David W. Barfield, P.E.
109 SW 9th Street, 2nd Floor, Topeka, Kansas 66612
phone (785) 296-3710 fax. (785) 296-1176
David.Barfield@kda.ks.gov

Education

Master of Science, Water Resources Engineering University of Kansas	1991 Lawrence, Kansas
Bachelor of Science, Civil Engineering University of Kansas	1978 Lawrence, Kansas

Registrations

Professional Civil Engineer, Kansas	License # 9866

Professional Experience

Chief Engineer **Division of Water Resources** **Kansas Department of Agriculture**	2007 – Present Topeka, Kansas

Oversee staff of the Division with broad responsibility over the state's water resources including the administration of over 33,000 active surface and ground water rights; regulation of dams, other water structures, and floodplains for public safety and to protect public property; represent the state on its' four interstate water compacts; approve actions of special water districts including Groundwater Management Districts, Watershed Districts, and others to consistency with Kansas law and the public interest; provide legislative testimony regarding statutes administered by the Division including interstate matters; and, work with Kansas' Groundwater Management Districts, which includes in part, considering proposed regulations and changes to their management plans and collaborating with them to develop groundwater models.

- Member, Kansas-Colorado Arkansas River Compact Administration
- Kansas Commissioner, Republican River Compact Administration
- Ex officio member, Kansas-Nebraska Big Blue River Compact Administration
- Commissioner, Kansas-Oklahoma Arkansas River Compact Commission
- Member, (Kansas) State Conservation Commission
- Ex officio member, Kansas Water Authority
- Governor-appointed representative for Kansas, Missouri River Recovery Implementation Committee
- Governor-appointed representative, Western States Water Council
- Past President, Association of Western State Engineers

Selected recent accomplishments

- Hearings and establishment of the state's first Local Enhanced Management Area, fall 2012
- Worked with Northwest Kansas GMD No 4 to develop proposed legislation to allow Local Enhanced Management Areas, fall 2011
- Drafted legislation to provide for enhanced use of Multi-year Flex accounts, fall 2011
- Kansas-Colorado Arkansas River Compact – Oversaw team's negotiations and agreement on changes to the H-I Model to reflect Colorado groundwater irrigation improvements, September 15, 2011
- Development of Drought Emergency Term Permit program to provide drought relief for 2011 while preventing increased long-term use, summer 2011
- Define "Substantially Hydrologically Connected" for purposes of determining whether new applications can be approved in the Ogallala of northwest Kansas
- Ozark Aquifer Safe Yield Determination, December 2010

Significant regulation development

- Impairment regulations for groundwater investigations, K.A.R. 5-4-1 & 5-4-1a Effective 10/29/10
- Intensive Groundwater Use Control Area hearing regulations (new) K.A.R. 5-20-1 and 5-20-2, Effective 9/18/09

Other

- Oversee a series of on-going impairment investigations and reports in groundwater systems
- Work with state's five groundwater management districts to improve data, analysis and management of the Ogallala-High Plains Aquifer. GMD 1 closure; GMD 2 meter order; Groundwater model development in GMDs 2, 3, 4, and 5.

Interstate Water Issues Technical Team Leader 1992 – 2007
Division of Water Resources Topeka, Kansas
Kansas Department of Agriculture

Managed and developed, along with various inside and outside experts, technical and engineering positions with regard to interstate water rights administration and litigation, for Kansas v. Colorado regarding the Arkansas River Compact and Kansas v. Nebraska and Colorado regarding the Republican River Compact. Supervised the work of technical staff of the interstate water issues program and technical consultants for Kansas; developed budget for the program; and, performed the following functions:

Republican River Compact:

- Engineering committee representative for Kansas on the Republican River Compact 1994-2007

- Developed proposals and supporting data for Kansas presentation to the Compact Administration.
- Lead technical representative on the facilitated negotiations on 1995-1997
- Provided technical data in support of Kansas filing in Kansas v. Nebraska and Colorado.
- Acted as custodian of records for Kansas in Kansas v. Nebraska and Colorado; assisted team in document discovery of other states and the federal government.
- Lead technical representative in settlement discussions, 2001-2002. Co-author of the Accounting Procedures adopted in the settlement.
- Member, Modeling committee in settlement discussions, 2002-2003.
- As Engineering Committee representative since the settlement, participated in its work to implement in its comprehensive review and minor fixes to the Accounting Procedures, developing of the accounting spreadsheet.
- Worked with other committee members toward development of the annual accountings and resolution of differences.

Kansas-Colorado Arkansas River Compact:

- Lead technical representative for Kansas in negotiations with the state of Colorado to resolve John Martin Reservoir accounting disputes.
- Acted as Kansas representative to oversee study to develop methods to quantify transit losses between John Martin Reservoir and the Kansas-Colorado stateline on the Arkansas River and to determine methods for computing Colorado deliveries.

Missouri River:

- Reviewed the Corps of Engineers Missouri River mainstem reservoirs Master Manual Revisions for impacts to Kansas interests.
- Assisted and at times represented the Chief Engineer in matters related to the Missouri River Basin Association (MRBA)
- Member of the MRBA technical committee.
- Participated in negotiations among the states on recommendations to the Corps of Engineers on revised navigation rule curves that they ultimately adopted in their revised master manual.
- Acted as Kansas representative on the Spring Rise Plenary work group and lead the hydrology technical work group, 2005-2006.

Other duties:

- Participated in the Middle Arkansas River groundwater model technical advisory committee.
- Participated in the Groundwater Management District No. 4 groundwater model technical advisory committee.

Head of Dam Safety Unit 1987-1992
Division of Water Resources Topeka, Kansas
Kansas Department of Agriculture

Supervised and participated in the work of Dam Safety Unit in reviewing plans for proposed dams, construction inspections, and on-going safety inspections of high and significant hazard dams in Kansas. Reviewed and responded to questions and complaints of the public. Worked with local Watershed Districts to create, review, modify and approve general plans as well as approve specific projects.

Engineer, Technical Services Section 1984-1987
Division of Water Resources Topeka, Kansas
Kansas Department of Agriculture

Conducted hydrologic analysis and investigations, wrote reports, and made public presentations to assist in the determination of administrative policy for intensive groundwater use control areas. Supervised consulting engineers contracted to inspect points of water diversion. Developed micro-computer applications for the section. Resolved technical problems with municipal, industrial and agricultural water use reporting.

Regional Engineer 1981-1984
Central Region Rep. of Bophuthatswana,
Bophuthatswana Dept. of Works and Water Affairs Southern Africa

Supervised the operation and maintenance of public water supplies for a region of 300,000 people. Duties included: management of 200 staff; design and selection of pumping plant and small distribution systems; budget and inventory control; field investigations of water problems within the region; and government representative on various projects.

Project Engineer 1978-1980
RCM Associates Hopkins, Minnesota
(now part of SEH of St. Paul, MN)

Conducted feasibility studies related to municipal wastewater treatment options for communities in Minnesota and Iowa, plan and specification preparation related to waste water treatment plant improvements, and construction inspections.

Awards and Honors

Headgate Award, 2008, Four States Irrigation Council

Publications

Availability of Water in Big Creek, Its Tributaries and Their Alluviums, Division of Water Resources, Report 84-4, Bagley, James O. P.E.; Barfield, David W. P.E., Jun. 1984

Availability of Water in the South Fork Solomon River, Its Tributaries and Their Alluviums in the Reach Between Webster Res. & Waconda Lake, Division of Water Resources 84-5, Barfield, David W. P.E.; Bagley, James O. P.E., Jun. 1984

Availability of Water in the North Fork Solomon River, Its Tributaries and Their Valley Alluviums in the Reach Between Kirwin Res. & Waconda Lake, Division of Water Resources 84-6, Bagley, James O. P.E.; Barfield, David W. P.E., Jun. 1984

Availability of Water in the Solomon River, Its Tributaries and Their Valley Alluviums, Division of Water Resources 84-7, Bagley, James O. P.E.; Barfield, David W. P.E., Jul. 1984

Availability of Water in Sappa Creek, Its Tributaries and Their Alluviums, Division of Water Resources 84-8, Barfield, David W. P.E.; Bagley, James O. P.E., Oct. 1984

Availability of Water in the South Fork Solomon River and Its Valley Alluvium Above Webster Reservoir, Division of Water Resources 84-9, Bagley, James O. P.E.; Barfield, David W. P.E., Oct. 1984

Availability of Water in the North Fork Solomon River and Its Valley Alluvium Above Kirwin Reservoir, Division of Water Resources 84-10, Bagley, James O. P.E.; Barfield, David W. P.E., Oct. 1984

Proposed Smoky Hill River and Hackberry Creek Intensive Groundwater Use Control Area Above Cedar Bluff Reservoir, Division of Water Resources 87-1, Barfield, David W., Feb. 1987

Collaborative Groundwater Model Development, American Society of Civil Engineers' World Environmental & Water Resources Congress, Barfield, David W., May 2009

Expert Testimony

Administrative Hearing in the Matter of the Designation of an Intensive Groundwater Use Control Area in Wallace, Logan, Gove, and Trego Counties, Kansas, February 26, 1987.

Franklin vs. Atwood Township; District Court of Rawlins County, Kansas; regarding Atwood Lake and the 1989 flood; April 1994.

Non-Binding Arbitration initiated October 21,2008 pursuant to Decree of May 19, 2003, 538 U.S. 720 Kansas v. Nebraska & Colorado No. 126, Orig., U.S. Supreme Court

- Ensuring Future Compliance by Nebraska, Jan. 2009
- Requirements for Nebraska's Compliance with the Republican River Compact, Jan. 2009 (co-author)
- Kansas' Responsive Expert Report Concerning Haigler Canal and Groundwater Modeling Accounting Points, Feb. 2009 (co-author)
- Kansas' Expert Response to Nebraska's Expert Report, "Estimating Computed Beneficial Use for Groundwater and Imported Water Supply under the Republican River Compact," Feb. 2009 (co-author)

Non-Binding Arbitration initiated August 21, 2009 pursuant to Decree of May 19, 2003, 538 U.S. 720 Kansas v. Nebraska & Colorado No. 126, Orig., U.S. Supreme Court

- Responsive Expert Report of David W. Barfield, regarding the Colorado Compliance Pipeline, June 22, 2010

Kansas v. Nebraska & Colorado No. 126, Orig., U.S. Supreme Court

- Ensuring Compliance by Nebraska, November 18, 2011

Additional training

Fundamentals of Hydraulics and Hydrology for Runoff Computations, May 21-25, 1990

Revised: August 2013