



DWR Chief Engineer Passes the Torch

Near the end of 2019, the Kansas Department of Agriculture announced the retirement of Division of Water Resources Chief Engineer, David Barfield. His last day at the office was February 28, 2020. He departs as only the fifth Chief Engineer in the nearly 100-year history of Kansas water resource management. While the agency itself isn't quite that old, water resource management in Kansas can be traced back to 1917, when the Kansas Legislature created the Kansas Water Commission. Then, in 1919, the Legislature created a separate Division of Irrigation within the (then) State Board of Agriculture. By 1927, both agencies were specifically abolished and the Division of Water Resources and the position of Chief Engineer was created. All of the authority, power and duties then conferred or imposed by law upon the Kansas Water Commission and the Division of Irrigation were conferred upon DWR's Chief Engineer.

The Division of Water Resources' responsibilities have changed over time, evolving with water resource development and the state's changing needs. Most notably, the agency was transformed from that of an administrative entity to that of a regulatory body, as the limited and finite nature of the state's water resources became readily apparent during the middle of the 20th century. Today, DWR and its Chief Engineer administer 30 laws and responsibilities, including the Kansas Water Appropriation Act, which govern how

water is allocated and used, statutes regulating the construction of dams, levees and other changes to streams, four interstate river compacts, as well as coordinating the national flood insurance program in Kansas.

In other western states, the counterpart to Kansas' Chief Engineer is often known as the "State Engineer," signifying the importance of the office. In Kansas, the DWR Chief Engineer is a unique position in all of state government, having its own class specification.

As the torch is about to be passed to a new Kansas Chief Engineer, it seems fitting to look back at the very short list of those whom have held this title including their backgrounds and accomplishments.

George S. Knapp, served as the first



Chief Engineer from 1919 to 1951, and at 32 years, was the longest-serving to date, when including his service as Irrigation Commissioner of the Division of Irrigation, prior to DWR's formation.

Before coming to Kansas, Knapp studied at Highland Park College, in Des Moines, Iowa. He then accepted a position as an instructor in the Division of Engineering at Kansas State Agricultural College in 1913, where he also continued his own studies, completing his bachelor of science degree

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¹ James E. Sherow, "Review Essay Series: The Art of Water and the Art of Living," *Kansas History* 25 (Spring 2002) 52-71

in Mechanical Engineering in 1914. Upon graduation, Knapp accepted a position with the Office of Irrigation Investigations under the U.S. Department of Agriculture in Garden City. He later served as Superintendent of the Garden City Experiment Station. Knapp arrived in southwest Kansas just in time to witness the forces transforming the practices of irrigated agriculture in the region. Knapp came to realize how water developments in western Kansas were placing irrigators in conflict with those who resided in the eastern-parts of Kansas. Some of these differences arose because the prevailing principle of water law in the state, the riparian doctrine, could not be consistently applied in both halves without hindering economic development.¹

In June of 1919, Knapp moved to Topeka after Governor Henry J. Allen hired him to lead the newly created Division of Irrigation. Knapp retained that position through creation of the Division of Water Resources in 1927, becoming the first Chief Engineer of Kansas. His major accomplishment as Chief Engineer was the conversion of Kansas water resource management from a primarily riparian doctrine, developed to govern water use by landowners along stream channels for water power, industry and transportation, to a prior appropriation doctrine (first in time, first in right) with enactment of the Kansas Water Appropriation Act in 1945. His experience in southwest Kansas also was significant to the formation of Kansas' compacts with Colorado on the Arkansas River, and Nebraska on the Republican River. Both documents would later play key and recurring roles in Kansas water history. He also oversaw the implementation of the Levee Law, in 1929, the Obstructions in Streams Act in 1929, and the Water Storage Law, in 1941.

Robert V. Smrha served as Chief Engineer from 1951 to 1972.



He served as Assistant Chief Engineer for several years prior to that and was a 20-year veteran of the agency before ascending to the role of Chief Engineer. Born in Milligan, Nebraska,

Smrha attended the University of Nebraska where he earned his degree in Civil Engineering, and then worked for the U.S. Geological Survey. During Bob Smrha's tenure as Chief Engineer, there were major amendments to the Kansas Water Appropriation Act, including the implementation of a process by which to change water rights. Smrha also was signatory of the Arkansas River Compact with

Oklahoma, in 1966, and the Big Blue River Compact with Nebraska, in 1971.

Smrha's passion, however, seems to have been watershed dams with implementation of the Watershed District Act of 1953. Smrha was later recognized with a national award, "Watershed Man of the Year," during the 16th annual Watershed Congress, held in Louisville, Kentucky, in 1969. Smrha emphasized the value of water conservation on the land and considered watershed dams especially important for watershed protection.

The Groundwater Management District Act of 1972 was also formulated under his guidance, which would ultimately result in the five groundwater management districts in Kansas. Smrha had hoped that, like watershed districts had done for surface water, GMDs would lead to better conservation of the groundwater resource. "Conservation of water," he told the Kansas Farmer-Stockman in 1969, "also means using what we have wisely."

Guy E. Gibson served as Chief Engineer from 1972 to



1983. Major amendments were made to the Groundwater Management District Act in 1978, adding Intensive Groundwater Use Control Area (IGUCA) provisions, after which he designated the McPherson IGUCA and the Pawnee River Valley IGUCA. Gibson continued with Smrha's groundwork by approving the first management plans for Kansas' five

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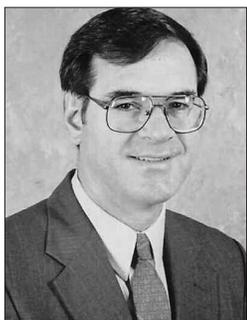
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groundwater management districts, designed to allow local input into the regulatory process by water users. Moreover, during Gibson's tenure, the Kansas Water Appropriation Act became compulsory. He also oversaw the enactment of the Water Plan Storage Act in 1974, and the Water Transfer Act in 1983. The latter will be put to the test in the near future as the Cities of Hays and Russell hope to transfer water from the R9 Ranch in Edwards County.

David L. Pope served as Chief



Engineer from 1983 to 2007. Born and raised in Oklahoma, David earned his Bachelor of Science and Master of Science in Agricultural Engineering from Oklahoma State University. Pope worked briefly for the Kansas State University Cooperative Extension Service and later managed Southwest Kansas Groundwater Management District No. 3, before joining the Division

of Water Resources, in 1978, as Assistant Chief Engineer. Then in 1983, he ascended to Chief Engineer, where he remained for 24 years, the second-longest serving Chief Engineer to date. He and Leland (Lee) Rolfs, DWR's first legal counsel for water, created the bulk of the written framework by which the agency continues to operate today. Under his leadership the agency developed and adopted extensive rules and regulations under the Kansas Water Appropriation Act, Obstructions in Streams Act and the Levee Law. He also designated the Burrton IGUCA, Lower Smoky Hill River Valley IGUCA, Hays IGUCA, Arkansas River Valley IGUCA, Upper Smoky Hill River Valley IGUCA and Walnut Creek IGUCA. He was instrumental in initiating legal proceedings the U.S. Supreme court against Colorado that led to enforcement of the Arkansas River Compact. Damages exceeding \$35 million were paid to Kansas by Colorado for Arkansas River Compact violations. He also initiated proceedings the U.S. Supreme court against Nebraska in 1998 for violations of the Republican River Compact, which was later settled amicably between the states in 2002 with a jointly-developed Final Settlement Stipulation.

A program that was developed and implemented under Pope's tenure, that many cities and rural water districts in Kansas benefit from (perhaps directly and indirectly), is the 1986 Water Assurance Program Act, which protects both municipal and industrial water right holders during times of drought through a coordinated release of state-owned or controlled water stored in federal reservoirs on the Kansas,

While not all water users liked all of his decisions, he was praised by legislators and governors of both political parties during his tenure and continues to enjoy a high level of respect amongst his peers.

Marais des Cygnes, Neosho and Cottonwood Rivers.

Pope implemented a metering program to accurately measure the amounts of water being used in the state. The Kansas water use reporting program that was implemented during his tenure remains of the best in the nation. Both tools provide valuable information, important to make better regulatory and planning decisions. A "safe yield" concept was also implemented under Pope's authority in an effort to

prevent areas from becoming over-appropriated.

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David W. Barfield served as Chief Engineer from 2007 to 2020. Mr. Barfield has worked at DWR since 1984.



Barfield graduated from the University of Kansas with a Bachelor of Science in civil engineering in 1978. He then worked for three years in consulting in Minnesota and three years as a water resources engineer in a developing nation of southern Africa. In 1984, he returned to

Kansas and joined the Division of Water Resources. Barfield earned a Master of Science in water resources engineering in 1991, also from the University of Kansas.

Barfield's accomplishments were likely best summarized in the KDA press release announcing his retirement where he was quoted as saying:

"I have particularly enjoyed the opportunity to serve the state of Kansas as Chief Engineer for the last 12 years, and I'm proud of the work we have done during that time," said Barfield. "In addition to progress in interstate matters and the Ogallala, we have seen progress in developing technical methods to evaluate new applications and water right changes, and to monitor water use. I'm also pleased with the continued commitment to customer service and expanded public information."

The KDA press release highlights Barfield's accomplishments and his decades of effort on interstate

issues, including two U.S. Supreme Court litigations and years of negotiations, to reach agreements with Nebraska and Colorado to ensure Kansas received its share of waters of the Republican River. Similarly, he has led negotiations of numerous implementation agreements related to Kansas' compact with Colorado on the Arkansas River and in reaching a water right settlement agreement with the Kickapoo Tribe to help the tribe develop a secure water supply for its needs.

With regard to the ongoing declines in the Ogallala Aquifer, KDA's press release highlights Barfield's involvement in the development and implementation of several legislative initiatives to provide new tools to facilitate water conservation including Local Enhanced Management Areas (LEMAs) and Water Conservation Areas (WCAs). Barfield authorized two LEMAs in Kansas and 27 WCA plans covering over 86,000 acres focused on several problem areas.

While some of Barfield decisions could be controversial and others remain in litigation, few people have harsh words for him. Like his predecessor, Barfield had a knack for finding common ground that few people could argue against.

Who is Next?

Barfield leaves big shoes to fill. His successor will need to be able to make important technical decisions regarding impairment at the Quivira National Wildlife Refuge, a proposed water transfer from the Edwards County R9 Ranch to the cities of Hays and Russell, changes to Wichita's aquifer storage and recovery project, and many others. His boss, Kansas Secretary of Agriculture Mike Beam, who came to state government as a veteran of the Kansas Livestock Association, indicated last December that the search for Barfield's replacement had already started. The qualities of the five individuals who have previously held this position should be the blueprint for whoever comes next. Beware of special interest groups taking advantage of this situation during the 2020 legislative session as an opportunity to lobby for subtle, but potentially significant changes to the Chief Engineer's position description. For example, almost simultaneously upon announcement of Barfield's retirement, the Kansas Livestock Association adopted several 2020 policy statements, of which included a resolution recommending changes to state law to allow the Kansas Secretary of Agriculture to "appoint any capable and qualified person to be chief engineer, regardless of professional degree or certification." Their intentions might be good and coincidental, but shouldn't the state's "Chief Engineer" be a licensed professional engineer? A subtle change was also proposed during the 1999 Kansas legislative session, when a different Secretary of Agriculture in the

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Graves Administration, another former KLA employee, supported a bill to declassify the Chief Engineer's position in order to eliminate state civil service protections, stating that the Chief Engineer "shall serve at the pleasure of the secretary." Proponents of 1999's Senate Bill 64 argued the change would make the position more competitive and allow more flexibility to pay a higher salary, but opponents viewed it simply as a veiled attempt to usurp the Chief

Engineer's authority and weaken the position into an at-will employee. Senate Bill 64 turned into somewhat of a political lightning rod and was ultimately turned down by the Kansas Legislature, but later efforts to tweak the job description have been successful. The position currently, however, remains protected within the state's classified civil service, as required by Kansas law in K.S.A. 74-506d.

Long term stability in the role of the DWR Chief Engineer and a firewall from political pressure has thus far served the state well. Efforts to destabilize the office in favor of turning it into a position held by just another political appointee, possibly without an engineering or scientific background, should be strongly discouraged. Former Chief Engineer, David Pope, summed up the Chief Engineer's job requirements in a 2007 interview with the Kansas Water Office, where he stated, "You have to have a solid technical background to understand the complexities of water resources, an ability to understand governmental functions of administering laws and programs, and the people skills to work with folks. To be successful, you have to be credible and have the respect of the people. You have to balance not being too heavy-handed on one side, but be willing to make difficult decisions when necessary."

Ken Kopp, P.G., Water Rights/Source Water Specialist, joined KRWA as Water Rights/Source Water Specialist in early 2016. He previous worked for twenty-three years at the Kansas Dept. of Agriculture, Division of Water Resources and most recently was New Application Unit Supervisor.



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