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***367** CHANGING INTERPRETATIONS OF NEW MEXICO'S CONSTITUTIONAL PROVISIONS ALLOCATING WATER RESOURCES: INTEGRATING PRIVATE PROPERTY RIGHTS AND PUBLIC VALUES

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INTRODUCTION

In the mid-1800s, water rushed unrestricted down western mountainsides. It formed its way into streams, carved out channels, and formed rivers across granite mountain faces that dumped out onto alluvial plains. After the water left the mountains, it languished in meandering silt-filled rivers that slowed to a sluggish pace. These streams occasionally disappeared, only to reappear when forced by hard soils or limestone to face the forces of evaporation. They filled large aquifers on their way to the sea. Few people would have imagined that these rivers and aquifers would someday control the future of the entire Western United States.

Things are different now. The rivers are held back by dams and regulated and released to meet the needs of human-kind. The people who built those dams, however, were not evil people who chose to alter nature's course for the sake of control or a desire to dominate the landscape. They altered the hydrologic system for very practical reasons. First, and primarily, was the fact that the natural snow-melt cycle did not allow farmers to grow food or even use water for domestic purposes. A rushing snow-melt torrent in April could be a dry creek-bed by mid July when fields needed water the most. Second, major snow-melt flows would cavalierly wash out irrigation head-gates. Siltation would cause streams to meander from place to place, leaving old points of diversion high and dry. Silt also would raise rivers above the fields, making the fields incapable of irrigation because of waterlogging. There was no existing acceptable electricity to lift groundwater when the rivers went dry, and there were no high-tech solutions. The only logical solution was to slow the water, control its rate of flow, release it when needed and give the farmer or miner, or even the small municipal users, some leverage against the forces of nature.

A logical corollary to control of the resource was the need to develop rules for its allocation. The rule that rewarded persons who put water to "beneficial use," [FN1] by giving them a protectable property right, was ***368** the rule that most suited the politics and mind-set of the time. [FN2] Thus, the majority of western state constitutions embody this principle. The New Mexico Constitution is no exception. [FN3] It provides that "all existing rights to the use of any waters in this state for any useful or beneficial purpose are hereby recognized and confirmed." [FN4]

Interestingly, while the prevailing trend was toward encouragement of private capital investment and protection of private rights in water, the Constitution of New Mexico declares that the unappropriated waters of the state "belong to the public." [FN5] This expression of public ownership has been construed to mean that the members of the public have the right to appropriate water for their private use, but it has also been construed to

vest the state with ownership of the resource. The nature of this public ownership was perhaps most eloquently stated by the New Mexico Supreme Court in *Threlkeld v. Third Judicial District Court ex rel. Otero County*: [FN6]

[W]e already had a policy, also time-honored, as to waters. We had nationalized them. Not as a source of public revenue, as minerals are retained for royalties; but as an elemental necessity, like air, which must not be allowed to fall under private control. [FN7]

The New Mexico Constitution explains further in Article XVI, section 2, that the water rights available to the public are “subject to [prior] appropriation for beneficial use, in accordance with the laws of the state. Priority of appropriation shall give the better right.” [FN8] Finally, it provides that “beneficial use shall be the basis, the measure and the limit of the right to the use of water.” [FN9]

These provisions have been described as placing water in a unique category of the constitution because “[the] entire state has only enough water to supply its most urgent needs. Water conservation and preservation is of utmost importance and its utilization for maximum benefits is a requirement second to none, not only for progress, but for survival.” [FN10]

Even though the New Mexico Constitution does not mention groundwater, New Mexico's traditions, political needs, and exigent circumstances have also made groundwater subject to the prior appropriation doctrine. [FN11] Therefore, the ensuing discussion in this Article treats ground and surface water alike in its application of the prior appropriation doctrine.

*369 Eighty-six years have passed since the drafting of the New Mexico Constitution. However, the fundamental principles of conservation-full utilization for the benefit of the public, and prior appropriation-have remained constant. Throughout this period, New Mexico has never attempted a formal definition of beneficial use. Therefore, any use which is not wasteful has been accepted. [FN12] The term “beneficial use” provides the flexibility necessary to meet the needs of a changing society. However, one might discern a preference for municipal use from the fact that certain domestic users are given a forty-year planning horizon to place their water to beneficial use, while others are not. [FN13]

Early on, what constituted a beneficial “use” of water, thereby giving rise to a water right, was the subject of some debate. Historically, water was “used” only if it was diverted from the stream. [FN14] Most recent decisions have rejected this notion. The late State Engineer Steve Reynolds used to say that instream flows are a beneficial “non-use” of water. His conclusion was reached not because he believed water in a stream did not have value; rather, it was a pragmatic conclusion couched in the notion that it would be exceedingly difficult to measure and account for flows in the stream. In this view, adopting such a rule could have substantial effects on the ability of water to be traded in the water market. The trail, however, is clearly in the other direction.

Interestingly, in hydrology, the best uses for water are ones that consume the least. For example, recharging water through the channels of earthen irrigation ditches is not technically a “use” of water to produce something else, but it is extremely valuable because it places water in ground water storage, free from evaporative loss. [FN15]

The words “basis,” “measure,” and “limit,” each of which is used in New Mexico's Constitution, must have different meanings or they would not all have been included in the same sentence. [FN16] A simple interpretation of their meanings is that (1) one can only acquire a property right in water if he “bases” that right on the beneficial use of water, (2) the size of the right is to be “measured” by the quantity beneficially used, and (3) the

right will be “limited” if one fails to beneficially use it—the right is subject to loss for non-productive use and is, therefore, conditionally limited on this principle. [FN17]

Most courts have adopted the above interpretations of these provisions, and, as a result, there are firm property rights in water. [FN18] These rights, *370 because they can be transferred from one place to another, have created a “market” for water rights. [FN19] Although market allocation is not the only way to allocate water among alternative uses, it is one that has been adopted in most western states. In New Mexico its existence has provided certainty to individuals who have invested capital, and, to some degree, has freed the resource from the vagaries of politics.

Today, however, this simple system for water allocation grounded in fundamental **constitutional** principles is confronted with a series of complex hydrological, social, and economic **issues**. One key issue has been the need to conjunctively manage surface and ground water under the prior appropriation system to provide optimum protection of the aquifer and to protect downstream users and the riparian habitat.

A. The New Mexico Constitution and Protection of Stream Systems

As perfected water rights become more scarce in our river basins, there is tremendous pressure to establish new appropriations of groundwater for municipal and industrial use. [FN20] Creating new ground water appropriations in basins hydraulically connected to rivers requires a delicate balance of the interests of surface water right holders, ground water right holders, and those interested in the river itself. [FN21] The process of balancing all of these interests through conjunctive management of ground and surface water began in the case of *City of Albuquerque v. Reynolds*. [FN22] This process is currently under stress.

In *Reynolds*, the City of Albuquerque filed four applications for a permit to appropriate underground waters from the Rio Grande Basin. [FN23] In each of its applications, the city incorporated a letter stating that the city, as successor to the Pueblo de Albuquerque, held pueblo water rights that allowed the city to appropriate all underground and surface water within the basin's limits and that filing the applications did not constitute a waiver of these claims. [FN24] After a hearing, the state engineer determined that the underground waters of the Rio Grande Basin are hydraulically connected to the surface flow of the Rio Grande, which is fully appropriated. [FN25] Therefore, approval of the city's application would impair existing surface water rights. [FN26] The state engineer, finding that the city refused to take the steps required by the state engineer to offset the impacts on the river, denied the city's application. [FN27] No evidence was *371 presented at the hearing regarding the city's claimed pueblo rights, and the city appealed. [FN28]

The district court took no new evidence on the questions of whether there was unappropriated water, the relationship between ground and surface water, or whether granting the applications would impair existing rights. [FN29] The court did, however, hear evidence on the city's claim to pueblo water rights. [FN30] The district court found that the city did hold pueblo rights and that the state engineer had no jurisdiction to impair those rights. [FN31] Furthermore, the state engineer could not impose a permit condition that required the city to retire surface rights to offset the effects on the river of underground pumping. [FN32]

The state engineer appealed, contending he had no jurisdiction to adjudicate the city's claim of pueblo rights and that the district court on appeal had no greater jurisdiction than he did. [FN33] The supreme court held that the city's claim to pueblo rights could not have been properly considered by the state engineer because such a claim does not fall within the statutory permit framework. [FN34] The court went on to hold that because the

state engineer had no jurisdiction to consider the claim of pueblo water rights, that issue was not properly before the district court. [FN35]

The supreme court next addressed the issue of whether the state engineer had the authority to impose a condition requiring the city to retire surface water rights to offset the effects on the river of pumping underground water. [FN36] The district court had held that the statutes giving the state engineer authority to regulate the waters of the state do not give him the authority to interrelate surface and underground waters in the manner attempted by the retirement condition. [FN37] In reversing the district court, the supreme court found that although the statutes dealing with underground water were passed subsequent to the statutes dealing with surface waters, there is no indication that the legislature intended the subsequent statutes to be treated entirely separately. [FN38] The court concluded that although the process to obtain underground rights is somewhat different from the process to obtain surface water rights, the substantive rights, once obtained, are the same. [FN39]

The city further argued that the state engineer, in considering whether approval of an application to appropriate underground water will impair “existing water rights from such source,” [FN40] only has authority to consider *372 the effects on prior appropriators having wells in the basin, not prior surface water appropriators. The supreme court, in rejecting the city's argument, found that the city's proposed construction of the statute would deprive prior stream appropriators, whose surface right was derived in part from base flow from underground water, of the right to protect their prior rights. [FN41]

The court next addressed the issue of whether the state engineer had the authority to require the city to retire water rights to offset the effects of pumping on the river. [FN42] The court concluded that given the state engineer's authority to deny an application in toto to protect existing rights, it is a reasonable exercise of the state engineer's authority to impose conditions so as to permit the appropriation in such a manner that will not impair existing rights. [FN43] The court found that it was within the state engineer's authority in this case to impose the retirement condition to protect existing rights. [FN44]

In response to *Reynolds*, the state engineer began imposing conditions on all groundwater permits that directed the applicant to (1) demonstrate the impact of his pumping on the nearby river, (2) acquire ownership of sufficient water rights on the stream to offset the impacts on the river caused by the pumping, and (3) “dedicate” those rights to the state engineer, who could ensure that the surface rights would be dried up as a result of the pumping, so that there would be no net increase of draw on the river. [FN45] This process of “dedication” took place after an application was granted to a party; that is to say, which tract was “dedicated” was left up to the ground water pumper, and acceptance of a “dedicated” right was within the discretion of the state engineer and not subject to further notice to the public at large. [FN46]

There is a growing concern that the traditional process of protecting river systems by allowing persons to pay others to “retire” water rights equal to the long-term impacts from groundwater pumping is either illegal, unfair, or both. It is illegal, the argument goes, because there is no express statutory authority, and it is unfair because it does not give persons “notice” that water rights in their area might be retired. [FN47] The suggestion is that the state engineer should not accept dedicated rights which he can force out of use. Rather, groundwater applicants should have to buy rights from a river user and transfer those rights up to the location where the pumping is taking place. [FN48]

Lurking within what appears to be a technical distinction between “transfers” and “dedications” is a significant policy debate. The process *373 of dedication has, as its fundamental premise, the notion that flow in the

river is being protected. The pro-transfer argument is premised on the notion that rigid application of the prior appropriation doctrine requires all rights to maintain their priority dates even if it means giving surface water priority dates to people taking water from a well.

The “dedication” versus “transfer” debate provides an excellent vehicle for illustrating the need, within New Mexico water law, to ensure that groundwater and surface water are regulated as a single unit. The point of conjunctive management is to keep withdrawals from the river and from the ground water in equilibrium. Whenever there is a new ground water appropriation in a fully appropriated stream-connected aquifer, the state engineer must ensure that the new junior well owner causes no net increase of withdrawals from the stream. How this is accomplished is a matter of choice of water administrators. However, conjunctive management should not promote the fiction that a well owner has moved a surface point of diversion into his well. Such an assumption defies hydrologic reality. Furthermore, it fails to acknowledge the reality that a river is an entity in and of itself that needs protection, for both private and public entities alike.

Requiring all well owners to “transfer” water rights to wells would certainly add to the external costs associated with ground water pumping. High external costs can hurt the small irrigator who chooses to sell his rights for dedication. [FN49] Irrigation has been a part of the cultural tradition of New Mexico for centuries. However, urbanization has steadily increased the need for development of non-irrigation water resources. [FN50] Numerous areas that once were rural and that relied on irrigation as a part of the financial base of the community have changed. [FN51] Irrigation is no longer economically feasible, or, because of increased urbanization, irrigation may no longer be physically possible. [FN52] Even in rural areas, growing families and lot divisions may cause lot sizes to decrease. [FN53] As a result, individuals abandon ditches for pumps, or people simply lose the desire to irrigate. [FN54]

For some rural New Mexicans, the major capital asset of the family is their land. [FN55] Often times appurtenant to that land is a surface water right. [FN56] These water rights were earned by the ancestors of these families through the hard work of construction of ditches and diversion works and the laborious task of irrigation. [FN57] Having done the work to put the *374 water to beneficial use and earned a water right, the ancestors of these New Mexicans passed on a capital asset often of great value to the current generation. [FN58]

Ownership of a water right is not ownership of land. If a water right is not put to beneficial use, it is abandoned [FN59] or forfeited. [FN60] While some willingly choose to sell, others may be forced to sell to avoid forfeiture. In either case, those with the asset are entitled to value for it.

As noted above, one method for acquiring value from a water right is to sell it. In the past there have been two distinct markets. In the first market, purchasers seek to buy a perfected water right and move it to a new location. They want to preserve the priority date and the quantity of water used, and to establish a right at a new location with a senior priority date protectable by injunction in court. [FN61] The movement of a water right from one place to another is called a water rights transfer.

In the second market, purchasers use the conjunctive management tool called the “dedication.” Under this system, as more specifically discussed below, an individual accepts money to cease irrigation. Ceasing irrigation keeps water in the river. It is not a transfer of a water right. [FN62] It does not give one a new specific point of diversion, nor does it give one a right to a specific quantity of water to be diverted at a new point of diversion. [FN63] It is simply a method by which the state engineer ensures that the diversions from the stream caused by groundwater pumping do not make the river worse off than it was before the pumping started. [FN64] A dedica-

tion of a water right should not “impair” the rights of another surface water user because the person dedicating surface water is using less water, thus making more water available to others on the stream. [FN65] Furthermore, a dedication does not establish a “water right” enforceable in court. The person dedicating the right is simply agreeing not to irrigate at the old point of diversion. [FN66]

Two distinct New Mexico statutes bear on this issue. The first is the statute providing for appropriation of groundwater. [FN67] This statute is contained in the groundwater portion of the water code and on its face *375 says nothing about the need to transfer surface rights to obtain a ground water permit. However, as noted above, because ground and surface water are hydraulically connected, the act of extracting groundwater may impact a hydraulically connected stream. Therefore, the state engineer is empowered to protect senior water users by imposing conditions on individuals who seek to take ground water. [FN68]

The second statute is the Water Rights Transfer Act. [FN69] This statute allows changes in point of diversion and purpose of use. It raises the question of whether transfers are the only legal method for conjunctively maintaining ground and surface water. Case law does not support this narrow view. [FN70]

The state engineer has the legal authority to impose dedication conditions on a ground water permit. Certainly, the *Reynolds* and *Berry* cases hold that this power is squarely within the state engineer's discretion, as long as the conditions of retirement and dedication are needed to enforce the purposes of the appropriation statute. [FN71] Of course, the state engineer could not deny a permit to appropriate groundwater if the applicant owned his own surface rights and on his own offered to perform the acts necessary to keep the river whole by abandoning his own surface rights. For example, if the state engineer found a ten acre-foot impact on a stream, and an individual voluntarily agreed to cease using ten acre-feet of his own surface rights, could the state engineer deny the right on the basis of impairment because society didn't want the individual to cease using his own surface rights? Or, if a neighbor agreed to voluntarily cease using ten acre-feet of surface water rights, and this offset the impacts of the well pumping, could the state engineer deny the permit if the hydrologic facts support the applicant? Does the situation change if the applicant pays consideration to a neighbor to cease irrigating with ten acre-feet of water?

The distinction between transferring a water right from a surface diversion on a stream to a well and a dedication to the river of rights that were previously utilized for irrigation is more than academic. The distinction can be summed up in two words-“priority date.” In the transfer of a water right, one seeks to take a water right with a certain priority on the system and move it to a new location-thereby establishing a right to a particular quantity of water, at a particular point of diversion, for a particular use. Theoretically, this transferred right can then be *376 protected by injunction in court. In prior appropriation water law, this priority date is critical because during scarcity, that right will continue to be served if it is senior, while junior users go without water.

The dedication process is quite different. When a person agrees by contract to cease using his water right, he is not moving his priority date to a new location. The groundwater user who is paying him to no longer irrigate is simply committing to the state engineer that a set quantity will remain in the river to offset the impacts of his groundwater diversion. The priority date of the groundwater user is the date of his well. If a call is made on the river in the future because of scarcity, the groundwater user may be shut down, but that was the risk he took when he chose to simply appropriate groundwater. [FN72]

As always, the “rub” as to water transfers comes when theory bumps into reality. First, in most cases, a transfer of a surface water right to a ground water well, and maintenance of a priority date at a new point or di-

version, is a legal fiction. [FN73] When a well near a stream is pumped, the stream is affected at different rates and at different locations throughout the stream system, depending upon how the pumping from the well happens to draw water from the river. [FN74] The new point of diversion of the surface water is not the well, but numerous unspecified locations along the stream. [FN75] Furthermore, it is also a fiction to assume that in a water-short year, there is any remedy to protect stream users from ground water pumping. As a well is pumped over time, its effects on the river increase because the area between the well and the river has been drained and water from the river begins to flow into the soils near the river. [FN76] If a court enforcing priorities orders that a well be stopped because there is little water in the river, this will have no effect on the way in which the river functions. Gravity and other hydrologic forces will continue to cause the water to fill in the dewatered area, even though the well itself has stopped pumping. The laws of nature always trump the laws of humankind.

Thus, for example, to engage in the fiction that one is actually “transferring” a surface water right to a well screen eight-hundred feet underground and five miles from a river is misleading at best and perhaps bad policy. Society is better served if the decision is made up front that the river is being protected in its entirety by dedications. It is not good policy to give the impression that the prior appropriation system is being preserved by priority dates in wells if the wells are in fact incapable of regulation.

*377 It is possible that a person's decision to no longer irrigate and dedicate his water rights to the stream may have an impact on fellow irrigators in the area. However, no court has gone so far as to tell an individual that he *must* use his land in a particular way. [FN77] Thus, no individual can be told under the “police power” [FN78] to irrigate; the choice whether to irrigate is left to the individual. [FN79] No rule by the state engineer or any other entity can preclude an individual, either voluntarily or pursuant to contract, from *not* doing something with his land. [FN80]

Principles of fairness and good planning may motivate the state engineer to hold a hearing when dedications are made. [FN81] Various reasons support requiring a hearing in this circumstance. First, the decision to cease irrigation by an individual may impact other individuals on the same ditch who need a sufficient amount of water to actually get water to their headgate. [FN82] Second, the simple decision to take water out of irrigation may affect the economies of scale of the local irrigators and impact their ability to sell their products. [FN83] Thus, the loss of an irrigator in a system may have a substantial cultural impact on a community because of a tradition of agriculture. [FN84] Fourth, and finally, such a decision may have some environmental consequences. [FN85] Merely because one's neighbor may have no legal right to force a person by injunction to continue irrigating his property, this does not mean that such persons have no interest. [FN86]

Numerous non-legal options are available to keep an area in irrigation. [FN87] Persons attending the hearing may wish to try to persuade the individual to continue irrigating, or help him find alternative financing to support his farming operation. [FN88] The attendees may wish to compete with the potential buyer to keep the water rights in irrigation, or to utilize an entity such as local government or the Nature Conservancy to purchase the right to ensure that it remains in the area. [FN89] Thus, the state engineer may properly enact regulations to require notice and hold public hearings so persons in the area may be fully informed of what is occurring in *378 their community and participate by having their own political voices heard. [FN90] Plainly, dedications of water rights and the retirement of irrigation rights have implications for public welfare. Given the state engineer's power to condition permits, a number of possible conditions come to mind. He could place conditions on the kinds of rights that will be acceptable for future dedication. For example:

- a) he could give a preference to rights that are no longer needed for irrigation by the individual or where ir-

rigation is no longer practical or feasible; or

b) he could require a showing that the dedication will not undermine the viability of an existing irrigation system or acequia; or

c) if he should conclude that a dedication undermines the viability of an existing ditch system, he could require that the buyer demonstrate his willingness to maintain his share of overhead under the ditch system even though the rights are dedicated so that the ditch or acequia system can continue; and finally,

d) he could require a showing that the retirement of the rights will not undermine the quality of water available to the remaining users of water within the ditch or acequia system. [FN91]

B. The New Mexico Constitution and the Issue of Well Impairment

Separate from the question of protecting streams from impacts of junior wells is the problem of well interference. As urbanization continues, it will lead to more and more groundwater withdrawals. As a result, not only will wells affect the stream system, they will also affect each other. The New Mexico statutes, of course, prohibit a junior well user from "impairing" the rights of others who have existing wells. [FN92] The question is thus raised, when does the pumping of one well impair another enough that the new well should be prohibited? The calculus is not easy.

A hypothetical example may illustrate this point. If well owner A decides to put down a well, and pumping from his well affects well owner B who owns an existing well, the following questions seem appropriate for the state engineer in deciding whether the effects on well owner B constitute impairment. First, has well owner A designed his well to minimize the effects on B, and has he selected a site which will minimize his effects on B? If the answer to both of these questions is "yes," then the state engineer should ask the following questions of B: what is the depth of B's well, what is the depth to water in the aquifer where B's well is located, and finally, what is the water column in B's well? If B has a water column of seventy-five feet and the pumping by A would lower that water column only ten feet over the next fifty years, this would definitely affect B's well. This would not, however, constitute *379 impairment. B's well would function as efficiently at the end of fifty years with a water column of sixty-five feet as it did with seventy-five feet of water column.

Suppose, however, that B's well has only twenty feet of water column in it, and that after twenty-five years it will be lowered to a water column of twelve feet. If we assume that the well ceases to function with only twelve feet of water column, this would seem to be an open and shut case of impairment. Unfortunately, additional factors can make the state engineer's job more difficult. [FN93]

Suppose the aquifer is three hundred feet thick and begins at twenty feet below the ground surface. Suppose further that B chose to drill his well only forty feet deep to save expenses and that if he had drilled it eighty feet deep, there would have been no impairment problem. Can B choose to tap just the top of the aquifer and foreclose A's junior but more efficiently constructed well?

In arguing impairment in this case, B would argue that his well is impaired because twenty-five years from now, he will have to replace his well with a deeper one as a result of A's pumping. The question that must be asked by the state engineer is whether the pumping of A has actually caused B to have to replace his well. There may be no easy answer. In virtually all urban aquifers there will be other pumpers who are also having an effect

on the aquifer by lowering the water table. If the water table is already declining before A puts in his well, at some point B would have to replace his well even if A did not pump.

In this hypothetical example, suppose that as a result of pumping by other permitted well users, B's well would have to be replaced after thirty years even if A never pumped a drop. Therefore, if A's pumping caused B to replace his well after twenty-five years, and it would have to be replaced after thirty years even if A didn't pump, then the actual impairment to B is the impact of having to replace his well at the end of twenty-five years rather than at the end of thirty years. This would mean he would have to expend the capital he would otherwise have to spend in the future, but five years earlier. Thus, it is not the capital expenditure that is the damage, as this would have to be spent anyway because of others' pumping. Rather, the damage is the loss of the use of the money for drilling a well for five years. However, the loss of the use of that money for five years will not occur for twenty-five years. The actual cost today is the present value of not being able to use the money twenty-five years from now. At historical interest rates, this cost would not be high. The state engineer must balance this cost against the benefit to A of drilling a well and supporting his business operation.

If the issue were not complicated enough, another factor may be relevant. Suppose that at the time of drilling A's well, B's well is thirty *380 years old. If the useful life of a well is fifty years, then B's well will have to be replaced anyway before A's well would have any impact. Therefore, A would argue that B's well is not impaired because simple depreciation of the well is requiring the replacement, not A's well. B would counter that because of A's pumping, he will have to drill the well deeper in the future, at greater cost, when he does replace his well. Therefore, the additional cost of drilling a deeper well is impairment. A will respond that the actual damage to B today is the present value of B's having to drill his well somewhat deeper twenty years in the future. In this argument, the state engineer will have to decide whether the depth of a well is part of B's water right or whether the water right is the right to obtain water at reasonable depths with an efficiently designed well appropriate to the aquifer.

Both logic and caselaw support the proposition that one's water right in a well does not include the right to a well of a particular depth. The rational solution for the state engineer in these cases is to place burdens on the new well driller as well as on the holder of a vested right. First, the new well owner must have selected a site that is designed to minimize the impacts on surrounding wells and have drilled and equipped his well to minimize impacts on other well owners. As to the vested right holder, the state engineer must: (1) not allow an inefficient shallow well to foreclose all future access to the aquifer; (2) distinguish between impacts that are actually caused by the new well owners as opposed to existing and projected impacts caused by pumping by others; (3) determine the practical present affects on the water column within the well of the lowering of the water table; and d) determine whether the well would have to be replaced anyway because of depreciation of the well itself. Finally, if there are actual effects caused by the new well, the state engineer should determine whether he should condition a well permit on the new well owner's willingness to either compensate the existing well owner for the damage or in severe cases, drill a new well for the existing owner. If a new well would inflict actual costs on persons of modest incomes in the area who are unable to pay the costs, this factor is relevant to the state engineer's inquiry under the issue of "public welfare" and would certainly present a good case for requiring compensation. However, the state engineer should not rule that any lowering of the water column in a well is impairment.

The "tradeoffs" between protecting vested rights on the one hand and allowing full development of the aquifer on the other, were perhaps best framed by the Colorado Supreme Court in *A-B Cattle Co. v. United States*. [FN94] Commenting upon past decisions that protected senior water rights but foreclosed other development, the court stated:

These decisions are concerned primarily with the respective priorities of *vested rights* which have been established. It is implicit in these *381 constitutional provisions that, along with *vested rights*, there shall be *maximum utilization* of the water of this state. As administration of water approaches its second century, the curtain is opening upon the new drama of *maximum utilization* and how constitutionally that doctrine can be integrated into the law of *vested rights*. We have known for a long time that the doctrine was lurking in the backstage shadows as a result of the accepted, though oft violated, principle that the right to water does not give the right to waste it. [FN95]

The “waste” in *A-B Cattle* was the possibility that a storage reservoir could not be built if the supreme court upheld an alleged inefficient means of diversion by surface users. [FN96] The court did not allow that “waste.” In the context of groundwater, the “waste” caused by interpreting *any* decline in water levels as “impairment” would be the loss of valuable groundwater resources because senior well owners have drilled shallow wells.

The New Mexico Supreme Court has held that a decline in water level in a well is not *per se* “impairment.” In *In re Brown*, [FN97] the supreme court refused to hold that a decline in the water level of 3.9 feet was impairment as a matter of law. [FN98] Rather, the court held that it was merely a factor to be considered among others, including the particular characteristics of the aquifer. [FN99]

The issue of reasonable water table declines was addressed most directly in *Mathers v. Texaco*. [FN100] In *Mathers*, an application was filed to appropriate water in the Lea County Underground Water Basin. [FN101] Prior to any litigation, the state engineer had recognized that the Lea County Basin would necessarily decline if it was to be utilized at all. [FN102] As a result, he applied a time dimension to the rights and decided to allow water to be taken by future appropriators at a rate such that, at the end of forty years, there would be sufficient water left for domestic and nominal uses, but not for commercial agriculture. [FN103]

The protestants whose wells were being substantially affected by the declines in the water table as a result of new permits argued that under the doctrine of prior appropriation, no new appropriator could lower water levels and deny them their right to the water level they had when they put down their well. [FN104] In rejecting this argument, the supreme court pointed out:

[If] the position of the protestants be correct, then each and all of the many permits to withdraw waters from this basin issued by the *382 State Engineer, subsequent to the initial permit, have been issued wrongfully and unlawfully, because each withdrawal, to some degree, has caused a lowering of the water level, and thus an impairment of the rights of the initial appropriator. [FN105]

Judge Bratton also described the issue thoroughly and clearly in a United States District Court decision involving an attempt to drill wells in the then unregulated lower Rio Grande. In *Maestas v. Elephant Butte Irrigation District*, [FN106] Elephant Butte Irrigation District (EBID) had drilled wells in an undeclared basin. Individuals claiming that the pumping of EBID's wells adversely affected the performance of their wells filed suit to enjoin EBID from pumping. [FN107] Judge Bratton distinguished between the integrity of an appropriator's “water right” and the functioning of the means of diversion. [FN108]

In *Maestas*, high volume pumping from deeper wells, to supplement the entire water supply of the district, reduced the amount of water discharged by the shallow private wells. [FN109] This caused surging and caused some wells to pump sand. [FN110] Judge Bratton refused to grant an injunction, pointing out that the effects the farmers observed “relate only to the functioning of their wells and not to the integrity of their water rights.” [FN111] He found that “at this point in time there is ample water of an acceptable quality available and it is economically feasible to pump it.” [FN112]

The Albuquerque Task Force Subcommittee on Impairment commissioned by former State Engineer Eluid Martinez reached a conclusion similar to the supreme court and to Judge Bratton. [FN113] The Subcommittee concluded that if water were available through deepening of wells, it would be appropriate to allow water level declines so long as they were not excessive:

Drawdown calculations shall be performed in the manner as described ... to provide the most realistic estimates of drawdown at wells in the area of hydrologic influence. *Excessive water level decline is deemed as the drawdown which will result in a certain number or percentage (e.g., 30 percent) of the wells in the area of hydrologic influence to require deepening within a 40-year period.* [FN114]

The Task Force Subcommittee pointed out that a key consideration is whether it would be possible for the senior user to deepen a well. If the saturated thickness was not adequate to allow the well to be deepened, *383 then a replacement supply would have to be developed by the junior appropriator. The report states that “[t]he definition of excessive water level decline will be made on a case-by-case basis. Factors to be considered include the ... available saturated thickness to enable wells to be deepened.” [FN115]

In New Mexico, even in the area of water quality, a decline in the water level is reasonable if it does not significantly increase effects caused by past pumping. In *Stokes v. Morgan*, [FN116] a new well was causing salt-water intrusion in an old well. [FN117] The court rejected an argument that this was impairment because historical pumping had already begun to cause deterioration in the water quality in the well. The court stated that “t his Court has previously held that the lowering of a water table does not necessarily constitute impairment, even though there may be some negative economic impact” [FN118] It went on to hold that “protestants have not shown that the proposed move will cause a *significant change* in the rate of deterioration.” [FN119]

Unlike New Mexico, which addressed reasonable water declines through case law, many western states have dealt with this issue by statute. This is true in Idaho, [FN120] Kansas, [FN121] Colorado, [FN122] Montana, [FN123] Nevada, [FN124] and Utah. [FN125]

C. The New Mexico Constitution and Federal Regulatory Water Rights

States have been described by Justice Stone as “laboratories” for democracy where experiments in self-government and protection of the rights of people and property can take place and enrich the democratic fabric of the nation. [FN126] Prime examples of this doctrine can be found in the “market participation” doctrine where states are constitutionally entitled to allocate their assets in the manner most beneficial to their own citizens. [FN127] This deference to state choices has been given special recognition by both Congress and the courts. [FN128] Even so, there is also a national interest in ensuring that the nation's natural resources, including water, are protected.

*384 Through the Commerce Clause, [FN129] the federal government has been able to touch the furthest reaches of private and public property. [FN130] This federal power has resulted in the creation of federal regulatory water rights to ensure minimum water quality within streams, [FN131] water for federal enclaves, [FN132] and protection of aquatic species. [FN133] Within this broad sweep, public waters in New Mexico from the San Juan River to the occasional flows of the Rio Puerco are subject to regulation. There is, of course, good reason for this regulation.

The protection of water quality in the nation as acknowledged in the Clean Water Act [FN134] is no doubt a goal all people share. The issue, of course, is how far will this principle of regulatory water quality extend? It is

one thing to set standards for minimum flows in streams to minimize pollution below a certain standard. [FN135] It is quite another when the federal goal goes beyond water quality protection for health and safety purposes and extends to value judgments as to what is the highest and best use of a river within a state. [FN136]

The Clean Water Act has been interpreted in recent years by many in Washington to require not only protection of the quality of flow, but to mandate minimum flows for fish propagation, riparian maintenance, and recreational values. [FN137] While these are laudable goals, they may preempt decisions at the state level as to the meaning of “beneficial use” within the New Mexico Constitution. It is precisely because value judgments are being made at the federal level as to which uses are more “beneficial” than others that the Clean Water Act is currently under review in the Congress. [FN138] No one is clear as to the outcome, but when water quality is translated into a debate as to the “quality of life” of those living nearby and using the western streams, the prior appropriation doctrine is directly affected. Whether the quality of life decision should be made at the federal level or at the state level is at the heart of the debate.

A second major regulatory right to water affecting prior appropriators is the right generated for species protection under the Endangered Species Act. [FN139] The Endangered Species Act has as its primary and laudable goal the prevention of extirpation of species. [FN140] In achieving that goal, it can *385 have significant effects on prior appropriators in western states, if the species requires water that is also needed for human use. [FN141] The current manner of allocation of water shortage pursuant to the Act improperly shifts the burdens for species protection to users of water under new federal projects.

A fair law allows one to plan for its application and punishes those who have caused the problem-invoking the law by requiring they pay for the consequences of what they have done. The Endangered Species Act, however, can be applied to reflect the antithesis of this principle. For example, if a species is listed on a stream system, resulting in limitations on water use, those who previously took the action to use water resulting in the endangerment of the species are generally allowed to continue as before. [FN142] The prospective water users from some unconstructed federal project pay for the species' protection because they cannot have their project. Ironically, those whose projects endangered the species are free from these costs.

If a species is determined to be in jeopardy of extinction, any proposed federal project affecting a stream where they are found can only go forward if the federal agency developing the project conducts a “Section 7” consultation and adopts methods of protecting the species. [FN143] Since there is often limited water in such streams, the first entities to achieve Section 7 consultations have the best chance of going forward. Because the capital works are already in place, existing projects are the most likely to continue and the proposed projects will be stopped because all of the water currently not being used will be needed by the species.

The endangered species is given the most senior right. A fair method of protecting this federal regulatory right, rather than stopping all new projects, would be to allocate the costs of its protection among all junior water users. The priorities would be as follows: first, the species, and second, the senior pre-federal project water right users holding rights under state law. The balance of the water in the river should be divided among existing and proposed project users. This would force everyone involved in utilization of water through federal projects to share the “true” cost of species protection.

If, as among project uses, some uses were more highly valued than others, then these rights could be made transferable, and the water market would cause the rights to move to higher valued uses. Also, if federal project users did not have sufficient rights, they could purchase pre-project rights. These rights would no doubt be ex-

pensive, but this would simply reflect the price Congress is asking the federal project water users in the area to pay to protect the species. Another way to view the matter *386 would be to compel those who benefit from species protection to pay the costs.

Since all existing water users in the basin are benefiting from protection of the species, they should contribute to protection by sharing shortages or through assessments to improve stream conditions. However, the benefits of protection do not end within the river basin. It was the United States Congress that wrote the Act. Therefore, Congress, on behalf of the population of the nation, should pay its share of the costs of protection. Certainly the costs of protection should not be visited only on the persons competing for the use of the water resources in a particular river basin.

Section 9 of the Act makes the “taking” of a species or the destruction of its habitat a crime. While Section 7 applies only to federal projects, and the remedy is modification or prevention of the construction of a federal project, Section 9 applies to private actions as well. The implications for state water law are staggering. If a diversion by a senior irrigator of water under state law results in the destruction of the critical habitat of an endangered fish, the *Sweet Home* decision holds that criminal sanctions are applicable. [FN144] Adjustments of the Section 9 and state water law provisions will require some significant balancing of policies at the federal and state levels. The process for making these adjustments is key to the survival of the Act.

Integrating state and federal water policies has become more complex as the range of possible uses of this scarce resource has expanded and as supplies have decreased. [FN145] These conflicting policies are driven by the twin and competing dynamics of increased technological and economic efficiencies, allowing more water to be diverted from streams and put to beneficial use at the state level, and a growing national political desire to protect other values in water, such as rural cultures, riparian fauna, and instream flows associated with fish and wildlife. [FN146]

The Endangered Species Act squarely raises the conflict between these two competing sets of interests. [FN147] Under the current ESA, there is no reasonable forum for resolution of this conflict in a manner that provides affected parties full notice and opportunity to be heard and allows consideration of the economic and social consequences to the competing interests when a final decision is made. [FN148]

Typically, when an endangered species is found on a western stream, the federal agencies involved might be the United States Fish and Wildlife Service, the Bureau of Reclamation, the Forest Service, the United States Geological Survey, local irrigators, and possibly an Indian tribe. [FN149] The *387 roles of the Secretary of Interior and the United States as political entities are far from clear. [FN150]

Because there is no formal process for dispute resolution, the entity that has the Secretary's ear may short-cut any negotiation process that might develop between local interests and the federal agencies. [FN151] There is no real open process for scoping of issues, and no clear time frame for decision-making, nor is there a federal record. [FN152] The process can easily degenerate into a “discovery” process for future litigation by environmental groups or other entities who believe they are being run over by the federal agencies. [FN153]

There is also no requirement that any of the options provided in the Act, from study to stopping the project, be proven to protect the species. There is an irony here as well. Once a project has been stopped, the political interests can declare victory and go home, but the species is still in danger. Yet stopping a project does not, in and of itself, recover a species. [FN154] When a federal agency is told it must protect a species by not building a project, it is rare that any money is made available to accomplish the task of recovery. By definition, the species

must be in danger of extinction to have triggered the decision to stop the project. Absent some extensive biological studies and expenditures of federal money, the species remains at best at *status quo* and at worst becomes extinct because the public at large incorrectly assumes stopping the project “saved” the species. The opposite may be true. Both the species which remain endangered and those which would have benefitted from a project that was not built may have lost as a result of the application of the Act. [FN155]

There is also concern that the ESA is too narrow in its scope. A better approach might be to use federal resources to study the potential for complete and integrated riparian management of river systems, with the river itself considered a hydro-commons where all species' interest are evaluated. [FN156] For example, it makes little sense to protect an endangered species by mimicking the traditional hydrography of a river with high flow releases if the water flows inundate the nests of birds and destroy the habitat of bank dwellers that have carved out their niche of existence based on the flow of the previous fifty years. Management for bio-diversity may engender more political support for the Act by broadening the number of protected species and increasing support of a broader spectrum of persons concerned about the environment.

A further problem with piece-meal preservation of species is the difficulty of articulating the consequences to society if a species is lost. Common economic methods for evaluating natural resources often cannot assign a cost to society for loss of a species.

*388 Typical economic theory would value a species by its utility and market value. [FN157] But what is the cost to society if the Rio Grande Silvery Minnow is lost? [FN158] The economic method of Contingent Valuation Methodology recognized in *Ohio v. Department of Interior* [FN159] might allow one to survey the opinions of many based upon their willingness to pay to keep the minnow intact. However, Congress has determined the value of a species, by whatever measure, is irrelevant. If the biological community concludes the minnow is endangered, the value of the minnow need not be calculated nor can the cost of its recovery be considered. [FN160]

There is a fundamental logic to this position. Attaching economic values to species is a slippery slope. Having decided one species is not sufficiently valuable to deserve protection, society may be willing to include within that category numerous species that are not valuable enough to “deserve” protection.

Certain species are attractive or romantic and the public may wish to protect them for this reason. This hardly seems a legitimate basis for species protection. There may be great value in the role unattractive species play in the food chain or as an ingredient in some valuable medical remedy. Under a flexible standard of protection, these species may lose out to the more popular ones. Even so, the economic consequences to local residents of protecting species are important.

The logic and emotion that spurred the creation of the Act was based on the unacceptable fact that development was eliminating species. Unfortunately, Congress, feeling warm after making environmentally friendly decisions, does not always feel the cold reality of those decisions. For example, “saving” species may send rural irrigators to jail for exercising their prior appropriation water rights under state law. This also seems unacceptable.

There is no easy solution to this problem. At a minimum, the Act would better balance federal and local interests if 1) there were a process to negotiate with and bind agencies to alternatives, 2) it were possible to factor in socio-economic considerations in arriving at alternatives for recovery, 3) there were a federal commitment of funds for recovery plans and for compensation for the deprivation of prior appropriation water rights, and 4) the

Act provided for integration of recovery plans into ongoing state water planning processes. [FN161]

D. The New Mexico Constitution, Sustainability, and Conjunctive Management of Ground and Surface Water

The New Mexico Constitution makes no mention of ground water. [FN162] While at first this may appear to be an oversight, in fact the drafters may have had more wisdom than they we understood. Water is water. *389 As discussed above, in basins where groundwater is hydraulically connected to the surface water, they are the same resource. Surface water is more subject to exploitation, pollution, and evaporation. Groundwater is a reserve source of surface water encased in soils and protected from air and wind-born contaminants.

Complex questions for present and future generations include the following: how should an urban area plan its growth, should it rely only on the surface water that flows into the area on an annual basis, or should it build its future on the groundwater? One could argue that because of the superior quality of the ground water, it should be utilized first. Only when it faces exhaustion should we turn to the surface water. Others would argue that responsible growth can only be based upon the long-term reliable supply of surface water. Therefore, the ground water should never be utilized, but should be held in reserve for future generations.

The issue is more complex than either of these positions. On the surface water side of the argument is the strong view that growth must, of course, be related directly to water resources available to support it. However, use of surface water exclusively does not come without cost. More and more, society is recognizing that rivers are themselves institutions. If one diverts all of its uses directly from the stream, then the stream itself disappears. The riparian habitat, the endangered species and the recreational values disappear. Are all of these costs worth bearing under the banner of water planning if ground water is available in reasonable quantities to minimize these impacts?

Conversely, exclusive use of finite ground water stocks is also not prudent. Even with rationing, recycling, and reinjection, some uses of water are one hundred percent consumptive to the aquifer. Therefore, when the aquifer is exhausted, society must move or import water, often at great cost. One fact is clear, in order to plan most effectively, both the river and the ground water aquifer must be clearly understood.

A long-term research program for determining the hydrologic, physical, chemical, and biological characteristics of the aquifers and rivers should be developed. Then, a coordinated, long-term research program should be implemented to sustain management of the aquifer system and the river conjunctively. The program should emphasize continuity among studies and should be directed by an advisory board with technical representatives from all affected parties having jurisdiction within the area. This program should involve all institutions that regulate surface and ground water, thus bringing different perspectives to the table including environmental, developmental, health, cultural, and scientific interests.

The long-term study should examine the long-term reliable supply of surface water and the thickness, extent, and depth of the aquifer. The study should determine more reliable estimates of porosity, permeability, storativity, and hydraulic conductivity of the aquifers. Other important components include the following: (1) changes in water quality with depth, geographic location, and relation to producing well fields, (2) the degree *390 of connectivity between various zones within the aquifers, the recharge zones, and the river itself, (3) the extent and location of faults or other compartmentalizing factors within the aquifers important for optimizing well placement, and (4) physical, chemical, and biological characterization of the aquifer.

These studies must be carried out with the best available scientific approaches and should include a system of monitoring wells, use of remote sensing and aerial photography to map and fully understand zones of recharge and the consequences of subsidence, and development of a geographic information system to integrate surface features, infrastructure, and hazardous activities on a common base map.

After the characteristics of the aquifer are understood with a sufficient level of confidence, an interagency and interdisciplinary panel should be brought together to determine an optimum yield for the aquifer on the basis of an evaluation of multiple objectives. It may be useful to engage in this analysis the same advisory board that would be directing the long-term ground water research program. What is optimal for the aquifer will depend, at a minimum, upon a number of interrelated factors:

- a consideration of the economic dependence of the region on the ground water resource;
- the consideration of deteriorating water quality with increasing aquifer depth;
- the current impacts of point source and nonpoint source pollution;
- the availability and actual marginal cost of obtaining and distributing other new sources of water;
- an analysis of water use;
 - the influence and potential of programs for water pricing and metering, water conservation, water reuse, and ground water recharge;
 - the impact of water use on other environmental interests, and
 - the best calculations available as to the potential long-term life of the aquifer at the various rates of pumping based on the considerations above.

Some rational combination of ground and surface water use that will support reasonable economic development and prolong the life of the aquifer must be determined. Rational water planning is not, however, enough to solve the problem of water scarcity. The problem of water scarcity is not caused by insufficient water supplies; instead, it is caused by the choices of people to live where there is inadequate water to support their needs. One cannot make water where it is not, but one can rationally choose to live where there is water. It is only when we make the latter choice that the water scarcity problem will be solved. Rational conjunctive management is a valuable tool, but it is not a solution.

CONCLUSION

As we turn the corner into the next century, the principles of prior appropriation and beneficial use continue to work well. They are tempered *391 by the need to administer the water rights under these doctrines to protect our river systems and fairly balance the interests of competing well owners. We must also ensure that these doctrines are integrated into the federal regulatory rights promoting the interests of the citizenry in natural occurring flora and fauna. Finally, we must understand that water is scarce because too many people choose to live where water is in limited supply.

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[FN1]. “The concept [of beneficial use] requires actual use for some purpose that is socially accepted as beneficial.” *State ex rel. Martinez v. McDermott*, 120 N.M. 327, 330, 901 P.2d 745, 743 (Ct. App. 1995). *See also* FRANK J. TRELEASE & GEORGE A. GOULD, *WATER LAW: CASES AND MATERIALS* 32-38 (4th ed. 1986) (discussing the term “beneficial use”).

[FN2]. *See Big Cottonwood Tanner Ditch Co. v. Shurtliff*, 164 P. 856, 860 (Utah 1916).

[FN3]. *See* N.M. CONST. art. XVI, § 3.

[FN4]. N.M. CONST. art. XVI, § 1.

[FN5]. N.M. CONST. art. XVI, § 2.

[FN6]. 36 N.M. 350, 15 P.2d 671 (1932).

[FN7]. *Id.* at 355, 15 P.2d at 673.

[FN8]. N.M. CONST. art. XVI, § 2.

[FN9]. N.M. CONST. art. XVI, § 3.

[FN10]. *Kaiser Steel Corp. v. W.S. Ranch Co.*, 81 N.M. 414, 417, 467 P.2d 986, 989 (1970).

[FN11]. This, of course, refers to water under state jurisdiction and does not include water reserved under federal law. *See United States v. New Mexico*, 438 U.S. 696 (1978).

[FN12]. *See generally Martinez*, 120 N.M. at 330, 901 P.2d at 748; *Cartwright v. Public Serv. Co.*, 66 N.M. 64, 343 P.2d 654, 663 (1958).

[FN13]. N.M. STAT. ANN. § 72-41-9 (Repl. Pamp. 1985 & Cum. Supp.1995).

[FN14]. *See State ex rel. Reynolds v. Miranda*, 83 N.M. 445, 447, 493 P.2d 409, 411 (1972).

[FN15]. TRELEASE & GOULD, *supra* note 1, at 68 (quoting NAT'L WATER COMM&7DN, *WATER POLICIES FOR THE FUTURE* 305 (1973)).

[FN16]. *See* N.M. CONST. art. XVI, § 3.

[FN17]. N.M. STAT. ANN. § 72-12-8 (Repl. Pamp. 1985 & Supp.1995) (forfeiture of water rights for nonuse).

[FN18]. *See, e.g., Utt v. Frey*, 39 P. 807 (Cal.1895); *CF&I Steel Corp. v. Purgatoire River Water Conservancy Dist.*, 515 P.2d 456 (Colo.1973); *State v. South Springs*, 80 N.M. 144, 452 P.2d 478 (1969); *State v. McLean*, 62 N.M. 264, 272, 308 P.2d 983, 991 (1957); *Louth v. Kaser*, 364 P.2d 96 (Wyo. 1961).

[FN19]. *See, e.g., Swallows v. Laney*, 102 N.M. 81, 85, 691 P.2d 874, 878 (1984); *First State Bank of Alamogordo v. McNew*, 33 N.M. 414, 439, 269 P. 56, 66-67 (1928).

[FN20]. *See, e.g., City of El Paso v. Reynolds*, 597 F.Supp. 694 (D.N.M. 1984).

[FN21]. *See Alamosa-La Jara Water Users Protection Ass'n v. Gould*, 674 P.2d 914 (Colo.1983) (finding that rules regulating the use of ground water right holder's wells was proper in order to protect surface water right holders and required water deliveries to New Mexico).

[FN22]. 71 N.M. 428, 379 P.2d 73 (1962).

[FN23]. *Id.* at 429-30, 379 P.2d at 74-75.

[FN24]. *Id.*

[FN25]. *Id.* at 431, 379 P.2d at 75.

[FN26]. *Id.*

[FN27]. *Reynolds*, 71 N.M. at 431, 379 P.2d at 75.

[FN28]. *Id.*

[FN29]. *Id.*

[FN30]. *See id.*

[FN31]. *Id.*

[FN32]. *Reynolds*, 71 N.M. at 431, 379 P.2d at 75.

[FN33]. *Id.*

[FN34]. *Id.* at 431, 379 P.2d at 76.

[FN35]. *Id.* at 434, 379 P.2d at 79.

[FN36]. *Id.* at 435, 379 P.2d at 80.

[FN37]. *See id.*

[FN38]. *Reynolds*, 71 N.M. at 434-35, 379 P.2d at 79-80.

[FN39]. *See id.* at 437-38, 379 P.2d at 82-83.

[FN40]. *Id.* at 435, 379 P.2d at 80 (quoting N.M. STAT. ANN. § 75-11-3 (1953 Comp.)).

[FN41]. *Id.*

[FN42]. *See id.* at 438, 379 P.2d at 83.

[FN43]. *Id.*

[FN44]. *Id.*

[FN45]. 94-07 Op. N.M. Att'y Gen. (1994) (criticizing dedication policy).

[FN46]. *Id.*

[FN47]. *Id.* at 2, 4, 7-10.

[FN48]. *Id.* at 6-8.

[FN49]. Letter from Charles T. **DuMars**, Professor of Law, University of New Mexico School of Law, to Eluid Martinez, New Mexico State Engineer 9 (July 21, 1994) (on file with author and New Mexico State Engineer's Office).

[FN50]. *Id.* at 1.

[FN51]. *Id.*

[FN52]. *Id.*

[FN53]. *Id.*

[FN54]. Letter from Charles T. **DuMars**, *supra* note 49, at 1.

[FN55]. *Id.*

[FN56]. *Id.*

[FN57]. *Id.*

[FN58]. *Id.* See also Bonnie G. Colby, *Water Reallocation and Valuation: Voluntary and Involuntary Transfers in the Western United States*, in *WATER LAW: TRENDS, POLICIES, AND PRACTICE* 122-25 (Kathleen Marion Carr & James D. Crammond eds., 1995).

[FN59]. See *State ex rel. Reynolds v. South Springs Co.*, 80 N.M. 144, 146-47, 452 P.2d 478, 480-81 (1969). Abandonment requires an intent to abandon, whereas forfeiture is statutory and may not require an intent to relinquish the right. *Id.*

[FN60]. See *N.M. STAT. ANN. § 72-12-8* (Repl. Pamp. 1985 & Supp.1995) (forfeiture statute).

[FN61]. *N.M. STAT. ANN. §§ 72-5-22 to -24* (Repl. Pamp 1985 & Supp.1995). See generally A. Dan Tarlock, *Reallocation: It Really is Here*, in *WATER LAW: TRENDS, POLICIES, AND PRACTICE* 104 (Kathleen Marion Carr & James D. Crammond eds., 1995).

[FN62]. See Letter from Charles T. **DuMars**, *supra* note 49, at 2.

[FN63]. *Id.*

[FN64]. *Id.*

[FN65]. *Id.* See also 94-07 Op. N.M. Att'y Gen. 2-3 (1994).

[FN66]. Letter from Charles T. **DuMars**, *supra* note 49 at 2.

[FN67]. *See* N.M. STAT. ANN. § 72-12-1 (Repl. Pamp. 1985).

[FN68]. As noted above, in the discussion of *City of Albuquerque v. Reynolds*, those conditions may include requiring the entity receiving the groundwater permit to keep the river whole by (1) placing water back into the river through a transbasin diversion, such as water through the San Juan/Chama diversion tunnels; (2) acquiring return flow credits from some entity that is returning water back to the river on its behalf such as a municipality; or (3) paying someone else to no longer use his surface right so that the impacts of the groundwater pumping cause no net increase in drawdowns on the river-the dedication process. *See supra* notes 22-45 and accompanying text.

[FN69]. N.M. STAT. ANN. § 72-5-22 to -24 (Repl. Pamp 1985 & Supp.1995).

[FN70]. *See* *City of Roswell v. Berry*, 80 N.M. 110, 452 P.2d 179 (1969); *City of Albuquerque v. Reynolds*, 71 N.M. 428, 379 P.2d 73 (1962).

[FN71]. *See Reynolds*, 71 N.M. at 439, 379 P.2d at 83; *Berry*, 80 N.M. at 112, 452 P.2d at 181.

[FN72]. Letter from Charles T. **DuMars**, *supra* note 49, at 2; *see also* 94-07 Op. N.M. Att'y Gen. 2-3 (1994).

[FN73]. Charles T. **DuMars**, *Conjunctive Management of Ground and Surface Water: New Mexico Case Law and Policy Issues*, in ISSUES IN GROUNDWATER MANAGEMENT 197-202 (Ernest T. Smerdon & Wayne R. Jordan eds., 1985).

[FN74]. *Id.*

[FN75]. *Id.*

[FN76]. *Id.*

[FN77]. Letter from Charles T. **DuMars**, *supra* note 49, at 2.

[FN78]. “The expression ‘police power,’ although capable of use, and sometimes used, in a restricted sense, is frequently used very broadly to include all legislation and almost every function of civil government.” 16A AM. JUR. 2D *Constitutional Law* § 363 (1979).

[FN79]. Letter from Charles T. **DuMars**, *supra* note 49, at 2-3.

[FN80]. *Id.* at 3.

[FN81]. *Id.* at 6-7.

[FN82]. *Id.* at 7.

[FN83]. *Id.*

[FN84]. *See id.* *See also* *In re Sleeper*, No. RA-84-53(c) (N.M. 1st Jud. Dist. April 16, 1985) (overturning a decision by the State Engineer to allow a transfer), *rev'd*, 107 N.M. 494, 760 P.2d 787 (Ct. App. 1988) (reversed

because the statute in effect at the time in question did not include the public's interest as a factor to be considered), *and cert. quashed sub nom.*, [Ensenada Land & Water Ass'n v. Sleeper](#), 107 N.M. 413, 759 P.2d 200 (1988); George A. Gould, *Recent Developments in the Transfer of Water Rights*, in WATER LAW: TRENDS, POLICIES, AND PRACTICE, *supra* note 58, at 94-96.

[FN85]. Letter from Charles T. **DuMars**, *supra* note 49, at 2.

[FN86]. *Id.*

[FN87]. *Id.*

[FN88]. *Id.*

[FN89]. *Id.*

[FN90]. *Id.*

[FN91]. Letter from Charles T. **DuMars**, *supra* note 49, at 2.

[FN92]. *See* [City of Roswell v. Berry](#), 80 N.M. 110, 452 P.2d 179 (1979); N.M. STAT. ANN. §§ 72-12-3 to -7 (Repl. Pamp. 1985 & Supp.1995).

[FN93]. *See In re Brown*, 65 N.M. 74, 80, 332 P.2d 475, 479 (1958) (providing that a decline in water level in a well is merely a factor to be considered among others in determining impairment, including the particular characteristics of the aquifer).

[FN94]. 589 P.2d 57 (Colo. 1978) (en banc).

[FN95]. *Id.* at 60 (emphasis in original).

[FN96]. *See id.*

[FN97]. 65 N.M. 76, 332 P.2d 474 (1955).

[FN98]. *Id.* at 80, 332 P.2d at 479.

[FN99]. *Id.*

[FN100]. 77 N.M. 239, 421 P.2d 771 (1967).

[FN101]. *Id.* at 241, 421 P.2d at 773.

[FN102]. *See id.* at 242, 421 P.2d at 774.

[FN103]. *Id.* at 244, 421 P.2d at 776.

[FN104]. *See Mathers*, 77 N.M. at 243, 421 P.2d at 775.

[FN105]. *Id.*

[FN106]. No. 78-138-B, slip op. at 1 (D.N.M. May 11, 1979).

[FN107]. *Id.* at 1-2.

[FN108]. *See id.* at 15.

[FN109]. *Id.* at 7-10.

[FN110]. *Maestas*, No. 78-138-B, slip op. at 8.

[FN111]. *Id.* at 15.

[FN112]. *Id.* at 16.

[FN113]. *See* A REPORT OF THE RIO GRANDE TASK FORCE-IMPAIRMENT SUBCOMMITTEE, app, C (Mar. 8, 1994) (providing an executive summary of the task force's discussions on the policy of the state engineer in the Albuquerque region).

[FN114]. *Id.* at 13-14 (emphasis added).

[FN115]. *Id.* at 13.

[FN116]. 101 N.M. 195, 680 P.2d 335 (1984).

[FN117]. *Id.* at 197, 680 P.2d at 337.

[FN118]. *Id.* at 201, 680 P.2d at 341.

[FN119]. *Id.* at 202, 680 P.2d at 342 (emphasis added).

[FN120]. IDAHO CODE § 42-222 (Supp.1995).

[FN121]. KAN. STAT. ANN. § 82a-711a (1989).

[FN122]. COLO. REV. STAT. ANN. §§ 37-92-101 to -602 (West 1990).

[FN123]. MONT. CODE ANN. §§ 85-2-402 to -403 (1995).

[FN124]. NEV. REV. STAT. § 534.110 (1995).

[FN125]. UTAH CODE ANN. § 73-3-23 (1989).

[FN126]. *See* *Di Santo v. Pennsylvania*, 273 U.S. 34, 44 (1927) (Stone, J., dissenting); *Parker v. Brown*, 317 U.S. 341 (1943).

[FN127]. *See, e.g., Hughes v. Alexandria Scrap Corp.*, 426 U.S. 794 (1976) (scrap automobiles); *Reeves Inc. v. Stake*, 447 U.S. 429 (1980) (cement plant).

[FN128]. *See supra* note 127.

[FN129]. U.S. CONST. art I, § 8, cl. 3.

[FN130]. JOHN E. NOWAK ET AL., CONSTITUTIONAL LAW 123 (3d ed. 1986).

[FN131]. See Clean Water Act, 33 U.S.C. §§ 1251-1376 (1994).

[FN132]. See *Cappaert v. United States*, 426 U.S. 128 (1976).

[FN133]. See Endangered Species Act, 16 U.S.C. §§ 1531-1543 (1994).

[FN134]. 33 U.S.C. § 1251(a).

[FN135]. 33 U.S.C. § 1252(b).

[FN136]. Alan B. Lilly, *EPA's Regulation of Water Projects*, in WATER LAW: TRENDS, POLICIES, AND PRACTICE, *supra* note 58, at 239.

[FN137]. *Id.* at 241.

[FN138]. See *PUD No. 1 of Jefferson County v. Washington Dept. of Ecology*, 114 S.Ct. 1900 (1994) (holding that Clean Water Act allows for state law to allocate water among users but it does not preclude water quantity issues from direct federal regulation).

[FN139]. 16 U.S.C. §§ 1531-1543 (1994).

[FN140]. 16 U.S.C. § 1531(b).

[FN141]. Michael J. Pearce, *Implications of ESA Listings and Critical Habitat Designations on Surface Water Rights and Groundwater Use*, 1995 ENDANGERED SPECIES ACT CONFERENCE.

[FN142]. *Sweet Home Chapter of Communities for a Greater Oregon v. Babbitt*, 115 S.Ct. 2407 (1995).

[FN143]. See 16 U.S.C. § 1536(b).

[FN144]. See *Sweet Home*, 115 S.Ct. at 2407.

[FN145]. See Charles T. **DuMars**, *Endangered Species That Eat Prior Appropriators: Integrating the Endangered Species Act into State Water Law*, N.M. NAT. RES. L. REP. 38, 46. See also 16 U.S.C. §§ 1535-1536.

[FN146]. *Id.*

[FN147]. *Id.*

[FN148]. *Id.* See also 16 U.S.C. §§ 1531-1543.

[FN149]. **DuMars**, *supra* note 145, at 47.

[FN150]. See *id.*

[FN151]. *Id.*

[FN152]. *Id.* See also 16 U.S.C. §§ 1531-1543.

[FN153]. **DuMars**, *supra* note 146, at 47.

[FN154]. *Id.*

[FN155]. *Id.*

[FN156]. *See id.* at 48.

[FN157]. *See* **DuMars**, *supra* note 145, at 48.

[FN158]. *Id.*

[FN159]. 880 F.2d 432 (D.C. Cir.1989).

[FN160]. *Id.*

[FN161]. **DuMars**, *supra* note 145, at 48.

[FN162]. *See, e.g.*, N.M. CONST. art. XVI.
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