

NORTH PLAINS WATER NEWS

A Publication of the NORTH PLAINS WATER CONSERVATION DISTRICT

Volume 2 — No. 2

"WASTE MAKES WANT"

April, 1958

Sparling Meters Are Installed At Area Wells

The North Plains Water District has installed Sparling Meters on irrigation wells in each of the six counties in the Water District. The purpose of the meters are to measure the amount of water it takes to produce a crop. The Board of Directors of the District believe that with accurate records kept over a period of time on these wells, we will be able to determine the most economical amount of water needed to produce the maximum yield of different crops.

The meters were installed on wells owned or operated by the following men: Harlan Hawk, Ochiltree County, Ned Turner, Hansford County, Moody Womble, Hutchinson County, Harvey Spurlock, Sherman County, Roy Miers well operated by Berkley Stringer, Moore County, and Robert Thompson well in Hartley County. All of these operators were furnished rain and wind guages, thermometers and a chart to record all of the information pertaining to the crops irrigated by these wells.



I believe that politicians in Washington are operating on the theory that if you can't convince them, confuse them. While reading my neighbors newspaper the other day I ran across this and thought maybe you would like to read it.

We now have one group whose job is to fight off inflation, and another group to fight off deflation.

One expert is working on disarmament, another on better weapons.

We have one group taking land out of cultivation, another putting land in.

One group advocates less production, another teaches how to increase it.

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Growth of Civilization Tied Up With Water Resources, Man's History Shows

By Francis Morris

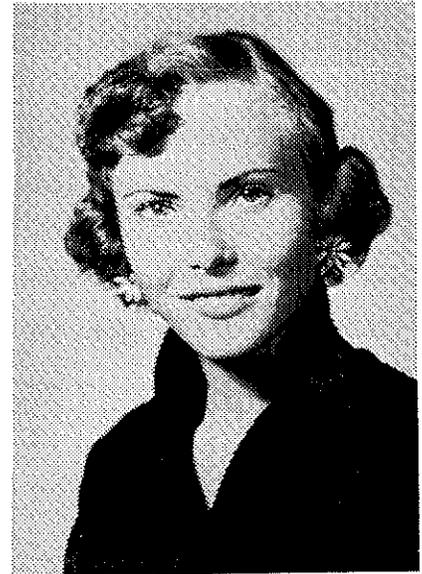
America owes her position as a great nation to her land. Her power and wealth are directly due to the marvelous production of the soil. American agriculture is faced with the task of feeding and clothing a large proportion of the world, so her continued influence and leadership will largely depend upon the production from the land.

Water is the life of the land and the key to the development of the nation. We must either lose our influence internationally, stop growing locally, or learn how to utilize our water supply.

Experts, who wanted to learn why the vast and wealthy population of Biblical times have ceased to exist, found the desolation in direct relation to the water practice of that day. The same has been found true of the Incas of Peru and our own early Arizona Indians. Now, as in all times of the past, water determines mans ability to settle and live in a region. You could write the story of man's growth in terms of his epic concerns with water. Today water has become one of our major concerns. Nearly everyone in this country the past few years has experienced some problem caused by too much water when we do not want it or too little when we do want it.

There is a lot yet to be known about water. We see and feel rain, snow, fog and dew. We talk about the weather, and complain it is too wet or too dry. We are conscious all the time of the importance of water in our lives. We know we cannot live without water yet we are not doing as much as we could or should so we can live better with what water we have.

There is just so much water in the world, but that supply is adequate. The problem is bad distribution and poor conservation. Often the causes lay as much in the acts or failures of men as in the caprices of Nature. For full benefit water must be accessible when and where it is required. Water is a commonplace thing and usually commonplace things are the



MISS FRANCIS MORRIS, winner of the \$200.00 Scholarship awarded by the North Plains Water District. Francis a senior in Gruver High School, is the daughter of Mr. and Mrs. J. R. Morris of Gruver, who farm and ranch in Sherman county. Francis takes part in all school activities and has an outstanding record in 4-H work.

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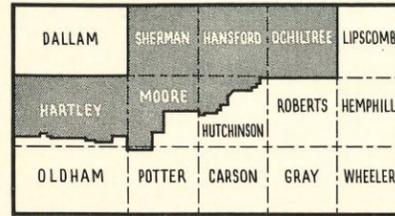
least appreciated and the hardest to understand. Lately we have begun to realize how ignorant we are of water. The realization of ignorance is the beginning of wisdom. The statement of a problem is the first step in its solution. It is therefore our duty to discover the facts regarding our water supply.

The source of the High Plains water supply is generally recognized to be precipitation originating in moisture evaporation from the Gulf of Mexico and moved inland by the prevailing southeast winds, and the Ogallala water reservoir under the High Plains country.

The Ogalla formation is composed chiefly of clay, silt, sand and gravel. It ranges generally from one hundred and fifty feet to five hundred

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North Plains Water News



A publication of the North Plains Water Conservation District, consisting of all or part of the following counties: Hansford, Hartley, Hutchinson, Moore, Sherman, and Ochiltree.

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BOARD OF DIRECTORS

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Sherman County Committee will meet the 2nd Tuesday of each month at Stratford.

Kaiser Produces Steel With Fraction Of Water Required in Other Plants

"The elaborate conservation system is the reason Kaiser Steel consumes 1,400 gallons of water to make one ton of steel, whereas most other mills require as high as 65,000 gallons per ton," concludes the article which is appropriately entitled "Men Make the Difference."

The article says: "Imagine 6,000,000 gallons of water piped into and out of some 69 buildings every day, water so precious that each drop receives personal supervision. This is an indication of the magnitude of but one phase of the steelmaking technique employed by the men at Kaiser Steel's Fontana, California, plant.

"A major undertaking in itself, Kaiser Steel's unique conservation system, which recirculates each gallon of industrial water (and some used for domestic purposes) 40 times before it finally becomes unusable, is just one of the many projects under the jurisdiction of the 150-man Utilities Department."

The water for the plant is obtained from two wells and from the Fontana Union Water Company.

In a vivid picture of the relation of water to steelmaking, the article notes that "because heat is constantly generated during the steelmaking process, water is a necessity to keep the equipment cool. The blast furnaces (three now, a fourth under construction) are the heaviest consumers of water. Each furnace requires 5,000 gallons of water a minute for cooling purposes and 3,000 gallons a minute to clean—or wash—the gas generated in the furnaces.

"This water is recirculated in the six cooling towers, cooled from 100 degrees to about 80, and then sent back time after time to the furnaces, open hearths, coke ovens, tin mill or any of half a hundred other places. About 25,000 gallons of water a minute pass through the cooling towers, each drop wet-nursed by the men on duty.

"Considerably tired by now and almost in a semi-liquid state after being used forty times, the water eventually ends up in the gas washer circuit where it is subsequently dumped on hot slag."

QUARTERLY MEETING

The quarterly meeting of the Board of Directors of the North Plains Water Conservation District will be held in Dumas at the District office at 10 a. m., Monday, May 5th.

Total daily water use in the Nation rose from 110 billion gallons in 1930 to 260 billion gallons in 1955, and it is estimated that it will increase to 450 billion gallons by 1957.

Water Is Worth What It Costs

Water is a commodity so precious that no tyrant has ever dared deny it to his people. The earliest records of our civilization are linked to the spring and the waterhole, the river and the well. The Children of Israel faltered in the wasteland and were ready to revolt until Moses struck the rock and brought forth a spring.

Wars have been fought over water rights and once mighty nations have vanished because their water resources failed. Men have battled to the death over the last few drops in a canteen. Formidable fortresses, impregnable in other respects, have fallen because of an insufficient water supply.

Ship's masters have had to risk the destruction of their vessels and the slaughter of their crews because water shortages forced landings on savage isles. Families have given up their homes and deserted their properties because of failing wells and dried-up water courses. London was virtually destroyed by fire in the seventeenth century and Chicago reduced to ashes in 1871 because sufficient water could not be delivered to the right place at the right time.

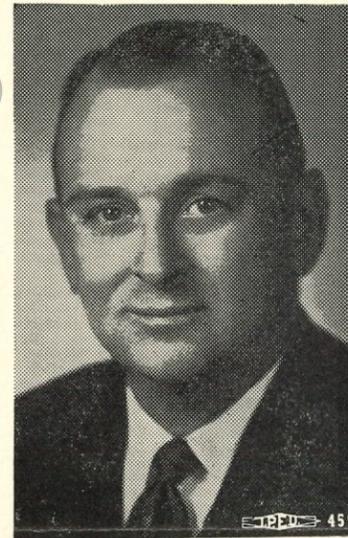
What is water worth?

Canadian River Dam Costs Rise

Costs of the proposed Canadian River reservoir to serve eleven West Texas cities and towns has gone up. Robert W. Jennings of Amarillo, Regional Director of the Bureau of Reclamation, told the directors of the Canadian River Municipal Water Authority at meeting in Plainview on February 11 that the new cost is \$92 million because of increased cost of material and labor.

The cost of the proposed reservoir distribution system as outlined in 1954 was \$85 million. Jennings gave the directors a report on the progress of bringing the plan for the Canadian River reservoir up-to-date. Next step will be to discuss the plan with all the officers of the 11 municipalities and, if approved by them, to petition Congress for funds to begin work. Cities working on the plan are Amarillo, Plainview, Lubock, Borger, Pampa, Levelland, Tahoka, Slaton, Lamesa, O'Donnell and Brownfield.

You can carve your own tombstone by chiseling in traffic.



PLAINS VISITOR—Joe Greenhill, Associate Justice of the Texas Supreme Court, was a recent visitor to the North Plains. Justice Greenhill, before his appointment to the Supreme Court was with the law firm of Graves, Daugherty and Greenhill. This firm has represented the Water District on different occasions. Justice Greenhill is recognized as an outstanding authority on Water Law throughout the State of Texas.

Essay Winners Are Announced

The three winners of the Essay Contest sponsored by the North Plains Water Conservation District on "Why the Need for Water Conservation," were selected by the contest judges. The presentation of awards was made by Manager, J. W. Buchanan, on KGNC TV Cotton Johns Farm and Ranch program at 12:30 p. m., April 5th.

The first place \$200 scholarship was won by Miss Francis Morris of Gruver, second place a \$50 wrist watch to Dale Weatherford of Hartley and the third place a \$15 pen and pencil set won by Miss Sandra Stump of Waka.

The winning theme by Miss Francis Morris is published in this issue of the North Plains Water News. The second place theme will be published in the July issue and the third will be published in the October issue.

CASTOR BEANS

USDA suggests that farmers looking for a new cash crop might try castorbeans. Imports now account for more than 90% of the total U.S. needs. Prices in recent years have been high.

It takes 13 muscles to frown and only two to smile. Why strain yourself?

Agriculture Investment Rising While Farmers Leave Farms, Survey Reveals

The nation's agricultural plant had total assets of \$177 billion at the beginning of this year. This is a record high figure, averaging \$36,000 per farm. Some commercial family farms have a total investment of more than \$100,000.

In 1940, the average farm had about \$4,000 invested in land and equipment for each farm worker. Today, the investment per farm worker is more than \$15,000. The investment per industrial worker is about \$13,000.

FARM POPULATION: The long-time decline in farm population seems to be gaining momentum. USDA Figures released this week would indicate this. Here are highlights of the population survey . . .

During the twelve months ending last April 1, farm population shrunk by nearly two million persons. In other recent years, the number of persons living on farms has declined by about one-third that many.

Total number of persons leaving farms during the year was even larger . . . 2.7 million. But this mass migration was offset in part by other persons moving to farms and by the excess of the farm birth rate over the death rate.

This brings the total farm population down to 20.4 million. In 1956 it was 22.3 million and in 1950, 25.1 million. All-time high was 32.5 million . . . in 1916.

Net result is that farm people account for only 12 percent of the U. S. population. That's a decrease from 13.3% a year earlier, 16.6% in 1950 . . . and, says USDA, 65% an even one hundred years ago.

New Water Rules Set by Board

The Board of Directors of the North Plains Water Conservation District revised the Rules and Regulations of the District. They recommend that a few minor changes be made that would help clarify the rules. They also issued an order against any practice that might tend to pollute our underground water. There has been some pollution of underground water in other areas from salt water pits, where oil companies have dumped salt water. These new rules will be in effect within the next few days.

MANAGER SPEAKS

J. W. Buchanan, Manager of the North Plains Water Conservation District, was guest for the Dalhart Rotary Club Friday, April 11th. His topic was, "What the Water District has Accomplished."

Soviets Lead In Water Development

Guided missiles aren't the only field in which Russia is challenging this country, the Soviets also threaten to outstrip us in water development, according to Brig. Gen. L. E. Seeman, Division Engineer, Southwestern Division, Corps of Engineers, U. S. Army, Dallas. "Several years ago it was known that Russia had launched her seventh bond drive to raise another \$7 billion for increasing her water resources development program. We have invested a grand total of only \$10½ billion in civil works projects during the entire 133 years since the program began in 1824," General Seeman said.

Ogallala Slim—

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One group wants farmers to learn how to make more money on the farm, another wants more farmers to make less and move to town.

Highway cops spend their time getting motorists to slow down, car manufacturers spend their time building faster cars. Everybody somebody builds a safer highway, somebody else builds a more dangerous car.

We have a Democratic Congress and a Republican President.

Drug manufacturers produce pills that'll pep you up, then follow up with pills that'll calm you down.

I know one man who's ambition is to get his home air-conditioned so cold he can sleep under an electric blanket even in the summer time.

One group is trying to hold the water where it falls on the land, another claims it ought to be allowed to rush down to the people in the cities.

Nobody believes Russia will live up to an agreement, but Washington is always talking about a summit meeting to sign more agreements.

We're trying to conquer space when the land in most places is still un-whipped.

We've got more child specialists and more child delinquents than ever before.

Every time we go to the polls to vote for acreage control, we stop by the store to buy more fertilizer to offset the cut.

TRANQUILIZERS

Illinois studies show tranquilizer drugs have a quieting effect on newly weaned calves . . . ends "fence-walking" and bawling. Also slight increases in weight gains.

Takes Lots Of It!

Number of gallons of water used in manufacturing:

Refined petroleum (processed crude)	
per M barrels	151,000 to 15,000,00
Rayon Yarn,	
per ton	250,000 to 403,974
Woolen cloth,	
per M yard	40,000 to 510,000
Rolled steel,	
per ton	6,000 to 110,000
Paper and pulp,	
per ton	53,000 to 80,000
Paperboard,	
per ton	7,692 to 80,000
Cane sugar	
per ton	4,000 to 110,000

Growth of—

(Continued from First Page)

feet, averaging about three hundred feet below the surface. The Ogallala deposits were made thousands of years ago by wind and streams, some having their headwaters in the Rocky Mountains in New Mexico. They once extended from the Rocky Mountains eastward into Texas, but have eroded away until the present formation is entirely cut off from the mountains, thus leaving our only source of replenishment the downward seepage of precipitation from the surface.

From the precipitation, which averages twenty inches of moisture annually, we must produce crops, provide water for cities and industry and recharge the Ogallala formation. Experts agree the recharge rate is less than one-half inch per year.

This makes the soil the best storage reservoir available and contradicts early suppositions that an inexhaustible supply of water exists under the High Plains and that it comes from an underground river which flows beneath the plains region from a source in the Rocky Mountains far to the west.

In many parts of the High Plains irrigation wells in the Ogallala formation yield such large quantities of water year after year that it is not surprising such an "inexhaustible supply" concept was considered. But the high yields from these wells are actually due to the high permeability of the sands and gravels of the Ogallala formation which will yield from fifteen to twenty percent of their total volume as water.

Records of the High Plains Water District reveal that an estimated ninety-eight percent of all underground water pumped in this region is used for agricultural irrigation.

The first successful irrigation wells went down in 1908 and six years later sixteen thousand acres were under irrigation. This was increased to thirty-five thousand acres by 1934. By the end of 1950 nearly

two million acres were being irrigated. By the end of 1956 more than thirty-five thousand wells furnished water for three million seven hundred fifty thousand acres of land. This land produced eleven percent of the nation's cotton and thirty-five percent of the grain sorghums.

The population of the High Plains has grown in the same proportions as irrigation. And while they represent only two percent of the underground water pumped; as population grows, and it will as more industry moves in, it will require greater amounts of water.

The growing population, urbanization, industrialization and as ever expanding demand for water by the farmers all contribute to the mounting cry for water. It is not the amount of water an individual uses for himself, but the amount he uses in providing goods and services for others that steadily increases the requirements. This production of more and more for others will cause the demand for water to increase continuously making our present unwarranted waste of our limited supplies intolerable.

The present drouth has emphasized the fact WATER is the number one problem facing the High Plains. Crop and livestock losses have run into the millions of dollars. Many cities and towns have been forced to ration their limited supplies. In some cases they have been forced to haul water for household and domestic purposes.

Droughts are inevitable and each recurring drought period promises to be more severe and cause greater losses unless our underground water supplies are properly developed, conserved and utilized, unless storm, flood and normal flow waters now wasted into the Gulf of Mexico are stored for use during such drought periods.

More proof of the need for conserving water are the changes observed in the static water levels in the ninety-four observation wells in

Water Well Statistics

	Permits	Compl Wells
HANSFORD	4	1
HARTLEY	4	5
HUTCHINSON	0	1
MOORE	5	3
OCHILTREE	0	0
SHERMAN	1	0

the North Plains Water District. The last check showed raises of water levels in five wells of from one-tenth foot to seven-tenths foot and a declining of water levels in eighty-six wells in amounts ranging from one-tenth foot to ten and seven-tenths feet. The average changes in water levels in ninety-one irrigation observation wells, from the winter of 1956 to the winter of 1957, was a declining of two and two-tenths feet. One can readily see we are using over four times as much water as is being replaced through seepage each year.

At this rate of withdrawal how long can our underground supply of water last? Not nearly long enough everyone will agree.

So let us make our slogan, "MORE WATER FOR THE HIGH PLAINS" and unite together and fight. United we will win our water battle, divided we will lose.

Lots of Ponds

H. N. Smith, of the State Soil Conservation Service, told the Water Board that there are 341,000 "ponds" in Texas holding 932,000 acre-feet of water. He said these ponds range in size from an average of 1.4 acre-feet in the blacklands to an average 11.5 acre-feet in the High Plains. The average pond capacity is 2.7 acre-feet. He said that 7.5% of the State provides the drainage into these ponds, built by farmers to care for livestock and for domestic purposes.

NORTH PLAINS WATER CONSERVATION DISTRICT

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