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Idaho

8 Digit Hydrologic Unit Profile

July 2007

## Introduction

The Jordan 8-Digit Hydrologic Unit Code (HUC) subbasin is 834,911 acres, split almost evenly between Idaho and Oregon. The Idaho portion of the watershed is 388,134 acres. The Idaho portion of the subbasin occurs entirely within Owyhee County; <u>only the Idaho</u> <u>portion of the Jordan subbasin will be described in this assessment.</u> Seventy percent of the watershed acres are public lands while thirty percent are privately owned.

Sixty one percent of the basin is rangeland and 32 percent is forested. Grass, pasture or hayland makes up six percent of the watershed; only a few cropland acres are present. The remaining one percent is water, wetland, developed or barren lands.

Elevations range from 4400 feet near Jordan Creek's entrance into Oregon to over 8000 feet southeast of Silver City.

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

### **Profile Contents**

Introduction Physical Description Landuse Map & Precipitation Map Common Resource Area Resource Settings <u>Resource Concerns</u> <u>Census and Social Data</u> <u>Progress/Status</u> <u>Footnotes/Bibliography</u> <u>Future Conservation Needs</u>



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**Relief Map** 





## Jordan - 17050108

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### **General Ownership**





## Jordan - 17050108

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# **Physical Description**

### ALL NUMBERS WITHIN THIS PROFILE ARE FOR IDAHO ONLY

Land Cover/	<b>Ownership - (2003 Draft BLM Surface Map Set</b> <sup>/1</sup> )								
Land Use	Publi	ic	Privat	e	Tr	ibal			
(NLCD <u><sup>/2</sup></u> )	Acres	%	Acres	%	Acres	%	Tota	als	% of HUC
Forest	87,856	23%	34,503	9%			122,3	359	32%
Grain Crops	11	<1%	11	<1%			22	2	<1%
Conservation Reserve <sup>/3</sup> Program (CRP) Land									
Grass/Pasture/Hay Lands	8,508	2%	14,933	4%			23,4	41	6%
Orchards/Vineyards/Berries									
Row Crops									<1%
Shrub/Rangelands	173,270	44%	65,282	17%			238,552		61%
Water/Wetlands/ Developed/Barren	1,170	<1%	2,588	<1%			3,7	58	1%
Idaho HUC Totals*	271,323	70%	116,811	30%			388,:	134	100%
*Totals are approximate due to	calculation n	nethods u	ised			·			
	Туре о	f Land		ACR	ES	% of Irrigated La <u>nds</u>			% of HUC
Irrigated Lands <sup>/3</sup>	Cultivated Cropland								
	Non-Cu	ltivated C	Cropland**	4,70	00	100%	, 0		1%
	Pasture	land							
	Total Irrigated Lands		4,700 1		100%	100%		1%	

\*\*Includes permanent hayland and horticultural cropland.



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### Land Use / Land Cover





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### **Average Annual Precipitation**





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#### **Common Resource Area Map**

# CRA Map - areas with a majority are listed below - for descriptions of every class within the HUC, go to: <u>http://ice.id.nrcs.usda.gov/website/cra/viewer.htm</u>

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)





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### **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

#### 25.11 Owyhee High Plateau - Partly Forested Mountains

The Partly Forested Mountains ecoregion occupies the elevational belt above the Semiarid Uplands. Elevations exceed 6,500 feet. Annual precipitation is sufficient to support Douglas-fir, ponderosa pine, mountain big sagebrush, and mountain brush.

#### 25.2 Owyhee High Plateau - Dissected High Lava Plateau

This unit has alluvial fans, rolling plains, and shear-walled canyons that are cut into extrusive rocks. Sagebrush grassland is common and scattered woodland grows on rocky uplands. This region has more cool season grasses than the valleys to the south and lacks saltbush-greasewood. Frigid and mesic Aridisols and Mollisols occur. Grazing is the primary land use. Cropland is less common than in the Snake River Plain. High water quality and native fish assemblages occur in isolated canyons.

#### 25.3 Owyhee High Plateau - Owyhee Uplands and Canyons

The Owyhee Uplands and Canyons ecoregion contains deep, precipitous river canyons, barren lava fields, badlands, and tuffaceous outcrops that are riddled by caves. Sagebrush grassland occurs.

#### 25.6 Owyhee High Plateau - Semiarid Uplands

The disjunct Semiarid Uplands ecoregion includes mid-elevation zones in the Owyhee and Jarbidge mountains and hills, volcanic cones, buttes, and rocky outcrops that rise out of neighboring, drier lava plains. Mountain sagebrush, western juniper, mountain brush, and grasses grow in the ecoregion. In the Jarbidge Mountains, juniper woodland can be of limited extent. Elsewhere, density and extent of juniper woodland varies with long term climate changes, grazing pressure, and fire suppression.



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### **Streamflow Summary**

Jordan Creek flows generally from east to west within the Idaho portion of the subbasin. Major tributaries are Big Boulder Creek, Soda Creek, Louse Creek, Spring Creek, Rock Creek, Meadow Creek, Combination Creek and Louisa Creek. Cow Creek is another major tributary but joins Jordan Creek on the Oregon side of the subbasin.

The average annual (daily) flow of Jordan Creek about four miles upstream of the Oregon state line is 183 cfs; this is based on 28 years of flow records (1946 to 1971, 2003 to 2004). The lowest recorded discharge was 1.2 cfs in September of 1962; the highest discharge, 7,530 cfs, was recorded on Christmas Eve three years later. Although discharge peaks most often during April, flows in excess of 1000 cfs can occur anytime from December through May.

Much of the original hydrology of the watershed has been modified. Channel straightening, small dams and in-stream diversions are the most common modifications on the Idaho side. There are 13 diversions and 16 dams located within the Idaho portion of the Jordan subbasin (IDEQ, 2007).

			Acre-Feet
		Average Annual	132,762
Stream Flow Data	USGS #13178000 Jordan Creek above Lone Tree Creek near Jordan Valley, OR (1946-1971, 2003-2004)	Mar-July Average	111,618
		Percent of Average Annual	84%

Today, land use in the Jordan Creek watershed is primarily grazing in the uplands and hay production in the irrigated lowlands. Within Idaho, irrigated areas make up a small percentage of the overall land use and has probably has not expanded much since the late 1800's. Historic mining operations are present, but the only active mine, the Delamar, is in reclamation rather than extraction mode. Although forested areas make almost one-third of Idaho's portion of the Jordan Creek watershed, actual timber harvest for lumber is minimal. Most of the woodland areas are western juniper which has little commercial value, except for rough fencing material or firewood. State-managed lands are primarily used as rangeland (IDEQ, 2007).



## Jordan - 17050108

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					CFS		Number	
		Surface Water	203		657			
Irrigated Adjudi	cated	Groundwater			8		6	
		Total Irrigated	Adjudicated Water Rig	ghts	211		663	
					MILES		PERCENT	
Stream Data		Total Miles <sup>/8</sup>			892			
Stream Data		Water quality impaired streams <sup>/9</sup>			427		48%*	
*Percent of Total Miles								
of streams in HUC		Bull Trout Pres	sence (Streamnet) <sup>/11</sup>					
					ACRES		PERCENT	
		Forest			10,397		35%	
I and Cover/Use	<u>/2</u>	Grain Crops						
based on a 100 ft.		Grass/Pasture	2,752		9%			
stretch on both		Row Crops						
sides of all stream	IS Lavor	Shrub/Rangelands – Includes CRP Lands			15,913		54%	
	Layer	Water/Wetlands/Developed/Barren			597		2%	
		Total Acres o	of 100 ft stream buff	ers	29,659		100%	
		I – slight limitat	tions					
		II – moderate I	imitations					
		III – severe lin	nitations					
		IV – very sever	e limitations					
Land Canability		V – no erosion l	nazard, but other limitatio	ns	4,700		100%	
Class <sup>/4</sup>		VI – severe lim limited to pastur	itations, unsuited for culti e, range, forest	vation,				
		VII – very seve cultivation, limit	ere limitations, unsuited for ed to grazing, forest, wild	or life				
<b>VIII</b> – misc areas have limitations, limited to recreation, wildlife, and water supply				ed to				
		Total Crop &	Pasture Lands		4,700		100%	
<b>Confined Animal</b>	Feedi	ng Operatio	ns – Dairies/Fee	dlots <sup>(</sup>	<u>12, 13, 26</u>			
Operation Type	N	umber	<300	3	00-999		1000-4999	
Dairy								
Feedlots								



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## **Resource Settings**

**Irrigated Pasture and Hayland:** Annual precipitation ranges from 14-30 inches. Summer months are hot and dry. The growing season ranges from 50-140 days. Elevations range from 3,000 to 6,000 feet. Soils vary from clay loams to gravelly sands. Irrigation water is diverted from streams and distributed by earthen ditches. Tailwater from fields may be reused and eventually returns to a perennial stream. Plant composition consists of a combination of introduced and native species. One cutting of hay is usually harvested in early summer. The pastures are irrigated and grazed in the fall and early winter.

**Rangeland:** Annual precipitation ranges from 11-30 inches. Elevations range from 3,000 feet to over 8,000 feet. Topography varies from steep slopes to flat rims and benches. Soils vary from clay loams to gravelly loams with slopes up to 60 percent. Mild winters and very hot summers are typical. Rangeland vegetation consists primarily of perennial grasses, annual grasses and forbs. Ecological status usually improves with elevation. Fencing is generally an existing condition. The typical planning unit is 640 acres.

Riparian grazing units do not exhibit negative impacts to riparian vegetation. Riparian vegetation consists of grasses, sedges, rushes, and a variety of woody species. Streams are primarily low gradient and depend on vegetation for stability. Redband trout populations are present throughout the Jordan watershed.

**Forests and Grazed Forests:** Annual precipitation ranges from 15-35 inches. The growing season ranges from 50-100 days. Elevations range from 5,500 to 8,000 feet. Topography varies from flat rims and benches, high mountain meadows, to steep slopes. Loams, clay loams, and coarse gravelly soils are typical throughout the forested area. Fencing is an existing condition in places. The typical planning unit is 640 acres.

Riparian vegetation is in good to excellent condition. Riparian vegetation consists of grasses, sedges, rushes, and a wide variety of woody species. Streams are primarily low gradient and depend on vegetation for stability. These riparian areas are very important fish and wildlife habitat in the watershed. Timber is harvested in these areas to insure healthy stands.



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### **Resource Concerns**

Water erosion on Cropland and Pasture in this watershed has decreased slightly since 1982. Erosion rates appear to be very low. Rates have decreased from about 0.14 tons per acre year in 1982 to approximately 0.11 tons per acre per year in 1997. Limits in sensitivity of the methodology used to determine erosion rates may have resulted in the unusually low calculated rates.



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.

Most of the listed streams are impaired by temperature, with sediment, bacteria, pesticides, mercury, oil or gas listed for several streams. Agricultural land uses have **not** been identified as a major contributor to water quality degradation within the subbasin. The primary pollutant source identified is historic mining/milling activities. Flow and habitat alteration problems also exist within the watershed.

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

Wind erosion for the Jordan subbasin is calculated as zero tons/acre/yr due to limits in sensitivity of the methodology used for the determination.



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### Resource Concerns - continued

Impacted Water Bodies <sup>/19</sup> (ID 17050108) Named Streams	Stream Miles*	Bacteria	Oil/Grease	Sediment	Temperature	Mercury	Pesticides
Cow Creek (SW021_03)	3.4			Х	X		
Cow Creek (SW021_02)	55.1			Х	Х		
Jordan Creek (SW004_05)	3.4	X	X	X		X	X
Jordan Creek (SW004_02)	102.4	Х	Х	Х		Х	Х
Jordan Creek (SW004_03)	13.4	X	X	X		X	X
Jordan Creek (SW001_02)	34.4	X	Х	Х		X	X
Louisa Creek (SW014_02)	13.8			Х	Х		
Louse Creek (SW018_02)	20.6			X			X
Rock Creek (SW013_02)	64.2			х	Х		
Soda Creek (SW022_03)	3.1			Х			
Soda Creek (SW022_02)	36.9			X			
Spring Creek (SW015_03)	8.3				Х		
Spring Creek (SW015_02)	48.8				X		
Total Stream Miles:	407.9						

Shading indicates TMDL in place

Shading indicates TMDL in progress



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#### **Resource Concerns** - continued *Watershed Projects, Plans, Studies and Assessments*

#### NRCS Watershed Projects<sup>/29</sup>

Lordi Cow Creek Project

#### EPA /18

United States Environmental Protection Agency, 1998. Jordan Creek-Phase I Final Sampling and quality assurance plan; Malheur County, Oregon and Owyhee County, Idaho. Superfund Technical Assessment and Response Team. U.S. Environmental Protection Agency, Region 10. Seattle WA. EPA-841-R-00-001.

#### USGS<sup>/23</sup>

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#### IDEQ TMDLs/16, 28

Draft Jordan Creek Subbasin Assessment and Total Maximum Daily Load (IDEQ, 2007).

#### IDEQ/SWCD 319 Projects/29

Owyhee Restoration Incentive Program

#### Other IDEQ studies / 18, 28

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- Kinross Delamar Mining Company, 2004. Kinross Delamar Mine Annual Water Quality Monitoring Report for 2003. Kinross Delamar Mining Company, Jordan Valley, OR.
- Kinross Delamar Mining Company, 2005a. Kinross Delamar Mine Annual Water Quality Monitoring Report for 2004. Kinross Delamar Mining Company, Jordan Valley, OR.
- Kinross Delamar Mining Company, 2005b. 2004 Reclamation Progress Report. Kinross Delamar Mining Company, Jordan Valley, OR.
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#### Oregon Department of Environmental Quality<sup>/18, 28</sup>

Koerber, S. 1995. Mercury in the Owyhee River Basin: Oregon, Idaho and Nevada. Oregon Department of Environmental Quality, Mercury Working Group. Portland, OR.



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### Resource Concerns - continued

### **Surface and Groundwater Resource Protection**





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### Resource Concerns - continued

Resource Concerns/ Issues by Land Use									
SWAPA <u>Soil, Water, Air, Plants,</u> <u>Animals</u> Specific Resource Concerns/Issues		Pasture	Hayland	Dry Crops	Surface Irrigated Crops	Sprinkler Irrigated Crops	Rangeland	Grazed or Ungrazed Forest	
	Sheet and rill								
Soil Fracian	Ephemeral or classic gully								
Soll Erosion	Wind								
	Streambank	х					X	x	
Water Quantity	Inefficient use on irrigated lands	х	x						
Water Quality Surface	Suspended sediment	х	х				х	х	
Water Quality, Surface	Nutrients and organics	х	х				х		
Water Quality Ground	Nutrients and organics		х						
Water Quality, Ground	Pesticides		x						
Soil Condition	Organic matter depletion								
	Compaction	х						х	
	Productivity, health and vigor	х	x				x	x	
Plant Condition	Plants not adapted or suited	х					х	x	
	Noxious and invasive plants	х	x				X	x	
	Wildfire hazard							x	
Domestic Animals	Inadequate feed or water	X					X	X	
Fish and Wildlife	Inadequate water								
	Inadequate cover/shelter	х					х	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 <sup>/25</sup>							
Threatened Species	Candidate Species						
Mammals – None	Fish - None						
Birds – Bald Eagle	Birds – Yellow Billed Cuckoo						
Fish – None	Amphibian – Columbia Spotted Frog						
Invertebrates – None	PROPOSED SPECIES - None						
Plants – None							
ESSENTIAL FISH HABITAT - None	CRITICAL FISH HABITAT- None						



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## Census and Social Data<sup>/26</sup>

Population: 124 (from 2000 census data)

Number of Farms: 113 (This number appears to be an overestimate when compared to population; the calculation is based on mathematical weighting of agricultural census data, not field observation)





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### Census and Social Data - continued

Sixty eight 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 31% of the total. Ninety three percent of all operators are white. Non-white operators are of Hispanic, American Indian, Pacific Islander or Asian background.

Farm size ranges from less than 10 acres to more than 1,000 acres with an average of 1,000 acres. Agricultural land in the watershed is a mix of woodland, range, pasture and hayland.

Farm numbers and size have declined in recent years. 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. Sixty three 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	124	1,099	\$167,255	\$7,301
2002	113	1,000	\$222,019	\$8,960
Change	-8.9%	-9.0%	32.7%	22.7%

#### **Economic Profile**

	Watershed	Idaho	United States
Population (2000)	124		
Per Capita Personal Income (2002)	\$19,400	\$25,476	\$30,906
Median Home Value (2000)	\$82,500	\$106,300	\$119,600
Percent Unemployment (2004)	2.7%	4.7%	5.5%
Percent Below Poverty Level (2003)	16.1%	11.8%	12.5%



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## **Progress / Status**

PRS DATA				
Conservation Treatment Applied	FY04	FY05	FY06	Total
Irrigation Water Management (449) (ac)			224	224
Nutrient Management (590) (ac)			241	241
Pest Management (595) (ac)			241	241

Progress in the last seven years has been focused on:

- ~ erosion control
- ~ nutrient management
- ~ pest management
- ~ irrigation water management

Resource concerns that require ongoing attention:

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

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

- Conservation Reserve Program (CRP): None
- Wetland Restoration Program (WRP): None



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#### Footnotes/Bibliography

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

- 1. Ownership Layer Source: This spatial data contains surface management land status (sometimes known as "ownership") and Public Land Survey System (PLSS) information for Idaho. The Bureau of Land Management (BLM) in Idaho creates and maintains these spatial data layers. The primary source of the spatial features is the BLM Geographic Coordinate Database (GCDB), which contains official survey records and corresponding geodetic control information maintained by the BLM Cadastral program. In areas where GCDB records are unavailable, the spatial features are taken from a variety of sources including the BLM Idaho Resource Base Data collection, US Geological Survey Digital Line Graphs (DLGs), and US Forest Service Cartographic Feature Files (CFFs), among others. The source of the attribute information is the BLM Master Title Plats (MTPs) and careful cooperation with other government agencies that own or manage land parcels. The layer is available from the Inside Idaho (Interactive Numeric & Spatial Information Data Engine): <a href="http://inside.uidaho.edu">http://inside.uidaho.edu</a> 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: <a href="http://edcwww.cr.usgs.gov/products/landcover/nlcd.html">http://edcwww.cr.usgs.gov/products/landcover/nlcd.html</a> 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: <u>http://www.nrcs.usda.gov/technical/NRI/</u>
- 5. PRISM Climate Mapping Project. Annual precipitation data. See <u>http://www.ocs.orst.edu/prism\_new.html</u> for further information.
- 6. Irrigated Adjudicated Water Rights Idaho Department of Water Resources <u>http://www.idwr.idaho.gov/water/srba/mainpage/</u>
- USGS Idaho Streamflows, gaging station data (<u>http://waterdata.usgs.gov/id/nwis/sw/</u>) and estimates for ungaged streams based on statistical data (<u>http://streamstats.usgs.gov/html/idaho.html</u>).
- National Hydrology Dataset (NHD). Developed by the US Geological Survey in cooperation with U.S. Environmental Protection Agency and other state and local partners (<u>http://nhd.usgs.gov).</u>



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- 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: <a href="http://www.streamnet.org/">http://www.streamnet.org/</a>
- 12. (Dairy) Idaho Department of Water Resources: <u>http://www.idwr.state.id.us/gisdata/gis\_data-new.htm</u>
- 13. (Feedlot) Idaho State Department of Agriculture: <u>http://www.agri.state.id.us/</u> FOIA request.
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- 15. Natural Resource Conservation Service: Watershed Plans, Studies and Assessments complete. <u>http://www.nrcs.usda.gov/programs/watershed/Surveys\_Plng.html#Watershed%20Surveys%</u> <u>20and%20Plan</u>
- 16. Idaho Department of Environmental Quality (IDEQ), Surface Water Quality: Subbasin Assessments, TMDLs, and Implementation Plans. <u>http://www.deq.state.id.us/water/data\_reports/surface\_water/tmdls/sba\_tmdl\_master\_list.cfm</u>
- 17. Idaho Department of Environmental Quality, Watershed protection: Nonpoint source management (319 grant), Reports and program resources. <u>http://www.deq.state.id.us/water/data reports/surfacewater.nps/reports/cfm</u>
- 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. <u>http://www.nwcouncil.org/fw/subbasinplanning/Default.htm</u>
- 19. Idaho Soil Conservation Commission (SCC), TMDL watershed implementation plans: agricultural component <u>http://www.deq.state.id.us/water/data reports/surface water/nps/reports.cfmponent</u>. <u>http://www.scc.state.id.us/PDF/Ag%Component%20Status%20Report%20-%202004.pdf</u>
- 20. Idaho State Department of Agriculture (ISDA). Groundwater water quality regional projects. <u>http://www.agri.idaho.gov/gw/gwdatasummary.htm</u>
- 21. Idaho Department of Water Resources (IDWR). State Comprehensive Water Plans. <u>http://www.idwr.idaho.gov/waterboard/planning/Comp\_Basin\_Plans.htm</u>
- 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. <u>http://www.idwr.idaho.gov/hydrologic/projects/gwma/</u>
- 23. USGS Publications Warehouse. <u>http://pubs.er.usgs.gov/usgspubs/</u>



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- 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.deg.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 <u>http://fishandgame.idaho.gov/cms/tech/CDC/</u>
- 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. Idaho State Department of Agriculture (ISDA).Surface water quality reports. http://www.agri.state.id.us/Categories/Environment/water/swReports.php
- 28. Idaho Department of Environmental Quality, 2007. Draft Jordan Creek Subbasin Assessment and Total Maximum Daily Load Plan.
- 29. Duane Lafayette, IASCD, 2007. Personal communication.



## Jordan - 17050108

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#### **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
- 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



## Jordan - 17050108

# 8 Digit Hydrologic Unit Profile

	Total	
Current Conditions	Acres	Riparian Acres
Total Grass/Pasture/Hay	 14,933	1,753
Typical Management Unit/Ownership	 1,000	
Current Farm Bill Participation	5%	

Current Level of Treatment for Grass/Past	ure/Hay:									_			
Grass/Pasture/Hay	Qu	antity	Co	sts		Effects				Implementation			on
Practices	Unit	Quantity	Investment Cost	Annual O and Mngt.(	&M Cost	Water Conservation	Water Storage	Habitat	WQ	EQIP	WHIP	CREP	Other
Grass/Pasture/Hay	Ac.	14,933				-3	-1	-2	-3				
Fence (382)	ft.	0	\$ -	\$	-								
Forage Harvest Management (511)	Ac.	0	\$ -	\$	-								
Irrigation Water Management (449)	Ac.	224	\$-	\$2	,240					Х			
Nutrient Management (590)	Ac.	241	\$ -	\$1	,210					Х			
Pasture and Hay Planting (512)	Ac.	0	\$ -	\$	-								
Pest Management (595)	Ac.	241	\$ -	\$2	,410					Х			
Pipeline (516)	Ft.	0	\$ -	\$	-								
Prescribed Grazing (528)	Ac.	0	\$ -	\$	-								
Watering Facility (614)	No.	0	\$ -	\$	-								
Grass/Pasture/Hay Riparian	Ac.	1,753											
Fence (382)	Ft.	0	\$ -	\$	-								
Prescribed Grazing (528)	Ac.	0	\$-	\$	-								
Stream Crossing (578)	No.	0	\$ -	\$	-								
Stream Habitat Improvement and Management (395)	Ac.	0	\$ -	\$	-								
Use Exclusion (472)	Ac.	0	\$ -	\$	-								
Total RMS Costs			\$ -	\$5,	860								



## Jordan - 17050108

# 8 Digit Hydrologic Unit Profile

Future Conditions	Total Acres	Riparian Acres
Total Grass/Pasture/Hay Lands	14,933	
Conversion to Riparian RMS		1,753

Project Future Level of Treatment for Grass/Pasture/Hay Lands														
Grass/Pasture/Hay Land	Qı	uantity		Co	sts			Effects			I	nplem	entatio	n
Practices	Unit	Quantity	Ir	Investment Cost		inual O&M Mngt.Cost	Water Conservation	Water Storage	Habitat	wo	EQIP	WHIP	CREP	Other
Grass/Pasture/Hay Land	Ac.	14,933					+2	+2	+3	+3				
Fence (382)	Ft.	123,197	\$	246,400	\$	4,930					х	X		Х
Forage Harvest Management (511)	Ac.	7,467	\$	-	\$	-								
Nutrient Management (590)	Ac.	11,946	\$	175,600	\$	58,530								Х
Pasture and Hay Planting (512)	Ac.	7,467	\$	746,700	\$	7,470					х			X
Pest Management (595)	Ac.	11,946	\$	351,200	\$	117,050					х			X
Pipeline (516)	Ft.	30,799	\$	83,200	\$	1,660					Х			
Prescribed Grazing (528)	Ac.	11,946	\$	179,200	\$	59,730					Х			X
Watering Facility (614)	No.	23	\$	34,500	\$	350					х			X
Grass/Pasture/Hay Riparian	Ac.	1,753					+3	+2	+3	+3				
Fence (382)	ft.	14,462	\$	28,900	\$	580					Х	Х		Χ
Prescribed Grazing (528)	Ac.	1,402	\$	21,000	\$	7,010					Х			Χ
Stream Crossing (578)	No.	11	\$	38,500	\$	770					Х			Χ
Stream Habitat Improvement and Management (395)	Ac.	9	\$	161,100	\$	3,220					x			x
Use Exclusion (472)	Ac.	175	\$	6,100	\$	180					Х			Х
Total RMS Costs			\$	2,072,400	\$	261,480								



## Jordan - 17050108

# 8 Digit Hydrologic Unit Profile

Potential RMS Effects for Dry Grass/Pasture/Hayland											
Cost Items and Programs	Costs	O&M Costs									
Non Farm Bill Programs	\$207,200	\$26,150									
Potential Farm Bill Programs	\$1,865,200	\$235,330									
Operator O&M and Management Cost		\$261,480									
Annual Management Incentives ( 3yrs - Incentive Payments)	\$727,000										
Operator Investment	\$776,300										
Federal Costshare	\$569,100										
Total RMS Costs	\$2,072,400	\$261,480									
Estimated Level of Participation		90%									
Total Acres in RMS System		13,440									
Anticipated Cost at Estimated Level of Participation		\$1,865,200									
Total Annual Forage Production Benefits (animal unit months) 1,80											
Participating landowners will be in compliance with TMDLs											
Improves habitat for ESA endangered and threated species											



# 8 Digit Hydrologic Unit Profile

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Idaho

Current Conditions	Total Acres	Riparian Acres
Shrub/Rangeland	65,282	4,355
Typical Management		
Unit/Ownership	1,000	
Current Farm Bill Participation	5%	

Current Level of Treatment for Shrub/Range Land												
Shrub/Range Land	Qua	ntity	Cos	sts		Effects			Ir	nplem	entatio	on
Practicos	Unit	Quantity	Additional Investment	Annual O&M and Mnat Cost	Water	Water	Habitat	WO	EQIP	WHIP	CREP	Other
Chrub (Dange Land			COSL	Milgt.Cost	Conservation	Storage	Tiabitat	WQ				
	AC.	05,202	+	+								
Brush Management (314)	AC.	0	\$ -	\$ -								
Fence (382)	Ft.	0	\$ -	\$ -					-			
Pest Management (590)	Ac.	0	\$ -	\$ -								
Pipeline (516)	Ft.	0	\$-	\$ -								
Pond (378)	No.	0	\$ -	\$ -								
Prescribed Grazing (528)	Ac.	0	\$ -	\$-								
Range Planting (550)	Ac.	0	\$ -	\$-								
Spring Development (574)	No.	0	\$ -	\$-								
Upland Wildlife Habitat Management (645)	Ac.	0	\$ -	\$-								
Watering Facility (614)	No.	0	\$ -	\$-								
Shrub/Range Land Riparian	Ac.	4,355										
Fence (382)	Ft.	0	\$ -	\$-								
Prescribed Grazing (528)	Ac.	0	\$ -	\$ -								
Stream Crossing (578)	No.	0	\$ -	\$ -								
Use Exclusion (472)	Ac.	0	\$ -	\$ -								
Total RMS Costs			\$	\$-								



## Jordan - 17050108

# 8 Digit Hydrologic Unit Profile

	Total	Riparian
Future Conditions	Acres	Acres
Total Shrub/Range Land	65,282	
Conversion to Riparian RMS		4,355

Future Level of Treatment for Shrub,	Range Lar	nd												
Shrub/Range Land	Qu	antity		Co	sts			Effects			In	pleme	ntatio	n
Practices	Unit	Quantity	In۱	/estment Cost	Anı M	nual O&M and ngt.Cost	Water Conservation	Water Storage	Habitat	WQ	EQIP	WHIP	CREP	Other
Shrub/Range Land	Ac.	65,282					+2	+2	+3	+2				
Brush Management (314)	Ac.	3,264	\$	81,600	\$	820					Х			Х
Fence (382)	Ft.	67,322	\$	134,600	\$	2,690					X	X		X
Pest Management (590)	Ac.	52,226	\$ 1	,566,800	\$	522,260					Х			X
Pipeline (516)	Ft.	33,661	\$	90,900	\$	1,820					Х			х
Pond (378)	No.	26	\$	156,000	\$	1,560					Х			Х
Prescribed Grazing (528)	Ac.	52,226	\$	783,400	\$	261,130					Х			X
Range Planting (550)	Ac.	3,264	\$	293,800	\$	2,940					Х			х
Spring Development (574)	No.	26	\$	61,100	\$	3,060					Х			X
Upland Wildlife Habitat Management (645)	Ac.	16,321	\$	244,800	\$	81,610					x	x		x
Watering Facility (614)	No.	26	\$	39,000	\$	390					Х			X
Shrub/Range Land Riparian	Ac.	4,355					+2	+2	+3	+3				
Fence (382)	Ft.	8,982	\$	18,000	\$	360					Х	Х		Х
Prescribed Grazing (528)	Ac.	3,484	\$	52,300	\$	17,420					Х			
Stream Crossing (578)	No.	7	\$	24,500	\$	1,230					Х			Х
Use Exclusion (472)	Ac.	218	\$	7,600	\$	230					Х	Х		Х
Total RMS Costs			\$3,	554,400	\$	897,520								



# Jordan - 17050108

# 8 Digit Hydrologic Unit Profile

Potential RMS Effects for Shrub/Range Land								
Cost Items and Programs	Costs	O&M Costs						
Non Farm Bill Programs	\$355,400	\$89,750						
Potential Farm Bill Programs	\$3,199,000	\$807,770						
Operator O&M and Management Cost		\$897,520						
Annual Management Incentives ( 3yrs - Incentive Payments)	\$2,647,300							
Operator Investment	\$383,000							
Federal Costshare	\$524,100							
Total RMS Costs	\$3,554,400	\$897,520						
Estimated Level of Participation		90%						
Total Acres in RMS System		58,754						
Anticipated Cost at Estimated Level of Participation		\$3,199,000						
Total Annual Forage Production Benefits (animal unit months)								
Participating landowners will be in compliance with TMDLs								
Improves habitat for ESA endangered and threated species								



## Jordan - 17050108

# 8 Digit Hydrologic Unit Profile

		Total	Discuise Assoc											
Current Conditions (Private)		Acres	Riparian Acres											
Total Grazed Forest		34,503	2,932											
Typical Management Unit/Ownership		1 000												
Current Farm Bill Participation		5%												
Current Level of Treatment for Graz	ed Forest	:												
Grazed Forest	Qu	antity	Cos	ts		Effects			Implementation					
Practices	Unit	Quantity	Investment Cost	Annual O&M and Mngt Cost	Water	Water Storage	Habitat	WO	EQIP	WHIP	CREP	Other		
Grazed Forest	Ac	34 503	0000	ringeroooe							i l			
Critical Area Planting (342)	<u>Α</u> ς	0,505	¢ -	¢ _										
Fence (382)	Ft	0	\$	\$										
Forest Stand Improvement (666)	Ac	0	<del>\$</del>	<del>,</del> \$										
Pest Management (595)	Ac.	0	\$ -	<u> </u>										
Pipeline (516)	Ft.	0	\$ -	<u> </u>										
Prescribed Forestry (409)	Ac.	0	\$ -											
Prescribed Grazing (528)	Ac.	0	\$ -	\$ -										
Spring Development (574)	No.	0	\$ -	\$ -										
Upland Wildlife Habitat Management (645)	Ac.	0	\$ -	\$ -										
Watering Facility (614)	No.	0	\$ -	\$ -										
Grazed Forest Riparian	Ac.	2,932												
Fence (382)	Ft.	0	\$ -	\$ -										
Prescribed Grazing (528)	Ac.	0	\$-	\$ -										
Riparian Forest Buffer (391)	Ac.	0	\$ -	\$ -										
Stream Crossing (578)	No.	0	\$ -	\$ -										
Use Exclusion (472)	Ac.	0	\$ -	\$ -										
Total RMS Costs			\$ -	\$ -										



# Jordan - 17050108

# 8 Digit Hydrologic Unit Profile

Future Conditions		Total Acres	R	iparian Acres													
Total Grazed Forest Lands		34,503															
Conversion to Riparian RMS				2,932													
· · ·																	
Project Future Level of Treatment for	r Grazed Fo	rest															
Forest	Qua	ntity		Co	sts		Effects					Implementation					
Practices	Unit	Quantity	Inv	vestment Cost	An M	nual O&M and ngt Cost	Water Conservation	Water	Habitat	wo	EQIP	WHIP	CREP	Other			
Grazed Forest	Ac.	34,503		0000		ingereese	+2	+1	+3	+2							
Critical Area Planting (342)	Ac.	345	\$	163,900	\$	4,920					х			Х			
Fence (382)	Ft.	35,582	\$	62,300	\$	1,250					х	х		х			
Forest Stand Improvement (666)	Ac.	5,175	\$ 2	,328,800	\$	11,640					Х			Х			
Pest Management (595)	Ac.	27,602	\$	828,100	\$	276,020					Х			Х			
Pipeline (516)	Ft.	17,791	\$	48,000	\$	960					Х			Х			
Prescribed Forestry (409)	Ac.	25,877	\$	582,200	\$	194,080					Х			Х			
Prescribed Grazing (528)	Ac.	25,877	\$	388,200	\$	129,390					Х			Х			
Spring Development (574)	No.	13	\$	30,600	\$	150					Х			Х			
Upland Wildlife Habitat Management (645)	Ac.	8,626	\$	129,400	\$	43,130					х	x		х			
Watering Facility (614)	No.	13	\$	13,700	\$	140					Х			Х			
Grazed Forest Riparian	Ac.	2,932					+2	+1	+3	+3							
Fence (382)	Ft.	6,047	\$	12,100	\$	240					Х	Х		Х			
Prescribed Grazing (528)	Ac.	2,346	\$	35,200	\$	11,730											
Riparian Forest Buffer (391)	Ac.	293	\$	439,500	\$	4,400					Х			Х			
Stream Crossing (578)	No.	5	\$	17,500	\$	180											
Use Exclusion (472)	Ac.	147	\$	5,100	\$	150					Х			Х			
Total RMS Costs			\$5,	084,600	\$	678,380											



## Jordan - 17050108

# 8 Digit Hydrologic Unit Profile

Potential RMS Effects for Grazed Forest							
Cost Items and Programs	Costs	O&M Costs					
Non Farm Bill Programs	\$254,200	\$33,920					
Potential Farm Bill Programs	\$4,830,400	\$644,460					
Operator O&M and Management Cost		\$678,380					
Annual Management Incentives ( 3yrs - Incentive Payments)	\$1,963,100						
Operator Investment	\$1,687,900						
Federal Costshare	\$1,433,600						
Total RMS Costs	\$5,084,600	\$678,380					
Estimated Level of Participation		50%					
Total Acres in RMS System		17,252					
Anticipated Cost at Estimated Level of Participation		\$2,542,300					
Total Annual Forage Production Benefits (animal unit months) 2,1							
Participating landowners will be in compliance with TMDLs							
Improves habitat for ESA endangered and threated species							