

WYOMING open spaces

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The Role of Agriculture in Maintaining Open Spaces in Wyoming

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The agricultural industry has traditionally been viewed strictly as a producer of food and fiber. However, agriculture also provides another important product – open space. Open space offers landscapes, lifestyles, and wildlife habitats that are highly valued in Wyoming. Open space is particularly important because it determines the character of the land surrounding our communities. Out of economic necessity, most agricultural operations in the West cover large areas, and thus agriculture contributes substantially to maintaining open spaces on private ranch and farm lands. This bulletin looks at the role that agriculture plays in maintaining open spaces in Wyoming.

Wyoming's 62.5 million acres of land are characterized by a diversity of ownership patterns. The 1999 Equality State Almanac indicates that federal government agencies manage nearly half of the state's land area (Table 1). The three largest of these federal land agencies are the Bureau of Land Management (17.4 million acres), the U.S. Forest Service (9.2 million acres), and the National Park Service (2.4 million acres). A combination of three state agencies (Recreation Commission, Game and Fish

Table 1. Land ownership in Wyoming, 1999.

	Acres	Percent
Bureau of Land Management	17,436,894	27.9%
U.S. Forest Service	9,167,882	14.7%
National Park Service	2,393,206	3.8%
Bureau of Reclamation	820,770	1.3%
U.S. Fish and Wildlife	15,708	<0.1%
Total Federal Government	29,834,460	47.7%
Wyoming Recreation Commission	128,434	0.2%
Wyoming Game and Fish	165,958	0.3%
State	3,558,240	5.7%
Counties	7,150	0.0%
Cities	19,894	<0.1%
School Districts	21,515	<0.1%
State and Local Government	3,901,191	6.2%
Other	2,047,919	3.3%
Total Public Lands	35,783,570	57.2%
Total Private Lands	26,725,089	42.8%
Total Surface	62,508,659	100.0%

2

Department, and State Lands Office) and three types of local government entities (counties, cities, and school districts) manage slightly more than 6 percent of the state's land area or about 4 million acres, primarily state school trust lands. Slightly

more than 3 percent or about 2 million acres of the state's surface area is classified as "other," primarily the Wind River Indian Reservation. All together, approximately 57 percent of the state's surface area is in non-private ownership. The remaining 43 percent (26.7 million acres) is privately owned (Figure 1).

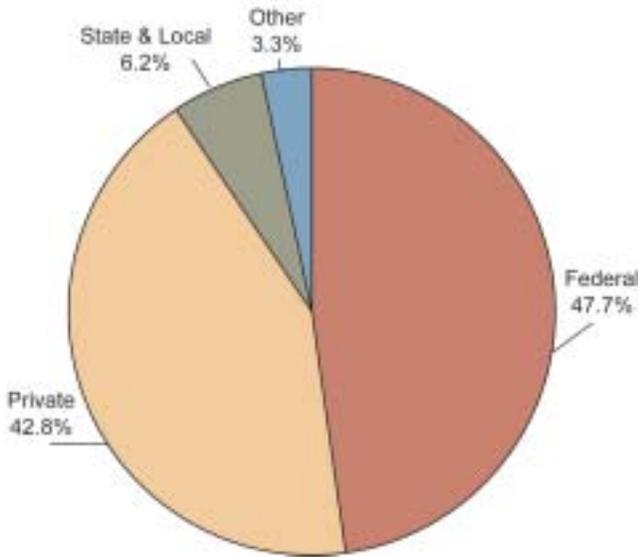


Figure 1. Land ownership in Wyoming, 1999.

Much of the concern about maintaining open space in the West has focused on private lands where landowners face increasing residential and urban development pressures. Private lands often include bottom lands along rivers and other areas that are important for wildlife habitats, especially in the winter, and these lands provide wildlife migration corridors that link to public lands. The Wyoming Department of Revenue's 2000 Annual Report indicates that 26.2 million acres of land in Wyoming were taxed as agricultural property. Assuming that all this land is privately owned implies that agriculture controls more than 98 percent of the private land in the state. The 1997 Census of Agriculture (U.S. Department of Agriculture 1999)

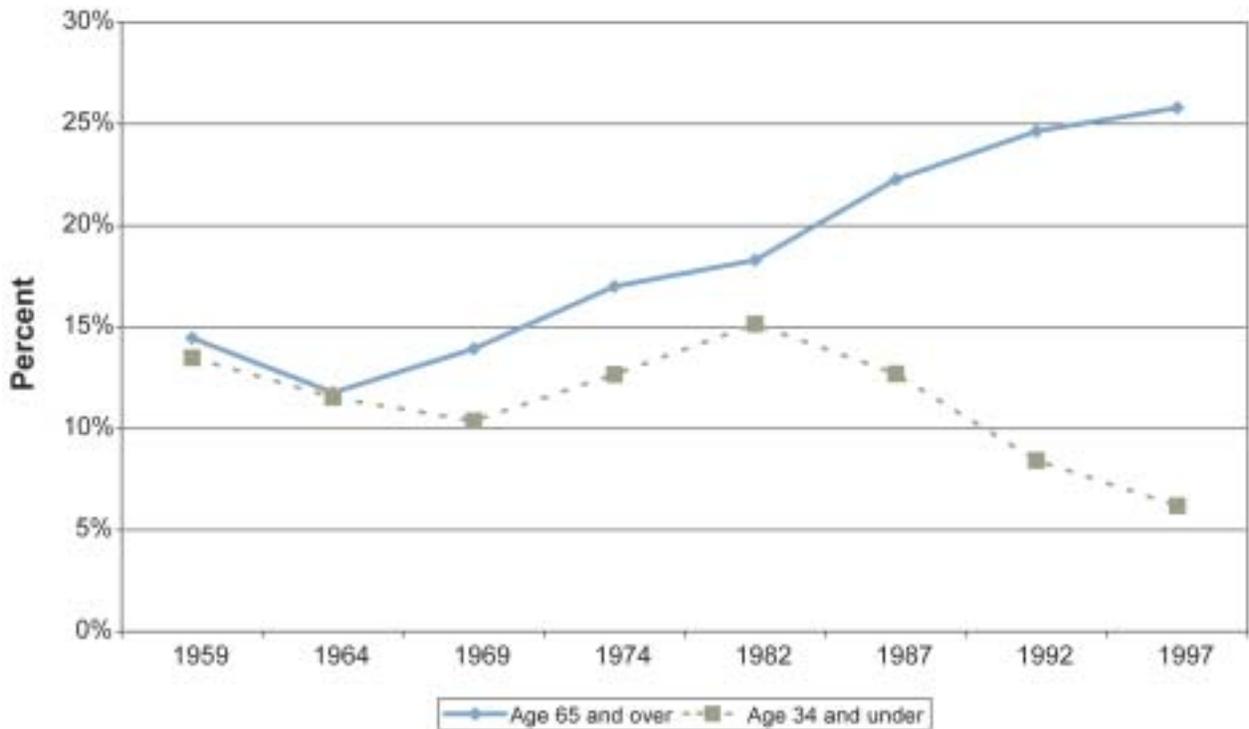


Figure 2. Percentage of Wyoming agricultural operators age 65 and over, and age 34 and under, from 1959 to 1997.

Table 2. Wyoming agricultural land prices statewide and in Johnson and Sheridan counties, 1990-1992 to 1999-2001.

Year	Statewide			Johnson/Sheridan Counties		
	Per Animal Unit (1)	Per Acre Irrigated Meadow	Per Acre Irrigated Cropland	Per Animal Unit	Per Acre Irrigated Meadow	Per Acre Irrigated Cropland
1990-92	\$2,186	\$555	\$744	\$2,652	\$752	\$1,114
1993-95	\$2,248	\$809	\$871	\$3,440	\$1,172	\$1,353
1996-98	\$2,937	\$915	\$1,196	\$4,703	\$1,821	\$1,730
1999-01	\$4,545	\$1,631	\$1,389	\$8,812	\$2,030	\$2,185
Change 1990-2001	107.9%	193.9%	86.7%	232.3%	169.9%	96.1%

(1) An Animal Unit is defined as the amount of forage to feed one cow for 12 months.

Source: Wyoming Farm and Ranch Land Market, University of Wyoming Agricultural Experiment Station Bulletins B-999, B-1049, B-1081, and B-1130.

indicates that about 10 percent of the agricultural land in Wyoming was held by agricultural operations with gross sales of less than \$10,000. If this percentage is used to at least partially adjust for alternative uses, agriculture production accounts for almost 91 percent or about 24.2 million acres of the private land in Wyoming.

Because agriculture is the dominant private land use in Wyoming, the future of open spaces on such land in the state will depend to a large extent on what happens to agriculture. A number of factors may adversely affect the retention of agricultural land in Wyoming. These factors include:

- The aging of Wyoming agricultural operators and the effects of estate taxes;
- The current limited profitability of Wyoming agriculture and/or the availability of higher profits from other lands uses, especially development;
- The increase in agricultural land prices despite the limited profitability of agriculture; and
- Continued uncertainty about livestock grazing on federal lands.

Aging of Agricultural Operators

Using Census of Agriculture data from 1959 to 1997, Foulke et al. (2000) found that the percent of

Wyoming agricultural operators 65 years old and older had more than doubled from less than 12 percent in 1964 to nearly 26 percent in 1997 while the percent of Wyoming agricultural operators 34 years old or younger had declined by over half from more than 15 percent in 1982 to slightly more than 6 percent in 1997 (Figure 2). The aging of agricultural operators, the lack of young people entering the industry, and concerns about the effects of estate taxes on inter-generational transfers of agricultural property are a threat to the retention of open space in Wyoming through the conversion of agricultural land to other uses, including development.

Lack of Profitability

The limited profitability of Wyoming agriculture may also be a reason for the lack of young people entering the industry. After peaking in 1993 at almost \$200 million, the net profit for agriculture in Wyoming has declined drastically during the last seven years and was in fact negative in 1996 (-\$116,000) and 1998 (-\$7.0 million) (Figure 3) (U.S. Dept. of Commerce 2001). Despite some improvement in 1997 and again in 1999, low profitability makes it difficult to retain land in agricultural production, particularly when there is the potential for other more profitable land uses.

4

Increase in Agricultural Land Prices

Despite the reduced profit levels in agriculture since 1993, agricultural land prices in Wyoming have continued to increase (Table 2). Between 1990-1992 and 1999-2001 the average price of a ranch more than doubled on a production-unit basis. Similarly the average price for irrigated meadowland in Wyoming increased by nearly three times. In addition, the average price for irrigated cropland in Wyoming nearly doubled during that same time period. In some parts of the state these increases were even greater. For example, in Johnson and Sheridan counties the price of a ranch increased by more than three times between 1990-1992 and 1999-2001 (Table 2). This increase in agricultural land prices coupled with low to negative profit levels increases the potential for the conversion of agricultural land to other uses, resulting in a potential loss of open space in Wyoming.

Livestock Grazing on Federal Lands

The ongoing debate regarding the use of federal lands has raised concerns about the future of

livestock grazing on such lands in the West. Federal land grazing is an integral part of many ranching operations in Wyoming. The 1997 Census of Agriculture indicates that two-thirds of all commercial agricultural lands (sales of \$10,000 or more) in Wyoming are controlled by operations with grazing permits. In addition, agricultural operations with grazing permits control nearly three-fourths of the ranchland in Wyoming and the associated open spaces or about 16.0 million acres. This represents 60 percent of the total private land in Wyoming.

Ranchers with grazing permits in Wyoming hold an average of 1.3 permits per operation. Nearly three-fourths of these permits are with the U.S. Forest Service or the Bureau of Land Management. Another 23 percent are classified as "other," which may include state and other federal grazing, and 3 percent are on Indian lands. Thus the majority of these permits are associated with grazing on federal lands.

These grazing permits are important to the profitability and financial stability of the agricultural operation holding them. Although most ranchers

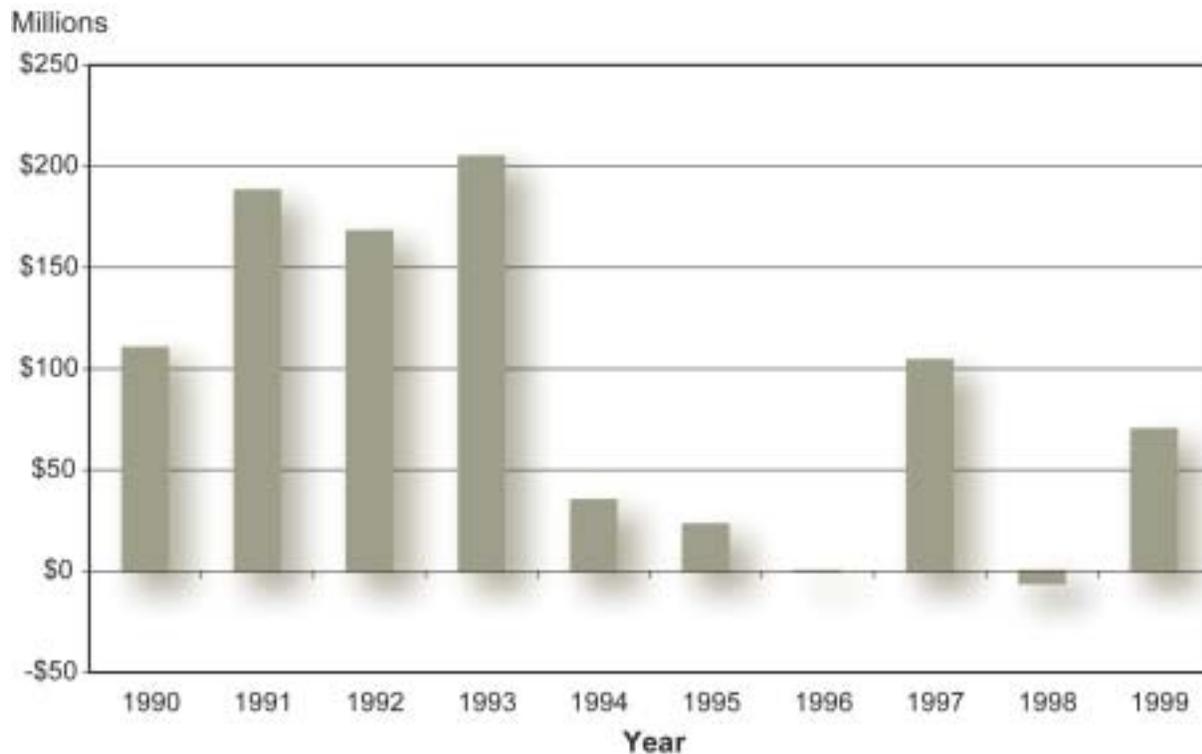


Figure 3. Net agricultural proprietor income in Wyoming, 1990-1999.

are only partially dependent on federal land grazing for forage, this forage source is typically a critical part of their livestock operations, and the optimal use of other forages and resources is impacted when federal grazing permits are reduced or eliminated. Many studies have found that potential reductions in net ranch returns are greater than just the direct economic loss from reductions in grazing on federal lands. Van Tassell and Richardson (1998), for example, used a computer simulation model to evaluate the effect of grazing permit reductions on representative ranching operations in north-central Wyoming. They found that the average annual net cash income declined from \$31,556 with federal grazing permits to (-\$24,998) with the elimination of permits (Figure 4).

A number of factors can affect ranch profitability (e.g., weather, beef prices), and the situation for each ranch is different. However, if these results are representative of ranching operations in Wyoming with federal grazing permits, the elimination of these permits would negatively affect the profitability and financial stability of ranching operations that control a large part of the agricultural land holdings in the state.

The Future

Over the years agriculture has proven to be a very resilient industry, but private lands in the West now face significant development pressures. The factors discussed above may make it more difficult for agricultural land in Wyoming to remain in agricultural production, particularly in high-amenity areas where the pressure for development will likely be the greatest.

The American Farmland Trust has estimated that 2.6 million acres of prime ranchland in Wyoming could be converted to residential development by 2020 (AFT 2002). The study also found that five counties in Wyoming (Sublette, Park, Uinta, Big Horn, and Fremont) were among the top 25 counties in the Rocky

Mountain region in terms of the potential for conversion of prime ranchland to residential development.

Of course, forecasting 20 years into the future is speculative. However, Travis et al. (2002) found that more than 145,000 acres of ranchland in Sublette County and more than 218,500 acres of ranchland in Fremont County had changed hands between 1990 and 2001. While only a small portion of these lands were sold directly to developers, Travis et al. note that "... the current transition in ranchland probably implies a long period of instability in ranchland status and uncertainty over the role that ranchland will play."

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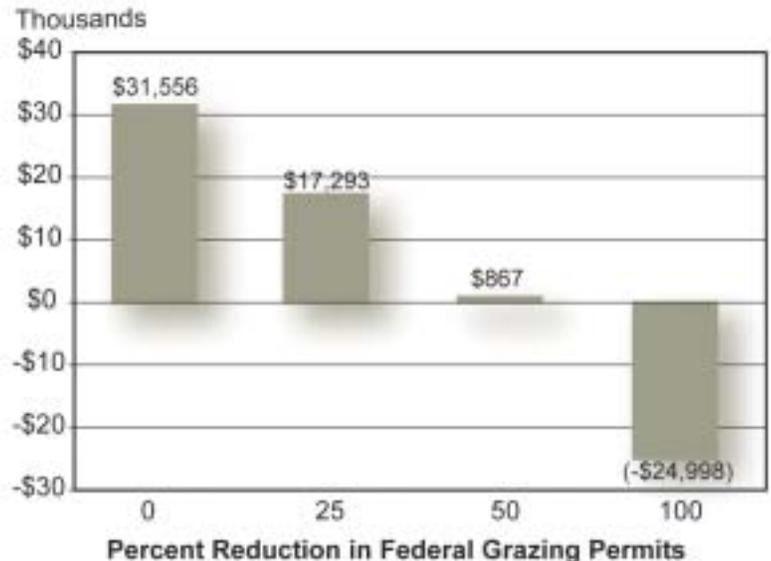


Figure 4. Average annual net cash income reduction for a federal land ranching operation with reductions in federal grazing permits (Van Tassell and Richardson 1998).

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