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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

- Introduction
- Physical Description
- Landuse Map & Precipitation Map
- Common Resource Area
- Resource Settings
- Resource Concerns
- Census and Social Data
- Progress/Status
- Footnotes/Bibliography
- Future Conservation Needs
Lower Bear-Malad - 16010204
Idaho  8 Digit Hydrologic Unit Profile     September 2007

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

Miles
Lower Bear-Malad - 16010204
Idaho 8 Digit Hydrologic Unit Profile September 2007

General Ownership

Lower Bear - Malad 16010204 Ownership Map

Legend
- Private
- Public
- Counties

Power
Franklin
Oneida
Physical Description

ALL NUMBERS WITHIN THIS PROFILE ARE FOR IDAHO ONLY

<table>
<thead>
<tr>
<th>Land Cover/Land Use (NLCD(^2))</th>
<th>Ownership - (2003 Draft BLM Surface Map Set(^1))</th>
<th>Public</th>
<th>Private</th>
<th>Tribal</th>
<th>Totals</th>
<th>% of HUC</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Acres</td>
<td>%</td>
<td>Acres</td>
<td>%</td>
<td>Acres</td>
<td>%</td>
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<tr>
<td>Forest</td>
<td>21,127</td>
<td>7%</td>
<td>825 &lt;1%</td>
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<tr>
<td>Grain Crops</td>
<td>15</td>
<td>&lt;1%</td>
<td>22,346</td>
<td>7%</td>
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<tr>
<td>Conservation Reserve Program (CRP Land)</td>
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<td>--</td>
<td>33,055</td>
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<tr>
<td>Grass/ Pasture/Hay Lands</td>
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<td>7%</td>
<td>50,676</td>
<td>16%</td>
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<tr>
<td>Orchards/Vineyards/Berries</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>Row Crops</td>
<td>35 &lt;1%</td>
<td>10,788</td>
<td>3%</td>
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<tr>
<td>Shrub/Rangelands</td>
<td>93,664</td>
<td>29%</td>
<td>64,161</td>
<td>20%</td>
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<tr>
<td>Water/Wetlands/Developed/Barren</td>
<td>190 &lt;1%</td>
<td>3,191</td>
<td>1%</td>
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<tr>
<td>Idaho HUC Totals*</td>
<td>138,572</td>
<td>43%</td>
<td>185,042</td>
<td>57%</td>
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</table>

*Irrigated Lands\(^4\)

<table>
<thead>
<tr>
<th>Type of Land</th>
<th>ACRES</th>
<th>% of Irrigated Lands</th>
<th>% of HUC</th>
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<tbody>
<tr>
<td>Cultivated Cropland</td>
<td>17,500</td>
<td>63%</td>
<td>5%</td>
</tr>
<tr>
<td>Non-Cultivated Cropland**</td>
<td>7,100</td>
<td>26%</td>
<td>2%</td>
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<tr>
<td>Pastureland</td>
<td>3,200</td>
<td>11%</td>
<td>1%</td>
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<tr>
<td>Total Irrigated Lands</td>
<td>27,800</td>
<td>100%</td>
<td>8%</td>
</tr>
</tbody>
</table>

**Includes permanent hayland and horticultural cropland.
Land Use / Land Cover
Average Annual Precipitation

Lower Bear - Malad 16010204
Average Annual Precipitation

Precipitation Range
- Less than 20 inches
- 20 - 25 inches
- 25 - 30 inches
- 30 - 35 inches
- Greater than 35 inches
- Counties
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](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 intermontane 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).

<table>
<thead>
<tr>
<th>Stream Flow Data</th>
<th>USGS #10125500 Malad River At Woodruff, Idaho, 1939-1982</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Acre-Feet</td>
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<tr>
<td>Average Annual</td>
<td>46,611</td>
</tr>
<tr>
<td>Mar-July Average</td>
<td>22,821</td>
</tr>
<tr>
<td>Percent of Average Annual</td>
<td>49%</td>
</tr>
<tr>
<td>Irrigated Adjudicated Water Rights</td>
<td>CFS</td>
</tr>
<tr>
<td>-----------------------------------</td>
<td>-----</td>
</tr>
<tr>
<td>Surface Water</td>
<td>162</td>
</tr>
<tr>
<td>Groundwater</td>
<td>24</td>
</tr>
<tr>
<td>Total Irrigated Adjudicated Water Rights</td>
<td>186</td>
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<table>
<thead>
<tr>
<th>Stream Data</th>
<th>MILES</th>
<th>PERCENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Miles</td>
<td>629</td>
<td>--</td>
</tr>
<tr>
<td>Water quality impaired streams</td>
<td>421</td>
<td>67%*</td>
</tr>
<tr>
<td>Anadromous Fish Presence (Streamnet)</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>Bull Trout Presence (Streamnet)</td>
<td>--</td>
<td>--</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Land Cover/Use based on a 100 ft. stretch on both sides of all streams in the 24K Hydro Layer</th>
<th>ACRES</th>
<th>PERCENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Forest</td>
<td>738</td>
<td>3%</td>
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<tr>
<td>Grain Crops</td>
<td>1,224</td>
<td>5%</td>
</tr>
<tr>
<td>Grass/Pasture/Hay Lands</td>
<td>9,318</td>
<td>41%</td>
</tr>
<tr>
<td>Row Crops</td>
<td>555</td>
<td>3%</td>
</tr>
<tr>
<td>Shrub/Rangelands – Includes CRP Lands</td>
<td>10,597</td>
<td>47%</td>
</tr>
<tr>
<td>Water/Wetlands/Developed/Barren</td>
<td>236</td>
<td>1%</td>
</tr>
<tr>
<td>Total Acres of 100 ft stream buffers</td>
<td>22,673</td>
<td>100%</td>
</tr>
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</table>

<table>
<thead>
<tr>
<th>Land Capability Class based on a 100 ft. stretch on both sides of all streams in the 24K Hydro Layer</th>
<th>I – slight limitations</th>
<th>II – moderate limitations</th>
<th>III – severe limitations</th>
<th>IV – very severe limitations</th>
<th>V – no erosion hazard, but other limitations</th>
<th>VI – severe limitations, unsuited for cultivation, limited to pasture, range, forest</th>
<th>VII – very severe limitations, unsuited for cultivation, limited to grazing, forest, wildlife</th>
<th>VIII – misc areas have limitations, limited to recreation, wildlife, and water supply</th>
<th>Total Crop &amp; Pasture Lands</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>17,900</td>
<td>22,000</td>
<td>3,400</td>
<td>2,200</td>
<td>3,400</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>85,300</td>
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<table>
<thead>
<tr>
<th>Confined Animal Feeding Operations – Dairies/Feedlots</th>
<th>Operation Type</th>
<th>Number</th>
<th>&lt;300</th>
<th>300-999</th>
<th>1000-4999</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Dairy</td>
<td>5</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Feedlots</td>
<td>53</td>
<td>53</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
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.
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

<table>
<thead>
<tr>
<th>Impacted Water Bodies (ID 16010204)</th>
<th>Stream Miles*</th>
<th>Pathogens</th>
<th>Nutrients</th>
<th>Sediment</th>
<th>Temperature</th>
<th>Dissolved Oxygen</th>
<th>Other or Unknown</th>
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<tr>
<td>Deep Creek Reservoir (BR006L_0L)</td>
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<tr>
<td>Susan Hollow (BR006_02)</td>
<td>4.0 ac</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Upper Deep Creek Reservoir (BR006_03)</td>
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<td>Dairy Creek (BR011_02)</td>
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<td>Deep Creek (BR007_03)</td>
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<td>Deep Creek (BR007_02)</td>
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<tr>
<td>Devil Creek (BR002_02)</td>
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<td>Devil Creek (BR002_03)</td>
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<td>Little Malad River (BR008_02)</td>
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<td>Little Malad River (BR008_04)</td>
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<td>Malad River (BR001_04)</td>
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<tr>
<td>Malad River (BR012_02)</td>
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<td></td>
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<td>West Cherry Creek (BR001_02c)</td>
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<td>Four Mile Canyon (BR001_02b)</td>
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<td>Samaria Creek (BR013_03)</td>
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<td>Middle Wright Creek (BR010_03)</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Indian Mill Creek (BR010_02a)</td>
<td>4.6</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>X</td>
</tr>
</tbody>
</table>

**Total Stream Miles:** 380.9

*Shading indicates TMDL in progress*

*Shading indicates TMDL in place*
Resource Concerns - continued

Watershed Projects, Plans, Studies and Assessments

NRCS Watershed Plans, Studies and Assessments
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

SCC/SWCD Projects
Conservation Improvement Grants (9)

IDEQ/SWCD 319 Projects
Wright Creek 319 Project

Other Assessments
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
**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  

**US Geological Survey/**
Resource Concerns – continued

Surface and Groundwater Resource Protection
# Resource Concerns – continued

## Resource Concerns/ Issues by Land Use

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

**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

<table>
<thead>
<tr>
<th>Threatened Species</th>
<th>Candidate Species</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mammals – Lynx</td>
<td>Fish – None</td>
</tr>
<tr>
<td>Birds – Bald Eagle</td>
<td>Birds – None</td>
</tr>
<tr>
<td>Fish – None</td>
<td>PROPOSED SPECIES</td>
</tr>
<tr>
<td>Invertebrates – None</td>
<td>None</td>
</tr>
<tr>
<td>Plants – None</td>
<td>CRITICAL FISH HABITAT</td>
</tr>
<tr>
<td>ESSENTIAL FISH HABITAT – None</td>
<td>None</td>
</tr>
</tbody>
</table>

---

**Lower Bear-Malad - 16010204**

Idaho 8 Digit Hydrologic Unit Profile   September 2007
Census and Social Data

Population: 3,714
Number of Farms: 208

<table>
<thead>
<tr>
<th>Number of Farms</th>
<th>0-49 acres</th>
<th>50-999 acres</th>
<th>1000+ acres</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>48</td>
<td>117</td>
<td>43</td>
</tr>
</tbody>
</table>
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.

<table>
<thead>
<tr>
<th></th>
<th>Number of farms</th>
<th>Average size farm</th>
<th>Market Value of Production (Average Farm)</th>
<th>Government Payments (Average Farm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1997</td>
<td>200</td>
<td>670</td>
<td>$39,600</td>
<td>$10,600</td>
</tr>
<tr>
<td>2002</td>
<td>210</td>
<td>850</td>
<td>$41,100</td>
<td>$14,400</td>
</tr>
<tr>
<td>Change</td>
<td>5.0%</td>
<td>26.9%</td>
<td>3.8%</td>
<td>35.8%</td>
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</tbody>
</table>

Economic Profile

<table>
<thead>
<tr>
<th></th>
<th>Watershed</th>
<th>Idaho</th>
<th>United States</th>
</tr>
</thead>
<tbody>
<tr>
<td>Population (2000)</td>
<td>3,714</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Per Capita Personal Income (2002)</td>
<td>$16,500</td>
<td>$25,476</td>
<td>$30,906</td>
</tr>
<tr>
<td>Median Home Value (2000)</td>
<td>$88,400</td>
<td>$106,300</td>
<td>$119,600</td>
</tr>
<tr>
<td>Percent Unemployment (2004)</td>
<td>3.1%</td>
<td>4.7%</td>
<td>5.5%</td>
</tr>
<tr>
<td>Percent Below Poverty Level (2003)</td>
<td>10.3%</td>
<td>11.8%</td>
<td>12.5%</td>
</tr>
</tbody>
</table>
## Progress / Status

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

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.


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


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/](http://www.streamnet.org/)

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

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


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](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](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](http://www.nwcouncil.org/fw/subbasinplanning/Default.htm)


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. [Link](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 [Link](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. [Link](http://www.nass.usda.gov/Census_of_Agriculture/Census_by_State/Idaho/index.asp)

27. Utah State University. [Link](http://www.bearriverinfo.org).

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


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
## Lower Bear-Malad - 16010204

**Idaho**

8 Digit Hydrologic Unit Profile  

### Current Conditions (Private)

<table>
<thead>
<tr>
<th></th>
<th>Total Acres</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Dry Cropland</td>
<td>15,634</td>
</tr>
<tr>
<td>Typical Management Unit/Ownership</td>
<td>850</td>
</tr>
<tr>
<td>Current Farm Bill Participation</td>
<td>90%</td>
</tr>
</tbody>
</table>

### Current Level of Treatment for Dry Cropland

| 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   |                 |                             |                    |               |         |    |     |      |      |      |       |
| Conservation Cover (327)                 | Ac.  | 95       | $               | $ 290                      | -3                 | -/+           | -2      | -3 |     |      |      |      |       |
| 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                    |                    |               |         |    |     |      |      |      |       |
## Lower Bear-Malad - 16010204
### Idaho 8 Digit Hydrologic Unit Profile  September 2007

| 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   | $166,800        | $5,000                    | +2                 | +1           | +1      | +2 |     |      |      |      |       |
| Conservation Cover (327)            | Ac.  | 1485     | $166,800        | $5,000                    | X                  | X            | X       |    |     |      |      |      |       |
| Conservation Crop Rotation (328)    | Ac.  | 7817     | $                | $-                        | X                  |              | X       |    |     |      |      |      |       |
| Contour Farming (330)               | Ac.  | 9380     | $70,400          | $23,450                   | X                  |              | X       |    |     |      |      |      |       |
| Deep Tillage (324)                  | Ac.  | 156      | $7,000           | $2,340                    | X                  |              | 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

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<th>Cost Items and Programs</th>
<th>Costs</th>
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<td>Operator O&amp;M and Management Cost</td>
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<td><strong>Total RMS Costs</strong></td>
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<td><strong>$123,270</strong></td>
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- 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 threatened species
### Current Conditions

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<tr>
<th>Current Condition</th>
<th>Acres</th>
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### Current Level of Treatment for Irrigated Cropland

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<th>Practices</th>
<th>Quantity</th>
<th>Additional Investment Cost</th>
<th>Annual O&amp;M and Mngt. Cost</th>
<th>Water Conservation</th>
<th>Water Storage</th>
<th>Habitat</th>
<th>WQ</th>
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<th>WHIP</th>
<th>CREP</th>
<th>Other</th>
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32
### Future Conditions

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<th>Total Acres</th>
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### Project Future Level of Treatment for Irrigated Cropland

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<th>Irrigated Cropland</th>
<th>Quantity</th>
<th>Costs</th>
<th>Effects</th>
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#### Surface Irrigated Cropland

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<th>Practices</th>
<th>Quantity</th>
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<th>Annual O&amp;M and Mngt. Cost</th>
<th>Water Conservation</th>
<th>Water Storage</th>
<th>Habitat</th>
<th>WQ</th>
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<tr>
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<td>Quantity</td>
<td>Investment Cost</td>
<td>Annual O&amp;M and Mngt. Cost</td>
<td>Water Conservation</td>
<td>Water Storage</td>
<td>Habitat</td>
</tr>
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<tr>
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### Project Future Level of Treatment for Irrigated Cropland

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<th>Practices</th>
<th>Quantity</th>
<th>Costs</th>
<th>Annual O&amp;M and Mngt.Cost</th>
<th>Water Conservation</th>
<th>Water Storage</th>
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<th>WHIP</th>
<th>CREP</th>
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<td>$38,000</td>
<td>$380</td>
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<tr>
<td>Wetland Wildlife Hab. Mgmt. (644)</td>
<td>Ac.</td>
<td>38</td>
<td>$600</td>
<td>$190</td>
<td>X</td>
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<td></td>
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<tr>
<td><strong>Total RMS Costs</strong></td>
<td></td>
<td></td>
<td>$3,515,500</td>
<td>$170,140</td>
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<td></td>
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</table>
## Lower Bear-Malad - 16010204

Idaho  
8 Digit Hydrologic Unit Profile  
September 2007

<table>
<thead>
<tr>
<th>Cost Items and Programs</th>
<th>Costs</th>
<th>O&amp;M Costs</th>
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<tbody>
<tr>
<td>Non Farm Bill Programs</td>
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<td>Annual Management Incentives (3yrs - Incentive Payments)</td>
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<td>$421,700</td>
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<td>Operator Investment</td>
<td>$1,722,700</td>
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<tr>
<td>Federal Costshare</td>
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<td><strong>Total RMS Costs</strong></td>
<td><strong>$3,515,500</strong></td>
<td><strong>$170,140</strong></td>
</tr>
</tbody>
</table>

- 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 threatened species
### Current Conditions (Private)

<table>
<thead>
<tr>
<th>Description</th>
<th>Total Acres</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Dry Grass/Pasture/Hay</td>
<td>40,376</td>
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<tr>
<td>Typical Management Unit/Ownership</td>
<td>850</td>
</tr>
<tr>
<td>Current Farm Bill Participation</td>
<td>90%</td>
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</table>

### Current Level of Treatment for Dry Grass/Pasture/Hay:

<table>
<thead>
<tr>
<th>Practices</th>
<th>Quantity</th>
<th>Costs</th>
<th>Effects</th>
<th>Implementation</th>
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<tbody>
<tr>
<td>Dry Grass/Pasture/Hay</td>
<td>Ac.</td>
<td>40,376</td>
<td>-3</td>
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</tr>
<tr>
<td>Fence (382)</td>
<td>Ft.</td>
<td>7299</td>
<td>$</td>
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</tr>
<tr>
<td>Forage Harvest Management (511)</td>
<td>Ac.</td>
<td>365</td>
<td>$</td>
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<tr>
<td>Pasture and Hay Planting (512)</td>
<td>Ac.</td>
<td>72</td>
<td>$</td>
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<td>Pipeline (516)</td>
<td>Ft.</td>
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</tr>
<tr>
<td>Prescribed Grazing (528)</td>
<td>Ac.</td>
<td>65</td>
<td>$</td>
<td></td>
</tr>
<tr>
<td>Pumping Plant (533)</td>
<td>Ea.</td>
<td>1</td>
<td>$</td>
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</tr>
<tr>
<td>Upland Wildlife Habitat Management (645)</td>
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<td>189</td>
<td>$</td>
<td>$ 950</td>
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<tr>
<td>Windbreak/Shelterbelt Establishment (380)</td>
<td>Ft.</td>
<td>1958</td>
<td>$</td>
<td>$ 90</td>
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</tbody>
</table>

| Total RMS Costs                  | $         | $     | 2,070   |                |
### Future Conditions

| Total Dry Grass/Pasture/Hay Lands | 40,376 |

### Project Future Level of Treatment for Dry Grass/Pasture/Hay Lands

| Dry Grass/Pasture/Hay Land | 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  |           |      |          |                 |                          |                    |               |         |    |     |      |      |      |       |
|                             | Brush Management (314) | Ac.  | 808 | $16,200 | $160 | +3 | +2 | +2 | +3 | | | | | |
|                             | Fence (wire-4 strand) (382) | Ft.  | 41,638 | $68,700 | $1,370 | | | | | | | | | |
|                             | Forage Harvest Management (511) | Ac.  | 16,150 | $ | $ | | | | | | X | X | X | X |
|                             | Nutrient Management (590) | Ac.  | 808 | $12,100 | $4,040 | | | | | | | | | |
|                             | Pest Management (595) | Ac.  | 2,019 | $60,600 | $20,190 | | | | | | | | | |
|                             | Pipeline (516) | Ft.  | 20,819 | $42,400 | $850 | | | | | | X | X | X | X |
|                             | Prescribed Grazing (528) | Ac.  | 30,282 | $454,200 | $151,410 | | | | | | X | X | X | X |
|                             | Pumping Plant (533) | No.  | 34 | $217,600 | $4,350 | | | | | | X | X | X | X |
|                             | Spring Development (574) | No.  | 67 | $157,500 | $7,870 | | | | | | X | X | X | X |
|                             | Upland Wildlife Habitat Management (645) | Ac.  | 1,615 | $21,400 | $7,130 | | | | | | X | X | X | X |
|                             | Water and Sediment Control Basins (638) | Ea.  | 101 | $101,000 | $3,030 | | | | | | X | X | X | X |
|                             | Watering Facility (614) | No.  | 67 | $100,500 | $1,010 | | | | | | X | X | X | X |
|                             | Water Well (642) | No.  | 20 | $80,000 | $800 | | | | | | X | X | X | X |
|                             | Windbreak/Shelterbelt Estab. (380) | Ft.  | 2,019 | $100 | | | | | | | X | X | X | X |
|                             | Total RMS Costs | | | $1,332,300 | $202,210 | | | | | | | | | |

---

38
### Potential RMS Effects for Dry Grass/Pasture/Hayland

<table>
<thead>
<tr>
<th>Cost Items and Programs</th>
<th>Costs</th>
<th>O&amp;M Costs</th>
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</thead>
<tbody>
<tr>
<td>Non Farm Bill Programs</td>
<td>$133,200</td>
<td>$20,200</td>
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<td>Potential Farm Bill Programs</td>
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<td>$182,000</td>
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<td>Operator O&amp;M and Management Cost</td>
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</tr>
<tr>
<td>Annual Management Incentives (3yrs - Incentive Payments)</td>
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<tr>
<td>Operator Investment</td>
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<td>Federal Costshare</td>
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<td><strong>Total RMS Costs</strong></td>
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<td><strong>$202,200</strong></td>
</tr>
</tbody>
</table>

- 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 threatened species
### Current Conditions (Private)

<table>
<thead>
<tr>
<th>Description</th>
<th>Total Acres</th>
<th>Riparian Acres</th>
</tr>
</thead>
<tbody>
<tr>
<td>Surface Irrigated Grass/Pasture/Hay</td>
<td>7,210</td>
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</tr>
<tr>
<td>Sprinkler Irrigated Grass/Pasture/Hay</td>
<td>3,090</td>
<td>1,293</td>
</tr>
<tr>
<td>Total Irrigated Grass/Pasture/Hay</td>
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<tr>
<td>Typical Management Unit/Ownership</td>
<td>850</td>
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<td>Current Farm Bill Participation</td>
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### Current Level of Treatment for Irrigated Grass/Pasture/Hay:

<table>
<thead>
<tr>
<th>Practices</th>
<th>Grass/Pasture/Hay</th>
<th>Quantity</th>
<th>Costs</th>
<th>Water Conservation</th>
<th>Water Storage</th>
<th>Habitat</th>
<th>WQ</th>
<th>EQIP</th>
<th>WHIP</th>
<th>CREP</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>Surface Irrigated Grass/Pasture/Hay</td>
<td></td>
<td>Ac. 7,210</td>
<td></td>
<td>-3</td>
<td>-/+</td>
<td>-2</td>
<td>-3</td>
<td></td>
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<tr>
<td>Conservation Cover (327)</td>
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<td>Ac. 95</td>
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<td>-</td>
<td>$ 290</td>
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<tr>
<td>Irr. System, Microirrigation (441)</td>
<td></td>
<td>Ac. 1</td>
<td>$</td>
<td>-</td>
<td>$ 80</td>
<td></td>
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<tr>
<td>Sprinkler Irrigated Grass/Pasture/Hay</td>
<td></td>
<td>Ac. 3,090</td>
<td></td>
<td>-2</td>
<td>-/+</td>
<td>-1</td>
<td>-1</td>
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<td>Irrigation System Sprinkler (442)</td>
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<td>$</td>
<td>-</td>
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<tr>
<td>Irrigation Water Conveyance, High Pressure Pipeline, (430DD)</td>
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<td>Ft. 2967</td>
<td>$</td>
<td>-</td>
<td>$ 80</td>
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<tr>
<td>Irrigated Grass/Pasture/Hayland Riparian (Surface and Sprinkler)</td>
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<td>Ac. 1293</td>
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<td></td>
<td></td>
<td>-2</td>
<td>-3</td>
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<td>Riparian Forest Buffer (391)</td>
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<tr>
<td>Tree/Shrub Establishment (612)</td>
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<td>Ac. 1</td>
<td>$</td>
<td>-</td>
<td>-</td>
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<tr>
<td>Total RMS Costs</td>
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<td>$ 990</td>
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### Future Conditions

<table>
<thead>
<tr>
<th>Land Type</th>
<th>Total Acres</th>
<th>Riparian Acres</th>
</tr>
</thead>
<tbody>
<tr>
<td>Surface Irrigated Grass/Pasture/Hay</td>
<td>6,746</td>
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</tr>
<tr>
<td>Sprinkler Irrigated Grass/Pasture/Hay</td>
<td>3,554</td>
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</tr>
<tr>
<td>Total Irrigated Grass/Pasture/Hay</td>
<td>10,300</td>
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</tr>
<tr>
<td>Conversion to Riparian RMS</td>
<td>1,293</td>
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</table>

### Project Future Level of Treatment for Irrigated Grass/Pasture/Hay Lands

| 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     |
| Forage Harvest Management (511)        | Ac.   | 3,036    | $                | $                          |                   |               |         |    |    |      |      |      | x     |
| Heavy Use Area Protection (561)        | Ac.   | 10       | $150,000        | $22,500                    |                   |               |         |    |    |      |      |      | x     |
| Irrigation System, Microirrigation (441) | Ac.   | 135      | $202,500        | $10,130                    |                   |               |         |    |    |      |      |      | x     |
| Irr. Wtr. Conveyance, Pipeline, Rigid Gated Pipeline (430HH) | Ft. | 13,914 | $56,800 | $570 | | | | | | | | |
| Irrigation Water Management (449)      | Ac.   | 3,036    | $91,100         | $30,360                    |                   |               |         |    |    |      |      |      | x     |
| Nutrient Management (590)              | Ac.   | 337      | $5,100          | $1,690                     |                   |               |         |    |    |      |      |      | x     |
| Pasture and Hay Planting (512)         | Ac.   | 675      | $67,500         | $680                       |                   |               |         |    |    |      |      |      | x     |
| Pest Management (595)                  | Ac.   | 337      | $10,100         | $3,370                     |                   |               |         |    |    |      |      |      | x     |
| Pipeline (516)                         | Ft.   | 13,914   | $37,600         | $750                       |                   |               |         |    |    |      |      |      | x     |
| Prescribed Grazing (528)               | Ac.   | 3,373    | $50,600         | $16,870                    |                   |               |         |    |    |      |      |      | x     |
| Upland Wildlife Habitat Management (645) | Ac.   | 337      | $5,100          | $1,690                     |                   |               |         |    |    |      |      |      | x     |
| Watering Facility (614)                | No.   | 11       | $11,600         | $120                       |                   |               |         |    |    |      |      |      | x     |
| Windbreak/Shelterbelt Establishment (380) | Ft.   | 202      | $300            | $                          |                   |               |         |    |    |      |      |      | x     |
## Project Future Level of Treatment for Irrigated Grass/Pasture/Hay Lands

| 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    |                 |                            |                    |               |         |    |     |      |      |      |       |
| 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    |      |       |
| 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          | $830                       |                    |               |         |    |    | X    | 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    |      |       |
| Watering Facility (614)                            | No.   | 6        | $9,000          | $90                        |                    |               |         |    |    | X    | X    |      |       |
| Windbreak/Shelterbelt Establishment (380)          | Ft.   | 213      | $1,000          | $10                        |                    |               |         |    |    | X    | X    |      |       |
### Project Future Level of Treatment for Irrigated Grass/Pasture/Hay Lands

<table>
<thead>
<tr>
<th>Practices</th>
<th>Unit</th>
<th>Quantity</th>
<th>Investment Cost</th>
<th>Annual O&amp;M and Mngt.Cost</th>
<th>Water Conservation</th>
<th>Water Storage</th>
<th>Habitat</th>
<th>WQ</th>
<th>EQIP</th>
<th>WHIP</th>
<th>CREP</th>
<th>Other</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Irrigated Grass/Pasture/Hayland Riparian</td>
<td>Ac.</td>
<td>1293</td>
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<tr>
<td>Channel Bank Vegetation (322)</td>
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<td>$ 67,300</td>
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<td>Channel Stabilization (584)</td>
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<td>X</td>
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<td>Fence (382)</td>
<td>Ft.</td>
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</tr>
<tr>
<td>Heavy Use Protection (561)</td>
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<td>Riparian Forest Buffer (391)</td>
<td>Ac.</td>
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<td>$ 590</td>
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<td></td>
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<td>X</td>
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<tr>
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<td></td>
<td></td>
<td>X</td>
<td>X</td>
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<tr>
<td>Stream Habitat Improvement and Management (395)</td>
<td>Ac.</td>
<td>6</td>
<td>$ 107,400</td>
<td>$ 2,150</td>
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<tr>
<td>Streambank/Shoreline Prot. (580)</td>
<td>Ft.</td>
<td>3,334</td>
<td>$ 158,400</td>
<td>$ 15,840</td>
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<td></td>
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<td>X</td>
<td>X</td>
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<tr>
<td>Tree/Shrub Establishment (612)</td>
<td>Ac.</td>
<td>65</td>
<td>$ 29,300</td>
<td>$ 290</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td>X</td>
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<tr>
<td>Use Exclusion (472)</td>
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<td>259</td>
<td>$ 9,100</td>
<td>$ 270</td>
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<td></td>
<td></td>
<td>X</td>
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</tr>
<tr>
<td>Wetland Creation (658)</td>
<td>Ac.</td>
<td>26</td>
<td>$ 130,000</td>
<td>$ 1,300</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td>X</td>
<td></td>
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<tr>
<td>Wetland Enhancement (659)</td>
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<td>26</td>
<td>$ 52,000</td>
<td>$ 520</td>
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<td></td>
<td>X</td>
<td>X</td>
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<tr>
<td>Wetland Wildlife Hab. Mgmt (644)</td>
<td>Ac.</td>
<td>52</td>
<td>$ 800</td>
<td>$ 260</td>
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<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td><strong>Total RMS Costs</strong></td>
<td></td>
<td></td>
<td><strong>$ 2,464,200</strong></td>
<td><strong>$ 203,500</strong></td>
<td></td>
<td></td>
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</tbody>
</table>
### Potential RMS Effects for Irrigated Grass/Pasture/Hayland

<table>
<thead>
<tr>
<th>Cost Items and Programs</th>
<th>Costs</th>
<th>O&amp;M Costs</th>
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<tbody>
<tr>
<td>Non Farm Bill Programs</td>
<td>$246,400</td>
<td>$20,400</td>
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<tr>
<td>Potential Farm Bill Programs</td>
<td>$2,217,800</td>
<td>$183,100</td>
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<tr>
<td>Operator O&amp;M and Management Cost</td>
<td></td>
<td>$203,500</td>
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<tr>
<td>Annual Management Incentives (3yrs - Incentive Payments)</td>
<td></td>
<td>$250,300</td>
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<tr>
<td>Operator Investment</td>
<td></td>
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<td>Federal Costshare</td>
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<td>$983,700</td>
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<tr>
<td><strong>Total RMS Costs</strong></td>
<td><strong>$2,464,200</strong></td>
<td><strong>$203,500</strong></td>
</tr>
</tbody>
</table>

- **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 threatened species
### Current Conditions

<table>
<thead>
<tr>
<th>Current Conditions</th>
<th>Total Acres</th>
<th>Riparian Acres</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Shrub/Range Land</td>
<td>64,161</td>
<td>4,308</td>
</tr>
<tr>
<td>Typical Management Unit/Ownership</td>
<td>850</td>
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<tr>
<td>Current Farm Bill Participation</td>
<td>90%</td>
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</tr>
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</table>

### Current Level of Treatment for Shrub/Range Land

| Practices | Shrub/Range Land | Quantity | Additional Investment Cost | Annual O&M and Mngt.Cost | Water Conservation | Water Storage | Habitat | WQ | EQIP | WHIP | CREP | Other |
|-----------|------------------|----------|-----------------------------|---------------------------|--------------------|---------------|---------|----|-----|------|------|-------|-------|
|           |                  |          |                             |                           |                    |               |         |    |     |      |      |       |       |
|           | Fence (wire-4 strand) (382) | Ft 7,299 | $ -                        | $ 1,460                  | -2                | -1            | -2       | -2 | 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

<table>
<thead>
<tr>
<th></th>
<th>Total Acres</th>
<th>Riparian Acres</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Shrub/Rangeland</td>
<td>64,161</td>
<td></td>
</tr>
<tr>
<td>Conversion to Riparian RMS</td>
<td>4,308</td>
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### Future Level of Treatment for Shrub/Rangeland

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

| 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                  |                |         |    |     |      |      |      |       |
| Critical Area Planting (342)     | Ac.   | 215      | $ 102,100       | $ 3,060                    | X                  |                |         |    |     |      |      |      |       |
| Fence (382)                      | Ft.   | 8,885    | $ 17,800        | $ 360                      | X                  | X              |         |    |     |      |      |      |       |
| Heavy Use Area Protection (561)  | Ac.   | 5        | $ 75,000        | $ 11,250                   | X                  |                |         |    |     |      |      |      |       |
| Pest Management (595)            | Ac.   | 129      | $ 3,900         | $ 1,290                    | X                  |                |         |    |     |      |      |      |       |
| Pipeline (516)                   | Ft.   | 4,443    | $ 12,000        | $ 240                      | X                  |                |         |    |     |      |      |      |       |
| Prescribed Grazing (528)         | Ac.   | 215      | $ 3,200         | $ 1,080                    | X                  |                |         |    |     |      |      |      |       |
| Pumping Plant (533)              | Ea.   | 7        | $ 12,300        | $ 250                      | X                  |                |         |    |     |      |      |      |       |
| Riparian Forest Buffer (391)     | Ac.   | 129      | $ 193,500       | $ 1,940                    | X                  |                |         |    |     |      |      |      |       |
| Spring Development (574)         | Ea.   | 7        | $ 16,500        | $ 80                       | X                  |                |         |    |     |      |      |      |       |
| Stream Crossing (578)            | No.   | 43       | $ 150,500       | $ 7,530                    | X                  |                |         |    |     |      |      |      |       |
| Structure for Water Control (587)| Ea.   | 7        | $ 7,800         | $ 80                       | X                  |                |         |    |     |      |      |      |       |
| Tree/Shrub Establishment (612)   | Ac.   | 172      | $ 77,400        | $ 770                      | X                  | X              | X       |    |     |      |      |      |       |
| Use Exclusion (472)              | Ac.   | 129      | $ 4,500         | $ 140                      | X                  |                |         |    |     |      |      |      |       |
| Watering Facility                | No.   | 7        | $ 10,500        | $ 110                      | X                  |                |         |    |     |      |      |      |       |
| **Total RMS Costs**              |       |          | **$ 3,213,400** | **$ 231,830**             |                   |                |         |    |     |      |      |      |       |
## Potential RMS Effects for Shrub/Rangeland

<table>
<thead>
<tr>
<th>Cost Items and Programs</th>
<th>Costs</th>
<th>O&amp;M Costs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non Farm Bill Programs</td>
<td>$321,300</td>
<td>$23,180</td>
</tr>
<tr>
<td>Potential Farm Bill Programs</td>
<td>$2,892,100</td>
<td>$208,650</td>
</tr>
<tr>
<td>Operator O&amp;M and Management Cost</td>
<td>$231,830</td>
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</tr>
<tr>
<td>Annual Management Incentives (3yrs - Incentive Payments)</td>
<td>$503,800</td>
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<tr>
<td>Operator Investment</td>
<td>$1,515,500</td>
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</tr>
<tr>
<td>Federal Costshare</td>
<td>$1,194,100</td>
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<tr>
<td><strong>Total RMS Costs</strong></td>
<td><strong>$3,213,400</strong></td>
<td><strong>$231,830</strong></td>
</tr>
</tbody>
</table>

- 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 threatened 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).

<table>
<thead>
<tr>
<th>Current Conditions</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAFOs</td>
<td>5</td>
</tr>
<tr>
<td>AFOs</td>
<td>53</td>
</tr>
<tr>
<td>Current Farm Bill participation</td>
<td>90%</td>
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<tr>
<td>Total CAFOs and AFOs</td>
<td>58</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Current Level of Treatment for Headquarters:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Practices</td>
</tr>
<tr>
<td>-----------</td>
</tr>
<tr>
<td>Dairy</td>
</tr>
<tr>
<td>Waste Storage Facility (313) CAFO</td>
</tr>
<tr>
<td>Waste Storage Facility (313) AFO</td>
</tr>
<tr>
<td>Feed Lot</td>
</tr>
<tr>
<td>Waste Storage Facility (313) CAFO</td>
</tr>
<tr>
<td>Waste Storage Facility (313) AFO</td>
</tr>
</tbody>
</table>

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/IASC field staff.
### Projected Additional Treatment Needs for Headquarters:

<table>
<thead>
<tr>
<th>Practices</th>
<th>Quantity</th>
<th>Costs</th>
<th>Effects</th>
<th>Implementation</th>
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</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Additional Investment Cost</td>
<td>Annual O&amp;M and Mngt. Cost</td>
<td>Water Conservation</td>
</tr>
<tr>
<td>Dairy</td>
<td></td>
<td></td>
<td></td>
<td>+2</td>
</tr>
<tr>
<td>Structural/Management Practices</td>
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<td>X</td>
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<tr>
<td>Waste Storage Facility (313) CAFO</td>
<td>No. 7</td>
<td>$612,500</td>
<td>$12,250</td>
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<tr>
<td>Waste Storage Facility (313) AFO</td>
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<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Feed Lot</td>
<td></td>
<td></td>
<td></td>
<td>+2</td>
</tr>
<tr>
<td>Structural/Management Practices</td>
<td></td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Waste Storage Facility (313) CAFO</td>
<td>No. 53</td>
<td>$2,385,000</td>
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<tr>
<td>Waste Storage Facility (313) AFO</td>
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<td></td>
<td>X</td>
</tr>
<tr>
<td><strong>Total RMS Costs</strong></td>
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<td>$59,950</td>
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</table>
## RMS Cost Summary for Headquarters

<table>
<thead>
<tr>
<th>Cost Items and Programs</th>
<th>Costs</th>
<th>O&amp;M Costs</th>
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</thead>
<tbody>
<tr>
<td>Non Farm Bill Programs</td>
<td>$149,900</td>
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<tr>
<td>Potential Farm Bill Programs</td>
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<td>Annual Management Incentives (3 yrs - Incentive Payments)</td>
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<td>Operator Investment</td>
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<td>Federal Costshare</td>
<td>$1,910,800</td>
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</tr>
<tr>
<td><strong>Total RMS Costs</strong></td>
<td><strong>$2,997,500</strong></td>
<td></td>
</tr>
</tbody>
</table>

- 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