

Klamath Basin Crop Trends

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The Klamath Basin, including portions of Modoc and Siskiyou counties, California, and Klamath and Lake counties, Oregon, comprises a large geographical area with differences in elevation and growing season duration, and a wide variety of climatic conditions. Included within Modoc, Siskiyou, and Klamath counties are Bureau of Reclamation (BOR) Klamath Irrigation Project (Project) lands (Fig. 1). Typical of most western states, significant portions of land are owned and controlled by federal and state agencies including the Bureau of Land Management (BLM), U.S. Fish and Wildlife Service (USFWS), the U.S. Forest Service (USFS), and their state counterparts. This report summarizes data on crop acreage within the Project. Although a large acreage of hay and cereal grains is grown outside the Project, most of the high-value crops are grown within the Project. Trends in cropping patterns are similar for land in and outside of the Project.

In this report, onion production refers to dehydrated onions, not fresh market onions, even though a few acres of fresh market onions are produced in the Klamath Basin. Potatoes include fresh market, process (chippers), seed, and culls, sold as either cow feed or to potato flake processors. Other hay includes all hay other than alfalfa, such as grass/meadow hay, grain hay, and legume/grain hay.

Bureau of Reclamation (BOR) Acreage Trends

Project lands are located in south central Oregon (62 percent) and north central California (38 percent). The Project provides irrigation water to approximately 240,000 acres, including two national wildlife refuges. Water distribution to the Project is controlled by BOR (Fig.1). There are 18 water districts within the Project. Their respective growers, who benefit from the delivery system and support the purchase and operational costs of the districts through assessed acreage charges, own the districts. Acreage data for the Project are fairly accurate due to the requirement of each district to provide BOR with an annual report, including total acres irrigated and crops grown.

Total Project crop acreage has varied slightly over the past decade, ranging from 203,475 acres in 1990 to 190,866 acres in 2000 (Table 1). Within the four-county region, pastures comprise more total acres than all other crops combined, and provide a major component of gross agricultural economic activity in the region. Within the Project, irrigated pastures accounted for 49,246 acres in 1990 and 41,721 acres in 2000. Total pasture acreage in the four-county region includes several hundred thousand acres of unimproved irrigated pasture, unirrigated pasture, and rangeland.

Total grain and total hay crop acreages are the largest acreage in the Project, with total grain at 56,856 acres, and total hay at 67,330 acres in 2000. Total hay

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acreage has increased by 30 percent since 1990, from 51,726 acres. Most of the increase (nearly 17,000 acres) was in alfalfa production.

Total grain acreage declined from 76,999 acres in 1990 to 56,856 acres in 2000, a reduction of 26 percent. Barley acreage is highest among cereal crops. However, barley acreage has declined 35 percent from 58,063 acres in 1990 to 37,872 acres in 2000. Wheat acreage increased during the decade by nearly 50 percent. The reverse is true for oats, which experienced a reduction from 9,838 acres in 1990 to 5,093 acres in 2000. Shifts in the acreage of cereal crops reflect changing market conditions and the introduction of barley stripe rust to the region.

Total potato acreage shows a downward trend from 21,367 acres in 1990 to 12,816 acres in 2000. Most of the decrease has occurred in the last 4 or 5 years, and is due to poor returns in fresh potato markets. There has been a slight increase in the acreage grown for chips. BOR data indicate a loss of about 2,000 acres/year for the past 5 years. This pattern may accelerate in 2001 because of extremely low fresh market prices for 2000 crops.

Onion production has increased from 1,823 acres in 1990 to 3,256 acres in 2000. However, onion acreage for 2001 has been severely curtailed, and the contract price to growers has declined significantly. These changes are due to consolidation of processing companies and to competition from Chinese imports of dehydrated food products.

Sugarbeets were introduced to the region in 1989. The crop acreage expanded from 906 acres in 1990 to a maximum of about 11,500 acres in 1995. After consolidation of two processing companies, the acreage remained constant at about

8,500 acres from 1996 through 1999. In 2000, severe frost damage reduced acreage from over 8,000 planted to around 3,900 harvested. Closure of the processing plant in Woodland, California in January 2000 signaled the end of sugarbeet production in the Klamath Basin.

Peppermint was reintroduced to the Klamath Basin in 1997. In 2000, this crop accounted for 2,385 acres in the Project. The future for this crop is also uncertain, as surpluses have resulted in lower prices and a lack of new contracts. Horseradish has remained a stable but small acreage crop at less than 1,000 acres annually.

Irrigation Costs in the Four-County Area

Water conveyance costs to irrigators for areas within and outside the Project are shown in Figure 2. Costs for each district are different based on maintenance and repair, operational, litigation, and wage costs. Irrigation district charges are due whether water is available or not, and property liens are attached to the parcel in the event of nonpayment.

Shasta View Irrigation District, at \$70.00/acre, has the highest charges. This district provides high-pressure water, requiring no pumps for irrigation. Fort Klamath irrigation costs are very low, at less than \$10.00/acre, because of the method of irrigation and lack of overhead costs.

Tulelake Irrigation District (TID) and Klamath Irrigation District (KID) control irrigation on the largest tracts of land, at over 120,000 combined acres. Costs on TID lands are \$29.00/acre and \$25.00/acre on KID lands. Several smaller irrigation districts were established with primary water rights, such as the Van Brimmer Ditch Co., which maintains lower irrigation costs of around \$12.50/acre. In

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comparison, the Butte Valley Irrigation District, outside of Project land, shows irrigation costs at approximately \$42.00/acre, with surcharges for use of over 2 acre-feet/year.

Summary

Acreage trends show major reductions in potatoes, irrigated pasture, and grain; the elimination of sugarbeets; and an increase in hay production in the Klamath Basin over the past decade. Acreage reductions occurred in 1992 for crops such as onions and potatoes because of drought conditions and a BOR decision early in the spring that there would be no water for irrigation. In fact, later in the spring the water availability outlook improved and irrigation supplies were allocated. The uncertainty forced many growers into revising plans and shifting crop acreage. Unfortunately, as of this writing, there is no assurance of Project water availability for irrigation in 2001, based on projected allocations for endangered species, including salmon, shortnose suckers, and Lost River suckers. How this will change Klamath Basin agriculture is uncertain. However, if Project irrigation supplies are not committed by late April, row crop production will be confined to fields with well-water supplies. The cropping trend changes of the past decade will accelerate unless stability of the irrigation supply is implemented. In an insecure irrigation scenario, crop production will be limited to pastures, hay, and cereals.

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Table 1. Crop acreages within the Bureau of Reclamation Irrigation Project in 1990 and 2000 as reported by the Bureau of Reclamation, Klamath Falls, OR.

Crop	1990 Production (Acres)			2000 Production (Acres)		
	Oregon	California	total	Oregon	California	total
Barley	25,040	33,023	58,063	15,497	22,375	37,872
Oats	6,514	3,324	9,838	3,416	1,677	5,093
Wheat	3,740	5,309	9,049	3,421	10,067	13,488
Other cereals	49	0	49	264	139	403
Total cereals	35,343	41,656	76,999	22,598	34,258	56,856
Alfalfa	26,320	8,233	34,553	39,110	12,202	51,312
Other hay	16,383	790	17,173	14,997	1,021	16,018
Irrigated pasture	40,565	8,681	49,246	38,987	2,734	41,721
Other forage	0	0	0	1,183	0	1,183
Total forages	83,268	17,704	100,972	94,277	15,957	110,234
Potatoes	8,874	12,493	21,367	5,389	7,427	12,816
Sugarbeets	278	628	906	1,479	2,393	3,872
Onions	0	1,823	1,823	422	2,834	3,256
Peppermint	0	0	0	505	1,880	2,385
Horseradish	0	892	892	0	975	975
Pea seed	114	302	416	60	168	228
Other	100	0	100	244	0	244
Total other	9,366	16,138	25,504	8,099	15,677	23,776
Total crops	127,977	75,498	203,475	124,974	65,892	190,866

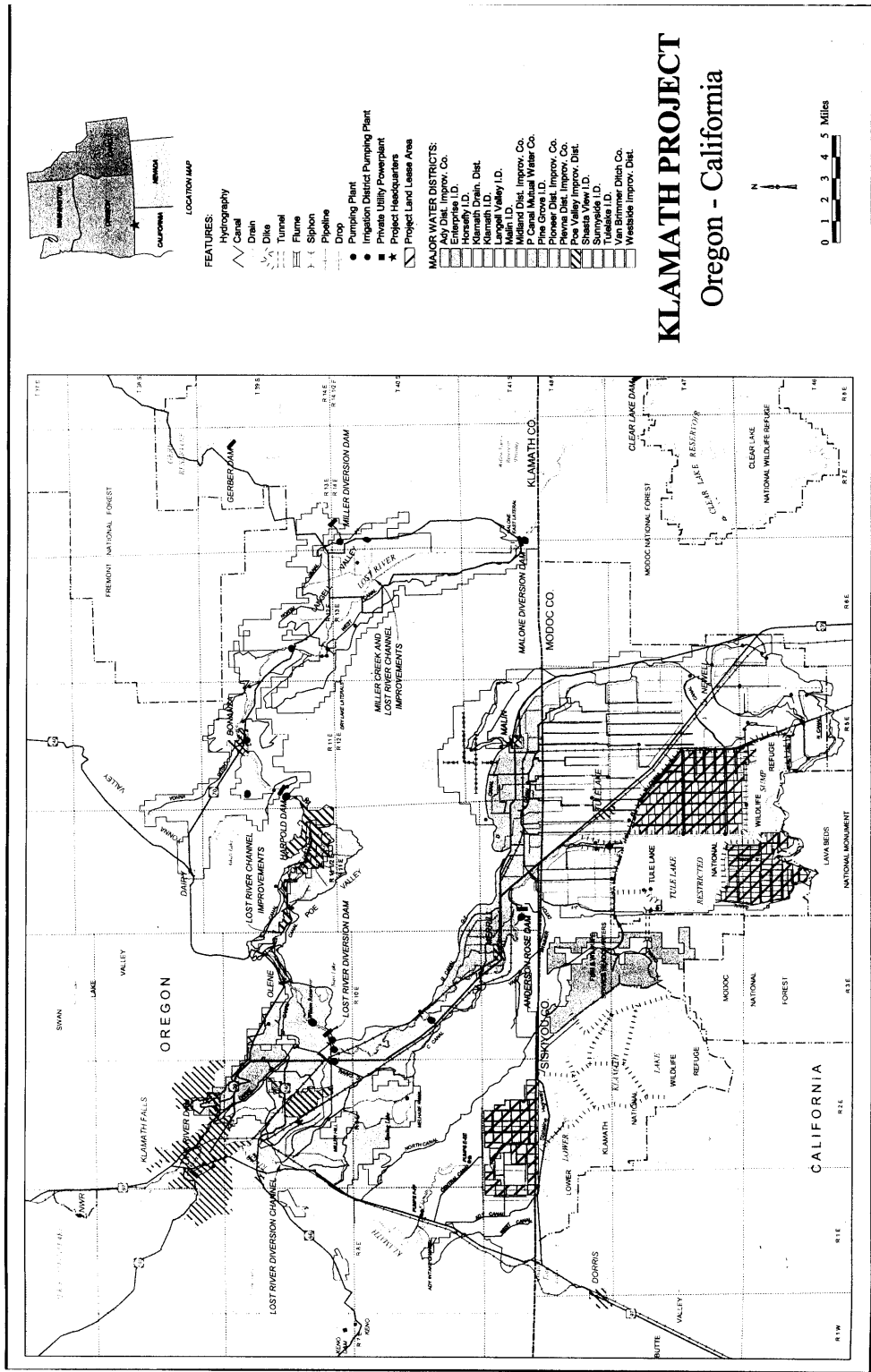


Figure 1. The Klamath Irrigation Project

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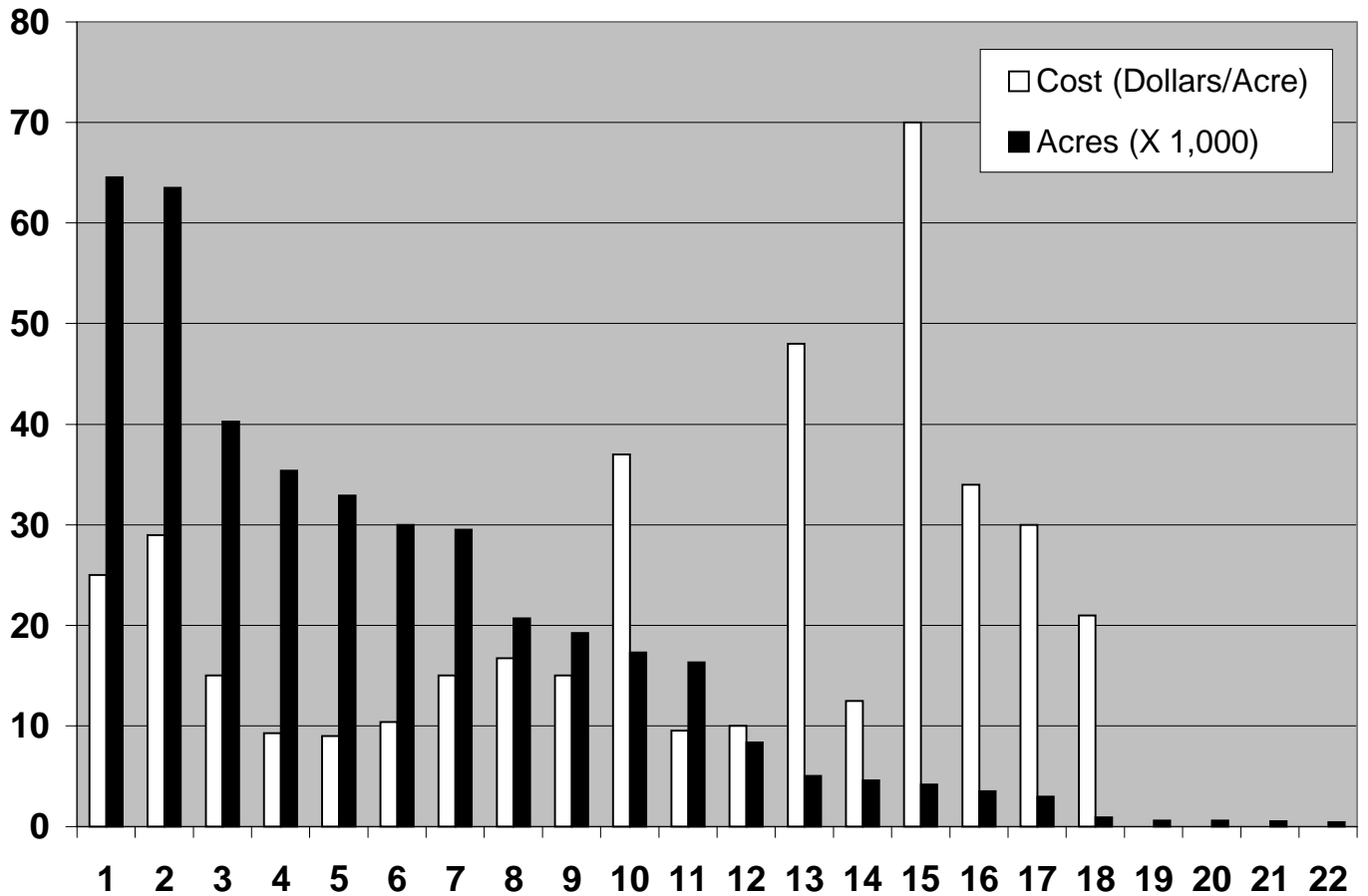


Figure 2. Water Cost Comparisons to Irrigators Inside and Outside the Klamath Irrigation Project.

1 = Klamath Irrigation District; 2 = Tulelake Irrigation District; 3 = Modoc Pt/Klamath Marsh; 4 = Fort Klamath Valley; 5 = North County; 6 = Sprague River Valley; 7 = WHwy97/Keno; 8 = Horsefly Irrigation District; 9 = Klamath Drainage District; 10 = Leasland/Coop Land; 11 = Langell Valley Irrigation District; 12 = Swan Lake Valley; 13 = Butte Valley Irrigation District; 14 = Van Brimmer Ditch Co.; 15 = Shasta View Irrigation District; 16 = Malin Irrigation District; 17 = Enterprise Irrigation District; 18 = Pine Grove Irrigation District; 19 = Sunnyside Irrigation District; 20 = Midland District Improvement Co.; 21 = Plevna District Improvement Co.; 22 = Ady District Improvement Co.