Legal and Institutional Barriers to Transfers and Reallocation of Water Resources

by

Steven E. Clyde

Originally published in SOUTH DAKOTA LAW REVIEW
29 S. D. L. REV. 232 (1984)

LEGAL AND INSTITUTIONAL BARRIERS TO TRANSFERS AND REALLOCATION OF WATER RESOURCES

STEVEN E. CLYDE*

INTRODUCTION

The mountains of Utah contain some of the finest winter sports recreation areas in the world. This tremendous ski terrain has fostered the development of numerous destination ski resorts that are attracting a world-wide clientele. Resort developers are constructing resort facilities and converting the irrigated farmland in the headwaters of the major stream systems into high density condominiums to provide the necessary housing for approximately 60,000 transient skiers each week throughout the ski season. This development activity is having profound effects upon the water use patterns in the area. Utah has also either been blessed or cursed, depending upon one's view of the subject, with substantial deposits of coal, oil shale, tar sands, uranium and oil and gas. Vast quantities of water will be required to develop these synthetic fuel resources.[1]

Most of the resort-recreational and energy development projects are located in the headwaters of major stream systems. The easily developable water in these streams has long since been appropriated and placed to beneficial use. The water remaining to be developed is the high run-off water which is available only during short periods of the year. This water cannot be placed to use without constructing major storage facilities. The cost of these storage facilities is substantially greater than a single energy project can bear and is totally beyond the reach of the resort developers. Most of these multi-purpose storage projects will be constructed by federal agencies under repayment contracts with local sponsoring agencies. Construction funds must be appropriated by Congress. Congress generally views the subject of Western water projects from the perspective of political expediency rather than from one of practical necessity for the continued growth and development of the Western states' economies and the natural resources which are vital to the entire nation. Thus funding is often piecemeal or deferred. The resulting delays in construction and in the availability of project water has helped to delay development of the synthetic fuels industry.

Consequently, both energy and real property developers are acquiring local water supplies in an effort to eliminate the delays and major capital

* Partner, Clyde, Pratt, Gibbs and Cahoon, Salt Lake City, Utah. B.S. 1972, J.D. 1975, Utah.

1. Western Coal Mining will require 6-14.7 gallons per ton; Oil Shale 145.4 gallons per bbl.; Coal Gassification 72-158 gallons per mscf; Coal Liquefaction 175-1,134 gallons per bbl.; Oil and Gas Production 17.3 gallons per bbl.; Fossil Fuel Power Plants 0.41 gallons per Kwh; Gas Processing Plants 1.67 gallons per mscf., WATER FOR ENERGY, REPORT OF ARTHUR D. LITTLE, INC. to the FEDERAL ENERGY ADMINISTRATION (Sept. 5, 1974).

expenditures. The local water rights are principally devoted to irrigation and stock watering purposes. Use of these water rights for real property or energy development will necessarily require a change in the nature of use from agricultural to domestic or industrial use. A change in both the place of use and points of diversion may also be required to move from the polluted surface streams to potable water supplies necessary for domestic consumption. These changes of use create a variety of problems which must be addressed in order to place the water to its new use.

Domestic use is at most only partially consumptive. The water is normally taken into a closed system and discharged as sewage effluent. The point of return to the stream system may be below the points of diversion of the irrigators where the water is no longer available to them. Industrial use, on the other hand, is almost totally consumptive, and to the extent the water is not fully consumed, it is generally too polluted to return it to the water course. These changes interrupt long-established return flow patterns in the area. This return flow water forms a part of the vested water rights of downstream water users and cannot be taken from them to their detriment.[2]

Real estate development and energy projects require a firm, dependable year round water supply. Irrigation rights are generally purchased because they yield the greatest quantity of water, but irrigation rights are normally seasonal in nature. The water is available only during the months of April through October, with no right to divert during the non-irrigation season. The winter flows of many streams are appropriated by others for storage purposes. Any attempt to expand the period of use may interfere with these vested rights. State water laws will and should protect the vested rights of others against interference, both in terms of quantity and quality of water.[3] The legal necessity to do so, however, impedes new economic enterprises while protecting antiquated and often inefficient means of diverting and using water.

These problems are not unique to Utah. Development is occurring in every Western state and is creating pressure on the limited water resources available to meet the growing demand. Pressure is also being applied to export water resources to other states. The embargo legislation, enacted by several Western states in response to this pressure, is an effort to retain the states' water supplies for the health, safety and economic benefits of their own citizens. These goals are certainly understandable. They are also in direct conflict with the economic needs of the nation. They are of doubtful constitutionality, but until they have either been struck down or amended, the embargo acts stand as major impediments to the reallocation of water resources.

Other legal barriers to the reallocation of water resources, such as Inter-

2. *See* East Bench Irrig. Co. v. Deseret Irrig. Co., 2 Utah 2d 170, 271 P.2d 449 (1954); Salt Lake City v. Boundary Springs Water Users Ass'n, 2 Utah 2d 141, 270 P.2d 453 (1954).

3. UTAH CODE ANN. § 73-3-3 (1959) and § 73-3-20 (1943).

state Compacts and the assertion of the dominant federal powers and reserve rights, create uncertainties over the availability and reliability of Western water supplies for energy development and to meet the increasing demands for municipal water. These uncertainties need clarification if the West is to meet the water needs of its increasing transient and resident population and energy related growth. This paper will review some of the legal and institutional barriers to the reallocation of water resources and suggest some possible solutions to these concerns.

LEGAL BARRIERS CREATED BY STATE WATER LAWS

The legal necessity of protecting vested water rights against interference and the prohibition against using water for interstate transportation of coal in slurry form create legal obstacles to the reallocation of water to new uses that may better serve the greater public interest.

A. *Interstate Embargo Statutes*

The embargo statutes enacted by several Western states[4] are intended to bar the interstate exportation of scarce water resources. The statutes fall into three somewhat general, but distinct categories.[5] The first allows the exportation of water only upon legislative approval.[6] The second requires reciprocal treatment from the state to which the water is being transported[7] and the third creates an absolute prohibition on the interstate movement of water resources.[8] The ostensible purpose of this legislation is to preserve the limited water resources necessary for the health and prosperity of the citizens of the state. The practical effect, however, has been to impede resource development through the creation of legal but often artificial water shortages.[9]

Water is essential to all activities of man, and therefore its conservation and wise development have been of paramount concern in the arid West. Water has been accorded special consideration in the West because of the public interest in the reclamation of arid land.[10] Water is also an article of

4. COLO. REV. STAT. § 37-81-101 (1973 and Supp. 1981); MONT. CODE ANN. §§ 85-1-121, 85-2-104 (1983); NEB. REV. STAT. § 46-613.01 (1973); NEV. REV. STAT. § 533.515 (1979); N.M. STAT. § 72-12-19 (1978); OKLA. STAT. TIT. 27, § 7.6 (West Supp. 1981-1982); OR. REV. STAT. § 537.810 (1979); S.D.C.L. § 46-5-20.1 (Supp. 1981); WASH. REV. CODE ANN. § 90.03.300 (1962); WYO. STAT. § 41-3-105 (1977).

5. For a detailed discussion of the various embargo acts, see S. Clyde, *State Prohibitions on Interstate Exportation of Scarce Water Resources*, 53 U. COLO. L. REV., 529 (1982).

6. WYO. STAT. § 41-3-105 (1977); OR. REV. STAT. § 537.810 (1979).

7. NEB. REV. STAT. § 46-613.01 (1973); NEV. REV. STAT. § 523.515 (1979); WASH. REV. CODE ANN. § 90.03.300 (1962).

8. N.M. STAT. ANN. § 72-12-19 (1978); OKLA. STAT. TIT. 27, § 7.6 (West Supp. 1981-1982); MONT. CODE ANN. §§ 85-1-121, 85-2-104 (1983) and COLO. REV. STAT. § 37-81-101 (1973 and Supp. 1981).

9. Clyde, *supra* note 5 at 530.

10. *See* Clark v. Nash, 198 U.S. 361 (1905); Kaiser Steel Corp. v. W.S. Ranch, Inc., 81 N.M. 414, 467 P.2d 986 (1970); UTAH CODE ANN. §§ 73-1-5, 7 (1953); WATER AND WATER RIGHTS, § 518 (R. Clark ed. 1972).

commerce.[11] It is bought and sold daily as a commodity in every municipal system. It can be transported interstate as easily as oil and gas as a commodity for sale or as a medium of transportation. As an article of commerce, water is unquestionably subject to federal regulation and control.

The embargo statutes clearly offend the national public interest. The nation must develop alternative energy supplies to lessen its dependency on foreign supplied petroleum products. Water is essential to that effort. State regulations that unreasonably interfere with that effort cannot withstand a Commerce Clause challenge. The three statutes tested to date have all been struck down as creating impermissible burdens on interstate commerce.

The Texas statute, which required legislative approval, was struck down by the United States Supreme Court in *City of Altus v. Carr*,[12] on the ground that the requirement of prior legislative approval created an unreasonable burden upon interstate commerce. The Court found the presence of both discrimination against interstate commerce and an absence of sufficient public interest to justify the burdens imposed. The Court followed the rationale of the prior natural gas cases,[13] which this writer believes is the correct approach, instead of the now discredited public trust rationale.[14]

The constitutional infirmities are not cured by requiring reciprocal treatment from the receiving state. The Supreme Court in *Sporhase v. Nebraska*,[15] recently held that the reciprocity provision was not narrowly tailored to the preservation and conservation of the resource and failed to

11. Sporhase v. Nebraska, 458 U.S. 941 (1982). On remand, the Nebraska Supreme Court held the reciprocity provision severable and upheld the remainder of the statute. Nebraska v. Sporhase, 213 Neb. 484, 329 N.W.2d 855 (1983).

12. 255 F. Supp. 828 (W.D. Tex. 1966), *aff'd per curiam*, 385 U.S. 35 (1966).

13. Pennsylvania v. West Virginia, 262 U.S. 553 (1923); West v. Kansas Nat'l Gas Co., 221 U.S. 229 (1911); Federal Power Comm'n v. Louisiana Power and Light Co., 406 U.S. 621 (1972); *see also*, McDaniel, *Commerce Clause and Water Availability Issues Concerning Coal Slurry Pipelines*, 12 NAT. RESOURCES LAW. 533 (1979); Trelease, *Back to Basics—Taking the Politics out of Water Law*, 1979 (Unpublished Manuscript on file with the author); and Corker, *Can a State Embargo the Export of Water by Transbasin Diversion?*, 12 IDAHO L. REV. 135 (1976).

14. Hughes v. Oklahoma, 441 U.S. 322, 326 (1979); Hudson County Water Co. v. McCarter, 209 U.S. 39 (1909).

15. 458 U.S. 941. The Supreme Court noted in *Sporhase* that a state "might" be able to credibly advance a need for a reciprocity provision where the state as a whole

> suffers a water shortage, that the intrastate transportation of water from areas of abundance to areas of shortage is feasible regardless of distance, and that the importation of water from adjoining States would roughly compensate for any exportation to those States . . . . A demonstrably arid state conceivably might be able to marshall evidence to establish a close means-end relationship between even a total ban on the exportation of water and a purpose to conserve and preserve water.

Id. at 958.

One comment in the *Sporhase* decision has caused some mild shock waves in the West. The Court intimated that Congress might adopt laws regulating groundwater because of national concern about the overdrafting of groundwater basins. *Id.* at 953-54. Although this statement is clearly *dicta*, it should not unduly concern the Western states. The Court offers three bases of federal power to regulate the groundwater acquifer. The first is the multi-state character of the Ogallala Acquifer and notes the interstate nature of the acquifer confirms the view that there is a federal interest in conservation, as well as in the fair allocation of the diminishing resource. *Id.* at 953. *Cf.* Arizona v. California, 373 U.S. 546 (1963).

Second, the Court notes that Congress has power under the Commerce Clause to regulate a groundwater basin. *Id.* Groundwater may be tributary to a surface stream. The withdrawal and

significantly advance the local interest therein in violation of the Commerce Clause.[16] The intent behind the reciprocity provision is not to prohibit the interstate movement of water resources, but instead to reap reciprocal economic benefits from those states in which the water will be used. Energy related projects are of such magnitude that most will be interstate by their very nature. Prior efforts to enforce strict reciprocity requirements have been held unconstitutional.[17] In light of *Sporhase*, any attempt to prohibit the interstate movement of water because one state does not provide for the reciprocal use of its water in another state should also fail as an unwarranted imposition on interstate commerce.

The New Mexico act, which created an absolute ban on the interstate movement of water, was recently struck down by the United States District Court for New Mexico in *City of El Paso v. Reynolds*.[18] The act, according to the court, facially discriminated against interstate commerce and therefore violated the Commerce Clause.

Many states have recently amended their embargo statutes in response to *Sporhase* and *El Paso*.[19] The amended acts are untested. The burden

use of the water could affect navigation which would certainly call into play the dominant federal powers to control navigation.

Third, the Court notes that groundwater over-draft is a national problem and that Congress has the power to deal with it on that scale. *Id.* at 954. This statement appears to be causing states their greatest concern. The Court has long held that Congress has the power to provide for the general welfare and it can certainly do so in the field of water law where the need presents itself. *See, e.g.*, Ivanhoe Irrig. Dist. v. McCracken, 357 U.S. 275 (1958).

A possible fourth basis, although not mentioned by the Court in *Sporhase*, could be that some of the groundwater may be unappropriated and located within federal land and regulated under the property clause. The water could, therefore, be subject to withdrawal and reservation by the federal government. *See* United States v. Cappaert, 426 U.S. 128 (1978).

16. 102 S. Ct. at 3465.

17. Great Atl. & Pac. Tea Co. v. Cottrell, 424 U.S. 366 (1976). The Supreme Court struck down a mandatory reciprocal requirement pertaining to the processing of milk on the ground that no state interests were of sufficient importance to save the statute's devastating effect upon the free flow of interstate milk. *Id.* at 381. Considering the importance of water to energy development, strict reciprocity provisions should not be sustained.

18. 563 F. Supp. 379 (N.M. 1983).

19. New Mexico repealed N.M. STAT. § 72-12-19, and enacted in its place S.B. 295, 36th Leg., 1st Sess. (1983) and adopted the three conditions of the Nebraska Act which the Supreme Court in *Sporhase* said did not create an impermissible burden on interstate commerce: that of reasonable withdrawals, not contrary to the conservation and use of groundwater and not otherwise detrimental to the public welfare. The amended New Mexico act is currently being challenged in the United States District Court for New Mexico. City of El Paso v. Reynolds, No. C-80-730. Wyoming repealed WYO. STAT. § 41-3-105 (1983) and adopted in its place H.B. 89, 47th Leg., (1983) retaining the requirement of legislative approval but providing specific factors to be considered in reviewing an application for approval. The amended act still favors economic protectionism and is of questionable validity. Montana repealed MONT. CODE ANN. § 85-1-121 by H.B. 908, 48th Leg., (ch. 706, 1983). Water may now be diverted for interstate exportation, but the use of water for coal slurry transportation is still not a beneficial use in Montana. MONT. CODE ANN. § 85-2-104 (1981). Water, of course, can be appropriated only for beneficial uses. H.B. 908 now requires legislative approval of large appropriations (more than 10,000 acre feet) and imposes new public interest criteria that must be met as a condition of approval. It also requires legislative approval of large use permits for consumptive use. These requirements apply to both intrastate and interstate uses of water. Colorado amended COLO. REV. STAT. § 37-81-101 by H.B. 1567 54th Leg., 1st Sess., 1983. South Dakota amended S.D.C.L. § 46-5-20.1 (1981) in a second special session, to facilitate the sale of water to Energy Transportation Systems, Inc. (ETSI), and in 1983, amended S.D.C.L. § 46-1-13 (1983) to eliminate the requirement of reciprocity by the receiving state. This section now provides that permits for the use of water outside the state, subject to beneficial use, shall be granted on the

will be on the states to demonstrate the required "close fit" between the preservation effects of the legislation and their asserted local purpose.

There may be areas where the states can lawfully withhold their water from exportation to another state. The states might restrict the interstate transfer of water under new appropriations (as distinguished from a change of use based upon an established right) in order to retain the return flow within the river basin so as to protect the vested rights of downstream water users. Protecting the vested rights of water users is within the public interest and would appear to be a legitimate local purpose that may not unreasonably interfere with interstate commerce. So long as a clear state purpose exists that only incidentally interferes with interstate commerce, no constitutional violation should occur.[20] Where the local interests are tenuous, and the impact upon interstate commerce is severe, the state act must fail.[21]

Further, there is legal precedent for states to limit access to resources and market places where the state is a market participant, rather than a market regulator. In *Reeves, Inc. v. Stake*,[22] the state of South Dakota had operated a cement plant for more than fifty years selling the product to both intra and interstate purchasers. The state later changed its policy and thereafter confined its sales to state residents only. The United States Supreme Court upheld this action stating: "South Dakota has not sought to limit access to the state's limestone or other materials used to make cement. Nor has it restricted the ability of private firms of sister States to set up plants within its borders."[23]

Therefore the state of Utah through one of its agencies might construct a dam on the White River to store water appropriated by the agency and restrict its water sales to citizens of the state for the development of the state's other natural resources. So long as others still had the right to appropriate water under Utah law or acquire existing rights for use by change application in interstate commerce, no Commerce Clause violation should occur. Congress could also consent to state regulation of interstate commerce, even though the regulation, absent such consent, would have been an impermissible burden on interstate commerce.[24]

The Commerce Clause doctrine arises out of a negative implication of the constitutional grant of power to the United States Congress to regulate commerce among the states. It is not an express limitation on state interference with interstate commerce. As the Supreme Court stated in *Southern*

---

same terms and conditions as permits for the use of water within the state. The states of Washington, Oregon and Nevada have not amended or repealed their Embargo Acts.

20. *See* Commonwealth Edison Co. v. Montana, 453 U.S. 609, *reh'g denied*, 453 U.S. 927 (1981); Baldwin v. Montana Fish and Game Comm'n, 436 U.S. 371 (1978).

21. Maryland v. Louisiana, 451 U.S. 725 (1981); Philadelphia v. New Jersey, 437 U.S. 617 (1978).

22. 447 U.S. 429 (1980).

23. *Id.* at 444 (1980). *See also*, White v. Massachusetts Council of Constr. Employees Inc., — U.S. —, 103 S. Ct. 1042 (1983); Hughes v. Alexandria Scrap Corp., 426 U.S. 794 (1976).

24. Prudential Ins. Co. v. Benjamin, 328 U.S. 408 (1946).

Pacific Company v. Arizona,[25] since it is Congress' power to begin with, Congress has the power to "redefine the distribution of power over interstate commerce" so as to "permit the states to regulate commerce in a manner which would not otherwise be permissible. . . ."[26] This consent must be founded on something more than mere federal deference to state water laws. Federal deference does not indicate Congressional acquiescence or desire to remove federal constitutional constraints upon state laws. As the Court said in *Sporhase*:

> The negative implications of the Commerce Clause, like the mandates of the Fourteenth Amendment, are ingredients of the valid state law to which Congress has deferred. Neither the fact that Congress has chosen not to create a federal water law to govern water rights involved in federal projects, nor the fact that Congress has been willing to let the states settle their differences over water rights through mutual agreement, constitutes persuasive evidence that Congress consented to the unilateral imposition of unreasonable burdens on commerce. In the instances in which we have found such consent, Congress' 'intent and policy to sustain state legislation from attack under the Commerce Clause' was 'expressly stated'.[27]

Consequently, it would require an express declaration of consent by Congress before states could regulate the exportation of water resources in interstate commerce. Congress could, however, choose to do this. The coal slurry pipeline bill, recently defeated in the House of Representatives, contained such a provision.[28] The bill narrowly focused upon use of water in coal slurry pipelines. Had it passed, it would not have constituted a broad delegation of power to the states to deny their water resources from use in interstate commerce. It would, however, have required pipeline companies to obtain their water in accordance with state law. It also expressly subordinated federal regulatory control over the use of water in coal slurry pipelines to the states. If Congress so provides, the courts should uphold it, and there is nothing in *Sporhase* to suggest a contrary result. In the absence of such express Congressional consent, it is questionable whether any of the

25. 325 U.S. 761 (1945).

26. *Id.* at 769.

27. *Sporhase* at 960, *citing* New England Power Co. v. New Hampshire, 455 U.S. 331 (1982), (quoting Prudential Ins. Co. v. Benjamin, 328 U.S. 408 (1946)). *Cf.* Merrion v. Jicarilla Apache Tribe, 455 U.S. 130, 155 n.21 (1982).

28. H.R. 1010, 98th Cong., 1st Sess. (1983). Section 10 of the act provides:

> Notwithstanding any other provision of this Act or any other Federal law:
>
> (a) Neither the United States nor any other person or entity shall reserve, appropriate, use, divert, dedicate, export, or otherwise claim or exercise any right or interest in water within any State for a coal pipeline unless such reservation, appropriation, use, diversion, dedication, export, or claim takes place pursuant to the substantive and procedural law of that State.
>
> (b) Pursuant to the commerce clause in article I, section 8, of the United States Constitution, the Congress hereby expressly delegates to the States the power to establish and exercise in State law, whether now in existence or hereafter enacted, terms or conditions (including terms or conditions denying or terminating use) for the reservation, appropriation, use, export, or diversion of or other claim to, or exercise of any right in, water for a coal pipeline, notwithstanding any otherwise impermissible burden which may thereby be imposed on interstate commerce.

embargo legislation, even as amended, can be sustained. As a result, these acts stand as major impediments to the interstate movement of water.

B. *Changes in the Nature of Use*

The right to change the place of use, nature of use and point of diversion is an inherent legal right. The right to change is a qualified right. No change can be made if it will impair other vested rights.[29] Impairment in this context means actual deprivation of water.[30] Where impairment exists and cannot be mitigated through partial approval or through the imposition of conditions designed to replace water, the change of use must be denied.[31]

The transfer of water from the land upon which it has been historically used may impair the historic return flow patterns in an area. The loss of this return flow water may interfere with downstream vested water rights. The interfering appropriator has a right to replace the water he has taken from lower water-user at his sole and perpetual expense as a condition to making the change. The costs involved in mitigating through replacement may destroy the economics of a project thereby prohibiting the reallocation of water to this new use.

Under the change application statutes,[32] an appropriator may reallocate his own water to other beneficial uses any number of times without the loss of his original date of priority. This is of major importance to both energy developers and real property developers who must acquire dependable and reliable water supplies.[33] The earlier the priority, the more immune the water right is to curtailment during times of shortages. Thus the acquisition of relatively early priority rights affords some insurance against the suspension of use during drought conditions.

As a result, change application statutes appear to promote reallocation of water to new uses subject to non-impairment of other vested rights. In practice, however, the necessity of protecting vested rights creates a negative incentive to the reallocation of water. The experiences of real estate developers in the Park City resort area of Utah offers an interesting illustration of the problem.

The Park City area is located in the headwaters of Silver Creek and East Canyon Creek, both of which are tributaries of the Weber River. The entirety of the Weber River drainage is fully appropriated and therefore, no new water rights can be acquired simply by filling a new application to appropriate. Much of the real estate development in the area has been depen-

29. UTAH CODE ANN. § 73-3-3 (1953).

30. East Bench Irrig. Co., v. Deseret Irrig. Co., 2 Utah 2d 170, 271 P.2d 449 (1954); Salt Lake City v. Boundary Springs Water Users Ass'n, 2 Utah 2d 141, 270 P.2d 453 (1954).

31. UTAH CODE ANN. § 73-3-3 (1953); and Tanner v. Humphreys, 87 Utah 164, 48 P.2d 484 (1935).

32. *See, e.g.*, UTAH CODE ANN. § 73-3-3 (1953).

33. *See generally* E.W. Clyde, *The Anatomy of an Energy Project*, 26 ROCKY MTN. MIN. L. INST. 372 (1980).

dent upon the acquisition of existing irrigation rights and changing the nature of use to domestic use.

The developer is entitled to change only that quantity of water which has been historically depleted from the water system by the past irrigation use. Irrigation use is only partially efficient. In the Park City area, it is generally believed that three acre feet of water is required to efficiently irrigate one acre of land by traditional flood irrigation methods. It is also generally assumed that of this quantity, 1.5 acre feet of water is actually consumed by evapotranspiration.[34] The remaining 1.5 acre feet or 50% of the diversion requirement constitutes return flow and must remain in the system in order to satisfy the rights of downstream water users. The real property developer, therefore, is faced with the immediate loss of 50% of the paper water right he has purchased in order to satisfy downstream vested rights.

The early priority irrigation rights in the Park City area have sold for $3,000 to $4,000 per acre foot of water. This translates into an actual purchase price of about $6,000 to $8,000 per acre foot of water for usable and transferable water. Thus, the acquisition costs of the paper water right alone is a major deterrent to placing this water into domestic and municipal use. This, however, is only one-third of the battle. The developer must also locate and develop a potable groundwater supply which can produce water in sufficient flow capacities to satisfy the public health needs of his development. He must also be able to do this without interfering with other vested rights. This is not always an easy task.

Most of the irrigation water in Utah comes from surface streams. The water in these streams is not of potable quality which forces the real property developer to move away from this polluted surface water resource to potable underground supplies. This is accomplished by a change in the point of diversion and generally involves the drilling of wells. New wells, however, may interfere locally with the artesian pressure or water levels of other existing wells.[35] Although Utah statutes confer a right of replacement on subsequent groundwater appropriators,[36] replacement must be made perpetually and at the junior appropriator's sole expense.[37] Depending upon the conditions of the particular acquifer involved, this replacement obligation may become economically prohibitive.

34. The duty of water will vary from river basin to river basin, and may even vary within a river basin. The duty is that quantity of water reasonably required to efficiently irrigate the land by traditional flood irrigation methods. The duty of a given area depends upon the elevation above sea level, soil conditions, precipitation and temperature. Determining the duty for a given area is an engineering function. The ratio between consumption (depletion) and return flow will also vary basin to basin, and will also vary within each basin. The duty and net depletion in the Park City area was determined by the Court in a general adjudication proceeding adjudicating all water rights in the Weber River drainage, Plain City Irrig. Co. v. Hooper Irrig. Co., Civ. No. 7694 (2d D. Utah).

35. Current Creek Irrig. Co. v. Andrews, 9 Utah 2d 324, 344 P.2d 528 (1959).

36. UTAH CODE ANN. § 73-3-23 (1953).

37. Current Creek Irrig. Co. v. Andrews, 9 Utah 2d 324, 344 P.2d 528 (1959).

In *Current Creek Irrigation Company v. Andrews*,[38] the Utah Supreme Court held that a subsequent appropriator must drill a deep replacement well, equip it and pay the power bills perpetually as a condition to using his new well.[39] In that case, new wells had lowered the water table and reduced the artesian pressure in the acquifer to a point where the senior appropriator could no longer obtain its water. The senior appropriator was essentially assured a vested right to a full underground reservoir and artesian pressure. Under this rule, each new appropriator would be faced with the economic burden of proving replacement water to every senior appropriator in the acquifer. Enforcement of this requirement would severely curtail the development of underground water resources. Fortunately, the Utah court has modified its position.[40]

Other jurisdictions have adopted a more rational approach to this problem. The New Mexico Supreme Court held in *City of Roswell v. Reynolds*,[41] that the lowering of the groundwater table is not in and of itself an impairment to another vested water right. Only where the lowering of the water table causes a reduction of water quality does the court suggest that impairment might occur. The Supreme Court of Colorado has taken a similar view in *City of Colorado Springs v. Bender*.[42] The court held that an owner of a shallow well was not entitled to enjoin the pumping of a deeper well on the ground that it might impair his earlier priority water right. While affirming his priority, the court stated that the obligation of any appropriator of water is to provide a reasonable means of effectuating his own diversion. The prior appropriator therefore could not assert his priority as a means of commanding the entirety of the water supply to protect his ability to withdraw only a small fraction of the whole. No injunction would be granted unless the appropriator could demonstrate that his means of diversion were reasonably adequate to meet the historical purposes of his appropriation. Other states have followed this rationale.[43]

Additional constraints face both the energy developer and real estate developer in transferring irrigation rights to either domestic or industrial use. Irrigation rights are normally seasonal in nature and are available for diversion only through the typical irrigation season of April through October. Domestic and industrial use, however, requires the availability of water on a year-round basis. An appropriator cannot expand his water right by virtue of a change application. A substantial legal question is raised as to

38. *Id.*

39. 344 P.2d at 531.

40. Wayman v. Murray City Corp., 23 Utah 2d 97, 458 P.2d 861 (1969).

41. 86 N.M. 249, 522 P.2d 796 (1974); *see also* City of Albuquerque v. Reynolds, 72 N.M. 428, 379 P.2d 73 (1963).

42. 148 Colo. 458, 366 P.2d 552 (1961).

43. Wayman v. Murray City Corp., 23 Utah 2d 97, 458 P.2d 861 (1969); Baker v. ORE-IDA Foods Inc., 95 Idaho 575, 513 P.2d 627 (1973); Woodsum v. Township of Pemberton, 172 N.J. Super. 489, 412 A.2d 1064 (1980).

whether the change in the nature of use from irrigation to year round domestic does not constitute an enlargement of the right.

The Utah State Engineer lacks express statutory authority to expand the period of use by change application.[44] He has nevertheless done so as a matter of administrative policy, but has often imposed strict conditions governing the volume of water that can be depleted to insure that no more water is consumed even though the period of diversion has been expanded. His authority to do this is questionable, but to date, no one has challenged it because everyone recognizes the practical necessity and benefit of being able to do so.

The conversion of irrigation rights into domestic use has had the practical effect of substantially augmenting the water supply in the stream. Land previously irrigated from the surface streams is retired from irrigation. Surface water is no longer diverted, but is instead left unused in the stream in exchange for the groundwater being withdrawn from domestic wells under the legal presumption that both surface and groundwater are tributary supplies to each other. Further, domestic use is much less consumptive than irrigation use,[45] so that the return flow from domestic use adds water to the surface streams that was not previously available for use.

In recognition of this augmentation effect, the Utah State Engineer has allowed return flow credits for domestic use. The credit permits the property developer to increase the total quantity of water diverted and thus the number of domestic units that can be served with the water supply without any increase in the net depletion to the river system.[46] Colorado has fol-

44. UTAH CODE ANN. § 73-3-3 (1953) provides: "Any person entitled to the use of water may change the place or diversion of use and may use the water for other purposes than those for which it was originally appropriated, but no such change shall be made if it impairs any vested right without just compensation." Thus only changes in the place of use, nature of use or point of diversion are expressly authorized by statute.

45. As a general rule, irrigation is 50% efficient, with one-half of the water diverted being consumed by the plants and the remaining 50% returned to the water course either as wastewater or through deep percolation through the soil. Domestic use, on the other hand, consumes approximately 20% of the water actually diverted and returns approximately 80% of this water to the system. The increase in return flow substantially augments the flow of the surface streams.

46. To illustrate how this works, assume that an appropriator owns an irrigation right for 100 acres of land. The headgate diversion duty for the area involved is four acre feet per acre, so that the appropriator is entitled to divert 400 acre feet of water under his appropriation. Irrigation efficiency in this area is 40%, with 60% of the water returning to the water course. Thus 160 acre feet of the 400 acre feet of water diverted has actually been depleted from the river system. The remaining 240 acre feet of water has returned to the stream for use by others. The appropriator may rely only upon his past depletion or his 160 acre feet of water when making a change of use. Utah State Engineer has concluded that the diversion requirement for inside domestic use for single family homes is on average 0.45 acre feet per home. He has also concluded that only 20% of the amount diverted for single family use is actually depleted by domestic use, with the remainder returning to the water course. Therefore the actual consumptive use for a single family home is 0.09 acre feet per unit or 20% of 0.45 acre feet. At this rate, the 160 acre feet of water can serve 1,777.7 single family homes (160 acre feet divided by 0.09 acre feet per unit = 1,777.7). The State Engineer would allow the appropriator to divert approximately 800 acre feet of water to meet the public health flow requirement for this number of homes. Although the amount of water diverted increases substantially over the past irrigation diversion of 400 acre feet, there is no increase in net depletion to the system. The appropriator still depletes only 160 acre feet (20% of 800 acre feet = 160 acre feet), or the same quantity of water previously depleted by the past irrigation use. Consequently, no enlargement of the water right occurs even though more water is actually diverted. No

lowed a similar program, but has done it legislatively rather than administratively, through the adoption of statutory plans of augmentation.[47] These return flow credits and augmentation plans have fostered better utilization of the available water resource and have facilitated development while still meeting the legal necessity of protecting vested rights from interference. It is a bold step forward in water resource management, and one that has been long overdue.

C. *Uncertainties Created by Pending Filings*

There are many pending applications to appropriate on each stream system. Often, the paper filings will exceed the available water supply. An energy project seeking to develop a resource based upon 1983 appropriated rights would face serious problems in the event these prior pending applications are subsequently approved. They would, of course, be prior in time, and would therefore be entitled to cut off the later use in times of shortages simply by asserting their priority. They would also be entitled to protection from interference from the project's later priority rights.

Some of these pending applications deserve approval while others clearly do not. The law, however, does not force immediate development of the water. Utah statutes liberally grant extensions of time within which to submit proof, and gives the appropriator a total of fifty years within which to do so.[48] There is no assurance that the appropriator will ever complete construction of diversion works and place this water to beneficial use, but until the right has lapsed, the pending applications create a cloud over later priority rights.

One way to resolve this problem is for state engineers to exercise their public interest powers to protect these later appropriators by subordinating the priorities of water rights previously filed but subsequently perfected and which are not in the greater public interest. Many of the Western states have adopted comprehensive public interest statutes allowing state engineers to deny those applications that are not in the public interest.[49] These statutes generally lack specific guidelines for application, and in the absence of express legislative policies, the courts have been reluctant to stray too far from the traditional views regarding water appropriation and development.[50] It has been this writer's experience that administrative agencies are also reluc-

---

downstream water users are harmed by the expanded rate of diversion as a result of the increased return flow to the system. The ability to do this is, of course, dependent upon available groundwater and the non-interference with other water users. If the groundwater basin cannot produce the desired quantity of water or if the well interferes with another, the appropriator must reduce the number of homes he serves.

47. COLO. REV. STAT. § 37-92-101 to 103, and § 37-92-302 (1980); Kelly Ranch v. Southeastern Colo. Water Conservancy Dist., 191 Colo. 64, 550 P.2d 297 (1976); and Cache LaPoudre Water Users Ass'n v. Glacier View Meadow, 191 Colo. 53, 550 P.2d 288 (1976).

48. UTAH CODE ANN. § 73-3-12 (1953).

49. *See, e.g.*, UTAH CODE ANN. § 73-3-8 (1953).

50. *See generally* Reiman v. Richards, 12 Utah 2d 109, 363 P.2d 499 (1961); Brady v. McConagle, 57 Utah 424, 195 P. 188 (1921).

tant to deviate from their traditional concepts of approving applications in order of their priority of filing upon the mere showing that unappropriated water exists in the source.

Historically, environmental values were not equated with the public interest. The courts and administrative agencies focused solely on economic concerns in approving or rejecting applications under public interest statutes. There are only a handful of cases where the public interest issue has been raised. In each case, however, the public interest has prevailed.

One of the early decisions was by the Utah Supreme Court in 1943 in *Tanner v. Bacon*.[51] There, the Utah Supreme Court approved a junior multi-purpose application over a senior single purpose application in the same stream. The court did not clearly state that the public interest should be the dominant consideration. It held, however, that where a large multi-purpose project was ready for construction, the project should be given a preference over a private competing power project, even though the latter was prior in time.[52] The large storage project would have provided municipal water for numerous cities as well as irrigation water for literally thousands of acres. It also had incidental benefits such as flood control, power generation and recreation. A power filing would have taken the river flow out above and returned it to the river below the dam site. The two simply could not co-exist and the court agreed that the junior multi-purpose project should be approved with a priority ahead of the prior competing application.

Another early case affirming the state engineer's rejection of an application to build a dam because of public interest is *Big Horn Power Company v. State*.[53] The reservoir involved would have interfered with the only economically feasible railroad route connecting the northwest portion of Wyoming with the rest of the state.[54] In *Young and Norton v. Hinderlider*,[55] the Supreme Court of New Mexico applied a public interest statute to a case involving competing irrigation projects. The court approved the project which would provide the most economic benefit in relation to its cost.[56]

Similarly, in *East Bay Municipal Utility District v. Department of Public Works*,[57] an application for power was approved by the California Supreme Court on the condition that the permit could be revoked if the water was later needed for domestic or irrigation needs.[58] The California court disregarded filing priority again in *Johnson Rancho County Water District v. State Water Rights Board*,[59] indicating that the water board should consider the

51. 103 Utah 494, 136 P.2d 957 (1943).
52. *Id.*
53. 23 Wyo. 271, 148 P. 1110 (1915).
54. 23 Wyo. at 285-86, 148 P. at 1113.
55. 15 N.M. 666, 110 P. 1045 (1910).
56. 15 N.M. at 678, 110 P. at 1050.
57. 1 Cal. 2d 476, 35 P.2d 1027 (1934).
58. 1 Cal. 2d at 477, 35 P.2d at 1027.
59. 235 Cal. App. 2d 863, 45 Cal. Rptr. 589 (1965).

benefits and economic feasibility of competing projects. In so holding, the court said that the public interest ought to be the primary guideline.[60] The water board was told to consider the variety of beneficial uses to which the water could be applied and then approve those applications that would best develop and conserve the water in the public interest.

All of these cases involved contests between private appropriators and public municipal water users where the greater public interest has been relatively easy to discern. The issue is less clear cut when the competing applicants are both private interests of substantial economic magnitude or environmental concerns that conflict directly with the economic use of the water. For example, oil shale may compete with coal gasification projects or tar sand projects for the same basic water supply. State agencies may seek to appropriate water for instream use to protect fisheries and for other aesthetic reasons. Determining which of these appropriations is more in the public interest is a difficult task at best. In these instances, the state engineer will likely retreat to the safety of approving applications in order of their priority, but he need not do so. The state engineer can approve applications out of sequence where the public interest so warrants. His decision would be discretionary, and the courts would not likely overturn it in the absence of arbitrary or capricious conduct.

There is legal precedent for approving identical applications out of sequence. In *City of San Antonio v. Texas Water Board*,[61] competing applications had been filed on the same water source. Both appropriators sought to use 100,000 acre feet of water for municipal use. The city would have removed the water from the watershed area while the competing water district would have used the water within the river basin. The water board favored the in-basin use and approved the district's application rejecting the city's prior application. The city appealed on the grounds that it was a prior appropriator and thus entitled to approval as a matter of law. The court rejected the city's argument noting that the return flow would be to the river basin therefore benefiting more people than would a trans-basin diversion.[62] Further, San Antonio was not facing a water shortage and water was available to it from other sources. The area served by the competing water district, however, was short of water supplies, and in fact, had a current municipal shortage.

By exercising the public interest powers, state engineers may allow a highly desirable project with a later priority right to proceed free from concern of having its water rights taken away from it through the subsequent approval of a prior pending application. The problems and politics in doing this are certainly complex, but there is ample authority to support the application of a public interest provision in this fashion. The failure to do so

60. 235 Cal. App. 2d at 874, 45 Cal. Rptr. 596.
61. 407 S.W.2d 752 (Tex. 1966).
62. *Id.* at 764.

allows thousands of paper water rights to cloud the water supply for badly needed energy projects.

D. *Use of Sewage Effluent*

Most of the West's easily developable water has already been appropriated and placed to beneficial use. Consequently, as the population continues to grow, municipal and industrial water users will necessarily have to look towards the better utilization of existing water supplies rather than attempting to develop new water supplies. One of the most reliable existing, but almost totally unused, water supplies in the West is sewage effluent. The amount of water available depends entirely upon the size of the plant facility and the amount of water it is currently discharging. The law regarding the right of ownership and use of sewage effluent is uncertain, again creating legal constraints on the ability to sell and use this water resource.

There is little doubt regarding the authority of a city to recapture and reuse its effluent within the city boundaries for uses consistent with its underlying water rights.[63] This is consistent with the general rule applied to all appropriators regarding their right of recapture and re-use.[64] A substantial conflict can develop regarding who owns the right to the effluent return when this wastewater has been made available to others.

The law generally holds that so long as this water remains within the dominion and control of the appropriator, he has the right to recapture and re-use it so long as he can beneficially use it.[65] Where he allows the wastewater to escape his control, it may be intercepted and used by others, and may even be appropriated by them. As against the senior appropriator, however, they acquire no vested right that would entitle them to the continued delivery of this wastewater.[66] Once the water reaches the natural water course it loses its identity as the private property of the upstream appropriator, and instead becomes a part of the public water supply available for re-

63. Reynolds v. City of Rosswell, 99 N.M. 84, 654 P.2d 537 (1982).

64. McNaughton v. Eaton, 121 Utah 394, 242 P.2d 570 (1952); Smithfield West Bench Irrig. Co. v. Union Central Life Ins. Co., 113 Utah 356, 195 P.2d 249 (1948).

65. Smithfield West Bench Irrig. Co. v. Union Central Life Ins. Co., 113 Utah 356, 195 P.2d 249 (1948).

66. McNaughton v. Eaton, 121 Utah 394, 242 P.2d 570 (1952); *see* C. KINNEY, LAW OF IRRIGATION AND WATER RIGHTS, § 661 (2d ed.) wherein he states:

> the authorities hold that while water, so denominated as wastewater, may be used after it escapes, no permanent right can be acquired to have the discharge kept up, either by appropriation, or a right by prescription, estoppel, or acquiescence in its use while it is escaping, and that too even though expensive ditches or works were constructed for the purpose of utilizing such wastewater, unless some other element enters into the condition of affairs, other than the mere use of the water. In other words, the original appropriators have the right and in fact it is their duty, to prevent, as far as possible, all waste of the water which they have appropriated in order that others who are entitled thereto may receive the benefit thereof.

See also Crescent Mining Co. v. Silver King Mining Co., 17 Utah 444, 54 P. 244 (1898); Smithfield West Benh Irrig. Co. v. Union Central Life Ins. Co., 113 Utah 356, 195 P.2d 249 (1948); Stubs v. Ercanbrack, 13 Utah 2d 45, 368 P.2d 461 (1962); Reynolds v. Wiggins, 74 N.M. 670, 397 P.2d 469 (1964).

appropriation.[67] The downstream water users are entitled to rely upon the continued availability of this return flow water, and may enjoin the activities of those upstream that impair their ability to receive it.[68] In the case of sewage effluent, however, the downstream user apparently has no vested right in the point of return of the effluent to the natural water course.[69]

So long as the city retains dominion and control over its sewage effluent and has a beneficial use for it, the city may recapture and reuse it. The city can probably sell or lease this water for industrial use within its corporate boundaries. It is doubtful, however, that a city could sell or lease the effluent for use outside of the city's boundaries, since use outside the city is beyond the intent of the original water filing and could constitute an enlargement of the water right. Further, a city probably could not convey good title to this effluent. The courts have generally held that when the original appropriator has made all of the use he wants to make of his water, and his only interest is to dispose of it, he has a duty to return the unconsumed water to the water course.[70] He therefore lacks sufficient residual interest in the water right to sustain a deed.[71]

The problem is further compounded in Utah as a result of constitutional and statutory provisions prohibiting cities from permanently selling or leasing their water rights.[72] The intent of the constitutional prohibition is to preserve the water supplies, water works and water sources for the future needs of the cities' inhabitants. Cities may sell water, as distinguished from the water right, that is currently surplus to the needs of the city.[73] Any such sale is subject to a perpetual right of recall by the city in the event the water is no longer surplus to its needs.

---

67. Pulaski v. City of Trinidad, 70 Colo. 565, 203 P. 681 (1922); Wyoming Hereford Ranch v. Hammond Packing Co., 33 Wyo. 14, 236 P. 764 (1925).

68. *See* East Bench Irrig. Co. v. Deseret Irrig. Co., 2 Utah 2d 170, 271 P.2d 449 (1954), wherein the court quoted from W. HUTCHINS, SELECTED PROBLEMS IN THE LAW OF WATER RIGHTS 387 (1942) as follows:

> the appropriator is entitled to have the stream conditions maintained as substantially as they existed at the time he made his appropriation. This applies equally to senior and junior appropriators; the junior appropriator initiates his right in the belief that the water previously appropriated by others will continue to be used as it is then being used, and therefore has a vested right as against the senior, to insist that such conditions be not changed to the detriment of his own right. This applies specifically to a change in the place of use or diversion, the effect of which will be to injure the holders of established rights. It is therefore a condition precedent to the right to make any change in diversion, place of use, or character of use, that the rights of existing water users being properly safeguarded from injury resulting from the change.

See also Provo Bench Canal and Irrig. Co. v. Linke, 5 Utah 2d 53, 296 P.2d 723 (1956); UTAH CODE ANN. § 73-3-3 (1953).

69. Metropolitan Denver Sewage Disposal Dist. No. 1 v. Farmers Reservoir and Irrig. Co., 179 Colo. 36, 499 P.2d 1190 (1972); Thayer v. City of Rawlings, 594 P.2d 951 (Wyo. 1979).

70. Brian v. Freemont Irrig. Co., 112 Utah 220, 186 P.2d 588 (1947); Manning v. Fife, 17 Utah 232, 54 P. 111 (1898).

71. Shultz v. Sweeney, 19 Nev. 359, 11 P. 253 (1886); Vaughn v. Kolb, 130 Or. 506, 280 P. 518 (1929); Smithfield West Bench Irrig. Co. v. Union Central Life Ins. Co., 105 Utah 468, 142 P.2d 866 (1943) (Wolfe, J., concurring), *aff'd*, 113 Utah 356, 195 P.2d 249 (1948).

72. UTAH CONST. art. XI, § 6; UTAH CODE ANN. § 10-8-14 (1969); County Water Sys. v. Salt Lake City, 3 Utah 2d 46, 278 P.2d 285 (1954).

73. *Id.*

Thus any industrial water user seeking to use sewage effluent is faced with a variety of legal problems. Perhaps the biggest concern is the interruptable nature of the water supply. Although the industrial user might actually appropriate the waste water, it would obtain no vested rights against the city and could not compel the continued delivery of effluent or wastewater to its facilities.[74] Consequently, anyone seeking to use this water would need to strike a solid bargain with the city that it would not relocate its sewage facilities or discontinue discharging the effluent at its present location for at least the life of the industrial facilities. Without such protection, the industrial water user would be at the mercy of the city. It could not obtain a vested water right in the effluent, nor could it protect itself against the relocation of the sewer treatment plant or the loss of the water supply.

Sewage effluent constitutes a substantial and very reliable water resource which could be placed to industrial use. This would free higher quality water for other desirable municipal purposes. The uncertainties in the law regarding the ownership and right of re-use of sewage effluent, however, discourages its use. Consequently, this valuable water resource is running to waste almost everywhere in the West.

E. *Other Areas of Concern*

This article has not addressed issues surrounding the forfeiture of a water right for non-use[75] nor the restrictions on a change in the location of use created by the doctrine of riparian rights,[76] because time and space do not permit it. These problems can have profound effects on the validity of title and the availability of water resources for new uses, and therefore stand as additional impediments to the reallocation and transfer of water rights.

EFFECT OF INTERSTATE COMPACTS ON INTERSTATE SALES OF WATER RESOURCES

The purpose of interstate compacts is to equitably apportion the water of an interstate stream among the several states through which it flows.[77] Equitable apportionment can generally be accomplished in one of three ways.[78] The most common, and probably the most preferred approach, is that of a negotiated contractual apportionment ratified by the participants and the Congress. Equitable apportionment can also be achieved by judicial decree.[79] This is the least desirable method since the courts often lack the

74. McNaughton v. Eaton, 121 Utah 394, 242 P.2d 570 (1952).

75. UTAH CODE ANN. §§ 73-1-4, 73-4-9, 73-3-17 (1953).

76. *See generally* Thompson v. Enz, 379 Mich. 667, 154 N.W.2d 473 (1967); Bradley v. County of Jackson, 347 S.W.2d 683 (Mo. 1961); McCarter v. Hudson County Water Co., 70 N.J. 695, 65 A. 489 (1906); Exton v. Glen Gardner Water Co., 3 N.J. Misc. 613, 129 A. 255 (1925); Hill, *Limitation on Diversions from the Watershed: Riparian Roadblock to Beneficial Use*, 23 S.C.L. REV. 43 (1971).

77. *See generally*, National Water Commission, *A Summary Digest of State Water Laws* (R. Dewsnup and D. Jensen ed. 1973).

78. *Id.*

79. Colorado v. New Mexico, — U.S. —, 103 S. Ct. 539 (1982), *reh'g denied* (Feb. 22, 1983);

necessary hydrological expertise to resolve the very complex issues involved. Finally, the Supreme Court held in *Arizona v. California*[80] that Congress had the authority to apportion the waters of an interstate stream itself.[81]

Apportionment, regardless of how it is accomplished, is simply a method of quantifying each state's right to develop the water within an interstate river system. The apportionment does not dictate or otherwise govern the manner in which the water is used within each state. It simply indicates the quantity of water which each state is entitled to develop from the interstate resource. The right to develop, however, is always subordinate to federal powers to regulate navigation and commerce upon the interstate streams, to make treaties and to exercise its proprietary interest in its land and water resources.

Interstate compacts may place restraints upon the place of water use and nearly always allocate the water which each state may use from the interstate source. Under the Colorado River Compact,[82] the water of the Colorado River system was allocated by compact between the Upper and Lower Basin states. The water allocated to the Upper Basin was then apportioned again among the states of the Upper Basin by the Upper Colorado River Compact.[83] The Supreme Court held in 1963 that Congress apportioned the water among the Lower Basin States.[84]

Strict enforcement of the allocation under the compact may cause some interesting problems in the future. Under the Upper Colorado River Compact, for example, Colorado may construct a dam on the White River in Utah and divert water for use in Colorado for an oil shale project. The water so used would be stored and diverted in Utah, but charged against Colorado's allocated share of the Colorado River system under the terms of the Upper Basin Compact. This method of accounting for water use and development works very well in this typical situation. The system may not work at all, however, where the water is not put to an end use, but is instead used as a medium of transportation.

For example, the Nevada Power Association seeks to use Utah's groundwater in a coal slurry pipline to take Utah's coal to an electrical generating facility located in Nevada. The source of water supply is groundwater from the deep Navaho sandstone formation in Utah. Presumptively, this water is tributary to the Colorado River. The point of diversion may be located so that it will involve water that has been allocated to Upper Basin states. Thus the water will not move only from state to state but possibly from the Upper Basin to the Lower Basin as well. The water will not be

---

Nebraska v. Wyoming, 325 U.S. 589 (1945); Hinderlieder v. LaPlatta River and Cherry Creek Ditch Co., 304 U.S. 92 (1934); Kansas v. Colorado, 206 U.S. 46 (1907).

80. 373 U.S. 546 (1963); *see* E.W. Clyde, *The Colorado River Decision—1963*, 8 UTAH L. REV. 299 (1963).

81. Arizona v. California, 373 U.S. 546, 564-90 (1963).

82. Act of August 19, 1921, ch. 72, 42 Stat. 171.

83. UPPER COLORADO RIVER BASIN COMPACT, ch. 48, 63 Stat. 31 (1949).

84. Arizona v. California, 373 U.S. 546 (1963).

piped from Utah for an end use in Nevada. Instead, the water will be used to transport Utah's coal in slurry form to a power plant outside Las Vegas, Nevada. How should the water be charged between states and between basins? The compact does not address the issue, and yet the answer will become important as each state and basin approaches full development. Clearly the citizens of each state are bound by the provisions of interstate compacts.[85] Water resource development and reallocation will unquestionably be affected in the state ultimately charged with the use of this water.

Another example of interstate compacts impeding the transfer of water resources is Article X of the Yellowstone River Compact.[86] This was adopted in 1950 by the states of Montana, Wyoming and North Dakota. Article X of the compact provides that no water shall be diverted from the Yellowstone River basin without the unanimous consent of all other signatory states. This provision applies only to rights initiated in the Yellowstone River basin after 1950.

The apparent purpose of this provision was to retain the benefit of the return flow water in the Yellowstone River basin. As applied, however, this provision can impede interstate commerce. The Northern Great Plains contain a substantial quantity of both water and coal. The Secretary of Interior determined that some 600,000 acre feet of water existed in the Yellowtail Reservoir that could be used for industrial purposes without impairing irrigation efficiency. This determination was challenged by environmental groups, but was sustained by the courts.[87] As a result, the stored water is available for energy use.

Massive coal deposits lie near Gillette, Wyoming, which is just outside the Yellowstone River basin. Article X of the compact is being asserted to prohibit those who have appropriated water under Wyoming law from making a trans-basin diversion of this water and placing it to use for coal slurry pipeline and other energy related projects. Article X is currently under challenge on constitutional grounds in the United States District Court of Montana.[88]

LEGAL RESTRAINTS CREATED BY FEDERAL LAWS

The majority of the water yet to be developed in the arid West may well be under federal control. Due to the economics involved, the water will likely be developed under large block appropriations which will include all of the unappropriated water in a given watershed area. The projects will be large, multi-purpose storage projects financed primarily with federal funds. The water will be allocated by federal agencies or by state sponsoring agen-

85. Hinderlider v. LaPlatta River and Cherry Creek Ditch Co., 304 U.S. 92 (1928).

86. YELLOWSTONE RIVER COMPACT, ch. 629, 65 Stat. 663 (1951).

87. Environmental Defense Fund v. Morton, 420 F. Supp. 1037 (D.C. Mont. 1976), *aff'd* on this point, 596 F.2d 848 (9th Cir. 1979).

88. Intake Water Co. v. Yellowstone River Compact Comm'n, No. 1184 (D. Mont., filed June 29, 1973). A decision in this case is expected shortly.

cies in accordance with federal law rather than state water laws. Thus state appropriation doctrines and water policies may play a more diluted role in the future.

A. *Role of the Federal Government in the West*

The federal government has a dual interest in Western water law. Its first role is that of a sovereign entity exercising the specific powers granted it by the United States Constitution. The federal government is also in the position of a proprietary owner of Western lands and the water arising thereon. The sovereign powers are conferred by the Constitution and cannot be delegated away.[89] The federal government has the supreme authority to make treaties and to regulate commerce and navigation. Federal enterprises are essentially free from state control.[90]

The federal government acquired much of the West by purchase or otherwise and holds title as a proprietary owner. Under the Property Clause of the Constitution,[91] the government can dispose of its property, both land and water, like any other proprietor. Congress, in the Act of 1866,[92] released its land to settlement, and in the Desert Land Act of 1877,[93] severed the unappropriated and non-navigable water from the land so that thereafter patents conveyed no interest in the appurtenant water leaving the water subject to state control.

It then appeared that Congress had permitted the states to control the appropriation of non-navigable water. It must be remembered, however, that although Congress can release this proprietary interest in land and water and allow the states to control its appropriation and use, the relinquishment of this proprietary interest does not also relinquish the sovereign powers of the United States. Congress still has the power to regulate commerce and to control navigation. Its failure to exercise that full power in the past will not preclude it from doing so in the future.[94]

B. *Federal Water Rights*

The federal government may construct a storage facility for the purpose of impounding water for some federal purpose.[95] This is a legitimate exercise of federal power. If the storage project was built as an exercise of the government's "navigation servitude" all state-created water rights in the

89. Cooley v. Board of Wardens, 53 U.S. (12 How.) 299 (1851).

90. *See* California v. United States, 438 U.S. 645 (1978); Arizona v. California, 373 U.S. 546 (1963); Dugan v. Rank, 372 U.S. 609 (1963); Ivanhoe Irrig. Dist. v. McCracken, 357 U.S. 275 (1958).

91. U.S. CONST., art. IV, § 3, cl. 2; Alabama v. Texas, 347 U.S. 272 (1954).

92. Act of July 26, 1866, ch. 262, 14 Stat. 251.

93. Desert Land Act of 1877, Act of March 3, 1877, ch. 107, 19 Stat. 377.

94. *See* United States v. Twin City Power Co., 350 U.S. 222 (1956); Federal Power Comm'n v. Niagra Mohawk Power Co., 347 U.S. 239 (1954).

95. Boulder Canyon Project Act, Act of December 21, 1928, ch. 42, 45 Stat. 1057 (1928); *see generally* Trelease, *Water Acquisition for Mineral Development* 9, ROCKY MTN. MIN. L. FOUND. (1978) (unpublished paper).

source are clearly subordinate. These state-created water rights were established subject to prior rights and the dominant servitude of the federal government. Consequently, no compensation need be paid if these state water rights are impaired by assertion of the government's dominant servitude.[96] If the dam was constructed under the Reclamation Act,[97] for example, the fifth amendment will require compensation to be paid for any established water right under state law taken through the exercise of this dominant federal power.[98]

Federal agencies may also appropriate water under state law. These water rights are state-created water rights. They are subject to prior rights, and may utilize water only when it is available to rights of that priority. The states may impose reasonable conditions upon the approval of these federal appropriations,[99] and the federal agencies must comply with them—but only so long as those conditions do not interfere with the operation of the federal facility.[100] Where the conditions do interfere, the federal government can probably ignore them, although the government would likely be required to compensate the owner of any impaired water right under the fifth amendment.[101]

C. *Federal Reserved Rights*

Federal reserved rights is another area of growing concern and conflict in the West. The reserved rights doctrine was first established in *Winters v. United States*.[102] There the Court held that the government, in withdrawing lands for the establishment of the Indian reservations, had also impliedly reserved sufficient water for Indian use.[103] The Supreme Court in *Arizona v. California*[104] clearly indicated that although the reserved rights may be used for purposes other than irrigation, the total quantity of water reserved for Indian use will be fixed by the needs of their irrigable lands. The reserved rights doctrine has been extended to other federal reservations as well.[105] As to water which has already been appropriated in accordance with state law, and with the consent of Congress under the Act of 1866,[106] these rights are vested and fully protected under law.[107] However, where there is still unappropriated water available, Congress may withdraw the federal offer of settlement and appropriation of water under state law, and reserve the land and the unappropriated appurtenant water for federal use. Any water right

96. United States v. Rands, 389 U.S. 121 (1967).
97. 43 U.S.C. § 391 (1902).
98. United States v. Gerlach Livestock Co., 339 U.S. 725 (1950).
99. California v. United States, 438 U.S. 645 (1978).
100. *Id.*
101. Dugan v. Rank, 339 U.S. 725 (1950).
102. 207 U.S. 564 (1908).
103. *Id.* at 576-77.
104. 373 U.S. 546 (1963).
105. United States v. Cappaert, 426 U.S. 128 (1976); United States v. New Mexico, 438 U.S. 696 (1978).
106. Act of July 26, 1866, ch. 262, 14 Stat. 251.
107. Hunter v. United States, 388 F.2d 148 (9th Cir. 1967).

established thereafter is clearly subordinate to this federal water right. The reserved right is limited to the extent needed to accomplish the purpose of the federal reservation,[108] and in the case of a fully appropriated river system, must be applied with sensitivity to its impact upon those who have obtained water rights which have vested under state law.[109]

The priority of these reserved rights is the date of the withdrawal rather than the date when the water is first used. Thus the priority will often place these rights ahead of water rights established and vested under state law. There is no requirement on the federal agency to use this water and the right cannot be forfeited for non-use. The extent of these rights has generally not been quantified. Consequently, the water right may lie idle for years, and in the meantime, the water may have actually been appropriated by others under state law and placed to beneficial use. These water rights are safe from curtailment by junior appropriators, but they are clearly subordinate to the federal reserved rights and may be curtailed in deference to the prior federal right.

The extent to which the federal reserved rights will create major obstacles to the acquisition and reallocation of state created water rights is unknown. The Court in *United States v. Cappaert*[110] and *United States v. New Mexico*[111] has clearly limited the size of the federal reservation to that quantity of water necessary for the intended purpose and these quantities may prove to be quite small.[112]

D. *Indian Reserved Rights*

The Indian reserved rights, however, present a substantially different problem. Throughout the West the Indians claim a significant block of water which in most areas is yet unused by the Indians. It is expected that Utah will receive about 1.3 million to 1.4 million acre feet of water under its Colorado River Compact allocation. The Ute Indian tribe has claimed as its reserved rights, and the State of Utah by negotiated compact[113] has agreed, a gross diversion requirement of 471,035 acre feet from all sources, with a net depletion allowed of 248,943 acre feet of water, plus an additional 10,000 acre feet of water for municipal and industrial purposes. This constitutes roughly 40% of Utah's allocated share of the Colorado River. It is this writer's impression that the Ute Indian tribe consists of something less than 2,000 people. Of this number, perhaps 400 to 500 of those represent male heads of households. The Indians currently have little use for this water, and it will likely be decades before they have facilities in place and a population in sufficient numbers to ever fully utilize approximately 500,000 acre

108. United States v. Cappaert, 426 U.S. 128 (1976).
109. United States v. New Mexico, 438 U.S. 696 (1978).
110. 426 U.S. 128 (1976).
111. 438 U.S. 696 (1978).
112. *See generally* Trelease, *Water Acquisition for Mineral Development* 9, ROCKY MTN. MIN. L. FOUND. (1978) (unpublished paper).
113. Ute Indian Compact, UTAH CODE ANN. § 73-21-2 (1980).

feet of water. The law is firmly established that until such time as Indian uses develop the tribes cannot legally complain because the water is being used by others.[114]

As a result, the Indians have a very major water asset essentially unused by them, and from which they are currently receiving no economic benefits. To date, the law seems clear that Indians do not have the right to utilize their *Winters*-rights water for development of non-Indian resources, nor do they appear to have the authority to sell or lease their reserve rights water for off-reservation use without Congressional consent.[115] Even if they could, there is a substantial question as to the extent of their water rights since the majority of the Indian claims have not yet been quantified.

If Indian water is confined to on-reservation use, the impact upon non-Indian rights vested under state law will be ascertainable. The extent of the irrigable acreage is something that can be calculated. The return flow from irrigation use upon this land can also be calculated, and reasonably accurate decisions can be made regarding the quantity of water available for use downstream. If the Indians are allowed to sell their water for use off the reservation, care will need to be taken to avoid substantial disruption to non-Indian rights that have vested under state law. Indian rights should come under state administration to insure that a change in the place of use of Indian water off the reservation does not interfere with vested non-Indian rights. The states do not have jurisdiction over Indian property or Indian water. Congress has the power to deal with Indian water and it could consent to state regulation of Indian water rights to insure non-impairment to others. The proposed Ute Indian Compact contains such a provision.[116] If adopted by the Ute Indian Tribe, the compact would accomodate the Indians' desire to market their water and obtain some economic return and benefit. It would also protect non-Indian vested rights from interference caused by moving Indian water to off-reservation lands.

Whether or not Indian water should be available for interstate use is an even broader question yet to be addressed. For example, if the Ute Indian water is sold for use in the Imperial Valley in California, what will happen to the hard-fought compact allocations of the Colorado River Compact? Statements by the United States Supreme Court indicate that the Indians' water is to be charged against the states' allocation in which the Indian use is made.[117] Article VII of the Upper Colorado River Compact expressly so provides.[118] Therefore, if Ute Indian water is sold or leased for an end use

114. *See* United States v. Ahtanum Irrig. Dist., 236 F.2d 321 (9th Cir. 1956); Tweedy v. Texas Co., 286 F. Supp. 383 (D.C. Mont. 1968); United States v. Hibner, 27 F.2d 909 (9th Cir. 1928); National Water Comm'n, *Water Policies for the Future* 477 (June, 1973).

115. *See* E.W. Clyde, *Allocation of Water for Resource Development*, XIV, NAT'L. RESOURCES LAW 519 (1982). See the dissenting opinion of Mr. Justice Brennan, Arizona v. California, — U.S. —, 103 S. Ct. 1382 (1983).

116. Ute Indian Compact, art. III, UTAH CODE ANN. § 73-21-2 (1980).

117. *See* Arizona v. California, 373 U.S. 546 (1963); United States v. California, 438 U.S. 645 (1978).

118. See *supra* note 28.

in California it is probable that the water will be charged against California's allocated share rather than Utah's. The impact of this could be severe if the state of use had already reached full development. In the long run, it should make little difference to the farmer, energy developer or recreational property developer whether the water he consumes is Indian water, water purchased from the Bureau of Reclamation under contract or water acquired by state appropriation. So long as other rights can be protected, there is probably no practical reason to restrict Indian water to reservation lands. However, there may be philosophical and legal reasons for doing so.

Water was set aside for the Indians to permit them to become self-sufficient and to facilitate the change from their nomadic lifestyles to an agrarian based society.[119] Arguably, the purpose of the reservation would be subverted if the Indians were allowed to transfer their water for use off of the reservations. The water was reserved for reservation purposes only and the development of oil shale on non-Indian lands is not the reason the reservation and the reserved water rights were established. Therefore, the rights to sell or lease water for off-reservation use should be denied as a state district court in Wyoming recently held.[120]

The contrary view is that Indian economic development will be enhanced, and the conversion of their lifestyles accelerated, if they are allowed to lease their water resources for use by others, using the revenue obtained from the lease of this water to help develop other Indian enterprises. The problem needs resolution. It will likely require Congressional action,[121] and it ought to be dealt with soon. If Indian water is confined to use on the reservation, the law will have once again created a barrier to the reallocation and use of a major water supply.

Until a determination is made regarding the authority of Indians to sell their water for use off the reservation, and the Indian reserved rights are quantified, Indian water will be used by others to develop their economic activities without any economic return or legal basis for complaint available to the Indians. Authorizing the sale or lease of Indian water for off-reservation use will probably cause little change in water use patterns. Those currently using this water will likely continue doing so. The only difference is that they will pay for it. Settling these issues will result in the quantification of the Indian reserve rights and the shifting of some economic benefits to the tribes. Both of these results are positive for all concerned and ought to be encouraged.

E. *Bureau of Reclamation*

Another legal barrier to the reallocation of water is the sale of water

119. Winters v. United States, 207 U.S. 564 (1908).

120. *In re*: The General Adjudication of All Rights to the Use of Water in the Big Horn River System and All Other Sources, State of Wyoming, Civ. No. 4993, slip op. (Wyo. May 10, 1983).

121. Clyde, *supra* note 107, at 535.

from Bureau of Reclamation projects. Under the 1902 Reclamation Act,[122] project water used for the irrigation of project lands becomes appurtenant to that land and is not transferable to new lands. Consequently, projects built under the authority of the 1902 act create a perpetual water supply for project lands which cannot be transferred off the land and placed to other uses. The problem created by this is demonstrated by the following example.

In Utah, the Bureau of Reclamation contracted with the Strawberry Water Users Association for the construction of the Strawberry Reservoir. The project was completed in 1922, and provided 270,000 acre feet of water for irrigation use on approximately 43,000 acres of land. Much of the project land was in Utah County along the Wasatch Mountain range. This farmland is being converted into subdivided housing for the rapidly growing population of the state. The agricultural need for this water is diminishing while the municipal and industrial need is increasing with the population growth. The Strawberry water would be extremely valuable as a municipal and industrial supply. It is in storage high in the drainage where it could be released and made available for peak demand use during the late summer months. The appurtenancy requirement of the 1902 act, however, is preventing this water from being transferred from the land into municipal and industrial use. The result is another legal water shortage where the supply of water is otherwise available for use. The law simply fails to accomodate a change in land use and the changing needs of a more urban society in the West.

CONCLUSION

The West must be able to readily reallocate its limited water resources if it is going to meet the challenges of the future. To the extent possible, new water supplies must be developed to satisfy the ever increasing municipal and industrial demands. Procedures must also be developed to reallocate existing water resources to new uses. The ability to do this is clearly hampered by archaic state water laws and by the pre-emptive effect of the dominant federal powers, federal reserved water rights and Indian reserved water rights.

These federal-state conflicts should be settled as a matter of sound policy and not upon the existence of power.[123] National policy, however, may conflict with local policy. The efforts of states, such as the embargo legislation, to prevent the use of their water resources to further national economic goals will not achieve the desired results of retaining state control over the reallocation process. The states would be well advised to concentrate their efforts on increasing their administrative control over the reallocation process to insure that the limited water resources are being used to further the greater public interest rather than attempting to prohibit the use of their

122. 43 U.S.C. § 391 (1902).
123. E.W. Clyde, *Current Developments in Water Law*, 53 NW. U. L. REV. 725 (1959).