

Proceedings of the 1978 meetings of the Arizona Section of the American Water Resources Association and the Hydrology Section of the Arizona Academy of Science, held in Flagstaff, Arizona, April 14-15.

ARIZONA GROUNDWATER LAW REFORM - AN URBAN PERSPECTIVE

by

Hugh Holub

ABSTRACT

The recently-created Arizona Groundwater Management Study Commission is mandated to propose a reform of Arizona's groundwater laws. A number of issues must be addressed by this Commission in order to deal with urban problems with present groundwater law. These include: a comprehensive set of regulations on groundwater use to enhance the public interest and benefit in scarce groundwater resources; a permanent mechanism to permit transfer of water rights away from specific parcels of land; an effective system of management which considers differing types of water problems in various parts of the state; a method of quantifying existing rights and measuring use of groundwater; an extraction tax to recognize public costs associated with groundwater mining and the need for replenishment; a reevaluation of existing preferences and subsidies which encourage the mining of groundwater.

Failure by Arizona to reform its groundwater laws threatens future funding for the Central Arizona Project and increases the possibility of federal intervention in state water management.

EXISTING GROUNDWATER LAW

The main body of groundwater law in Arizona has developed piecemeal in the courts --like any case law, it developed as the result of conflicts between individual water users over their immediate specific needs and problems.

The only historic limitation on groundwater has been that it must be put to "reasonable use"--never fully defined.^{1/} So far as can be discerned, any use of groundwater on the overlying land is "reasonable". Transfer of groundwater from the land on which it was pumped is "unreasonable" with certain exceptions, as where a municipal user could buy and retire the farm land overlying the groundwater and transfer the previous average annual consumptive use. The right to use groundwater has been considered to be the private property of the overlying landowners--a sort of

1. Maricopa County Municipal Water Conservation District v. Southwest Cotton Co., 39 Ariz. 65, 4 P.2d 369 (1931). Rehearing, 39 Ariz. 367, 7 P.2d 254 (1932), confirmed that percolating groundwater is not subject to appropriation but is the property of the overlying landowner.

Bristor v. Cheatham, 75 Ariz. 227, 255 P.2d 173 (1953).

Hugh Holub is an Assistant City Attorney for the City of Tucson. The views expressed herein are not the official views and positions of the City of Tucson.

A similar article, by Mr. Holub, was published in the April-May issue of the Arizona Bar Journal.

vertical riparian right. This is a "use" right, not an absolute private property right, as many have argued.

The codified portion of Arizona groundwater law relates to those areas of the State where overdraft was found to be "critical", a concept based on the lack of sufficient groundwater for agricultural purposes.^{2/} Pursuant to Arizona's Groundwater Code, areas of the State have been designated as "Critical Groundwater Areas", which prohibit any increase of agricultural acreage in the areas so designated.

The purpose of the original groundwater law was to protect those farmers already irrigating land as of the date an area was designated "critical" from any competition for the remaining groundwater from new farmers.

The critical groundwater area laws have a number of defects which have resulted in the rate of the overdraft continuing unabated, e.g., farmers can replace existing wells with ones of vastly greater capacity and there is no limit on the amount of water which may be used on the land. The law has not been vigorously enforced, and new farm land has been allegedly brought into production in some critical groundwater areas despite the prohibition.^{3/}

The recent amendments to the Groundwater Code (SB 1391) place into the Code previous court rulings relating to the transfer of groundwater uses from agriculture to cities. In addition, the new law provides for means by which mining and industrial users may obtain and transfer groundwater rights in the same manner as cities-- through the purchase and retirement of irrigated farmland. The new law does not purport to manage the groundwater resources of the State, but does create the Groundwater Management Study Commission. ^{4/}

THE PROBLEM

In his dissenting opinion, in the 1976 Farmers Investment Company decision, Mr. Chief Justice Duke Cameron stated the problem of Arizona's groundwater law:

Under existing law, two adjacent landowners may pump each other dry to the detriment of themselves and others nearby. The result is all too frequently that the access to water is not based on 'first in time, first in right' as stated in the majority opinion, rather access to water is determined by a race for consumption controlled not by reasonable use but the physical ability to extract water from the common supply. This encourages wasteful over-consumption and proclaims a right that cannot be protected. In other words, the larger and deeper the well, the more powerful the pump, the more likely it will be that a generous amount of water will be available for use upon the land serviced by that pump while the water underlying the neighbor's land is sucked down below the depth of his well. To the small or family farmer the right to water then becomes a cruel illusion, proclaimed by law, but unobtainable in practice.^{5/}

2. A.R.S. §45-301, et.seq.

3. A.R.S. §45-314 does not specify type of well, size or any other limitation. A.R.S. §45-301(8) provides that an irrigation well has to have a minimum capacity of 100 gallons per minute--but no maximum. Domestic, small agricultural and school district wells are exempted. A.R.S. §45-301(3). The City of Tucson has requested the State Land Department investigate situations in the Avra Valley where it is believed new land has been brought into cultivation in violation of the Critical Groundwater Act. At least in one past instance, the Land Department has found illegal land under cultivation in Avra Valley.

4. Senate Bill 1391, passed by the 1977 Legislature. A.R.S. §45-317.01, et.seq.

5. Farmers Investment Co. v. Bettwy, 113 Ariz. 520, 558 P.2d 14, 25 (1976).

PRIVATE vs PUBLIC OWNERSHIP OF GROUNDWATER

Under existing Arizona law, surface waters are the public property of the people of the State, subject to the doctrine of prior appropriation (first use in time is first in right to use).

The right to use groundwater is viewed as a property right of the overlying landowner and is subject to the doctrine of reasonable use.^{6/}

In its 1976 FICO decision,^{7/} the Arizona Supreme Court stated:

...on March 14, 1953, the Court published its decision on rehearing in Bristor v. Cheatham, 75 Ariz. 227, 255 P.2d 173 (1953), in which it committed Arizona to the American doctrine of reasonable use. The decision emphasized that this State had adopted the principle of reasonable use 49 years before, and that whether the Court should after nearly 50 years under an announced rule depart from it depended upon many questions, the most important of which was the protection of property rights acquired upon the faith of the Court's pronouncement of the law. Our exact language was:

'Many and large investments have been made in the development of ground waters. Under these circumstances the court's announcement of the rule becomes a rule of property * * * and when a decision does become a rule of property, the rights acquired thereunder are entitled to protection under the law as declared.' 75 Ariz. at 231, 255 P.2d at 175.

Professor Robert Emmett Clark, in his recently-published Arizona Water Resources Management Act of 1977, details an excellent legal foundation for the declaration of groundwater as public property.

It is widely assumed that the declaration of groundwater as public property, though it may be an ideal approach to the problem, is not politically possible in Arizona given the long history of reliance on the existing legal rights in groundwater use, and the political power of farmers, unless a mandatory method is established to compensate existing groundwater users for the loss of their rights.

Notwithstanding the political problems associated with a declaration of groundwater as public property, the fact that surface water is subject to one legal standard and groundwater another creates serious management problems. Many experts argue that surface and groundwaters cannot be separated into two separate classes for management.

REGULATION OF GROUNDWATER USES

Under the present system which makes groundwater the private property of the overlying landowner, case law has established the right of the State to exercise its police power in regulation of groundwater uses to protect the public interest. Many opponents of the enactment of regulations on agricultural uses of groundwater contend that any regulation of their rights to use groundwater is a taking and thus must be compensated for. It is with this position that urban interests diverge the greatest from agricultural interests.

In its decision in Southwest Engineering v. Ernst,^{8/} the Arizona Supreme Court

6. Bristor v. Cheatham, 75 Ariz. 227. Also, Jarvis v. State Land Department, City of Tucson, 104 Ariz. 527, 456 P.2d 385 (1969) modified on other grounds, 106 Ariz. 506.

7. 113 Ariz. 520, 558 P.2d 14, 19.

8. Southwest Engineering Co. v. Ernst, 79 Ariz. 403, 291 P.2d 764, 766, 767 (1955).

in upholding the Critical Groundwater Act, stated:

The legislative finding that the exhaustion of groundwater by excessive withdrawals threatens to destroy one of the principal economic resources of the state to the consequential serious injury of all is not disputed. Such a conclusion is obviously justified because unrestrained use must inevitably result either in complete exhaustion of the state's groundwater so that in the end the lands dependent thereon will revert to their desert state or in the lowering of water tables so that the increased cost of pumping will reduce these lands to a marginal or submarginal condition.

The Court went on to state:^{9/}

It can thus be seen that a conflict occurs between appellant and the state by reason of the interest of the public in the preservation from destruction of a resource essential to the sustenance of life.

Where the public interest is thus significantly involved, the preferment of that interest over the property interest of the individual even to the extent of its destruction is a distinguishing characteristic of the exercise of the police power. The principle which we recognize here as controlling rests upon historic precedent extending back into the common law (citations omitted), and has had continuous recognition almost to the present moment. (citations omitted).

Southwest Engineering stands for the concept that groundwater uses can be regulated for the public benefit. The issue is then what is the public interest to be protected, and what forms of regulation should be enacted? Clearly regulation of groundwater uses would not require compensation.

PREFERENCES

The issue which faces us today was stated in the 1955 Southwest Engineering opinion:^{10/}

We are of the opinion that there is a preponderant public concern in the preservation of the lands presently in cultivation as against lands potentially reclaimable, and that where as here the choice is unavoidable because a supply of water is not available for both, we cannot say that the exercise of such choice, controlled by considerations of social policy which are not unreasonable, involves a denial of due process.

and restated again in the 1976 FICO decision when the court recognized the preference for agricultural uses as against mining uses of groundwater:^{11/}

We have held that the State in case of shortage may constitutionally prefer existing users of water as against potential users. Southwest Engineering Co. v. Ernst, 79 Ariz. 403, 291 P.2d 764 (1955).
Because of the State's policy expressed through the

9. 79 Ariz. 403, 291 P.2d 764, 768.

10. 79 Ariz. 403, 291 P.2d 764, 768.

11. 113 Ariz. 520, 558 P.2d 14, 21.

Legislature of preferring domestic and municipal users over irrigation and stock watering, we caused an injunction against the City of Tucson to be modified in order to permit it to withdraw water from the Avra-Altar Valleys within the Marana Critical Groundwater Area. Jarvis v. State Land Department, 106 Ariz. 506, 479 P.2d 169 (1970). Those cases are not, however, precedent for a doctrine that a court will prefer one economic interest over another on an ad hoc basis where there are not enough of the material goods of existence to go around. Rather, courts will protect rights acquired in good faith under previous pronouncements of the law. If it is to the State's interest to prefer mining over farming, then the Legislature is the appropriate body to designate when and under what circumstances such economic interest will prevail.

In the 1976 FICO decision, the Arizona Supreme Court made it clear that agricultural uses of groundwater have an absolute preference as a matter of law in the State, and if such preferences are to be changed in favor of other uses, such as for mining, it is up to the legislature to make those changes.

Cities are preferred over farming interests in groundwater transfers, so long as farms are retired by either purchase or leasing, at least in the Avra Valley. The FICO decision raises serious questions as to whether the Avra Valley preference applies to Tucson in the Santa Cruz Valley. The fact that the preference question remains clouded, and has only been resolved on an interim basis by the recent amendments to the Groundwater Code, makes it necessary to find a permanent solution.

Stated simply, can agriculture continue to be preferred to the detriment of public interests argued on behalf of municipal and mining needs for water?

TRANSFERS OF GROUNDWATER USES

Assuming that the right to use groundwater remains as private property, but subject to regulation in the public interest, the problem of transferring the right of use of groundwater from farming to municipal or mining interests still remains.

The "Report of the 31st Annual Town Hall on Arizona's Water--The Management of Scarcity" addresses the transfer issue:

A major deficiency in existing ground water law involves the problems of transferring ground water from locations where it is available to points of demand and economic use. Future planning and management must deal with the problem of ground water transfers within basins, as well as trans-basin diversions.^{12/}

The concept of limiting groundwater use to a certain parcel of land from which that water was developed may have made sense a generation ago when groundwater was not a factor in urban, industrial and mining growth and agriculture was the dominant economic sector in Arizona. However, changing times have rendered this concept a dangerous impediment to the future economic health of the people of the State.

Under existing law, cities now have a mechanism to obtain groundwater rights through the purchase or lease of farmland and the retirement of groundwater use on that land.^{13/} Tucson, as a result of its purchase of over 12,000 acres of farmland for water rights, has a vested interest in the law as its water rights are derived from those held by farmers.

12. Arizona Water-The Management of Scarcity, Arizona Academy 1977 Report of Thirty-first Arizona Town Hall, at page ix.

13. Jarvis v. State Land Department, City of Tucson, (1969), 104 Ariz. 527, 456 P.2d 385; (1970) 106 Ariz. 506, 479 P.2d 169; (1976) 113 Ariz. 230, 550 P.2d 227. A.R.S. §45-317.01, et.seq.

What is important from an urban perspective is that some sort of stability be introduced into this area so cities can reasonably plan for their future water needs, obtain the necessary water, without the prospect of the entire system being turned upside down at some point in the future. Many millions of dollars have been and will be invested by cities to obtain groundwater rights in reliance on various developments of the law.

It must be firmly established without future doubt that once a water right is obtained, such water can be used wherever the owner wishes without the threat of injunction.

QUANTIFICATION OF RIGHTS, METERING

In the past Tucson legislators have supported measures which would result in the quantification of all existing water rights. As a companion, they have advocated a requirement that all wells in Arizona over a certain minimum size be metered or measured in some way so the real amounts of groundwater extracted are known.

Farmers violently oppose metering, calling it communism and worse. They see metering as the first step towards taking away their water rights and cite the registration of hand guns as an example. Nowhere in the water controversy is there more emotion than in the metering issue.

However, in a state which already has an overdraft of two million acre feet a year, intelligent planning for future water resource needs requires a good data base.

If it is assumed that cities will have to purchase and retire irrigated farm land in order to obtain a water right to transfer, it becomes absolutely necessary to establish the nature and extent of such right.

Today no one is really certain how much water a city is entitled to when it purchases and retires an irrigated farm. The measure has changed several times in recent years, creating instability. Tucson obtained the right to pump the average historical annual consumptive use of the farm in the Jarvis III decision, and SB 1391 increased that entitlement by almost 100% when the measure was average annual maximum pumping of the farm.

It is very difficult for a city to decide what a farm is worth, and what sort of capital facilities to build to transfer water from a retired farm when the measure of the water right for transfer purposes keeps changing.

Management, regulation and transfers of groundwater rights and uses would be enhanced by metering and a system of quantification so everyone knows exactly what they have rights to.

TAXATION OF GROUNDWATER USES

The biggest proportion of the overdraft, as documented in the Phase I and II reports of the Arizona Water Commission, is as a result of agricultural use of groundwater. While all users of groundwater contribute to the overdraft, the lion's share of it--especially in the counties with large urban populations--is used for farming.

There are clearly identifiable costs resulting from our groundwater overdrafts. These include greater energy costs caused by the increasing depth from which the water must be pumped, the costs associated with replenishing the water supply by importing water, and costs related to water quality.

Present users of groundwater are not required to pay anything toward costs of the overdraft which will arise in the future. Many present users--predominately farming operations--have an option to quit when the cost of increased depth, the cost of augmentation, or the cost of treatment to improve water quality make their operations uneconomical. It is possible to mine away the water in an aquifer as long as a profit can be made on crops, then abandon the land.

Cities do not have the same freedom of options; they cannot just pack up and leave. They do have a greater ability to afford the cost of imported water.

Urban interests have come into conflict with other users, especially agriculture, over the fact that, under the present system, the people of the cities will eventually pay the cost consequences of farms overdrafting the groundwater supplies.

In past years, members of the Legislature from Tucson have advocated a ground-water extraction tax on everyone pumping groundwater from an aquifer in excess of the natural recharge.

This concept of an extraction tax was suggested as one means of recognizing the value of our groundwater in the aquifer. It is a proposal to allocate a portion of the cost of replenishing our water supplies in the future (such as by the CAP), to all who extract water now.

Farming interests could not understand why they should pay a tax on "their" water. But, conversely, why should urban residents or mining companies pay for replacing the water used by farms?

The concept of an extraction tax is widely misunderstood in Arizona. This is due, in part, to the fact that it is still in the idea stage and remains to be thoroughly refined so it is not a punitive measure, but is instead another tool to improve water supply and management within the State.

INCENTIVES FOR REDUCTION OF GROUNDWATER USE

A question that frequently arises is what sort of incentives or specific requirements should be applied to encourage water users to develop and use alternative sources of water to groundwater and incentives and requirements to conserve water.

This question has two major thrusts: first, what should be done regarding urban water use; and, second, what about farming uses?

Urban water uses comprise 7% of the State water use total; whereas, farming constitutes 89%. Even with maximum reductions of urban water demand and per capita uses, only a small dent will be made in the total water supply picture. However, over the long term as urban water uses grow due to population growth, the urban water use sector will become increasingly more important in the overall picture.^{14/}

Tucson has already "bitten the bullet" on demand on water with its "Beat the Peak" program.

It is difficult for urban interests to advocate reductions in agricultural water uses when farmers see city people wasting water daily. Though, in fact, Tucson's water users have already reduced their per capita water use below national averages and have taken the lead in Arizona in dealing with urban water use problems; the issue will remain statewide.

The mechanisms for reduction of the agricultural uses of water are numerous. These include various conservation and water efficiency measures such as lining irrigation ditches, improved irrigation techniques, leveling of fields, and the use of drip irrigation, where possible.

The previously-proposed extraction tax is one means of discouraging excessive use of water as it would raise the cost of water to farmers.

Proceeds from the extraction tax could be used, in addition to purchasing imported water for recharge, for low interest loans and grants for farmers to line their ditches, level their fields, switch to drip irrigation (where possible), or convert to lower water-using crops, and for watershed management programs to increase runoff and recharge.

Another area of incentive is to eliminate the present subsidies which result in wasteful uses of groundwater. A prime example of this is the agricultural preference to contract for the cheap hydroelectric power under the jurisdiction of the Arizona

14. According to the Phase II report of the Arizona Water Commission, Alternative Futures, issued in 1977, about 89% of the State's water is used by agriculture, 7% by municipal and industrial users, and 4% by mines, utilities and other users. Even with significant reductions in agricultural uses of water due to urban expansion and purchase of water rights, farming would have to be reduced to only 70% of the total water use in the State to achieve a balance of demand and dependable supply.

Power Authority. 15/

Arizona's share of the cheap electricity allocated to it from federal reclamation projects is sold by the State to irrigation districts which, in turn, pump groundwater. For example, the Cortaro-Marana Irrigation District, north of Tucson, pursuant to one of these contracts, gets its electricity to pump water for less than one cent per kilowatt hour. This is compared to nearly five cents a kilowatt hour Tucson pays for electricity to pump water.

These preferential contracts expire in the 1980's. State law should be changed giving cities the preference for this cheap power and requiring farmers to pay the going rate for energy--which would greatly increase the cost of pumping groundwater in many areas of Central Arizona.

Today, the cost of pumping groundwater is subsidized because that was thought to be in the public interest of the people of the State. What is the "public interest" has changed, and subsidies to agriculture which encourage groundwater mining should be ended.

In place of the existing subsidies, preferences and incentives, a new package of subsidies, preferences and incentives should be enacted to encourage more efficient use of groundwater by farmers.

GROUNDWATER MANAGEMENT SYSTEMS

Should groundwater be managed by a centralized State authority (the Water Czar approach), by separate and somewhat independent groundwater basin management agencies, or a hybrid of both?

In the past, legislators from Tucson have supported the concept of division of the State into hydrologically-based subdivisions (such as groundwater basins or river drainage basins), for administration. The concept behind this is that what might be required to solve the water problems in the Santa Cruz and Avra Valley basins might not have any relevance or value for areas along the Colorado River, in Maricopa County, and in areas of Northern Arizona.

One form of management system that might be considered is a Groundwater Management District (GMD).

The concept of a GMD would replace existing Critical Groundwater Areas with a management system covering the hydrologic groundwater basin, or sub-basin. The GMD would have regulatory powers as set forth in the State statutes and would be created at the option of the people in the basin. Thus, if the groundwater users in the Santa Cruz Basin wanted a management system, they could create a GMD, while if the users in a basin in Yavapai County did not want to manage their groundwater, they would not create a GMD.

Some of the suggested powers of a GMD include the power to:

1. levy an extraction tax on all groundwater pumped in excess of natural recharge, with the proceeds of the tax to be used to purchase imported water or for other purposes which would increase the recharge to the groundwater basin;
2. allocate annual amounts of groundwater to be extracted from the basin;
3. purchase imported water and resell it to users within the basin district;
4. require conservation measures such as flow restriction devices in residential and commercial buildings, and lining of irrigation ditches.

15. A.R.S. §30-124.

SUMMARY AND CONCLUSIONS

Existing groundwater law does not provide for any effective management of groundwater resources. Instead, the right to groundwater is based on a pumping war to see who can extract the water first.

1. In the public vs. private ownership conflict over groundwater rights, convincing arguments exist that groundwater can be declared public property without a violation of the State Constitution. However, it is thought that this is politically impossible given the strength of the agricultural lobby.

2. Existing case law in Arizona supports the premise that the use of groundwater can be regulated by the State for the public interest without such regulation consisting a "taking" of property. Groundwater should be subject to regulation in this State for the maximum public benefit.

3. A clear and unambiguous urban preference should be maintained in water use rights. The current preferred status of agriculture should be seriously questioned and a new set of preferences established more realistically related to the best interests of the people of the State.

4. A permanent system permitting transfer of the right to use water away from specific parcels of land is absolutely necessary to permit orderly and proper economic growth in the State.

5. All existing water rights should be quantified. Metering is one tool to measure water use and assist in orderly planning for water management and development of new water supplies.

6. A groundwater extraction tax is one tool by which the true cost of mining groundwater could be identified and collected. Proceeds from this tax could be used to help pay for replenishment of depleted aquifers, for watershed management to improve runoff, and to defray the cost of conservation measures to increase water use efficiency.

7. Incentives which encourage the mining of groundwater should be eliminated, and these should be replaced by incentives and subsidies which encourage efficient and wise use of groundwater.

8. A groundwater management system must be established. The choice is basically between a "water czar" or central state agency, groundwater basin agencies which are autonomous, or a hybrid of an umbrella state agency to coordinate state interests, and local basin units to tailor solutions to each basin.

The problems of Arizona's groundwater laws are best solved at the state and local level. Those interests most directly affected by groundwater laws should have a say about the future course of state water law.

However, should those interests fail to work together and produce meaningful groundwater law reform, the completion of the Central Arizona Project could be in jeopardy and Arizona could face federal intervention in state water management.

The definitions of the problems, issues, goals and solutions of Arizona's water resource future are as diverse as are the interested parties. We have a many-sided conflict over water which starts with a lack of agreement as to what our problems are, let alone what solutions should be implemented.

The problems and solutions would be described one way by Arizona's Indians, and quite another by Arizona's farmers, miners, or city folk.

To this date, the one big problem which continues to stymie all attempts to solve the State's water resource problems is the unwillingness of the various competing interests to try seriously to work out a common solution.

The situation today was well-described in an opinion written by the Territorial Court of Arizona, in 1887. Involving a controversy over the use of surface waters in the Santa Cruz, the court in that case expressed an insight equally applicable to today's problems:

There is something to be deplored in the spirit of that neighbor, who would take the crust from his

neighbor's lips. These people should live together as neighbors, sharing each other misfortunes and rejoicing in each others blessings, in our conscience from the testimony we believe there is sufficient water in the Santa Cruz river, if only a necessary, economical and reasonable use thereof is had, to irrigate all these lands. There can be no doubt of the paramount importance of this water question. In a country where water is so scarce and so precious as it is in this Territory, it is of the utmost importance that its distribution and use should be as extensive as vested rights and material interests will admit. It is the policy of the law to encourage the building of new homes, the opening out of new farms. The prosperity of the Territory depends largely upon this policy; while motives of patriotism and good citizenship prompt to its hearty support. (Emphasis supplied).

DALTON v. RENTARIA
2 Ariz. 275
15 P. 37 (1887)