

Number and Yield of Pumped Wells

Table 14 shows the number and yield of wells pumped for irrigation, by States and by principal drainage basins. The total of 68,279 pumped wells reported in 1940 represents a net increase of 11,550 (20.4 percent) for the 19 irrigation States during the decade compared to an increase of 24,635 wells (76.8 percent) during the decade 1920 to 1930.

Yields of pumped wells also increased at the net rate of 33.5 percent in the last decade compared to 98.0 percent increase during the previous decade. The average yield per well was 635 gallons per minute in 1940 as compared to 572 gallons per minute in 1930, which indicates that larger wells are being developed with the more modern drilling and pumping equipment available.

Each of the 19 irrigation States, excepting Utah, shows an increase for 1940 contrasted with 1930 in number of wells

pumped while the reported yields decreased in Louisiana (22.1 percent), Nevada (6.0 percent), and Washington (6.3 percent). The greatest increases in number of pumped wells were reported for Texas (2,294), Colorado (2,224), Nebraska (1,875), and California (1,831). The greatest increases in yields, gallons per minute, were in California with 4,031,802; Colorado with 1,891,895; Nebraska with 1,625,126; and Texas with 1,598,835. These yields raised the average per well in these States as follows: California, from 519 gallons per minute to 583; Colorado, from 364 gallons per minute to 670; Nebraska, from 797 gallons per minute to 851; and Texas, from 558 gallons per minute to 652.

The number of pumped wells increased (1930-40) in all principal drainage basins, excluding Red River of the North, N. Dak.; Whitewater Draw, and Vamori Wash, Ariz.; and the Great Basin which shows a decrease of 1,401 wells, or 51.8 percent, representing a decrease of 50.6 percent in total yield.

TABLE 14.—NUMBER AND YIELD OF PUMPED WELLS, BY STATES AND BY PRINCIPAL DRAINAGE BASINS: 1940, 1930, AND 1920

(For the 17 western States and Arkansas and Louisiana)

ITEM	PUMPED WELLS													
	Number								Yield					
	1940	1930	1920	Increase or decrease (-)				1940	1930	1920	Increase or decrease (-)			
				1930-1940		1920-1930					1930-1940		1920-1930	
				Number	Percent	Number	Percent				G.p.m.	Percent	G.p.m.	Percent
Total (19 States)	68,279	56,729	32,094	11,550	20.4	24,655	76.8	43,355,271	32,467,120	16,596,549	10,888,151	33.5	16,070,571	98.0
STATE	BY STATES													
Arizona	1,858	1,398	999	460	32.9	399	39.9	2,508,337	1,832,352	1,042,590	675,965	36.9	789,762	75.8
Arkansas	1,534	1,190	1,089	344	28.9	101	9.3	1,812,647	1,641,448	1,470,147	171,199	10.4	171,301	11.7
California	48,568	46,757	25,401	1,851	3.9	21,556	84.0	28,297,969	24,266,167	10,608,476	4,031,802	16.6	13,657,691	128.8
Colorado	2,878	654	527	2,224	340.1	127	24.1	1,929,798	237,905	210,094	1,691,895	711.2	27,809	15.2
Idaho	309	121	53	188	155.4	68	128.5	225,164	34,601	17,749	190,565	550.7	16,852	94.9
Kansas	1,638	772	710	866	112.2	62	8.7	865,665	323,500	266,797	540,163	167.0	56,703	21.5
Louisiana	1,504	1,389	812	115	8.5	577	71.1	1,526,613	1,958,811	1,607,637	-452,198	-22.1	351,174	21.8
Montana	102	49	22	53	108.2	27	122.7	33,883	18,655	11,085	15,250	81.6	7,568	68.3
Nebraska	2,412	537	54	1,875	349.2	505	(¹)	2,053,184	428,058	24,701	1,625,126	379.7	403,357	(¹)
Nevada	167	147	129	20	13.6	18	14.0	50,958	54,162	6,798	-3,224	-6.0	47,364	696.7
New Mexico	1,487	680	461	807	118.7	219	47.5	1,143,276	481,898	265,618	661,378	137.2	216,280	81.4
North Dakota	11	—	—	11	—	—	—	378	—	—	378	—	—	—
Oklahoma	77	18	19	59	327.8	-1	-5.3	15,486	2,715	3,643	12,771	470.4	-928	-25.5
Oregon	901	558	208	343	61.5	350	168.3	209,289	156,669	47,026	72,620	53.1	89,643	190.6
South Dakota	16	1	1	15	(¹)	—	—	1,059	375	800	664	177.1	-425	-53.1
Texas	3,396	1,102	901	2,294	206.2	201	22.3	2,213,230	614,395	538,565	1,598,835	260.2	75,830	14.1
Utah	286	346	192	-60	-17.5	154	80.2	122,528	120,353	59,059	2,195	1.8	81,274	208.1
Washington	1,041	1,019	520	22	2.2	499	95.0	287,327	306,800	227,744	-19,473	-6.5	79,056	34.7
Wyoming	94	11	16	83	754.5	-5	-31.3	60,522	8,280	8,020	52,242	650.9	260	3.2
DRAINAGE BASIN	BY PRINCIPAL DRAINAGE BASINS													
Missouri River	4,760	1,071	585	3,689	544.4	686	178.2	3,683,499	613,550	171,464	3,020,149	492.4	441,886	257.7
Mississippi River, exclusive of Missouri River	4,428	2,216	2,085	2,212	99.8	131	6.5	3,493,820	2,104,316	1,876,840	1,589,504	66.0	227,476	12.1
Gulf of Mexico streams, other than Mississippi River and Rio Grande	4,158	2,568	1,615	1,795	76.0	748	46.3	3,210,783	2,495,111	2,072,580	717,672	28.8	420,531	20.3
Rio Grande	1,712	751	505	981	134.2	228	45.3	1,291,071	498,681	286,143	792,440	158.9	212,488	74.3
Colorado River	2,395	1,196	1,128	1,199	100.5	68	6.0	2,758,985	1,772,812	1,095,724	966,171	55.6	677,088	61.8
Whitewater Draw and Vamori Wash ²	142	210	209	-68	-32.4	1	0.5	45,537	62,457	72,787	-16,920	-27.1	-10,330	-14.2
Great Basin	1,306	2,707	870	-1,401	-51.8	1,837	211.1	653,078	1,321,596	275,094	-666,518	-50.6	1,048,302	385.9
Columbia River	1,972	1,663	752	309	18.6	911	121.1	687,659	464,026	277,555	223,615	48.2	186,471	67.2
Klamath River	56	14	16	42	500.0	-2	-12.5	29,509	21,442	5,975	8,067	37.6	15,467	258.9
Sacramento-San Joaquin Delta and tributary streams	52,418	51,744	14,657	674	2.1	17,087	116.6	20,042,293	16,780,369	6,384,682	3,311,924	19.8	10,345,487	162.0
Pacific Ocean streams, excl. of Gulf of California streams, Columbia and Klamath Rivers, and Sacramento-San Joaquin Delta and tributary streams	14,932	12,814	9,874	2,118	16.5	2,940	29.8	7,509,059	6,385,210	3,879,505	1,123,849	17.6	2,505,705	64.6

¹ Percent not shown when more than 1,000.

² Data for Censuses of 1950 and 1920 are for Whitewater Draw and unidentified tributaries, and do not include the independent basin, Vamori Wash.

Pumping Equipment

Table 15 presents comparable statistics on pumping equipment for the Censuses of 1940, 1930, and 1920, by kind of power, kind of pump, and capacities by States and principal drainage basins. The average pumping lift is also shown.

The total installed horsepower for pumping water for irrigation in the 19 States increased from 1,283,419 horsepower to 1,762,687 horsepower, or 37.3 percent during the decade 1930 to 1940. Likewise, the pumps installed increased 27.8 percent

in number and 32.4 percent in capacity. The average pumping lift reported for all pumping plants remains static for the decade at 51 feet.

Since 1930 the use of electric power increased by 241,858 installed horsepower and represents 63.4 percent of the total in 1940. The installed horsepower of internal-combustion engines increased 322,387 horsepower and represents 83.4 percent of the total.

A marked increase (13,370 to 38,204 or 185.7 percent) took place in the installation of turbine pumps during the decade.