



Online HydroGRAM

An Interview with David Pope, Former Chief Engineer

For 24 years, David Pope administered water laws in the state of Kansas. The fourth and longest tenured Chief Engineer of the Kansas Department of Agriculture's Division of Water Resources, Pope was regarded with a high degree of respect by those he regulated and the public at large.

The following views expressed by the Chief Engineer reflect his encyclopedic knowledge and recall and his consummate desire to educate. Information presented here comes from a presentation he made at the Kansas Water Congress in August of 2007 and an interview with *HydroGram* editor Hank Ernst. Pope trusts his memory is true to the events as they unfolded and acknowledges that the opinions offered are his alone, albeit ones that he hopes others will consider.

The interview includes the stages of David Pope's career, water resource actions, and his take on the traits and qualifications for a chief engineer.

Everyone identifies David Pope with the Chief Engineer's position. What did you do in the early years of your career?

I spent the first couple years (1971-1973) working for the Kansas State University Cooperative Extension Service in Manhattan with Russell Herpich, known as "Mr. Irrigation in Kansas" at the time. He and I traveled the state widely. I learned a lot about water and Kansans. The job involved delivering the results of K-State irrigation research to farmers. It had already become apparent that water was very limited in Western Kansas and water levels were dropping. I also worked three more years for K-State in Garden City.

How did you become involved in Southwest Kansas Groundwater Management District No. 3?

I moved to Garden City and worked for K-State Extension providing educational information about water issues, I co-authored a publication on the GMD concept, "Groundwater Management Districts in Kansas." (He laughs at the creative title.) I also actively assisted the steering committees that were taking the lead to organize the GMDs.

In the mid 1970s, I helped organize a couple of multi-state groundwater conferences. Kansas, Texas, Colorado and Nebraska were involved. These meetings ultimately resulted in the creation of the Groundwater Management Districts Association in Kansas. I was a founding member and later became president while working for GMD No. 3. The GMDA is still an active multi-state group.

GMD No. 3 was approved by the local eligible voters in February of 1976 by an 80% plurality. The new board asked me to become their District Manager and I said yes.

You were asked to become the Assistant Chief Engineer in 1978. What did that job entail?

I supervised many of the staff, represented the Chief Engineer at many meetings and events, and helped deal with policy and complex regulatory cases. I started work in Topeka at about the same time as did Lee Rolfs, DWR's first legal counsel for water. We've worked together ever since. When we started, there were no rules in place and little written criteria for anything DWR did.

Lee and I spent a lot of time drafting policies and ultimately regulations to define administrative procedures and criteria related to water appropriations and other statutes administered by DWR. During this period, agencies were required to start promulgating regulations to set policy. We also helped deal with numerous contested cases dealing with water and the first few Intensive Groundwater Use Control Areas.

You became Chief Engineer in 1983. Did it prove to be the job you expected?

Little did I expect to spend most of the rest of my career in the position, let alone end up serving as Chief Engineer longer than any of my predecessors.

Serving as Chief Engineer turned out to be the biggest challenge of my career, and the most rewarding.



Some have said that it may be one of the most demanding positions in state government, but it was also an opportunity to deal with many interesting issues related to water and work with a lot of great people.

How did you view your role as Chief Engineer?

I viewed it as trying to administer the law within the framework of the statutory goals and constraints while considering the hydrologic and engineering aspects of water and water resources. It is also necessary to consider public input and the views of the affected water users, water management districts, agencies, and the Legislature.

You can't successfully implement a regulatory program without reasonable support. I'm not talking about politics. I'm talking about a common vision of what needs to be done, a willingness to do it, and often, but not always, financial resources. Without it, you're pushing a string up hill. If something is done that is not reasonably acceptable, the Kansas Legislature will change it anyway.

What traits and personal skills are needed in the job?

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 people skills to work with folks.



Media interviews were standard fare for the Chief Engineer. His thorough responses helped assure a reporter's understanding of the issue of the day. He's pictured talking to Sara Kessinger, Harris News journalist, Topeka.

I always attempted to do the job with openness and honesty. 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 decisions when necessary. Whether I got all of those things done right is for somebody else to judge.

What were some of the highlights of your early career?

Helping to organize the GMDs and starting a new district (Southwest Kansas Groundwater Management District No. 3) were the early highlights.

One of my most vivid memories is of attending a series of meetings sponsored by the Kansas Irrigation and Water Resources Association (KIWRA), a prominent group at the time of county and regional organizations interested in water and irrigation.

In the fall of 1971, KIWRA served as the main stakeholder group to review and support what became the 1972 Groundwater Management District Act. There was a strong recognition of the need for management and control of groundwater in Kansas.

While KIWRA wanted as much local control as possible, they recognized the role of the Chief Engineer and the need to operate within the state's basic water law, the Kansas Water Appropriation Act. The Groundwater Management District Act passed easily in the 1972 Kansas Legislature and efforts began to organize Groundwater Management Districts (GMDs) in Kansas.

What led to the realization that controls would be needed?

The rapid pace of irrigation development in the 1970s, water level declines that were showing up and the limited controls on water use at the time.

In the 1950s and 1960s, there was a process for people to acquire rights to use water, but it wasn't necessary to have a permit to drill a well or to use water. The chief engineer could only step in if one water user impaired the ability of another to obtain water.

The real motivation for people to obtain a water right was to have a priority date for protection of their investment and water supply. This system provided a structure for the development of water and water rights in Kansas. At the time, it was not a strong regulatory system in terms of preventing overuse and development.

Irrigation came into its own on a large-scale basis in the 1960s with the advent of hybrid seeds, commercial fertilizers, and modern irrigation equipment and technology.



Much of that earlier development was with gravity or flood irrigation. The center pivot came along later.

There also were scientific studies that documented the water level declines. State agencies, particularly the Kansas Water Resources Board, predecessor to the KWO, issued a number of reports about water availability and trends in the water supply.

When talk started about what to do about the declines, there was a strong push back from local water users who didn't want heavy-handed state control. That spurred the GMD concept.

Southwest Kansas and south central Kansas were key irrigation areas then and now. When did you move to Southwest Kansas and what were the water conditions there at the time?

I was originally hired to work in the new Area Extension Office in Garden City and moved there in August of 1973. It was a great move. I learned a lot and was able to work in the state's major irrigated areas of southwest and south central Kansas.

Many people observed that the Arkansas River had gone dry that summer (1973) and did not start flowing that winter, as usual, after the irrigation season. As we now better understand, the water level had dropped enough in the aquifer to stop the base flow, largely due to the extensive pumping. It was more popular to blame it on Colorado. Over the next several years, the river gradually dried up further downstream through Dodge City and beyond, as water levels continued to drop and impact the river. Of course, a portion of the problem was caused by a reduction in flow from Colorado!

Were there growing pains associated with the start-up of GMD No. 3?

I wrote the first management program for the district, had it approved by the Chief Engineer, and adopted by the board after a hearing, all before I started work full time in June of 1976. We were anxious to begin active management of the district and pushed hard to get on the tax rolls by summer so income would start in January of 1977, so we would have money to operate.

Since the Districts that had just formed would have had no money for more than a year, special legislation was passed in the 1976 Legislative session to

allow "no fund warrants" to be issued that summer. I agreed to not cash my paychecks for several months until we had money in the bank.

The Board president loaned the District money to rent an office and install a phone. I started with a card table and portable typewriter brought from home. For the first few months, I copied records from DWR and made maps of well locations, etc. Nothing was computerized.

What type of management program did the District have in place at the time?

Our first management program was limited, but it did include a one-half mile well spacing as a quick control to help prevent too many wells in any given area and to help prevent well interference.

Describe the biggest water problem of the day and actions taken to make a difference.

In 1976, a permit wasn't needed to drill a non-domestic large capacity well in Kansas. An application to acquire a water right had to be filed if you wanted to acquire a water right, but there was no practical way to regulate groundwater pumping.

Together with the other GMDs, state agencies and other groups, GMD No. 3 supported legislation to make it unlawful to appropriate water without a Vested Right or Permit to Appropriate Water or to violate the terms, conditions or limitations of a water right—which limited the legal amount that could be pumped to the authorized amount of the water right or permit.

This was an historic shift in water regulation in Kansas. Before, DWR was basically just processing applications and issuing permits with very little restriction. In all fairness, it was awaiting the GMD concept to be implemented. About 3,000 applications were being filed each year during this period and new irrigation development was rapid in western Kansas.

Was the State of Kansas interested in water policy in the late 1970s?

Yes, the mid to late 1970s was an active period for water policy and legislative study in Kansas. The Governor's Task Force on Water had been established by Governor Bennett and each summer a legislative special committee met to study the issues.



Other GMD managers and I participated actively in these processes. The districts had formed the Kansas GMDA to serve as a forum to meet with DWR and other state agencies. Presidents and managers of the GMDs were deeply involved.

What was the upshot of all of this activity?

It became apparent that major problems lay ahead related to long-term use of water in Western Kansas. There was a lot of interest in methods to limit groundwater declines. The Kansas Legislature was interested in helping provide the statutes and “tools” needed to deal with the issue. Most of the groundwater management districts’ board members were interested in progressive management of groundwater.

In 1978, the GMD Act was amended to allow the creation of Intensive Groundwater Use Control Areas (IGUCA). I had originally attempted to include some criteria in GMD No. 3’s “Revised Management Program” to deal with significant, long-term water level declines in problem areas of the district. The proposal was loosely patterned after a process being used in Oregon. The general view was that to effectively deal with regional declines in the water level, additional statutory authority would be needed, or at least helpful, and the IGUCA statute was passed.

The measure had strong support from the GMDs to provide additional authority to deal with long-term problem areas while not limiting the current authority of the Chief Engineer. As I recall, there was some debate in the Kansas Legislature about the nature of the controls that could be used, but not about the concept of allowing IGUCAs to be established.

It was expected that most of these IGUCA’s would come at the request of the GMDs. The legislators wanted to ensure that the Chief Engineer would act on the request, but also gave the Chief Engineer authority to hold the hearing and determine, ultimately based on the facts, and the record, as to whether an IGUCA should be formed and what the controls would be. The IGUCA order was subject to court review.

As Chief Engineer, I became very involved in the IGUCA process. We established eight IGUCAS. Ironically, with one minor exception, none related directly to the Ogallala Aquifer were ever recommended by any of the three western GMDs.

GMD No. 3 did recommend the Upper Arkansas River IGUCA along the river corridor. It, however, was

largely in response to action by the Division of Water Resources to protect the water rights of the irrigation ditch companies. A moratorium had been put in place as of January 1977 to prohibit new permits or wells because of the effect of groundwater pumping on the river and senior ditch rights. It was a good recommendation, but it probably needed to be broader.

GMD No. 3 did consider an IGUCA in the Sand Hills south of Garden City, but it never went forward.

How have Groundwater Management Districts worked together with the Division of Water Resources?

There are numerous examples of districts and DWR working together to deal with various kinds of problems. I only mention the IGUCA statute because it provides an organized process to deal with water shortages and other such problems. It provides a role for both the district and the Division of Water Resources, if it is inside a GMD. If it’s outside a GMD, of course, only the DWR is involved.

The DWR was always reluctant to unilaterally establish an IGUCA within a GMD without its request. While it could be done, there would likely be significant resistance and possibly difficult to implement such an IGUCA.

There always was a lot of give and take between DWR and the Districts. I can remember numerous conversations with GMD managers, presidents and board members. As the years went by, we started encouraging stronger action by the districts due to the increase in water level declines. We knew we couldn’t continue indefinitely at the rate we were going.



Through the years David Pope has worked closely with the Groundwater Management Districts. He meets here with members of Big Bend Groundwater Management District No. 5 in Stafford, circa 2002.



In 2000, the Kansas Water Office led a process that developed into the Ogallala Aquifer Management Plan. An Ogallala Management Task Force and a companion technical committee were created. We now have a process in place in which the districts agreed to develop the protocols, strategies, goals and actions to conserve and extend the life of the Ogallala. Success of the plans will depend on local initiative within the districts and time will tell how successful these efforts will be.

Did GMD No. 3 make any major changes to its management program?

On July 12, 1978, when I was District Manager, the GMD No. 3 board adopted a major revision to its management program. For the first time in Kansas, an analytical approach was put in place to determine when groundwater was “available” for appropriation. There was essentially no precedent in Kansas at the time for restrictions on new appropriations of water.

I had researched what other states in the Ogallala aquifer area were doing because any restriction on permits for new wells was a very controversial issue. I expected any new policy would be challenged.

Only Colorado and New Mexico had significant restrictions. They were based on a method that limited the amount of depletion that could occur by new wells. Colorado’s 40 percent depletion in 25 years method had recently been upheld by its Supreme Court, so I used it as a pattern for GMD No. 3. It was recognized that some of GMD No. 3, especially in the southern portion of the district, had limited current use and a lot of water in storage.

I never expected the policy to be viewed as a “right to deplete” or for the “policy” and later regulation to stay in effect for nearly 25 years. Its real goal was to limit new development in those early days in a way that would withstand an expected legal challenge, recognizing that much of the district was already over-appropriated.

Did the original enthusiasm for addressing groundwater declines wane over the years?

It seemed apparent to me that the initial boards of directors for most of the districts were very interested in truly dealing with the current water problems and putting good management in place for the future. I don’t think they had thought all of the way to the end game in terms of what might happen, but they knew change

needed to occur and that there needed to be controls over pumping and water use.

For a number of years, each of the districts did a pretty good job of developing policies and regulations that restricted new development, started to collect data and understand what really was going on. Meters were required in several districts. They became somewhat of a force to try to really manage groundwater in those areas.

There has been a willingness to enforce pumping restrictions and regulate new development, but the big, long-term purpose of the GMDs in Western Kansas was to deal with water level declines. In all fairness, most of the development in southwest Kansas was already in place in the mid-1970s. Declines that have occurred since then have been largely caused by the development in place by the end of the 1970s. In a relative sense, there has not been that much development since the 1980s, although some areas stayed open to new appropriation a little longer than I think they should have.

To their credit, the Equus Beds GMD and Big Bend GMD both developed early versions of “safe yield” policies in the 1980s. Unfortunately, some of the recharge rates were over estimated, and the impact of groundwater pumping on stream flow was not dealt with as early as would have been ideal. As a result, there are still challenges to be dealt with, especially in Big Bend GMD, if long-term sustainable yield management is to be achieved.

Given that the GMDs’ focus was on groundwater, what did the state do to foster greater understanding of the groundwater/surface water connection and to encourage long-term management programs?

In the mid-1990s, the DWR created the Subbasin Water Resources Management Program to address surface water, groundwater connection and long-term management of the resource. In part, we were filling a void because these issues were not being addressed.

We had teams of environmental scientists helping to implement recommendations of the State Water Plan to deal with water level declines, stream flow reductions and other problems. Target areas included the Rattlesnake Creek, the Upper and Middle Arkansas River, the Pawnee Buckner and Solomon River Basins.



The idea was to collect needed data and work with the local people to develop strategies to deal with the problems. GMDs and other stakeholders (individuals and groups) were parties to the discussions.

We didn't go into it with the goal: "This is absolutely what has to happen." We wanted it to be an interactive process because the people using the water have a huge stake in what happens long term. We knew something had to occur, but we weren't sure what the answer was. We viewed it as a form of brainstorming, of coming up with management strategies.

In reality, the options are limited...you've got either regulation or voluntary, incentive-based solutions. Among the stakeholders were those who were adamant about no more regulation. The state and nation also were in a period of conservative government and budgets were tight.

It's easy for someone to say, "Pass a regulation or order it to be done." That's a challenge with limited budgets, staff and resources. You have to have a synergism of actions. The Rattlesnake Creek Program is an example of trying to involve the partners to help get things done with a lot of leadership from local citizens. While progress has been made, it never really has gone as far as we had envisioned, but we learned a lot and some progress has been made.



All of Kansas' water resources, both surface water and groundwater, were under Pope's purview. Here he takes part in a tour at Lake Lenexa.

The Water Appropriations Act reads: "...put to beneficial use without waste." How do you determine waste, and if it is waste, why hasn't that been taken into account in corrective actions?

The "waste" idea is one that has not been explored to the extent that it probably could be. The traditional, historic view of waste is water that you can see that runs off of the field. Everyone probably agrees that should not be allowed. For the most part, that's not a problem these days.

We have to be careful in pushing water use efficiency alone as a solution. Increased efficiency doesn't necessarily save as much water as people think. The amount of water pumped isn't the only determinant. It is the amount of water consumed that affects the hydrologic system. That's driven by the type of crop, agronomic practices and how much water it takes to produce it.

Closely related to the waste and beneficial use question is the phrasing in the Water Appropriation Act that says all appropriations of water shall be limited to the reasonable needs of the appropriator. Critical here is determining under today's circumstances what would be a reasonable amount of water needed for the irrigation of crops.

Water rights established in the 1960s and 1970s were based on what was deemed reasonable at the time. Is that still reasonable today? One could say 2-acre feet per acre was reasonable in 1970 in southwest Kansas, but it may not be a reasonable number in 2007 because of increased efficiency, better technology and limited water supply, all of which are different now.

In fairness, a typical crop isn't using that much less water today. It takes water to produce dry matter, but because of increased efficiency, water use has stayed the same or gone down, while yields have gone up. There's less water pumped per acre now than there was 20 or 30 years ago, but the net consumption of water has not gone down as much.

The water use reports and the metered information now collected by the Groundwater Management Districts and the Division of Water Resources indicate that the average farmers' usage is 2/3rds to 3/4th of their water right amount.

Has consideration been given to giving preference to water right priority based on the type of use?

I am convinced based on all of my years in water resource management that developing a preferential use system would be a disaster...an unmitigated disaster. There's no way to protect the value of the property right, and how do you administer it at this stage of the game? Under the current system, if a city needs more water, it can go out and acquire existing water rights.



Cities or other such users pay the water right holder to buy or lease the water right and convert the type of use from irrigation, for example, to municipal purposes.

If you had a preference system from Day 1, I suppose you could concoct a system, subjective as it may be, in terms of which use is more important, but I don't see how you could do it now without creating constitutional problems. Many uses need water; some have a higher economic value.

Industrial use often would be viewed as the lowest on the totem pole of most lists. Does that mean somebody wants their power plant shut off because of inadequate water? Are we going to turn off our lights? Are we going to turn off our air conditioners, so some other use with a higher preference gets the water? I don't think so.

A "preference" system may sound good to some people at first, but its flawed logic. I don't support it. I want to be clear about this. We have a good system. We just need to use it. If there's a shortage of water, water rights need to be cut back in order of priority or based upon a reasonable allocation system, consistent with the Appropriations Act and IGUCA statutes, if desired, that will still satisfy as many beneficial uses as possible. There are ways to do it, but it is not easy or painless in the short run.

How can the State Water Planning process be modified to generate buy-in to a comprehensive water management plan that would not run into difficulty in passage by the Kansas Legislature?

A great question. The concept of having a comprehensive plan is good. There have been a lot of good things happen over the years through the current planning process. There's always the relationship between the concepts in a "plan" and the challenge of implementation. That takes money, statutory authority and actions by agencies to implement the plans.

Perhaps part of the answer is somehow garnering more buy-in from a wider range of leadership, both within and outside the Legislature.

One of the most frustrating examples in my career was watching what happened on the Conservation Reserve Enhancement Program project the past three years. The proposal seemed to make so much sense. There was so much effort and seemed to be good buy-in by most people. Literally a handful of people

stopped it, or kept it from being as large, and as significant as it could have been. There was a definite need to significantly reduce water use in an area that will still have to deal with a long term water shortage. We did not take advantage of a large amount of federal funding that would have been available to help solve the problem. That's a minor example of the broader question you're asking.

What's the proper balance between education and regulation?

There needs to be a balance. Consider metering. It met with a lot of resistance, initially. People didn't want it for fear of regulation. They ultimately recognized that metering was a needed management tool. It just took time for that recognition to take place.

In all fairness, we may have run our course over the last 20 to 30 years in putting a huge amount of emphasis on the education and voluntary, incentive-based program side. Ultimately, more emphasis will have to be put on the regulatory side. We're just at that stage. We've got a lot of data collection; we've got a lot of analysis.

There will not be enough money to solve the problems with voluntary, incentive-based programs in terms of acquiring or retiring water rights. That's not to take away from the value of incentive programs. Neither does it mean that we should discontinue emphasis on education.

Ultimately, either locally, or at the state level, there will need to be more regulation to deal with the more serious of the water problems.

What will be the biggest challenges for programs like the Conservation Reserve Enhancement Program and Water Transition Assistance Program (Water TAP)?

Timing has turned out to be unfortunate in both cases, given the price of commodities. Farmers can make better money now irrigating and producing crops. You can't blame them for that.

There will not be enough money to pay the price that people seem to think their water rights are worth. There appears to be an inflated expectation of the value of the water rights given the fact that there is not a long-term source of water for all of them in much of Western Kansas.



We just need to pursue thoughtful programs that set reasonable goals for how to deal with the management of the High Plains aquifer. This will vary by area. Some hard choices will have to be made on the amount of water that can be pumped now and into the future. It probably will be based on a phased transition over time, recognizing that you don't solve these things over night. They didn't happen over night.

As additional depletion occurs over the Ogallala aquifer area, there will likely have to be more and more restrictions over time. People may not want to do this and that's a legitimate policy and regulatory choice, subject to the further right of the more senior water rights to seek enforcement to prevent impairment of their rights as the supply diminishes. Actions should try to maximize the benefit from the limited use of water both short and long term.

Through it all, you can't forget the viable local economies that are important to people now. When there's not enough water to go around, you have to make hard choices and it is hard for people to choose long-term benefits over short-term gain.

People in some cases would like to continue what they're doing indefinitely. That's probably not going to be possible.

What lessons could be learned form the Walnut Creek IGUCA?

That IGUCA was tailored to meet a unique set of circumstances in that stream-aquifer system. People can adjust to the use of less water was the main lesson learned. We gave flexibility within the control provisions so the irrigators could manage their water rather than being subjected to rigid rules. It included multi-year allocations and the flexibility to move water between wells, within limits.

While some water users had major concerns at the time of the IGUCA order, the benefits now seem to be better recognized. They have a more stable water supply. The water level fluctuates up and down some, but previously the water levels got so low that some wells were starting to suck air. Even though people can pump less, it's more reliable and stable in the long-term, and we were able to protect the senior surface water rights.

We didn't do an absolute first in time (favoring senior rights), but there was preference given to the senior water right holders in terms of how much they were

allocated. The key was establishing the IGUCA within the framework of the Kansas Water Appropriations Act, but adapting the controls to the physical situation so as to minimize the economic harm to the broader community by limiting regulation as much as possible.

What new statutory authority would benefit the Chief Engineer?

For the most part, the statutes now in place are pretty darn good. That doesn't mean they couldn't be improved. The big challenge has simply been taking the authorities that are there and the resources available and doing the best for specific circumstances. You have to make sound decisions that hopefully are not only good for the people of Kansas, but that are defensible in a court of law.

There may need to be more specific goals set for how to deal with long-term shortages of water in some areas...maybe we've waited too long...and deferred too much over too long a period of time.

As Chief Engineer, key events included the litigation over the Arkansas River Compact and the Republican River Compact. Describe your involvement and the upshot of the litigation.

I was extensively involved in the **Kansas v. Colorado** dispute even before the case was filed. I served on a special committee of the Arkansas River Compact Administration to investigate alleged violations of the compact. Each interstate compact has a process to resolve differences. When the process was unable to resolve the dispute, a lawsuit was filed by Attorney General Stephen in the U.S. Supreme Court.

I actively participated on the state's litigation team during my entire tenure, attending most of the 260 plus days of trial and testifying several times as an expert witness before the Special Master, especially on water administration matters.

While old news now, Colorado was found in violation of the compact and paid more than \$34 million in damages to Kansas. Colorado also will be subject to future compliance requirements which will be detailed in the final Court Decree which is finally nearing completion. In more recent years, the Colorado State Engineer and I, and our advisors, met numerous times and successfully resolved some 15 or 20 major issues related to compact compliance, operation of the John Martin Reservoir and implementation of Colorado's compliance program.



Ironically, we both “retired” at about the same time.

I do want to emphasize that there were many highly talented and dedicated people involved in both these cases, including agency staff, the AG’s office, outside counsel and various consultants.

The **Republican River Compact** dispute with Nebraska and Colorado also included my extensive involvement. After unsuccessful attempts to resolve the matter through the Compact, a lawsuit was filed by Attorney General Stovall. The case eventually was settled prior to trial after a couple years of intense negotiations. I led the Kansas settlement team.

The settlement includes a very detailed set of accounting criteria, extensive monitoring and data collection and the use of a groundwater model to determine groundwater depletions to stream flow.

The case is likely one of the best examples of a jointly developed computer groundwater model by parties in a major lawsuit by some of the best modeling experts in the nation. It avoided a major battle of the experts, had the case gone to trial, and minimized a major source of dispute for the future.

While compliance has not yet been achieved, I believe the settlement will serve Kansas well. Very little of the complex technical aspect of the case is in dispute, although taking the actions necessary to comply continues to challenge Nebraska and Colorado.

What were some of the other important matters you dealt with and how were they accomplished?

There were many other challenges throughout the state and the whole range of responsibilities of the DWR. In the water structures program, dam safety was always important. In the 1980s, we were able to establish an inspection program for existing high and significant hazard dams. It is now even better and many of the problem dams can now be dealt with to protect public safety, but large challenges still exist. We were able to adopt a comprehensive set of new dam safety rules in 2007.

We were able to develop a much better floodplain management program in recent years, including more technical assistance and floodplain map updates, as well as improve the regulatory program to deal with stream obstructions and channel changes.

The Kansas water use program is one of the best in the nation. It provides valuable information on how much water is used, which is important to make better regulatory and planning decisions needed for the process of accurately perfecting water rights.

Significant new regulations were developed over the years. Some of the more important ones established “safe yield” as the regulatory policy for new appropriations of water, to avoid long-term water level declines, protect existing water rights and Minimum Desirable Streamflows. Rules were also developed to prevent a net increase in consumptive use as a result of a change to an existing water right. This was to prevent impairment to other water rights and to protect the source of supply. This process also allows new and different uses to occur by changing existing water rights to new uses, even if the area is closed or fully-appropriated, while preventing a net increase in water use from the new use.

After struggling for years, we were able to resolve a very large backlog of work to inspect diversion works and issue Certificates of Appropriations that document the extent to which a water right has been perfected. This is an important step in the water rights process. We also were able to resolve the backlog for processing new applications and applications to change existing water rights and meet the processing time goals in most cases.

A lot of effort was made to cooperate with other natural resources agencies so that programs are well coordinated. Several State Water Plan programs were implemented over the years. These include Minimum Desirable Streamflows, which are now actively enforced on numerous streams during periods of low flow, the Kansas Water Assurance Program to provide dependable water supply for municipal and industrial water users during drought in several eastern Kansas river basins, the Environmental Coordination Act and requirements for water conservation plans.

Finally, I would note that none of this would have been possible without the tremendous job that the staff members of the Division of Water Resources and others in the Kansas Department of Agriculture have done over the years. They are very dedicated people and truly serve the public, even though they cannot always tell the public what the public wants to hear.