
IRRIGATION AND DRAINAGE

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IRRIGATION AND DRAINAGE

INTRODUCTION

Irrigation.—A census of irrigation has been taken as a part of the census of agriculture in each census from 1890 to 1930. The tables which follow present the most important facts—acreage and investment—for the five censuses from 1890 to 1930, inclusive, and classify those data, for 1920 and 1930, by source of water supply, by character of enterprise, and by drainage basin. Irrigated farms reported in 1930 are classified by tenure of farm operator, by size and type of farm, and by value of farm products sold or traded. Acreage, production, and value of irrigated crops harvested, are shown for 1929 and 1919.

An irrigation enterprise is an independent irrigation establishment, and includes the works for supplying water and the land to which water is supplied, except that the cost or value of the land is not included in the "investment." Land is classed as irrigated which has water supplied to it for agricultural purposes by artificial means or by seepage from canals, reservoirs, or irrigated lands, but land which has natural ground water near enough to the surface to support plant life is not so classified. Land which is flooded during high-water periods is classed as irrigated if water is caused to flow over it by dams, canals, or other artificial means, but is not classed as irrigated if the overflow is due to natural causes alone.

The "19 irrigation States" for which statistics are presented in this chapter are: Arizona, Arkansas, California, Colorado, Idaho, Kansas, Louisiana, Montana, Nebraska, Nevada, New Mexico, North Dakota, Oklahoma, Oregon, South Dakota, Texas, Utah, Washington, and Wyoming.

Drainage.—The statistics relating to the drainage of land for agricultural purposes refer to conditions on January 1, 1930, and the crop year 1929. Some of the statistics collected in 1920 for the first drainage census are also shown for comparative purposes. A special canvass was made of all organized drainage enterprises and also of individually owned projects of 500 acres or more. Correspondence with State officials disclosed no such enterprises in the New England or Middle Atlantic States nor in Maryland, Delaware, West Virginia, or Alabama.

Enterprises in Michigan, organized prior to 1897, were not included in the canvass on account of the incompleteness of the early records. Enterprises which were organized prior to January 1, 1930, but which had not begun construction on that date were not included in this census. Levee or diking districts having no ditches, tile drains, or pumps as part of their drainage works, were not considered to be drainage enterprises.

The drainage works reported include only those belonging to the enterprises. Supplemental ditches and tile drains constructed by individual landowners are not included. For this reason there is much more tile drainage in some of the States than the results indicate.

The land in drainage enterprises of the 35 drainage States includes some still unfit to raise any crop for lack of drainage. Such unfitness is due either to the inadequacy of the drainage works or to the fact that only outlet drainage ditches have been constructed but the accessory laterals or farm ditches have not yet been built.

Of all lands in drainage enterprises approximately 4,500,000 acres are located within irrigation projects of the arid west. Approximately 1,000,000 acres of this land, located in irrigation enterprises which provide their own drainage facilities, are not yet served by drainage works. Such enterprises assess practically all irrigable lands for the necessary drainage and extend the drained area as seepage and alkali conditions require. All land within the Everglades Drainage District of Florida is included in the total for that State, but approximately 3,100,000 acres, or about two-thirds of this land, are still unreclaimed.

Reports on irrigation and drainage.—The statistics presented in this section of the abstract are taken principally from the volume on irrigation and the volume on drainage. Each of the volumes includes a series of State bulletins which may be obtained in separate form by those desiring them. The parts relating to irrigated crops and drainage laws may also be obtained in separate form. The two volumes and the bulletins are as follows:

Irrigation of Agricultural Lands:

General Discussion.

Summary for the 19 Irrigation States and Reports by States, with Statistics by Counties. (A separate bulletin was published for each State and for the summary.)

Tenure of Farm Operator, Size and Type of Farm, and Value of Farm Products Sold or Traded.

Crops Grown on Irrigated Land. (Published as a separate bulletin also.)

Drainage of Agricultural Lands:

General Discussion.

Summary for the United States and Reports by States, with Statistics for Counties. (A separate bulletin was published for each of 35 drainage States and, also, for the United States.)

Synopsis of Drainage Laws. (Published as a separate bulletin also.)

TABLE 1.—SUMMARY FOR THE 19 IRRIGATION STATES: 1930 AND 1920

[A minus sign (-) denotes decrease]

ITEM	1930	1920	INCREASE	
			Amount	Per cent
All farms.....number.....	2,062,813	1,916,391	146,422	7.6
All land in farms.....acres.....	568,693,705	505,440,954	63,252,751	12.5
Approximate land area.....acres.....	1,223,989,120	1,223,989,120	-----	-----
Farms irrigated.....number.....	265,147	222,789	42,358	19.0
Area irrigated.....acres.....	19,547,544	19,191,716	355,828	1.9
Area of irrigated crops harvested.....acres.....	14,633,252	(¹)	-----	-----
Area enterprises were capable of supplying with water.....acres.....	26,101,890	26,020,477	81,413	0.3
Irrigable area in enterprises.....acres.....	30,599,470	(¹)	-----	-----
Proportion irrigated:				
All farms.....per cent.....	12.9	11.6	-----	-----
All land in farms.....per cent.....	3.4	3.8	-----	-----
Approximate land area.....per cent.....	1.6	1.6	-----	-----
Excess of area enterprises were capable of supplying with water over area irrigated.....acres.....	6,554,346	6,828,761	-274,415	-4.0
Excess of area in enterprises over area irrigated.....acres.....	11,051,926	(¹)	-----	-----
Area in enterprises available, or to be available, for settlement.....acres.....	1,681,598	2,257,981	-576,383	-25.5
Value of irrigated farms (land, buildings, and implements and machinery).....dollars.....	4,886,892,784	(¹)	-----	-----
Average, per acre.....dollars.....	62.38	-----	-----	-----
Value of irrigated crops harvested.....dollars.....	899,942,549	(¹)	-----	-----
Investment in irrigation enterprises.....dollars.....	1,032,755,790	697,657,328	335,098,462	48.0
Average, per acre, based on area enterprises were capable of supplying with water.....dollars.....	39.57	26.81	12.76	47.6
Estimated final cost of existing enterprises.....dollars.....	1,155,108,210	819,778,005	335,330,205	40.9
Average, per acre, based on irrigable area in enterprises.....dollars.....	37.75	(¹)	-----	-----
Average annual cost, per acre, for maintenance and operation of irrigation works.....dollars.....	2.77	2.43	0.34	14.0

¹ Figures not available.

TABLE 2.—AREA IRRIGATED, BY SOURCE OF WATER SUPPLY, FOR THE 19 IRRIGATION STATES: 1929 AND 1919

[A minus sign (-) denotes decrease]

SOURCE OF SUPPLY	AREA IRRIGATED				Area enterprises were capable of supplying with water, 1930	Irrigable area in enterprises, 1930
	1929	1919	Increase			
			Area	Per cent		
	Acres	Acres	Acres	Per cent	Acres	Acres
Total	19,547,844	19,191,716	355,828	1.9	26,101,890	30,599,470
Streams, gravity.....	12,980,575	14,527,060	-1,546,485	-10.6	17,109,197	20,231,920
Streams, pumped.....	1,713,280	1,226,510	486,870	39.7	2,708,769	3,383,188
Streams, gravity and pumped.....	258,094	199,595	58,499	29.3	437,233	502,675
Wells, pumped.....	2,051,735	1,263,098	788,637	62.4	2,465,888	2,725,636
Wells, flowing.....	16,479	65,856	-17,377	-26.4	55,982	61,004
Wells, pumped and flowing.....	16,479	35,685	-18,887	-52.9	20,767	22,087
Lakes, pumped.....	77,818	35,730	42,088	117.8	135,880	138,504
Lakes, gravity.....	53,103	100,646	-42,543	-42.3	131,821	182,594
Springs.....	217,246	198,008	19,238	9.7	256,788	280,179
Stored storm water ¹	39,587	98,873	-59,286	-60.0	64,385	77,698
City water.....	1,654	930	724	77.8	1,810	1,885
Sewage.....	3,529	2,578	951	36.9	4,009	4,088
Streams, gravity and wells, pumped.....	1,164,349	344,713	819,636	237.8	1,507,586	1,554,322
Streams, gravity and wells, flowing.....	21,292	82,665	-61,373	-74.2	34,227	35,088
Other mixed.....	866,434	996,621	-130,187	-13.1	1,138,178	1,360,330
Other.....	8,069	2 13,148	15,323	116.5	8,238	9,914
Not reported.....	20,402	-----	-----	-----	21,132	22,358
Supplemental ² from—						
Pumped streams.....	24,871	(⁴)	-----	-----	32,787	34,208
Pumped wells.....	293,026	(⁴)	-----	-----	321,748	350,455
Flowing wells.....	148	(⁴)	-----	-----	255	255
Total area irrigated with water supplies wholly pumped and partly pumped ³	6,085,501	3,105,331	2,980,170	96.0	8,306,057	9,451,162

¹ In reservoirs filled from channels which carry water only during storms and are not classed as streams.

² Shown as "Other and not reported."

³ Not considered in totals because included in enterprises reporting other sources of supply listed above.

⁴ Figures not available.

TABLE 3.—FARMS AND AREA IRRIGATED, AND INVESTMENT IN ENTERPRISES, FOR THE 19 IRRIGATION STATES: 1890 TO 1930

CENSUS YEAR	FARMS IRRIGATED			AREA IRRIGATED			INVESTMENT		AVERAGE, PER ACRE ¹	
	Number	Per cent of increase	Per cent of all farms	Area	Per cent of increase	Per cent of land in all farms	Amount	Per cent of increase	Amount	Per cent of increase
1930	265, 147	19. 0	12. 9	19, 547, 544	1. 9	3. 4	\$1, 032, 755, 790	48. 0	\$39. 57	47. 6
1920	222, 789	36. 9	11. 6	19, 191, 716	33. 0	3. 5	697, 657, 328	117. 0	26. 81	69. 1
1910	162, 723	43. 0	9. 2	14, 433, 285	86. 4	3. 5	321, 454, 008	359. 2	15. 85	75. 3
1900	113, 829	110. 3	8. 2	7, 744, 467	108. 4	2. 2	70, 010, 594	137. 1	9. 04	13. 6
1890	54, 136		5. 8	3, 715, 758		2. 1	29, 533, 921		7. 06	

¹ Based on area enterprises were capable of supplying with water.

TABLE 4.—AREA IRRIGATED, BY CHARACTER OF ENTERPRISE, FOR THE 19 IRRIGATION STATES: 1929 AND 1919

[A minus sign (-) denotes decrease. Per cent not shown when more than 1,000]

CHARACTER OF ENTERPRISE	AREA IRRIGATED		INCREASE	
	1929	1919	Number	Per cent
Total	Acres 19, 547, 544	Acres 19, 191, 716	Acres 355, 828	1. 9
Individual and partnership	6, 410, 581	6, 848, 807	-438, 226	-6. 4
Cooperative	6, 271, 334	6, 581, 400	-310, 066	-4. 7
Irrigation district	3, 452, 275	1, 822, 887	1, 629, 388	89. 4
Carey Act	86, 772	523, 929	-437, 157	-83. 4
Commercial	1, 230, 763	1, 822, 001	-591, 238	-32. 4
United States Bureau of Indian Affairs	331, 840	284, 551	47, 289	16. 6
United States Bureau of Reclamation	1, 485, 028	1, 254, 569	230, 459	18. 4
State	11, 489	5, 620	5, 869	104. 4
City	121, 218	40, 146	81, 072	201. 9
Other	146, 244	7, 236	139, 008	
Not reported		570		

TABLE 5.—AREA IRRIGATED, 1929 AND 1919; AREA ENTERPRISES WERE CAPABLE OF SUPPLYING WITH WATER, 1930 AND 1920; AND IRRIGABLE AREA IN ENTERPRISES, 1930, BY PRINCIPAL DRAINAGE BASINS

[A minus sign (-) denotes decrease]

DRAINAGE BASIN	AREA IRRIGATED				AREA ENTERPRISES WERE CAPABLE OF SUPPLYING WITH WATER		Irrigable area in enterprises, 1930
	1929	1919	Increase		1930	1920	
Total	Acres 19, 547, 544	Acres 19, 191, 716	Acres 355, 828	Per cent 1. 9	Acres 26, 101, 890	Acres 26, 020, 477	Acres 30, 590, 470
Red River (of the North) tributaries	2, 099				2, 099		2, 409
Missouri River and tributaries	4, 185, 180	4, 147, 278	37, 902	0. 9	5, 472, 012	5, 805, 630	6, 231, 873
Mississippi River and tributaries, exclusive of Missouri River	902, 560	958, 493	-55, 933	-5. 8	1, 170, 583	1, 152, 261	1, 280, 730
Gulf streams other than Mississippi River and Rio Grande	662, 958	698, 077	-35, 119	-5. 0	1, 221, 997	1, 157, 529	1, 536, 404
Rio Grande and tributaries ¹	1, 468, 913	1, 204, 502	264, 411	22. 0	1, 807, 195	1, 887, 433	2, 068, 439
Independent streams in Rio Grande Drainage Basin	95, 812	108, 353	-12, 541	-11. 6	107, 586	26, 852	109, 225
Colorado River and tributaries	2, 537, 124	2, 312, 047	225, 077	9. 7	3, 335, 914	2, 986, 937	4, 435, 529
Whitewater Draw and tributaries	3, 301	5, 871	-2, 570	-43. 8	4, 753	9, 950	5, 570
Great Basin Drainage	2, 069, 986	2, 313, 163	-243, 177	-10. 5	2, 579, 612	2, 869, 858	3, 059, 019
Columbia River and tributaries	3, 393, 640	3, 873, 245	-479, 605	-12. 4	4, 241, 244	4, 968, 518	4, 902, 131
Pacific Ocean streams other than Colorado and Columbia Rivers	4, 225, 971	3, 570, 687	655, 284	18. 4	6, 158, 895	5, 155, 509	6, 878, 141

¹ Not including "Independent streams in Rio Grande Drainage Basin."

TABLE 6.—AREA IRRIGATED, 1929 AND 1919; AREA ENTERPRISES WERE CAPABLE OF SUPPLYING WITH WATER, 1930 AND 1920; AND IRRIGABLE AREA IN ENTERPRISES, 1930, BY STATES

[A minus sign (-) denotes decrease]

STATE	AREA IRRIGATED			AREA ENTERPRISES WERE CAPABLE OF SUPPLYING WITH WATER			Irrigable area in enterprises, 1930
	1929	1919	Increase	1930	1920	Increase	
Total (19 irrigation States).....	Acres 19,547,544	Acres 19,191,716	Per cent 1.9	Acres 26,101,890	Acres 26,020,477	Per cent 0.3	Acres 30,599,470
Arizona.....	575,590	467,565	23.1	824,152	627,303	31.4	1,085,627
Arkansas.....	151,787	143,946	5.4	209,942	179,013	17.3	225,992
California.....	4,746,632	4,219,040	12.5	6,815,250	5,894,466	15.6	8,075,895
Colorado.....	3,393,619	3,348,385	1.4	4,078,712	3,855,348	5.8	4,528,251
Idaho.....	2,181,250	2,488,806	-12.4	2,617,021	3,092,810	-15.4	2,814,048
Kansas.....	71,290	47,312	50.7	83,583	67,853	23.2	95,719
Louisiana.....	450,901	454,882	-0.9	795,165	728,742	9.1	850,401
Montana.....	1,594,912	1,681,729	-5.2	2,276,000	2,753,498	-17.3	2,622,423
Nebraska.....	532,617	442,690	20.3	703,641	562,468	25.1	763,039
Nevada.....	486,648	561,447	-13.3	736,249	704,708	4.5	983,717
New Mexico.....	527,033	538,377	-2.1	656,669	696,119	-5.7	741,245
North Dakota.....	9,392	12,072	-22.2	24,006	34,235	-29.9	24,860
Oklahoma.....	1,573	2,969	-47.0	7,331	9,672	-24.2	7,344
Oregon.....	898,713	986,162	-8.9	1,158,210	1,344,046	-13.8	1,478,128
South Dakota.....	67,107	100,682	-33.3	109,550	150,914	-27.4	122,510
Texas.....	798,917	586,120	36.3	1,177,415	1,150,542	2.3	1,566,876
Utah.....	1,324,125	1,371,651	-3.5	1,542,475	1,700,550	-9.3	1,739,869
Washington.....	499,283	529,899	-5.8	631,511	637,151	-0.9	915,379
Wyoming.....	1,236,155	1,207,982	2.3	1,655,008	1,831,039	-9.6	1,958,147

TABLE 7.—IRRIGATION WORKS: 1930 AND 1920

[A minus sign (-) denotes decrease. Per cent not shown where base is less than 100]

ITEM	1930	1920	INCREASE	
			Amount	Per cent
Diversion dams.....number.....	21,947	23,894	-1,947	-8.1
Storage dams.....number.....	2,949	3,931	-982	-25.0
Main canals:				
Length.....miles.....	75,375	103,177	-27,802	-26.9
Capacity.....second-feet.....	547,314	631,079	-83,765	-13.3
Lateral canals, length.....miles.....	51,427	56,687	-5,260	-9.3
Reservoirs:				
Number.....	5,122	7,538	-2,416	-32.1
Capacity.....acre-feet.....	24,508,590	21,246,436	3,262,154	15.4
Pipe lines, length.....miles.....	17,363.1	8,878.3	8,484.8	95.6
Flowing wells:				
Number.....	4,811	4,606	205	4.5
Capacity.....gallons per minute.....	609,367	935,057	-325,690	98.0
Pumped wells:				
Number.....	56,729	32,094	24,635	76.8
Capacity.....gallons per minute.....	32,467,120	16,396,549	16,070,571	98.0
Pumping plants:				
Number.....	59,344	29,458	29,886	101.5
Engine capacity.....horsepower.....	1,283,419	748,971	534,448	71.4
Pump capacity.....gallons per minute.....	57,244,859	36,275,005	20,969,854	57.8
Average lift.....feet.....	51	41	10	

TABLE 8.—INVESTMENT IN IRRIGATION ENTERPRISES, BY PRINCIPAL DRAINAGE BASINS: 1930 AND 1920

[A minus sign (-) denotes decrease]

DRAINAGE BASIN	INVESTMENT				INCREASE, 1920-1930	
	Amount		Average per acre ¹		Amount	Average per acre
	1930	1920	1930	1920		
Total.....	\$1,032,755,790	\$697,657,328	\$39.57	\$26.81	\$335,098,462	\$12.76
Red River (of the North) tributaries.....	20,925	.....	9.97	.....	.....	.....
Missouri River and tributaries.....	136,506,721	131,553,106	24.95	22.06	4,953,615	2.29
Mississippi River and tributaries, exclusive of Missouri River.....	31,831,673	35,183,789	27.19	30.53	-3,352,116	-3.34
Gulf streams other than Mississippi River and Rio Grande.....	28,578,193	29,439,808	23.39	25.43	-861,615	-2.04
Rio Grande and tributaries ²	52,979,214	33,885,580	29.32	17.95	19,093,634	11.37
Independent streams in Rio Grande Drainage Basin.....	769,394	938,531	7.15	34.95	-169,137	-27.80
Colorado River and tributaries.....	132,350,247	86,696,940	39.67	29.03	45,653,307	10.64
Whitewater Draw and tributaries.....	230,606	299,368	48.52	30.09	-68,762	-18.43
Great Basin Drainage.....	72,068,281	66,589,376	27.94	23.20	5,478,905	4.74
Columbia River and tributaries.....	157,355,114	145,672,382	37.10	29.32	11,682,732	7.78
Pacific Ocean streams other than Colorado and Columbia Rivers.....	420,065,422	167,398,448	68.20	32.47	252,666,974	35.73

¹ Based on area enterprises were capable of supplying with water.² Not including "Independent streams in Rio Grande Drainage Basin."

TABLE 9.—CAPITAL INVESTED IN IRRIGATION ENTERPRISES, BY STATES: 1890 TO 1930

[A minus sign (-) denotes decrease. Per cent not shown when more than 1,000]

STATE	1930	1920	1910	1900	1890	PER CENT OF INCREASE			
						1920-1930	1910-1920	1900-1910	1890-1900
Total (19 irrigation States).....	Dollars 1,032,755,790	Dollars 697,657,328	Dollars 321,454,008	Dollars 70,010,594	Dollars 28,533,921	48.0	117.0	359.2	137.1
Arizona.....	73,328,197	33,498,094	17,677,966	4,438,352	465,000	11.9	89.5	208.3	854.5
Arkansas.....	6,836,645	7,183,322	687,834	.....	.....	-4.8	.....	.....	.....
California.....	450,967,979	194,886,388	72,580,030	19,181,610	13,004,817	131.4	168.5	278.4	47.5
Colorado.....	87,603,240	88,302,442	56,636,443	11,758,703	6,368,755	-0.8	55.9	381.7	84.0
Idaho.....	84,500,354	91,501,009	40,977,688	5,120,399	1,029,000	-7.6	123.3	700.3	397.6
Kansas.....	1,685,652	2,067,381	1,365,563	529,755	84,729	-18.5	51.4	157.8	525.2
Louisiana.....	15,744,743	14,063,181	6,859,166	2,529,319	.....	12.0	105.0	171.2	.....
Montana.....	50,319,204	52,143,963	22,970,958	4,683,073	1,623,195	-3.5	127.0	390.5	188.5
Nebraska.....	21,386,319	13,909,185	7,798,310	1,310,698	147,798	53.8	78.4	495.0	.....
Nevada.....	15,457,931	14,754,280	6,721,924	1,537,659	1,700,975	4.8	119.5	337.2	-9.0
New Mexico.....	19,834,380	18,210,412	9,154,897	4,165,312	511,937	8.9	98.9	119.8	713.6
North Dakota.....	1,267,314	1,857,118	836,482	16,980	(?)	-31.8	122.0	.....	.....
Oklahoma.....	160,099	151,325	47,200	21,872	.....	5.8	220.6	115.8	.....
Oregon.....	38,754,548	28,929,151	12,760,214	1,843,771	825,660	34.0	126.7	692.1	123.3
South Dakota.....	4,502,117	5,465,248	3,043,140	284,747	63,968	-17.0	79.6	968.7	345.1
Texas.....	49,022,164	35,072,739	13,487,347	1,027,608	2,780,000	39.8	160.0	.....	.....
Utah.....	35,669,819	32,037,351	14,028,717	5,865,302	2,780,000	11.3	128.4	139.2	111.0
Washington.....	40,561,895	29,299,011	16,219,149	1,722,369	196,660	38.4	80.6	841.7	775.8
Wyoming.....	35,153,187	34,328,328	17,700,980	3,973,165	831,427	2.4	93.9	345.5	377.9

¹ Based on acreage for "subhumid" region. Average for Nebraska not shown separately in 1890.² Not reported.

TABLE 10.—NUMBER OF IRRIGATED FARMS, BY TENURE OF FARM OPERATOR AND BY TYPE OF FARM, BY STATES: 1930

STATE	Total	TENURE		TYPE OF FARM			
		Owners and managers	Tenants	General	Cash-grain	Cotton	Crop-specialty
Total (19 States).....	265,147	203,825	61,322	27,969	16,541	13,733	45,615
Arizona.....	8,523	6,750	1,773	772	154	2,723	529
Arkansas.....	1,096	625	471	12	1,031	34	5
California.....	85,784	71,911	13,873	2,568	1,699	2,932	6,553
Colorado.....	31,288	20,060	11,223	4,062	1,204	-----	10,376
Idaho.....	27,953	20,486	7,467	5,340	2,695	-----	9,901
Kansas.....	683	391	292	107	109	-----	258
Louisiana.....	5,588	3,049	2,539	204	3,679	445	41
Montana.....	11,925	8,701	3,224	2,065	1,406	-----	2,813
Nebraska.....	4,602	2,276	2,326	527	610	-----	2,073
Nevada.....	3,031	2,656	375	426	36	-----	633
New Mexico.....	14,347	11,477	2,870	1,758	866	2,715	1,574
North Dakota.....	113	85	28	16	26	-----	40
Oklahoma.....	99	69	30	28	9	16	7
Oregon.....	11,387	9,339	2,043	1,735	614	-----	1,424
South Dakota.....	763	453	310	108	39	-----	278
Texas.....	10,861	6,056	4,805	515	398	4,868	548
Utah.....	23,847	20,886	2,961	5,219	1,146	-----	3,892
Washington.....	15,949	13,129	2,820	1,554	536	-----	2,301
Wyoming.....	7,308	5,426	1,882	953	284	-----	2,369

STATE	TYPE OF FARM—continued							
	Fruit	Truck	Dairy	Animal-specialty	Stock ranch	Poultry	Self-sufficing	Abnormal and unclassified
Total (19 States).....	58,409	12,783	24,843	11,855	14,283	10,400	7,167	23,569
Arizona.....	467	437	612	190	785	392	346	1,116
Arkansas.....	2	1	4	1	-----	1	4	1
California.....	40,598	5,680	10,157	1,095	1,246	5,735	832	6,689
Colorado.....	1,756	2,065	1,884	2,715	2,451	932	703	3,140
Idaho.....	1,204	172	3,175	1,829	825	495	463	1,854
Kansas.....	7	28	19	58	16	16	13	52
Louisiana.....	1,081	64	17	4	2	6	22	23
Montana.....	172	132	1,197	770	2,171	147	240	812
Nebraska.....	6	24	82	871	76	28	47	258
Nevada.....	15	40	473	129	700	165	109	305
New Mexico.....	413	706	217	419	925	140	2,605	2,009
North Dakota.....	-----	-----	1	19	3	1	2	5
Oklahoma.....	6	14	1	3	3	2	7	3
Oregon.....	1,656	361	1,659	639	1,149	394	365	1,391
South Dakota.....	3	17	39	72	142	5	10	50
Texas.....	1,286	1,629	229	44	180	152	112	900
Utah.....	975	716	3,155	2,033	1,701	1,295	823	2,892
Washington.....	6,767	643	1,405	303	173	403	302	1,572
Wyoming.....	5	34	517	661	1,735	91	162	497

TABLE 11.—NUMBER OF IRRIGATED FARMS, BY VALUE OF PRODUCTS, BY STATES: 1930

STATE	Total	VALUE OF PRODUCTS				
		Under \$250	\$250-\$399	\$400-\$599	\$600-\$999	\$1,000-\$1,499
Total (19 States).....	265,147	14,450	12,862	16,762	29,123	29,846
Arizona.....	8,523	694	558	686	1,199	877
Arkansas.....	1,096	1	5	13	28	52
California.....	85,784	5,163	3,871	4,922	8,293	8,765
Colorado.....	31,288	1,349	1,346	1,957	3,371	3,491
Idaho.....	27,953	617	808	1,259	2,633	3,284
Kansas.....	683	3	18	29	56	63
Louisiana.....	5,588	14	66	233	853	907
Montana.....	11,925	284	356	518	1,044	1,342
Nebraska.....	4,602	49	51	89	257	333
Nevada.....	3,031	161	155	183	296	276
New Mexico.....	14,347	3,049	2,170	1,882	1,908	1,253
North Dakota.....	113	4	2	2	5	14
Oklahoma.....	99	3	8	4	15	10
Oregon.....	11,387	445	556	747	1,334	1,372
South Dakota.....	763	13	23	26	54	63
Texas.....	10,861	692	526	886	1,533	1,461
Utah.....	23,847	1,057	1,453	2,034	3,887	3,737
Washington.....	15,949	586	680	934	1,702	1,705
Wyoming.....	7,308	266	210	358	660	751

STATE	VALUE OF PRODUCTS—continued						Amount not stated
	\$1,500-\$2,499	\$2,500-\$3,999	\$4,000-\$5,999	\$6,000-\$9,999	\$10,000-\$19,999	\$20,000 and over	
Total (19 States).....	44,669	40,951	27,930	21,417	13,636	7,406	6,090
Arizona.....	1,085	930	716	684	533	293	264
Arkansas.....	108	163	233	237	157	38	1
California.....	13,445	12,841	9,408	7,691	5,647	3,595	2,143
Colorado.....	5,136	4,673	3,584	2,655	1,645	810	671
Idaho.....	5,874	5,932	3,481	2,237	990	356	482
Kansas.....	113	147	106	82	31	14	21
Louisiana.....	1,223	766	513	473	341	103	6
Montana.....	2,248	2,265	1,581	1,056	620	355	256
Nebraska.....	680	936	850	669	397	175	116
Nevada.....	441	439	351	265	224	156	84
New Mexico.....	1,419	1,059	617	425	243	100	222
North Dakota.....	21	21	21	12	6	3	2
Oklahoma.....	20	15	7	7	6	4	-----
Oregon.....	1,966	1,843	1,113	853	460	318	366
South Dakota.....	140	150	135	84	44	12	19
Texas.....	1,876	1,405	815	610	407	213	437
Utah.....	4,975	3,385	1,576	923	402	155	263
Washington.....	2,626	2,527	1,851	1,593	976	441	328
Wyoming.....	1,273	1,154	972	796	498	265	105

TABLE 12.—ACREAGE, PRODUCTION, AND VALUE OF IRRIGATED CROPS HARVESTED: 1929 AND 1919

[The acreage shown in this table does not include irrigated pasture land]

CROP	ACREAGE, ETC.		PRODUCTION		VALUE		
	1929	1919 ¹	Unit	Amount		1929	1919 ¹
				1929	1919 ¹		
Total ²	Acres 14, 633, 252	Acres (³)				Dollars 898, 842, 549	Dollars (³)
Cereals, total.....	3, 250, 629	(³)	Bu.....	111, 601, 074	(³)	94, 057, 264	(³)
Corn harvested for grain.....	348, 563	263, 312	Bu.....	10, 925, 296	7, 525, 354	8, 923, 428	11, 692, 513
Wheat.....	1, 017, 921	1, 258, 538	Bu.....	27, 995, 376	24, 794, 631	28, 640, 910	52, 826, 693
Oats threshed for grain.....	382, 491	4 325, 523	Bu.....	14, 235, 956	9 361, 125	7, 021, 831	9 534, 495
Barley.....	665, 955	280, 287	Bu.....	22, 872, 825	7, 202, 430	14, 570, 613	10, 775, 076
Sorghums for grain.....	71, 371	5 154, 973	Bu.....	1, 910, 504	4 167, 021	1, 797, 785	5 6, 808, 918
Rice (rough).....	724, 997	6 894, 605	Bu.....	32, 876, 049	35, 082, 275	32, 332, 566	96, 368, 090
Mixed grains.....	25, 427	(³)	Bu.....	731, 632	(³)	549, 766	(³)
Other cereals.....	13, 874	(³)	Bu.....	253, 436	(³)	220, 365	(³)
Other grains and seeds, total.....	687, 842	(³)				43, 777, 658	(³)
Canada and other ripe field peas, including cowpeas.....	101, 315	51, 464	Bu.....	1, 471, 670	637, 560	3, 237, 789	2, 042, 455
Navy, soybeans, velvetbeans, and other ripe field beans.....	365, 776	177, 797	Bu.....	8, 408, 492	2, 862, 567	33, 492, 746	12, 986, 298
All clover seed.....	64, 738		Bu.....	254, 837	6 225, 065	1, 947, 442	5 1, 176, 832
Alfalfa seed.....	137, 754	56, 182	Bu.....	366, 988		4, 004, 849	(³)
Miscellaneous seeds.....	18, 259	(³)				1, 094, 832	(³)
Hay crops, total¹.....	6, 758, 431	5, 325, 789	Tons.....	13, 438, 922	10, 916, 492	169, 163, 452	239, 563, 412
Tame hay.....	5, 455, 183	4, 291, 282	Tons.....	12, 239, 422	9, 959, 810	158, 216, 955	221, 507, 67
Alfalfa.....	4, 096, 381	3, 151, 675	Tons.....	10, 384, 668	8, 430, 766	136, 599, 352	186, 391, 209
Timothy and (or) timothy and clover mixed.....	679, 914	532, 867	Tons.....	973, 565	747, 703	11, 247, 379	18, 365, 540
Clover alone.....	83, 502	40, 879	Tons.....	120, 410	63, 465	1, 324, 897	1, 334, 600
Annual legumes saved for hay.....	19, 833	19, 851	Tons.....	27, 929	28, 334	275, 579	404, 052
Small grains cut for hay.....	219, 342	291, 697	Tons.....	318, 753	372, 739	4, 494, 860	8, 448, 901
Other tame grasses.....	356, 211	254, 313	Tons.....	414, 097	316, 803	4, 274, 888	6, 473, 377
Wild, salt, and prairie grasses.....	1, 303, 248	1, 034, 507	Tons.....	1, 199, 500	956, 682	10, 946, 497	18, 055, 733
Silage and miscellaneous forage crops, total.....	89, 431	108, 405	Tons.....	514, 182	494, 865	3, 740, 855	5, 445, 850
Corn for silage.....	49, 639	56, 424	Tons.....	414, 627	388, 830	2, 632, 595	3, 831, 525
Sorghums for silage, hay, or fodder.....	38, 792	51, 981	Tons.....	99, 535	106, 035	1, 108, 290	1, 614, 325
Corn cut for fodder.....	37, 764	36, 689	Tons.....	(³)	87, 389	(³)	1, 121, 730
Vegetables, total.....	782, 274	259, 509				138, 809, 727	69, 899, 983
Potatoes (Irish or white).....	252, 805	154, 607	Bu.....	47, 607, 488	23, 013, 804	58, 618, 017	50, 866, 655
Sweetpotatoes and yams.....	10, 634	6, 461	Bu.....	1, 124, 047	718, 957	1, 732, 489	1, 623, 989
Vegetables harvested for sale.....	518, 835	98, 441				78, 459, 221	17, 409, 339
Sugar crops, total.....	502, 479	(³)				42, 678, 942	(³)
Sugar beets for sugar.....	501, 951	377, 655	Tons.....	5, 994, 174	3, 567, 522	42, 606, 114	38, 831, 339
Other sugar crops.....	528	(³)				72, 828	(³)
Other crops, total.....	1, 030, 250	(³)				68, 555, 592	(³)
Cotton, including cottonseed.....	893, 745	214, 576	Bales.....	624, 126	113, 862	67, 003, 012	(³)
Lint cotton.....	893, 745	214, 576	Tons.....	302, 895	(³)	8, 345, 813	30, 457, 881
Cottonseed.....						1, 552, 580	(³)
Miscellaneous crops.....	136, 505	(³)					(³)

See footnotes at end of table.

ABSTRACT OF THE CENSUS—IRRIGATION

TABLE 12.—ACREAGE, PRODUCTION, AND VALUE OF IRRIGATED CROPS HARVESTED: 1929 AND 1919—Continued

CROP	ACREAGE, ETC.		PRODUCTION			VALUE	
	1929	1919 ¹	Unit	Amount		1929	1919 ¹
				1929	1919 ¹		
Land in orchard and subtropical fruits, vineyards, and planted nut trees.....	<i>Acres</i> 1,494,637	<i>Acres</i> (²)				<i>Dollars</i>	<i>Dollars</i>
	<i>Trees</i> ³	<i>Trees</i> ³					
Orchard fruits, total.....	43,445,383	24,862,380				111,113,718	77,521,434
Apples.....	9,054,962	9,085,326	Bu.....	37,048,840	22,406,306	45,508,713	24,566,584
Peaches.....	10,758,112	7,062,692	Bu.....	14,731,990	13,224,500	18,312,004	24,670,264
Pears.....	5,752,449	1,849,429	Bu.....	9,836,530	3,479,806	18,371,048	4,698,848
Plums and prunes.....	10,451,409	4,306,976	Bu.....	8,801,389	7,074,240	8,357,856	15,188,490
Cherries.....	1,287,486	667,907	Bu.....	1,098,617	578,354	5,090,798	2,139,891
Figs.....	2,168,826	246,884	Lbs.....	114,799,188	10,074,552	5,826,709	1,007,455
Apricots.....	3,853,026	1,630,763	Bu.....	5,413,071	2,608,136	9,529,657	5,216,272
All other orchard fruits.....	119,113	12,403				116,933	36,630
	<i>Vines</i> ³	<i>Vines</i> ³					
Grapes.....	189,819,218	73,675,084	Lbs.....	2,998,861,537	1,131,279,429	37,351,036	36,333,185
	<i>Trees</i> ³	<i>Trees</i> ³					
Subtropical fruits, total.....	20,380,559	11,786,530				172,184,856	78,919,700
Oranges.....	14,577,568	8,711,152	Boxes.....	43,465,133	18,774,366	119,738,658	58,244,422
Lemons.....	2,770,197	2,299,716	Boxes.....	9,273,473	5,776,149	42,974,061	16,750,832
Grapefruit.....	1,478,488	193,819	Boxes.....	2,701,051	393,923	6,852,367	787,846
All other subtropical fruits.....	1,554,306	581,843				2,619,770	1,136,600
Nuts, total.....	3,016,984	(³)	Lbs.....	74,006,530	(³)	12,203,911	(³)
Walnuts (English or Persian).....	1,663,775	616,372	Lbs.....	69,368,209	30,210,494	11,101,932	9,063,148
All other nuts.....	1,353,209	(⁴)	Lbs.....	4,638,321	(⁵)	1,101,979	(⁶)
	<i>Acres</i>	<i>Acres</i>					
Small fruits, total.....	20,348	(⁷)	Qts.....	38,549,095	(⁸)	6,305,508	(⁹)
Strawberries.....	13,505	1,465	Qts.....	27,023,843	5,143,533	4,482,194	1,028,707
All other small fruits.....	6,843	(⁹)	Qts.....	11,525,252	(⁹)	1,823,314	(⁹)

¹ Principal crops harvested.² Not including acreage of annual legumes saved for hay which is practically all duplicated in "Other grains and seeds," but including value of leguminous hay.³ Figures not available.⁴ Not exactly comparable.⁵ Reported as "Kafr, milo, feterita, and durra."⁶ Revised.⁷ Acreage of annual legumes saved for hay (19,833 acres) is included in subtotals for "tame hay" and "hay crops" but not in the total acreage of all crops because of duplicated acreage of legumes for all purposes.⁸ Of bearing age.

TABLE 13.—LAND AND INVESTED CAPITAL IN DRAINAGE ENTERPRISES, BY CHARACTER OF ENTERPRISE, TYPE AND PURPOSE OF DRAINAGE, DATE OF ORGANIZATION, MAINTENANCE, ETC.: 1930

CLASS OR GROUP	Land	Capital invested to Jan. 1, 1930
All enterprises	<i>Acres</i> 84,406,093	\$680,732,880
CHARACTER OF ENTERPRISE:		
Drainage districts.....	32,544,972	357,799,462
County drains.....	47,547,197	287,391,756
Township drains.....	193,929	944,397
State projects.....	608,309	1,448,680
Irrigation enterprises.....	2,644,674	23,280,176
Commercial developments.....	72,437	3,083,319
Individually owned projects.....	782,423	6,578,561
Other or not reported.....	14,192	226,529
TYPE OF DRAINAGE:		
Gravity drainage only.....	80,765,598	573,768,076
Ditches and levees ¹	60,234,328	373,316,473
Tile drains and levees ¹	8,325,453	70,780,265
Ditches, tile drains, and levees ¹	12,205,817	129,671,338
Drainage, all or part by pumping.....	3,642,495	106,964,804
All drainage by pumping.....	1,608,433	79,894,531
Part gravity and part pumping.....	2,034,062	27,070,273
PURPOSE OF DRAINAGE:		
Reclamation of swamp lands not previously in farms.....	22,858,597	211,575,252
Improvement of land already in farms.....	53,020,596	364,289,640
Removal of seepage and alkali from irrigation.....	3,395,144	39,283,693
Protection against overflow.....	5,127,756	65,574,295
DATE OF ORGANIZATION:		
Before 1870.....	919,117	1,263,389
1870-1879.....	2,516,942	11,317,896
1880-1889.....	6,052,807	28,035,384
1890-1899.....	5,867,503	32,838,911
1900-1904.....	7,665,823	34,139,656
1905-1909.....	18,328,017	111,612,254
1910-1914.....	16,448,377	125,953,183
1915-1919.....	15,802,902	190,583,008
1920-1924.....	7,428,179	102,976,838
1925-1929.....	3,288,426	42,012,361
METHOD OF MAINTENANCE:		
District forces.....	26,303,633	291,236,055
Contract.....	31,349,160	226,226,023
Work apportioned to landowners.....	11,682,891	67,808,115
Other or not reported.....	15,072,409	95,462,687
REGULARITY OF MAINTENANCE:		
Systematic.....	44,689,707	435,966,546
Nonsystematic.....	39,718,386	244,766,334
POWER EQUIPMENT USED IN MAINTENANCE:		
Enterprises owning power equipment.....	11,619,679	127,084,521
Enterprises not owning power equipment.....	72,788,414	553,648,359
COMPLETION OF WORKS:		
Works complete.....	81,577,229	638,625,164
Works incomplete.....	2,830,864	42,107,716

¹ Includes enterprises with and without accessory levees.

TABLE 14.—LAND, INVESTED CAPITAL, COST PER ACRE, ETC., IN DRAIN

[A minus sign (−) denotes decrease. A plus sign (+) denotes

ITEM		TOTAL (35 drainage States)	Arizona	Arkansas
LAND AREA AND NUMBER OF ENTERPRISES				
1	Approximate land area.....1930.....acres..	1, 743, 699, 840	72, 838, 400	33, 616, 000
2	Land in enterprises.....1930.....acres..	84, 408, 093	318, 931	4, 631, 155
3	.....1920.....acres..	65, 495, 038	39, 640	3, 479, 591
4	Increase, 1920-1930.....per cent..	28. 9	704. 6	33. 1
5	Area of all enterprises (overlapping areas included).....1930.....acres..	128, 495, 078	318, 931	5, 764, 808
6	Excess over land in enterprises (total areas overlapping).....acres..	44, 086, 985	-----	1, 133, 653
7	Enterprises.....1930.....number..	67, 927	7	316
8	.....1920.....number..	47, 399	3	174
CONDITION AND USE OF LAND				
9	Land unfit to raise any crop.....1930.....acres..	7, 396, 078	4, 125	586, 664
10	Land unfit to raise any crop prior to drainage.....acres..	33, 683, 590	103, 681	2, 418, 369
11	Decrease since drainage.....per cent..	78. 0	96. 0	75. 7
12	Land fit to raise a normal crop.....1930.....acres..	66, 234, 390	313, 112	3, 435, 280
13	Land fit to raise a normal crop prior to drainage.....acres..	31, 595, 452	214, 950	1, 885, 111
14	Increase since drainage.....per cent..	109. 6	45. 7	148. 0
15	Land fit to raise a partial crop.....1930.....acres..	10, 777, 625	1, 694	609, 211
16	Land fit to raise a partial crop prior to drainage.....acres..	19, 128, 691	300	327, 675
17	Decrease since drainage.....per cent..	43. 7	+464. 7	26. 4
18	Improved land.....1930.....acres..	63, 514, 081	309, 112	2, 614, 427
19	.....1920.....acres..	44, 288, 235	36, 880	1, 491, 777
20	Increase, 1920-1930.....per cent..	43. 4	738. 2	75. 3
Unimproved land—				
21	Woodland.....1930.....acres..	11, 310, 402	75	1, 752, 958
22	Other.....1930.....acres..	9, 583, 610	9, 744	263, 770
23	Land in occupied farms.....1930.....acres..	68, 640, 109	304, 802	2, 940, 035
24	Land in planted crops.....1930.....acres..	54, 427, 577	278, 066	2, 425, 632
25	Woodland cleared and cultivated since drainage.....1930.....acres..	8, 138, 908	-----	768, 381
26	Land idle.....1930.....acres..	20, 003, 315	39, 219	2, 035, 463
DRAINAGE WORKS, 1930				
Ditches—				
27	Completed.....miles..	138, 673. 0	349. 4	4, 974. 3
28	Additional under construction.....miles..	1, 423. 2	-----	04. 0
Tile drains—				
29	Completed.....miles..	55, 031. 9	14. 3	0. 1
30	Additional under construction.....miles..	2, 203. 9	-----	-----
Levees and dikes—				
31	Completed.....miles..	6, 539. 5	2. 5	201. 9
32	Additional under construction.....miles..	126. 1	-----	1. 0
Pumping plants—				
33	Engine capacity.....horsepower..	99, 747	10, 789	515
34	Pump capacity.....gallons per minute..	17, 854, 824	458, 750	156, 500
35	Land served by pumps.....acres..	2, 174, 803	130, 000	18, 261
36	Wells, pumped for drainage.....number..	444	172	-----
37	Land drained by ditches only ¹.....acres..	51, 860, 163	23, 483	3, 902, 617
38	Land drained by tile only ¹.....acres..	8, 322, 653	2, 808	-----
39	Land drained by ditches and tile ¹.....acres..	11, 951, 166	640	8, 890
40	Land having ditches and levees ¹.....acres..	8, 374, 165	-----	544, 387
41	Land having tile and levees ¹.....acres..	2, 800	-----	-----
42	Land having ditches, tile, and levees ¹.....acres..	254, 651	-----	-----
43	Land drained by pumps and other drainage works ².....acres..	3, 642, 495	292, 000	175, 261
44	Land protected by levees of an outside agency.....acres..	7, 318, 167	15, 000	2, 534, 714
CAPITAL INVESTED AND COST PER ACRE				
45	Capital invested in enterprises to Jan. 1.....1930.....dollars..	680, 732, 880	1, 875, 100	37, 532, 575
46	.....1920.....dollars..	372, 273, 567	414, 425	14, 147, 174
47	Increase, 1920-1930.....per cent..	82. 9	352. 5	165. 3
48	Estimated cost of enterprises when completed.....1930.....dollars..	690, 078, 979	2, 005, 100	37, 828, 775
49	.....1920.....dollars..	434, 594, 979	1, 026, 425	25, 888, 599
50	Average, per acre when completed.....1930.....dollars..	8. 18	6. 29	8. 17
51	.....1920.....dollars..	6. 64	25. 89	7. 44

¹ When works under construction have been completed.² Area of enterprises having some land served by pumps.

ABSTRACT OF THE CENSUS—DRAINAGE

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AGE ENTERPRISES, 1930 AND 1920; AND DRAINAGE WORKS, 1930, BY STATES
 ncrease. Per cent not shown when more than 1,000]

California	Colorado	Florida	Georgia	Idaho	Illinois	Indiana	Iowa	Kansas	
99,617,280	66,341,120	35,111,040	37,584,000	53,346,560	35,867,520	23,068,800	35,575,040	52,335,360	1
2,233,714	366,719	5,954,934	84,255	375,464	5,032,682	10,214,014	6,137,649	257,169	2
1,108,319	171,656	1,637,073	65,452	64,642	3,909,049	9,087,183	5,224,478	93,856	3
101.5	113.6	263.8	28.7	480.8	28.7	12.4	17.5	174.0	4
2,294,068	367,359	7,373,627	84,255	375,464	5,741,916	23,049,784	7,397,644	257,726	5
60,354	640	1,418,693			709,234	12,835,773	1,259,995	557	6
162	58	146	59	50	1,919	18,335	3,730	88	7
144	24	94	46	13	1,365	11,348	2,883	54	8
12,619	5,504	1,380,583	24,114	13,670	275,800	222,269	68,371	3,592	9
1,084,124	193,536	4,638,795	60,449	146,490	1,601,017	2,430,789	1,312,693	87,307	10
98.8	97.2	70.2	60.1	90.7	82.8	90.9	94.8	95.9	11
2,011,189	313,039	1,967,568	46,592	333,204	4,510,111	9,303,627	5,846,118	242,216	12
633,025	38,319	71,580	12,704	160,865	2,330,700	5,417,622	2,826,486	108,898	13
217.7	254.4		266.8	107.1	93.5	71.7	106.8	122.4	14
209,906	48,176	2,606,783	13,549	28,590	246,771	688,218	223,160	11,361	15
516,565	84,364	1,244,559	11,102	68,109	1,100,965	2,365,603	1,998,470	60,964	16
59.4	43.2	+109.5	+22.0	58.0	77.6	70.9	88.8	81.4	17
2,007,987	302,023	783,033	44,975	354,575	4,745,840	9,361,457	5,961,454	248,241	18
1,038,835	123,031	94,589	29,753	52,098	3,532,316	7,005,365	4,493,407	87,449	19
93.3	145.5	727.8	51.2	580.6	34.4	23.1	32.7	183.9	20
8,500		1,839,512	10,153	637	175,571	681,869	88,802	4,260	21
217,227	64,696	3,332,389	29,127	20,252	111,271	170,688	87,393	4,668	22
2,024,446	305,966	398,200	63,865	362,303	5,005,376	10,150,221	6,105,496	253,845	23
1,794,813	274,922	216,536	37,097	334,546	4,248,907	8,454,498	5,376,805	219,736	24
15,354	4,280	107,306	9,173	1,675	396,749	988,336	106,369	2,840	25
360,292	69,780	5,505,445	35,640	28,673	232,052	486,660	78,303	3,131	26
4,605.9	814.9	5,112.6	496.9	651.2	5,996.4	20,786.8	4,800.0	324.7	27
108.1	6.5	460.6		20.5	91.0	33.2	23.4	5.5	28
486.2	369.5		40.0	19.9	3,825.6	10,438.7	13,332.4	212.1	29
0.2					59.3	15.7	1,803.0		30
1,389.5		718.4		74.8	1,108.4	131.9	113.4	227.0	31
5.0		49.5		14.0	9.0				32
41,748		5,065	60	1,435	18,658	166	4,625	120	33
5,548,600		1,980,799	4,000	171,675	3,156,700	48,000	881,500	12,000	34
1,022,062		129,872	200	40,434	331,448	2,763	84,801	2,000	35
218				6					36
99,439	112,143	1,731,452	80,555	140,546	1,702,693	5,905,308	1,610,195	123,332	37
4,295	12,518			229	701,261	2,088,780	2,316,828		38
546,617	242,058		3,000	41,029	1,754,464	1,985,170	2,084,579	2,792	39
284,894		3,720,794		1,200	415,766	178,747	33,914	126,410	40
7,630					101,520	51,570	3,812	2,135	41
1,290,839		502,658	700	192,460	356,978	4,439	88,321	2,500	42
391,274		109,609			149,384	27,749	43,473	1,965	43
66,451,698	4,358,866	45,457,795	1,918,525	5,112,444	75,048,548	54,110,854	77,478,893	2,701,082	45
47,687,153	1,081,875	13,846,807	794,585	1,668,569	43,595,069	31,147,682	49,627,304	936,508	46
39.3	302.9	228.5	141.4	206.4	72.1	73.7	56.1	188.4	47
67,251,098	4,395,866	48,407,539	1,918,525	5,345,944	76,211,072	54,203,346	77,690,195	2,721,082	48
54,021,627	1,285,070	26,762,497	1,098,239	1,788,569	51,393,244	31,943,858	54,169,878	1,210,353	49
30.11	11.99	8.13	22.77	14.24	15.14	5.31	12.66	10.58	50
48.74	7.49	16.35	16.78	27.67	13.15	3.52	10.37	12.90	51

TABLE 14.—LAND, INVESTED CAPITAL, COST PER ACRE, ETC., IN DRAINAGE

ITEM		Kentucky	Louisiana	Michigan
LAND AREA AND NUMBER OF ENTERPRISES				
1	Approximate land area.....1930.....acres..	25, 715, 840	29, 061, 760	36, 787, 200
2	Land in enterprises.....1930.....acres..	585, 625	3, 655, 483	9, 180, 851
3	.....1920.....acres..	358, 480	2, 266, 328	9, 720, 171
4	Increase, 1920-1930.....per cent..	63. 4	61. 3	-5. 6
5	Area of all enterprises (overlapping areas in- cluded).....1930.....acres..	626, 408	4, 093, 113	15, 032, 692
6	Excess over land in enterprises (total areas over- lapping).....acres..	40, 783	437, 630	5, 851, 841
7	Enterprises.....1930.....number..	216	741	10, 640
8	.....1920.....number..	179	111	8, 583
CONDITION AND USE OF LAND				
9	Land unfit to raise any crop.....1930.....acres..	47, 302	780, 889	531, 454
10	Land unfit to raise any crop prior to drainage.....acres..	254, 413	1, 750, 753	2, 558, 428
11	Decrease since drainage.....per cent..	81. 4	55. 3	79. 2
12	Land fit to raise a normal crop.....1930.....acres..	428, 883	2, 486, 972	7, 581, 151
13	Land fit to raise a normal crop prior to drainage.....acres..	143, 706	1, 133, 171	4, 616, 122
14	Increase since drainage.....per cent..	198. 4	119. 5	64. 2
15	Land fit to raise a partial crop.....1930.....acres..	109, 440	381, 622	1, 068, 246
16	Land fit to raise a partial crop prior to drainage.....acres..	187, 506	762, 559	2, 006, 301
17	Decrease since drainage.....per cent..	41. 6	50. 0	46. 8
18	Improved land.....1930.....acres..	445, 613	2, 267, 737	7, 603, 256
19	.....1920.....acres..	245, 334	1, 269, 391	7, 182, 352
20	Increase, 1920-1930.....per cent..	81. 6	78. 6	6. 7
21	Unimproved land— Woodland.....1930.....acres..	101, 709	746, 560	980, 846
22	Other.....1930.....acres..	38, 303	641, 186	536, 749
23	Land in occupied farms.....1930.....acres..	515, 101	2, 571, 531	8, 826, 265
24	Land in planted crops.....1930.....acres..	320, 084	1, 822, 620	6, 462, 936
25	Woodland cleared and cultivated since drain- age.....1930.....acres..	69, 491	404, 420	905, 365
26	Land idle.....1930.....acres..	223, 004	1, 348, 437	1, 041, 456
DRAINAGE WORKS, 1930				
27	Ditches: Completed.....miles..	1, 204. 8	7, 701. 2	17, 188. 5
28	Additional under construction.....miles..		43. 7	61. 0
29	Tile drains— Completed.....miles..	71. 0	2. 0	3, 490. 2
30	Additional under construction.....miles..			301. 7
31	Levees and dikes— Completed.....miles..		576. 3	34. 6
32	Additional under construction.....miles..		9. 0	
33	Pumping plants— Engine capacity.....horsepower..		6, 495	275
34	Pump capacity.....gallons per minute..		2, 956, 500	36, 340
35	Land served by pumps.....acres..		123, 163	8, 270
36	Wells, pumped for drainage.....number..			
37	Land drained by ditches only ¹.....acres..	563, 025	3, 100, 265	7, 549, 046
38	Land drained by tile only ¹.....acres..	117		584, 050
39	Land drained by ditches and tile ¹.....acres..	22, 483	5, 000	1, 029, 485
40	Land having ditches and levees ¹.....acres..		427, 055	2, 900
41	Land having tile and levees ¹.....acres..			
42	Land having ditches, tile and levees ¹.....acres..			
43	Land drained by pumps and other drainage works ².....acres..			2, 500
44	Land protected by levees of an outside agency.....acres..		123, 163	9, 770
CAPITAL INVESTED AND COST PER ACRE				
45	Capital invested to Jan. 1, 1930.....dollars..	5, 357, 633	20, 752, 645	37, 677, 084
46	.....1920.....dollars..	1, 521, 725	9, 021, 991	24, 683, 715
47	Increase, 1920-1930.....per cent..	252. 1	130. 0	52. 6
48	Estimated cost of enterprises when completed, 1930.....dollars..	5, 357, 633	20, 976, 245	37, 778, 560
49	.....1920.....dollars..	1, 820, 996	9, 980, 788	25, 048, 980
50	Average, per acre when completed.....1930.....dollars..	9. 15	5. 74	4. 11
51	.....1920.....dollars..	5. 08	4. 41	2. 57

¹ When works under construction have been completed.

² Area of enterprises having some land served by pumps.

ENTERPRISES, 1930 AND 1920; AND DRAINAGE WORKS, 1930, BY STATES—CON.

Minnesota	Mississippi	Missouri	Montana	Nebraska	Nevada	New Mexico	North Carolina	North Dakota	
51,749,120	29,671,680	43,985,280	93,523,840	49,157,120	70,285,440	78,401,920	31,193,600	44,917,120	1
11,474,683	2,988,496	3,150,022	167,629	879,459	162,980	176,292	679,236	1,094,142	2
9,232,709	1,601,444	2,596,204	168,682	607,730	15,940	140,219	542,828	1,240,328	3
24.3	86.6	21.3	-0.6	44.7	922.5	25.7	25.1	-11.8	4
14,681,505	3,159,944	4,111,570	167,629	893,899	162,980	176,292	688,436	1,183,382	5
3,206,822	171,448	961,548	-----	14,440	-----	-----	9,200	89,240	6
2,885	344	367	27	138	7	11	130	152	7
2,340	167	238	17	123	1	8	104	137	8
2,037,481	286,155	253,251	6,388	10,139	139	15,220	79,267	13,440	9
5,950,274	1,475,068	1,930,108	58,990	231,698	53,029	60,868	478,003	200,871	10
65.8	80.6	86.9	89.2	95.6	99.7	75.0	83.4	93.3	11
7,322,252	2,434,593	2,530,697	152,871	829,681	160,109	144,750	438,992	1,055,429	12
3,398,725	915,086	680,946	83,042	370,731	90,551	50,524	89,653	611,752	13
115.4	166.0	271.6	84.1	123.8	76.8	186.5	389.6	72.5	14
2,114,950	267,748	366,074	8,370	39,639	2,732	16,322	160,977	25,273	15
2,125,684	598,342	538,965	25,627	277,030	19,400	64,900	111,580	281,519	16
0.5	55.3	32.1	67.3	85.7	85.9	74.9	+44.3	91.0	17
7,396,575	1,950,356	2,309,267	148,768	833,511	122,918	146,557	305,597	1,075,259	18
3,818,490	941,239	1,474,302	141,252	551,517	7,970	92,477	204,925	1,026,574	19
93.7	107.2	56.6	5.3	51.1	-----	58.5	49.1	4.7	20
2,046,799	905,712	565,068	-----	8,031	-----	-----	209,961	9,478	21
2,031,309	132,428	275,687	18,861	37,917	40,062	29,735	163,678	9,405	22
8,782,323	2,092,899	2,427,599	150,844	864,159	155,491	151,516	331,121	1,094,114	23
5,916,067	1,801,947	2,067,727	114,266	743,178	111,512	137,570	267,525	908,979	24
952,428	787,806	820,856	-----	7,248	-----	60,000	88,917	5,740	25
3,747,812	975,970	879,897	18,170	45,755	45,306	30,996	363,415	103,641	26
14,477.6	4,022.1	4,960.5	284.2	1,202.3	334.8	282.9	1,483.5	817.6	27
-----	42.0	50.3	25.0	21.0	11.8	29.5	42.6	-----	28
9,451.3	43.5	123.4	76.7	93.4	4.0	305.4	6.0	9.6	29
0.5	-----	10.0	-----	-----	-----	-----	-----	-----	30
149.7	227.7	931.4	-----	116.8	33.0	12.0	22.0	-----	31
0.5	10.2	6.9	-----	-----	-----	-----	-----	-----	32
75	370	2,533	-----	70	18	-----	3,000	-----	33
12,700	103,000	607,430	-----	2,200	900	-----	1,000,000	-----	34
815	8,040	71,604	-----	300	50	-----	100,000	-----	35
-----	-----	-----	-----	3	-----	-----	-----	-----	36
8,953,007	2,326,238	1,980,218	73,095	529,975	84,096	5,340	573,996	1,077,163	37
734,022	2,400	4,151	3,817	2,900	-----	25,972	57,580	2,000	38
1,566,449	5,131	55,203	90,717	114,683	-----	57,580	-----	14,979	39
210,700	554,410	1,007,042	-----	180,632	1,600	87,400	3,800	-----	40
-----	-----	2,800	-----	-----	-----	-----	-----	-----	41
8,409	-----	16,858	-----	19,000	-----	-----	1,440	-----	42
2,096	100,317	83,750	-----	32,269	77,284	-----	100,000	-----	43
47,926	1,548,244	1,117,778	-----	920	-----	-----	-----	-----	44
64,139,641	23,601,443	47,340,174	1,879,296	6,847,070	1,349,774	3,279,371	4,719,079	3,148,919	45
42,017,447	7,076,164	20,723,123	664,990	4,588,578	117,851	1,710,796	3,623,518	2,208,049	46
52.7	233.5	128.4	182.6	49.2	-----	91.7	30.2	42.6	47
64,149,641	23,902,443	47,902,514	1,989,427	6,946,020	1,400,174	3,474,631	4,848,738	3,148,919	48
44,183,838	8,561,264	24,749,735	846,466	4,886,681	117,851	2,906,296	4,526,018	2,261,449	49
5.59	8.00	15.21	11.87	7.90	8.59	19.71	7.14	2.88	50
4.79	5.35	9.53	5.02	8.04	7.39	20.73	8.34	1.82	51

TABLE 14.—LAND, INVESTED CAPITAL, COST PER ACRE, ETC., IN DRAINAGE

ITEM		Ohio	Oklahoma	Oregon
LAND AREA AND NUMBER OF ENTERPRISES				
1	Approximate land area..... 1930..... acres..	26,073,600	44,424,960	61,188,480
2	Land in enterprises..... 1930..... acres..	8,165,494	170,158	211,182
3	..... 1920..... acres..	8,107,204	12,150	4,000
4	Increase, 1920-1930..... per cent..	0.7		
5	Area of all enterprises (overlapping areas included) 1930..... acres..	24,010,629	171,118	211,182
6	Excess over land in enterprises (total areas overlapping) acres..	15,845,135	960	
7	Enterprises..... 1930..... number..	26,191	33	51
8	..... 1920..... number..	18,607	5	1
CONDITION AND USE OF LAND				
9	Land unfit to raise any crop..... 1930..... acres..	102,290	5,734	30,575
10	Land unfit to raise any crop prior to drainage..... acres..	1,701,712	101,894	131,623
11	Decrease since drainage..... per cent..	94.0	94.4	76.8
12	Land fit to raise a normal crop..... 1930..... acres..	7,495,881	143,221	153,381
13	Land fit to raise a normal crop prior to drainage..... acres..	4,144,557	36,421	53,100
14	Increase since drainage..... per cent..	80.9	293.2	188.9
15	Land fit to raise a partial crop..... 1930..... acres..	567,323	21,203	27,226
16	Land fit to raise a partial crop prior to drainage..... acres..	2,319,225	31,843	26,459
17	Decrease since drainage..... per cent..	75.5	33.4	-2.9
18	Improved land..... 1930..... acres..	7,604,274	142,766	144,253
19	..... 1920..... acres..	6,707,328	8,845	4,000
20	Increase, 1920-1930..... per cent..	13.4		
Unimproved land—				
21	Woodland..... 1930..... acres..	487,981	11,923	9,912
22	Other..... 1930..... acres..	73,239	15,469	57,017
23	Land in occupied farms..... 1930..... acres..	8,132,973	163,936	146,576
24	Land in planted crops..... 1930..... acres..	6,800,406	135,956	116,987
25	Woodland cleared and cultivated since drainage 1930..... acres..	1,200,043	20,240	11,188
26	..... 1930..... acres..	359,758	26,092	52,563
DRAINAGE WORKS, 1930				
Ditches—				
27	Completed..... miles..	25,048.2	303.0	495.1
28	Additional under construction..... miles..		6.5	58.0
Tile drains—				
29	Completed..... miles..	9,371.6		42.5
30	Additional under construction..... miles..			
Levees and dikes—				
31	Completed..... miles..	0.3		121.4
32	Additional under construction..... miles..			18.0
Pumping plants—				
33	Engine capacity..... horsepower..	25		2,173
34	Pump capacity..... gallons per minute..	5,000		488,800
35	Land served by pumps..... acres..	348		59,386
36	Wells, pumped for drainage..... number..			1
37	Land drained by ditches only ¹ acres..	5,017,201	170,158	26,785
38	Land drained by tile only ¹ acres..	1,694,156		500
39	Land drained by ditches and tile ¹ acres..	1,453,789		58,724
40	Land having ditches and levees ¹ acres..			34,452
41	Land having tile and levees ¹ acres..			
42	Land having ditches, tile, and levees ¹ acres..			
43	Land drained by pumps and other drainage works ² acres..	348		90,721
44	Land protected by levees of an outside agency..... acres..	2,665		14,978
CAPITAL INVESTED AND COST PER ACRE				
45	Capital invested in enterprises to Jan. 1, 1930..... dollars..	36,836,449	2,283,598	4,165,549
46	..... 1920..... dollars..	30,680,145	76,415	200,000
47	Increase, 1920-1930..... per cent..	20.1		
48	Estimated cost of enterprises when completed			
	..... 1930..... dollars..	36,836,449	2,303,798	4,843,647
49	..... 1920..... dollars..	30,771,620	77,415	200,000
50	Average per acre when completed..... 1930..... dollars..	4.51	13.54	22.94
51	..... 1920..... dollars..	3.80	6.37	50.00

¹ When works under construction have been completed.

ENTERPRISES, 1930 AND 1920; AND DRAINAGE WORKS, 1930 BY STATES—CON.

South Carolina	South Dakota	Tennessee	Texas	Utah	Virginia	Washington	Wisconsin	Wyoming	
19, 516, 800	49, 195, 520	26, 679, 680	167,934,720	52, 597, 760	25,767, 680	42, 775, 040	35, 363, 840	62,430,720	1
208, 249	697, 758	593, 560	2, 883, 356	156, 052	15, 042	367, 242	892, 713	245, 703	2
140, 031	222, 062	363, 671	2, 166, 128	113, 823	(²)	94, 924	794, 569	95, 474	3
48. 7	214. 2	63. 2	33. 1	37. 1		286. 9	12. 4	157. 4	4
208, 249	697, 758	599, 392	2, 883, 356	156, 052	15, 042	394, 851	895, 698	248, 316	5
		5, 832				27, 609	2, 985	2, 613	6
31	205	191	87	32	3	172	373	26	7
17	90	95	54	17	(²)	52	290	15	8
33, 002	26, 601	133, 230	218, 617	5, 600		9, 879	157, 083	9, 021	9
113, 839	237, 429	407, 252	966, 577	59, 901	11, 270	133, 588	630, 195	99, 947	10
71. 0	88. 8	67. 3	77. 4	90. 6	100. 0	92. 6	75. 1	91. 0	11
139, 587	614, 210	367, 805	2, 178, 417	142, 941	13, 138	329, 166	548, 545	219, 762	12
54, 491	273, 274	91, 541	1, 052, 337	41, 910	2, 008	161, 840	134, 441	115, 263	13
156. 2	124. 8	301. 8	107. 0	241. 1	554. 3	103. 4	308. 0	90. 7	14
35, 660	56, 947	92, 525	486, 322	7, 511	1, 904	28, 197	187, 075	16, 920	15
39, 919	187, 055	94, 767	864, 442	54, 241	1, 764	71, 814	128, 077	30, 493	16
10. 7	69. 6	2. 4	43. 7	86. 2	+7. 9	60. 7	+46. 1	44. 5	17
75, 592	661, 540	286, 008	2, 011, 044	137, 962	6, 042	332, 265	531, 969	181, 828	18
59, 075	178, 540	163, 218	1, 107, 153	97, 314	(²)	81, 886	254, 504	84, 946	19
28. 0	270. 5	75. 2	81. 6	41. 8		305. 8	109. 0	114. 3	20
120, 313	588	219, 510	176, 511	4, 759	8, 500	18, 531	114, 273	1, 100	21
12, 344	35, 630	88, 042	695, 801	13, 331	500	16, 446	246, 471	62, 775	22
94, 744	684, 746	413, 791	1, 895, 486	109, 518	5, 704	351, 898	574, 892	188, 327	23
61, 606	567, 285	212, 690	1, 278, 207	309, 368	4, 748	309, 818	350, 522	163, 015	24
5, 800	1, 064	119, 931	209, 524	1, 760	1, 700	24, 065	40, 850		25
126, 396	51, 905	324, 469	816, 461	60, 946	9, 500	33, 764	378, 406	64, 478	26
423. 0	854. 4	1, 413. 0	3, 661. 8	304. 3	40. 0	746. 7	1, 989. 4	521. 0	27
36. 5	60. 0	3. 5	68. 0	6. 8		6. 5	4. 7	33. 0	28
150. 0	315. 3		8. 5	1, 944. 5		199. 2	303. 4	237. 6	29
							1. 0	6. 5	30
11. 0		29. 8	215. 9	2. 0		78. 8	9. 0		31
						3. 0			32
			510			982	40		33
			33, 930			184, 500	5, 000		34
			21, 079			19, 857	50		35
			44						36
207, 049	604, 139	562, 882	2, 047, 425	18, 724	15, 042	244, 606	572, 982	125, 043	37
	68, 877			12, 210		26, 414	17, 608	14, 740	38
	24, 742		217, 000	124, 518		54, 138	281, 186	105, 920	39
		30, 678	513, 052	600		7, 732	6, 000		40
									41
1, 200			18, 600			7, 040	12, 937		42
			87, 279			27, 312	2, 000		43
		1, 500	75, 000			27, 012			44
1, 265, 276	4, 534, 768	6, 366, 747	12, 002, 949	4, 772, 000	241, 608	4, 637, 576	6, 207, 278	5, 250, 573	45
582, 183	1, 461, 063	2, 925, 944	5, 700, 805	1, 005, 473	(²)	1, 397, 419	4, 163, 055	1, 175, 962	46
117. 3	210. 4	117. 6	110. 5	374. 6		231. 9	49. 1	346. 5	47
1, 333, 276	4, 784, 768	6, 416, 812	12, 186, 628	4, 804, 000	241, 608	4, 655, 076	6, 220, 398	5, 599, 032	48
936, 514	1, 732, 729	3, 447, 991	6, 400, 805	2, 870, 773	(²)	1, 436, 419	4, 564, 625	1, 667, 367	49
6. 40	6. 86	10. 81	4. 23	30. 78	16. 06	12. 68	6. 97	22. 79	50
6. 69	7. 80	9. 48	2. 95	25. 22	(²)	15. 13	5. 74	17. 46	51

² Area of enterprises having some land served by pumps.

³ No organized drainage reported.

TABLE 15.—LAND AND INVESTED CAPITAL IN DRAINAGE ENTERPRISES IN ARREARS IN PAYMENT OF PRINCIPAL OR INTEREST ON BONDS OR OTHER OBLIGATIONS, AND AREA DELINQUENT IN PAYMENT OF DRAINAGE TAXES, BY DIVISIONS AND STATES: 1930

DIVISION AND STATE	ALL ENTERPRISES		ENTERPRISES IN ARREARS		ENTERPRISES NOT IN ARREARS		Area delinquent in payment of drainage taxes
	Land	Capital	Land	Capital	Land	Capital	
Total (35 drainage States).....	34, 408, 093	Dollars 680, 732, 880	9, 512, 578	112, 982, 986	74, 595, 515	567, 769, 894	10, 050, 800
GEOGRAPHIC DIVS.:							
E. N. Central.....	33, 485, 754	209, 880, 213	1, 416, 835	9, 585, 616	32, 068, 919	200, 294, 597	748, 459
W. N. Central.....	23, 690, 882	206, 190, 547	3, 634, 244	34, 699, 543	20, 056, 638	171, 491, 004	3, 776, 698
South Atlantic.....	6, 941, 716	53, 632, 283	1, 482, 760	20, 312, 733	5, 458, 956	33, 319, 550	3, 239, 103
E. S. Central.....	4, 167, 681	35, 325, 823	787, 700	9, 641, 458	3, 379, 981	25, 684, 365	396, 297
W. S. Central.....	11, 340, 152	72, 571, 767	1, 851, 788	18, 259, 805	9, 488, 364	54, 311, 962	1, 428, 798
Mountain.....	1, 969, 770	27, 877, 424	259, 350	6, 965, 016	1, 710, 420	20, 912, 408	188, 421
Pacific.....	2, 812, 138	75, 254, 823	379, 901	13, 498, 815	2, 432, 237	61, 756, 008	273, 024
E. N. CENTRAL:							
Ohio.....	8, 165, 494	36, 836, 449	11, 068	69, 781	8, 154, 426	36, 766, 668	2, 979
Indiana.....	10, 214, 014	54, 110, 854	287, 956	1, 160, 540	9, 926, 058	52, 950, 314	99, 698
Illinois.....	5, 032, 682	75, 048, 548	160, 300	4, 712, 722	4, 872, 382	70, 335, 826	94, 944
Michigan.....	9, 180, 851	37, 677, 084	630, 095	1, 499, 121	8, 550, 756	36, 177, 963	324, 945
Wisconsin.....	892, 713	6, 207, 278	327, 416	2, 143, 452	6, 565, 297	4, 063, 826	225, 893
W. N. CENTRAL:							
Minnesota.....	11, 474, 683	64, 139, 641	1, 857, 637	5, 494, 118	9, 617, 046	58, 645, 523	2, 780, 336
Iowa.....	6, 137, 649	77, 478, 893	318, 637	3, 801, 885	5, 819, 012	73, 677, 008	20, 595
Missouri.....	3, 150, 022	47, 340, 174	1, 350, 734	24, 619, 680	1, 799, 288	22, 720, 494	927, 207
North Dakota.....	1, 094, 142	3, 148, 919	9, 412	11, 680	1, 084, 730	3, 137, 239	2, 270
South Dakota.....	697, 758	4, 534, 768	63, 800	283, 731	633, 958	4, 251, 037	32, 970
Nebraska.....	879, 459	6, 847, 070	31, 024	468, 669	848, 435	6, 378, 401	12, 900
Kansas.....	257, 169	2, 701, 082	3, 000	19, 780	254, 169	2, 681, 302	860
SOUTH ATLANTIC:							
Virginia.....	15, 042	241, 608			15, 042	241, 608	100
North Carolina.....	679, 236	4, 719, 079	122, 131	1, 049, 039	557, 105	3, 670, 040	95, 266
South Carolina.....	208, 249	1, 265, 276	63, 403	454, 215	144, 846	811, 061	73, 789
Georgia.....	84, 255	1, 918, 525	57, 058	1, 245, 795	27, 197	672, 730	25, 486
Florida.....	5, 954, 934	45, 487, 795	1, 240, 168	17, 563, 684	4, 714, 766	27, 924, 111	3, 044, 462
E. S. CENTRAL:							
Kentucky.....	585, 625	5, 357, 633	209, 821	2, 678, 900	375, 804	2, 678, 733	54, 219
Tennessee.....	593, 560	6, 366, 747	393, 902	4, 486, 918	199, 658	1, 879, 829	207, 034
Mississippi.....	2, 988, 496	23, 601, 443	183, 977	2, 475, 640	2, 804, 519	21, 125, 803	135, 044
W. S. CENTRAL:							
Arkansas.....	4, 631, 155	37, 532, 575	1, 465, 002	16, 009, 805	3, 166, 153	21, 522, 770	1, 001, 260
Louisiana.....	3, 655, 483	20, 752, 645	351, 578	1, 445, 000	3, 303, 905	19, 307, 645	147, 008
Oklahoma.....	170, 158	2, 283, 598	8, 270	66, 000	161, 888	2, 217, 598	5, 848
Texas.....	2, 883, 356	12, 002, 949	26, 938	739, 000	2, 856, 418	11, 263, 949	274, 682
MOUNTAIN:							
Montana.....	167, 629	1, 879, 296	7, 070	28, 000	160, 559	1, 851, 296	6, 720
Idaho.....	375, 464	5, 112, 444	10, 721	351, 099	364, 743	4, 761, 345	12, 027
Wyoming.....	245, 703	5, 250, 573	32, 021	797, 824	213, 682	4, 452, 749	18, 686
Colorado.....	366, 719	4, 358, 866	53, 195	731, 938	313, 524	3, 626, 928	24, 164
New Mexico.....	176, 292	3, 279, 371	50, 809	1, 161, 555	125, 483	2, 117, 816	20, 235
Arizona.....	318, 931	1, 875, 100	2, 883	95, 500	316, 048	1, 779, 600	3, 640
Utah.....	156, 052	4, 772, 000	102, 651	3, 799, 100	53, 401	972, 900	95, 549
Nevada.....	162, 980	1, 349, 774			162, 980	1, 349, 774	7, 400
PACIFIC:							
Washington.....	367, 242	4, 637, 576	59, 616	1, 358, 221	307, 626	3, 279, 355	16, 280
Oregon.....	211, 182	4, 165, 549	72, 063	880, 194	139, 119	3, 285, 355	64, 747
California.....	2, 233, 714	66, 451, 698	248, 222	11, 260, 400	1, 985, 492	55, 191, 298	191, 997