Water Rights and Their Significance to Agriculture

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Agriculture is vitally concerned with and has a unique position in respect to this simple but essential and dynamic substance—water. Most of our precipitation falls on land owned or used by farmers and ranchers, who have the first opportunity to use and manage precipitation runoff. With this opportunity should go the responsibility to use and manage it wisely, not only to improve land use and its productivity but also to render more of the supply useful and less damaging to others.

Farmers and ranchers are concerned with both the use and damage aspects of water. They may have rights to use water under certain conditions and rights to be free from undue damage under others. They may be concerned with organizations established for administration of water rights laws or water programs.

The subject is too big to cover adequately in one session. Therefore, I shall limit my remarks to the quantity aspect of property rights in water, with special reference to their status and meaning in our changing times. To do this I propose first to outline the water use situation in general terms and to discuss the meaning of some of our water rules which seem to affect farmers and ranchers in their relations with other water users.

THE CHANGING WATER SITUATION

In examining the water situation in some thirty states during the past few years, it appears to me that numerous conditions of water shortage or lack of availability are developing throughout the East and West. The West has always been short of water but in recent years the concern of western farmers centers more and more upon ground waters, as prices and costs permit deeper pumping and more rapid depletion of reserves. The situation in some parts of the Southwest is serious indeed.

In the East the shortage or lack of availability of water varies considerably as to time and place. This may be summed up in terms of combinations of four basic factors: (1) drought and the lack of soil moisture conservation, (2) lack of water development and conservation by structural means, (3) continuing pollution of supplies or lack of abatement, and (4) increased demand in all types of water uses, particularly for municipalities and irrigation.

All too often we think of over-all water supply in terms of average annual rainfall figures. The same is true of stream flow. But these do not really mean much. What does count is: minimum precipitation and stream flow, maximum temperatures, soil moisture and other deficiencies, and steadily increasing demands for water.

Water cannot always be moved from a source of supply to a point of need simply by putting up the cash and moving the dirt. Rights, customs, traditions, and attitudes are involved. Here is where water law and administration come in—as means of improving the relations or reconciling conflicts between water users and communities.

The water shortage problem is emphasized here because it would seem that certain of our legal principles might be drawn upon to encourage the balancing of supply and demand. Other legal principles have evolved to treat problems of excess water. Of course, people differ greatly as to their evaluation of the usefulness of the different legal principles and their application to local problems. Often this depends upon what their water uses are and what their background of experience may have been.

The position and mobility of users in relation to variable sources of supply are also important. Some users are favored by their location on the streams or ground water basins. Others are not, even though they may depend on the same sources of supply. Farmers compete with each other here as well as with other users.

Some users are favored by the fact that they can move from poor to good sources of supply, while others cannot do this readily. Certainly, not all farmers and municipalities can sell out and move. Certain industries can, as shown by migration of New England industry to the South. But water supply is only one factor in the latter case.

Some users are favored by existing rules of law while others are not, particularly as these rules apply to consumptive or nonconsumptive uses. The natural flow theory can serve nonconsumptive uses while the interrupted flow theory serves consumptive uses quite well.

Around these various factors revolve questions of public policy to be solved by legislation and other means. And against this dynamic situation the major rules of water law must be evaluated if we are to understand their significance to agriculture.

MEANING OF OUR WATER RIGHTS RULES

Water in relation to the land is real property until taken into possession. Then it is recognized as personal property in most states.

In one sense it is a commodity. But in a larger sense it is much more than that.

Our water rights rules relate to many occurrences of the hydrologic cycle but some do not adequately reflect the principles of hydrology. For purposes of this paper we will discuss these rules in reference to atmospheric, diffused, and defined waters.

Landowners may have rights to atmospheric water. But if they do, these rights have not been spelled out. Some writers claim that each landowner has natural rights to atmospheric water on the premise that this factor was part of the consideration involved in the purchase of lands. This bears some thought in view of the growth of artificial rain making. A few states have regulations to license rain makers. But no state has spelled out rights to water in the air. As a matter of policy, should these rights be defined now? If so, on what basis? Can artificial rain making at one point deprive farmers of the water which they would naturally receive at another point? Can snow storage be firmed up by this means, yet not impair the rights of others?

After water strikes the soil it either stands there and evaporates; or runs off to form a part of stream flow, usually only a part of the total annual flow; or it infiltrates into the soil to be stored, evaporated, or transpired by plants; or, if the infiltrated water exceeds the capacity of the soil to hold it, part passes on to ground water accumulation or seepage to support stream flow. Most of our normal or base flow of streams comes from ground water. But all these things vary from state to state and locality to locality.

Within this pattern of hydrology, we find that our existing rights to water are quite a patchwork of rules. Some are exclusive rights while others are collective rights of use. Some rights are qualified by requirements of public policy, even though they are considered exclusive rights of use. These will be examined with special reference to what can and cannot be done to store, detain, divert, and use water and by whom.

A major distinction has been made in our states between rights in water in natural watercourses having defined beds and banks and rights in other waters which have not found their way into such natural streams and lakes. The law of watercourses recognizes that no one individual owns the water in a stream or large lake. The corpus of the defined water body has a public aspect, and is generally recognized as belonging to the public, held in trust by the state for the benefit of its people, especially those with lawful rights to use it.

But the states vary considerably in the extent to which they have declared and asserted ownership, control, and dominion over defined waters.

The question is: How can this water be divided among private and public parties, present and prospective, in a manner which is fair and equitable? We have struggled along with various types of systems or lack of them. Perhaps the best system has not yet been developed.

Certain rules of law apply equally to surface and subsurface watercourses, including the subflow of surface streams and lakes. But the law presumes that all ground water is percolating or diffused through the earth until there is ample proof that it occurs in well defined subterranean channels. This proof has been difficult to establish in the past, but radioactive isotopes may help to facilitate this.

The two basic doctrines of law you have heard so much about are the so-called common law of riparian rights, prevalent in every eastern state and in Texas, Oklahoma, South Dakota, and North Dakota and to a considerable extent in California and Washington, and the statutory system of prior appropriation prevalent in all 17 western states, where it was superimposed on what is left of the riparian system in the Great Plains and Pacific Coast states. The prior appropriation system is nearly a pure one in the intermountain states, whereas domestic use and other remnants of the riparian system exist in Oregon, Nebraska, and Kansas.

MEANING OF THE COMMON LAW RULES FOR DEFINED NATURAL WATERCOURSES

The general rules of the common law system of riparian rights are that streams shall flow as they are wont to flow (natural flow theory) subject to equal rights of use (use-in-common theory) by those who own lands touching the watercourse. The natural flow theory is said to have come to American jurisprudence by way of the French civil code of 1804 (Louisiana, 1808) and the Spanish law in the Southwest. The Napoleonic and Louisiana codes are strikingly similar to the Spanish civil code, Las Sietas Partides, published between 1256 and 1263.

Under this theory, as strictly applied, the riparian user could demand that the normal flow in its natural channel come by his place undiminished in quantity and unimpaired in quality. In other words, the lower owners had a virtual monopoly of the stream and those above could use the water only for purposes not interfering with

lower rights. This was acceptable in the simple economy of the early 1800's when water uses were largely nonconsumptive, nondepleting, and nonpolluting.

Domestic, fishing and hunting, and navigation were the principal uses—and access to the water was the key factor. To assure access to the stream, the riparian land ownership concept was established, which limited rights to those owning the "bank." This is readily understandable when we realize that navigation was the principal means of transportation of goods and people, as well as communication, in the early 1800's. In certain areas riparian rights are still important from the standpoint of commerce and recreation. Such ownership rights have been preserved in areas where French and Spanish land ownership customs remain by subdividing lands at right angles to the watercourse, as may be seen at New Orleans, Louisiana and Taos, New Mexico. Lands back from the bank have no such "rights." No riparian had a priority in time of use over another, otherwise the concept of perfect equality would be destroyed.

With the increase in agricultural population, industries, and towns or cities which took place in America after the Revolution, a theory based upon such restricted use and monopoly was considered impractical. Thus, Justice Story and Chancellor Kent added the reasonable use rule which held each riparian could make a reasonable use of the water but this was limited by the equal rights of all riparians residing below. It was an attempt to "open the gate," as it were, to greater use required by the changing times. But it retained a collective type of right grafted upon the theory of natural flow, which was later to give difficulty in the expanding economy of some of the western states.

Several exceptions to the natural flow theory are embodied in the reasonable use rule. The first holds that for domestic uses (use in the household and for family farm animals, garden, and lawn) a riparian owner could interrupt the flow on his lands and exhaust the stream supply if necessary to satisfy these basic family needs. All domestic uses must be satisfied before the water can be used for nondomestic or commercial purposes.

Domestic use seems to have been the primary consumptive use intended by the riparian system and is given preference in the riparian states. But it did not include use for commercial livestock herds, nurseries, golf courses, and irrigated fields. The modified concept was also designed for a relatively simple economy in which water supplies greatly exceeded needs.

In other words, this exception tended to convert the use-in-

common (tenancy-in-common) riparian right to an exclusive right of use to satisfy the consumptive needs of the family. You may judge for yourself if this was sound.

The theory of use-in-common and natural flow are diametrically opposed to the theory of interrupted flow and exclusive rights of use. If the use is largely nonconsumptive or nondepleting, natural flow and collective rights of use work fairly well. But when uses are both consumptive or depleting, and nonconsumptive or nondepleting, adjustments in the rules seem to be indicated. We shall see how these theories affect nondomestic uses, as well as regulations for these uses.

The riparian owner can *divert* on his own lands, provided the water is held within the watershed of the stream at that point and the unused portion is returned to the natural channel within his land boundary. Of course, he can divert above or dispose below on other lands if easements are acquired. This exception permits use by individuals but probably was not intended so much for group use.

The riparian owner could *detain* water for several hours one day to build up a supply to generate power the next day, even though a lower power user must shut down for a short time. This adjustment in the law grew out of the use of mill dams to propel factory machinery. But it did not permit interruption of *normal flow* for seasonal storage, as might be required for irrigation and municipal uses. Even though this rule has been relaxed some in the West, it is obvious that storage for consumptive or depleting uses and storage for nonconsumptive or nondepleting uses could come into conflict in the East. This is a most important problem facing water users and the legislatures.

As to the type and extent of permitted riparian *uses,* we find a less clear-cut path ahead. In the eastern states irrigation has not been defined as a reasonable riparian use but it probably will be before long.

Use on nonriparian lands is not a reasonable riparian use, but some states permit it if lower riparians do not object. Such use can develop into a prescriptive right if continued long enough. Thus, it can be stopped by those who would be injured by the establishment of a prescriptive right.

Municipal use, as such, is not generally recognized as a reasonable riparian use. But lots on the stream bank and riparian lands operated there by a municipality as proprietor are entitled to water. Towns and cities can use condemnation as a means of acquiring supplies. Some of them fail to do this.

The big problem remains: What is a reasonable use for non-domestic riparian purposes in which water is consumed or stream flow partially depleted? The courts say that is a question of fact for the jury. And the jury must consider: (1) the nature and extent of stream flow, (2) the nature and extent of uses below, (3) the types and number of devices employed for water development and use, and (4) any other pertinent facts.

Suppose in 1950 there were two irrigators on a small stream. Each right of use or equal share we might say is x without a quantitative value. In 1960, there are 30 irrigators. In 1975, there are 60. Under the reasonable use rule, the rights of the original two diminish as increased demands are made upon a limited supply which is not consistent from year to year, or even month to month, especially where bedrock conditions are not favorable to shallow storage. At some point the relative rights of each approach the impractical. Perhaps this is why western people have felt that the riparian system does not protect the investments of the original and also the new users.

The riparian farmer, who is a consumptive user for livestock and irrigation purposes, must be realistic about these matters. He needs to know whether he can rely upon a specific amount of water at a given time and place. And if he is a nonriparian farmer in states where broad nonriparian cropland areas exist between streams, he needs to know whether or not he can use water at all. In either case, some water right with a quantitative aspect seems to offer one answer. But the question is how to accomplish this and treat all users fairly.

The next point of concern is: What is riparian land? It must touch the stream or lake and be within the watershed of the stream at the point of touching. Beyond this, the courts of many states have not yet ruled because of lack of litigation. In certain western states where issues have arisen, the courts have held that the right arises at the time the land passes into private ownership from the state, is limited to the maximum area of the original grant, and is confined to the smallest touching tract in the chain of title leading to the present owner. Thus, tracts which never touched the stream or lake could not carry riparian rights, except under most unusual circumstances. And where back-tracts are sold without reserving riparian rights, it would seem that they lose such rights forever.

It has been said that the riparian system is an ever-contracting one, never expanding. This may be true from two standpoints: (1) the reduction in quantity to which a user is entitled as consumptive

use increases in areas of limited water supply and (2) the reduction in area of lands entitled to water. In some respects these two influences tend to offset one another, but only in favor of those landowners holding the touching tracts.

MEANING OF THE STATUTORY RULES FOR DEFINED NATURAL WATERCOURSES

The statutory rules applied to natural watercourses may be said to be appropriative in nature. As used in this sense, "appropriative" means the right to take possession of water and put it to use. There are several forms of appropriation as applied to water rights.

One is *prescription*. Under this old rule, one who has no lawful right to use streams or lakes may acquire rights by taking and using water every year for the statutory period. This may be ten to twenty years, depending on the state. Once acquired, such a right is specific as to time, place, and amount, but usually is not acquired against the state. It often arises where a consumptive or depleting use takes place above some other lawful use, such as by a municipality or a farmer who irrigates or anyone else who makes a depleting use on nonriparian lands. But the right does not arise below the lawful user. These rights do not run upstream.

Other appropriative rights are those acquired by *condemnation* or *special legislative grant*. These are specific as to time, place, and amount. Condemnation rights can be acquired only for a recognized public purpose, usually by a public body. Special grants arise when individual projects are authorized by a legislature.

The *prior appropriation system* is the best known of these statutory methods. Under this system, water may be used on any land, so long as it is used for a beneficial purpose and the user has a possessory interest.

Beneficial use is the measure and limit of the right, and waste is not generally recognized. Diversion, storage, and other measures for water conservation are encouraged. The right of use is specific as to time, place, and amount. It arises by use and may be lost through nonuse. The prior appropriation right is said to be more dependable for the consumptive or stream depleting user. And the system meets the requirements of legal protection for other water users. It is a quantitative means for dividing water supplies and, thus, requires administrative supervision over development and use. Hydrologic data play an important part in administration.

THE COMMON LAW AND STATUTORY SYSTEMS RAISE QUESTIONS OF PUBLIC POLICY

Thus, it appears that the common law and statutory systems raise questions of public policy. It has been said that the riparian system contributes to waste, nonuse, and monopoly of water supplies; to insecurity of water investments; and to an unfair division of public water supplies among those in need. On the other hand, it has been said that it does tend to reserve water supplies for future uses, serves well the valuable alluvial lands, costs less for administration of use, and may contribute to greater benefits over the years.

In contrast, it has been said that the system of prior appropriation contributes to beneficial use, conservation, and the prevention of waste; to a fair division of supplies among those in need; to security of investments and the assurance of a continuing right to use a given quantity of water; and to maximum benefits through administrative guidance of development and use. But others hold that the system contributes to overappropriation and excessive quantities of water; does not provide sound beneficial use standards and improvement in methods of diversion, conveyance, and use of water; does not provide a means of reserving supplies for future needs; is too costly to administer and contributes to bureaucracy.

Each of you must draw your own conclusions. It seems to me that both systems have their strong and weak points. And perhaps both need to be improved where this can be done without impairing the water rights of users. The farmer is faced more and more with the need of making greater use of stream waters for irrigation and livestock purposes. Thus, he needs dependable rights. Perhaps in any riparian state this can be accomplished by the best combination of the two systems which is practical for the resource and human complex existing in that locality. This may center upon how the development and use of three types of stream flow are accomplished: minimum, normal, and flood flows. Problems of control and management vary for each of these.

Certainly the use of minimum flows is fraught with many obstacles, especially in dire emergencies. Control of flood flows and their beneficial use is often readily acceptable if valuable lands are not inundated and the construction costs are reasonable. Normal or base flows can be developed and used more widely than they are now, but the new consumptive user is always confronted with the problem of the unused riparian right. Some system for reserving waters required to satisfy these unused rights or their purchase or condemnation, or both, is needed.

MEANING OF THE COMMON LAW RULES OF DIFFUSED WATERS

Although the common law rules applied to diffused surface waters (surface waters in the court decisions) and diffused ground waters (percolating ground waters in the court decisions) differ somewhat, they have certain similarities and their origin is rooted in a common consideration of their relationship to the ownership of the land.

The basic concept governing the use of diffused waters is that the owner of the land has an absolute title to the land and all things which are a part of it within the space upward to the heavens and downward to the center of the earth. Diffused waters are considered part of the land under the strict common law. Of course, this does not quite recognize the principles of hydrology involved in the movement of atmospheric and diffused surface or ground waters.

In any event, it would seem that with certain exceptions or reservations the landowner has an absolute right to *capture* diffused surface or ground waters, no matter what effect this may have upon his neighbor's water supply. In fact, the ground water supply of his neighbor might be destroyed under certain circumstances, and the latter would have no recourse under law.

The right of capture is exclusive to the landowner. The main restraint on the extent of ground water capture and use is lack of supply and economics of use; i.e., when the pumping depth and available quantity or quality are unfavorable, added costs and insufficient recovery intervene. The main restraint on the extent of diffused surface water capture and use is the lack of water coming down from above and the cost of development. Such waters are usually insufficient for extensive irrigation but may provide livestock water and supplemental water for a small acreage.

These were the strict rules of the common law. But we should keep in mind that the law as to use of diffused surface waters has not crystallized because there have not been specific issues calling for court decisions on the nature and extent of one's rights of use. The statutes in a few of the states declaring absolute right of ownership of diffused surface waters are said to be merely declaratory of the strict common law.

As to *damage*, the landowner originally could treat diffused surface waters as a common enemy and do with them as he pleased. Thus, he could turn the waters upon the property of the owner above without liability. Some states changed over to the civil law rule which grants the upper owner an easement over the lower owner's property for the movement of his diffused surface waters. And under either rule, the landowner could not unduly collect, concentrate, and dis-

charge these waters upon a neighbor in unnatural quantities or velocity. These changes merely apply the rule of reasonable use.

The same rule has also been applied to the *use* of diffused ground waters. If the use by one landowner is malicious, wanton, or unnecessary to the use of his own land or involves sale of water off the landowner's premises, and such use results in injury to a neighbor's water supply, it may be restrained. In California this rule has been extended to the point where the overlying owner is recognized as having only an equal share of the common ground water supply, much as in the case of the riparian right. Use by one is limited by the corresponding needs of other overlying owners and available supplies may be apportioned among more; when there is a surplus, it may be appropriated for use outside the basin. But statutory systems for control of diffused ground waters have also been established in some states.

MEANING OF STATUTORY RULES FOR DIFFUSED GROUND WATERS

There are three general classes of statutory rules for acquisition or control of diffused ground waters. The first are the rules of prescription and condemnation. For a public purpose the necessary ground water supply may be condemned. And in California one can acquire a prescriptive right against a neighbor by overuse of the water supply for the full statutory period. In fact, that state recognizes mutual prescription as between two or more private users. Usually the individual farmer cannot employ condemnation methods, and the method of prescription is not particularly desirable for his purpose. In any event, the user under these rules is not recognized as having a lawful right to use water in excess of the quantities he actually used during the statutory period.

Second are the rules limiting the nature and extent of ground water uses without granting or withholding a water right as such. Recordatory and artesian well-control statutes are of this class. Statutes controlling the type and extent of well development and use within certain limits are another. The objective here is to gain systematic information on water wells and to *prevent* the waste of water and artesian pressure or the development of serious ground water problems, such as arise when abnormally lowered water tables result in salt encroachment. In these circumstances, the long-time supply of water is reasonably adequate for needs, but the rate of use must be brought more nearly in line with the rate of replenishment for the common good. Conservatory use, well spacing, and controlled pumping may suffice to do this. In some cases, artificial

replenishment by water spreading or putting the water back through recharger wells is practical.

The old adage that an ounce of prevention is worth a pound of cure applies to ground water. Where a general preventive method will help to protect investments and the common water supply, it has every point in its favor. In the long run it is the cheapest and least objectionable. Unfortunately, the existing statutes of this type seeking to control nonartesian waters have not been applied extensively and for long periods of time to agricultural areas. Thus, there is no adequate test of their value to farmers. But it would seem that such preventive measures would have practical possibilities for agricultural areas where the strict common law rule has been established by the courts and ground water conditions are not serious at present.

The third type of control measure is that of prior appropriation found in some of the western states. This type anticipates the granting or withholding of a water right based upon beneficial use, conservation, and the prevention of waste. Such a right is specific as to time, place, and amount.

Some states exercise state-wide control of diffused ground waters. But in other states where the prior appropriation method is employed, local control districts have this responsibility.

For practical purposes the farmer is faced with two principal alternatives in statutory control of diffused ground water. One is the preventive method where no water right is granted. The other method is prior appropriation where the water right is the key to control of use. The relative value of either would seem to depend upon how serious the present and prospective ground water problem may be and the nature of the existing law. In any case, local control seems the more practical approach because ground water problems vary so much with local conditions.

POLICIES AND THEIR IMPLEMENTATION

Considering the competitive position of the farmer in his relation to other users and his unique opportunity to render service to others in the field of water use and management, it would seem that his welfare and that of the community in which he lives could best be served by sound legislative or constitutional policies geared to an expanding economy and emphasizing: (1) wise beneficial use, conservation, and the prevention of waste of water supplies; (2) security for water investments, both public and private; (3) fair and equitable division of supplies among present and prospective users; (4) reservation of some supplies for future uses in areas where

reserves substantially exceed needs; and (5) administrative guidance at the state and local levels which seeks to encourage development and use of water in line with the resource and human capabilities of the area (maximum benefits) but stimulates local initiative and responsibility to the fullest.

At first glance one might think that such basic policies are largely western in scope. In point of fact, they embody objectives based upon both our western and eastern experiences. The major problem is not in defining objectives which would become legislative policies, but rather, how these objectives can best be implemented. A water policy which is not properly implemented is a batch of words. One suitably implemented is the most important aspect of state water legislation programs.

Implementation could vary for every state and locality in the nation. And it could take any one of several lines of action. But some broad considerations seem apparent.

1. It would seem that rights to the use of water at any given point ought to be made as dependable as possible, qualified by limitations of the policies, definitions, exemptions, and limitations of water law.

2. Clear-cut definitions, exemptions, and limitations should be provided by statute so as to clarify all rights and sources of supply, and establish further guideposts for use. This applies particularly to the type of water supplies and conditions for their use.

3. Suitable state and local organizations should be established for administration of water development and use with technical staffs directed toward fact finding and planning work for both surface and ground waters. Such organizations should have effective procedures for carrying out their functions whether or not their responsibilities include the acquisition of water rights. Quality and quantity administration should be unified where practicable.

4. Supporting research, education, and technical guidance programs are needed to help water users and legislators make their own sound decisions as to local development and conservation work.