



OKLAHOMA

water news

MONTHLY NEWSLETTER OF THE OKLAHOMA WATER RESOURCES BOARD

Gerald E. Borelli, Chairman

Earl Walker • L.L. Males • Bill Secrest, Jr. • Ralph G. McPherson • Gary W. Smith • Ernest R. Tucker • Robert S. Kerr, Jr. • R.G. Johnson

Read it All in the Water Atlas Facts, Figures and Maps Galore

There are more than enough facts and figures in the new OWRB *Oklahoma's Water Atlas* to design a special "water" version of "Trivial Pursuit." For instance, did you know that Oklahoma has 207,865 farm ponds? Of the 77 counties, Ottawa County has the most with 6242 ponds; Pottawatomie is second with 5635; and Pontotoc County, third with 5115. The county with the fewest farm ponds is Texas County in the Panhandle with 150.

All but two of Oklahoma's major lakes were built by the federal construction agencies — 22 by the U.S. Army Corps of Engineers; seven by the Bureau of Reclamation. The two exceptions are Lake Hudson and Grand Lake, which were projects of the Grand River Dam Authority.

There are four more big lakes under construction — Skiatook and Candy Lake in Osage County, Arcadia in Oklahoma County and McGee Creek Reservoir in Atoka County. All are Corps of Engineer projects except McGee Creek, which is a construction project of the Bureau of Reclamation. When those four reservoirs are finished, the state's 35 major lakes will contain 13,399,209 acre-feet of conservation storage. (An acre-foot equals 325,851 gallons of water.)

But the *Water Atlas* doesn't stop there! It considers municipal, industrial, recreational, private and SCS lakes of many other sizes. Oklahoma has 16 additional lakes of 16,500 acre-feet or more that add a combined 1,079,342 acre-feet of storage to the total. Then there are 29 more lakes in the class of 5000-16,499 acre-feet that together contain 270,442 acre-feet of water. Seventy-five lakes in

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Board Adopts Formula to Grade Priority of Grant Requests

The Board has adopted a new formula for assessing the priority of the grant requests it receives.

The priority system, in mathematical format, awards up to 100 points to a community based on several different indicators of need.

The formula is $P = E + WR + I + L + MFI + FP$. P is Priority Ranking, or how a community's needs measure up against other communities.

E is Emergency Ranking which ranges from total loss of water supply due to natural or unforeseen disaster (50 points) to improvements which add to the existing water lines to provide supplemental fire protection (10 points).

WR is Water and sewer rate structure giving more points for higher rates which encourage water conservation; \$24 per 5000 gallons earns 10 points, while \$7 or less per 5000 gallons earns no points.

I is existing indebtedness which considers the ability of the community to assume additional debt and thereby pay for the project out of higher water rates. Communities where the utility debt is \$2,000 per person earn 10 points, while communities with indebtedness of less than \$400 per person earn no points.

L is local participation and indicates what percentage of the total project cost the community is willing to undertake; 75-100 percent gets 5 points, while 0 percent gets 0 points.

MFI is Median Family Income and measures the community's ability to afford a rate increase, and thereby undertake a larger part of the project's total cost. If income is less than \$10,000 per family, the community is awarded 5 points; \$15,000 or more earns 0 points.

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Oklahoma Historical Society

In the days before highways and bridges, it paid to know where firm, even creek bottoms and shallow water provided a safe place for wagons and horseman to ford the rivers.

Water Atlas, continued from page 1

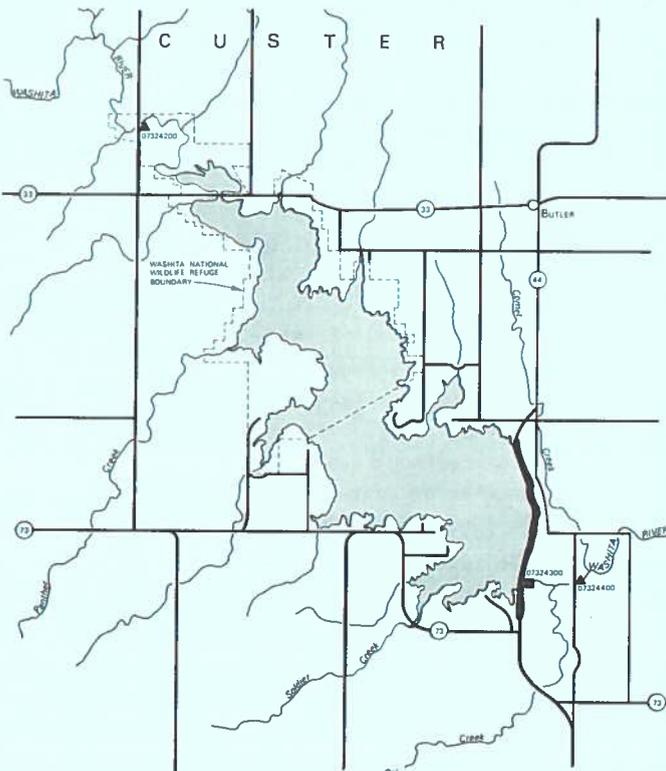
the next-smaller category of 1000-4999 acre-feet provide additional conservation storage of 171,072 acre-feet. Included in these totals are 28 SCS lakes of more than 1000 acre-feet. If you're still thirsty, count in 2833 private lakes and 1956 SCS lakes of less than 1000 acre-feet with total conservation storage of 537,828 acre-feet.

Oklahoma has 6500 miles of shoreline along those lakes of 1000 acre-feet or more. Approximately 991,000 acres are covered with water — or 2.2 percent of the state's total land surface. That ranks Oklahoma 14th in total water area among the 50 states.

If your head is swimming with all those numbers, the *Atlas* has hundreds and hundreds of other facts in its narrative portions. Among the most interesting, that the crippled, mixed-breed Cherokee genius named Sequoyah (George Guess) was himself an illiterate silversmith. Sequoyah spent more than a dozen years producing for his people the first written Indian syllabary of 86 characters. As a term of the removal treaty, the Cherokees were given a printing press and type.

Did you know that many Indians of the Five Civilized Tribes came to Indian Territory by river steamers on the Arkansas and Red Rivers? When the Choctaw removals began, many of the Indians assembled at Vicksburg, Mississippi, to make the trip all the way to the river landings in the Choctaw Nation, if the waters were high enough on the Arkansas. If the water was low, as it was most of the time, the immigrants came as far as Little Rock, then traveled overland. On the Red River, they came as far as Camden, Arkansas, then by overland trail to Fort Towson.

The first steamboat on the Arkansas was the *Comet* which



This map of Foss Reservoir is typical of the 51 full-page lake maps that appear in *Oklahoma's Water Atlas*.

served the lower river towns and Fort Smith on a regular route beginning in 1822. In 1828, the *Facility*, a boat of lighter draft, arrived at Fort Gibson landing on Grand River with two keelboats in tow carrying 300 immigrating Creek Indians.

If you have wondered why Oklahoma has colorful and unique ethnic "pockets," the railroads probably deserve credit. The railroads, with few passengers and little freight in Indian Territory, sought to increase revenues with natural resource tonnages. The companies sent agents as far as Europe to recruit coal miners to man the mines in the Choctaw Nation. The Choctaws were not interested in going into the pits, so the railroad agents scoured Europe, recruiting miners from almost every country.

In the Chickasaw Nation, certain streams and springs glazed with green slicks of oil were treasured for their therapeutic qualities in treating rheumatism and other maladies.

Another tidbit that may be new to you is that settlement was not accomplished entirely by land runs. In fact, the runs became so disorderly that lands were later divvied out by lottery.

The first water laws were set out in 1905 by the Eighth Legislative Assembly of Oklahoma Territory, among them, procedures for acquiring water rights. Did you know the oldest right for the use of stream water (and today a valid right) was issued to a farm family near Boise City? Their claim to water use beginning in 1899 entitled them to a prior right to 52 acre-feet a year from Marcellus Canyon Creek for the irrigation of 26 acres of land. The oldest ground water permit is held by the City of Norman claiming a prior right to 12 acre-feet of water a year for municipal use from the Garber-Wellington Formation dating back to 1894.

Accounts of the Dust Bowl are numerous, but did you know that the voracious "dusters" swept an estimated 300 million tons of soil from the Great Plains in a single day in 1934?

Oklahoma also has a "first" — the first upstream flood control project in the nation, completed in 1953 on Sandstone Creek. Under the leadership of L.L. Males, longtime OWRB member and Cheyenne banker, some 4.9 million acres in the Washita River watershed are protected as a result of the project.

If you have an eye for graphics, there are 81 maps in the *Water Atlas*, 51 of them full-page lake maps that hold special appeal for fishermen and recreationists. More than a dozen old photos gleaned from the Oklahoma Historical Society illustrate the state's water history section, and five graphs summarize various data. There are discussions of water quality, a section on Oklahoma's ground water resources, a summary of university-sponsored water research and a glossary. There are dozens and dozens of tables to tell you everything you've wanted to know about water but were afraid to ask.

It will all be there — facts and figures galore — when *Oklahoma's Water Atlas* comes off the press in October. The publication will be available without charge by writing the Oklahoma Water Resources Board, P.O. Box 53585, Oklahoma City, 73152, or by calling (405) 271-2555.

Grant Formula, continued from page 1

FP is the ability of the community to finance the project with loans, grants or assistance from other sources. Can the community raise the water/sewer rates to repay such a loan? If the community would raise rates by \$10, it earns 15 points; unwillingness to raise rates less than 75 cents earns 0 points.

Due to the nature of the various parameters in the formula and current financial uncertainties, the Board anticipates reviewing and updating the ranking parameters periodically.



Board Sponsors Dam Safety Workshop

Participants in the OWRB Third Annual Dam Safety Evaluation Workshop on October 16 will have an opportunity to see slides of the site where the world's largest dam will be built at Three Gorges on China's Yangtze River. Those slides will be part of the presentation by Jim Cook, director of Operation and Maintenance of the Bureau of Reclamation, Washington, D.C.

Other speakers will include Bruce Tschantz of the University of Tennessee who directs FEMA's Dam Safety Office; Dr. Amos Eddy of the Oklahoma Climatological Survey; Tom Lester, Tulsa Civil Defense Director; and representatives of Holland Research Labs who have completed a computerized flood alert system for the City of Tulsa.

The workshop will be held at the Tom Steed Center of Rose State College, Midwest City, from 8:30 a.m. to 4 p.m. Registration, which includes lunch, is \$25 and may be accomplished by returning this form by October 1, 1984.

Oklahoma Water Resources Board, Engineering Division
P.O. Box 53585, Oklahoma City, Okla. 73152

Please register me for the OWRB Dam Safety Evaluation Workshop

Name _____

Address _____

City _____ State _____ Zip _____

Organization/Title _____

Please make checks payable to Dam Safety Workshop. \$25
Registration Fee includes lunch on October 16.

Stream Water Division Sets Hearings

Stream water rights in Stream System 1-8-1 are now under review, and hearings are scheduled October 10 and 11 at OWRB offices. Stream System 1-8-1 is the Washita River from the Red River to USGS stream gage 07328500 west of Pauls Valley.

Stream water rights hearings in Stream System 2-17 (the Illinois River from the Arkansas line to Webbers Falls, Oklahoma) will be held September 13 and 18.

ACTIVE CONSERVATION STORAGE IN SELECTED OKLAHOMA LAKES AND RESERVOIRS AS OF AUGUST 29, 1984

PLANNING REGION LAKE/RESERVOIR	CONSERVATION STORAGE (AF)	PERCENT OF CAPACITY
SOUTHEAST		
Atoka	87,800	70.7
Broken Bow	830,440	90.5
Pine Creek	74,037	95.3
Hugo	127,626	81.0
CENTRAL		
Thunderbird	98,858	93.3
Hefner	75,355	100.0
Overholser	15,935	100.0
Draper	73,000	73.0
SOUTH CENTRAL		
Arbuckle	59,453	95.0
Texoma	2,199,200	83.4
Waurika	186,212	91.7
SOUTHWEST		
Altus	15,487	11.7
Fort Cobb	67,687	86.3
Foss	147,529	60.5 ²
Tom Steed	77,438	87.0
EAST CENTRAL		
Eufaula	2,023,675	86.7
Tenkiller	555,996	88.6
Wister	25,560	94.3
Sardis	295,663	97.7
NORTHEAST		
Eucha	66,200	83.2
Grand	1,393,320	93.4
Oologah	504,706	92.7
Hulah	26,068	85.2
Fort Gibson	365,200	100.0
Heyburn	6,355	96.3
Birch	18,092	94.2
Hudson	200,300	100.0
Spavinaw	30,300	100.0
Copan	38,213	88.0
NORTH CENTRAL		
Kaw	426,807	99.6
Keystone	544,381	88.4
NORTHWEST		
Canton	51,408	52.7
Optima	3,200	---
Fort Supply	12,525	90.1
Great Salt Plains	24,726	78.7

STATE TOTALS 10,745,552³ 87.3³

1. In initial filling stage
2. Temporarily lowered for maintenance
3. Conservation storage for Lake Optima not included in state total

Data courtesy of U.S. Army Corps of Engineers, Bureau of Reclamation, Oklahoma City Water Resources Department, and City of Tulsa Water Superintendent's Office.

Allocation and actual usage are compared to determine whether the water has been put to beneficial use as required by Oklahoma law. If a water right holder has failed to use the full allocation at least once in a continuous 7-year period or in accordance with a schedule of use approved by the Board, the amount of water authorized must be reduced or the permit cancelled.

