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# OKLAHOMA Water News

Bimonthly Newsletter of the Oklahoma Water Resources Board

## From the Director



Duane A. Smith  
Executive Director

I'm sure many of our readers are all too aware of the much-publicized opinion issued July 5 by the Oklahoma

Supreme Court concerning the Kronseder water rights case. (You'll find a detailed article on the case in this issue of the *Water News*.) This ruling could have monumental im-

plications on water users in Oklahoma and, as a result, Water Board members, General Counsel Dean Couch, myself and other staff have had numerous deliberations since the decision on how best to proceed in conducting the "water business" of Oklahoma.

At the July Board meeting, acting on staff's recommendation, the Board reluctantly tabled consideration of groundwater permit applications scheduled for action (in-

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## OWRB Must Consider CAFO Pollution In Water Use Deliberations, High Court Rules

In its deliberation of a northwest Oklahoma groundwater use permit, the Oklahoma Supreme Court concluded in a surprise ruling on July 5 that the Oklahoma

Water Resources Board must consider whether pollution will occur as a result of *all* swine-related operations, not just those directly related to water usage.

Existing state law requires the Water Board to determine that "waste by depletion or waste by pollution" will not occur as a result of proposed groundwater usage. The issue, which routinely includes scrutiny of proper water well construction and other issues related to the extraction and transportation of water, is one of four points of law that must be satisfied prior to approval of any groundwater permit application. The Supreme Court finding, however, extends the OWRB's currently perceived jurisdiction to include the water's "ultimate" use, according to OWRB General Counsel, Dean Couch.

"Since enactment of the Environmental Quality Act in 1993, which clearly set out the jurisdictional areas of environmental agency responsibility, we've operated under the assumption of

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Hog barns and feed bins at the Kronseder facility in northwest Oklahoma.

## Supreme Court . . . Continued

legislative intent that the State Department of Agriculture has primary jurisdiction over the disposal of animal waste while the Water Board, on the other hand, is responsible for ensuring the proper beneficial use of water supplies,” Couch pointed out. “However, in the Kronseder case, the Supreme Court has determined that the two agencies have concurrent jurisdiction over potential water pollution by Oklahoma’s confined animal feeding operations.” Five Supreme Court justices fully concurred with the decision, two concurred in part and two abstained.

In its consideration of future groundwater permits, Couch said the decision impels the OWRB to apply the waste by pollution test to all beneficial uses of water, not just uses related to CAFOs and associated operations. In this regard, he added, irrigators who chemigate or use fertilizers on their land or municipalities and industries who utilize state waters in their land application processes or employ lagoons to treat waste must similarly satisfy that point of law.

The Kronseder permit was originally approved by the OWRB in October 1996, then appealed to District Court in Woodward County and, later, to the Oklahoma Supreme Court in February 1998. In its decision, the state’s high court has directed the OWRB to re-hear the permit application, stating that the agency did not properly consider waste by pollution. Specifically, the Board must hear appropriate evidence to determine if pollution will occur through the land application of effluent or any other use of groundwater at the applicant’s swine facilities. In addition, Kronseder must present evidence

***“The impacts of this case could be monumental and could substantially alter Oklahoma’s longstanding water rights administration process.”***

related to the potential effects of effluent irrigation on the underlying groundwater formation.

“The impacts of this case could be monumental and could substantially alter Oklahoma’s longstanding water rights administration process,” according to OWRB Executive Director Duane Smith. “First, the Court says we must determine and ensure that ‘waste will not occur’ rather than ‘waste is not likely to occur’ in the usage of groundwater. That minor change involving probabilities results in a huge departure from our conventional approach and will require the acquisition of additional resources and staff with the expertise to

make that determination. This further complicates the process municipalities, industries and other water users must go through to receive a groundwater use permit.”

“Secondly,” Smith added, “the Court’s strict definition of pollution, which includes any alteration of the physical, chemical or biological properties of natural waters, could mean that introduction of any foreign ele-

ment to groundwater constitutes unauthorized contamination.”

At the OWRB’s July meeting, Smith and Couch briefed the agency’s nine-member Board on the ruling. The Board unanimously agreed with staff’s recommendation to postpone consideration of all groundwater permit applications on the agenda until a strategy is developed to deal with implications of the decision.

“Although tabling consideration of those permits was an unusual and difficult decision, the Board concurred that we must proceed very carefully to ensure that the OWRB is following proper procedures, as determined by the State Legislature and Supreme Court, while ensuring that the rights of water users in this state are sufficiently protected. Specifically, the Board instructed staff to seek clarification on the ruling from the Attorney General and Governor’s Office. It’s also possible that we might seek assistance from the Legislature in identifying a course of action,” Smith said.

While the Supreme Court ruling turns the waste by pollution issue on its ear, the Water Board triumphed on two other matters related to the case. The OWRB, according to Supreme Court Justice Ralph B. Hodges, prevailed on its determination at the permit hearing that state groundwater, not stream water, laws should be followed regarding Kronseder’s proposed use of a spring in the area. The Court reaffirmed the 1978 Cabelka case, which originally set precedence that the point of inception for a spring refers to the point from which the spring emanates – i.e., although springs originate from a groundwater source, water from a spring is



*This lagoon serves as a waste repository for the Kronseder swine operation.*

legally considered stream water.

Regarding Kronseder's application for groundwater from a narrow 120-acre tract of land near the North Canadian River, from which a majority of the applicant's water would be withdrawn, the Court upheld the OWRB's decision to limit the number of water wells operating at any one time. This "reasonable use" determination was implemented as a condition to respond to concerns by the protestants that groundwater depletion would occur upon full operation of all six wells.

Within a week of the Kronseder decision, the Supreme Court remanded a second case back to the Water Board for further hearing. The permit in question involves the use of swine effluent to irrigate crops in Texas County.

## Board Officers Unchanged

At their July meeting, OWRB Board members voted to retain current officers through the next year. Remaining in their positions are Lonnie Farmer, Chairman; Richard Sevenoaks, Vice-Chairman; and Grady Grandstaff, Secretary.

### Director . . . Continued

formal disposition and special consideration) and, in August, remanded those applications back to staff for additional information and/or rehearing. This necessary action should provide us with sufficient time to seek clarification of the ruling from the Attorney General and Governor Keating and, in turn, ensure that the rights and requirements of water users in this state are sufficiently protected, especially as we enter the inevitable dry season.

By now, repeat readers of the *Oklahoma Water News* have probably noticed that our format has changed substantially from previous issues. This bi-monthly agency newsletter serves as a vital medium of communication between the Water Board and you, our customers. In this regard, our goal is to provide you with a timely, quality product that keeps you informed of ongoing water-related issues of importance to Oklahomans. I also remind you that this and previous editions of the *Water News* are available on our website. Hopefully, this "re-tooling" of the *Water News* meets your approval and expectations of the Oklahoma Water Resources Board in our effort to improve the method through which we spread the word about Oklahoma's water resources. I strongly encourage you to submit any comments or suggestions you may have about our new format or how we can better serve you to Brian Vance, our new editor, at (405)530-8800 or email [brvance@owrb.state.ok.us](mailto:brvance@owrb.state.ok.us).

## Rural Water Survey Update Underway

The OWRB's revision of its popular 1998 publication, *Rural Water Systems in Oklahoma*, is now underway. This update will incorporate hundreds of water lines that have been extended or replaced since the mid-1990s. Used as a tool by both system managers and water resource professionals, the "new" rural water survey will continue to aid in the development of regional water systems, ease system expansion and improvements and serve as a recruiting tool for economic development in the state.

To complete the project, the Water Board will require the assistance of rural water districts and operators throughout the state, according to Nathan Kuhnert, hydrologist in the agency's Planning and Management Division.

"The Rural Water Systems publication is only as good as the information and data we feed into it and we rely on rural water system operators to provide us with accurate, updated and timely information. While this is a voluntary effort, the success of the update depends almost entirely on the input provided by each system," Kuhnert pointed out. He added that the Oklahoma De-

partment of Environmental Quality and ORWA have each provided valuable support in early preparation of the publication.

Kuhnert says that, in September, each of the approximately 780 rural water systems in Oklahoma will receive in the mail a 24- by 36-inch hard copy of their district's map on which they will be asked to locate and mark new lines, upgrades and other recent infrastructure modifications, then return the updated map. The OWRB will then compile the data and update existing GIS coverages which will be included in the final publication scheduled for release next year.

The OWRB will present a brief overview of the project at the upcoming Oklahoma Rural Water Association Training and Technical Expose, September 20-22, at Fountainhead Resort in Checotah. For more details on the training session, please contact the ORWA at (405)672-8925.

Contact Nathan Kuhnert at (405)530-8800, or by e-mail at [nrkuhnert@owrb.state.ok.us](mailto:nrkuhnert@owrb.state.ok.us), for questions or comments concerning the update of the *Rural Water Systems in Oklahoma* publication.

## Tulsa Reservoir Study Nears Completion

As part of a multi-agency effort to identify and control nutrients impacting the City of Tulsa's water supply, OWRB staff are wrapping up a three-year water quality study of the Spavinaw Creek watershed. At the center of the project are Lakes Eucha and Spavinaw, a two-lake system northeast of Tulsa that serves as the primary drinking water source for the city and many other communities in the region.

According to Paul Koenig, an OWRB environmental specialist who is directing the \$365,000 cost-share study with Tulsa, the Water Board is not focusing so much on the source of pollution, but rather on the impacts contaminants are having on the lake system.

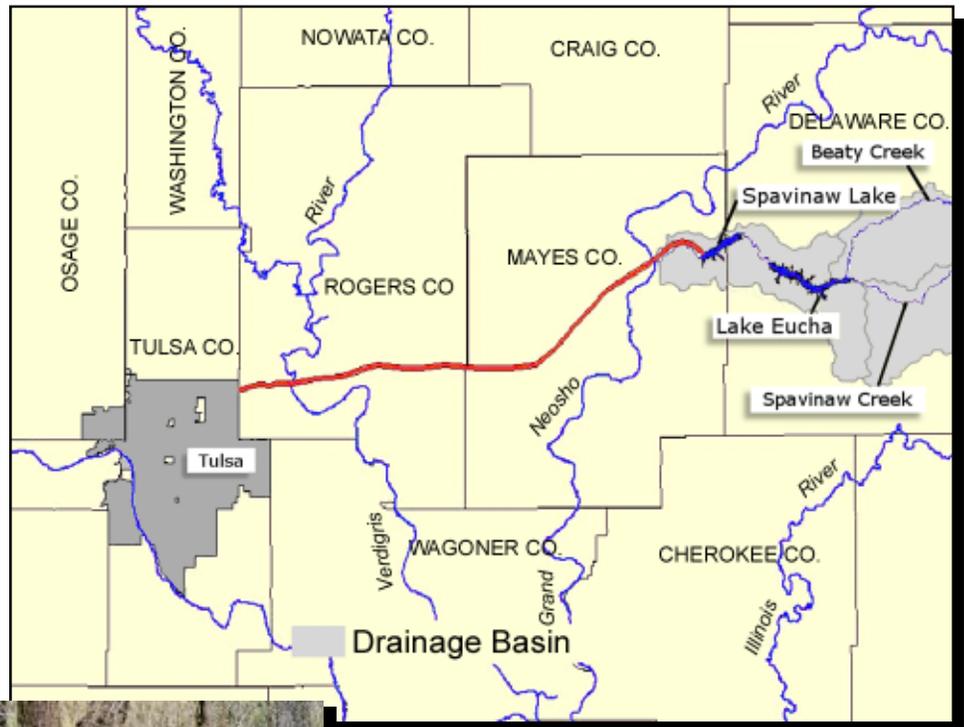
"While many agencies and organizations are and must be involved in this effort, the Water Board's specific charge is to identify a nutrient value through which algal growth in the lakes is sufficiently controlled," he said. "Examination of the lake and its tributaries to determine the relative contribution of contaminants which are spawning excess algal growth is a key to establishing feasible management options," Koenig pointed out.

A 1996 study by the Oklahoma Conservation Commission identified a relationship between phosphorus in Lake Eucha to the proliferation of poultry activity in the watershed. An estimated 700 poultry houses exist in the Eucha/Spavinaw watershed, 60 percent of which is located in Arkansas. One house typically produces about 110,000 birds, yielding between 200 to 250 tons of dried chicken waste per year which is frequently applied to pastures as fertilizer. Phosphorus in the waste eventually makes its way into streams, or groundwater, through runoff.

Phosphorus not only causes algae growth and degradation of water quality, which significantly increases water treatment costs, but it leads to taste and odor problems. Although Tulsa's water meets or exceeds all federal drinking water standards, increases in taste and odor are the immediate con-

cern of the City of Tulsa and its customers.

"We are evaluating various water treatment management options, including identification of a prime intake level at Eucha dam, to minimize the concentration of pollutants coming into the water treatment plant in



**Above:** Eucha and Spavinaw Lakes and their major tributaries provide water supply to the City of Tulsa through a 55-mile-long water conveyance system.

**Left:** (From left) Harry Chichester, Environmental Operations Supervisor for the City of Tulsa, and Paul Koenig, of the OWRB, take flow measurements in Black Hollow Creek, a tributary of Spavinaw Creek. Coupled with various water quality analyses, flow data assist in calculating the nutrient load.

northeast Tulsa. That should help tremendously with taste and odor issues," Koenig pointed out. Because Eucha drains the majority of the watershed, what generally impacts Eucha also impacts Spavinaw, the immediately adjacent downstream reservoir.

He said that the OWRB will also help Tulsa develop a plan to meet appropriate total maximum discharge load (TMDL) levels, an accepted range of pollutant concentration for the lakes. The City of Tulsa would be the first municipality in Oklahoma to implement EPA's new, controversial TMDL regulations.

The "big picture" goal of the project, according to Koenig, is extending the life, quality and capacity of the two reservoirs. Tulsa has formed a monitoring

assessment work group to develop an effective management plan, in cooperation with basin poultry producers, to absolutely minimize the amount of contaminants infiltrating the lakes.

The prospects for improved lake water quality will be enhanced through passage of the state's comprehensive poultry bill in 1998. A direct result of recommendations from Governor Keating's Animal Waste and Water Quality Task Force, the bill instituted numerous requirements, including registration and training of growers, prohibition of land application of poultry waste under certain conditions (i.e., when the ground is frozen or phosphorus-saturated, during rain events or in areas subject to severe erosion), water monitoring and soil testing by growers, and training and certification of individuals who haul and spread poultry waste. The bill also allows the Oklahoma Department of Agriculture, which is in charge of enforcing regulations, to levy a \$200-per-day penalty for noncompliance.

Also involved in the Eucha/Spavinaw study effort are the Oklahoma Department of Environmental Quality, which is conducting a septic system survey in the basin area; Conservation Commission, which is encouraging implementation of Best Management Practices in the adjoining Beaty Creek watershed as well as investigating riparian management issues; U.S. Geological Survey, through operation of three gages in the basin to assist in modeling and monitoring; and Oklahoma State University students who are modeling nutrient flow in lake tributaries along with litter and soil testing for nutrient content. The Indian Nations Council of Governments (INCOG) provides coordination and oversight for the project.

The OWRB plans to issue a final report on the study later this year.

## Mark Your Calendars!

21<sup>st</sup> Annual  
Governor's Water Conference  
November 15, 2000

Myriad Convention Center  
& Renaissance Hotel  
Oklahoma City, Oklahoma

## OWRB Receives GIS Award

Members of the Water Board's Information Services Section accepted an award for Special Achievement in Geographic Information Systems (GIS) at the Annual ERSI Conference, held June 26-30 in San Diego, California. Jann Hook, Mike Sughru and Kevin Koon received the award from Jack Dangermond, ESRI President.

Each year, the Special Achievement Award commemorates a select few organizations, such as the OWRB, who exemplify use of GIS technology. "I believe their work will be inspirational in leading the world into the next millennium," Dangermond said.



Jann Hook, Mike Sughru and Kevin Koon, all of the OWRB's Information Services Section, accepted the GIS Special Achievement Award from ESRI President Jack Dangermond.

## Flood Warning Signs Deflect Disaster

Responding to repeated deaths and injuries caused by flooded roadways, the City of Dallas has installed a unique, state-of-the-art system that warns motorists of impending dangers. The new \$2.2 million system utilizes battery-operated signs equipped with nearby sensors. When floodwaters rise to a prescribed level, the sensors send a radio signal that activates flashing lights and signs warning "Do Not Enter - High Water." During normal periods, the signs read "High Water When Flashing." The system also sends a message that alerts city workers to street-flooding problems and it is linked with Dallas' Trinity River flood control system, providing a more comprehensive system of flood and floodplain management.

The primary impetus for installation of the system was a 1995 flooding event that resulted in the deaths of more than half a dozen citizens. Driving into floodwaters is the most frequent cause of flood-related deaths.

(*Governing*, July 2000)



## Reservoir Storage

Reservoir storage levels throughout much of Oklahoma are beginning to show signs of meager rainfall and runoff. As of August 14, the combined normal conservation pools of 31 selected major federal reservoirs across Oklahoma (see below) are approximately 96.1 percent full, a 2.9 percent decrease over that measured on July 24, according to information from the [U.S. Army Corps of Engineers \(Tulsa District\)](#). Twenty-nine reservoirs have experienced lake level decreases since that time. In addition, 27 reservoirs are currently operating at less than full capacity, compared to only 12 three weeks ago. Still, only two reservoirs (Lugert-Altus, only 62 percent; and Tom Steed, 79 percent) are below 80 percent capacity.

### Storage in Selected Oklahoma Lakes & Reservoirs

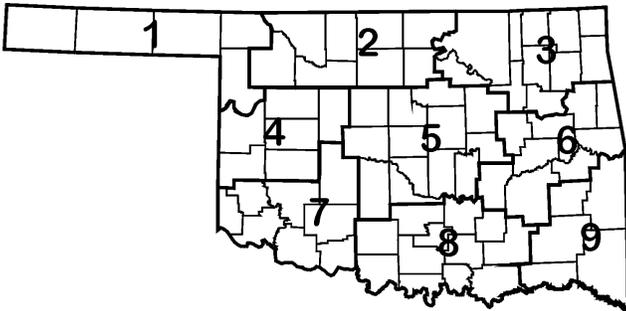
*As of August 14, 2000*

| Climate Division    | Conservation Storage (acre-feet) | Present Storage (acre-feet) | Percent of Storage |             |
|---------------------|----------------------------------|-----------------------------|--------------------|-------------|
|                     |                                  |                             | Conservation       | Flood       |
| NORTH CENTRAL       | 933,706                          | 928,896                     | 99.5               | 0.32        |
| NORTHEAST           | 3,206,195                        | 3,037,434                   | 94.7               | 2.00        |
| WEST CENTRAL        | 276,790                          | 272,940                     | 98.6               | 0.00        |
| CENTRAL             | 154,225                          | 152,312                     | 98.8               | 0.00        |
| EAST CENTRAL        | 3,022,323                        | 2,951,254                   | 97.6               | 0.00        |
| SOUTHWEST           | 301,810                          | 232,234                     | 76.9               | 0.00        |
| SOUTH CENTRAL       | 2,968,244                        | 2,876,895                   | 96.9               | 0.00        |
| SOUTHEAST           | 1,512,859                        | 1,439,453                   | 95.1               | 0.00        |
| <b>STATE TOTALS</b> | <b>12,376,152</b>                | <b>11,891,418</b>           | <b>96.1</b>        | <b>0.56</b> |

## Drought Indices

According to the latest [Palmer Drought Severity Index](#) (August 12, below), moisture/drought conditions in Oklahoma are beginning to worsen, especially in the dry south. The South Central climate division has deteriorated from the “mild” to “moderate drought” category. The Southeast and Southwest are in “mild drought” while the Northwest and East Central regions are experiencing “incipient drought” conditions. All nine climate divisions have undergone PDSI moisture decreases since July 22; the West Central (“near normal”) and Northwest climate divisions experienced the greatest decreases during that period.

The latest monthly [Standardized Precipitation Index](#) (through July, below) indicates that moderately dry conditions exist in the Southeast climate division throughout various periods extending over much of the last 2½ years. However, virtually no other regions are experiencing long-term moisture deficits, according to the SPI. The 12-month SPI time period reflects “moderately dry” conditions in the Southeast regions. No other regions experienced a dry SPI reading among the *selected* time periods. Throughout other periods over the past 72 months, only the Southeast (“moderately dry” according to the 11-, 15-, 18 and 30-month SPI’s) and South Central (“moderately dry” according to the 30-month SPI) climate divisions have experienced dry periods.



### Palmer Drought Severity Index

### Standardized Precipitation Index

*Through July, 2000*

| Climate Division (#) | Current Status 08/12/2000 | Value |       |       | Change In Value | Through July, 2000 |             |                |          |
|----------------------|---------------------------|-------|-------|-------|-----------------|--------------------|-------------|----------------|----------|
|                      |                           | 08/12 | 07/22 |       |                 | 3-Month            | 6-Month     | 9-Month        | 12-Month |
| NORTHWEST (1)        | INCIPIENT DROUGHT         | -0.82 | 0.49  | -1.31 | NEAR NORMAL     | MODERATELY WET     | NEAR NORMAL | NEAR NORMAL    |          |
| NORTH CENTRAL (2)    | UNUSUAL MOIST SPELL       | 2.93  | 4.07  | -1.14 | MODERATELY WET  | VERY WET           | VERY WET    | MODERATELY WET |          |
| NORTHEAST (3)        | MOIST SPELL               | 1.58  | 2.08  | -0.50 | VERY WET        | VERY WET           | VERY WET    | MODERATELY WET |          |
| WEST CENTRAL (4)     | NEAR NORMAL               | 0.24  | 1.58  | -1.34 | NEAR NORMAL     | VERY WET           | VERY WET    | MODERATELY WET |          |
| CENTRAL (5)          | NEAR NORMAL               | 0.04  | 1.07  | -1.03 | MODERATELY WET  | NEAR NORMAL        | NEAR NORMAL | NEAR NORMAL    |          |
| EAST CENTRAL (6)     | INCIPIENT DROUGHT         | -0.71 | 0.41  | -1.12 | VERY WET        | NEAR NORMAL        | NEAR NORMAL | NEAR NORMAL    |          |
| SOUTHWEST (7)        | MILD DROUGHT              | -1.30 | -0.32 | -0.98 | NEAR NORMAL     | MODERATELY WET     | NEAR NORMAL | NEAR NORMAL    |          |
| SOUTH CENTRAL (8)    | MODERATE DROUGHT          | -2.42 | -1.84 | -0.58 | NEAR NORMAL     | NEAR NORMAL        | NEAR NORMAL | NEAR NORMAL    |          |
| SOUTHEAST (9)        | MILD DROUGHT              | -1.92 | -1.16 | -0.76 | NEAR NORMAL     | NEAR NORMAL        | NEAR NORMAL | MODERATELY DRY |          |

# Financial Assistance Program Update

*Approved at June 13 and July 11, 2000 Board Meetings*

|            |    |  | <b>Financial Assistance Program Update</b> |                         |
|------------|----|--|--|-------------------------|
|            |    |  | <b>Totals as of 07/11/2000</b>             |                         |
|            |    |  | <u>FAP Loans</u>                           |                         |
| 6/13/2000  | 1  | Rural Water District #9, Mayes County              | \$1,265,000.00                             | #Approved 222           |
| 7/11/2000  | 2  | Tulsa Metropolitan Utility Authority, Tulsa County | \$8,840,000.00                             | Amount \$326,875,000.00 |
|            |    |  | <u>CWSRF</u>                               |                         |
|            |    |  | <u>DWSRF</u>                               |                         |
|            |    |  | <u>Hardship Grants</u>                     |                         |
|            |    |  | <u>Emergency Grants</u>                    |                         |
|            |    |  | <u>REAP Grants</u>                         |                         |
| 06/13/2000 | 1  | Rural Sewer District #1, Rogers County             | \$567,000.00                               | #Approved 95            |
| 6/13/2000  | 1  | Lindsay Public Works Authority, Garvin County      | \$3,195,000.00                             | Amount \$331,858,191.52 |
| 6/13/2000  | 1  | Rural Water District # 11, Creek County            | \$100,000.00                               | #Approved 9             |
|            | 2  | Warner Utility Authority, Muskogee County          | \$45,000.00                                | Amount \$29,421,954.90  |
| 7/11/2000  | 3  | City Of Tishomingo, Johnston County                | \$31,358.00                                | #Approved 2             |
|            | 4  | City of Pitcher, Ottawa County                     | \$62,550.00                                | Amount \$1,038,752.30   |
| 6/13/2000  | 1  | Town of Haworth, McCurtain County                  | \$150,000.00                               | #Approved 452           |
|            | 2  | Kaw City Municipal Authority, Kay County           | \$60,000.00                                | Amount \$26,099,271.08  |
|            | 3  | Rural Water District #2, Dewey County              | \$119,500.00                               | #Approved 241           |
|            | 4  | Roff Public Works Authority, Pontotoc County       | \$78,560.00                                | Amount \$19,628,544.60  |
|            | 5  | Custer City Public Works Authority, Custer County  | \$107,600.00                               |                         |
|            | 6  | Rural Water District #6, Hughes County             | \$119,994.00                               |                         |
|            | 7  | Rural Water District #3, Muskogee County           | \$91,992.00                                |                         |
| 7/11/2000  | 8  | Rural Water District #1, Tillman County            | \$105,375.00                               |                         |
|            | 9  | Ryan Utility Authority, Jefferson County           | \$149,000.00                               |                         |
|            | 10 | Rural Water District #1, Wagoner County            | \$34,150.00                                |                         |
|            | 11 | Town of Adair, Mayes County                        | \$150,000.00                               |                         |
|            | 12 | Mooreland Public Works Authority, Woodward County  | \$35,665.00                                |                         |
|            | 13 | Town of Stratford, Garvin County                   | \$36,000.00                                |                         |

## OKLAHOMA Water News

*Bimonthly Newsletter of the*

### OKLAHOMA WATER RESOURCES BOARD

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Oklahoma City, OK 73118

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