

## 2. AGRICULTURE

Agriculture is the number one land use in the county (90% of the county land area is in farms and ranches) and a primary resource for production of goods exported out of the county. In 2002, there were 587 farms and ranches in Richland County. Although the number of farms declined between 1997 and 2002, the average size of farms and total land in farms and ranches increased. The Vegetation Types map shows lands used for various agricultural crops.

### Production Information

Richland County is a major producer of irrigated and non-irrigated crops. There are approximately 46,300 acres under irrigation in the county, much of which is along the

Yellowstone River. The dam at Intake in Dawson County, diverts water into the Lower Yellowstone Project Canal that serves the west side of the river valley. The State Water Resources Board project irrigates land on the east side of the river. Privately-owned pumping systems furnish water for several thousand more acres on the east side of the Yellowstone River and also along the south side of the Missouri River. (USDA, 1980)

**Table 2.1 Census Number of Farms, Land in Farms, 1997 and 2002**

	# of Farms	Land in Farms	Average Farm Size
1997	611	1,197,842	1,960
2002	587	1,201,436	2,047
Difference	-24	3594	87

Source: 2005 Montana Agricultural Statistics

**Table 2.2 2003 Cash Receipts from the Sale of Principal Products and Government Payments**

	\$(000) Dollars	Rank in State
Livestock and Livestock Products	25,520	19
Crops	32,770	3
Total Cash Receipts	58,290	8
Government Payments	8,828	
All Cash Receipts	67,118	9

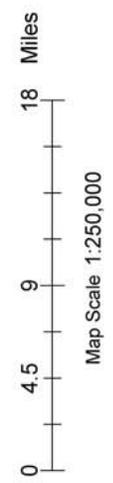
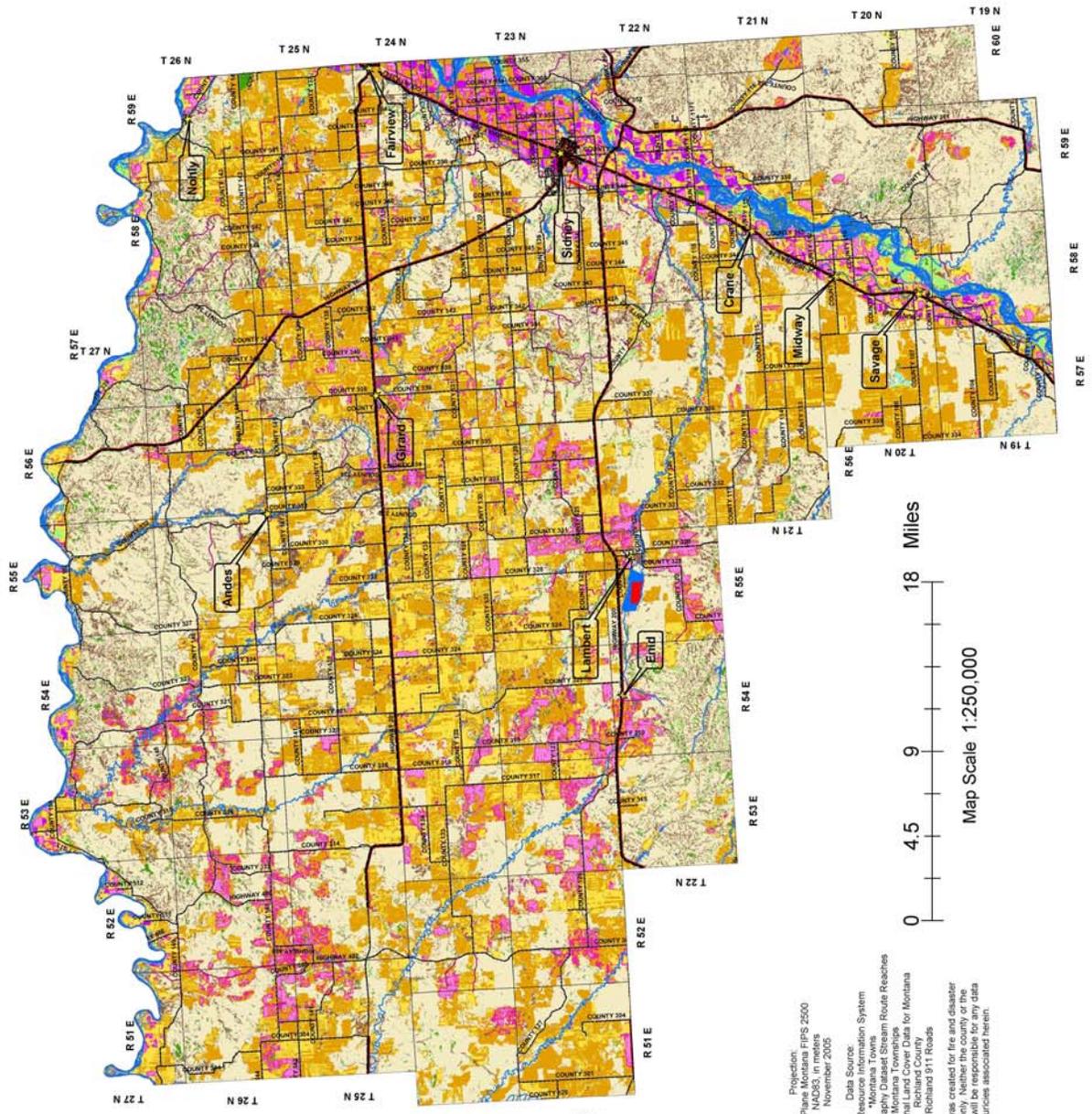
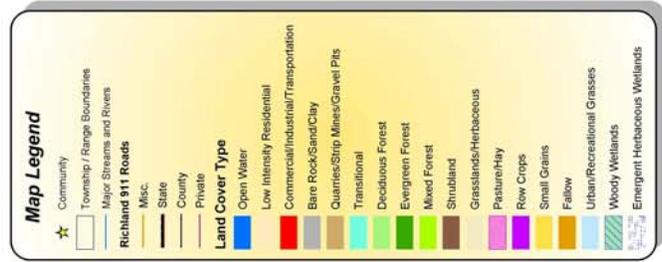
Source: 2005 Montana Agricultural Statistics

Richland County agriculture produced more than \$67 million dollars in cash receipts in 2003 (Table 2.2). Richland County ranked 3<sup>rd</sup> in the state in crop production.

The county produces nearly one-third of the entire state's sugar beet crop (Ockert). In 2003, Richland County was the state's top producer of sugar beets, oats, and safflower.



# VEGETATION TYPES



Projection:  
State Plane Montana FIPS 2500  
NAD83, in meters  
November 2005

Data Source:  
Natural Resource Information System  
\*Montana Townships  
\*Montana Townships  
\*USGS National Land Cover Data for Montana  
Richland County  
\*Richland 911 Roads

This map was created for fire and disaster planning only. Neither the county or the contractor will be responsible for any data inaccuracies associated herein.

**Table 2.3 Richland County Harvests 2004**

	Planted	Harvested	Yield	Production	
	Acres	Acres	Bushels	Bushels	Rank
All Wheat types	162,800	156,600	29	4,568,000	15
Winter Wheat	3,400	2,600	29	76,000	38
Spring Wheat	137,000	132,000	29	3,838,000	8
Durum Wheat	22,400	22,000	30	654,000	4
Barley	23,300	20,900	61	1,275,000	10
Oats	9,600	3,600	68	244,000	1
Corn - Total	7,600				
Corn - Grain		1,800	118	212,000	4
Corn - Silage		5,600	21	117,000	3
Sugar Beets	17,470	17,080	19.5	333,000	1
Austrian Winter Peas	1,400	500	640	3,200	--
Safflower	7,300	7,100	770	5,495,000	1
Canola	1,100	1,100	1,200	1,320,000	7
Hay-All		60,000	1.78	107,000	20
Alfalfa Hay	29,500	24,000	3	59,500	23
Other Hay		36,000	1.3	47,500	10
Grain Hay		14,500	2	25,600	4
Wild Hay		4,500	0.8	3,500	26

Source: 2005 Montana Agricultural Statistics

**Table 2.4 Livestock Production in Richland County, 2003-2005**

	2,003	2004	2,005	Rank
All Cattle and Calves	66,000	59,000	56,000	17
Beef Cows and Heifers that have Calved	30,600	30,300	26,900	21

Source: 2005 Montana Agricultural Statistics

Richland County is a major producer of cattle and calves and two new dairies have been established in the county in the past 10 years.

### Contribution to Economy

Farmers and ranchers in Richland County expended nearly \$65 million in production expenses in 2004. The local economy benefits from much of these expenditures when farmers and ranchers buy their equipment, feed, seed, fertilizer, and other supplies locally.

The land set aside in the Conservation Reserve Program (CRP) has reduced the overall contribution of agriculture to the local economy. The CRP programs have reduced the amount of land in production, creating ripples in the economy by reducing demand for equipment and supplies. Across Montana agricultural communities have felt the impact

–in some cases with major reductions in service or closure of farm implement dealers, fuel suppliers, etc. Richland County agriculture supports two existing farm implement dealers in Sidney.

**Table 2.5 Farm Income and Expenses in Richland County in 2004**

	(\$000)
Cash receipts from marketings (\$000)	60,330
Cash receipts: livestock and products	28,342
Cash receipts: crops	31,988
Other income	9,751
Government payments	7,406
Imputed and miscellaneous income received 1/	2,345
Total production expenses	64,701
Feed purchased	1,883
Livestock purchased	2,654
Seed purchased	2,090
Fertilizer and lime (incl. ag. chemicals 1978-fwd.)	6,392
Petroleum products purchased	5,156
Hired farm labor expenses 2/	6,013
All other production expenses 3/	40,513
Value of inventory change	529
Value of inventory change: livestock	-1,196
Value of inventory change: crops	1,830
Value of inventory change: materials and supplies	-105
Total cash receipts and other income	70,081
less: Total production expenses	64,701
Realized net income	5,380
plus: Value of inventory change	529
Total net income including corporate farms	5,909
less: Net income of corporate farms	1,538
plus: Statistical adjustment	0
Total net farm proprietors' income	4,371
plus: Farm wages and perquisites	3,650
plus: Farm supplements to wages and salaries	534
Total farm labor and proprietors' income	8,555

Source: Regional Economic Information System, Bureau of Economic Analysis, U.S. Department of Commerce

Footnotes--

<http://www.bea.gov/bea/regional/reis/CA45fn.cfm>

Major agriculture-related operations in Richland County and surrounding area include the following:

- Sidney Sugar. Sidney Sugar was the number one producer of sugar beets in Montana in 2003. It is the only processing plant in a multi-county area and contracts for beets in Montana and North Dakota.
- Sidney Livestock Market Center. In 2000, the Sidney Livestock Center was reported to have the fifth largest sales volume in Montana, with sales of 40,163 cattle and 7,163 sheep.
- Two dairies in the county.
- Busch Ag Resources (developed in last 10 years) utilizing locally grown crops.
- Lower Yellowstone Irrigation Project. The Project supplies irrigation water to 56,000 acres through a network of 325 miles of canals, laterals and drains. Built by the Bureau of Reclamation and completed in 1909, the Project is now operated by local water users, and employs approximately 20 people.
- Eastern Montana Branch-Montana State University Experiment Station and USDA-ARS Northern Plains Agricultural Research Laboratory/Pest Management and Agricultural Systems Research Unit.

The U.S. Department of Agriculture operates one of more than 120 agricultural research stations (ARS) across the country in Sidney. The Northern Plains Agricultural Research Laboratory has two research units. The Agricultural Systems Research Unit “focuses on irrigated and dryland cropping systems that will enhance soil and water

quality, conserve natural resources, and reduce dependence on agrochemicals in the Upper Missouri River Basin.” The Pest Management Research Unit “focuses on developing ecologically based strategies, technologies, and products for the management of insect pests and weeds in crops and rangeland.” ([www.ars.usda.gov](http://www.ars.usda.gov)) The lab is situated on 12 acres of land and employs 45 permanent fulltime, 20 seasonal, and 2-5 part-time employees. The main office building with 21,500 square feet was completed in 2001. Additional buildings provide another 40,000 square feet of service area. (Bob Evans, ARS, personal communication, 7/26/06)



## **Importance of Irrigation to Richland County**

Irrigation development in Richland County began in 1906, with the first water deliveries in 1909. Since then the Lower Yellowstone Irrigation Project has never had to reduce diversions at the river due to drought or low flows. This is a very dependable water supply. The irrigation infrastructure is in very good shape but could be updated with new technologies to improve irrigation efficiencies.

Irrigated crops account for approximately 75% of the total annual revenues from crop production in Richland County.

There are surface water rights in the amount of 45,620 acre feet on the Yellowstone and about 25,349 acre feet on the Missouri (Reserve Water Rights-allocated by Richland County Conservation District). The proposed West Crane Irrigation District (undeveloped as of yet) has an allocation of 8,030 acre feet out of the Yellowstone River.

The highly productive lower Yellowstone and Missouri River area of eastern Montana and western North Dakota, commonly referred to as the MonDak Region, is blessed with high quality abundant flows in the Yellowstone and Missouri Rivers. This is one of the few areas in the United States that still has unappropriated waters for irrigation development. There is potential to add at least 500,000 new acres of new irrigation in the MonDak area within 150 miles of Sidney. These new irrigation areas will likely use self-propelled center pivot and linear move irrigation systems.

The MonDak region is probably the last large area in the western USA that will see expanded irrigation development. Other irrigated areas in the West are static or declining in size with little chance for increased development due to endangered species regulations, urban encroachment, salinity and water quality issues. The currently underdeveloped irrigable areas in the MonDak region have all of the components that favor successful, sustainable irrigated farming enterprises, including the well-educated, dedicated and excellent producers. The favorable climatic conditions, high water quality, abundant water supplies and minimal problems with salination of soils make the MonDak region a very desirable area to expand irrigated production from a national and a world perspective.

By virtue of the dry climate, geographic isolation and the ability to control soil water levels throughout the season using precision irrigation management, there is a high potential for cultivation of specialty value-added/high value crops (e.g., plant-based pharmaceuticals, seed crops, herbs, oil seed crops, vegetables, chemical plant feedstocks, bio-fuels, bio-lubricants, etc.). The capability to implement exact water and agrochemical management allows growers to produce high quality value-added specialty crops for niche as well as world markets.

A well-developed infrastructure is in place to support large scale agriculture growth in the region, including transportation (excellent road and rail transport systems), strong electrical power network, service industries, and equipment retailers. A strong agricultural research triangle exists in the MonDak area with Montana State University-Sidney, North Dakota State University-Williston, and the large USDA-Agricultural Research Service Laboratory at Sidney. These and other partnerships are continually

being strengthened to provide needed research/outreach products to growers and support new agricultural industries moving into the region. (Evans)

### **Conclusions and Projected Trends**

Agriculture was the fundamental basis for the historic growth of Richland County since it was established in the early 20<sup>th</sup> century. The climate, soils, and irrigation resources have enabled Richland County farmers and ranchers to produce a significant portion of the state's agricultural exports. Adding value to these exports creates more jobs and more revenue in Richland County. Value-added industries include Sidney Sugar and Busch Ag Resources. A variety of organizations, including Richland Economic Development Corporation, Eastern Plains RC&D, and others have been actively working to pursue other value-added possibilities.

The USDA and MSU Agricultural Research units are significant agricultural resources—working to identify crops and crop management for Richland County's future. They are also important because of the number of professional jobs they provide.

Irrigated agriculture will increase based on market conditions and the opportunities for expanding acres under irrigation in the county. There would likely be significant upgrades and improvements to the existing irrigation systems—a conversion from surface irrigation to pressurized sprinkler systems (center pivots). New irrigation would also be center pivots, which require more electricity and a well-trained service industry. New projects include those that have been approved, but not yet built, including the Crane irrigation project (about 3,000 acres), and a 8,000 acre project in McKenzie County (in North Dakota, just to the east of Richland County).

Dryland production agriculture (not livestock grazing) will likely decline if trends continue for drought, low market prices, reduced subsidies, and emphasis on conservation programs like CRP.

Confined livestock operations and dairies could increase with the development of more industries with by-products that can be fed to livestock (e.g., “distillers grains” such as would be produced by the planned ethanol plant 17 miles southwest of Willison), abundant groundwater, abundant land for waste disposal, and distance from large population centers.