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B-1168

December 2005

College of Agriculture

Agricultural and Applied Economics

UNIVERSITY
OF WYOMING
Agricultural Experiment Station

Acknowledgements

The authors wish to thank and acknowledge Steve Gleason, Farm Credit Services of America, Casper, Wyoming; Jeffrey Haugen, Farm Credit Services of America, Scottsbluff, Nebraska; and Lyle Spence, Farm Credit Services of America, Worland, Wyoming, for their assistance and cooperation in making data available.

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Wyoming Farm, Ranch, and Rural Land Market: 2002 – 2004

Introduction

This report provides price information on Wyoming farm and ranch land sales that occurred during 2002, 2003, and 2004. This publication is an update of previous Wyoming agricultural land price reports (see Bastian et al., 2002; Bastian et al., 2000; Bastian and Hewlett, 1997; Bastian et al., 1994; Vanvig and Hewlett, 1990; Vanvig and Hewlett, 1988; Vanvig and Gleason, 1986; and Vanvig and Collins, 1984). The objective of the authors is to show average sale prices by regions within the state of major types of agricultural land sold. This report does not, nor is it intended to, show values of specific land parcels. A brief discussion of factors that affect land values and recent trends in land prices for Wyoming and the United States is included.

Procedure

Wyoming agricultural land sales information was collected from Farm Credit Services of America. Report data came from 411 sales reports for agricultural land sales, which included descriptions of individual tracts. Data were collected for the calendar years 2002, 2003, and 2004. Values were established for each of the following categories when included in a sale: (1) type of land such as grazing, irrigated and subirrigated pasture, irrigated meadow, irrigated crop, and dry crop; (2) structural improvements; and (3) public and private grazing leases and permits. Additional sale details, such as type of financing (owner, etc.), productivity, and irrigation methods, were obtained from the sales reports when available.

Farm and ranch sale data used in the analysis were limited to those units that could be classified as agricultural units. All land sale data were entered,

and a preliminary analysis was done to identify extremely high or extremely low sale prices. Those sales deemed as outliers were excluded from the analysis. Excluded from ranch unit analyses were ranch sales smaller than 50 animal units (AUs). Sales less than 50 AUs that still represented purchases for agricultural use were included in analyses of cropland or pasture land. Sales of less than 50 acres were excluded from crop or pasture land analyses as the majority of these represented purchases of open space for residential development. Agricultural land can be purchased for reasons other than agricultural production such as development potential, recreation, or as scenic rural homes. Tracts with exceptionally high recreational and/or scenic value were included in the analysis if the sales report for them did not indicate these lands were to be taken out of agricultural production or deemed as outliers. These types of sales influence the market values for rural and agricultural land and therefore were included in the analysis. It is important to note that people's demands are becoming more diverse for agricultural land, and these diverse demands are having more significant impacts on rural and agricultural land markets as time goes on.

Wyoming land values vary by region and are influenced by factors such as climate, elevation, water availability, population, recreation, scenery, timber, mining, and oil and gas production. In this study, Wyoming is divided into six regions based on climatic and other factors (listed above) and on the predominant types of agricultural production in each area (see Figure 1 on page 3).

The six regions of the state and the predominant agricultural enterprises within each region are shown in Figure 1.¹

¹Teton County and Yellowstone National Park are not included (see explanation on page 2).

Counties	Region	Primary Ag Enterprises
Johnson and Sheridan	1	Beef cattle, sheep, and hay
Campbell, Converse, Crook, Niobrara, and Weston	2	Beef cattle, sheep, hay, and wheat
Albany, Goshen, Laramie, and Platte	3	Beef cattle, sheep, wheat, sugar beets, corn, dry beans, barley, hay, and other irrigated crops
Carbon, Natrona, and Sweetwater	4	Sheep, beef cattle, and hay
Lincoln, Sublette, and Uinta	5	Beef cattle, sheep, hay, and dairy cattle
Big Horn, Fremont, Hot Springs, Park, and Washakie	6	Beef cattle, sheep, barley, sugar beets, oats, hay, dry beans, and other irrigated crops

Variations among counties within each region do exist, but the regions identified are relatively homogeneous. Yellowstone National Park was excluded from this report because no privately owned agricultural land exists within the park. Teton County was also excluded because of significant recreational and residential development factors resulting from its scenic beauty and the extent of public land holdings (96 percent). Therefore, agricultural production potential is of little or no significance when establishing market values for land in Teton County.

Agricultural land prices were summarized and reported for ranch units and various land categories and regions. Average values were reported on a per AU or per-acre basis. However, simple averages of ranch sale prices reported by region and size were estimated to be consistent with Vanvig and Hewlett (1990). Ranch sale prices are reported on a dollar value AU basis. In this report, an AU is defined as the feed required to maintain one 1,000-pound cow with or without a calf for a 12-month period. Average ranch prices were obtained by dividing total dollars for each individual sale by total estimated AUs available in each sale. An average of the individual sales was then calculated for each region or each size classification. The high and low sales

prices per AU were also reported for each category and region, indicating the broad variation of sale prices.

Some smaller sales not included in the ranch unit analysis were in the pasture land and cropland analyses (prices reported in \$/acre). Weighted averages were used for all land price analyses other than ranch unit prices (sales reported as \$/AU). For example, average grazing land prices included mountain pasture, foothills pasture, dry pasture, and crested wheatgrass. Total sales dollars for grazing land types within a region were added and then divided by the total acres in this grazing land category. This method is also consistent with Vanvig and Hewlett (1988, 1990) and Bastian and Hewlett (1997).

Market Prices for Wyoming Agricultural Land

Average market prices by type of land and region for 2002-2004 are reported in this section. Land types include ranches, grazing, irrigated and subirrigated pasture, irrigated meadow, irrigated crop, and dry crop.

Ranch prices per AU include the value of structural improvements (buildings), public grazing

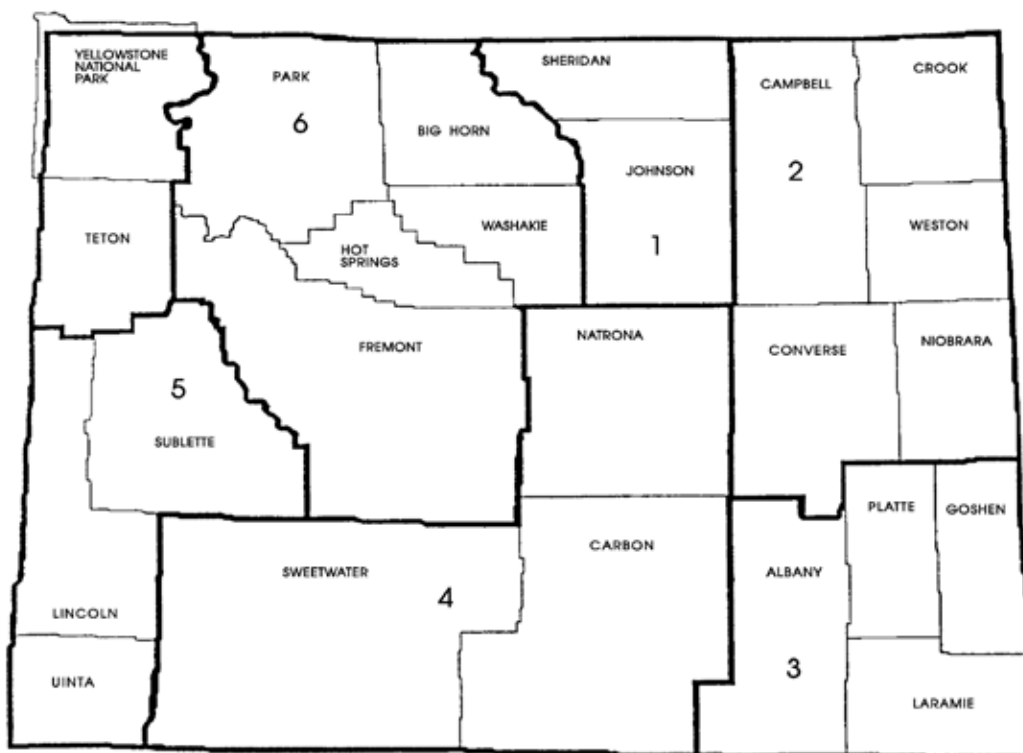


Figure 1. Regional boundaries for reported agricultural land market prices.

permits, and private leases transferred with deeded land. Thus, reported prices reflect the value of ranch operations on an AU basis.²

Per-acre prices shown for grazing land, irrigated pasture, irrigated cropland, and dry cropland do not include the value of any buildings, wasteland, or grazing leases associated with a sale; however, fixed improvements such as fences, stock-water developments, and ditches for gravity irrigation are included when relevant to the per-acre land sale prices.

Ranches

Ranch prices per AU for the eastern plains area, the mountain-valley desert area, and statewide are shown in Table 1. The eastern plains area includes regions 1, 2, and 3, and the mountain-valley desert area covers regions 4, 5, and 6. Prices for eastern

plains ranches averaged \$6,544 per AU. Ranch prices for the mountain valley-desert area averaged \$8,807 per AU, and the statewide average was \$7,238 per AU.

Region 4, Carbon, Natrona, and Sweetwater counties, had the highest average with \$11,409 per AU. This was likely influenced by sales in the Saratoga area, of Carbon County. The prices in region 4 ranged between \$2,475 per AU and \$36,961 per AU. Sales in this region averaged 16 percent of the total AUMs³ from leased foraged. The eastern plains area averaged 6 percent of the forage provided by leases, while the mountain-valley area had an average of 9-percent leased forage. The lowest average was in Region 3 with \$4,467 per AU and a range between \$783 per AU and \$37,389 per AU.

² Information on AU carrying capacity for individual ranches was provided by the appraiser reports of land sales transactions used in the analysis.

³ An AUM is defined as the amount of forage required to maintain one 1,000-pound cow for 30 days (approximately equal to 780 pounds of forage on a dry matter basis). In the case of government leases, an AUM can also be defined as the amount of forage required to maintain one cow/calf pair.

These prices indicate an increased rate of appreciation for ranch properties when compared with 1999-2001 values. This increase was likely due to strengthening cattle prices and increased speculation from non-agricultural interests such as mineral development, recreation, and demand for rural home sites including scenic amenities. Figure 2 compares Wyoming ranch prices on a per-AU basis by region for the 1999-2001 and 2002-2004 periods. These averages have not been adjusted for inflation. Comparing the nominal (unadjusted for inflation) average prices for the two periods indicates an overall increase of 59 percent in ranch prices statewide. Considering the individual regions, the largest average increase took place in the Carbon-Natrona-Sweetwater region, which had a nominal increase of 188 percent from 1999-2001 to 2002-2004. Overall, the mountain-valley desert area saw an increase of 193 percent for the same time period

Region 1 had the lowest average increase with a 4.5-percent nominal average rise. This indicates the number of sales in this analysis was down from 448 to 411 in comparison to 1999-2001 (see Bastian et al. [2002]); however, the decrease was relatively small. The overall relatively large number of sales plus the ranch price percentage increase suggests a continued strong demand for ranch property in 2002-2004 compared with the 1999-2001 study.

The relationship of ranch prices to the total number of AUs and the percentage of those AUs supplied by leased lands are shown in Table 2 on page 6. As the size of ranches increased beyond 200-399 AUs, the expected decrease in price per AU did not occur. Average prices for ranches that were 400-599 AUs were nearly \$900 more per AU. The 600-AU-and-over ranches were on average \$420 per AU lower than the average price for ranches with 200-399 AUs. Those ranches beyond 399 AUs were more likely large enough to be economically viable ranch businesses. Moreover, ranches of the 400-599 AU size might have been desirable from a recreation standpoint. Overall, this result was another indication of strong demand for ranch property. Average prices per AU ranged from \$5,947 for the smallest ranches (50 to 99 AUs) to \$3,715 for the 600-AU-and-over size category.

The percentage of leased forage seemed to depress prices for ranches having more than 25 percent of their forage coming from leases. The average price per AU for ranches with no leased ground was \$7,157. The price increased to \$7,778 per AU for ranches with leased forage of up to 24 percent of total forage. However, as the percentage of leased forage increased beyond 24 percent, the price per AU declined. This outcome might have been due to risks associated with having a large

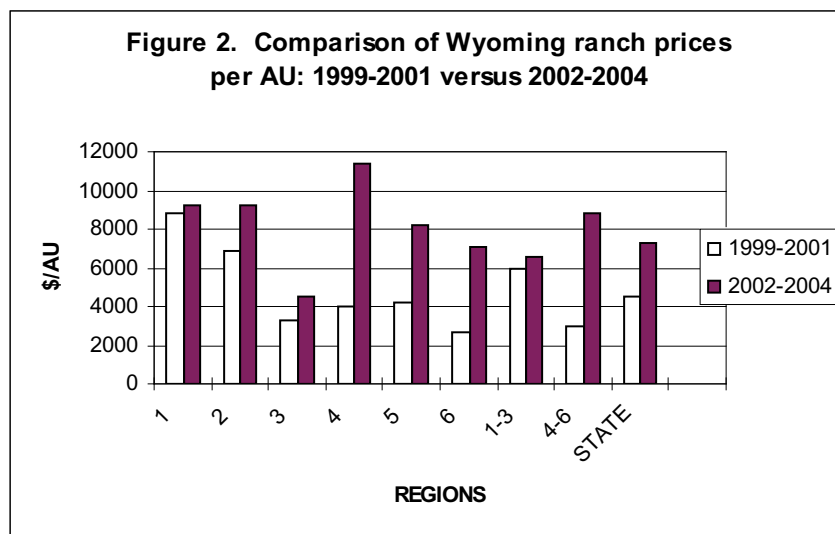


Table 1. Price per AU for Wyoming ranches by region and average percentage of all leased forage, 2002-2004.

Region/Counties	Number of sales	Average size (AU)s	Average sales price	Sales price range		Average percentage leased forage (% of Total AUMs)
				Low	High	
1 Johnson and Sheridan	20	116	9,210	981	20,000	4
2 Campbell, Converse, Crook, Niobrara, and Weston	53	162	9,223	1,097	30,369	12
3 Albany, Goshen, Laramie, and Platte	94	159	4,467	783	37,389	3
4 Carbon, Natrona, and Sweetwater	31	305	11,409	2,475	36,961	16
5 Lincoln, Sublette, and Uinta	23	125	8,185	1,419	25,403	7
6 Big Horn, Fremont, Hot Springs, Park, and Washakie	39	156	7,106	636	33,000	5
1,2,3 Eastern plains	167	155	6,544	783	37,389	6
4,5,6 Mountain-valley desert	93	198	8,807	636	36,961	9
1-6 Statewide	272	171	7,238	636	37,389	7

percentage of leased forage from public rangeland which does not provide ownership rights to the forage. The political uncertainty about public range policy creates risk of carrying capacity being lost. The proportion of forage leased varied from zero to an average of 93 percent in the category of 75 percent and over of leased forage. Ranches in the 75 percent and over category had an average price of \$5,734 per AU. (Large ranches tend to have higher percentages of leased forage.) These relationships were similar to those found in an earlier ranch sales study for 1975-1988 (Vanvig and Hewlett, 1990).

Figure 3 on page 7 compares 1999-2001 average ranch prices with values during the 2002-2004 period. This comparison was based on average prices without adjustments for inflation for each period. The largest average increase between the two periods was for the size classifications of 200-399

and 400-599 AUs. The average sales price per AU increased 32 percent from 1999-2001 to 2002-2004. The smallest increase in the average price for Wyoming ranches was in the 50 to 99 AU size, in which nominal prices increased only 3.3 percent during the period of 1999-2001 to 2002-2004. Figure 3 also indicates a relatively stable demand for ranch properties in Wyoming that were smaller than 600 AUs from 1996-98 to 1999-2001, particularly for those ranches supporting AUs greater than 200. Those ranches in the 600 or more AU category, however, experienced a 10-percent decrease in average price for this study period as compared to 1999-2001. The number of sales for large ranches was lower during 2003 and 2004. This could be indicative of a lack of demand due to extended drought problems in many parts of the state.

Table 2. Price per AU of Wyoming ranches based on size and percentage of forage provided by public and private leases, 2002-2004.

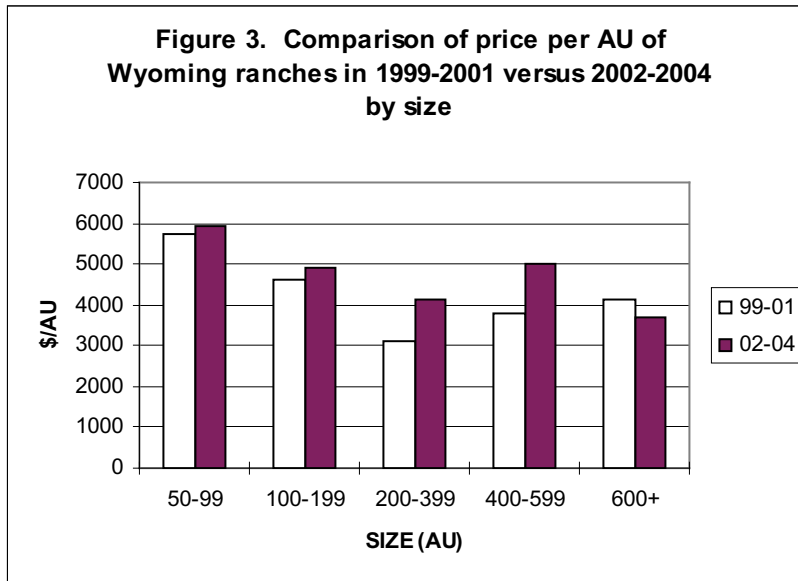
Size range (AUs)	Number of sales	Average size (AUs)	Average price (\$/AU)	Average leased forage (Percent)
50-99	50	70	5,947	5
100-199	77	147	4,918	7
200-399	48	280	4,135	11
400-599	11	478	5,031	9
600 and over	11	1,009	3,715	20
Leased Forage (Percent)				
0	192	122	7,157	0
1-24	53	304	7,788	12
25-49	15	190	7,763	32
50-74	6	354	5,477	58
75 and over	5	367	5,734	93

Table 3 on page 10 shows the average value of improvements and the frequency of ranches with a specified number of structures such as the percentage of ranches sold with zero, one, two, three, or more houses. Table 3 indicates that generally as the size of the ranch unit increased so did the average value of improvements. Ranch units in the 50- to 99-AU size category had an average value of improvements equal to \$64,279. Houses, livestock buildings or shelters, and/or corrals tended to be the most common improvements in this size category. Approximately 34 percent of the ranches sold in this size category had one or more houses. Shops and then livestock buildings or shelters were the next most common types of improvement, as 18 and 16 percent of the ranches, respectively, had one or more shops and livestock buildings. The frequency of reported improvements and the number of structures tended to increase with size and average value of improvements. As with ranch prices, the value of improvements varied greatly within size categories.

The average value of improvements for ranches in the 600-AU-and-over category was \$200,363. In this category, 91 percent of the ranches had one or more houses, 82 percent had one or more shops,

72 percent had one or more livestock buildings, 64 percent had at least one set of corrals, and 45 percent had livestock scales. The value of improvements for ranches of 600 AUs and over ranged from \$61,730 to a high of \$392,705.

Prices for smaller ranches showed continued strength since early 1990; however, prices for the larger ranch units slowed in appreciation during the middle 1990s, which was a reflection of lower returns to cattle producers in the mid-1990s as well as other factors. Given the present smaller cow herd inventory, there is a relatively positive outlook in cattle prices for the next several years as producers begin to rebuild herds. Once calves from retained heifers start to enter the market, prices will likely start the down trend for the expansion phase of the current cattle cycle. This might fuel the demand for larger agricultural units in the short run, but demand will likely soften for larger ranches in the next three to five years. Other factors, such as increased interest in recreational and scenic values of Wyoming cattle ranches and more people (both agriculturalists and nonagriculturalists) from outside the state purchasing agricultural lands, have likely influenced the overall positive agricultural land market trend as well. Ranch land with significant private



timber has also become increasingly in demand, reportedly due to the decreased availability of West Coast timber from public lands due to environmental concerns.

Assured Leases

Assured leases include transfers of public and in some cases private leases in conjunction with deeded land. Historically, in the case of public lease permits, a rancher owning the required commensurate property has been allowed to renew the permit attached to the land under the previous owner. Thus, the purchaser is assured the use of the resource. Some sales are outright sales of lease agreements. Although public rangeland leases are not property rights in perpetuity, they are long-term leases awarded based upon prior use patterns termed “lease hold interests.” The quantity and type of assured leases transferred with ranches seemed to influence Wyoming ranch land sale prices. The values of assured leases per AUM transferred with ranches sold during 2001-2004 are shown in Table 4 on page 9. However, for each category of lease (state, federal Bureau of Land Management [BLM], etc.), a weighted average approach was used to calculate

average values. The dollar values for all leases within a category were summed for all sales and divided by total AUMs estimated for all leases within that category. This methodology is consistent with Vanvig and Hewlett (1988, 1990), Bastian et al. (1994), and Bastian and Hewlett (1997).

The number of assured leases and permits transferred in the sampled agricultural land sales totaled 122 from 2001 to 2004, and some sales included more than one lease. This number was down from 181 between 1999 and 2001. The number of AUMs transferred averaged from 354 for U. S. Department of Agriculture (USDA) Forest Service leases to 798 for BLM leases. BLM leases included both Section 3 and Section 15 lands. Section 3 lands are grazing district lands, while Section 15 leases include lands outside grazing districts. State of Wyoming grazing leases averaged 367 AUMs in this sample. Values assigned to assured leases averaged \$72 per AUM for the entire state. State of Wyoming leases averaged \$81 per AUM. Forest Service leases averaged \$61 per AUM for sales used in this analysis, while BLM-assured leases averaged \$48.

Table 3. Average value of improvements and percentage of Wyoming ranches with the specified type and number of improvements based on size (AUs), 2002-2004.

Size (AUs)	No. of sales	\$ value of improvements			Type and number of improvements										No. of livestock scales											
		Avg.	Low	High	No. of houses			No. of shops			No. of livestock buildings					Granaries	No. of corrals									
					0	1	2	3	4+	0	1	2	3+	0			1	2	3	4	5+	no	yes	0	1	2
50-99	24	64,279	2,000	455,063	66	32	2	0	0	82	8	8	2	84	14	2	0	0	0	96	4	86	14	0	0	100
100-199	61	86,089	3,750	672,869	51	35	13	1	0	58	24	13	5	65	18	12	3	0	1	94	6	62	38	0	0	99
200-399	44	85,638	4,000	487,200	33	46	15	6	0	38	33	17	13	44	38	13	4	2	0	90	10	42	56	2	0	90
400-599	10	180,497	47,571	510,828	18	36	18	18	9	27	45	18	9	55	18	0	27	0	0	91	9	36	45	18	0	82
600 and over	11	200,363	61,730	392,705	18	9	0	45	27	18	18	55	9	27	18	18	18	18	0	91	9	36	64	0	0	55

---Percent of ranches with type and number of improvements---

* Total percentage of ranches with that type of improvement may add up to more than 100 because percentages are rounded to nearest whole number.

Grazing Land

Sales data were collected on 204 parcels of grazing land (dry pasture) in Wyoming during 2002-2004. Prices ranged from a high of \$3,500 per acre in Region 4 to a low of \$60 per acre in Region 3 (see Table 5 on page 9). Average prices per acre ranged from \$305 per acre in Region 6 to \$734 per acre in Region 4. It is extremely likely that higher value sales were influenced by amenities other than agricultural production. Purchases of land for open space and recreation amenities along with home sites is likely influencing prices in a number of these regions. However, since the sales report did not give an indication that the land would no longer be used in agriculture, they were left in the analysis because such sales did influence the land market.

Eastern plains sales averaged \$408 per acre, which was \$81 per acre lower than the average prices of grazing land in the mountain-valley desert area. The relative similarity in grazing land prices for the parcels analyzed likely reflects the relative equality in land productivity for the two regions. The average productivity of lands sold, according to appraisal reports, was 0.38 AUMs per acre in the eastern plains as opposed to an average productivity of 0.37 AUMs per acre in the mountain-valley desert area (see Table 5). Statewide, the average price per acre of grazing land was \$428 per acre.

Except for the high average price in Region 1 and the low average price of \$287 in Region 6, other regions ranged between \$375 per acre and \$575 per acre. The low price in Region 6 may partially be explained by its relatively low productivity. Region 1's high price may be explained by other factors such as scenic and recreation values.

Irrigated and Subirrigated Pasture

Sales of irrigated, subirrigated, and river or creek bottom pasture parcels totaled 102. Prices of land in this category ranged from a high of \$6,700 per acre in region 1 to a low of \$100 per acre in region 3 (see Table 6 on page 10). Region 1 had the least number of land sales in this category (three), while region 3 had the most (45). Region 3 had

Table 4. Value of assured leases per AUM transferred with ranches sold during 2002-2004.

Agency providing lease	Number of sales	Average AUMs	Average Value	Range	
				Low	High
(\$ per AUM)					
State of Wyoming	64	367	81	30	100
BLM	48	798	48	20	100
Forest Service	10	354	61	50	75
Private	0	0	0	0	0
Railroad	0	0	0	0	0
Average for all leases	122	822	72	20	100

Table 5. Wyoming grazing land prices, 2002-2004.

Region/Counties	Number of sales	Average size (acres)	AUMs/acre	Average sales price	Range	
					Low	High
(\$ per acre)						
1 Johnson and Sheridan	17	2,458	0.55	506	136	1,553
2 Campbell, Converse, Crook, Niobrara, and Weston	50	1,811	0.35	533	91	3,000
3 Albany, Goshen, Laramie, and Platte	64	1,295	0.36	284	60	1,313
4 Carbon, Natrona, and Sweetwater	31	4,915	0.39	735	124	3,500
5 Lincoln, Sublette, and Uinta	15	2,045	0.28	309	125	718
6 Big Horn, Fremont, Hot Springs, Park, and Washakie	27	3,111	0.39	305	100	1,100
Eastern plains	131	1,643	0.38	408	60	3,000
Mountain-valley desert	73	3,658	0.37	489	100	3,500
Statewide	204	2,296	0.37	428	60	3,500

the smallest average acreage per sale for irrigated or subirrigated pasture land; the average parcel size for this type of pasture was 106. Region 1 had the largest average acreage per sale with 560 acres per transaction.

The eastern plains reported an average acreage of 184 per transaction, productivity of 2.42 AUMs per acre, and an average price per acre of \$1,017 for irrigated and subirrigated pasture land (see Table 6 on page 10). The mountain-valley desert area had a lower average productivity and price than the eastern plains. This area reported an average

of 371 acres per transaction, 1.99 AUMs per acre, and \$928 per acre. Statewide averages for sales of land in this category were 236 acres per transaction, 2.29 AUMs per acre, and \$961 per acre. The highest average price per acre (\$1,622) for land of this type occurred in Region 2, which had an average productivity of 2.57 AUMs per acre. The lowest average price per acre (\$511) for this type of pasture occurred in region 5. This region had the third lowest corresponding average productivity of 1.78 AUMs per acre.

Table 6. Wyoming irrigated and subirrigated pasture prices, 2002-2004.

Region/Countries	Number of sales	Average size (acres)	AUMs/acre	Average sales price	Range	
					Low	High
(\$ per acre)						
1 Johnson and Sheridan	3	560	0.93	579	300	750
2 Campbell, Converse, Crook, Niobrara, and Weston	20	305	2.57	1,622	185	6,700
3 Albany, Goshen, Laramie, and Platte	45	106	2.45	778	100	2,580
4 Carbon, Natrona, and Sweetwater	18	542	1.56	983	250	3,200
5 Lincoln, Sublette, and Uinta	4	160	1.78	511	400	614
6 Big Horn, Fremont, Hot Springs, Park, and Washakie	12	186	2.71	986	400	2,525
Eastern plains	68	184	2.42	1,017	100	6,700
Mountain-valley desert	34	371	1.99	928	250	3,200
Statewide	111	236	2.29	961	100	6,700

Table 7. Wyoming irrigated meadow land prices, 2002-2004.

Region/Countries	Number of sales	Average size (acres)	AUMs/acre	Average sales price	Range	
					Low	High
(\$ per acre)						
1 Johnson and Sheridan	1	140	3.40	1,000	1,000	1,000
2 Campbell, Converse, Crook, Niobrara, and Weston	10	390	4.23	2,220	1,314	5,200
3 Albany, Goshen, Laramie, and Platte	7	155	6.93	1,441	250	2,600
4 Carbon, Natrona, and Sweetwater	14	432	4.36	1,245	494	3,200
5 Lincoln, Sublette, and Uinta	5	362	5.72	1,005	335	1,889
6 Big Horn, Fremont, Hot Springs, Park, and Washakie	2	90	8.51	1,314	527	2,100
Eastern plains	18	285	5.23	1,849	250	5,200
Mountain-valley desert	21	383	5.08	1,194	335	3,200
Statewide	39	338	5.15	1,497	250	5,200

Table 8. Wyoming irrigated cropland prices, 2002-2004.

Region/Counties	Number of sales	Average size (acres)	AUMs/acre	Average sales price	Range	
					Low	High
					(\$ per acre)	
1 Johnson and Sheridan	4	126	14.00	1,332	961	1,600
2 Campbell, Converse, Crook, Niobrara, and Weston	9	226	10.31	2,880	1,100	6,150
3 Albany, Goshen, Laramie, and Platte	58	141	12.31	1,259	500	2,700
4 Carbon, Natrona, and Sweetwater	3	207	6.67	886	615	1,342
5 Lincoln, Sublette, and Uinta	8	129	9.06	1,303	1,000	1,800
6 Big Horn, Fremont, Hot Springs, Park, and Washakie	13	160	10.35	1,558	675	3,000
Eastern plains	71	151	12.15	1,469	500	6,150
Mountain-valley desert	24	156	9.46	1,389	615	3,000
Statewide	95	152	11.37	1,417	500	6,150

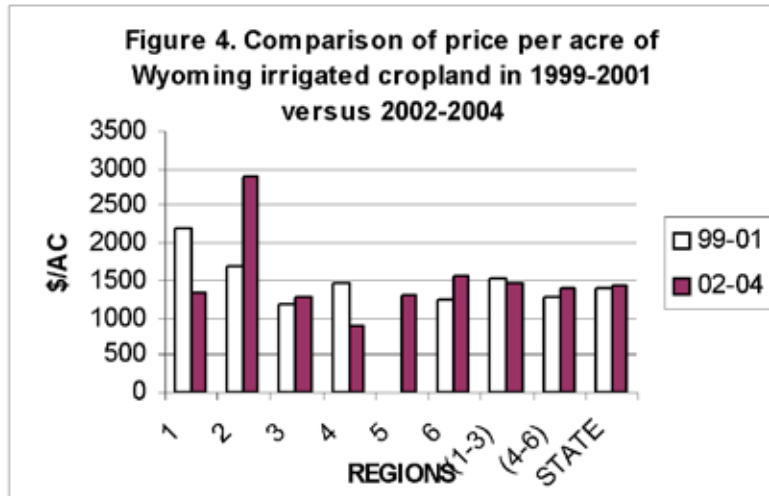
Irrigated Meadow Land

Irrigated meadow land is a separate category intended to reflect information about irrigated meadows not cultivated or rotated with other crops. The wide price range for this land reflects the varying productivities and scenic amenities associated with these lands. The high sales occurred in region 2 with a price of \$5,200 per acre (see Table 7 on previous page). The low occurred in Region 3. The statewide average was \$1,497 per acre with an average carrying capacity of 5.15 AUMs per acre. Eastern plains prices averaged lower than the statewide number at \$1,849 per acre with an average productivity of 5.23 AUMs per acre. Mountain-valley desert areas had a higher average sale price of \$1,194 per acre and an average carrying capacity of 5.08 AUMs per acre. Region 1 had the lowest average sale price at \$1,000 per acre and the lowest average carrying capacity of 3.40 AUMs per acre. Region 4 had the highest average number of acres sold per transaction (432). The highest average sale price (\$2,220) for irrigated meadow land occurred in region 2, which had an average productivity of 4.23 AUMs per acre.

Irrigated Cropland

Table 8 summarizes irrigated cropland prices by regions. Land in this category included land under sprinkler, center pivot, and gravity irrigation systems across various quality classifications. Sales of irrigated tracts totaled 95 for 2002-2004 as compared to 142 in 1999-2001. Sale prices across Wyoming ranged from a high of \$6,150 per acre in Region 2 to a low of \$500 in Region 3. This broad range of prices reflected differences in land quality, water class, type of irrigation system, and sale methods. Region 2 had the highest average sale price with \$2,880 per acre, while the average size was 226 acres. The lowest average sale price, in Region 4, was \$886 per acre, reflecting the lowest average productivity of the reported sales, with an average size of 207 acres. Statewide averages for irrigated cropland during 2002-2004 were \$1,417 per acre and 152 acres per transaction.

Region 3 had 58 transactions, the highest number, while Region 4 had the lowest with only three (see Table 8). The average sale size ranged between 126 irrigated acres to 226. The two major irrigated cash crop regions in the state were 3 and 6. These regions produced sugar beets, corn, barley, oats, dry



beans, and hay, particularly in the Torrington, Worland, Lander, Riverton, and Powell areas. Region 2 had the highest average sale price, likely because of nonagricultural interests demanding land in that area.

Water supply classifications based on water availability are important determinants of value for irrigated cropland. Unfortunately, data on irrigated cropland prices by water class was not available. Consequently, land sale prices reported represented an average of all sales of irrigated cropland for each region. Those acres having relatively good water supplies normally would range higher, while those lands with uncertain water supplies would range lower in price.

Figure 4 compares 1999-2001 average irrigated cropland prices with the 2002-2004 period. This is based on average prices without adjustments for inflation for each period. The largest average increase between the two periods was for Region 2. The average sales price per acre increased nearly 70 percent from 1999-2001 to 2002-2004. This may reflect demand for agricultural lands from nonagricultural influences such as energy development, open space, or recreation amenities purchases. Regions 1 and 4 experienced a decrease in reported average sales prices of nearly 39 percent across the two periods. This decrease may be related to the drought and/or reflect the low number of sales which were report-

ed. Region 3 experienced only a 7-percent increase since the period of the last report. The number of reported sales across the state dropped slightly between the two periods for this land type (142 sales in 1999-2001 versus 95 in 2002-2004). Reduced rates of appreciation and fewer sales indicated a potentially weaker demand for irrigated cropland in Wyoming from 1999-2001 to 2002-2004. This report indicated only a 2-percent increase from the previous period on a statewide basis. This result was probably due to drought and relatively weak crop prices. Generally, irrigated cropland has been slowly increasing in recent years.

Dry Cropland

Only 5 parcels of dry cropland sales were collected for Wyoming during 2002-2004 (see Table 9). This makes conclusions regarding dry cropland prices dubious at best. However, the number of reported sales being down from 22 compared to the previous report may indicate weaker demand for dry cropland given drought and relatively weak crop prices for the types of crops typically grown on these acres. Surrounding states with significant wheat production have seen dry cropland prices remain steady or appreciate slightly. It was also less likely that dry cropland was associated with non-agricultural amenities, which may have further softened the demand for this type of land relative to the other types of agricultural land in this analysis.

Table 9. Wyoming dry cropland prices, 2002-2004.

Region/Countries	Number of sales	Average size (acres)	Average sales price	Range	
				Low	High
				(\$ per acre)	
1 Johnson and Sheridan*	3	245	883	400	1,500
2 Campbell, Converse, Crook, Niobrara, and Weston*	1	248	300	300	300
3 Albany, Goshen, Laramie, and Platte*	1	85	300	300	300
Statewide	5	214	650	300	1,500

* The small sample size in regions 1, 2 and 3 reduces the reliability of these averages being representative for the entire region.

Regions 4, 5, and 6 had no sales reported and are not broken out in Table 9. The average price for the five reported sales was \$650 per acre with a range of \$300 to \$1,500. The average parcel size reported for these sales was 214 acres. It is important to recall that parcels less than 50 acres were deleted from the analysis to reduce the influence of nonagricultural development of agricultural lands on the reported averages given the objective of the analysis.

Factors Affecting the Agricultural Land Market

Expected Farm and Ranch Income

Farm and ranch land values are affected by many factors. Expected net income is an important determinant in all areas for most types of agricultural lands. Other factors, such as recreation and scenic values, minerals, interest rates, urban influences, investment potential, supply of agricultural land on the market, and sales due to financial stress, are also important. The demand for agricultural lands is becoming more diverse as more buyers are interested in these lands for characteristics other than agricultural production. Current market values represent consideration of all these factors by both buyers and sellers.

Agricultural land prices seem to be trending upward overall after bottoming out in 1987. This turnaround came about somewhat earlier for cattle ranches and grazing land than for irrigated and dry

crop lands, which is probably due in part to favorable cattle prices from about 1986-87 through the early 1990s and then again in the late 1990s. The demand for ranch properties also seems to be increasingly influenced by other amenity values such as recreation and scenic views (Bastian et al., 2002); however, crop prices, except for possibly those of sugar beets and malt barley, have not been as favorable. Average crop prices rose slightly in 2002 and 2003 compared to the 1999-2001 period (Wyoming Agricultural Statistics Service, 2004). Since 1989, prices for all types of agricultural land appear to have stabilized and turned upward. Large increases were reported for cattle ranches during the early 1990s. This trend moderated in the mid-1990s as cattle prices dropped considerably after 1993. Ranch land prices seem to be gaining strength again as cattle prices improve and the demand for other amenities often found on ranch properties increases. Cropland prices are showing moderate strength, but the appreciation rate seems to be moderating due to extended periods of drought and weak prices for most crops. Reports indicate agricultural parcels, including both ranches and croplands, being sold for residential development in rural areas near larger population centers.

Normally, there is a lag between improved farm and ranch income from higher product prices and land price increases. Generally, this is a one-year lag. Crop prices were relatively strong until 1997, but fairly large grain supplies are predicted to continue

in the near future. This outlook suggests crop prices will continue to be at least moderately depressed over the next several years, which will likely also continue to moderately depress or stabilize cropland prices not being purchased for nonagricultural purposes.

Scenic, Recreational, and other Nonagricultural Values

Although sales in this report are primarily of agricultural properties, scenic and recreational values are important in Wyoming and can contribute significantly to the market value of agricultural lands. This relationship is an especially significant consideration for ranches and grazing lands near national forests and scenic mountain areas, and the demand for such amenities seems to be increasing. Important scenic areas are found near Sheridan, Saratoga, Jackson Hole (Teton County was not included in this analysis), Pinedale, Cody, and in the Black Hills of northeastern Wyoming. Research results by Bastian et al. (2002) indicated hunting, fishing, and scenic views contribute significantly to agricultural land values.

Other nonagricultural influences on the agricultural land market include: expansion of urban areas through residential and commercial development; mineral rights and royalties, including coal, oil, and gas leases; and recreational hunting and fishing leases, which provide income from nonagricultural activities. Urban influences exist near most cities and towns in Wyoming. Mineral leases for oil, coal, coal-bed methane and/or natural gas are prevalent in Johnson, Campbell, Carbon, Natrona, Sheridan, Sublette, and Sweetwater counties. These mineral revenues may influence both demand and supply of agricultural lands. For example, landowners may speculate on potential mineral income and hold properties off the market or demand a higher price when faced with an opportunity to sell. Oil and natural gas leases are common in southwestern Wyoming. In the past, boom-and-bust cycles as-

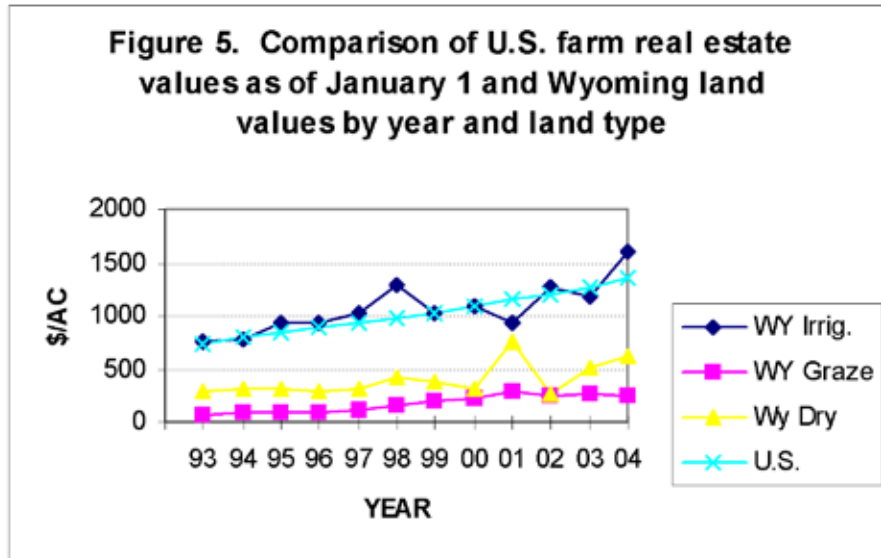
sociated with uranium and coal development have influenced land values, and such cycles may be a consideration in the future.

Supply of Farms and Ranches on the Market

Another factor affecting Wyoming land prices is the supply of farms and ranches available for sale, which appears to continue to decrease compared with 1996-99. Because land prices were stronger and cattle prices had increased, many producers may have chosen not to liquidate some of their land assets. Moreover, the relatively attractive crop prices before 1997 may have reduced the supply of cropland due to financial stress. In addition, as agricultural lands are purchased for reasons other than agricultural production, factors such as agricultural income may be less of a determinant for the supply of agricultural lands.

Monetary Factors

Nominal interest rates have remained relatively low for a number of years. The Federal Reserve tried to stimulate economic activity by lowering the prime lending rate, which, in turn, lowered long-term interest rates and strengthened real estate markets. This trend may be changing, however, as the Federal Reserve continues to increase short-term interest rates at which banks can borrow money as the U.S. economy continues to show strength. This may be exacerbated by increased fuel prices in the short run as concerns over inflation rise and then moderate if the economy slows. Overall, a relatively good supply of credit for farm real estate financing exists in most areas of the United States, but this situation may change as the crop sector continues to face financial stress. Credit for purchasing grazing lands and ranch properties should continue to be in good supply given the income outlook for cattle over the next several years. This may reverse in four to five years, however, as the expansion phase of the cattle cycle continues and more animals are placed on the market in two to three years from increased retention of breeding livestock.



Recent Trends in Wyoming and National Agricultural Land Prices

Wyoming

Market prices for major types of Wyoming agricultural land peaked in the early 1980s and then generally declined until 1987 (Bastian et al., 1994). In 1989, average ranch prices turned upward, and they appear to be continuing in that direction. Grazing land prices peaked in 1982 and declined until 1989 (Vanvig and Hewlett, 1990). Grazing land prices have trended upward since 1989 (see Figure 5, above, and Table 10 on page 16). Prices for cropland have stabilized and increased since 1987 (see Figure 5 and Table 10).⁵

The United States

Agricultural land values in the United States increased rapidly in the 1970s, peaked in 1981-82, declined rapidly until 1987, and have since increased (Vanvig and Hewlett, 1990). According to an August 2005 USDA report published on agricultural land values, U.S. farm real estate experienced a 5.1-percent increase annually in the per-acre value during the 1990s. Other figures from the 2005 USDA report follow: increases for all agricultural real estate from 2000 to 2004 were 4.95

percent; farm real estate values increased 11 percent from January 1, 2004, to January 1, 2005, from an average of \$1,360 to \$1,510 per acre. The average nominal value of \$1,510 per acre as of January 1, 2005, compares with \$823 in 1982, just before the major decline in farm real estate values during the mid-1980s, representing an overall increase of 83 percent since 1982. U.S. cropland values, not including improvements, increased 11.3 percent during 2004 to a value of \$1,970 per acre nationwide by January 1, 2005. Pasture values increased 9.5 percent during 2004 to a national average of \$694 per acre by January 1, 2005.

Land Rental Rates

Irrigated Land

Typical fixed cash rental arrangements require a landlord to pay real estate taxes and water costs. Cash rental rates tend to vary from year to year depending upon crop prices, yield changes, and the demand for rental land. The Wyoming Agricultural Statistics Service no longer estimates gross cash rent for cropland in Wyoming. Hewlett et al., (1994) estimated the cash rent for irrigated land at \$75 per acre in Fremont County.

Table 10. Average market prices for Wyoming agricultural land and ranches, 1992-2004^a.

	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
-----Average Prices-----													
Ranches (\$/AU)													
Eastern Plains	2,058	2,173	2,293	2,819	3,224	3,423	2,819	4,809	5,861	7,911	4,325	4,153	3,485
Mountain Valley-Desert	1,408	1,681	1,861	1,598	2,714	2,516	1,598	3,007	2,756	3,340	4,122	5,397	8,503
Grazing land (\$/Ac)													
Eastern Plains	70	79	93	111	131	128	111	268	255	445	263	275	223
Mountain Valley-Desert	55	58	64	51	65	95	51	147	186	138	238	240	259
Irrigated cropland (\$/AC)													
Region 3	539	639	794	982	883	973	982	1,017	1,071	853	1,089	1,310	1,206
Region 6	609	858	741	874	989	1,054	874	1,025	1,084	1,017	1,460	1,039	2,004
Dry cropland (\$/AC)													
Region 2	244	295	417	358	284	n/a	n/a	457	371	1,200	308	750	950
Region 3	234	300	199	250	n/a	421	421	277	240	300	230	270	292

^a Data for Table 10 is based on estimated averages for the specified region and year given the data used in the analysis.

Share-rental arrangements for irrigated cropland are relatively constant from year to year, although specific provisions of individual leases will vary, and rental rates may differ from region to region. Typical shares for various irrigated crops are listed below (Hewlett and Bastian, 1992; Hewlett et al., 1994):

<u>Crop</u>	<u>Landlord</u>	<u>Lessee/Renter</u>
Grains	1/3	2/3
Dry beans	1/4	3/4
Beets	1/5	4/5
Hay	1/2	1/2

In addition to real estate taxes, a landlord typically pays water costs for irrigated land. Some variable costs, such as fertilizers, herbicides, harvesting, and hauling, may be shared in the same proportion as the crop share. When entering into lease arrangements, lessors and lessees need to assess what is fair and acceptable based on the unique characteristics of the arrangement being considered.

Dry Cropland

In Wyoming, dry cropland is usually rented on a crop-share basis rather than with a fixed-cash arrangement. The typical crop-share rental rate is one-third to the landlord and two-thirds to the renter in the major dryland wheat producing areas. The landlord pays real estate taxes and usually shares in some variable costs such as pesticides, harvest, and hauling (Vanvig and Hewlett, 1990).

Private Grazing Leases

The most common rental method for privately owned grazing land is on an AUM basis or a cow/calf-pair basis in which the landowner provides salt, water, and some health care for the livestock. The following average rates for Wyoming have been reported (Wyoming Agricultural Statistics Service, 2004).

<u>Year</u>	<u>AUM</u>	<u>Cow/Calf (\$/mo)</u>	<u>Per Head (\$/mo.)</u>
1999	11.70	13.50	12.00
2000	12.20	14.10	12.60
2001	12.90	15.00	13.10
2002	13.50	15.60	14.00
2003	13.40	15.50	13.90

Summary

This report presents average market prices for agricultural lands sold in Wyoming during 2002, 2003, and 2004. Data were collected on 411 land sales that took place throughout the state. Sales reports for lands that explicitly stated that the lands were not going to remain in agricultural production were excluded from the analysis. It is important to recognize, however, that many nonagricultural amenities could have affected the prices of lands analyzed in this report. Farm Credit Services of America was the data source for this report. Average market prices were reported on an AU basis for ranches and on a per-acre basis for grazing land, irrigated pasture, irrigated meadow land, irrigated cropland, and dry cropland. Average market prices during 2002, 2003, and 2004 were reported for six regions of the state.

Region 1 - Johnson and Sheridan counties

Region 2 - Campbell, Converse, Crook, Niobrara, and Weston counties

Region 3 - Albany, Goshen, Laramie, and Platte counties

Region 4 - Carbon, Natrona, and Sweetwater counties

Region 5 - Lincoln, Sublette, and Uinta counties

Region 6 - Big Horn, Fremont, Hot Springs, Park, and Washakie counties

Prices for eastern plains ranches (regions 1, 2, and 3) averaged \$6,544 per AU. Ranch prices for mountain valley-desert areas (regions 4, 5, and 6) averaged \$8,807 per AU. The statewide average was \$7,238 per AU. The prices per AU declined as the percentage of leased forage increased beyond 25 percent of total forage. The average values of assured leases and permits transferred when ranches sold during 2002-2004 were \$81 per AUM for state, \$48 for BLM, and \$61 for Forest Service leases. There were no observations in this sample regarding per-AUM prices for private leases or railroad leases. Leases that are private or railroad often

don't transfer. The average value of improvements for ranches of 50 to 99 AUs was \$62,279; 100 to 199 AUs, \$86,089; 200 to 399 AUs, \$85,638; 400 to 599 AUs, \$180,497; and ranches 600 AUs and over, \$200,363.

For grazing land, average prices were \$408 per acre in the eastern plains and \$489 in mountain-valley desert areas. Statewide, the average price of grazing land was \$428 per acre, down from \$547 in the 1999-2001 analysis. Productivity, scenic, and recreational values were factors that seemed to explain most of the variation in grazing land prices. Large tracts and relatively low carrying capacity rangelands were usually associated with lower prices. Prices for irrigated and subirrigated pasture averaged \$961 per acre statewide. Region 2 had the highest average price for irrigated pasture with \$1,622 per acre, while Region 5 had the lowest with \$511. Statewide, irrigated meadow land averaged \$1,497 per acre. Region 2 had the highest irrigated meadow land average price at \$2,220 per acre, while Region 1 had the lowest at \$1,000.

Statewide, irrigated cropland averaged \$1,417 per acre for 2002-2004 sales. Region 2 had the highest reported average price per acre of \$2,880, and Region 4 had the lowest reported average at \$886. Overall, statewide cropland prices only saw a 2-percent increase as compared to the 1999-2001 report.

Very few observations (only five) for dry cropland were reported in the 2002-2004 sample of reported sales. This makes drawing conclusions about average dry cropland prices dubious at best. Statewide, prices for the five reported dry cropland sales averaged \$650 per acre.

Overall, prices for ranches in 2002-2004 increased on a statewide basis compared with 1999-2001. The strongest increases were for ranches in the 200- to 599-AU carrying capacity categories. Ranches greater than 600 AUs in carrying capacity experienced a 10-percent decline in value as compared to the 1999-2001 report. Cropland and pasture prices continued to strengthen overall since

the agricultural land market hit bottom in 1987; however, cropland showed the least increase.

Both cash and crop-share rental arrangements are used in Wyoming. Cash rental rates tend to vary year-by-year depending upon crop prices, yields, and other factors.

Crop-share arrangements, however, tend to be fairly stable over time. Typical crop-share arrangements for landlords and tenants respectively are grains,

$1/3 - 2/3$; dry beans, $1/4 - 3/4$; sugar beets, $1/5 - 4/5$; and hay, $1/2 - 1/2$.

Wyoming pasture rental rates on privately owned grazing land are typically quoted on a per-AUM or cow/calf basis. Rates for cow/calf pairs ranged from \$13.50 to \$15.60 per month between 1999 and 2003 in Wyoming. Rates on a per-AUM basis ranged between \$11.70 and \$13.50 for the same period.

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