagebrush, mountain brush, Utah juniper, and grasses.

28A.5 **Great Salt Lake Area - Northern Agricultural Valleys**

This unit is on gently sloping hills and terraces and some valley basins. Mountain-fed perennial streams and canals supply water to pastureland, towns, and cropland growing hay and small grains. Soils are in a semiarid climate and are usually Xeralfs or Xerolls with a mesic temperature regime. Precipitation ranges from 9 to 16 inches.

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

The Idaho portion of this subbasin is dominated by the Malad River and its tributaries. The Little Malad River originates high in the Caribou National Forest flowing south to join the Malad River below Malad City and just above Devil Creek, another major tributary. The Malad River flows an additional eight miles where it crosses the Utah stateline.

The major water use is irrigation. Daniels Reservoir, an irrigation storage reservoir located on the Little Malad River, also provides a trout fishery as well as being utilized for boating and swimming. A future shift in water use is expected due to conversion of agricultural land to urban development.

The only stream gage with substantial data (44 years) available is located on the Malad River near Woodruff, Idaho. The average annual (daily) discharge based on the data available (1939-1982) is 75.2 cfs. Peak flows generally occur in February or March, but have been recorded from Christmas to August. Highest peak flow for the discharge period examined was 2,530 cfs (2/12/62).

			Acre-Feet
Stream Flow Data	USGS #10125500 Malad River At Woodruff, Idaho, 1939-1982	Average Annual	46,611
		Mar-July Average	22,821
		Percent of Average Annual	49%

Lower Bear-Malad - 16010204

Idaho 8 Digit Hydrologic Unit Profile September 2007

		CFS	Number
Irrigated Adjudicated Water Rights[6])	Surface Water	162	1289
	Groundwater	24	278
	Total Irrigated Adjudicated Water Rights	186	1567
		MILES	**PERCENT**
Stream Data **Percent of Total Miles of streams in HUC*	Total Miles[8]	629	--
	Water quality impaired streams [9]	421	67%*
	Anadramous Fish Presence (Streamnet)[11]	--	--
	Bull Trout Presence (Streamnet)[11]	--	--
		ACRES	**PERCENT**
Land Cover/Use[2] based on a 100 ft. stretch on both sides of all streams in the 24K Hydro Layer	Forest	738	3%
	Grain Crops	1,224	5%
	Grass/Pasture/Hay Lands	9,318	41%
	Row Crops	555	3%
	Shrub/Rangelands – Includes CRP Lands	10,597	47%
	Water/Wetlands/Developed/Barren	236	1%
	Total Acres of 100 ft stream buffers	**22,673**	**100%**
Land Capability Class[4]	**I** – slight limitations	--	--
	II – moderate limitations	17,900	21%
	III – severe limitations	39,800	46%
	IV – very severe limitations	22,000	26%
	V – no erosion hazard, but other limitations	2,200	3%
	VI – severe limitations, unsuited for cultivation, limited to pasture, range, forest	3,400	4%
	VII – very severe limitations, unsuited for cultivation, limited to grazing, forest, wildlife	--	--
	VIII – misc areas have limitations, limited to recreation, wildlife, and water supply	--	--
	Total Crop & Pasture Lands	**85,300**	**100%**

Confined Animal Feeding Operations – Dairies/Feedlots [31]

Operation Type	Number	<300	300-999	1000-4999
Dairy	5			
Feedlots	53	53		

Resource Settings

Pasture:
Pasture ranges from low wet meadows to rolling hills along the valley margins. Livestock utilization is during early spring and late fall, with a rest period in the summer. Fencing of property boundaries is generally an existing practice. Soils are deep with variable textures and wetland inclusions with slopes from zero to ten percent. Annual precipitation is 12 inches or less with very hot dry summers. Vegetation ranges from native grass/sedge/rush complexes in the wet meadows to improved forage species such as timothy, bromegrass, orchard grass and clover in the uplands. Occasionally these may be cut once during the summer as wild hay.

Cropland:
Dry Cropland
Dry cropland is located along the valley margins on slopes ranging from 3 to 12 percent. Elevations along the valley margins range from 4,000 to 5,500 feet which shortens the growing season to about 90 days. Precipitation ranges from 10 to 14 inches per year, making this very marginal for producing crops without irrigation. To adapt, most landowners have a winter small grain / fallow rotation. Tillage practices are fall disk, spring chisel with sweeps, summer chisel with sweeps, drill in fall and harvest.

Some landowners are trying an annual small grain. This has had mixed results due to the lower yields and increase in weeds. Tillage practices with an annual grain rotation are fall disk, spring disk, drill and harvest.

Typical soils are silt loams with a T rating of 5 and a K factor of 0.43. Sheet and rill erosion are a problem due to the steep slopes. Steeper slopes have ephemeral and classic gully erosion. Terraces and water & sediment basins have been installed in some areas to control the runoff and erosion.

Dry cropland that has been converted to permanent vegetation (CRP) occurs across all slopes, soil types and precipitation ranges. Wildlife habitat and gully erosion are still a concern in areas that had very severe erosion before the conversion to permanent cover.

Irrigated Cropland
Irrigated cropland is located along the lower valley margins and in the valley bottoms. Slopes range from 0 to 8% with steeper slopes sprinkler irrigated and some of the flatter slopes surface irrigated. Soils are loamy sand and finer with T values of 3 to 5. Precipitation ranges from 8 to 12 inches with a growing season of 100 to 120 days. Crops grown are alfalfa, small grain, potato and silage and grain corn. Crop rotations have 5 years alfalfa and 1 to 3 years small grain, corn or potato.

Resource Settings - continued

Hayland:

Dry hayland

Dry hayland is located on 8 to 12 percent slopes. Growing season is 90 days. Soils are deep with variable textures. Annual precipitation is less than 12 inches with hot dry summer months. Fertilizers and/or pesticides are periodically applied. One cutting of introduced grass and alfalfa or clover are typical with rotations lasting up to 10 years. Big game species are present in winter and early spring. Forage harvest management is usually an existing practice.

Irrigated hayland

Irrigated hayland occurs on zero to seven percent slopes. Precipitation is 12 inches or less per year and the growing season is approximately 100 to 120 days long. Small grains and alfalfa hay are grown in rotation, with alfalfa typically maintained for four to six years. Grazing of crop aftermath may occur. Nutrient, pest, and/or irrigation water management may be less than desirable.

Range:

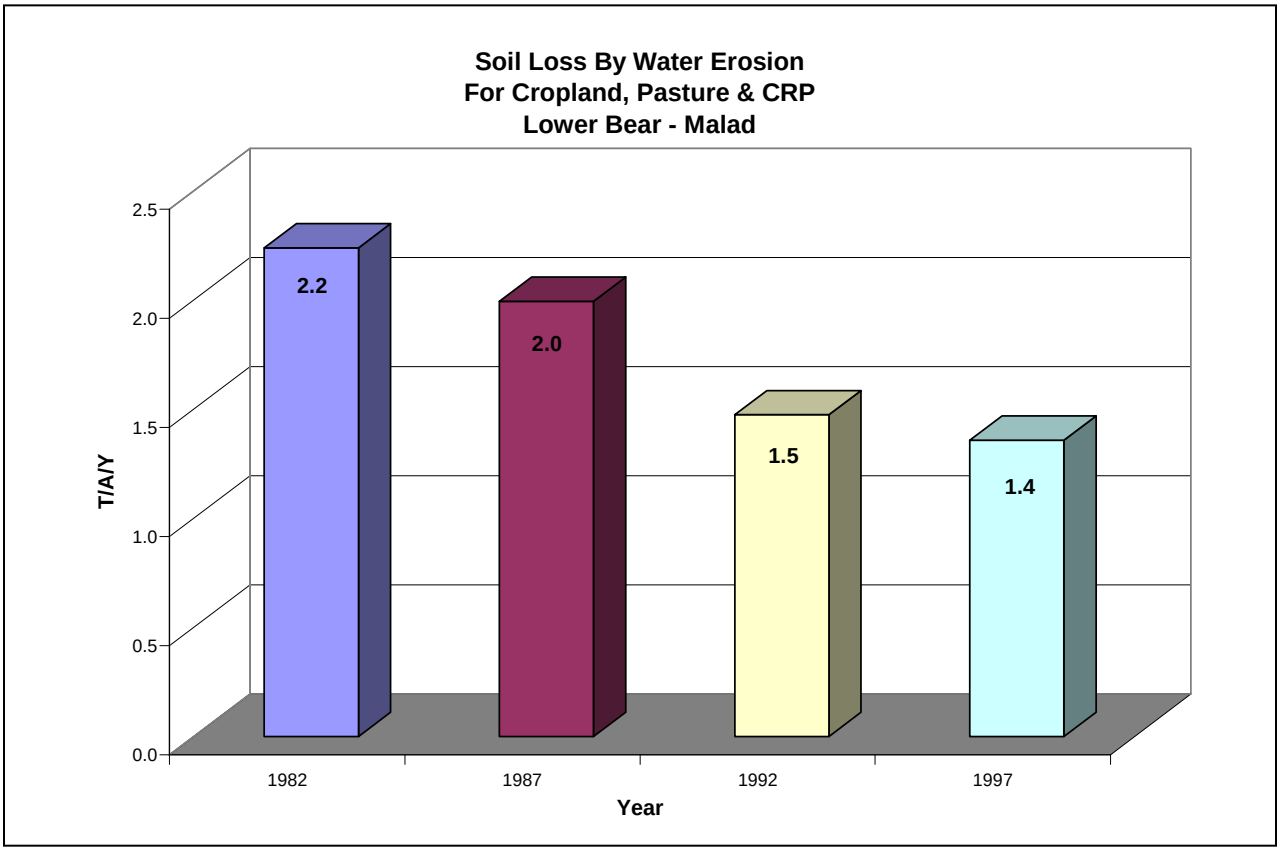
Rangeland is located along the valley margins above the cropland and adjacent to public lands. Some of the rangeland is managed in conjunction with the public land grazing allotments. Rangeland vegetation consists of native perennial grass and forbs. Some areas have problems with invasive species. Precipitation is 12 to 16 inches, most of which falls in winter and early spring or as periodic summer thunderstorms. Topography varies from steep slopes to rims and benches. Soils are loamy to gravelly with slopes from 0 to 20 percent. The average frost free period is 80 to 100 days. Elevations range from 4,500 feet to 6,000 feet. Temperatures are cold in the winter and very hot in the summer. Boundary fencing is generally an existing condition. The typical planning unit is 640 acres.

Riparian vegetation consists of grasses, sedges, rushes and a variety of woody species. Streams are primarily medium gradient and depend on vegetation for stability. These areas are important habitat for a variety of fish and wildlife. Soils vary from gravelly to loamy. Water quality is often a concern for sediment, temperature and nutrients. Moisture for vegetation growth is primarily from high water tables and stream flows.

Upland Native species such as bluebunch wheatgrass, Idaho fescue, and native shrubs and trees may be found at higher elevations along mountainsides. The majority of grazing animals are cattle, sheep and horses. Big game includes elk, mule deer and moose that utilize rangeland and pasture for early spring and winter grazing.

Resource Concerns

Water erosion on Cropland, Pasture & CRP in this watershed has decreased since 1982. Rates have decreased from about 2.2 tons per acre year in 1982 to approximately 1.4 tons per acre per year in 1997.



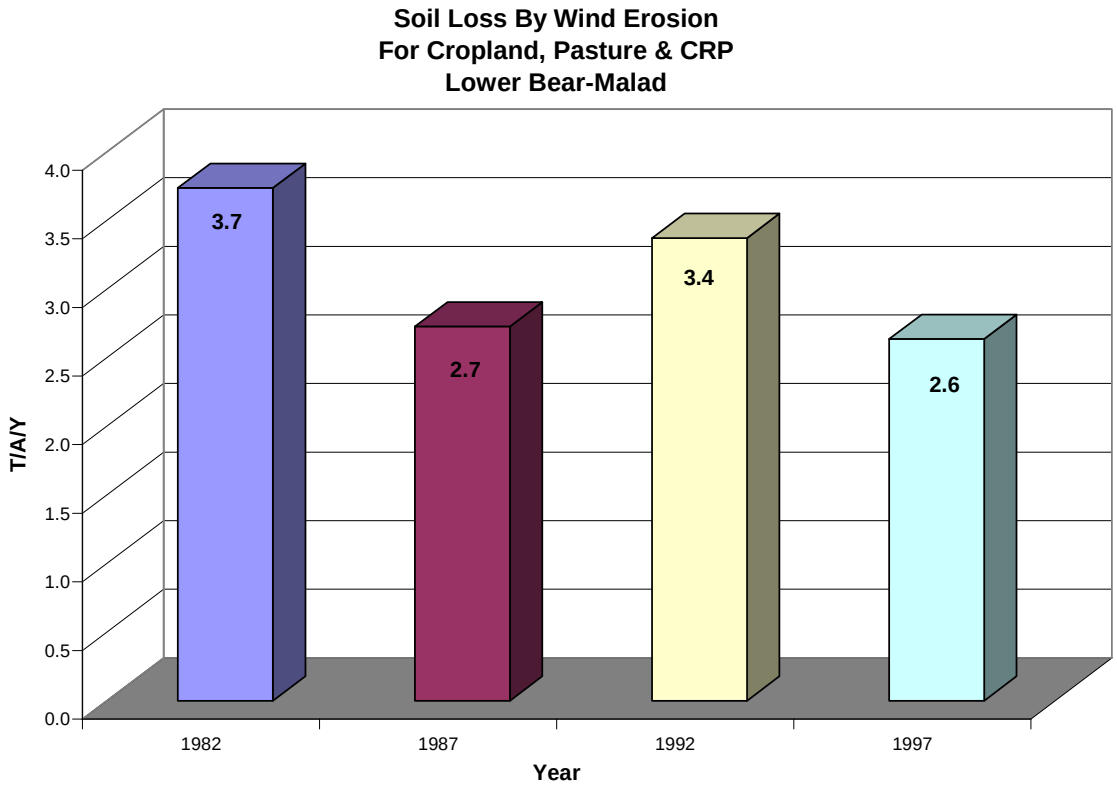
Controlling erosion not only sustains the long-term productivity of the land, but also affects the amount of soil, pesticides, fertilizer, and other substances that move into the nation's waters.

Many of the listed streams are impaired by multiple pollutants, primarily sediment or pathogens. Agricultural land uses contribute to water quality impacts. Other pollutant sources include timber harvest activities, stormwater runoff and land development. Flow and habitat alteration problems exist within the watershed.

Conservation practices that can be used to address these water quality issues include erosion control, grazing management, residue management, and riparian buffers.

Resource Concerns –continued

Wind erosion has decreased by slightly more than a ton per acre per year on cropland, pasture and CRP in this subbasin between 1982 and 1997. Wind erosion has decreased from 3.7 tons to approximately 2.6 tons per acre per year in 1997.



Conservation practices that can be used to address wind erosion include: surface wetting, surface roughening, windbreaks, seedbed preparation (delayed seeding), mulching, and pasture and hayland planting.

Resource Concerns - continued

Impacted Water Bodies[9, 29] (ID 16010204) Named Streams	Stream Miles*	Pathogens	Nutrients	Sediment	Temperature	Dissolved Oxygen	Other or Unknown
Deep Creek Reservoir (BR006L_0L)	63.5 ac						X
Susan Hollow (BR006_02)	4.0 ac			X			
Upper Deep Creek Reservoir (BR006_03)	25.3 ac						X
Dairy Creek (BR011_03)	5.5	X		X			
Dairy Creek (BR011_02)	39.8						X
Deep Creek (BR005_03)	10.0						X
Deep Creek (BR007_03)	1.0						X
Deep Creek (BR007_02)	5.0						X
Devil Creek (BR002_02)	10.0		X	X	X		
Devil Creek (BR002_03)	25.2	X		X			
Campbell Creek (BR002_02a)	2.9	X		X			
Evans Creek (BR002_02c)	2.6			X			
Little Malad River (BR008_02)	122.6						X
Little Malad River (BR008_04)	24.6	X		X			
Malad River (BR001_04)	21.5	X		X			
Malad River (BR012_02)	47.3			X			
Henderson Creek (BR001_02d)	5.0			X			
West Cherry Creek (BR001_02c)	4.5			X			
Four Mile Canyon (BR001_02b)	7.6			X			
Samaria Creek (BR013_03)	4.6			X			
Samaria Creek (BR013_02)	29.7			X			
Wright Creek (BR010_04)	4.2			X			
Middle Wright Creek (BR010_03)	2.7	X		X			
Indian Mill Creek (BR010_02a)	4.6						X
Total Stream Miles:	**380.9**						

Shading indicates TMDL in place

Shading indicates TMDL in progress

Resource Concerns - continued

Watershed Projects, Plans, Studies and Assessments

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

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

Deep Creek Irrigation Pipeline Project

St. John Irrigation Study

Daniels Reservoir Sediment Study

IDEQ TMDLs[16]

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

SCC/SWCD Projects[31]

Conservation Improvement Grants (9)

IDEQ/SWCD 319 Projects[17, 31]

Wright Creek 319 Project

Other Assessments[18, 27, 29]

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

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

Ecosystem Research Institute, Inc. 1995. Lower Bear River Water Quality Management Plan. Prepared for the Utah Department of Environmental Quality/Division of Water Quality, Department of Natural Resources/Division of Water Resources.

Utah Department of Environmental Quality. 2002. Lower Bear River watershed Restoration Action Strategy. Salt Lake City: State of Utah, Department of Environmental Quality, Division of Water Quality

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

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

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

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

Watershed Projects, Plans, Studies and Assessments - *continued*

Utah State University-continued

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

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

US Geological Survey[/23]

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

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

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

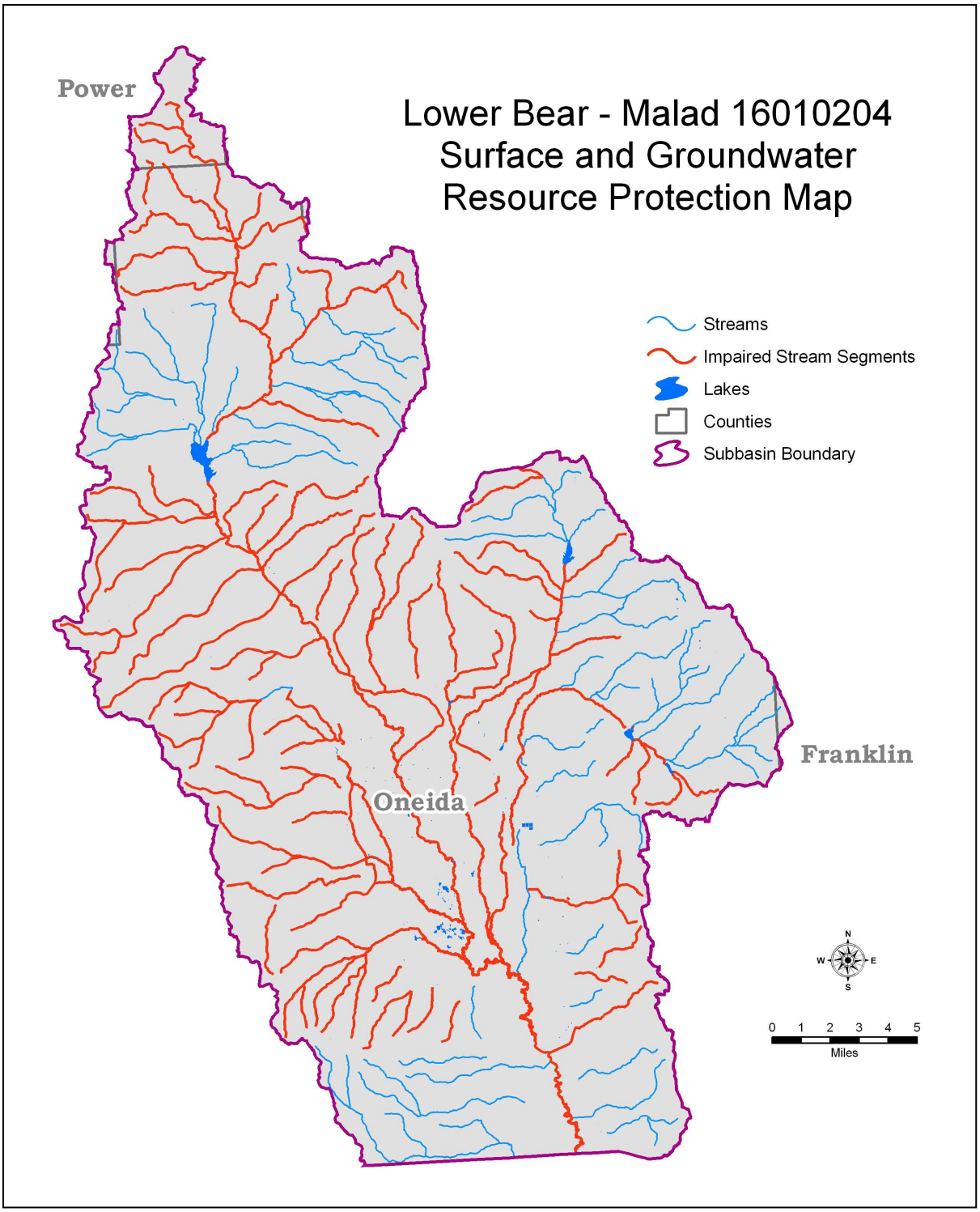
USGS 1969. Hydrologic Reconnaissance of the Bear River Basin in Southeastern Idaho. Water Information Bulletin No. 13, Idaho Dept of Reclamation, 66 pages.

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

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

Resource Concerns – continued

Surface and Groundwater Resource Protection



Resource Concerns – continued

Resource Concerns/ Issues by Land Use								
SWAPA **Soil, Water, Air, Plants, Animals**	**Specific Resource Concerns/Issues**	**Pasture**	**Hayland**	**Dry Crops**	**Surface Irrigated Crops**	**Sprinkler Irrigated Crops**	**Rangeland**	**Grazed or Ungrazed Forest**
Soil Erosion	Sheet and rill			X	X	X		
	Ephemeral or classic gully			X	X		X	
	Wind			X	X	X		
	Streambank	X		X			X	
Water Quantity	Inefficient use on irrigated lands	X	X		X	X		
Water Quality, Surface	Suspended sediment			X	X	X	X	
	Nutrients and organics	X	X	X	X	X	X	
Water Quality, Ground	Nutrients and organics		X		X	X		
	Pesticides		X					
Soil Condition	Organic matter depletion			X	X	X		
	Compaction	X		X	X	X		
Plant Condition	Productivity, health and vigor	X	X	X	X	X	X	
	Plants not adapted or suited							
	Noxious and invasive plants	X	X				X	
	Wildfire hazard						X	
Domestic Animals	Inadequate feed or water	X					X	
Fish and Wildlife	Inadequate water	X	X	X	X	X	X	
	Inadequate cover/shelter	X	X	X	X	X	X	

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

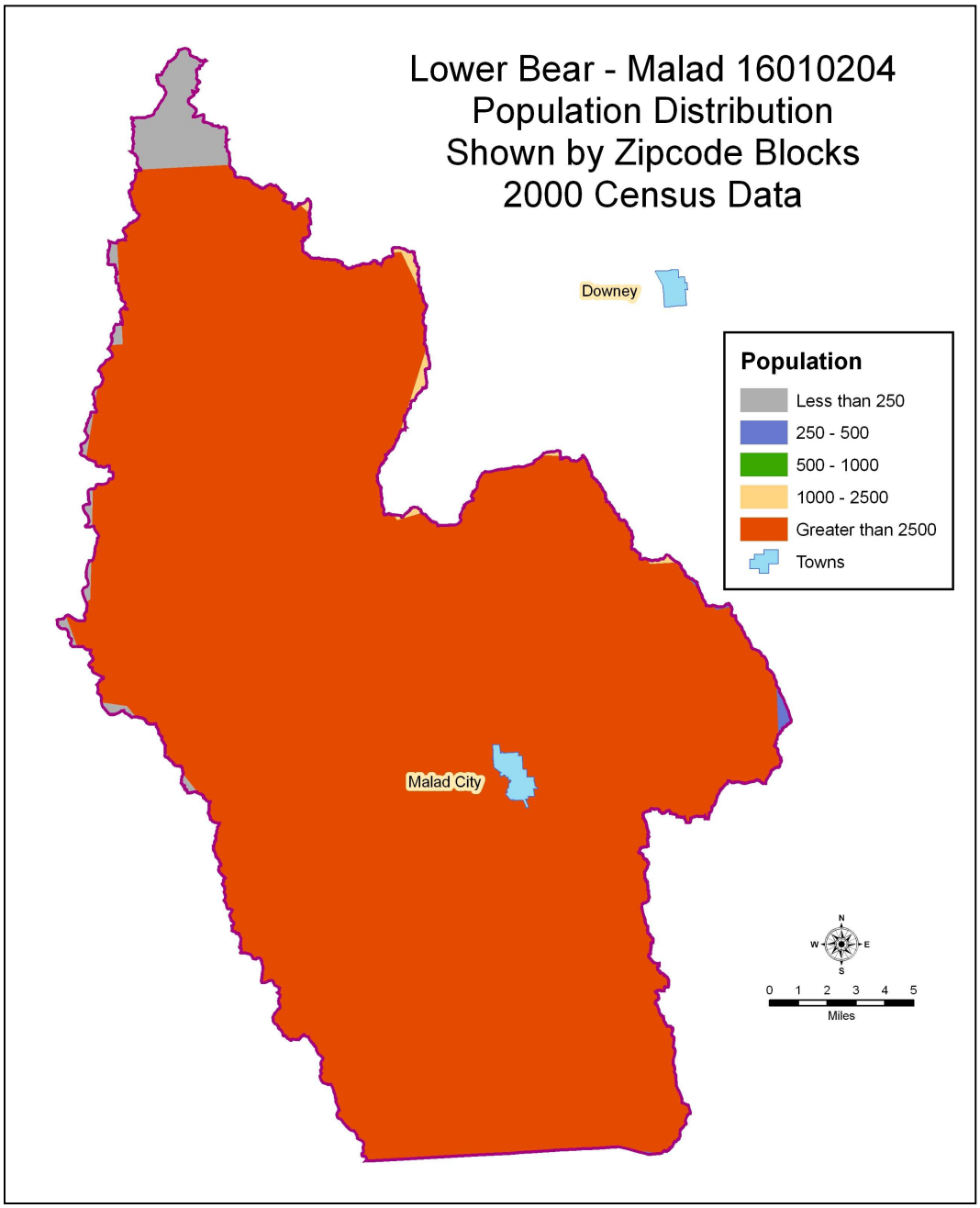
FEDERALLY LISTED THREATENED AND ENDANGERED SPECIES[25]	
Threatened Species	**Candidate Species**
Mammals – Lynx **Birds –** Bald Eagle **Fish –** None **Invertebrates –** None **Plants –** None	**Fish** - None **Birds –** None **PROPOSED SPECIES** None
ESSENTIAL FISH HABITAT – None	**CRITICAL FISH HABITAT-**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

Census and Social Data[/26]

Population: 3,714

Number of Farms: 208

	0-49 acres	50-999 acres	1000+ acres
Number of Farms	48	117	43



Census and Social Data - continued

Fifty nine percent of farm operators are farmers by occupation. The remaining operators have off-farm jobs as their primary occupation. The majority of operators are male but women make up 26% of the total. Ninety-eight percent of all operators are white. Non-white operators are of Hispanic, Native American or multiracial background.

Farm size ranges from less than 10 acres to more than 1,000 acres with an average of 850 acres. Agricultural land in the watershed is a mix of woodland, cropland, range, pasture and hayland Land users in the watershed utilize EQIP, CRP, WHIP, Continuous CRP, CIP, ECC and other programs to implement conservation plans, as well as the state WQPA and 319 programs.

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

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

	Number of farms	Average size farm	Market Value of Production (Average Farm)	Government Payments (Average Farm)
1997	200	670	$39,600	$10,600
2002	210	850	$41,100	$14,400
Change	5.0%	26.9%	3.8%	35.8%

Economic Profile

	Watershed	Idaho	United States
Population (2000)	3,714		
Per Capita Personal Income (2002)	$16,500	$25,476	$30,906
Median Home Value (2000)	$88,400	$106,300	$119,600
Percent Unemployment (2004)	3.1%	4.7%	5.5%
Percent Below Poverty Level (2003)	10.3%	11.8%	12.5%

Progress / Status

PRS DATA				
Conservation Treatment Applied	**FY04**	**FY05**	**FY06**	**Total**
Conservation Cover (327) (ac)		378		378
Conservation Crop Rotation (328) (ac)			94	94
Fence (382) (ft)		14,598		14,598
Forage Harvest Management (511) (ac)		729		729
Irrigation System, Microirrigation (441) (ac)		2		2
Irrigation System, Sprinkler (442) (ac)		9	82	91
Irrigation Water Conveyance, Pipeline, High-Pressure, Underground, Plastic (430DD) (ft)		2,213	3,720	5,933
Nutrient Management (590) (ac)			94	94
Pasture and Hay Planting (512) (ac)			143	143
Pest Management (595) (ac)			236	236
Pipeline (516) (ft)		5,015	100	5,115
Prescribed Grazing (528) (ac)		196		196
Pumping Plant (533) (no)			1	1
Residue Management, Mulch Till (329B) (ac)			94	94
Riparian Forest Buffer (391) (ac)		5		5
Tree/Shrub Establishment (612) (ac)		1		1
Upland Wildlife Habitat Management (645) (ac)		474	94	568
Use Exclusion (472) (ac)		7		7
Waste Storage Facility (313) (no)			2	2
Water Well (642) (no)		2	2	4
Watering Facility (614) (no)		7		7
Windbreak/Shelterbelt Establishment (380) (ft)		3,915		3,915

Progress / Status - continued

Progress in the last seven years has been focused on:

~ erosion control
~ irrigation water management
~ nutrient management
~ water quality
~ upland wildlife habitat management

Resource concerns that require ongoing attention:

~ erosion control
~ nutrient management
~ prescribed grazing
~ riparian area improvement
~ water quality & water quantity
~ pest management

Lands Removed from Production through Farm Bill Programs

- Conservation Reserve Program (CRP): **33,055**
- Wetland Restoration Program (WRP): **None**

Footnotes/Bibliography

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

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

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

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

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

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

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

8. National Hydrology Dataset (NHD). Developed by the US Geological Survey in cooperation with U.S. Environmental Protection Agency and other state and local partners (http://nhd.usgs.gov).

9. IDEQ. 2002 Integrated Report (approved December 2005). http://www.deq.idaho.gov/water/data_reports/surface_water/monitoring/integrated_report.cfm.

10. Idaho Soil Conservation Commission (SCC), Water Quality Program for Agriculture (WQPA). http://www.scc.state.id.us/waq.htm

11. StreamNet is a cooperative venture of the Pacific Northwest's fish and wildlife agencies and tribes and is administered by the Pacific States Marine Fisheries Commission. Streamnet provided data and data services in support of the region's Fish and Wildlife Program and other efforts to manage and restore the region's aquatic resources. Official Streamnet website: http://www.streamnet.org/

12. (Dairy) Idaho Department of Water Resources: http://www.idwr.state.id.us/gisdata/gis_data-new.htm

13. (Feedlot) Idaho State Department of Agriculture: http://www.agri.state.id.us/ FOIA request.

14. Natural Resource Conservation Service, Watershed Projects Planned and Authorized, http://www.nrcs.usda.gov/programs/watershed

15. Natural Resource Conservation Service: Watershed Plans, Studies and Assessments complete. http://www.nrcs.usda.gov/programs/watershed/Surveys_Plng.html#Watershed%20Surveys%20and%20Plan

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

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

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

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

20. Idaho State Department of Agriculture (ISDA). Groundwater water quality regional projects. http://www.agri.idaho.gov/gw/gwdatasummary.htm

21. Idaho Department of Water Resources (IDWR). State Comprehensive Water Plans. http://www.idwr.idaho.gov/waterboard/planning/Comp_Basin_Plans.htm

22. 303d Listed Streams designated by the Idaho Department of Environmental Quality (1998) and approved by the Environmental Protection Agency, Section 303d Clean Water Act 23. Groundwater Management Areas and Critical Groundwater Management Areas designated by the Idaho Department of Water Resources.http://www.idwr.idaho.gov/hydrologic/projects/gwma/

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

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

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

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

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

28. Idaho State Department of Agriculture (ISDA).Surface water quality reports. http://www.agri.state.id.us/Categories/Environment/water/swReports.php

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

30. USGS, 2002. Water Resources Investigations Report 02-4115. Water Quality Assessment of the Great Salt Lake Basins, Utah, Idaho, and Wyoming-Environmental Setting and Study Design

31. Steven Smith, 2007. Idaho Soil Conservation Commission Water Quality Resource Conservationist. Personal Communication.

Future Conservation Needs

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

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

1. Estimates of total conservation needs based on benchmark conditions in the watershed

2. Present level of conservation installation reported in the NRCS web based reporting system

3. Local knowledge of the area, past and ongoing project activities and professional judgement

   Note: Where numbers of acres for individual treatment units differ from those presented in the preceding report tables, this is attributed to local field office/staff input.

4. Practices previously installed which have exceeded their expected life (life span), are no longer accomplishing the conservation objective, and may need to be replaced or upgraded

Current Conditions (Private)		Total Acres	
Total Dry Cropland		15,634	
Typical Management Unit/Ownership		850	
Current Farm Bill Participation		90%	

Current Level of Treatment for Dry Cropland												
Dry Cropland	Quantity		Costs		Effects				Implementation			
Practices	Unit	Quantity	Investment Cost	Annual O&M and Mngt.Cost	Water Conservation	Water Storage	Habitat	WQ	EQIP	WHIP	CREP	Other
Dry Cropland	Ac.	15,634			-3	-/+	-2	-3				
Conservation Cover (327)	Ac.	95	$ -	$ 290					X			X
Pasture and Hay Planting (512)	Ac.	71	$ -	$ -					X			X
Upland Wildlife Habitat Management (645)	Ac.	189	$ -	$ 950					X	X		X
Total RMS Costs			**$ 0**	**$ 1,240**								

Future Conditions		Total Acres	
Total Dry Cropland		15,634	

Project Future Level of Treatment for Dry Cropland												
Dry Cropland	Quantity		Costs		Effects				Implementation			
Practices	Unit	Quantity	Investment Cost	Annual O&M and Mngt.Cost	Water Conservation	Water Storage	Habitat	WQ	EQIP	WHIP	CREP	Other
Dry Cropland	Ac.	15,634			+2	+1	+1	+2				
Conservation Cover (327)	Ac.	1485	$ 166,800	$ 5,000					X	X		X
Conservation Crop Rotation (328)	Ac.	7817	$ -	$ -					X			
Contour Farming (330)	Ac.	9380	$ 70,400	$ 23,450					X			X
Deep Tillage (324)	Ac.	156	$ 7,000	$ 2,340					X			
Filter Strip (393)	Ac.	313	$ 31,300	$ 630					X			X
Grassed Waterway (412)	Ac.	156	$ 280,800	$ 5,620					X			X
Nutrient Management (590)	Ac.	782	$ 11,700	$ 3,910					X			X
Pasture and Hay Planting (512)	Ac.	1,563	$ 156,300	$ 1,560					X			X
Pest Management (595)	Ac.	782	$ 23,500	$ 7,820					X			X
Residue Mgmt. Mulch Till (345)	Ac.	3127	$ 140,700	$ 46,910					X			X
Residue Mgmt. No Till/Direct Seed (329)	Ac.	4690	$ 422,100	$ 21,110					X			X
Upland Wildlife Habitat Management (645)	Ac.	782	$ 8,900	$ 2,970					X	X		X
Water and Sediment Control Basins (638)	Ea.	65	$ 65,000	$ 1,950					X			X
Total RMS Costs			**$ 1,384,500**	**$ 123,270**								

Potential RMS Effects for Dry Cropland			
Cost Items and Programs		Costs	O&M Costs
Non Farm Bill Programs		$138,500	$12,330
Potential Farm Bill Programs		$1,246,000	$110,940
Operator O&M and Management Cost			$123,270
Annual Management Incentives (3yrs - Incentive Payments)		$466,200	
Operator Investment		$528,400	
Federal Costshare		$389,900	
Total RMS Costs		**$1,384,500**	**$123,270**
Estimated Level of Participation			90%
Total Acres in RMS System			14,100
Anticipated Cost at Estimated Level of Participation			$1,246,100
Participating landowners will be in compliance with TMDLs			
Improves habitat for ESA endangered and threated species			

Current Conditions			Total Acres
Surface Irrigated Cropland			12,250
Sprinkler Irrigated Cropland			5,250
Total Irrigated Cropland			17,500
Typical Management Unit/Ownership			850
Current Farm Bill Participation			90%

Current Level of Treatment for Irrigated Cropland

Irrigated Cropland	Quantity		Costs		Effects				Implementation			
Practices	Unit	Quantity	Additional Investment Cost	Annual O&M and Mngt.Cost	Water Conservation	Water Storage	Habitat	WQ	EQIP	WHIP	CREP	Other
Surface Irrigated Cropland	Ac.	12,250			-3	-/+	-3	-3				
Conservation Cover (327)	Ac.	47	$ -	$ 170.00					X			X
Forage Harvest Management (511)	Ac.	182	$ -	$ -					X			X
Nutrient Management (590)	Ac.	47	$ -	$ 240					X			X
Pest Management (595)	Ac.	236	$ -	$ 2,360					X			X
Sprinkler Irrigated Cropland	Ac.	5,250			-3	-/+	-2	-2				
Conservation Cover (327)	Ac.	48	$ -	$ 170					X			X
Forage Harvest Management (511)	Ac.	183	$ -	$ -					X			X
Irrigation System, Sprinkler (442)	Ac.	46	$ -	$ 510					X			X
Irrigation Water Conveyance, Pipeline, High Pressure, Undergrd. Plastic, (430DD)	Ft.	2967	$ -	$ 80					X			X
Nutrient Management (590)	Ac.	47	$ -	$ 240					X			X
Pest Management (595)	Ac.	118	$ -	$ 1,180					X			X
Riparian (Surface & Sprinkler) Irrigated Cropland	Ac.	938			-3	-/+	-2	-2				
Irrigation Sys. Microirrigation (441)	Ac.	1	$ -	$ 80								
Residue Mgmt.,Mulch Till (329B)	Ac.	47	$ -	$ 710					X			X
Riparian Forest Buffer (391)	Ac.	2	$ -	$ 30					X			X
Windbreak/Shelterbelt Estab.(380)	Ac.	1958	$ -	$ 30					X			X
Total RMS Costs			**$ 0**	**$ 5,800**								

Future Conditions		Total Acres	Riparian Acres
Surface Irrigated Cropland		11,462	
Sprinkler Irrigated Cropland		6,038	
Total Irrigated Cropland		17,500	938

Project Future Level of Treatment for Irrigated Cropland

Irrigated Cropland	Quantity		Costs		Effects				Implementation			
Practices	Unit	Quantity	Investment Cost	Annual O&M and Mngt.Cost	Water Conservation	Water Storage	Habitat	WQ	EQIP	WHIP	CREP	Other
Surface Irrigated Cropland	Ac.	11,462			+2	+1	+1	+3				
Critical Area Planting (342)	Ac.	745	$ 353,900	$ 10,620					X			X
Fence (382)	Ft.	1,334	$ 2,300	$ 50					X	X		X
Filter Strip (393)	Ac.	573	$ 57,300	$ 1,150					X			X
Heavy Use Protection (561)	Ac.	2	$ 30,000	$ 4,500					X			X
Irr Sys Micro Irrigation (441)	Ac.	229	$ 343,500	$ 17,180					X			X
Irrigation Water Conveyance, Pipeline, Low Pressure, Undergrd. Plastic, (430EE)	Ft.	23,640	$ 184,900	$ 920					X			X
Irrigation Water Mgmt (449)	Ac.	2,407	$ 72,200	$ 24,070					X			X
Nutrient Mgmt (590)	Ac.	573	$ 7,900	$ 2,630					X			X
Pest Mgmt (595)	Ac.	573	$ 10,100	$ 3,370					X			X
Residue Management, NoTill, Direct Seed (3290	Ac.	2,292	$ 206,300	$ 10,310					X			X
Riparian Forest Buffer (391)	Ac.	344	$ 516,000	$ 5,160					X	X		X
Riparian Herbaceous Cover (390)	Ac.	344	$ 103,200	$ 1,030					X	X		X
Upland Wildlife Hab Mgmt (645)	Ac.	229	$ 3,400	$ 1,150					X	X		X
Windbreak/Shelterbelt Est. (380)	Ft.	23,640	$ 106,400	$ 1,060					X	X		X

Project Future Level of Treatment for Irrigated Cropland												
Irrigated Cropland	Quantity		Costs		Effects				Implementation			
Practices	Unit	Quantity	Investment Cost	Annual O&M and Mngt.Cost	Water Conservation	Water Storage	Habitat	WQ	EQIP	WHIP	CREP	Other
Sprinkler Irrigated Cropland	Ac.	6,038			+2	+/-	+2	+3				
Critical Area Planting (342)	Ac.	344	$ 163,400	$ 4,900					X			X
Fence (382)	Ft.	2,001	$ 3,500	$ 70					X	X		X
Filter Strip (393)	Ac.	121	$ 12,100	$ 240					X			X
Heavy Use Protection (561)	Ac.	10	$ 150,000	$ 22,500					X			X
Irrigation Water Conveyance, Pipeline, High Pressure, Undergrd. Plastic, (430DD)	Ft.	21682	$ 101,400	$ 510					X			X
Irrigation System, Sprinkler (442)	Ac.	788	$ 433,400	$ 8,670					X			X
Irrigation Water Mgmt (449)	Ac.	3,623	$ 108,700	$ 36,230					X			X
Prescribed Grazing (528)	Ac.	302	$ 4,500	$ 1,510					X			
Pumping Plant (533)	No.	10	$ 64,000	$ 1,280					X			X
Riparian Forest Buffer (391)	Ac.	60	$ 90,000	$ 900					X	X		X
Riparian Herbaceous Cover (390)	Ac.	91	$ 27,300	$ 270					X	X		X
Structure for Water Control (587)	No.	10	$ 5,000	$ 50					X			X
Upland Wildlife Hab Mgmt (645)	Ac.	302	$ 4,500	$ 1,510					X	X		X
Windbreak/Shelterbelt Est. (380)	Ft.	6,227	$ 9,300	$ 90					X	X		X

Project Future Level of Treatment for Irrigated Cropland												
Irrigated Cropland	Quantity		Costs		Effects				Implementation			
Practices	Unit	Quantity	Investment Cost	Annual O&M and Mngt.Cost	Water Conservation	Water Storage	Habitat	WQ	EQIP	WHIP	CREP	Other
Riparian (Surface & Sprinkler) Irrigated Cropland	Ac.	938			+2	+1	+2	+3				
Channel Bank Vegetation (322)	Ac.	9	$ 46,600	$ 930					X	X		X
Channel Stabilization (584)	Ft.	3,334	$ 66,700	$ 330					X			X
Critical Area Planting (342)	Ac.	28	$ 13,300	$ 400					X	X		X
Fence (382)	Ft.	3,334	$ 6,700	$ 130					X	X		X
Heavy Use Protection (561)	Ac.	5	$ 75,000	$ 3,750					X			X
Prescribed Grazing (528)	Ac.	235	$ 3,500	$ 1,180					X			X
Riparian Forest Buffer (391)	Ac.	38	$ 57,000	$ 570					X	X		X
Riparian Herbaceous Cover (390)	Ac.	38	$ 11,400	$ 110					X	X		X
Tree/Shrub Establishment (612)	Ac.	47	$ 21,200	$ 210					X	X		X
Use Exclusion (472)	Ac.	28	$ 1,000	$ 30					X			X
Wetland Enhancement (659)	Ac.	19	$ 38,000	$ 380					X	X		X
Wetland Wildlife Hab. Mgmt.(644)	Ac.	38	$ 600	$ 190					X	X		X
Total RMS Costs			**$ 3,515,500**	**$ 170,140**								

Potential RMS Effects for Irrigated Cropland			
Cost Items and Programs		Costs	O&M Costs
Non Farm Bill Programs		$351,600	$17,010
Potential Farm Bill Programs		$3,163,900	$153,130
Operator O&M and Management Cost			$170,140
Annual Management Incentives (3yrs - Incentive Payments)		$421,700	
Operator Investment		$1,722,700	
Federal Costshare		$1,371,100	
Total RMS Costs		**$3,515,500**	**$170,140**
Estimated Level of Participation			90%
Total Acres in RMS System			15,800
Anticipated Cost at Estimated Level of Participation			$3,164,000
Total Acre Feet of Water Saved Annually			13,400
Participating landowners will be in compliance with TMDLs			
Improves habitat for ESA endangered and threated species			

NRCS Natural Resources Conservation Service

Lower Bear-Malad - 16010204

Idaho | 8 Digit Hydrologic Unit Profile | September 2007

Current Conditions (Private)		Total Acres
Total Dry Grass/Pasture/Hay		40,376
Typical Management Unit/Ownership		850
Current Farm Bill Participation		90%

Current Level of Treatment for Dry Grass/Pasture/Hay:												
Dry Grass/Pasture/Hay	Quantity		Costs			Effects			Implementation			
Practices	Unit	Quantity	Investment Cost	Annual O&M and Mngt.Cost	Water Conservation	Water Storage	Habitat	WQ	EQIP	WHIP	CREP	Other
Dry Grass/Pasture/Hay	Ac.	40,376			-3	-/+	-2	-3				
Fence (382)	Ft.	7299	$ -	$ 290					X			X
Forage Harvest Management (511)	Ac.	365	$ -	$ -					X			X
Pasture and Hay Planting (512)	Ac.	72	$ -	$ 70					X			X
Pipeline (516)	Ft.	5115	$ -	$ 280					X			X
Prescribed Grazing (528)	Ac.	65	$ -	$ 330					X			X
Pumping Plant (533)	Ea.	1	$ -	$ 60					X			X
Upland Wildlife Habitat Management (645)	Ac.	189	$ -	$ 950					X			X
Windbreak/Shelterbelt Establishment (380)	Ft.	1958	$ -	$ 90					X			X
Total RMS Costs			**$ -**	**$ 2,070**								

NRCS Natural Resources Conservation Service

Lower Bear-Malad - 16010204

Idaho | 8 Digit Hydrologic Unit Profile | September 2007

Future Conditions		Total Acres
Total Dry Grass/Pasture/Hay Lands		40,376

Project Future Level of Treatment for Dry Grass/Pasture/Hay Lands												
Dry Grass/Pasture/Hay Land	Quantity		Costs			Effects			Implementation			
Practices	Unit	Quantity	Investment Cost	Annual O&M and Mngt.Cost	Water Conservation	Water Storage	Habitat	WQ	EQIP	WHIP	CREP	Other
Dry Grass/Pasture/Hay Land	Ac.	40,376			+3	+2	+2	+3				
Brush Management (314)	Ac.	808	$ 16,200	$ 160					X			X
Fence (wire-4 strand) (382)	Ft.	41,638	$ 68,700	$ 1,370					X	X		X
Forage Harvest Management (511)	Ac.	16,150	$ -	$ -					X			
Nutrient Management (590)	Ac.	808	$ 12,100	$ 4,040					X			X
Pest Management (595)	Ac.	2,019	$ 60,600	$ 20,190					X			X
Pipeline (516)	Ft.	20,819	$ 42,400	$ 850					X			X
Prescribed Grazing (528)	Ac.	30,282	$ 454,200	$ 151,410					X			X
Pumping Plant (533)	No.	34	$ 217,600	$ 4,350					X			X
Spring Development (574)	No.	67	$ 157,500	$ 7,870					X			X
Upland Wildlife Habitat Management (645)	Ac.	1,615	$ 21,400	$ 7,130					X	X		X
Water and Sediment Control Basins (638)	Ea.	101	$ 101,000	$ 3,030					X			X
Watering Facility (614)	No.	67	$ 100,500	$ 1,010					X			X
Water Well (642)	No.	20	$ 80,000	$ 800					X			X
Windbreak/Shelterbelt Estab. (380)	Ft.	2,019	$ 100	$ -					X	X		X
Total RMS Costs			**$ 1,332,300**	**$ 202,210**								

Potential RMS Effects for Dry Grass/Pasture/Hayland		
Cost Items and Programs	Costs	O&M Costs
Non Farm Bill Programs	$133,200	$20,200
Potential Farm Bill Programs	$1,199,100	$182,000
Operator O&M and Management Cost		$202,200
Annual Management Incentives (3yrs - Incentive Payments)	$548,300	
Operator Investment	$458,300	
Federal Costshare	$325,400	
Total RMS Costs	**$1,332,300**	**$202,200**
Estimated Level of Participation		90%
Total Acres in RMS System		36,300
Anticipated Cost at Estimated Level of Participation		$1,199,100
Total Annual Forage Production Benefits (animal unit months)		4,088
Participating landowners will be in compliance with TMDLs		
Improves habitat for ESA endangered and threated species		

NRCS Natural Resources Conservation Service

Lower Bear-Malad - 16010204

Idaho | 8 Digit Hydrologic Unit Profile | September 2007

Current Conditions (Private)		Total Acres	Riparian Acres
Surface Irrigated Grass/Pasture/Hay		7,210	
Sprinkler Irrigated Grass/Pasture/Hay		3,090	
Total Irrigated Grass/Pasture/Hay		10,300	1,293
Typical Management Unit/Ownership		850	
Current Farm Bill Participation		90%	

Current Level of Treatment for Irrigated Grass/Pasture/Hay:												
Grass/Pasture/Hay	Quantity		Costs			Effects			Implementation			
Practices	Unit	Quantity	Investment Cost	Annual O&M and Mngt.Cost	Water Conservation	Water Storage	Habitat	WQ	EQIP	WHIP	CREP	Other
Surface Irrigated Grass/Pasture/Hay	Ac.	7,210			-3	-/+	-2	-3				
Conservation Cover (327)	Ac.	95	$ -	$ 290					X			
Irr. System, Microirrigation (441)	Ac.	1	$ -	$ 80					X			X
Sprinkler Irrigated Grass/Pasture/Hay	Ac.	3,090			-2	-/+	-1	-1				
Irrigation System Sprinkler (442)	Ac.	46	$ -	$ 510					X			X
Irrigation Water Conveyance,High Pressure Pipeline, (430DD)	Ft.	2967	$ -	$ 80					X			X
Irrigated Grass/Pasture/Hayland Riparian (Surface and Sprinkler)	Ac.	1293			-2	-/+	-2	-3				
Riparian Forest Buffer (391)	Ac.	2	$ -	$ 30					X			X
Tree/Shrub Establishment (612)	Ac.	1	$ -	$ -					X			X
Total RMS Costs			**$ 0**	**$ 990**								

NRCS Natural Resources Conservation Service

Lower Bear-Malad - 16010204

Idaho | 8 Digit Hydrologic Unit Profile | September 2007

Future Conditions		Total Acres	Riparian Acres
Surface Irrigated Grass/Pasture/Hay		6,746	
Sprinkler Irrigated Grass/Pasture/Hay		3,554	
Total Irrigated Grass/Pasture/Hay		10,300	
Conversion to Riparian RMS			1,293

Project Future Level of Treatment for Irrigated Grass/Pasture/Hay Lands												
Irrigated Grass/Pasture/Hay Land	Quantity		Costs			Effects			Implementation			
Practices	Unit	Quantity	Investment Cost	Annual O&M and Mngt.Cost	Water Conservation	Water Storage	Habitat	WQ	EQIP	WHIP	CREP	Other
Surface Irrigated Grass/Pasture/Hay	Ac.	6,746			+1	+/-	+1	+2				
Conservation Cover (327)	Ac.	3036	$ 352,900	$ 10,590					X			
Conservation Crop Rotation (328)	Ac.	4385	$ -	$ -					X			
Fence (382)	Ft.	27,827	$ 55,700	$ 1,110					X	X		X
Forage Harvest Management (511)	Ac.	3,036	$ -	$ -								
Heavy Use Area Protection (561)	Ac.	10	$ 150,000	$ 22,500					X			X
Irr. System, Microirrigation (441)	Ac.	135	$ 202,500	$ 10,130					X			X
Irr. Wtr. Conveyance, Pipeline, Rigid Gated Pipeline (430HH)	Ft.	13,914	$ 56,800	$ 570					X			X
Irrigation Water Management (449)	Ac.	3,036	$ 91,100	$ 30,360					X			X
Nutrient Management (590)	Ac.	337	$ 5,100	$ 1,690					X			
Pasture and Hay Planting (512)	Ac.	675	$ 67,500	$ 680					X			X
Pest Management (595)	Ac.	337	$ 10,100	$ 3,370					X			X
Pipeline (516)	Ft.	13,914	$ 37,600	$ 750					X			X
Prescribed Grazing (528)	Ac.	3,373	$ 50,600	$ 16,870					X			X
Upland Wildlife Habitat Management (645)	Ac.	337	$ 5,100	$ 1,690					X	X		X
Watering Facility (614)	No.	11	$ 11,600	$ 120					X			X
Windbreak/Shelterbelt Establishment (380)	Ft.	202	$ 300	$ -					X	X		X

Project Future Level of Treatment for Irrigated Grass/Pasture/Hay Lands												
Irrigated Grass/Pasture/Hay Land	Quantity		Costs			Effects			Implementation			
Practices	Unit	Quantity	Investment Cost	Annual O&M and Mngt.Cost	Water Conservation	Water Storage	Habitat	WQ	EQIP	WHIP	CREP	Other
Sprinkler Irrigated Grass/Pasture/Hay	Ac.	3,554			+2	+/-	+1	+2				
Fence (382)	Ft.	1,833	$ 3,700	$ 70					X	X		X
Forage Harvest Management (511)	Ac.	2,417	$ -	$ -								
Heavy Use Area Protection (561)	Ac.	10	$ 150,000	$ 22,500					X			X
Irr. Wtr. Conveyance, Pipeline, High Pressure, Undergrd, Plastic (430DD)	Ft.	3,665	$ 3,800	$ 20					X			X
Irrigation System, Sprinkler (442)	Ac.	464	$ 229,900	$ 4,600					X			X
Irrigation Water Management (449)	Ac.	2,310	$ 69,300	$ 23,100					X			X
Nutrient Management (590)	Ac.	178	$ 2,700	$ 890					X			
Pasture and Hay Planting (512)	Ac.	889	$ 88,900	$ 890					X			X
Pest Management (595)	Ac.	355	$ 10,700	$ 3,550					X			X
Pipeline (516)	Ft.	916	$ 2,500	$ 50					X			X
Prescribed Grazing (528)	Ac.	2,843	$ 42,600	$ 14,220					X			X
Upland Wildlife Habitat Management (645)	Ac.	142	$ 2,100	$ 710					X	X		X
Watering Facility (614)	No.	6	$ 9,000	$ 90					X			X
Windbreak/Shelterbelt Establishment (380)	Ft.	213	$ 1,000	$ 10					X	X		X

NRCS Natural Resources Conservation Service

Lower Bear-Malad - 16010204

Idaho | 8 Digit Hydrologic Unit Profile | September 2007

Project Future Level of Treatment for Irrigated Grass/Pasture/Hay Lands												
Irrigated Grass/Pasture/Hay Land	Quantity		Costs			Effects			Implementation			
Practices	Unit	Quantity	Investment Cost	Annual O&M and Mngt.Cost	Water Conservation	Water Storage	Habitat	WQ	EQIP	WHIP	CREP	Other
Irrigated Grass/Pasture/Hayland Riparian (Surface and Sprinkler)	Ac.	1293			+2	+1	+3	+3				
Channel Bank Vegetation (322)	Ac.	13	$ 67,300	$ 1,350					X	X		X
Channel Stabilization (584)	Ft.	2,223	$ 44,500	$ 220					X			X
Fence (382)	Ft.	2,669	$ 5,300	$ 110					X	X		X
Filter Strip (393)	Ac.	52	$ 5,200	$ 100					X			X
Heavy Use Protection (561)	Ac.	2	$ 30,000	$ 4,500					X			X
Pest Management (595)	Ac.	65	$ 2,000	$ 650					X			X
Prescribed Grazing (528)	Ac.	388	$ 5,800	$ 1,940					X			
Riparian Forest Buffer (391)	Ac.	39	$ 58,500	$ 590					X	X		X
Stream Crossing (578)	No.	13	$ 45,500	$ 2,280					X			X
Stream Habitat Improvement and Management (395)	Ac.	6	$ 107,400	$ 2,150					X	X		X
Streambank/Shoreline Prot. (580)	Ft.	3,334	$ 158,400	$ 15,840					X			X
Tree/Shrub Establishment (612)	Ac.	65	$ 29,300	$ 290					X	X		X
Use Exclusion (472)	Ac.	259	$ 9,100	$ 270					X			X
Wetland Creation (658)	Ac.	26	$ 130,000	$ 1,300					X			
Wetland Enhancement (659)	Ac.	26	$ 52,000	$ 520					X			X
Wetland Wildlife Hab. Mgmt (644)	Ac.	52	$ 800	$ 260					X	X		X
Total RMS Costs			**$ 2,464,200**	**$ 203,500**								

Potential RMS Effects for Irrigated Grass/Pasture/Hayland		
Cost Items and Programs	Costs	O&M Costs
Non Farm Bill Programs	$246,400	$20,400
Potential Farm Bill Programs	$2,217,800	$183,100
Operator O&M and Management Cost		$203,500
Annual Management Incentives (3yrs - Incentive Payments)	$250,300	
Operator Investment	$1,230,200	
Federal Costshare	$983,700	
Total RMS Costs	**$2,464,200**	**$203,500**
Estimated Level of Participation		90%
Total Acres in RMS System		9,270
Anticipated Cost at Estimated Level of Participation		$2,217,800
Total Annual Forage Production Benefits (animal unit months)		13,220
Total Acre Feet of Water Saved Annually		6,465
Increases infiltration and storage of water in soil profile		
Participating landowners will be in compliance with TMDLs		
Improves habitat for ESA endangered and threated species		

NRCS Natural Resources Conservation Service

Lower Bear-Malad - 16010204

Idaho | 8 Digit Hydrologic Unit Profile | September 2007

Current Conditions		Total Acres	Riparian Acres
Total Shrub/Range Land		64,161	4,308
Typical Management Unit/Ownership		850	
Current Farm Bill Participation		90%	

Current Level of Treatment for Shrub/Range Land												
Shrub/Range Land	Quantity		Costs			Effects			Implementation			
Practices	Unit	Quantity	Additional Investment Cost	Annual O&M and Mngt.Cost	Water Conservation	Water Storage	Habitat	WQ	EQIP	WHIP	CREP	Other
Shrub/Range Land	Ac.	64,161			-2	-1	-2	-2				
Fence (wire-4 strand) (382)	Ft	7,299	$ -	$ 1,460					X			X
Prescribed Grazing (528)	Ac	65	$ -	$ 330					X			X
Upland Wildlife Habitat Management (645)	Ac	189	$ -	$ 950					X			X
Shrub/Rangeland Riparian	Ac.	4,308										
Total RMS Costs			**$ 0**	**$ 2,740**								

Future Conditions		Total Acres	Riparian Acres
Total Shrub/Rangeland		64,161	
Conversion to Riparian RMS			4,308

Future Level of Treatment for Shrub/Rangeland												
Shrub/Range Land	Quantity		Costs			Effects			Implementation			
Practices	Unit	Quantity	Investment Cost	Annual O&M and Mngt.Cost	Water Conservation	Water Storage	Habitat	WQ	EQIP	WHIP	CREP	Other
Shrub/Rangeland	Ac.	64,161			+2	+2	+3	+2				
Brush Management (314)	Ac	3,208	$ 80,200	$ 800					X			
Fence (wire-4 strand) (382)	Ft	33,083	$ 51,600	$ 1,030					X	X		X
Heavy Use Area Protection (561)	Ac	10	$ 150,000	$ 7,500					X			X
Pest Management (590)	Ac	1,925	$ 57,800	$ 19,250					X			X
Pipeline (516)	Ft	22,055	$ 59,500	$ 1,190					X			X
Prescribed Grazing (528)	Ac	25,664	$ 384,000	$ 128,000					X			X
Pumping Plant (533)	No	53	$ 182,900	$ 3,660					X			X
Range Planting (550)	Ac	6,416	$ 577,400	$ 5,770					X			X
Spring Development (574)	No	53	$ 124,600	$ 6,230					X			X
Upland Wildlife Habitat Management (645)	Ac	3,850	$ 54,900	$ 18,310					X	X		X
Watering Facility (614)	No	107	$ 160,500	$ 1,610					X			X
Water Well (642)	No	32	$ 256,000	$ 2,560					X			X

NRCS Natural Resources Conservation Service

Lower Bear-Malad - 16010204

Idaho | 8 Digit Hydrologic Unit Profile | September 2007

Future Level of Treatment for Shrub/Rangeland												
Shrub/Range Land	Quantity		Costs			Effects			Implementation			
Practices	Unit	Quantity	Investment Cost	Annual O&M and Mngt.Cost	Water Conservation	Water Storage	Habitat	WQ	EQIP	WHIP	CREP	Other
Shrub/Rangeland Riparian	Ac.	4,308			+2	+1	+3	+2				
Channel Bank Vegetation (322)	Ac.	129	$ 387,000	$ 7,740					X			X
Critical Area Planting (342)	Ac.	215	$ 102,100	$ 3,060					X			X
Fence (382)	Ft.	8,885	$ 17,800	$ 360					X	X		X
Heavy Use Area Protection (561)	Ac.	5	$ 75,000	$ 11,250					X			X
Pest Management (595)	Ac.	129	$ 3,900	$ 1,290					X			X
Pipeline (516)	Ft.	4,443	$ 12,000	$ 240					X			X
Prescribed Grazing (528)	Ac.	215	$ 3,200	$ 1,080					X			X
Pumping Plant (533)	Ea.	7	$ 12,300	$ 250					X			X
Riparian Forest Buffer (391)	Ac.	129	$ 193,500	$ 1,940					X			X
Spring Development (574)	Ea.	7	$ 16,500	$ 80					X			X
Stream Crossing (578)	No.	43	$ 150,500	$ 7,530					X			X
Structure for Water Control (587)	Ea.	7	$ 7,800	$ 80					X			X
Tree/Shrub Establishment (612)	Ac.	172	$ 77,400	$ 770					X	X		X
Use Exclusion (472)	Ac.	129	$ 4,500	$ 140					X			X
Watering Facility	No.	7	$ 10,500	$ 110					X			X
Total RMS Costs			**$ 3,213,400**	**$ 231,830**								

Potential RMS Effects for Shrub/Rangeland		
Cost Items and Programs	Costs	O&M Costs
Non Farm Bill Programs	$321,300	$23,180
Potential Farm Bill Programs	$2,892,100	$208,650
Operator O&M and Management Cost		$231,830
Annual Management Incentives (3yrs - Incentive Payments)	$503,800	
Operator Investment	$1,515,500	
Federal Costshare	$1,194,100	
Total RMS Costs	**$3,213,400**	**$231,830**
Estimated Level of Participation		90%
Total Acres in RMS System		57,700
Anticipated Cost at Estimated Level of Participation		$2,892,100
Total Annual Forage Production Benefits (animal unit months)		3,897
Participating landowners will be in compliance with TMDLs		
Improves habitat for ESA endangered and threated species		

Conservation Activities for Headquarters

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

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

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

Current conditions and future needs for CAFOs and AFOs reflect the following component practices of Waste Storage Facility (313).

Current Conditions		Total
CAFOs		5
AFOs		53
Current Farm Bill participation	90%	
Total CAFOs and AFOs		58

Current Level of Treatment for Headquarters:

	Quantity		Costs		Effects				Implementation				
Practices	Unit	Quantity	Investment Cost	Annual O&M and Mngt. Cost	Water Conservation	Water Storage	Habitat	WQ	EQIP	WHIP	WRP	CREP	Other
Dairy	No.				-1	-1	-3	-3					
Waste Storage Facility (313) CAFO	No.	5	$ -	$ 8,800					X				X
Waste Storage Facility (313) AFO	No.			-									
Feed Lot	No.				-1	-1	-3	-3					
Waste Storage Facility (313) CAFO	No.												
Waste Storage Facility (313) AFO	No.	53	$ -	$ 47,700					X				X

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

Projected Additional Treatment Needs for Headquarters:

	Quantity		Costs		Effects				Implementation				
Practices	Unit	Quantity	Additional Investment Cost	Annual O&M and Mngt. Cost	Water Conservation	Water Storage	Habitat	WQ	EQIP	WHIP	WRP	CREP	Other
Dairy	No.				+2	+1	+3	+2					
Structural/Management Practices													
Waste Storage Facility (313) CAFO	No.	7	$ 612,500	$ 12,250					X				X
Waste Storage Facility (313) AFO	No.												
Feed Lot	No.				+2	+1	+3	+2					
Structural/Management Practices													
Waste Storage Facility (313) CAFO	No.												
Waste Storage Facility (313) AFO	No.	53	2,385,000	$ 47,700					X				X
Total RMS Costs		**60**	**$2,997,500**	**$ 59,950**									

RMS Cost Summary for Headquarters

Cost Items and Programs	Costs	O&M Costs
Non Farm Bill Programs	$ 149,900	$ 3,000
Potential Farm Bill Programs	$ 2,847,600	$ 56,950
Operator O&M and Management Cost		$ 59,950
Annual Management Incentives (3 yrs - Incentive Payments)	$ 299,800	
Operator Investment	$ 786,900	
Federal Costshare	$ 1,910,800	
Total RMS Costs	**$ 2,997,500**	
Estimated Level of Participation		90%
Total CAFO/AFO in RMS System		54
Anticipated Cost at Estimated Level of Participation		$2,697,800
Reduces impact to ground and surface water quality		
90% participation reflects Local, State and Federal regulations		