



Governor Nigh



John W. "Jack" Morris

Governor's Water Conference Speakers Say Work Together, Learn from Past Experiences

"Grass roots strength," once a key to developing water resource projects in Oklahoma, could be the answer to growing apathy toward resolving present water problems, according to Lt. Gen. John W. Morris, retired Chief of the Army Corps of Engineers and keynote speaker at the Sixth Annual Governor's Water Conference.

The event, held in Oklahoma City on December 4, again brought together some 400 water officials interested in exchanging views on water issues vital to the state.

Moderating the program was Gerald E. Borelli, chairman of the Oklahoma Water Resources Board. The Board, along with the Governor's office, coordinated the water meeting which was sponsored by 30 organizations.

Borelli began by "looking back" at previous Conferences. He reiterated the comments of Bob Kerr, Jr., who presided over the First Governor's Water Conference: "Let's forget our differences and create a water program for Oklahoma. We must learn to work together," he said.

"Let's look back, learn from past experiences, appreciate today and think positive," Borelli added.

Gen. Jack Morris, former Chief Engineer now retired to the private sector, served as the Tulsa District Engineer of

the Corps by promoting chloride control, navigation and the Central Oklahoma Project. Morris lauded the efforts of earlier Oklahoma water developers, but he stressed the importance of a national water program in the eighties and emphasized his frustration in Congress' lackadaisical approach to water resource projects.

"Congress hasn't had a water resource development bill in 10 years."

"During the sixties, under President Johnson, there was a grass roots strength in this country that boosted water projects. At one time the ABDA (Arkansas Basin Development Association) was a force to be reckoned with in Washington, D.C. But today, because the Federal Government has not received a clear and strong signal from the people, it and other non-federal organizations have become weakened."

Morris said the solution to the problem lies with the people, whose voices are not being heard in the Capitol.

Continued on page 2

MONTHLY NEWSLETTER OF THE OKLAHOMA WATER RESOURCES BOARD

Gerald E. Borelli, Chairman

Earl Walker

Ervin Mitchell

Bill Secret

Ralph G. McPherson

Gary W. Smith

Ernest R. Tucker

Robert S. Kerr, Jr.

R. G. Johnson

Conference, continued from page 1

"A national water policy has to be set by the people of this country through Congress. Local and national water groups must work to revitalize the interest of people in Washington on water policy. The many national water groups should be consolidated into a single, stronger voice in support of water development.

"Privatization is a vital aspect in the continuation of water development, but it will take time. Privatization is an opening to the future."

For years, the trend of the Federal Government has been to pass on to the American business community those things which can be done by non-federal capabilities. "The evolution has been accelerated due to the state of the national debt," he said. "but it is still a transitional thing."

Morris extolled the benefits of chloride control in diverting the flow of the Arkansas and Red Rivers which run through the Great Salt Plains.

"I've probably spent more time and effort trying to get that project going than any other. Unfortunately, it's been a victim of bureaucratic entanglement," he admitted. "Fundamentally, it's been beat into the ground by economists.

"Knowing what we need is one thing, but knowing how to accomplish and fulfill those needs is something else," Morris concluded.

Following Morris on the morning agenda was Brig. Gen. Patrick J. Kelly, Deputy Director of Civil Works for the Office of the Chief of Engineers. Kelly's topic was "The Nation's Water Policy."

Kelly asked the question, How is the nation's water policy emerging? Like Morris, he emphasized the importance of Oklahoma's early role in water resource development, such as the McClellan-Kerr Navigation System, and the possibility of the state returning to those "golden years."

Kelly said he remains optimistic that a water resource bill will be passed through Congress this spring which will better define the federal role in the crucial area of cost-sharing.

"There has been too much disagreement between the executive and legislative branches on where to go with water resource legislation, and currently there are budget problems. However, with future involvement of non-federal and local interests, we will definitely see projects that are better conceived, better formulated and more appropriate for local needs," he predicted.

Kelly said that the key element of cost-sharing will be in financial feasibility and the affordability of the non-federal sponsor.

"The Department of Civil Works is no longer the primary driver of the water resource vehicle. Therefore, we will see more of a partnership role between the federal and state governments."

"As a result, more projects will be completed faster. There are a lot of positive things emerging," Kelly pointed out.

"The Nation's Water Quality" was scrutinized by Lawrence J. Jensen, assistant administrator for the EPA's Office of Water.

Jensen believes that the awareness and concern for the impact of water quality on the quality of life has greatly increased. He reminded conferees that pollution today is much less visible and much more difficult to clean up than it was 10 or 20 years ago.

"Fifteen years ago, when the EPA was first created, you could see or smell pollution; it was an aesthetic problem. Also, the health effect was more or less immediate. Today, the threat is a much more complex problem—toxic pollution. It is so difficult to detect because the amounts that can do damage are so small and therefore more difficult to protect against. And

the health effects show up on down the line in the form of cancer," Jensen pointed out.

"Because of the great dependence on groundwater for drinking supplies, groundwater contamination will be the most serious water quality challenge faced in the next decade."

Jensen said that there is currently evidence of groundwater pollution in every state and that it is destined to increase.

"Often, a stream can clean itself if the pollution source is shut down. Natural processes, such as the sun, air and assimilation with clean water can break up the pollution somewhat. But," he adds, "groundwater pollution doesn't have these advantages; it stays there."

Jensen related a personal motive as to why he is especially concerned in preserving the nation's water quality.

"In 1850, my great-great-grandfather and his wife, Sara, along with a group of 200 Mormons, migrated from Europe to settle in Utah. They sailed to New Orleans then up the Mississippi River with a plan to go along the Missouri River across the Great Plains to their destination. While they camped on the banks of the Missouri, the company consumed water contaminated with cholera. Over the course of one night, one-third of the party died, including all three of my ancestors' daughters: Mary, Margaret and Sara. Today, I have three daughters of my own; one also named Sara. The threat of waterborn disease doesn't concern us as much anymore, but there are different and more difficult challenges still facing America," he said.

Looking back, Jensen lauded the Clean Water Act which, through the point source permitting of sewage discharge and effective water quality standards, helped to clean up polluted surface waters which were used primarily as open sewers in the sixties. But he said today's pollution requires a

different solution.

"Today, we have a non-point source problem. The wide use of pesticides, herbicides and fertilizers is exacting a price. Daily practices and lifestyles will have to be altered. The admonition of the comic strip character, Pogo, comes to mind: 'We have met the enemy and he is us.' It will take creativity between the state and Federal Government to fashion a solution to this problem."

"The solution to the pollution problem will ultimately lie with the people, the strength of their commitment, their ideals and their dedication to the task."

The luncheon program was highlighted by an address by Gov. Nigh as well as a presentation of awards by the Governor to 23 Oklahoma Water Pioneers who have made significant contributions to water planning, management, development and conservation in the state.

The early afternoon program featured a debate between Brian Robison and Chris Man of the Heritage Hall Upper School Debate Team. They took opposite viewpoints on the subject: "Is Cost-Sharing Leaving America's Infrastructure High and Dry?"

Later in the afternoon, Ken Carver, assistant manager of the High Plains Underground Water Conservation District No. 1, discussed "Groundwater Management."

According to Carver, the district manages groundwater use in 15 counties between Lubbock and Amarillo, more than 5.2 million acres overlying 100 million acre-feet of water in the Ogallala Aquifer. The district conducts groundwater studies and field demonstrations and supports research in water conservation techniques, Carver said.

"We encourage techniques such as furrow diking, surge irrigation systems and tailwater pits for the re-circulation of irrigation water," he said.

Carver said that the district is very proud of its research in secondary recovery which uses the injection of air into saturated formations to force water from the depleting Ogallala. District Manager Wayne Wyatt patterned the method after secondary recovery techniques applied to oil deposits.

Closing out the Conference was Glenn Sullivan, a vice-president and engineer with the Benham Group. Sullivan's speech asked, "Is Chloride Control in Oklahoma's Future?"

"The water flowing down the Red and Arkansas Rivers, absent of salt, would be a tremendous source of fresh water for Oklahoma and surrounding states," Sullivan said.

He added that the chloride problem in the rivers can be attributed to both natural and man-made pollutants. While salt flats and springs contribute a significant amount of chlorides, the disposal of salt water used in oil and gas drilling is also responsible for the pollution problem, Sullivan noted.

"About 150 boxcar loads of salt are carried down the Red River and emptied into Lake Texoma every day."

Sullivan told conferees, "A normal gallon of water weighs about 8.3 pounds. A gallon of water taken from the Arkansas River weighs 10.2 pounds due to the salt saturation."

Although Sullivan was concerned with the amount of time and money involved in chloride control, he said that the cost is cheap compared to other water resource projects. He stressed that if the project began today, it would be 25-30 years before the water would be usable. Therefore, in order to reap the tremendous potential benefits of fresh water resulting from the project, it should begin soon. He added that the cost-sharing possibilities make the project feasible.

"The total cost of cleaning up the Red River Basin is estimated at \$136 billion, with Oklahoma and Texas offering to pick up 10 percent, about \$13.6 million. The cost of cleaning up the Arkansas River Basin is much greater, but it also can be made feasible," he said.

In conclusion, Sullivan expressed his desire and belief that the project must and will become a reality in the near future.



A. Longtime Board member and Wilburton conservationist Dr. Lloyd Church receives award from Gov. Nigh.

B. L. L. "Red" Males, former OWRB member, and Forrest Nelson, former OWRB executive director, recall earlier days at the Board.

C. Dr. Claudia Peck, Dr. Jim Nelson and Dr. Larry Sanders represented OSU at the Conference.

D. Dr. Lloyd Church visits with conference coordinator Mary Whitlow of the OWRB during a break.

E. Brig. Gen. Patrick J. Kelly of the Corps' Washington headquarters addresses National Water Policy.



F. Mike Mathis of the Water Resources Board discusses with State Hydrologist Eldon Beard of the Service at break time.

G. Luncheon speaker Gov. George Nigh asks the accomplishments of 23 Oklahoma Water Pioneers for the future.

H. Award winners and relatives who accepted a deceased Oklahoma Water Pioneers posed with luncheon.

- I. Members of the Edmond Memorial High School Show Choir, Act II, opened the day's program with lively singing and dancing.
- J. Leonard Solomon, recently retired director of the Conservation Commission, talks "water" with OWRB Director Jim Barnett and Assistant Director Mike Melton.
- K. Heritage Hall Upper School debaters Brian Robison and Chris Man of Oklahoma City discussed pros and cons of the Feds' responsibility in replacing the nation's infrastructure.
- L. Representatives of the OWRB registered and welcomed conference guests.



M. OWRB Chairman Gerald Borelli emceed the program.

N. Conference Chairman Borelli presented the Governor with a souvenir cap imprinted with the slogan, "Governor's Sixth Annual Water Conference, come hell or high water." Washington guest Jack Morris is seated on the right.

O. Some 400 Oklahomans with an interest in the state's water resources attended.

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Governor and Colleagues Honor 23 Oklahoma Water Pioneers

They stood straight and tall, with eyes as bright as foxes' as they walked toward the Governor. They came from hometowns throughout the state—from Cheyenne and Wilburton; from Walters and Duncan; from Muskogee, Tulsa, Broken Bow, Shawnee, Oklahoma City and Longdale.

They were Oklahoma Water Pioneers; a handful singled out by Governor Nigh and the state's water people for recognition of their luminous careers in water resources.

Everyone in the room who had anything to do with water in Oklahoma the last 30 years knew the names of these 23 crusaders. Their friends counted themselves lucky to have shared the inner circle of dreamers and doers. Their colleagues beamed and acknowledged that, indeed, they had walked in the company of giants. Even adversaries who had challenged their banners on big dams, Arkansas navigation or water transfer came to pay tribute.

The 22 men and one woman honored were Richard C. Longmire, Pauls Valley; L. L. "Red" Males, Cheyenne; Dr. Lloyd E. Church, Wilburton; Ward Perryman, Duke; Nolen J. Fuqua, Duncan; Harold B. Scoggins, Muskogee; Bernice N. Crockett, Shawnee; Frank Raab, Longdale; Marvin Scherler, Walters; Leonard A. Solomon, Edmond; Jacques Cunningham and Glade R. Kirkpatrick, Tulsa; Forrest Nelson, Norman; Ferdie J. Deering, Francis J. Borelli and Robert S. Kerr, Jr., Oklahoma City; and the late V. Ray Trent, David R. Strickland; L. B. "Ed" Edinger, Harold Norris, Donald O. McBride, Newt Graham and Sen. Robert S. Kerr.

Gov. Nigh chose the occasion of the Sixth Annual Water Conference to present certificates to the first group of Oklahoma Water Pioneers. He said he hopes these will be the first of many Water Pioneers to be honored at successive conferences.

Nigh warned the conferees, however, against stopping when a single battle is won. "The real challenge is to rest

only briefly then press ahead. We would let these men and women down if we stand them up here to give them an award, then abandon their goals," he said.

"Water, the State of Oklahoma and your communities are moving targets, and the goals we strive to achieve never remain constant. The great pioneers of water would be so proud of where we are today because their visions, their dreams have come true," he continued.

The Governor cautioned that because of the demands of the times, their dreams would not now fulfill our needs. He asked conferees to do two things: applaud these recipients with gratitude for what they've done, then at the same time, make a pledge to carry on their banners. These people made it happen, he said.

"In recognizing these 23, we realize it is only the tip of the iceberg," said the Governor. "There are hundreds, literally thousands of men and women of all ages who are underneath, on the base of the iceberg, holding up these 23 and those of us who get to come to the podium," he pointed out.



Forrest Nelson, Gov. Nigh

Nigh said only in the last few years has there been unity among water people—a meeting of divergent viewpoints that has produced an annual conference, a state water plan, and \$25 million set aside in trust for water and sewer improvements. He pointed out that the financial assistance program backed by that trust has enabled the Oklahoma Water Resources Board to award \$5 million in emergency grants to 74 communities. He said the OWRB had just approved the pro-



L. L. "Red" Males, Gov. Nigh

gram's first loan, and that 19 more applications for \$11 million await action.

"It's not easy to get Oklahomans to sit down together to talk about water—to find agreement between east and west, big dam and little dam, rural and urban. But by pulling together we've cleaned up Tar Creek and finished Sardis and a lot of other federal reservoirs," he reminded them. "And it happened because you sat down together and did what these 23 had been asking you to do all along."

He asked them to keep water ever

mainstream

important in the forefront of Oklahoma. If this group doesn't stay interested in water, who is going to? You have an awesome responsibility, he said. Nigh recalled the 30's when Oklahoma dried up and blew away. "We realized we needed economic development and water. And isn't it interesting that as we try to reach our highest level in economic development, we depend on that which seeks the lowest level? Water.

"To advance economically, Okla-



Bernice Crockett, Gov. Nigh

homa must have an adequate water supply and adequate treatment and distribution of water, and that's what this conference is all about," he emphasized. "Ask yourself, 10, 20, 30, 40 years from now, what will they write that we did about water? I hope that they are as generous to us and that we deserve it as much as these Water Pioneers!

"Congratulations to us for doing a good job, but the challenge remains before us to do even better as we look ahead," Nigh said in closing.

Gladys Haywood, cartographic drafter, bid farewell to her OWRB friends and colleagues December 31 after 12 years of service to the Drafting Section.

Haywood came to the OWRB from the Bureau of Reclamation in 1973, and prior to that, she held a job at HTB Inc., in Oklahoma City.

A native Oklahoman, Haywood has been an avid amateur and professional softball player for many years. She was inducted into the Oklahoma City Softball Hall of Fame in 1982. Haywood played third base for the Tulsa-based Higgins Midgets who won the national championship, and later pitched for Downtown Chevrolet Queens in Oklahoma City. She was also an accomplished tennis player.

During her tenure at the OWRB, she served the agency Water Buffalo softball team as both player and coach. Her enthusiasm and zeal for sports have carried over to her volunteer work for Jesus House and her drafting career which she takes very seriously, according to James Leewright, Cartographic Drafting Section supervisor.

"She's never satisfied until the job is done right," says Leewright. "Gladys is a super conscientious worker."

Leewright pointed out that in nine of her 12 years at the Board, Haywood did not miss a single hour of work due to illness, and the total sick leave claimed during her entire OWRB career amounted to less than 12 days.



Gladys Haywood receives an OWRB special certificate of appreciation from Board Chairman Gerald Borelli.

Ervin Mitchell, OWRB member, and his wife, Emma, were named Farm Family of the Year at the Oklahoma Farm Bureau's 44th annual meeting in Oklahoma City November 24.

The Mitchells, who farm 5,000 acres near their hometown of Balko, were modest about the recognition.

"I don't think we've done more than others," said Mrs. Mitchell, "but it means a lot to us. We're real excited."

Mitchell, appointed to the Board in January 1985, is a longtime Beaver County rancher and conservationist. The couple's farming and dairy operation has survived tornadoes in 1960, a devastating fire in 1964 and, recently, a financial burden brought about by expansion and the current national farm depression.

As an award for being named top farm family, the couple received an expense-paid trip to the American Farm Bureau Federation annual meeting in Atlanta, Georgia.

Well measurement begins January 13 in the Panhandle counties, according to Duane Smith, OWRB Ground Water division chief. Smith said the annual program is accomplished cooperatively with the U.S. Geological Survey.

By the program's conclusion on March 31, OWRB-USGS teams will have collected depth-to-water data on 1200 wells throughout the state. Measurements are recorded during the winter months when irrigation has ceased and well levels drawn down by heavy pumping in the growing season have returned to normal. Smith pointed out that due to concern for depletion of the Ogallala Aquifer which underlies the Panhandle and some northwestern counties, more wells are measured in those areas. Water levels will be recorded on 93 wells in Cimarron, 142 in Texas, 80 in Beaver and 129 in Ellis Counties.

Once the Ogallala wells are measured by OWRB-USGS teams, the effort will spread across the state, bolstered by personnel from OWRB branch offices in Lawton, Tulsa and McAlester. Wells included in the measurement network include those used for irrigation, municipal, in-

Continued

Mainstream, continued

dustrial and domestic supplies, as well as some inactive wells constructed solely for observation purposes.

Statewide data have been collected by the USGS since 1937, with the

OWRB enlisting as a program cooper- ator in 1950. Smith said information gathered in the survey is summarized and published as soon as possible after the close of the water year March 31.



**ACTIVE CONSERVATION STORAGE IN SELECTED OKLAHOMA LAKES AND RESERVOIRS
AS OF DECEMBER 11, 1985**

PLANNING REGION LAKE/RESERVOIR	CONSERVATION STORAGE (AF)	PERCENT OF CAPACITY	PLANNING REGION LAKE/RESERVOIR	CONSERVATION STORAGE (AF)	PERCENT OF CAPACITY
SOUTHEAST			NORTHEAST		
Atoka	106,600	85.9	Eucha	79,567	100.0
Broken Bow	918,100	100.0	Grand	1,491,800	100.0
Pine Creek	77,700	100.0	Oologah	544,240	100.0
Hugo	157,600	100.0	Hulah	30,594	100.0
CENTRAL			Fort Gibson	365,200	100.0
Thunderbird	105,925	100.0	Heyburn	6,600	100.0
Hefner	76,000	100.0	Birch	19,200	100.0
Overholser	15,500	97.5	Hudson	200,300	100.0
Draper	81,000	81.0	Spavinaw	30,000	100.0
SOUTH CENTRAL			Copan	43,400	100.0
Arbuckle	62,571	100.0	Skiatook	_____	1
Texoma	2,542,400	96.0	NORTH CENTRAL		
Waurika	203,100	100.0	Kaw	428,600	100.0
SOUTHWEST			Keystone	616,000	100.0
Altus	26,065	19.6	NORTHWEST		
Fort Cobb	66,977	85.0	Canton	97,500	100.0
Foss	131,494	53.9 ²	Optima	3,000	1
Tom Steed	72,506	81.5	Fort Supply	13,900	100.0
EAST CENTRAL			Great Salt Plains	31,400	100.0
Eufaula	2,329,700	100.0	STATE TOTALS		
Tenkiller	627,500	100.0		11,928,639	94.5³
Wister	27,100	100.0			
Sardis	302,500	100.0			

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.

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