

The National Agricultural
Law Center



University of Arkansas School of Law

NatAgLaw@uark.edu ☎ (479) 575-7646

An Agricultural Law Research Article

**Management of the Equus Beds Aquifer in
South-Central Kansas: Are We Measuring Up?**

by

Michael T. Dealy

Originally published in KANSAS JOURNAL OF LAW AND PUBLIC POLICY
15 KAN. J. L. & PUB. POL'Y 525 (2006)

www.NationalAgLawCenter.org

MANAGEMENT OF THE EQUUS BEDS AQUIFER IN SOUTH-CENTRAL KANSAS: ARE WE MEASURING UP?

*Michael T. Dealy**

Water, water, every where,
And all the boards did shrink;
Water, water, every where,
Nor any drop to drink.¹

I. INTRODUCTION

A 1958 report published by the Kansas Water Resources Board attempted to inform Kansans about groundwater depletion problems in parts of western Kansas. The report highlighted increasing withdrawals for irrigation use and forecasted the occurrence of a groundwater-mining problem. Also contained in the report was a suggestion to establish local districts to help achieve groundwater management in Kansas.² Ten years later, the Kansas Legislature acted on the suggestion and passed the first Groundwater Management Districts Act of 1968.³ Due to representation and formation issues, the 1968 Act was never used to form a groundwater management district ("GMD"). The Legislature repealed and replaced it in 1972 with an improved version still in use today.⁴ The purpose of the 1972 act authorizing groundwater management districts was to permit local people to decide how to manage their groundwater problems and to carry out the program decided upon.⁵

By 1976, local people had formed five GMD's in Kansas.⁶ GMD's 1, 3, and 4 were formed in the west-central, southwest and northwest regions of Kansas to address the growing groundwater depletion problem. GMDs 2 and 5

* Manager, Wichita Well Sample Library, Kansas Geological Survey, Wichita, Kansas. B.S., Wichita State University, 1976; M.S., Fort Hays State University, 1979; Manager, Equus Beds Groundwater Management District No. 2, 1984-2006.

1. SAMUEL TAYLOR COLERIDGE, *THE RIME OF THE ANCIENT MARINER*, in *THE RIME OF THE ANCIENT MARINER AND OTHER POEMS* (Dover Books 1992) (1797-98).

2. GOVERNOR'S TASK FORCE ON WATER RESOURCES, *THE STATE OF KANSAS, INTERIM REPORT OF THE GOVERNOR'S TASK FORCE ON WATER RESOURCES*, 45 (1977).

3. *Id.*

4. *Id.* at 24 (referring to KAN. STAT. ANN. § 82a-1020 *et seq.* (Supp. 2005)).

5. *Id.* at 57.

6. *Id.* at 24.

were formed in the south-central region to manage groundwater withdrawals and water quality problems.⁷

In 1977, Governor Bennett issued Executive Order No. 77-21 establishing a Governor's Task Force on Water Resources ("Task Force"). The Task Force was charged with:

1. Determining the key problems of water supply facing Kansas now and in the future;
2. Examining the causes underlying these water supply problems;
3. Identifying options available to the state and local units of government for resolving such problems, including but not limited to:
 - a. Ways to eliminate any duplication and inefficiencies in state and locally sponsored water resources programs;
 - b. Ways to achieve more effective coordination among state and local water resource programs,
 - c. Recommendations for any needed changes in existing water resource laws, policies, and programs;
 - d. Recommendations for groundwater management strategies with particular attention to Western Kansas;
 - e. Recommendations concerning the need to develop additional conservation storage in lakes and transmission of that water to users;
 - f. New Programs which should be undertaken at state and local levels.
4. Assessing the social, economic and environmental impact of these alternatives;
5. Developing short and long-range recommendations for the 1978 and 1979 sessions of the Kansas Legislature to improve the conservation and management of the state's water supplies.⁸

The Task Force completed its charge in 1978 and submitted thirty-nine recommendations to the Governor addressing water conservation, water quality, and water management issues. The newly formed GMD's were also examined. Nearly one-third of the Task Force recommendations concerned the GMDs. The Task Force recommended, among other things, the following: (1) State financial and technical assistance to GMDs; (2) a state and GMD Pilot Artificial Recharge Program; (3) a state and GMD public education and information program; (4) an increase in land and water assessment limits; (5) that GMD's should be allowed to assess the amount of water permitted; (6) that funding and personnel for state water-related agencies for technical, educational, and legal assistance to GMD's be increased; (7) that the terms "reasonable use" and "impairment" should be defined by GMD regulation; (8) that the GMD Act should be amended to allow GMDs to receive grants and gifts; (9) that GMD's should encourage wider representation on GMD Boards; (10) that GMD's should continue to be exempt from filing rules and

7. *Id.* at 51, 56.

8. *Id.* at 1-2 (quoting Exec. Order No. 72-11) (1977).

regulations with the Revisor of Statutes, and finally, (11) that the GMDs be commended for initiating water measuring programs.⁹

Overall, the Task Force's recommendations supported the districts' management efforts and the local groundwater management approach. Of interest to the Task Force was: (1) the ability of a GMD Board to finance the operations of a GMD; (2) the ability of a GMD to locally enforce the groundwater management policies contained in a GMD's management program; and (3) broader representation on GMD Boards.¹⁰

In 1975, local people representing municipal, agricultural, industrial, and domestic water users and area landowners in portions of four counties in South Central Kansas voted in a special election to form the Equus Beds Groundwater Management District No. 2 (GMD2)¹¹ for the purpose of managing and protecting the groundwater resources from depletion and contamination.¹² The election results and the formation of the GMD2 sent a clear message to all concerned that there was a "new kid in town," willing to locally fund and govern the management of a politically and socially vital and economically important groundwater resource known as the Equus Beds aquifer.

An aquifer management program was developed and adopted by the GMD2 Board of Directors. The purpose of the aquifer management program was to manage the aquifer using two essential water management doctrines. The first doctrine was the Aquifer Safe-yield Doctrine, which limits groundwater withdrawals to the aquifer's natural recharge rate. The second doctrine was the Groundwater Quality Protection and Remediation Doctrine, which seeks to maintain, by protection and remediation, the naturally occurring, water quality of the aquifer.¹³ It has been over three decades since the "new kid" arrived in town and the Equus Beds GMD was formed.

That span of time allows us to try and answer a politically and socially relevant question that has been asked by opponents and proponents of groundwater management districts over the last thirty years: "Is groundwater management working in Kansas?" A GMD must do three things to properly and autonomously manage its aquifer locally. First, it must be able to finance the operations of the GMD. Second, it must be able to enforce the standards, policies, and regulations of the Aquifer Management Program. Finally, it must govern by a Board that is elected and has diverse representation. In what follows, I will attempt to provide a yardstick to measure the management activities employed by GMD2 to achieve the Aquifer Safe-yield and Groundwater Quality Protection and Remediation doctrines, thus permitting

9. *Id.* at 66-70, 82-83.

10. *Id.*

11. EQUUS BEDS GROUNDWATER MANAGEMENT DISTRICT NO. 2, MANAGEMENT PROGRAM 3 (1995).

12. *Id.* at 5.

13. *Id.*

the reader to formulate an answer to the question posed by the symposium. Part II of this article examines the essential management abilities of the GMD2. Part III examines how the GMD2 used and applied the essential management abilities to groundwater management issues.

II. BACKGROUND: THE ESSENTIAL MANAGEMENT ABILITIES OF GMD2

The Equus Beds aquifer is the sole source of fresh and usable groundwater for industrial, municipal, irrigation, and domestic uses throughout south-central Kansas. The freshwater aquifer extends over 1,408 square miles in south-central Kansas, occupying portions of McPherson, Harvey, Reno, and Sedgwick counties. Nearly 2,000 permitted water wells or points of diversion withdraw an average of 58 billion gallons from the aquifer annually.¹⁴ Over 500,000 people, or twenty percent of the State's population, rely on the aquifer for drinking water and other daily needs.¹⁵

The aquifer is the lifeblood for the area's businesses and industries. Without it, goods such as packaged food, pharmaceuticals, petroleum products, glass products, aircraft, salt, farm equipment, oil and gas, and aggregate could not be produced or manufactured. Including agriculture-related services, mining, construction, manufacturing, transportation, and wholesale and retail trade services, the total annual payroll for industry and commerce in the four-county area was over five billions dollars in 1990.¹⁶

The aquifer is a wellspring for agriculture in the area. Most farms are family owned and average about 395 acres. Over 100,000 acres are irrigated using groundwater from the aquifer. Livestock production includes cattle, hogs, sheep, and chickens, and is evenly distributed on farms throughout the Equus Beds aquifer region.¹⁷

A. *The ability to finance GMD operations*

To properly manage the aquifer, a GMD must have the ability to finance groundwater management programs and projects. Clearly, the Governor's Task Force and the legislature understood this by supporting and granting power to the GMD boards to levy water user charges and land assessments, to issue general and special bonds, and to incur debt.¹⁸ A GMD does not receive funding from the State general fund. An assessment payer in a GMD includes any person, municipality, or private or public corporation who owns a tract of land comprising forty or more contiguous acres outside the corporate limits of a city, or who withdraws or uses groundwater in the amount of one acre-foot

14. <http://www.gmd2.org/description/htm> (last visited May 13, 2006).

15. *Id.*

16. *Id.*

17. *Id.*

18. KAN. STAT. ANN. § 82a-1028(h) (Supp. 2005).

(325,851 gallons) or more per year.¹⁹ Among its duties and responsibilities, the Board prepares and adopts an annual budget and sets the land and water assessment rates after receiving comments at several public meetings.²⁰ Initially, the assessment rate limits were set by statute at three cents an acre and thirty cents per acre-foot for groundwater. From the beginning, the GMD Boards realized that these assessment rates would not provide adequate funds for the water management programs and activities needed to manage groundwater resources. With the recommendation of the Governor's Task Force and the support of the GMDs, the legislature approved increasing the assessment limits to five cents an acre for land and sixty cents per acre-foot of groundwater.²¹

After 17 years, the statutory rate limits for land and water were reached in GMD2's 1999 budget. A bill was introduced by GMD2 with the support of a majority of the GMDs to raise the assessment limits. During the 2002 legislative session, the legislature approved an assessment limit increase. The now nineteen-year-old groundwater user fee limit was raised from sixty cents per acre-foot to one dollar per acre-foot. A new assessment method was created, allowing the assessment of up to \$1.50 per acre-foot on groundwater withdrawals, if more than fifty percent of the place of use was outside the boundary of a GMD. The land assessment rate remained unchanged at five cents an acre.²²

Each year at a GMD board's annual meeting, the Board must submit and adopt a proposed budget for the next year. Following the adoption of a proposed budget, but prior to any assessments being charged, the Board must also hold a formal budget hearing and submit the adopted proposed budget to the GMD's eligible voters for comment. After the hearing, the board must, by resolution, adopt a budget and determine the amount of land and groundwater assessments needed to fund the adopted budget.²³ The Board must then certify the land and groundwater use assessments to each of the respective county clerks' offices. The assessments are collected by the county just as other county taxes are collected, and remitted to the GMD's general fund.²⁴ A public accountant or certified public accountant must audit the accounts of a GMD annually.²⁵

B. The ability to enforce the aquifer management program

If it is to manage the aquifer, the GMD must be able to enforce the aquifer management program. So important is this management ability that the Kansas Groundwater Management Districts Act requires the Board to prepare

19. *Id.* § 82a-1030(a) (Supp. 2005).

20. *Id.* §§ 82a-1026(b) (1997), 82a-1030(b) (Supp. 2005).

21. *Id.* § 82a-1030(a) (1997), amended by *Id.* § 82a-1030(a) (Supp. 2005).

22. *Id.* § 82a-1030(a) (Supp. 2005).

23. *Id.* § 82a-1030(b) (Supp. 2005).

24. *Id.* § 82a-1030(c) (Supp. 2005).

25. *Id.*

a management program *before* undertaking active management the GMD. Once adopted by the GMD board and the Chief Engineer of the Division of Water Resources (DWR), the Board implements the water management and conservation activities contained in the management plan. Fundamental to implementing the management plan is the ability of a GMD to administer and to enforce the plan where necessary.²⁶

Prior to 2002, the Board's enforcement authority or power were set forth in K.S.A. § 82a-1028(n), which permitted every GMD board to enforce local standards and policies, and K.S.A. § 82a-1028(o), which allowed every GMD board to recommend rules and regulations necessary to implement and enforce its policies to the Chief Engineer of DWR for adoption.²⁷

Initially, the newly created GMD's choose to recommend to the Chief Engineer rules and regulations necessary to implement management polices of the Board. For a period of time the rules and regulations process was the enforcement method of choice for GMD's. However, the GMD's discovered three things relatively soon after their formation. One, the state rules and regulation process was lengthy, and could take several years before a regulation became effective. Two, the Chief Engineer's authority to adopt rules and regulations was limited to water appropriation issues. And finally, the co-enforcement of the rules and regulations by a GMD and DWR was at times cumbersome and time consuming. As a result of these discoveries, beginning in the mid-1980's several non-appropriation issues developed in GMD's which caused some GMD boards to use the local enforcement power set forth in K.S.A. § 82a-1028(n), which had granted the power to a GMD Board to adopt, amend, promulgate, and enforce reasonable standards and policies relating to the conservation and management of groundwater within a GMD.²⁸

During the 1999 legislative session, a bill was introduced that required a GMD to submit to the Chief Engineer a set of recommended rules and regulations containing current standards and policies adopted by a GMD that are of general application in the GMD and have the effect of law. Further, the recommended rules and regulations replacing an adopted standard and policy must be submitted to the Chief Engineer on or before March 1, 2000, or such standard and policy was to be void and have no effect. Several GMD's pointed out concerns with the bill. First, there was an apparent statutory conflict between the Board's authority prescribed by K.S.A. § 82a-1028(n) to adopt and enforce standards and policies and the bill's mandate to void any standard and policy adopted by the Board that was not converted to a rule and regulation by the Chief Engineer after March 1, 2000. Second, the Chief Engineer's authority to adopt rules and regulations was limited to water

26. *Id.* § 82a-1029 (1997).

27. Law of July 1, 1978, ch. 437, § 1, 1997 KAN. STAT. ANN. §§ 82a-1028(n), 82a-1028(o) (repealed 2002).

28. *Id.*

appropriation issues and did not extend into water quality protection areas.

In the 2002 legislative session, a bill was passed that substantially affected the powers of a GMD Board. The ability to adopt and enforce a GMD standard and policy was abolished and replaced with the ability of a GMD Board to recommend rules and regulations to state agencies to include the Kansas Department of Health and Environment, the Kansas Corporation Commission or other appropriate state agencies which relate to the conservation and management of groundwater within the GMD. Additionally, GMD boards were granted the power to enforce, by suitable action, administrative or otherwise, a state regulation once adopted by a state agency.²⁹

The 2002 amendment of K.S.A. § 82a-1028 resurrects a broader issue of state versus local control. For the most part, everyone agrees and recognizes the need for state oversight and review of the GMD's management programs. However, disagreement occurs over whether the State needs complete control over the minute details of local rules and regulations to carry out groundwater management programs.

C. The ability to govern by an elected Board with diverse representation

The board of a GMD exercises the powers granted to a GMD by the Kansas Groundwater Management Districts Act. A GMD board consists of elected members that represent eligible voters consisting of certain landowners and water users in a GMD. Members serve a three-year term of office. At the Board's annual meeting an election is held for those members whose term has expired. Any vacancy occurring on the Board prior to the expiration of a member's term is filled by the Board from among the GMD's eligible voters.³⁰ Only elected eligible voters may serve on the Board. An eligible voter is defined by K.S.A. § 82a-1021(e), and limits a person's qualifications to certain landowners and groundwater users in a GMD.³¹ A person is defined by the Act as a natural person, private or public corporation or a municipality.³² The Act is silent on the geographic, water use, or other types of representation requirements. Each GMD has addressed the statutory silence by adopting representation standards and policies which establish either mandatory or discretionary representation based on geographic and water use categories.

29. KAN. STAT. ANN. § 82a-1028(p) --(q) (Supp. 2005).

30. *Id.* §§ 82a-1027(a), (d) (1997).

31. *Id.* § 82a-1021(e) (1997).

32. *Id.* § 82a-1021(i) (1997).

III. ANALYSIS

A. The ability to finance GMD2 operations

Among its duties and responsibilities, the GMD2 board prepares and adopts an annual budget and sets the land and water assessment rates after receiving comments at several public meetings. Since the formation of the GMD2, land and groundwater assessments have totaled \$4,284,510 and averaged \$153,000 per year. The GMD2 does not receive funds from the State general fund.

Table 1: Comparison of revenues generated if each GMD was at the statutory limits of five cents an acre for land and sixty cents an acre-foot for water.

GMD	Land	Water	Total
Western #1	\$ 55,000	\$ 472,200	\$ 527,200
Equus Beds #2	\$ 39,000	\$ 192,000	\$ 231,000
Southwest #3	\$ 286,100	\$ 2,280,000	\$2,566,100
Northwest #4	\$ 155,500	\$ 521,280	\$ 676,780
Big Bend #5	\$ 125,000	\$ 484,200	\$ 609,200

Initially, the assessment rate limits were set by statute at three cents an acre and thirty cents per acre-foot for groundwater. Due to GMD2's small land and groundwater assessment bases, the Board sought, with support of the Governor's Task Force and the other GMDs, to increase the assessment rate limits to five cents an acre and sixty cents per acre-foot. The effort was successful during the 1978 legislative session.³³ Even with the rate limit changes, GMD2 ranked last financially among the groundwater management districts.³⁴

From 1983 to 1998, the Board of Directors of GMD2 funded seven new water management programs that addressed six things: (1) the plugging of abandoned water wells; (2) the construction and abandonment of cathodic protection boreholes; (3) the protection of groundwater recharge areas; (4) water quality protection; (5) the metering of water wells; and (6) water reclamation and recycling. GMD2 staff was increased from two to four employees with the addition of a hydrologist and a hydrologic technician. GMD2 also increased the number of groundwater-monitoring wells by 400 percent, data collection by 600 percent, and customer service requests by 400 percent.³⁵ After seventeen years, the statutory rate limits of five cents an acre

33. See *supra* text accompanying notes 26-27.

34. See *supra* table 1.

35. www.gmd2.org/GroundwaterManagement.htm (last visited April 19, 2006).

for land and sixty cents an acre-foot for groundwater were reached in GMD2's 1999 fiscal budget. As a result, most water protection programs experienced funding cuts up to fifty percent.

To meet GMD2's financial needs, the Board introduced a bill in the 1999 legislative session to revise the land and water assessment rate limits and create a two-tiered assessment structure. The assessment limits for larger GMDs would remain the same. New rate limits for smaller GMDs would be established at twenty-five cents an acre for land and \$1.50 an acre-foot for groundwater. To address a tax increase issue of the larger GMDs, the revised rate limits applied only to the smaller GMDs with an area of less than 1.5 million acres and annual groundwater withdrawals of less than 750,000 acre-feet.

The Kansas Building Industry and Dairy Associations opposed the rate limits bill, citing their opposition to funding GMD2's water quality protection and monitoring programs. Supporters of the bill included the Regional Economic Area Partnership, Kansas Groundwater Management Districts Association, Lower Arkansas River Basin Advisory Committee, Kansas Water Authority, and McPherson Industrial Development Company. After three years and countless hours of debate, the legislature voted to revise the nineteen-year-old groundwater user fee limit from sixty cents per acre-foot to one dollar per acre-foot, and to add a new assessment of \$1.50 per acre-foot on groundwater withdrawals, if more than fifty percent of the place of use was outside a GMD. The land assessment rate remained unchanged at five cents an acre.³⁶

Funding was restored to water management activities and the 2006 budget of \$311,149 was funded by a land assessment of five cents an acre for land and eighty-two cents an acre-foot for groundwater withdraws used in GMD2.³⁷ The out-of-district groundwater use assessment has been discussed by the GMD2 Board, but has not been used to fund a budget. Based on Board discussion, it appears that the out-of-district use assessment may be used if the rate limit for in-district assessment is reached.³⁸

GMD2's present land assessment base of 710,000 acres and the groundwater assessment base of 299,398 acre-feet are the smallest of any Kansas GMD. Unless GMD2's assessment bases increase substantially, the burden to increase the assessment limits will again fall to the GMD2 Board. But it may be difficult to increase the assesement levels. The two efforts to change statutory assessment rate limits by GMD2 met with vastly different outcomes. The first effort occurred three years after the formation of the GMD's. The bill took only one legislative session to pass and met with little opposition. The second bill took multiple sessions to pass and was coupled to issues in the legislature concerning the regulation of animal waste lagoons,

36. KAN. STAT. ANN. § 82a-1030(a) (Supp. 2003).

37. GROUNDWATER MANAGEMENT DISTRICT NO. 2, ANNUAL BUDGET (2006) (on file with author).

38. *Id.*

aggregate mining, and property rights versus the management of a public resource.

The general public, as well as municipal, industrial and agriculture groundwater users, supported the bill to increase assessment limits. However, as described above, several politically influential associations opposing GMD2's groundwater protection and monitoring activities mounted a campaign against the funding bill. As a result, the bill was turned into a political football that was kicked back and forth between legislative sessions. This delayed the needed funds to implement local groundwater management and protection programs and raised the following question: If the Kansas Groundwater Management Districts Act seeks in part to establish the right of local water users to determine their destiny with respect to the use of the groundwater,³⁹ then should not the local GMD water users be empowered with the authority to determine what groundwater management and protection activities are funded by setting the assessment rate limits to fund such management and protection activities?

B. The ability to enforce the aquifer management program

An aquifer management program was developed and implemented by the Board in 1976 and has been revised several times.⁴⁰

The purpose of GMD2's aquifer management program was to manage the aquifer using two essential water management doctrines. The first doctrine is Aquifer Safe Yield, which limits groundwater withdrawals to the aquifer's natural recharge rate. The second doctrine is Groundwater Quality Protection and Remediation, which seeks to maintain by protection and remediation the naturally occurring water quality of the aquifer.⁴¹ GMD2 implements the two doctrines by means of the following actions: managing the Equus Beds aquifer on a safe yield doctrine; educating and informing the public on groundwater issues; monitoring both the quality and the quantity of water in the aquifer; investigating and studying the physical and hydrological characteristics of the aquifer; investigating alternative sources of water; encouraging the reclamation and recycling of waste water; investigating ways to improve recharge and prevent its deterioration; supporting legislative changes which enhance good groundwater management practices; and cooperating with appropriate local, state, and federal agencies and organizations.⁴²

In 1980, the first set of state rules and regulations was adopted to address these pressing issues. First, the regulations addressed groundwater mining by limiting groundwater withdrawals from non-domestic wells to the aquifer's natural recharge rate.⁴³ Second, the regulations addressed impairment between

39. KAN. STAT. ANN. § 82a-1020 (1997).

40. www.gmd2.org/GroundwaterManagement.htm (last visited April 29, 2006).

41. *Id.*; KAN. ADMIN. REGS. § 5-22-7 (2006).

42. www.gmd2.org/about.htm (last visited April 30, 2006).

43. KAN. ADMIN. REGS. §§ 5-3-11, 5-3-14 (Supp. 2005).

non-domestic wells by establishing minimum well spacing.⁴⁴ Finally, they addressed the waste of groundwater by defining and prohibiting it.⁴⁵

GMD2 subsequently enacted regulations of its own, to address seven related issues of particular relevance to the Equus Beds Aquifer.⁴⁶ (1) Groundwater withdrawal came to include evaporation from groundwater pits and natural baseflow discharges to rivers or streams.⁴⁷ (2) Minimum well spacing between domestic and non domestic wells was established to protect domestic wells from impairment.⁴⁸ (3) Limitations were placed on the amount of water allowed for different uses.⁴⁹ (4) Artificial recharge was defined and aquifer storage and recovery facilities used for recharge were regulated.⁵⁰ (5) Water meter requirements and specifications were established for the installation of a water meter on all non-domestic water wells.⁵¹ (6) Finally, GMD2 limited the distance a non domestic water well can be moved from its original location.⁵²

Beginning in the mid 1980's, several non-appropriation issues developed in GMD2 which caused the Board to look at the local enforcement power set forth in K.S.A. § 82a-1028(n). The power is granted to a GMD Board to adopt, amend, promulgate, and enforce by suitable action, administrative or otherwise, reasonable standards and policies relating to the conservation and management of groundwater within a GMD.⁵³ Twenty-four standards and policies were adopted and enforced by the GMD2 that addressed water management issues concerning the plugging of abandoned water wells, construction and abandonment of cathodic protection boreholes, protection of groundwater recharge areas, water quality, inactive water wells, open meeting notices, release of public records and water reclamation and recycling. To ensure that such standards and policies were consistent with the Kansas Groundwater Management Districts and the Kansas Water Appropriation Acts, the Board established standards and policies that set forth requirements for adoption of standards and policies, as well as appeal standards and policies.

Seeking to address the question of local versus state control, the legislature abolished the GMD Board's ability to adopt and enforce a local GMD standard and policy, and replaced it with the power only to recommend rules and regulations to the Kansas Department of Health and Environment, the Kansas Corporation Commission, or other appropriate state agencies which relate to the conservation and management of groundwater within the GMD.⁵⁴

44. *Id.* § 5-4-4 (2005).

45. *Id.* §§ 5-1-1(cccc), 5-5-7 (Supp. 2005); 5-22-3, 5-22-1(m)(1)-(4) (2005).

46. KAN. STAT. ANN. § 82a-1028(o) (Supp. 2005).

47. KAN. ADMIN. REGS. §§ 5-22-2(a)(1), 5-1-1(oo)(1) (2005).

48. *Id.* §§ 5-4-4, 5-22-2(a)-(c) (2005).

49. *Id.* §§ 5-3-19-20, 5-3-22-24 (2005).

50. *Id.* § 5-12-1-4 (2005).

51. *Id.* § 5-22-4a (2005).

52. *Id.* § 5-22-2 (2005).

53. KAN. STAT. ANN. § 82a-1028(n) (1997).

54. *Id.* § 82a-1028(p) (Supp. 2005).

Additionally, a GMD Board was granted the power to enforce, by suitable action, administrative or otherwise, a state regulation once adopted by a state agency.⁵⁵ Based on the legislative action, most of the water management and protection standards and policies having the effect of law were converted at the recommendations of the GMD2 Board to state regulations. Kan. Admin. Regs. 5-22-1 through 5-22-12 were promulgated by the Chief Engineer; Kan. Admin. Regs. 28-30-2 through 28-30-10 were promulgated by the Secretary of the Kansas Department of Health and Environment; and Kan. Admin. Regs. 82-3-700 through 82-3-710 were promulgated by the Commissioners of the Kansas Corporation Commission.⁵⁶ The length of the conversion process varied with the state agencies and ranged from 18 months to nearly five years. GMD2 and the state agencies effectively managed the mandated conversion process, considering this was the first time two of the three agencies had ever processed rules and regulations recommended by a GMD.

The power to enforce was revised by recent legislative action. K.S.A. § 82a-1028(q) states that a GMD shall have the power to enforce by suitable action, administrative or otherwise, rules and regulations once adopted by a state agency.⁵⁷ Opinions about the ability of GMD2 to enforce state regulations vary from broad to very narrow, depending on interpretations of legislative intent. The widest differences are between the local GMD's and various State agencies' interpretation of the enforcement law. State agencies and some GMD's interpret the law to mean either the GMD can request the state agency to use its enforcement powers, or that the GMD can seek injunctive enforcement on its own through district court. Both methods are time consuming, and injunctive enforcement is expensive. Others interpret "suitable action" to mean a broad range of enforcement powers normally available to regulatory entities, such as issuing fines and penalties. Such methods reduce time requirements and financial burdens, and allow for timely and efficient enforcement. Undoubtedly, until the law is clarified either by the legislature or the courts, enforcement at a local level will be less proactive than it was when GMD's had the authority to enforce local standards and policies.

C. The ability to govern by an elected Board with diverse representation

This ability is fundamental to the success of GMD2. In 1976 the first GMD2 Board was elected. The Board consisted of nine members, six representing agriculture, two representing municipalities, and one representing industry.⁵⁸ In 1981, the Board adopted a standard and policy setting forth that the Board shall consist of nine members who are eligible voters of the District. Board representation was discretionary in the standard and policy, and the Board encouraged representation of no fewer than one and not more than three

55. *Id.* § 82a-1028(q) (Supp. 2005).

56. KAN. ADMIN. REGS. §§ 5-22-1-17; 28-30-2-10; 82-1-700-704 (2005).

57. KAN. STAT. ANN. § 82a-1028(q) (Supp. 2005).

58. *Id.* § 82a-1023(b)(4) (1997).

members from each of the four counties in the District. Additionally, it required at least one representative from each of the following use categories: agriculture, municipal, and industry.⁵⁹ The makeup of the Board remained much the same from 1976 to 1985. In response to criticism from domestic water users that the Board did not represent domestic users, the use category was expanded to include a domestic use representative position.⁶⁰

For the next four years, the Board representation consisted of five members from agriculture, two from municipalities, one from industry, and one representing domestic users. In response to the substantial 1989 expansion of GMD2's boundaries into the eastern half of Reno County, which included the City of Hutchinson, representation of the Board changed and consisted of four representatives from agriculture, three from municipalities, one from industry, and one domestic representative. Board representation, for the most part, reflected average groundwater usage values. Industrial usage accounted for about fifteen percent of the average total; irrigation usage accounted for fifty percent; and municipal usage accounted for thirty-four percent. Other uses were one percent of the total average usage.

During the 1990's new challenges began to face GMD2. These included animal waste lagoons, aggregate mining of groundwater pits, and an increasing tension between individual property rights and the powers of the GMD. Based on the adopted aquifer management program's groundwater management doctrines, GMD2 began to address these issues. Political opposition from a residential developer's association funded campaigns for candidates who supported the association's water management and property rights views.

Concerned that municipal and industrial users would not be represented on the GMD2 Board, the Board attempted to change the representation standard and policy from "encouraging" to "requiring" Board representation of four agricultural representatives, three municipal, one industrial, and one domestic or small user. After two years, the attempt proved unsuccessful. The cities attempted to increase the voter turn-out of municipal voters, to maintain the three municipal positions. However, based on the law and the number of municipal users in GMD2, the maximum number of eligible municipal votes possible for the Cities was four percent of the total eligible groundwater voters in GMD2.⁶¹

59. These requirements were established by GMD2's discretion, pending approval by DWR. See *Id.*, §§ 82a-1020-21, 1024-27 (Supp. 2005).

60. See Kan. Op. Att'y Gen. 85-58 (1985); KAN. STAT. ANN. § 82a-1021(k) (Supp. 2005) (defining the rights of non-municipal domestic water users).

61. See table 2, *infra*; KAN. STAT. ANN. § 82a-1021(e) (Supp. 2005).

Table 2: Total water-use votes in GMD2

Type Water Use	Voters	Percent of Total
Agricultural	899	84
Municipal	43	4
Industrial	64	6
At-Large	58	5
Total	1,064	99 (Not 100% due to fractions).

By 2004, Board representation consisted of six agricultural representatives, one municipal, one industrial, and one domestic. Alarmed at the loss of two positions on the GMD2 Board and frustrated by the small number of municipal votes allowed by law, the cities formed a regional water management coalition to address the concerns of the municipal users that depend on the Equus Beds aquifer.⁶² In response to the Cities' criticism, the Association endorsed a municipal candidate in the 2005 Board election. Current Board representation consists of five agricultural members, two municipal, one industrial, and one domestic. Several years ago, an interim legislative committee recommended that the issue of Board representation was a matter for the GMD Board and not the legislature. Clearly, the legislature want the GMD's to resolve the issue locally.

IV. CONCLUSION

In conclusion, effective groundwater management in GMD2 consistently revolves around three issues.

The first issue concerns the ability to finance GMD2 operations. Unless GMD2's land and groundwater assessment bases increase substantially, the burden to adjust the assessment limits will again fall to the GMD2 Board. If the policy of the Kansas Groundwater Management Districts Act is to, in part, establish the right of local water users to determine their destiny with respect to the use of the groundwater, and the local water users agree to fund the groundwater management programs, then local GMD water users must be empowered with the authority to determine what groundwater management and protection activities are to be funded, by setting the assessment rate limits to fund such management and protection activities. Requiring the matter to be decided in the political arena of the legislature expends the limited funds and staff resources of GMD2, causes local water management activities to become mired in partisan politics, and circumvents the local decision making process with respect to the management of vital groundwater resources.

The second issue concerns the ability to enforce the aquifer management program. The issue of state versus local control needs to be settled once and

62. See Kan. Op. Att'y Gen. 85-58 (1985).

for all. The power of GMDs to enforce state regulations varies according to who interprets the issue. Pro-state views interpret the law to mean that the GMD can either request DWR or another state agency to use its enforcement powers, or, alternatively, that the GMD must seek injunctive enforcement through district court. Both methods are time consuming; injunctive enforcement is expensive; and both methods lead to selective enforcement. Pro-local views, on the other hand, interpret "suitable action" to mean a broad range of enforcement powers such as issuing fines and penalties. Such methods reduce time and financial requirements, and allow timely and uniform enforcement of violations.

The final issue concerns the ability to govern by an elected board with diverse representation. This ability is fundamental to the success of the GMD's. Taxation without representation has not worked well in America. The issue was examined by a legislative committee which recommended that the GMD boards resolve the representation issue locally.