

1989

## Wyoming's Groundwater Laws: Quantity and Quality Regulation

Lawrence J. Wolfe

Jennifer G. Hager

Follow this and additional works at: [https://scholarship.law.uwyo.edu/land\\_water](https://scholarship.law.uwyo.edu/land_water)

---

### Recommended Citation

Wolfe, Lawrence J. and Hager, Jennifer G. (1989) "Wyoming's Groundwater Laws: Quantity and Quality Regulation," *Land & Water Law Review*. Vol. 24 : Iss. 1 , pp. 39 - 84.

Available at: [https://scholarship.law.uwyo.edu/land\\_water/vol24/iss1/2](https://scholarship.law.uwyo.edu/land_water/vol24/iss1/2)

This Article is brought to you for free and open access by Law Archive of Wyoming Scholarship. It has been accepted for inclusion in Land & Water Law Review by an authorized editor of Law Archive of Wyoming Scholarship.

University of Wyoming

College of Law

# LAND AND WATER LAW REVIEW

---

VOLUME XXIV

1989

NUMBER 1

---

## WYOMING'S GROUNDWATER LAWS: QUANTITY AND QUALITY REGULATION

*Lawrence J. Wolfe\**

and

*Jennifer G. Hager\*\**

### TABLE OF CONTENTS

I. INTRODUCTION .....	40
A. <i>The Groundwater Resource</i> .....	41
B. <i>History of Wyoming's Groundwater Law</i> .....	42
II. PERMIT SYSTEM .....	45
A. <i>Definition of "Underground Water"</i> .....	45
1. Spring Water .....	45
2. By-Product Water .....	46
B. <i>Who Must Apply for a Groundwater Permit?</i> .....	47
C. <i>Penalty for Failure to Obtain a Permit</i> .....	48
D. <i>Obtaining a Permit</i> .....	48
E. <i>Conditions on the Permit</i> .....	50
F. <i>Adjudication</i> .....	52
G. <i>Preferred Uses</i> .....	53
H. <i>Test Well Permits, Temporary Permits,         and Temporary Use Agreements</i> .....	54

---

\* Holland & Hart, Cheyenne, Wyoming.

\*\* Assistant Attorney General, Cheyenne, Wyoming.

The opinions and interpretations in this article are those of the authors and do not represent the views of clients, the Attorney General or the State Engineer. The authors would like to express their deep appreciation to Richard G. Stockdale, Administrator, Ground Water Division, Wyoming State Engineer's Office. Dick has managed the state's groundwater program since 1971, and he has made an extraordinary contribution to Wyoming's water programs. Although Dick commented on drafts of this article, the authors assume full responsibility for any errors.

I. <i>Change in Location, Change in Use, Change in Place of Use</i> . . .	55
1. <i>Change in Location</i> . . . . .	55
2. <i>Change in Place of Use</i> . . . . .	56
3. <i>Change in Use</i> . . . . .	57
J. <i>Abandonment</i> . . . . .	57
K. <i>Authority of the State Engineer</i> . . . . .	58
III. <i>SELECTED ISSUES</i> . . . . .	59
A. <i>Groundwater Storage</i> . . . . .	59
B. <i>Regulation of Interconnected Waters</i> . . . . .	61
C. <i>Interference</i> . . . . .	62
D. <i>Mine Dewatering</i> . . . . .	64
E. <i>Control of Groundwater Depletion</i> . . . . .	66
1. <i>Establishment of Control Areas</i> . . . . .	68
2. <i>Three Control Areas Established</i> . . . . .	70
F. <i>Wyoming's Groundwater Statutes are not Designed to Regulate Domestic Groundwater Use</i> . . . . .	71
1. <i>Domestic Groundwater Use Regulation</i> . . . . .	71
2. <i>Land Use Regulation</i> . . . . .	73
G. <i>Regulation of Water Well Drillers</i> . . . . .	73
H. <i>Interstate Use of Groundwater</i> . . . . .	74
IV. <i>GROUNDWATER QUALITY</i> . . . . .	76
A. <i>Federal Programs</i> . . . . .	78
B. <i>State Groundwater Quality Regulation</i> . . . . .	78
C. <i>Water Quality Division</i> . . . . .	79
D. <i>Classification of Groundwater</i> . . . . .	80
E. <i>Permitting Procedure for Discharges</i> . . . . .	81
F. <i>Relationship Between Water Quantity and Water Quality Regulation</i> . . . . .	83
V. <i>CONCLUSION</i> . . . . .	84

### I. INTRODUCTION

The problem of underground waters and their development for beneficial purposes, has not, to date, been brought to the attention of the people of Wyoming since development has not yet taken place to the point where the underground water supply is being seriously depleted; thus causing costly litigation, serious quarrels, and disastrous lowering of the water table as has resulted in neighboring states.<sup>1</sup>

Almost fifty years have passed since the State Engineer observed that Wyoming had avoided the groundwater disputes that have afflicted neighboring states. The statement remains substantially true in the late 1980's,

---

1. 1939-1940 WYOMING STATE ENGINEER'S REPORT 22.

despite an enormous increase in groundwater utilization in Wyoming. Although comprehensive groundwater regulation has existed for thirty years, almost all of the essential features of the law remain untested by litigation. Lack of population pressures, a high plains and mountain topography, a boom and bust energy and commodity economy, and the relative abundance of surface water have combined to quell or at least defer major conflicts over groundwater use.

However, this relative tranquility may not always prevail and flexible and far-sighted management of Wyoming's groundwater resources will be an important element in planning Wyoming's future. This article is intended to provide a practical explanation of how Wyoming's groundwater laws are administered, and to look at the problems and opportunities that groundwater regulation holds for Wyoming as it moves into the 21st century.

### A. *The Groundwater Resource*

Groundwater accounted for ten percent of all the water used in Wyoming in 1980.<sup>2</sup> Groundwater serves approximately fifty-four percent of the population. Twenty-six percent of the state's population is served by groundwater from public water supplies and twenty-eight percent from rural self-supplied systems.<sup>3</sup> Groundwater provides ninety percent of the water used for rural supplies.

One of the most important variables in analyzing the groundwater resource is the rate of recharge. Precipitation is the primary source of groundwater recharge. Almost ninety percent of Wyoming receives less than twenty inches of precipitation annually, and nearly half the state receives less than twelve inches. In the vicinity of Cheyenne, in the southeast corner of the state, annual precipitation is approximately sixteen inches, and recharge to groundwater is estimated to be eight-tenths of an inch per year. For all practical calculations, recharge is assumed to be negligible in the Ogallala aquifer near Cheyenne.<sup>4</sup>

Irrigation accounts for sixty percent of all groundwater used. Over 250,000 acres of land are irrigated from groundwater supplies.<sup>5</sup> Thirty percent of the total groundwater consumed is put to industrial use. The principal industrial use is in secondary recovery in oil and gas operations, with smaller quantities used in cooling power plants and manufacturing.<sup>6</sup>

---

2. NATIONAL WATER SUMMARY, 1984 - U.S. GEOLOGICAL SURVEY WATER-SUPPLY PAPER 2275, 453 [hereinafter NAT'L WATER SUMMARY]; supplemented by U.S.G.S. WATER FACT SHEET OPEN FILE REPORT 88-121 (1988). This paper is the source of all of the statistics in this article on water use in Wyoming. See also WYOMING GROUND-WATER QUALITY, U.S.G.S. OPEN-FILE REPORT 87-0763 (1988).

3. NAT'L WATER SUMMARY, *supra* note 2, at 453. These percentages are not higher because many of Wyoming's larger cities are supplied by surface water, including Cheyenne (some groundwater), Casper, Sheridan, Rock Springs, and Green River.

4. *Id.*

5. Conversations with Richard Stockdale, Administrator, Ground Water Division, State Engineer's Office (February, 1988) [hereinafter Stockdale]. However, this fact must be placed in the perspective of groundwater use by other states. Nebraska irrigates 6-8 million acres of land with groundwater. *Id.*

6. NAT'L WATER SUMMARY, *supra* note 2, at 456.

The groundwater in Wyoming is derived from four principal aquifers.<sup>7</sup> Alluvial aquifers, which are the source of supply for rural and domestic water and irrigation, exist along the borders of most of the larger streams in Wyoming. Hydrologically-connected ground and surface water exists in this aquifer, and most of the problems related to managing interconnected groundwater are associated with alluvial aquifers. The high plains and equivalent aquifers are the predominant source of irrigation groundwater in Wyoming. These aquifers include the Ogallala formation, which is the source of irrigation water for southeastern Wyoming where intensive center pivot irrigation has been developed. More than 1500 wells irrigating 130,000 acres are supplied from this aquifer. Well yields are commonly 150 to 800 gallons per minute (g.p.m.), but some yields exceed 2000 g.p.m. Wyoming's most extensive aquifer, the structural basin aquifer, underlies most of the major basins in the state. However, it is a miserly producer and generally supplies groundwater in quantities only suitable for domestic and livestock use.<sup>8</sup> Finally, the carbonate and sandstone aquifers such as the Madison Formation are found in parts of Wyoming.<sup>9</sup>

### *B. History of Wyoming's Groundwater Law*

The prior appropriations doctrine, which Wyoming pioneered for surface water regulation, was not adopted by Wyoming for groundwater until the mid-20th century. The Wyoming Constitution omits any specific reference to groundwater,<sup>10</sup> and the first commentator on Wyoming's 1947 groundwater statute concluded that the constitutional provision did not include groundwater.<sup>11</sup> That observation may have been correct. In 1890, when the Wyoming Constitution was adopted, groundwater use was minimal and the law gave the overlying landowner the unfettered right to capture and use groundwater.<sup>12</sup>

---

7. *Id.* at 253. An understanding of groundwater hydrology is essential to a full appreciation of the workings of the groundwater laws. Such information is readily available. See Widman, *Groundwater Hydrology and the Problems of Competing Well Owners*, 14 ROCKY MT. MIN. L. INST. 523 (1968); FREEZE & CHERRY, *GROUNDWATER* (1979); RICE & WHITE, *ENGINEERING ASPECTS OF WATER LAW* 115 (1987); BOUWER, *GROUNDWATER HYDROLOGY* (1978); Crosby, *A Layman's Guide to Groundwater Hydrology*, in CORKER, *GROUNDWATER LAW, MANAGEMENT AND ADMINISTRATION*, NATIONAL WATER COMMISSION, LEGAL STUDY NO. 6, ch. II (1971).

8. WYOMING GROUND-WATER QUALITY, *supra* note 2, at 2-3.

9. The Madison Formation was the proposed source of water for the Energy Transportation Systems, Inc. coal slurry pipeline. See *infra* notes 230-32 and accompanying text.

10. WYO. CONST. art. 8, § 1.

11. Note, *Rights of Wyoming Appropriators in Underground Water*, 1 WYO. L.J. 111 (1947).

12. At the time of the adoption of Wyoming's Constitution, there were two principal doctrines of groundwater ownership: 1) the English rule of absolute ownership and 2) the American rule of reasonable use. The absolute ownership rule is a rule of capture that holds that the landowner has the right to use the water for whatever purposes, including use on non-overlying lands and uses that might be generally considered as wasteful. The absolute use rule has been displaced in all the western states except Texas by some variant of the appropriations system. 5 CLARK, *WATERS AND WATER RIGHTS* § 441 (1972). The American doctrine of reasonable use attempts to restrict groundwater use by imposing a reasonableness requirement. Under the rule, the landowner is only entitled to use as much water as can be reasonably consumed on the overlying lands. Waste of water and use on non-overlying lands is prohibited.

In addition to these two doctrines, and the appropriations system, there is generally

As groundwater use increased in the 1930's, many of the western states recognized the inefficiencies of relying on the rule of capture because it prohibited any type of state regulation. With the development of high-capacity pumps and the electrification of rural America, control of groundwater depletion became a prime concern of state water officials. Beginning in the late 1930's, the Wyoming State Engineer undertook a series of investigations of groundwater availability in the southeastern part of Wyoming, where extensive irrigation use of groundwater was occurring.<sup>13</sup> As early as 1940, the Wyoming State Engineer was urging the legislature to adopt a prior appropriations system for groundwater regulation.<sup>14</sup>

The first statute, passed in 1945, was a small step towards asserting state control over groundwater.<sup>15</sup> The 1945 Act dealt with "underground percolating water," apparently attempting to preserve a distinction between percolating water, which was owned by the overlying landowner, and "underground streams" which some states had recognized as being subject to the appropriations doctrine.<sup>16</sup> The Act declared that existing uses of groundwater would constitute a vested right. The State Engineer was directed to investigate groundwater conditions and hold hearings, and to recommend to the 1947 legislature "appropriate legislation for the regulation of the use of underground waters."<sup>17</sup> The State Engineer held hearings in 1946 in four cities in southeastern Wyoming, and in 1947, the

considered to be a fourth doctrine, correlative rights. This doctrine is followed only in California, and basically holds that each overlying landowner has an equal right to the groundwater supply and if there is a shortage, the safe yield of the supply is apportioned among the owners on the basis of the amount of land owned. For discussions of the doctrines see Note, *supra* note 11, at 114; II HUTCHINS, *WATER RIGHTS IN THE NINETEEN WESTERN STATES* 665, 670 (1974); Aiken, *Nebraska Ground Water Law and Administration*, 59 NEB. L. REV. 917, 922 (1980) (an excellent summary of groundwater law in the West and of course Nebraska); Corker, *Inadequacy of the Present Law to Protect, Conserve and Develop Groundwater Use*, 25 ROCKY MT. MIN. L. INST. 23-1 (1979); Murphy, *The Recurring State Judicial Task of Choosing Rules for Groundwater Law: How Occult Still?*, 66 NEB. L. REV. 120 (1987) (a thoughtful analysis of the groundwater doctrines); Burke and Kulazsa, *Artesian Power! How to Prepare for the Coming Groundwater Revolution*, 28 ROCKY MT. MIN. L. INST. 1345, 1358 (1982); F. TRELEASE, *WATER LAW CASES AND MATERIALS*, 438 (3d ed. 1979); RESTATEMENT (SECOND) OF TORTS § 858 (1979).

In *Hunt v. City of Laramie*, 26 Wyo. 160, 181 P. 137 (1919), the Wyoming Supreme Court placed Wyoming groundwater law squarely under the absolute ownership rule. See Note, *Constitutionality of the Wyoming Underground Water Statute*, 3 WYO. L.J. 140, 141 (1949). See also *Binning v. Miller*, 55 Wyo. 451, 102 P.2d 54 (1940) (perhaps adopting the reasonable use rule).

13. 1939-1940 WYOMING STATE ENGINEER'S REPORT 32; 1941-1942 WYOMING STATE ENGINEER'S REPORT 33; 1943-1944 WYOMING STATE ENGINEER'S REPORT 43; 1945-1946 WYOMING STATE ENGINEER'S REPORT 144.

14. 1939-1940 WYOMING STATE ENGINEER'S REPORT 32.

15. 1945 WYO. SESS. LAWS ch. 139.

16. For a discussion about the distinctions between percolating waters and other types see HUTCHINS, *supra* note 12, at 633, 668. The State Engineer in the 1939-1940 REPORT, *supra* note 1, at 35-37, discoursed at some length on the various types of groundwater that should be subject to appropriation. He thought that there were three classes of groundwater, percolating (which was further divided into four classes), water basins, and artesian water. Fortunately, the legislature did not further complicate the law with such artificial distinctions.

17. 1945 WYO. SESS. LAWS ch. 139, § 5.

legislature passed a fairly comprehensive statute that gave the State Engineer rudimentary powers to regulate groundwater use.<sup>18</sup>

The 1947 statute applied to all "underground waters," eliminating the concept of "percolating" groundwater.<sup>19</sup> All existing uses were declared to constitute a "vested right" and the statute imposed a "reasonable economic beneficial use" criteria as the basis, measure and limit of the right to use underground water.<sup>20</sup> The Act exempted stock and domestic use of water where the area irrigated did not exceed four acres.<sup>21</sup> All existing well owners were required to file a statement of claim, identifying the nature and location of use, and the type of well, depth to water table and amount of water claimed.<sup>22</sup> For all wells developed after the effective date of the Act, the statute required that any new well be registered within thirty days of construction.<sup>23</sup>

The key provision in the statute, the priority of appropriation, provided that all existing wells would have a priority date as of the time of completion of the well. All wells drilled subsequent to the effective date of the Act would have a priority from the date of filing the registration in the State Engineer's office.<sup>24</sup> The Act was immediately criticized because it did not give the State Engineer any regulatory authority.<sup>25</sup> The Act did not require issuing a permit before developing a well, and therefore, the State Engineer was unable to control groundwater depletion by preventing construction of a well. In addition, the State Engineer had no express authority to either regulate in cases of interference or to impose well construction standards.<sup>26</sup>

18. 1947 WYO. SESS. LAWS ch. 107.

19. 1947 WYO. SESS. LAWS ch. 107, § 1.

20. 1947 WYO. SESS. LAWS ch. 107, §§ 2, 3.

21. 1947 WYO. SESS. LAWS ch. 107, § 4.

22. 1947 WYO. SESS. LAWS ch. 107, § 5.

23. 1947 WYO. SESS. LAWS ch. 107, § 8.

24. 1947 WYO. SESS. LAWS ch. 107, § 10.

25. See Note, *supra* note 11, at 119.

26. It might be argued that by adopting the magic language "priority of appropriation" the legislature had given the State Engineer the power to close a junior well if it was interfering with a senior appropriator. This power would perhaps be implied from the constitutional provision that "Priority of appropriation shall give the better right." WYO. CONST. art. 8, § 2. It was also soon after the passage of the Act that the question of its constitutionality was raised. See Note, *supra* note 12. The constitutional issue is whether the statute constitutes a taking of private property without due process. Such a claim was brought before the New Mexico Supreme Court and rejected. *Yeo v. Tweedy*, 34 N.M. 611, 286 P. 960 (1929); see also *Knight v. Grimes*, 80 S.D. 517, 127 N.W.2d 708 (1964) (upholding South Dakota's groundwater appropriation statute as a legitimate exercise of the state police power); *Baumann v. Smrha*, 145 F. Supp. 617 (D. Kan. 1956), *aff'd*, 352 U.S. 863 (1956) (upholding the Kansas groundwater appropriation law). A constitutional challenge to the 1947 Act might have been premature. The Act did not prohibit a landowner from developing groundwater under his land to the fullest extent that he desired. Thus, the basic rule of absolute use from *Hunt*, 181 P. at 137 was not abridged. The 1947 Act did impose a "reasonable economic beneficial use" criteria on groundwater, but that might arguably have been seen only as a limitation derived from the reasonable use rule. Therefore, the statute, on its face, did not constitute a taking of property without compensation. The constitutional issue might only have been raised in the context of a dispute between a senior and a junior appropriator, in which the State Engineer sought to impose regulation on either party. No constitutional challenge was ever asserted against the 1947 statute, nor against the 1957 Act, which re-

The deficiencies of the 1947 Act, particularly the lack of a pre-construction permit, forced the State Engineer to recommend substantial changes in the law. The legislature completely rewrote the law in 1957. This statute, with only minor changes, continues to be Wyoming's groundwater statute.

## II. PERMIT SYSTEM

### A. Definition of "Underground Water"

The legislature left the term "underground water" undefined until 1957 but has since gradually broadened the scope of the definition. In 1957, underground water meant "any water under the surface of the land or under the bed of any stream, lake, reservoir, or other body of surface water."<sup>27</sup> This definition covers any groundwater located in aquifers, percolating water and any other subsurface water. In 1973, the legislature added "water that has been exposed to the surface by an excavation such as a pit" and, because of the heightened interest in geothermal development, included hot water and geothermal steam within the definition.<sup>28</sup> Wyoming is one of the few states to treat hot water and geothermal steam as a water resource.<sup>29</sup> Most other western states along with the federal government treat the resource more as a mineral.<sup>30</sup>

#### 1. Spring Water

The constitution specifically includes springs as waters of the state to be administered by the State Engineer and Board of Control.<sup>31</sup> In 1973, the legislature decided to classify small springs as groundwater for the purposes of filing. A spring is generally understood to be the point where the water table intersects with the land surface. It usually flows by gravity, although it may be artesian.<sup>32</sup> All springs are filed as groundwater

---

quires a permit prior to construction of a well, and is a clear rejection of the absolute or reasonable use rules. See *infra* note 27. The state's water users, probably in recognition of the need for regulation and the fact that groundwater permits can be obtained as a matter of course (except in control areas), have been content to let the constitutional issue die.

27. 1957 WYO. SESS. LAWS ch. 169 § 27(b).

28. 1973 WYO. SESS. LAWS ch. 171 § 2. The current definition is at WYO. STAT. § 41-3-901 (a)(ii)(1977).

29. The other states treating geothermal water as a water resource are Utah, Montana and Nevada. Olpin and Tarlock, *Water That Is Not Water*, 13 LAND & WATER L. REV. 391, 402 (1978). See also Perry, *Preemption of State Geothermal Regulation - Federalism Gets Into Hot Water*, 22 LAND & WATER L. REV. 97 (1987); Schlauch and Worcester, *Geothermal Resources: A Primer for the Practitioner*, 9 LAND & WATER L. REV. 327 (1974).

30. Olpin, *supra* note 29, at 399. It should be noted that the Wyoming State Board of Land Commissioners has some jurisdiction over geothermal steam and hot water in that it leases geothermal wells on state land, basically in the same manner it leases oil and gas wells.

The practical effect of the difference in the classification of the resource is the type of property right each conveys. As a water right, the appropriator does not "own" the resource but has the right to its use subject to state regulation. It is a valuable property right that is protected against interference, but the state exercises control over the amount and location of use. *Budd v. Bishop*, 543 P.2d 368 (Wyo. 1975). On the other hand, a mineral resource is generally owned by the overlying landowner or the state as an exclusive property right and can be freely transferred, leased, conveyed, or reserved by deed.

31. WYO. CONST. art. 8, § 1.

32. GLOSSARY OF GEOLOGY, AMERICAN GEOLOGICAL INSTITUTE 38, 637 (3d ed. 1987).



appropriations if their yield does not exceed twenty-five gallons per minute and the use is for domestic or stock purposes only.<sup>33</sup> Otherwise, the appropriator must file with the State Engineer for a surface water permit. Small springs used for domestic or stock purposes are filed as groundwater appropriations for two reasons. First, this procedure provides an easier and less expensive application process for the appropriator. Second, the small quantity (twenty-five g.p.m.) is not considered as a significant tributary inflow to most surface water streams.<sup>34</sup> Before a permit will be granted, the water from the spring must be diverted in some manner and artificially developed with such devices as collection boxes or cribbing.<sup>35</sup> These requirements are consistent with the diversion requirements for surface water permits.<sup>36</sup>

## 2. By-Product Water

In 1973, the legislature gave the State Engineer the power to regulate by-product water under the groundwater statutes.<sup>37</sup> The production of oil and gas and the dewatering of uranium and coal mines produce a considerable amount of groundwater which, after being separated from the oil and gas or pumped from the mines, is discharged down natural draws and channels, where it may be diverted for beneficial use. The statute defines by-product water as water that has not been put to prior beneficial use, but which is the by-product of some nonwater-related economic activity. The definition specifically includes, but is not limited to, water resulting from the operation of oil well separator systems, or mining activities, such as dewatering of mines.<sup>38</sup> Any person wanting to appropriate by-product water for beneficial use must file a groundwater application with the State Engineer.<sup>39</sup>

In order to appropriate by-product water, two conditions must be met. First, the appropriator must intercept the water before it commingles with any other waters of the state, including streams, lakes, reservoirs and groundwater aquifers.<sup>40</sup> Second, if the permit applicant is not the developer of the water, an agreement between the developer and the applicant granting permission to use by-product water must be filed with the application.<sup>41</sup> The granting of a permit for by-product water does not imply that the developer-grantor must maintain or provide any amount of by-product water.<sup>42</sup> The statute necessarily implies that the developer of the water

33. WYO. STAT. § 41-3-902 (1977).

34. Stockdale, *supra* note 5. To file a surface water application the applicant must hire a land surveyor to prepare a map, which is not required for groundwater filing. WYO. STAT. § 41-4-501; REGULATIONS AND INSTRUCTIONS, STATE ENGINEER'S OFFICE, pt. I, ch. 8 (1974) [hereinafter 1974 REGS. OF ST. ENG.].

35. 1974 REGS. OF ST. ENG., *supra* note 34, at pt. II, Groundwater, ch. 1, § 21.

36. *Id.* at pt. I, Surface Water, ch. III, § 6.

37. WYO. STAT. § 41-3-904 (1977).

38. WYO. STAT. § 41-3-903 (1977).

39. WYO. STAT. § 41-3-904 (1977). As to whether a permit is required to produce by-product waste, see *infra* notes 172-80 and accompanying text.

40. WYO. STAT. § 41-3-904(a)(i) (1977).

41. WYO. STAT. § 41-3-904(a)(i) (1977).

42. 1974 REGS. OF ST. ENG., *supra* note 34, at pt. II, Groundwater, ch. 1, § 19.

must apply to the State Engineer if he desires to put the water to any use, such as dust control. If the by-product water reaches any stream or lake, reservoir or surface water, the water is to be treated as natural flow and is subject to appropriation pursuant to the surface water statutes.<sup>43</sup>

### *B. Who Must Apply for a Groundwater Permit?*

The statutes expressly provide that any person proposing to drill a well to withdraw groundwater must first obtain a permit from the State Engineer before construction of the well, or, if the well is in place for some other reason, before the water is withdrawn and beneficially used.<sup>44</sup> Once a permit is granted, the priority date of the water right is the date of filing the application.<sup>45</sup>

Although earlier versions of the statutes exempted domestic and stock use, the statute was amended in 1969 such that today no uses are exempt from the permit process.<sup>46</sup> However, domestic and stock uses are labeled as "preferred uses" with associated extra protection.<sup>47</sup> "Domestic use" is defined as "household use and the watering of lawns and gardens for noncommercial family use where the area to be irrigated does not exceed one (1) acre, where the yield or flow does not exceed .056 cubic feet per second or twenty-five (25) gallons per minute."<sup>48</sup>

"Well" is broadly defined to include any artificial opening or excavation in the ground whereby underground water is sought or through which the water may flow under natural pressure.<sup>49</sup> The statute provides that a series of wells developed as one unit and pumped collectively by a single pumping unit is considered to be one well.<sup>50</sup> "Construction" of a well includes, but may not be limited to, any boring, drilling, excavating or activity that would withdraw water, facilitate withdrawal of water or measure the depth of the water table or flow of a well.<sup>51</sup>

---

43. WYO. STAT. § 41-3-904(b) (1977).

44. WYO. STAT. § 41-3-930 (1977). "Person" is defined to include any "natural person" or any entities including partnerships, associations, corporations and governmental entities (municipalities, irrigation districts, the state and any of its political subdivisions, and the United States and its agencies). WYO. STAT. § 41-3-901(a)(i) (1977).

45. WYO. STAT. § 41-3-936 (1977). Because of all the juggling of exemptions by the legislature throughout the short history of groundwater regulation, the priority of an appropriation may seem quite confusing. If an appropriator filed an application in the State Engineer's office today and received a permit, the priority of his appropriation would be the date of filing the application. The priority date of a groundwater right where the well was constructed prior to April 1, 1947, and a statement of claim filed before March 1, 1958, is the date of completion of the well. Where the well was constructed between April 1, 1947, and March 1, 1958, the priority of the appropriation is the filing of registration in the State Engineer's office, which was required thirty days after completion of the well. The priority of appropriation for a groundwater right filed after March 1, 1958, is the date of filing with the State Engineer. The priority date for wells for stock or domestic uses where the wells were registered prior to December 31, 1972, is the date of completion of the well. *Id.*; 1974 REGS. OF ST. ENG., *supra* note 34, at pt. II, ch. 1, § 12.

46. WYO. STAT. § 41-3-907 (1977); 1969 WYO. SESS. LAWS ch. 213, § 2.

47. *See infra* notes 102-06 and accompanying text.

48. WYO. STAT. § 41-3-907 (1977).

49. WYO. STAT. § 41-3-901(a)(iv) (1977).

50. WYO. STAT. § 41-3-901(a)(iv) (1977).

51. WYO. STAT. § 41-3-901(a)(v) (1977).

### C. *Penalty for Failure to Obtain a Permit*

The law provides a criminal penalty for violation of the groundwater statutes: any person who withdraws groundwater or who drills, digs or constructs any works for the securing of groundwater without having first obtained a permit, is guilty of a misdemeanor and, if convicted, may be subject to a fine not to exceed \$500.<sup>52</sup> This punishment also applies to anyone who withdraws groundwater or fails to reduce the flow of water in violation of an order from the State Engineer, as well as to anyone who withdraws water without a permit.<sup>53</sup> The real incentive to comply with the law arises from the State Engineer's power to lock, tag and shut down the well from which the illegal appropriation is made<sup>54</sup> and to obtain an injunction until the appropriator complies with the statutes.<sup>55</sup>

### D. *Obtaining a Permit*

The groundwater statutes provide that an application for a permit to appropriate groundwater in any area not designated as a control area shall be granted as a "matter of course," if the State Engineer finds that the proposed use is beneficial and the means of diversion and construction are "adequate."<sup>56</sup> However, if he finds that to grant the application as a matter of course is not in the public's water interest, the State Engineer may deny the application.<sup>57</sup> In practice, the State Engineer has never rejected an application on the public interest grounds, although he has refused to grant some permits in control areas. Any denial is appealable to the Board of Control and ultimately to the courts.<sup>58</sup> If the proposed means of diversion and construction are inadequate, or the application defective, the State Engineer may return the application for correction. If the corrections are not made within ninety days, the application can be rejected.<sup>59</sup>

When an application to appropriate groundwater is accepted in the State Engineer's office, it is assigned a temporary filing number. Since the application may be accepted without all the necessary information,

52. WYO. STAT. § 41-3-938 (1977 & Cum. Supp. 1988); WYO. STAT. § 41-3-614 (1977 & Cum. Supp. 1988).

53. WYO. STAT. § 41-3-919 (1977 & Cum. Supp. 1988).

54. WYO. STAT. §§ 41-3-604, -614 (1977 & Cum. Supp. 1988).

55. WYO. STAT. §§ 41-3-909(a)(x), 41-2-111 (1977).

56. WYO. STAT. § 41-3-931 (1977).

57. WYO. STAT. § 41-3-931 (1977). Does the "public's water interest" equate to recognition in Wyoming of the "public trust doctrine?" The general water statutes provide for the denial of a permit if it is "detrimental to the public welfare." WYO. STAT. §41-4-503 (1977). Since the subject is much too lengthy to discuss in a footnote, suffice it to say that the authors recognize the issue and the commentaries it has spawned. See, e.g., Dunning, *The Public Trust Doctrine and Western Water Law: Discord or Harmony?* 30 ROCKY MT. MIN. L. INST. 17-1 (1984); Sax, *The Public Trust Doctrine in Natural Resources Law: Effective Judicial Intervention*, 68 MICH. L. REV. 471 (1970).

58. Any final decision by the Board of Control may be appealed pursuant to the Wyoming Administrative Procedures Act. WYO. STAT. §§ 16-3-101 to -115 (1977 & Cum. Supp. 1988); WYO. STAT. § 41-4-517 (1977 & Cum. Supp. 1988).

59. WYO. STAT. § 41-3-931 (1977).

the temporary filing allows an appropriator to reserve his priority while completing the application to the satisfaction of the State Engineer's office.<sup>60</sup>

In the 1970's and early 1980's, the State Engineer had a practice of not immediately processing applications that proposed large water projects. These applications were kept in a temporary filing status, a procedure that has been criticized as promoting speculative filings.<sup>61</sup> A fine line exists between "speculation" and "economic development." The State Engineer is often hard pressed to make such a determination from the bare facts of an application. Many of these applications may appear somewhat speculative ten or fifteen years later, but it is obviously difficult to forecast the economic climate for water development at the time an application is filed. In some cases there is no need to reject the applications, since the applicant could refile and obtain essentially the same priority if no other intervening applications had been filed with the State Engineer.

Recently, the State Engineer has instituted a policy for processing the backlog of applications on file. In 1985, the State Engineer promulgated rules providing a more formal procedure to process these applications.<sup>62</sup> The most important aspect of the rules is that any affected person<sup>63</sup> or applicant can request, or the State Engineer on his own motion may require, a public hearing to gather information related to the public interest.<sup>64</sup> The final determination of the "public's water interest" is left to the discretion of the State Engineer. The rules offer the State Engineer some guidelines to determine the public interest by listing several factors to be considered. These include whether the applicant has pursued the application and project with diligence and whether the applicant has the present intent and ability to develop the water project.<sup>65</sup> As a result, the State Engineer's office has cancelled many of the applications filed during the mid- and late 1970's. Furthermore, new applications are not being accepted unless they strictly comply with the filing requirements.

---

60. For example, in 1985 a corporation filed about 800 applications for permits to appropriate groundwater located in Carbon County. The company listed the beneficial use as municipal and has discussed the development of the permits with city officials in Rawlins. However, the State Engineer required additional test data that is now being obtained and analyzed to determine the quality and quantity of the water. Stockdale, *supra* note 5.

61. See Battle, *Paper Clouds Over the Waters: Shelf Filings and Hyperextended Permits in Wyoming*, 22 LAND & WATER L. REV. 673 (1987).

62. REGULATIONS AND INSTRUCTIONS, STATE ENGINEER'S OFFICE, pt. V, Surface and Groundwater Applications in Process (1985) [hereinafter 1985 REGS. OF ST. ENG.].

63. "Affected Person" is anyone with a permit or application to appropriate water whose use of that water may be adversely affected by the granting of the permit. *Id.* at ch. 1, § 2(a).

64. To date only one hearing has been held pursuant to these regulations and it concerned a reservoir permit for Deer Creek Reservoir. The State Engineer denied the permit and the Board of Control affirmed his decision. The matter was appealed to the courts with one of the issues being the validity of the rules. The Wyoming Supreme Court, without opinion, remanded the case to the Board of Control on a procedural problem having nothing to do with the rules. *Wyoming Water, Inc. v. Christopoulos*, No. 86-177 (Dec. 3, 1987). Many other applications have been denied or voluntarily relinquished.

65. 1985 REGS. OF ST. ENG., *supra* note 62, at pt. V, ch. 1, § 7(b).

*E. Conditions on the Permit*

The State Engineer has the express authority to issue permits subject to any conditions he may find to be in the public interest.<sup>66</sup> Each groundwater permit is required by the statute to contain the express condition that the right of the appropriator to underground water does not include the right to have the water level or artesian pressure at the appropriator's point of diversion maintained at any level or pressure higher than required for maximum beneficial use.<sup>67</sup> In other words, the well must be constructed to an adequate depth to allow for maximum development and beneficial use of the source of supply.<sup>68</sup>

This condition means that priority alone will not protect a senior groundwater appropriator; he must pump from an "adequate well."<sup>69</sup> Not only must the well be of an adequate depth, but it must also be adequately constructed and the pump must be of sufficient power to pump the groundwater. A literal reading of the statutes suggests that if a senior's well were inadequate, a call for regulation of junior wells would not be honored by the State Engineer. In practice, that situation has yet to occur.<sup>70</sup>

If an appropriator wishes to deepen his well without increasing the amount of his appropriation, he must first file an "Application to Deepen an Existing Well" and obtain the approval of the State Engineer to maintain the priority of the well.<sup>71</sup> A no-injury standard is applied before the application to deepen is granted.

If the well is artesian, it must be equipped so that the flow of water can be shut off when not in use in order to avoid any waste of the water. The State Engineer may place any conditions on the construction of flowing or nonflowing wells to prevent waste of groundwater either above or below the land surface.<sup>72</sup>

The application for a permit to appropriate groundwater requests the applicant to state who owns the land on which the well is to be constructed.<sup>73</sup> If the owner of the land is someone other than the applicant, the State Engineer will request an easement or right-of-way for the pump and distribution lines. The permit states that a grant of the permit to appropriate groundwater does not grant a right-of-way to the applicant.<sup>74</sup>

66. WYO. STAT. § 41-3-933 (1977).

67. WYO. STAT. § 41-3-933 (1977).

68. See Application for Groundwater Permit to Appropriate Groundwater; 1974 REGS. OF ST. ENG., *supra* note 34, at pt. II, ch. III, p. 25.

69. See *infra* notes 157-69 and accompanying text; Grant, *Reasonable Groundwater Pumping Levels Under the Appropriation Doctrine: The Law and Underlying Economic Goals*, 21 NAT. RESOURCES J. 1 (1981) [hereinafter Grant I]; Grant, *Reasonable Groundwater Pumping Levels Under the Appropriation Doctrine: Underlying Social Goals*, 23 NAT. RESOURCES J. 53 (1983).

70. Stockdale, *supra* note 5.

71. 1974 REGS. OF ST. ENG., *supra* note 34, at pt. II, ch. 2, § 8.

72. WYO. STAT. § 41-3-909(a)(vii) (1977).

73. 1974 REGS. OF ST. ENG., *supra* note 34, at pt. II, ch. 2, pp. 39-40.

74. *Id.*

An example of the right-of-way issue arose when the Town of Evansville, near Casper, wanted to drill a test well on state land to determine the availability of a supply for municipal purpose. The Town submitted an application to the State Engineer in 1984. The Town was unable to get permission from the state and the state's lessee to drill the well. A district court held that the Town had the power of eminent domain over the state land and could condemn a right-of-way on the property.<sup>75</sup> The defendants argued that the test well would injure other appropriators in the area.<sup>76</sup> The judge, however, did not rule on the injury issue referring it, quite rightly, to the State Engineer. After the Town had access to the proposed test well site, an extensive test well program was developed which was designed to protect other appropriators. After attaching several protective conditions, the State Engineer then granted the test well permit over the objections of the state and its lessees.<sup>77</sup>

As with any other water right granted by the State Engineer, beneficial use is the basis, measure and limit of that right.<sup>78</sup> The Wyoming statutes do not define beneficial use. Some uses are obviously beneficial: irrigation, domestic, stock watering, industrial and municipal. Other uses that are considered to be beneficial by the State Engineer are groundwater use in secondary recovery operations, industrial processing and mining, dust abatement and heat pump applications.<sup>79</sup> Some uses have not necessarily been found to be beneficial uses of water, but are regulated by the groundwater statutes. These include such uses as subsurface injection of waste water<sup>80</sup> and dewatering of mines.<sup>81</sup> The State Engineer's office generally looks at proposed uses and makes a determination as to beneficial use on a case by case basis.<sup>82</sup>

The permittee is subject to certain statutory time limits. After a permit has been granted, the permittee must commence construction of the well within one year from the date of the permit's approval. Within three years of the date of the permit approval, the permittee must complete the construction of the well and apply the water to beneficial use.<sup>83</sup> The State Engineer may extend either period for good cause shown.<sup>84</sup> The statutory period is shortened somewhat by the regulation's requirement that water must be applied to beneficial use before December 31 of the year following the year in which the application is approved.<sup>85</sup> Failure to meet these time limits without the grant of an extension results in automatic expiration of the permit.<sup>86</sup>

75. *Town of Evansville v. Wyoming*, Civ. No. 61924 (7th Jud. D. Wyo. May 29, 1987).

76. Conversation with Clint Beaver, Assistant Attorney General representing State Land Board (May, 1987).

77. Permit Nos. 75832 and 75833, Wyoming State Engineer's Office.

78. WYO. STAT. § 41-3-101 (1977 & Cum. Supp. 1988). The vested rights statute provides that rights are protected for water that has been "economically and beneficially used." WYO. STAT. § 41-3-905 (1977).

79. 1974 REGS. OF ST. ENG., *supra* note 34, at pt. II, ch. 3, § 2(e).

80. *Id.* at ch. I, § 22.

81. WYO. STAT. § 41-3-903 (1977). See *infra* notes 172-80 and accompanying text.

82. Stockdale, *supra* note 5.

83. WYO. STAT. § 41-3-934 (1977).

84. WYO. STAT. §§ 41-3-934, 41-4-506 (1977).

85. 1974 REGS. OF ST. ENG., *supra* note 34, at pt. II, ch. 1, § 10.

86. WYO. STAT. § 41-4-506 (1977).

The State Engineer, pursuant to his express authority, has promulgated rules governing the acceptable standards for proper well construction.<sup>87</sup> The permittee is required to file a statement of completion and description of the well in the State Engineer's office within thirty days of completion or abandonment of the work.<sup>88</sup> A well is considered complete when it is possible to install a pump and pump water, or in the case of an artesian well, when a drill rig is moved off the drilling site.<sup>89</sup> The State Engineer may require other reports from the well drillers as he deems necessary or desirable.<sup>90</sup> The construction standards apply to any well constructed after June 30, 1971, and retroactively to any well on which extensive changes or repairs are made or that is found to be polluting a source of supply.<sup>91</sup> The well owner and well driller are considered to be jointly and severally liable if the well standards are not met.<sup>92</sup>

Finally, if a permit holder fails to comply with the statutes, procedures set by the State Engineer or conditions of the permit, the State Engineer may cancel, suspend or impose additional conditions on the permit, after notice and opportunity to be heard.<sup>93</sup>

#### *F. Adjudication*

After a well has been completed and water put to beneficial use, the appropriator is required to adjudicate his water right before the Board of Control unless the well is used for domestic or stock purposes.<sup>94</sup> The State Engineer is currently working to adjudicate a backlog of over 15,000 groundwater rights utilized for purposes other than domestic and stock watering.<sup>95</sup> Many of these rights were permitted before 1970 when groundwater rights were not required to be adjudicated.

Adjudication of a groundwater right is handled in a similar fashion as that of a surface water right. First, the appropriator must submit a "Proof of Appropriation and Beneficial Use" form indicating that water has been beneficially used pursuant to the permit. A map, certified by a land surveyor and showing the location of the well and point or area of use, must be filed. Finally, the State Engineer's office must conduct a field inspection of the works, insure the accuracy of the map, measure

87. WYO. STAT. § 41-3-909(a)(vi) (1977); 1974 REGS. OF ST. ENG., *supra* note 34, at pt. III, Water Well Minimum Construction Standards.

88. WYO. STAT. § 41-3-935(a) (1977).

89. WYO. STAT. § 41-3-935(a) (1977).

90. WYO. STAT. § 41-3-909(a)(ii) (1977).

91. 1974 REGS. OF ST. ENG., *supra* note 34, at pt. III, ch. 2, § 1.

92. *Id.*

93. WYO. STAT. § 41-3-937 (1977).

94. WYO. STAT. §§ 41-3-935, 41-4-513 (1977); 1974 REGS. OF ST. ENG., *supra* note 34, at pt. II, ch. 2, § 10.

95. Stockdale, *supra* note 5. Another problem stems from the general river adjudication of the Big Horn River. The special master has ordered that groundwater rights must be adjudicated with the surface water rights. This would amount to about 4,000 wells excluding stock watering and domestic wells and about 12,000 wells including stock and domestic wells. In re Gen. Adjudication of all Rights to Use Water in the Big Horn River Sys., 753 P.2d 100 (Wyo. 1988).

the yield of the well, and inspect the lands irrigated or other uses of the water.<sup>96</sup> Once adjudicated, the right for the use of groundwater for irrigation attaches to the land, as would a surface water right.<sup>97</sup>

The amount of water adjudicated is that amount measured by the State Engineer's office during a pump test. Generally, the right is given as a flow rate (gallons per minute) and represents the yield of the pump. Annual volumetric quantities may be established if the well is in a heavily appropriated area or the use is for municipal or industrial purposes.<sup>98</sup> Should an appropriator install a larger pump that would yield more water than permitted or adjudicated, he is required to obtain an enlargement of the permit or certificate of appropriation.<sup>99</sup>

The State Engineer, with the concurrence of the Board of Control, may order adjudication of any groundwater right in the state if he feels it is in the interest of an orderly adjudication procedure for underground water. If an adjudication is ordered, the appropriator is required to submit the documents necessary for adjudication. Failure to do so subjects his well to being tagged and locked. Use of water out of the tagged well is *prima facie* evidence of interference and the appropriator may be found guilty of a misdemeanor.<sup>100</sup>

The Board of Control has express authority to cancel or suspend any certificate of appropriation after an opportunity for hearing if it finds that the appropriator is willfully violating any condition of his certificate, any provision of the law, or any order issued pursuant to the law. The Board may also impose conditions on the future use of that water right to prevent any such violation.<sup>101</sup>

### G. Preferred Uses

Groundwater rights are subject to the same preferred water uses as designated for surface water rights.<sup>102</sup> These preferred uses include water for drinking purposes, water for municipal purposes, water for domestic purposes and certain industrial purposes.<sup>103</sup> This statute is unrelated to priority regulation; it merely indicates the relative value that legislators have placed on various uses. Rights that are not "preferred" may be condemned and changed to a "preferred use."<sup>104</sup>

Although the "preferred use" statutes do not relate to priority regulation, the groundwater statute has interjected some confusion because of the "preferred right" that it gives to domestic and stock uses. A sur-

---

96. WYO. STAT. § 41-3-935(b) (1977); 1974 REGS. OF ST. ENG., *supra* note 34, at pt. II, ch. 2, § 10(c).

97. WYO. STAT. § 41-3-935(c) (1977).

98. Stockdale, *supra* note 5.

99. 1974 REGS. OF ST. ENG., *supra* note 34, at pt. II, ch. 7.

100. WYO. STAT. § 41-3-935(d) (1977).

101. WYO. STAT. § 41-3-937 (1977).

102. WYO. STAT. § 41-3-906 (1977).

103. WYO. STAT. § 41-3-102 (1977).

104. WYO. STAT. § 41-3-906 (1977).



face water right for a preferred use is given no special standing if a call is placed on the stream—it can be shut off by a senior right. However, appropriations of groundwater for stock or domestic use have a preferred right over all other uses *regardless* of their dates of priority.<sup>105</sup> Thus, the statutes do not honor a strict priority system since senior rights are not absolutely protected. For example, a senior irrigation groundwater right could be regulated to supply a nearby subdivision where each home has a domestic well.

If an appropriation is for two or more uses, one of which is for stock or domestic use, then the appropriator gets preferential treatment for an amount limited to 0.056 cubic feet per second or twenty-five gallons per minute if the applicant specifies the one acre upon which the preferred use shall be made. A person who uses water appropriated by a municipality or company does not have a preferred use. In the same manner, water that is purchased or held out for sale cannot be classified as a preferred use.<sup>106</sup>

#### *H. Test Well Permits, Temporary Permits, and Temporary Use Agreements*

Permits for temporary beneficial use of groundwater can be obtained in three ways. A test well permit allows the permittee to monitor or conduct pump tests to collect data on the groundwater resource. A temporary permit allows a permittee to construct a well and obtain water for beneficial use for a limited amount of time. A temporary use agreement allows a person to contract with the owner of a groundwater right for the temporary beneficial use of the water.

Test well permits are issued regularly by the State Engineer. The purpose of the permit is to allow the holder to drill a test well to investigate the aquifer conditions. The holder may be looking for water for home, industrial or municipal uses, or he may be monitoring the quality of the groundwater. The procedure to file for a test well permit is the same as for filing any other groundwater permit.<sup>107</sup> Before a permit is granted, the State Engineer generally requires the applicant to file a proposed groundwater drilling and testing program.<sup>108</sup> Thus, the State Engineer stays informed as to the activities and results of the drilling and testing program. This allows his office the opportunity to prevent any injury, waste or pollution that may occur. The drilling and testing program must be approved by the State Engineer and is made an express condition of the permit.

The test well permit is issued only for a limited time and is automatically cancelled when the time has run.<sup>109</sup> Although a test well may be converted to a permanent well, a separate permit must be obtained to

---

105. WYO. STAT. § 41-3-907 (1977).

106. WYO. STAT. § 41-3-907 (1977).

107. 1974 REGS. OF ST. ENG., *supra* note 34, at pt. II, ch. 2, § 13.

108. *Id.*

109. *Id.*

appropriate the water for beneficial use. The application for the test well permit and for the permit to appropriate groundwater for beneficial use may be filed simultaneously.

The State Engineer will issue a temporary permit if a groundwater user wants to beneficially use water for some temporary purpose, including highway or railroad bed construction and repair, and drilling and production operation.<sup>110</sup> The procedure is essentially the same as filing for an application for a permit to appropriate groundwater. However, the right granted by the permit is for a limited time and the permit automatically expires at the end of that time period.

Another mechanism to obtain the right to use groundwater on a temporary basis is to contract with an existing water right holder to use some of his water. The regulations specifically provide that a temporary transfer is allowed if no other appropriators are harmed by the transaction and the State Engineer approves the temporary use agreement.<sup>111</sup>

The amount of water that may be transferred for such temporary uses can be no greater than the historic consumptive use of the water right. The petitioner must file a petition or application with the State Engineer and attach to that application the temporary use agreement between the parties.<sup>112</sup> A temporary transfer is good for two years. The original groundwater right is protected from abandonment or impairment by the temporary transfer and the right to use the groundwater automatically reverts to the water right owner.

### *I. Change in Location, Change in Use, Change in Place of Use*

#### 1. Change in Location

If an appropriator wishes to change the location of a well, but plans to remain within the same aquifer and in the vicinity of the original location, he may do so without loss of priority by securing approval from the Board of Control, if his groundwater right has been adjudicated or if that right has not been adjudicated but the water has been applied to beneficial use.<sup>113</sup> Perhaps wisely, no definition or guidance is given to the meaning of "in the vicinity." This allows for a case by case consideration based on the no-injury standard.

The State Engineer has the authority to approve a change in location for domestic or stock watering wells that are not adjudicated, but from which water has been applied to beneficial use. He may also approve change in location for any unadjudicated right where the water has not been applied to beneficial use.<sup>114</sup> If rights of any other appropriators would

---

110. *Id.*

111. *Id.*

112. WYO. STAT. § 41-3-110 (1977 & Cum. Supp. 1988).

113. WYO. STAT. § 41-3-917 (1977 & Cum. Supp. 1988); 1974 REGS. OF ST. ENG., *supra* note 34, at pt. II, ch. 2, § 13(c). Prior to 1985, the State Engineer had the authority to approve any change in location if the right had not been adjudicated.

114. WYO. STAT. § 41-3-917(a) (1977 & Cum. Supp. 1988). The Laramie County Control Area Advisory Board has set a limit on change of location to within a radius of one-half mile from the old well.

be injured, neither the State Engineer nor the Board of Control may grant such a petition. The statute also provides that no petition may be granted if it will increase the total amount of appropriation of water set forth in the original permit.<sup>115</sup>

Of course, any person feeling aggrieved by a decision of the State Engineer to grant or deny a change of location petition may appeal to the Board of Control. The decision of the Board of Control, either affirming or reversing the State Engineer's decision or granting or denying a petition for change of location, may be appealed to the district court.<sup>116</sup>

The Wyoming Supreme Court considered this statute in *Town of Pine Bluffs v. State Board of Control*.<sup>117</sup> As part of its municipal water system, Pine Bluffs owned three wells. Two had adjudicated water rights for a greater amount than they could produce, and one had the capacity to produce more groundwater than its adjudicated water right. Consequently, the Town petitioned the Board of Control to transfer the unused part of the water rights from the two wells to the one well capable of producing the difference. Affirming the Board's denial of the Town's petition, the court held that the change in location statute for groundwater rights does not authorize a partial transfer of an adjudicated right. In contrast, the surface water law allows a change in the point of diversion of a part of the water right.<sup>118</sup> The court noted that the statute and State Engineer's regulations clearly contemplate a physical change in location of the well, rather than simply a paper transfer, to legitimize pumping from a well with excess capacity.<sup>119</sup>

## 2. Change in Place of Use

If the owner wishes to change the place of use of his groundwater right, he must petition the State Engineer if the right is not adjudicated and the Board of Control if the right is adjudicated. The State Engineer treats the request as an amendment to the permit and it will be granted as long as no existing rights are injured.<sup>120</sup> The total amount of the appropriation cannot exceed the amount set in the permit and, for irrigation permits, the total area of land to be irrigated cannot exceed the total area described in the permit.<sup>121</sup> The procedure for change of place of use of an adjudicated right before the Board of Control is the same as that for a change in manner of use.

115. WYO. STAT. § 41-3-917(a) (1977 & Cum. Supp. 1988).

116. WYO. STAT. § 41-3-917(b) (1977 & Cum. Supp. 1988).

117. 647 P.2d 1365 (Wyo. 1982).

118. *Id.* at 1367-68; see WYO. STAT. § 41-3-114(c) (1977 & Cum. Supp. 1988).

119. *Pine Bluffs*, 647 P.2d at 1367. The court looked at the 1974 REGS. OF ST. ENG., *supra* note 34, at pt. III, ch. 1, § 2(b) (referring to the original well being removed from service) and pt. IV, ch. 5, § 11 (stating that the old well will be properly abandoned and sealed).

120. WYO. STAT. § 41-4-514(a) (1977 & Cum. Supp. 1988).

121. WYO. STAT. § 41-4-514(a)(iii) (1977 & Cum. Supp. 1988); 1974 REGS. OF ST. ENG., *supra* note 34, at pt. II, ch. 7, §§ 3, 4.

### 3. Change in Use

To change the manner of use of a groundwater right, adjudicated or unadjudicated, a petition must first be submitted to the Board of Control.<sup>122</sup> The Board holds a hearing to determine what quantity of water may be transferred to the new use. That quantity cannot exceed the amount of water historically diverted under the existing use, nor exceed the historic rate of diversion under the existing use, nor increase the historic amount consumptively used under the existing use, nor decrease the historic amount of return flow nor in any manner injure other appropriators. In determining whether to allow a change, the Board must consider such public interest factors as economic loss to the community, the extent to which such economic loss to the community would be offset by a new use and whether other sources of water are available for the new use.<sup>123</sup>

In *Petition for Change v. State Board of Control*,<sup>124</sup> the Wyoming Supreme Court considered the change of use, change of place of use statute with respect to adjudicated groundwater rights. The Town of Pine Bluffs acquired a well adjudicated for irrigation use and petitioned the Board of Control both for a change of use to municipal use and to increase the amount of the adjudication. The Board granted the petition with restrictions. It limited the pumping of the well from May 15 to October 15 at the historic rate and limited the total withdrawals of groundwater to 49.42 acre-feet annually, citing this as the historic amount of beneficial use of the groundwater. The Town argued that the upper limit of a groundwater right is not defined by the adjudicated right if the lifelong beneficial use of groundwater is shown to be greater than the maximum allowed under the existing adjudication. The court held that an adjudication of a water right is final and no further rights may be claimed over and above the award made in an adjudication. The adjudicated amount sets an upper limit to the amount transferred.<sup>125</sup> As to minimum requirements, the adjudicated right may not be equivalent to the actual water right, since actual historic beneficial use is the measure of that right.<sup>126</sup>

### J. Abandonment

As with a surface water right or a reservoir water right, the owner of groundwater rights may either intentionally or unintentionally abandon that right if he fails to put the water to beneficial use during any five successive years.<sup>127</sup> Any water user who may be benefitted by a declara-

122. WYO. STAT. § 41-4-514(a) (1977 & Cum. Supp. 1988).

123. WYO. STAT. § 41-3-104(a) (1977). A recent amendment to the statutes provides that the State Engineer cannot change the use of any permit. WYO. STAT. § 41-4-514(a)(v) (1977 & Cum. Supp. 1988).

124. 649 P.2d 657 (Wyo. 1982).

125. *Id.* at 662-63. The court relied on WYO. STAT. § 41-4-310 (1977) and *Campbell v. Wyoming Dev. Co.*, 55 Wyo. 347, 100 P.2d 124 (1940), where the court held that the purpose of that statute was to make clear that an adjudication of water rights is final and no further rights may be claimed above and over that award.

126. *Petition for Change*, 649 P.2d at 661 (citing *Basin Elec. Power v. State Bd. of Control*, 578 P.2d 557 (Wyo. 1978)).

127. WYO. STAT. § 41-3-401 (1977 & Cum. Supp. 1988).

tion of abandonment or who might be injured by the reactivation of a water right may bring an abandonment action before the Board of Control. Any person who has a valid adjudicated water right or is the holder of a valid permit for the same source of supply that is equal to or junior in date of priority to the right for which the abandonment is sought has standing to bring such an action.<sup>128</sup> The State Engineer may also initiate abandonment proceedings, but only if the entire water right has been unused for the five year period.<sup>129</sup> All abandoned wells must be plugged and capped in accordance with the State Engineer's regulations.<sup>130</sup>

### *K. Authority of the State Engineer*

As has been noted throughout this article, the State Engineer has broad authority to administer and enforce the groundwater statutes and to effectuate the policy of investigating, conserving and protecting the groundwater resources in the state.<sup>131</sup> One of the State Engineer's most important powers is the authority to establish standards for the construction of wells and to require reports from well drillers whenever he deems it necessary or desirable.<sup>132</sup> The statute gives the State Engineer the power to require that all flowing wells be capped and that both flowing and non-flowing wells be constructed and maintained so as to prevent the waste of groundwater. He may also require the abatement of any condition or the sealing of any well that is responsible for polluting materials being introduced into a groundwater supply.<sup>133</sup> These broad powers are very important because they give the State Engineer control over well construction. The State Engineer has used these powers, combined with his authority to enjoin construction, to ensure that wells are properly constructed and that groundwater pollution is avoided. The State Engineer may bring suit to enforce any of the provisions of the Act and to intervene in any action or proceeding when it appears that the determination of such action or proceeding may result in depletion of the underground water resources of the state.<sup>134</sup>

128. WYO. STAT. § 41-3-401(b)(i) (1977 & Cum. Supp. 1988).

129. WYO. STAT. § 41-3-402 (1977). "Nothing in this section shall be construed to allow the state engineer to initiate forfeiture proceedings against water rights which are being put to beneficial use, *wholly or in part.*" (Emphasis added). WYO. STAT. § 41-3-402(j) (1977). This provision forces an inefficient practice for the State Engineer, who cannot clean up the books to accurately reflect what water is available for other appropriators.

130. 1974 REGS. OF ST. ENG., *supra* note 34, at pt. III, ch. 6, § 5.

131. As early as 1945, the legislature required the State Engineer to investigate the availability and capacity of various underground basins. 1945 WYO. SESS. LAWS ch. 139, § 5. The present statute authorizes the State Engineer to make investigations and to cooperate in investigations with other entities, individuals or agencies, including agencies of the United States. Currently the State Engineer is involved in a cooperative program with the United States Geological Survey for several studies and data collection. *See, e.g.*, 1987 ANNUAL REPORT OF THE STATE ENGINEER 27-34.

132. WYO. STAT. § 41-3-909(a)(ii) and (vi) (1977).

133. WYO. STAT. § 41-3-909(a)(vii) and (viii) (1977). Other specifically defined powers of the State Engineer are to require annual reports from underground water users, prescribe rules for administration of the underground water statutes and for well spacing requirements in control areas. WYO. STAT. § 41-3-909 (1977).

134. WYO. STAT. § 41-3-909(a)(x) (1977).

The statute enumerating these specific powers provides that the State Engineer acts "on advice and consent of the board of control."<sup>135</sup> Because of the constitutional and statutory relationship between the Board and the State Engineer, the requirement, in a practical sense, is not a significant limitation on the State Engineer's powers. As a member of the Board of Control, the State Engineer is just one vote in five, although he is the president. However, the State Engineer controls the budgets of the superintendents, recommends their appointment to the Governor and generally has substantial influence over their day to day operations. There have been occasions when the Board has disagreed with the State Engineer, but they are rare. Generally, the Board and the State Engineer have had a close working relationship.<sup>136</sup>

### III. SELECTED ISSUES

#### A. Groundwater Storage

In 1979, the Wyoming Supreme Court addressed the issue of whether an irrigation district had the right to store groundwater in a surface reservoir for later irrigation use. In *John Meier & Sons v. Horse Creek Conservation District*,<sup>137</sup> the conservation district sought to amend certificates of appropriations for nine wells and permits for five unadjudicated wells such that the certificates and permits expressly included storage of groundwater as a permissible use. The district argued that the permits and certificates were ambiguous and the intent of the State Engineer and the district was that the pumped water be stored for an additional supply. The district had done just that since the permits were granted. The Board of Control agreed and amended the certificates of appropriation to show that groundwater may be stored in the reservoir for later irrigation use. Mr. Meier, who was the owner of several senior water rights to appropriate water from the same aquifer, objected. He complained that there had been a decline in the water level of his wells and he and others would be injured. Nonetheless, the court upheld the Board's actions pursuant to the law that allows the State Engineer to correct errors on permits and the Board to correct any errors on certificates of appropriation.<sup>138</sup> The court noted that no statute forbade the storage of well water for later beneficial use and that the constitution granted the Board broad powers, direct and implied, to supervise the waters of the state. Consequently, the court held that the Board's powers are not strictly limited to those prescribed by the statutes. The Board possesses any powers that will insure the maximum beneficial use of *all* water, without regard to its

---

135. WYO. STAT. § 41-3-909(a) (1977). Pursuant to the constitution, the state is divided into four water divisions with a superintendent in charge of each division. WYO. CONST. art. 8, § 4. The Board of Control is comprised of the State Engineer, who is the president of the Board, and the four superintendents. WYO. CONST. art. 8, §§ 2, 5.

136. See, e.g., *Green River Dev. v. FMC Corp.*, 660 P.2d 339 (1983) (The Board of Control reversed a decision of the State Engineer.).

137. 603 P.2d 1283 (Wyo. 1979).

138. WYO. STAT. § 41-4-514 (1977 & Cum. Supp. 1988).

source. Therefore, the Board's determination that storage of groundwater for later irrigation use is a beneficial use was upheld.<sup>139</sup>

The court's discussion of the constitutional powers of the Board of Control is significant. The constitution provides that the Board has general supervisory powers over the state's waters, including their appropriation, distribution and diversion.<sup>140</sup> The court in *John Meier & Sons* appears to give the Board wide latitude to do just about anything in the name of supervision of the waters of the state, subject only to specific limitations set by the statutes. Such a broad grant of authority is in the best interest of the management of the state's water resources and was probably envisioned by the drafters of the constitution.<sup>141</sup> Although the court's interpretation vests considerable power in the five Board members, checks and balances exist. For instance, all decisions of the Board are reviewable by the courts and the Board and the State Engineer are appointed by and serve at the pleasure of the Governor.<sup>142</sup>

In *John Meier & Sons*, Justice McClintock specially concurred, emphasizing that storage in and of itself is not a beneficial use.<sup>143</sup> He questioned the propriety of taking water out of the ground to store in a surface reservoir where it would be subject to evaporation and seepage losses, and might cause injury to senior groundwater rights. The points made by the concurring opinion are valid; the State Engineer and Board of Control should consider those factors before granting any rights for storage of groundwater.

Injury must also be considered. Although in this case the Board took evidence on the injury question, it was not a factor in the decision. The Board only determined whether, at the time of their issuance, the permits and certificates granted the right to store groundwater.<sup>144</sup> The Board found in the affirmative and clarified the ambiguity, but it left the question of interference with senior rights for the State Engineer to investigate.

This case raised the question of whether the storage of surface water in a groundwater aquifer or the use of surface water to augment groundwater supplies would be allowed in Wyoming. In California, for instance, underground storage of surface water flow is a very important water management tool.<sup>145</sup> Wyoming's groundwater laws are sufficiently flexible to accommodate such management, but to date there has been little need for these techniques.<sup>146</sup>

139. *John Meier & Sons*, 603 P.2d at 1288.

140. WYO. CONST. art. 8, § 2.

141. WYO. CONST. art. 8, § 5; WYO. STAT. § 41-3-503 (1977).

142. WYO. CONST. art. 8, § 2; WYO. STAT. § 9-1-202 (1977).

143. *John Meier & Sons*, 603 P.2d at 1290 (McClintock, J., specially concurring).

144. *Id.* at 1285 (majority opinion).

145. See, e.g., Trelease, *Conjunctive Use of Groundwater and Surface Water*, 27B ROCKY MT. MIN. L. INST. 1853 (1982); Burke, *supra* note 12; Finlayson, *Kern Bank of California—Water on Deposit*, 4TH ANNUAL WESTERN STATES WATER COUNCIL WATER MANAGEMENT SYMPOSIUM PROCEEDINGS 87 (1987).

146. Stockdale, *supra* note 5.

The groundwater statutes do not directly address the use of an underground water right as a supplemental supply for irrigation use. The term "additional supply" is defined as "underground water for irrigation use which is appurtenant to lands that have a direct flow supply of surface water or have an original supply from another underground water source."<sup>147</sup> The definition has two purposes. First, it allows unrestricted use of groundwater as additional supply. Second, it differentiates groundwater use from the definition of supplemental supply in the surface water statutes.<sup>148</sup>

### *B. Regulation of Interconnected Waters*

Several articles have been written in the last decade about "conjunctive use" of surface and groundwater.<sup>149</sup> Dean Trelease points out that the term has several different meanings but basically stands for maximizing the beneficial use and economic benefits of both surface water and groundwater through coordinated use.<sup>150</sup> Methods include augmentation of supplies, allocation of costs, groundwater recharge and storage of surface water, and the recognition of the interconnection between groundwater and surface water sources and the coordination of rights between them. The western states, including Wyoming, apply the basic rule of prior appropriation to interconnected surface and groundwaters.<sup>151</sup>

The groundwater statutes provide that priorities of rights to the use of all interconnected waters shall be correlated and subject to a single schedule of priorities that relates to the whole common water supply.<sup>152</sup> The correlation of priorities may be between water rights in different aquifers that are interconnected to the extent that they constitute one source of supply, or between underground water rights and surface water rights where the waters are interconnected and constitute one source of supply. In such a case, the State Engineer may adopt any corrective controls needed to aid the situation. These controls include such actions as refusing to grant any permits in the area, apportioning permissible total withdrawal among the appropriators with valid rights, ordering junior appropriators to cease or reduce withdrawals, requiring a system of rotation for use of underground water or instituting well spacing requirements for new wells.<sup>153</sup> Every groundwater permit includes an express condition that it may be subject to regulation and correlation with surface water rights if the ground and surface waters are determined to be interconnected.<sup>154</sup>

---

147. WYO. STAT. § 41-3-901(a)(vii) (1977).

148. See WYO. STAT. § 41-3-113 (1977).

149. Grant, *The Complexities of Managing Hydrologically Connected Surface Water and Groundwater Under the Appropriation Doctrine*, 22 LAND AND WATER L. REV. 63 (1987); Trelease, *supra* note 145; Widman, *Groundwater Hydrology and the Problem of Competing Well Owners*, 14 ROCKY MT. MIN. L. INST. 523 (1968); Flint, *Groundwater Law and Administration: A New Mexico Viewpoint*, 14 ROCKY MT. MIN. L. INST. 545 (1968).

150. Trelease, *supra* note 145, at 1854.

151. *Id.* at 1857; see also Grant, *supra* note 149, at 64.

152. WYO. STAT. § 41-3-916 (1977).

153. WYO. STAT. §§ 41-3-915, -916 (1977).

154. 1974 REGS. OF ST. ENG., *supra* note 34, at pt. II, p. 25.



Generally, the presumption is that no interconnection exists, unless the water is pumped from an obvious alluvial well or the interconnection has been previously discovered. Regulation of wells to the point of shutting one down has never occurred in the state; the State Engineer usually is able to work out a system of rotation by agreement among all of the affected parties.<sup>155</sup>

An example of the coordinated regulation of tributary groundwater and surface water occurs in the Bear River System in southwestern Wyoming. The Bear River flows through three states, Wyoming, Utah and Idaho. These states have joined in an interstate compact that apportions not only the surface flows of the river, but also the groundwater tributary to the river.<sup>156</sup> Irrigators in Wyoming can withdraw water from either the surface water source or groundwater source with the same priority since it is all interconnected.

Although other means of conjunctive use as described in Trelease's article may be allowed under Wyoming statutes, the need for such uses has not yet arisen in Wyoming. The law would allow many of those practices, but each new development will be considered on a case by case basis.

### C. Interference

The Wyoming groundwater statutes address the problem of interference both between appropriators of groundwater and between appropriators of groundwater and surface water. The statute provides that if a well is found to unreasonably interfere with an adequate well developed for domestic or stock uses, whether or not in a control area, the State Engineer may order the interfering appropriator to cease or reduce the withdrawal of groundwater from the well.<sup>157</sup> The legislature did, however, recognize the state's policy to maximize the beneficial use of groundwater and gave the interfering appropriator the option to furnish at his own expense, substitute water to augment the supply and meet the needs of the domestic or stock use.<sup>158</sup> If interference exists between two wells using water for stock or domestic use, the earliest priority appropriation has the better right and may require the junior user to be shut down.<sup>159</sup>

---

155. Stockdale, *supra* note 5.

156. WYO. STAT. § 41-12-101 (1977 & Cum. Supp. 1988).

157. WYO. STAT. § 41-3-911(a) (1977 & Cum. Supp. 1988). The Wyoming Supreme Court had an opportunity to interpret this section of the interference statute in *Bishop v. City of Casper*, 420 P.2d 446 (Wyo. 1966). In that case the State Engineer petitioned the court to enjoin the city from withdrawing water from some of its wells. After an investigation, the State Engineer determined that the city's wells unreasonably interfered with two domestic wells withdrawing water from the same aquifer. Casper refused to comply with the State Engineer's orders to cease or reduce withdrawals or to augment the supply of the domestic wells. In a decision labeled by Dean Trelease as "reminiscent of medieval cases on common law pleading," the court held that no relief could be granted. F. TRELEASE, *WATER LAW CASES AND MATERIALS* 513 (3d ed. 1979). The complaint was deemed defective because it did not allege that the well was adequate. The court did not discuss the requirements for an adequate well.

158. WYO. STAT. § 41-3-911(a) (1977 & Cum. Supp. 1988).

159. WYO. STAT. § 41-3-911(a) (1977 & Cum. Supp. 1988).

The permit for a groundwater right requires that a well be constructed to an adequate depth.<sup>160</sup> Presumably, any well owner claiming interference would have the burden of first showing his well is adequate. This burden of proof would include showing the well is properly constructed with an adequate pump and sufficient depth. The burden would then shift to the other party to prove the inadequacy of the well or the absence of interference.

An argument can be made that since the State Engineer must find that the means of diversion and construction are adequate before granting a permit,<sup>161</sup> any permitted well is "adequate" for the purposes of bringing an interference action against another appropriator. However, a groundwater permit does not grant a right to have the water level or pressure higher than required for maximum beneficial use of the source of supply, and an appropriator is protected only for reasonable pumping levels.<sup>162</sup> Otherwise he must bear the costs of deepening his well. If every permitted domestic well is presumed adequate, the burden shifts to the owner of the rights allegedly interfering with the well to prove either the inadequacy of the domestic well or the lack of interference.<sup>163</sup>

In all other cases of alleged interference the statute provides a procedure to resolve the conflict. Any appropriator, either of surface water or underground water, who alleges interference of his water right by a junior underground right may file a complaint with the State Engineer upon payment of a \$100 fee.<sup>164</sup> The State Engineer must investigate the complaint to determine whether interference does in fact exist and issue a report stating his findings and suggesting appropriate means to rectify or ameliorate the situation. Anyone objecting to the results of the investigation or the State Engineer's decision may appeal to the Board of Control in a contested case hearing pursuant to the Wyoming Administrative Procedure Act.<sup>165</sup>

The interference statute, although it was enacted in 1957, was not tested until the mid-1980's, when the State Engineer's office received and investigated several complaints of interference. One case that reached the Wyoming Supreme Court involved a surface appropriation with territorial rights on Cottonwood Creek in Platte County, Wyoming, where a pumped well installed about one mile upstream was allegedly interfering with surface rights.<sup>166</sup> The State Engineer conducted an extensive investigation which included installing several monitoring wells. He found that interference was not discernible, and consequently, regulation of the well was not required. However, his report noted that if new evidence indicated interference, the State Engineer would reevaluate his findings.<sup>167</sup>

---

160. 1974 REGS. OF ST. ENG., *supra* note 34, at pt. II, p. 25.

161. WYO. STAT. § 41-3-931 (1977).

162. WYO. STAT. § 41-3-933 (1977); *see also* Burke and Kulasza, *supra* note 12.

163. *See Bishop*, 420 P.2d 446.

164. WYO. STAT. § 41-3-911(b) (1977 & Cum. Supp. 1988).

165. WYO. STAT. § 41-3-911(c) (1977 & Cum. Supp. 1988).

166. *Willadsen v. Christopoulos*, 731 P.2d 1181 (Wyo. 1987).

167. REPORT ON INVESTIGATION OF INTERFERENCE COMPLAINT NEAR COTTONWOOD CREEK, PLATTE COUNTY, WYO., WYOMING STATE ENGINEER'S OFFICE (April 1985).

The surface appropriator appealed to the Board of Control which, after a contested case hearing, affirmed the State Engineer's decision. Upon appeal to the Wyoming Supreme Court, the court avoided the merits of the case and instead held that a flaw existed in the burden of proof standard used by the Board of Control.<sup>168</sup> The court remanded the case to the Board for a rehearing and redetermination of the issues.<sup>169</sup>

Despite significant advances in groundwater hydrology, proving that a particular well directly affects another appropriation remains an elusive problem. Recognizing the difficulties of proof, the Wyoming statutes allow the burden first to be shared by all the appropriators and taxpayers, by virtue of an investigation by the State Engineer's office. For a fee of \$100, the complainant may receive several thousand dollars worth of investigation by the State Engineer, saving the complainant the initial costs of experts and litigation. Once the State Engineer has made a determination, the complainant or any affected appropriator may appeal. However, the court interprets the statute as placing the burden of proof on the one protecting the State Engineer's decision. The State Engineer is considered to be essentially a neutral fact finder. A litigant who disagrees with the State Engineer's finding faces formidable proof obstacles to establishing his interference claim or defense. Lawyers pursuing interference claims should advise their clients that the rule of thumb is "whoever has the burden of proof in a groundwater case, loses."

#### D. Mine Dewatering

A basic principle of western water law is that water will not be wasted. Defining waste in the context of the development of other resources, where water must be removed in order to recover the minerals, continues to pose important questions to the western states.<sup>170</sup> The issue is highlighted by the controversy over mine dewatering, a process of pumping water from surrounding aquifers in order that minerals may be mined. Problems arise when this process injures surrounding appropriators, either by a lowering of the water table or a loss of pressure. Several civil common law actions are available to the injured party.<sup>171</sup> This portion of the article

168. *Willadsen*, 731 P.2d at 1184. The court held that the evidence considered by the Board from the contested case hearing should have been determined on a preponderance of the evidence standard, rather than the substantial evidence standard used in the Board's final order. The proceeding before the Board is not an "appeal" of the State Engineer's decision but rather a de novo contested case hearing wherein the State Engineer's report is to be considered as part of the evidence. The court did state, however, that the burden was on the complainant, in this case the surface appropriator, to prove that interference does exist by a preponderance of the evidence.

169. No proceedings on remand have been held as of November 1, 1988.

170. See Novak, *The Legal Dilemma in Dewatering Mines*, 17 ROCKY MT. MIN. L. INST. 657, 658 (1972). The impacts of mine dewatering are being litigated in the federal district in Cheyenne in a case captioned *Miller v. Amax*, No. C87-300-J (D. Wyo.). The plaintiffs claim that Amax's dewatering caused methane gas to seep into the Rawhide Village subdivision in Gillette, Wyoming. The subdivision was condemned by the county officials and the residents evicted.

171. Anderson and Davis, *Water and Mineral Development Conflicts*, 32 ROCKY MT. MIN. L. INST. 9 (1986); Stephenson and Utton, *The Challenge of Mine Dewatering to Western Water Law and the New Mexico Response*, 15 LAND & WATER L. REV. 445 (1980); Novak, *supra* note 170; Clyde, *Mineral Rights Versus Water Rights*, 2 NAT. RESOURCES LAW 299 (1969).

examines the problem with regard to regulation of dewatering to avoid injury to other appropriators or unnecessary waste of water.

The Wyoming statutes do not address whether mine dewatering is a beneficial use for which a permit from the State Engineer is required. Only two states, New Mexico and Arizona, have statutes that regulate mine dewatering.<sup>172</sup> New Mexico enacted the Mine Dewatering Act in 1980 to promote economic development while ensuring protection of existing water rights.<sup>173</sup> The Act declares that the dewatering of a mine is not waste per se. The mine operator must obtain a permit from the State Engineer and is subject to all administrative procedures and laws relating to the appropriation of underground water. Technically, however, no water rights are established. In acquiring such a permit the applicant must file a plan of replacement, that is, a means of furnishing a substitute water supply to any water rights owners who may be adversely affected by the dewatering of the mine. If the plan of replacement will prevent impairment of affected water rights, the State Engineer must approve the permit.

In Arizona, anyone engaged in mine dewatering must first obtain a permit from the Department of Water Resources.<sup>174</sup> This requirement appears to be perfunctory since the statute requires a permit to be issued, apparently without regard to any injury to other appropriators for a period up to fifty years. The permittee has first priority to use the withdrawn water for mining, processing and environmental control. Anyone adversely affected by the dewatering receives a second priority. The mine operator is required only to make the excess water available at his property boundary, and he is not required to alter the quality of the water.

The Wyoming groundwater statutes do mention mine dewatering, but only in the context of allowing its appropriation as by-product water after it has been pumped from the ground.<sup>175</sup> The question remains whether a permit is required from the State Engineer for the actual dewatering. The State Engineer's position is that dewatering activities must be regulated by the State Engineer and a permit to dewater must be obtained from the State Engineer's Ground Water Division.<sup>176</sup>

The Wyoming groundwater statutes require that anyone intending to acquire the right to beneficially use any underground water in the state must obtain a permit.<sup>177</sup> A mining company may argue that since it does not intend to beneficially use the water and the removal of water is incidental to the mining, no groundwater permit is required. The State Engineer interprets the groundwater statutes to require a permit before dewatering a mine and has granted several hundred permits to dewater coal and uranium mines.<sup>178</sup> This interpretation is necessary to enable the State

---

172. Idaho statutes provide that the appropriation law does not forbid or govern mine dewatering. IDAHO CODE § 42-227 (1977).

173. N.M. STAT. ANN. § 72-12A-1 to -13 (1978 & Cum. Supp. 1988).

174. ARIZ. REV. STAT. ANN. § 45-513 (1978).

175. WYO. STAT. §§ 41-3-903, -904 (1977).

176. Stockdale, *supra* note 5; see also Stephenson & Utton, *supra* note 171, at 459-60.

177. WYO. STAT. § 41-3-930 (1977).

178. Stockdale, *supra* note 5.

Engineer to protect prior appropriators from injury and the underground water from waste and pollution. If the State Engineer found that the dewatering activities would cause harm to other well owners or surface water rights, he could condition the permit upon no injury or mitigation of injury to other appropriators.

The dewatering controversy also arises in the oil and gas context. Recently, a gas producer was planning to use a hydraulic fracturing process to obtain natural gas from coal seams in Wyoming. This process produced large quantities of groundwater that the producer did not want or need. The issue was whether a permit was required from the Oil and Gas Conservation Commission or the State Engineer or both.<sup>179</sup> The State Engineer, voicing concerns about injury to appropriators from pumping such large amounts of groundwater, required a permit to be obtained from his office. Without conceding that either or both agencies had jurisdiction, the producer agreed to file for permits from both agencies.<sup>180</sup>

### *E. Control of Groundwater Depletion*

Concern over groundwater depletion was one of the principal forces behind development of Wyoming's groundwater laws. Studies by the State Engineer in the late 1930's and early 1940's documented the increasing use of water in southeastern Wyoming, particularly from the Ogallala aquifer.<sup>181</sup> The explosion in the use of groundwater for irrigation after 1950 spurred all the western states to develop regulatory methods for managing groundwater depletion.<sup>182</sup>

In determining a regulatory strategy to deal with groundwater depletion, policymakers must grapple with a complex interrelationship between economic and social theories, tempered by an understanding of the hydrologic cycle. The realities of the hydrologic cycle are that many aquifers have little or no recharge.<sup>183</sup> Thus, when groundwater withdrawals exceed a negligible rate of recharge, the water supply is depleted. Under these conditions, which prevail in much of the West and Southwest, groundwater should be considered an "exhaustible resource similar to petroleum or other minerals."<sup>184</sup>

179. The Oil and Gas Commission also is charged with protecting the state's water resources. WYO. STAT. § 30-5-104 (1977 & Cum. Supp. 1988).

180. Stockdale, *supra* note 5.

181. 1945-1946 WYOMING STATE ENGINEER'S REPORT 144-52.

182. It has been estimated that "ground water use in the United States increased from 21 billion gallons per day (BGD) in 1945 to 89 BGD in 1980, and it is expected to grow to 100 BGD by 2000 . . ." Smith, *Coercion and Groundwater Management: Three Case Studies and A "Market" Approach*, 16 ENVTL. L. 797, 799 (1986). From 1950-1975 the amount of groundwater used for irrigation in the western states increased from 18 million acre-feet to 56 million acre-feet. Aiken, *supra* note 12, at 930.

183. The Ogallala Aquifer covers 156,000 square miles in New Mexico, Colorado, Oklahoma, Kansas, Nebraska and Texas. Four to six million acre-feet are withdrawn each year from the Ogallala, of which only 200,000 acre-feet are recharged. S.Rep. No. 3721, 98th Cong., 2d Sess., at 1-2; *cited in* Smith, *supra* note 182, at 800 n. 5.

184. Bagley, *Water Rights Law and Public Policies Relating to Ground Water "Mining" in the Southwestern States*, 4 J. OF L. AND ECON. 144, 147 (1961) (This is the seminal article on the application of economic theory to groundwater problems.).

Determining the extent to which depletion of groundwater in excess of recharge ("groundwater mining") should be allowed requires a balancing of competing interests. If uncontrolled mining by all appropriators is allowed, the priority system fails because the senior appropriator has no ability to rely on an assured supply. All appropriators are at the mercy of users with the deepest well and the strongest pump. In addition, groundwater mining may be wasteful, and it may damage the aquifer irreparably,<sup>185</sup> and it may be economically inefficient.<sup>186</sup> On the other hand, if groundwater mining is prohibited, the value of the senior appropriator's water rights is preserved, but probably at the expense of maximum economic development of the aquifer. What the western states have tried to do is develop regulatory schemes that seek a middle ground. These schemes recognize that some depletion is required in order to obtain full present-day value of the water, but at the same time are sympathetic to the need of existing appropriators for protection of their investment. The goal of all of these schemes is to try to maximize net benefits over time.<sup>187</sup>

In one of the first cases to examine the legal and economic issues related to groundwater mining, the New Mexico Supreme Court in *Mathers v. Texaco, Inc.*,<sup>188</sup> approved the issuance of permits in a non-rechargeable basin. Texaco proposed to withdraw 350 acre-feet from an underground water basin for the purpose of oil field water flood. The State Engineer had done an extensive analysis of water availability in the basin and calculated the amount of water that could be withdrawn from each township assuming consumptions of two-thirds of the water in storage at the end of forty years. The State Engineer concluded that unappropriated water was available and granted the permit. The New Mexico Supreme Court upheld the issuance of the permit, finding that vested rights were not impaired even when a subsequent appropriator, by withdrawing water from a non-rechargeable basin, causes a decline in the water level, higher pumping cost, and lower pumping yields.<sup>189</sup>

Other states approach the problem in a similar manner. Colorado developed a test for permit issuance in a designated groundwater basin designed to conserve the Ogallala aquifer. If the rate of pumping within a three mile radius of the proposed well would result in a forty percent depletion of the available groundwater over a period of twenty-five years, then the

---

185. "The long term effects of groundwater mining include a lowering of groundwater level making pumping more expensive; degradation of groundwater quality; land subsidence; and in coastal areas, sea water intrusion." Smith, *supra* note 182, at 803. See also Grant, *supra* note 69, at 28.

186. See Bagley, *supra* note 184, at 148-151, for a discussion of the factors that must be considered in analyzing the economic of groundwater depletion rates. See also Note, *Water Mining and Wyoming Law*, 17 Wyo. L.J. 232 (1962), which argues that in resolving questions of groundwater mining in the control area, the State Engineer should be guided by economic principles of maximum beneficial use and not priority.

187. See Corker, *supra* note 11, at 128; Grant I, *supra* note 69, at 25-27.

188. 77 N.M. 239, 421 P.2d 771 (1966).

189. *Mathers*, 421 P.2d at 776.

permit may be denied.<sup>190</sup> Oklahoma permits a maximum annual yield to be based on a minimum basin life of twenty years.<sup>191</sup>

Wyoming does not have any statutory or administrative test for the issuance of new permits aside from those which have been specifically adopted for a control area. Applications for groundwater that are not in "critical areas" ("control areas") are granted as a matter of course, if the proposed use is beneficial and the means of diversion and construction adequate.<sup>192</sup> There is no requirement that the State Engineer determine whether granting the permit would impair existing rights. The State Engineer may deny a permit application if he finds that it is not in the "public's water interest."<sup>193</sup> The standard is undefined, although it certainly contemplates that the State Engineer may examine a host of factors, including the available water supply, prior to issuing a permit. This provision, however, has never been used as a basis for denying an application.

The principal method used by Wyoming and most of the other western states to control groundwater mining is the establishment of control areas. Twelve western states use such statutes to control groundwater mining and to protect the irrigation economies that are dependent upon the status quo.<sup>194</sup>

### 1. Establishment of Control Areas

The 1957 Act established a process for the State Engineer and the Board of Control to designate control areas. The statute provides that any underground water district or subdistrict may be designated a control area where any of the following conditions occur or are about to occur:

- (i) The use of underground water is approaching a use equal to the current recharge rate;
- (ii) Groundwater levels are declining or have declined excessively;
- (iii) Conflicts between users are occurring or are foreseeable;
- (iv) Waste of water is occurring or may occur; or
- (v) Other conditions exist or may arise that require regulation for the public interest.<sup>195</sup>

To create a control area, the State Engineer must report to the Board of Control the existence of conditions that favor the establishment of the control area. The Board will then hold hearings and order the establishment of an area, which is defined both geographically and stratigraphically.<sup>196</sup>

190. See *Fundingsland v. Colorado Ground Water Comm'n.*, 171 Colo. 487, 468 P.2d 835 (1970).

191. OKLA. STAT. ANN. tit. 82, § 1020.5 (West 1970 & Supp. 1988).

192. WYO. STAT. § 41-3-931 (1977).

193. WYO. STAT. § 41-3-931 (1977).

194. See Aiken, *supra* note 12, at 932 n.58, for a list of the states and statutes.

195. WYO. STAT. § 41-3-912(a)(i) to (v) (1977 & Cum. Supp. 1988).

196. WYO. STAT. § 41-3-912 (1977 & Cum. Supp. 1988). Stratigraphy means geology that deals with the origin, composition, distribution and succession of strata. WEBSTER'S NEW COLLEGIATE DICTIONARY 1141 (1981).

The statute provides a detailed procedure for the selection of a control area advisory board consisting of five members. The first order of business after the establishment of the control area is the adjudication of all unadjudicated wells.<sup>197</sup> After the wells have been adjudicated, the State Engineer may consider the imposition of permanent corrective controls if he finds that the underground water in the control area is insufficient for all appropriators. The State Engineer's powers are broad and comprehensive. They essentially give him unlimited discretion to solve the problems. The corrective controls that are permitted by statute, which can be used singly or in combination, are:

- (i) [C]lose the controlled area to any further appropriation . . . [and] refuse to grant any applications for a permit . . . ;
- (ii) [D]etermine the permissible total withdrawal of underground water in the control area for each day, month or year, and . . . apportion . . . total withdrawal among the appropriators . . . in accordance with priority . . . ;
- (iii) If he finds that withdrawals by junior appropriators have a material and adverse effect upon the supply available . . . he may order such junior appropriators to cease or reduce withdrawals . . . ;
- (iv) If he finds that cessation or reduction of withdrawals by junior appropriators will not result in proportionate benefits to senior appropriators, he may require and specify a system of rotation of use of underground water in the controlled area;
- (v) [I]nstitute well spacing requirements . . . [for] new wells.<sup>198</sup>

The statute further encourages appropriators within the control area to enter into voluntary agreements for controlling withdrawals, including well spacing, apportionment, rotation, or proration of the common supply of the underground water. The State Engineer is authorized to approve such agreements when they are in the public interest, and once approved, the agreements govern the corrective measures in the control area.<sup>199</sup>

Professor Grant notes that certain corrective measures in the control area statutes and other aspects of Wyoming's groundwater law indicate that Wyoming has a "relatively weak commitment to the priority principle."<sup>200</sup> This is a correct assessment of the Wyoming groundwater scheme. Strict priority regulation is generally not a very useful tool for groundwater conservation. Because of the nature of groundwater movement, it is often difficult, if not impossible, to prove that shutting off a junior well will have any measurable impact on the supply available to the senior appropriator. The control area statutes have placed their emphasis on conservation measures such as limiting new appropriations and encouraging existing appropriators to make better use of the common resources, rather than applying the surface water concepts of absolute priority regulation.

---

197. WYO. STAT. § 41-3-914 (1977).  
198. WYO. STAT. § 41-3-915(a) (1977).  
199. WYO. STAT. § 41-3-915(c) (1977).  
200. Grant I, *supra* note 69, at 18.



Once the control area is established, applications for a new permit are no longer granted as a matter of course, but may be approved only after surviving a gauntlet of hearings and reviews. The State Engineer must publish notice of the application and inform other appropriators of their rights to object. If objections are filed, the State Engineer must hold a hearing. If none are filed, the hearing is discretionary.<sup>201</sup>

A new permit can be granted only after receiving the advice of the control area advisory board that: (1) "[T]here are unappropriated waters in the proposed source;"<sup>202</sup> (2) "[T]he proposed means of diversion or construction is adequate;" (3) "[T]he location . . . does not conflict with any well spacing or well distribution regulation;" (4) "[T]he proposed use would not be detrimental to the public interest."<sup>203</sup>

## 2. Three Control Areas Established

The control area statute has proven to be an effective means of regulating groundwater development. In the 1970's and early 1980's, several control areas were formed in southeastern Wyoming. In 1971, the Pine Bluffs Control Area was established in the extreme southeastern corner of the state.<sup>204</sup> A neighboring control area near the town of Carpenter was organized in 1973.<sup>205</sup> These two areas were consolidated into the Laramie County Control Area in September, 1981.<sup>206</sup> This control area includes almost all of eastern Laramie County, bordered on the south by Colorado and the east by Nebraska.

Groundwater in this control area is supplied principally by the thin Ogallala aquifer. Intensive center pivot irrigation was causing substantial declines in the water table. In addition, interference between wells occurred during the irrigation season.<sup>207</sup> Since 1971, the State Engineer has essentially stopped granting new permits, except in isolated areas or for wells that are down gradient of the primary irrigation wells.

201. WYO. STAT. § 41-3-932 (1977 & Cum. Supp. 1988).

202. WYO. STAT. § 41-3-932(c) (1977 & Cum. Supp. 1988). Requiring a finding that there is unappropriated water is a curious standard, obviously borrowed from surface water terminology. The standard is not unique to Wyoming. New Mexico requires the State Engineer to make the same finding to decide if a permit should be issued. N.M. STAT. ANN. § 72-12-3 (E) (1978). In analyzing the availability of water in surface streams, it is possible to add up all the priorities and determine if the historic water supply is sufficient to provide for all the water rights. In the groundwater context, the question that must be asked is whether the addition of another appropriator adversely impacts the availability of water over the long term, perhaps 20 to 30 years, since the resource may not be replenishable, but one that is, hopefully, being managed for maximum economic benefit. The better standard and perhaps the one the legislature intended is whether the new appropriator would cause unacceptable impacts such as exceeding the total permissible withdrawal of water, which takes into account that some depletion will be allowed. See A. DAN TARLOCK, LAW OF WATER RIGHTS AND RESOURCES § 6.02 (1988).

203. WYO. STAT. § 41-3-932(c) (1977 & Cum. Supp. 1988).

204. WYO. STATE BOARD OF CONTROL, ORDER REC. No. 18, at 537 (March 1, 1971), expanded by ORDER REC. No. 19, at 453 (Nov. 16, 1972).

205. WYO. STATE BOARD OF CONTROL, ORDER REC. No. 19, at 508.

206. WYO. STATE BOARD OF CONTROL, ORDER REC. No. 25, at 44.

207. *Id.*

The second control area, called Prairie Center, is in northern Goshen County, along the Nebraska border.<sup>208</sup> The principal motivation for the Control Area was to protect existing pumping depths. Water supply was not at issue because the aquifer is 1000 feet thick. The concern of existing groundwater well users was the effect of irrigating new lands with groundwater. They feared resulting decline in the water table would increase pumping costs and perhaps require wells to be deepened. Rather than deal with interference on a case by case basis, existing irrigators sought to have new appropriations curtailed by the formation of the control area.<sup>209</sup>

The last control area was established in 1981 in Platte County.<sup>210</sup> The impetus for its establishment was the proposed development of a well field to supply water to the Missouri Basin Power Project's coal-fired power plant and the fear that pumping for industrial use would affect the irrigation wells.<sup>211</sup> In 1977, the U.S. Geologic Survey and the State Engineer investigated the groundwater conditions. That year, the State Engineer established a moratorium on new permits in excess of fifty gallons per minute. The moratorium has been in effect ever since.

The control area law puts substantial power into the hands of existing appropriators, allowing protection of their groundwater use. In each of the control areas, new permits have been only selectively issued. The control area statutes have served to protect the existing irrigation economy. Yet, the full powers of the State Engineer to implement corrective measures have never been put to the test because other factors have contributed to halting groundwater depletion in the control areas. The high cost of electricity to operate irrigation pumps has forced many irrigators to abandon their center pivot systems. Within the Prairie Center Control Area, almost half of the land has gone out of production because of the cost of power.<sup>212</sup> Other factors, such as the low price of grains and feeds, low pressure sprinklers and drought resistant plants have also contributed to the reduction in demand on the groundwater supply.

#### *F. Wyoming's Groundwater Statutes are not Designed to Regulate Domestic Groundwater Use*

##### 1. Domestic Groundwater Use Regulation

In the late 1970's and early 1980's, during the height of the energy boom, many municipalities were confronted with the development of ranchette subdivisions outside their corporate limits. These subdivisions consisted of small lots, generally no larger than two to three acres, each supplied by its own groundwater well and septic sewer system. These high-density rural subdivisions posed considerable threat to the groundwater

---

208. WYO. STATE BOARD OF CONTROL ORDER REC. NO. 22, at 1 (December 2, 1977), amended by ORDER REC. NO. 22, at 53 (February, 1979), to delete lands in Niobrara County.

209. Stockdale, *supra* note 5.

210. WYO. STATE BOARD OF CONTROL ORDER REC. NO. 35, at 305 (February 1, 1982).

211. Stockdale, *supra* note 5.

212. *Id.*

resource, both in terms of the depletion of groundwater supplies and the effects of groundwater pollution from septic tank discharge. The subdivisions were essentially unregulated because the county governments either would not or could not impose controls to regulate these problems.

The problem became acute in 1983 in subdivisions supplied by groundwater in a twenty-eight square mile area north of Cheyenne. Within the north Cheyenne study area, the number of permitted domestic wells had risen from approximately 450 in 1970 to over 1,400 in 1984. Measurements of groundwater wells in the study area and wells down gradient to the east showed a declining water table. In addition to the 1,400 existing permitted wells in the study area, there were 1,450 undeveloped lots that had already been platted and approved by the county. The State Engineer made some predicted drawdown calculations based on 100% development of all of the lots. The study showed that by the year 2019, drawdowns in excess of thirty feet could be anticipated in the center of the study area, with drawdowns of five to ten feet extending over an area two or three times the study area.<sup>213</sup>

The State Engineer, on his own initiative, declared a moratorium on new well permits in February, 1984. The resulting hue and cry from the land developers and lot owners made the moratorium short-lived, but it galvanized the county officials and the subdividers into examining the problem. In 1984 and 1985, the State Engineer conducted an extensive monitoring program to establish more precisely the predicted effects of development. The State Engineer presented to the public a list of alternatives for dealing with the problem that ranged from the extreme of imposing a moratorium on further groundwater development to the opposite of allowing uncontrollable growth.

The State Engineer also proposed: a) adopting depth requirements on the wells, b) limiting water use, primarily by prohibiting irrigation of lawns, c) importing water, principally surface supplies, d) developing a central water system, probably through creation of a water district, e) increasing the minimum lot size from two and a half acres to five acres, f) requiring a well permit to be secured prior to the county's issuance of a building permit.<sup>214</sup>

Several of the recommendations were adopted. The county now requires a five-acre minimum lot size, with the exception that all platted subdivisions were grandfathered. Minimum depth requirements for wells have been implemented, with the State Engineer requiring that all wells be drilled to depths that average 250-300 feet.<sup>215</sup> The immediate problems have abated somewhat, principally because Wyoming's economy has reduced the demand for ranchette lots.

---

213. RECORDS OF THE STATE ENGINEER, NORTH CHEYENNE STUDY AREA.

214. *Id.*

215. The State Engineer requires that the well casing be perforated for a length of at least 60 feet, and that there be at least 100 feet between the uppermost perforation and the static water level. This ensures that there is at least 160 feet of water bearing strata to supply the well.

## 2. Land Use Regulation

The north Cheyenne problem is likely to recur in Wyoming and it highlights the fact that for residential development, land use decisions by counties are as critical as the State Engineer's role in issuing permits. If the county officials are not willing to recognize a problem, and make appropriate adjustments in lot size and consider other requirements, the State Engineer will be faced with extremely difficult choices, ones which the control area statutes are not designed to address. The north Cheyenne problem points out a weakness in the groundwater regulatory scheme. The control area statutes have been effective in dealing with the groundwater problems attributable to irrigation. However, the law does not work as well for domestic wells. It is arguable that the State Engineer had no authority to impose a moratorium on the issuance of domestic well permits. Although the north Cheyenne area happens to be in the Laramie County Control Area, that control area was set up to address the impacts of irrigation, not domestic use. The Wyoming statute allows the State Engineer to deny a permit in the control area for "any other use than domestic, stockwatering and miscellaneous purposes."<sup>216</sup> Therefore, even in the control area, domestic well permits must be granted as a matter of course, unless the State Engineer were to utilize his power to deny the permit on the basis of the public interest, something that has never been done.

The north Cheyenne problem could be addressed by stricter land use planning laws that imposed a burden on the subdividers to provide a water supply. Wyoming has a statute that requires a disclosure that no water supply has been provided, or that the water supply is determined to be inadequate.<sup>217</sup> Arizona has gone much further, and prohibits the sale or lease of subdivided land which does not have an assured water supply.<sup>218</sup> This means that the water supply must be of adequate quality, sufficient to last 100 years. Such a stringent statute is probably not necessary in Wyoming. However, the state might consider legislation that would give county officials greater authority to require subdividers to address problems of groundwater supply.

### G. Regulation of Water Well Drillers

During the height of Wyoming's energy boom, a proliferation of companies went into business drilling water wells. Because Wyoming did not have any standards that regulated water well drillers, anyone, no matter what his training or equipment, could offer his services as a well driller. The result was that wells drilled were inadequately constructed, and did not provide the optimum quantity or quality of water.

---

216. WYO. STAT. § 41-3-932(a) (1977 & Cum. Supp. 1988).

217. WYO. STAT. § 18-5-306(a)(vii) (1977).

218. ARIZ. REV. STAT. ANN. § 45-576 (1987). See Johnson, *The 1980 Arizona Groundwater Management Act and Trends in Western States Groundwater Administration and Management: A Mineral Industry Perspective*, 26 ROCKY MT. MIN. L. INST. 1031, 1053 (1980). See also COLO. REV. STAT. § 30-28-133 (1986) (providing that counties may not approve subdivision plats unless provision has been made for a sufficient water supply).

Most states regulate water well drillers. The State Engineer has proposed such legislation in the past, but it has never been seriously considered by the legislature. New Mexico has a very simple statute that makes it unlawful to drill a well without a license. The State Engineer is empowered to determine the necessary qualifications for issuance of a license.<sup>219</sup> New Mexico also makes it unlawful for any person to allow a well to be drilled by a person who is other than a licensed well driller. These statutes have been upheld as a legitimate exercise of the police power.<sup>220</sup> Such laws help ensure that wells are properly constructed with due attention to the preservation of groundwater quality and construction to an adequate depth. Regulation of the well drillers also gives the State Engineer a way to control the unauthorized drilling of wells. If the well drillers' livelihood is dependent upon complying with the State Engineer's requirements, including obtaining a permit prior to construction, it is unlikely that this step will be overlooked.

#### H. Interstate Use of Groundwater

During the last two decades there has been much discussion but very little action regarding interstate use of groundwater.<sup>221</sup> Groundwater resources obviously do not respect political boundaries. Consequently, use of groundwater along the borders of states and transportation of water from one state to another have interstate implications. Wyoming is one of several western states that have laws governing transportation of water out of state.<sup>222</sup> After a permit has been granted and water has been put to beneficial use, the water right may be adjudicated by the Board of Control.

Anyone planning to appropriate, store or divert annually more than one thousand acre-feet of water, either surface water or groundwater, for use outside the state or for use as a medium of transportation of minerals, chemicals or other products outside the state must first obtain the specific approval of the legislature.<sup>223</sup> Legislative approval is also required if a water right holder wishes to transfer his right or use his entitlement to water outside the state.<sup>224</sup> After a permit has been granted and water has been put to beneficial use, the water right may be adjudicated by the Board of Control.<sup>225</sup>

219. N.M. STAT. ANN. § 72-12-12 (1978).

220. See *State v. Meyers*, 64 N.M. 186, 326 P.2d 1075 (1958).

221. See Trelease, *Interstate Use of Water—“Sporhase v. El Paso, Pike & Vermejo,”* 22 LAND & WATER L. REV. 315 (1987); Simms & Davis, *Water Transfers Across State Systems*, 31 ROCKY MT. MIN. L. INST. 22-1 (1985); Fischer, *Equitable Apportionment of Interstate Ground Waters*, 21 ROCKY MT. MIN. L. INST. 721 (1975); INTERSTATE ALLOCATION AND MANAGEMENT OF NONTRIBUTARY GROUNDWATER, WESTERN GOVERNORS' ASSOCIATION (1984).

222. See COLO. REV. STAT. § 37-81-101 (1977 & Cum. Supp. 1987); MONT. CODE ANN. § 85-2-311(3) (1987); ARIZ. REV. STAT. § 45-165 (1987); WYO. STAT. § 41-3-115(b) (1977 & Cum. Supp. 1988). See also Gould, *Conversion of Agriculture Water Rights to Industrial Use*, 27B ROCKY MT. MIN. L. INST. 1791, 1811-12 (1982); Comment, *Sporhase v. Nebraska ex rel. Douglas: State Control of Water Under the Constraints of the Commerce Clause*, 18 LAND & WATER L. REV. 513, 523 n.74 (1983).

223. WYO. STAT. § 41-3-115(b) (1977 & Cum. Supp. 1988).

224. WYO. STAT. § 41-3-115(c) (1977 & Cum. Supp. 1988).

225. WYO. STAT. § 41-1-105 (1977).

Before 1985, the adjoining state where the water would be used must have had the reciprocal ability to grant rights for the use of its water in Wyoming.<sup>226</sup> This statute was amended in the aftermath of *Sporhase v. Nebraska*.<sup>227</sup> The amendment eliminated the reciprocity requirement and provided for clearer scrutiny of out-of-state use:

The legislature finds, recognizes and declares that the transfer of water outside the boundaries of the state may have a significant impact on the water and other resources of the state. Further, this impact may differ substantially from that caused by uses of the water within the state. Therefore, all water being the property of the state and part of the natural resources of the state, it shall be controlled and managed by the state for the purposes of protecting, conserving and preserving to the state the maximum permanent beneficial use of the state's waters.<sup>228</sup>

The applicant must first apply with the State Engineer who recommends to the legislature that it grant or deny the permit. The State Engineer and legislature must consider several factors before granting the permit, including: the amount of water to be used, the amount available for appropriation, economic, social and environmental benefits or detriments to the state, injury to existing water rights, ability of the state to preserve and protect sufficient quantities of water for reasonably foreseeable consumptive uses, protection of the quantity and quality of water available for domestic or municipal use, and whether a correlation exists between surface and groundwater to avoid harmful effects to the supply of either.<sup>229</sup>

The 1985 amendment repealed several subsections devoted to allowing a coal slurry pipeline which Energy Transportation Systems, Inc. (ETSI) proposed to extend from Wyoming to Arkansas.<sup>230</sup> In 1974, the legislature approved the annual use by ETSI of twenty thousand acre-feet of underground water from the Madison and Bell Sand formations, subject to the approval of the State Engineer. The legislature was careful to protect existing users of groundwater by requiring ETSI to provide water to any Wyoming appropriator injured by a lowering of the water table due to ETSI's withdrawals.

The Madison formation is a large and deep aquifer that outcrops along the Wyoming-South Dakota border. The legislative approval protected only Wyoming appropriators. South Dakota officials were concerned about injury to their appropriators if the ETSI project was developed and threatened to sue Wyoming in an original action before the U.S. Supreme Court.<sup>231</sup> Although ETSI abandoned groundwater for what appeared to

---

226. WYO. STAT. § 41-3-115(c) (1977 & Cum. Supp. 1988).

227. 458 U.S. 941 (1982).

228. WYO. STAT. § 41-3-115(a) (1977 & Cum. Supp. 1988).

229. WYO. STAT. § 41-3-115(r) (1977 & Cum. Supp. 1988).

230. WYO. STAT. § 41-3-115(d) - (k) (1977), repealed by 1985 WYO. SESS. LAWS ch. 4, § 1.

231. See Fischer, *supra* note 221.

be a more certain surface supply from Lake Oahe in South Dakota, ETSI's plans foundered in litigation and the energy recession.<sup>232</sup>

The ETSI project and its ramifications to groundwater led one commentator to suggest interstate compacting of these large aquifers lying under two or more states.<sup>233</sup> Dean Trelease in his last law review article advocated not only states compacting interstate aquifers, but also recommended joint administration of the aquifers through executive agreements or multi-state districts.<sup>234</sup> For now, no immediate threat exists to the depletion of the Madison or any other interstate formation in Wyoming. Thus, discussions regarding joint administration of underground water have not been necessary.<sup>235</sup>

#### IV. GROUNDWATER QUALITY

This article would not be complete without a brief discussion of Wyoming's groundwater quality laws. In many respects, groundwater quality problems are of more immediate concern to Wyoming's citizens than groundwater appropriation issues.<sup>236</sup> Unfortunately, a full discussion of groundwater quality issues would unduly lengthen this article. Therefore, the authors have chosen to highlight areas of importance and relegate the reader to other sources for more detailed information.

Regulating groundwater quality is more difficult than regulating the appropriation of groundwater because quality regulation is not simply a matter of determining the impacts of prospective use. Groundwater quality may be affected by almost all of mankind's activities, and therefore the statutes must have a broad and comprehensive reach. Groundwater quality is generally regulated by a vast mix of federal, state and local laws, but some activities, such as underground storage tanks, remain unregulated in Wyoming. The problems with groundwater quality that Wyoming is experiencing are illustrative of the challenges that face the state in implementing groundwater protection plans.

*Quantity versus quality regulation* - The Water Quality Division has ordered a refinery situated on the banks of the North Platte to construct groundwater recovery wells to remove free petroleum products. These

---

232. *Energy Transp. Sys., Inc. v. Missouri*, 108 S. Ct. 804 (1988). ETSI attempted to contract with the Secretary of Interior for the use of water out of Lake Oahe in South Dakota. The contract was challenged and the U.S. Supreme Court recently held that the Secretary did not have the authority to enter into such a contract since the reservoir is owned and operated by the Corps of Engineers.

233. Fischer, *supra* note 221.

234. Trelease, *supra* note 221, at 339.

235. Stockdale, *supra* note 5.

236. As the National Water Commission recognized:

[H]ighest priority in legal administration should be given aspects of groundwater law where absence of legal rules and their enforcement create a likelihood of irreversible and harmful changes. With respect to groundwater, this means heavy priority to water quality, because a contaminated groundwater basin may be rendered useless for centuries. A contaminated surface water reservoir can be restored in not more than a few years.

CORKER, *supra* note 121, at 3. For a brief discussion of the status of groundwater quality in Wyoming, see WYOMING GROUNDWATER QUALITY, *supra* note 2, at 1.

wells would pump the groundwater into contained evaporation ponds. The water is withdrawn from shallow alluvial aquifers that are interconnected with the North Platte River. Pumping of these wells is anticipated to be at a rate in excess of a thousand gallons a minute for at least thirty years. This is approximately 1,500 acre-feet per year of water that will be depleted from the North Platte. The State Engineer is in the process of assessing the impact these wells may have on ground and surface water appropriators.<sup>237</sup>

*Land use decisions* - The Solid Waste Division of the Department of Environmental Quality is considering a permit for construction of an asbestos disposal landfill. Objections have been raised that the landfill constitutes a potential threat of contamination to the groundwater aquifer that provides domestic and irrigation water to southeastern Laramie County.<sup>238</sup>

*Leaky underground storage tanks* - The Department of Environmental Quality has investigated eighty leaky underground storage tanks throughout the state. Estimates of the number of leaky tanks range upwards of several hundred. Legislation proposed in the 1988 legislative session, which would have established a one-cent fuel tax to fund a program of testing and insurance for tank owners, failed.<sup>239</sup>

*Toxic chemical contamination* - The Brookhurst residential subdivision near Casper has been the subject of intense state and federal investigations because of the presence of solvents and petroleum products in the groundwater. The individual groundwater wells in the subdivision have been replaced by a municipal supply. Responsibility for the presence of the chemicals is being litigated.<sup>240</sup>

Historically, private remedies have been utilized to address groundwater pollution. Common law tort concepts involving negligence, nuisance, and strict liability have been employed by injured plaintiffs to seek compensation for groundwater contamination.<sup>241</sup> These remedies still play an important role in providing redress for groundwater pollution. However, because it is so difficult to clean up an aquifer once it is polluted, federal and state laws have been enacted which attempt to prevent groundwater contamination, as well as providing remedies for contamination that has already occurred.

---

237. Stockdale, *supra* note 5; Permit No. U.W. 57,712. The State Engineer required the permit holder to reduce its use of surface water out of the North Platte by the amount of water taken from the wells.

238. MOUNTAIN STATES SOLID WASTE MANAGEMENT APPLICATION TO THE SOLID WASTE DIVISION.

239. 1987 WYO. DEP'T OF ENV'T'L QLT'Y ANN. REP. Vol. VI. The federal government has adopted extensive regulations for underground storage tanks. See 40 C.F.R. pts. 280-81.

240. 1987 WYO. DEP'T OF ENV'T'L QLT'Y ANN. REP., *supra* note 239, at 32.

241. See Ferland, *The Protection of Groundwater Quality in the Western States - Regulatory Alternatives and the Mining Industry*, 29 ROCKY MT. MIN. L. INST. 899, 910 n.46 (1983); Comment, *Hazardous Waste Cleanup in Wyoming, Legal Tools Available to the Private Citizen*, 19 LAND & WATER L. REV. 395 (1984); *Belle Fourche Pipeline Co. v. Elmore Livestock Co.*, 669 P.2d 505 (Wyo. 1983).



### A. Federal Programs

Although there is no comprehensive federal scheme for groundwater quality protection, at least nine federal programs deal in some manner with groundwater quality.<sup>242</sup> The major federal program directed to protection of groundwater quality is the Underground Injection Control ("UIC") provisions of the Safe Drinking Water Act ("SDWA").<sup>243</sup> The UIC program was designed to prevent impact on public drinking water supplies by the injection of waste into wells.

The Wyoming Department of Environmental Quality assumed "primacy" for the implementation of the UIC program from the Environmental Protection Agency in 1983.<sup>244</sup> The Wyoming Oil and Gas Conservation Commission, however, is the lead agency for UIC regulation pertaining to oil and gas production.<sup>245</sup> The UIC program requires permits for any disposal of fluids into a well. The regulations require that no disposal be allowed if the movement of contaminants would cause a violation of primary drinking water standards.

### B. State Groundwater Quality Regulation

Wyoming has developed comprehensive and flexible methods to regulate and protect the quality of groundwater. Several commentators have reviewed Wyoming's groundwater quality regulatory systems.<sup>246</sup> This section summarizes the statutory and regulatory scheme in Wyoming and discusses some of the areas of overlap of quantity and quality regulation.

The Wyoming Environmental Quality Act created the Department of Environmental Quality (DEQ) and established an elaborate regulatory scheme for the protection of Wyoming's environment.<sup>247</sup> The purpose of the Act is to protect not only the public health and welfare but also wildlife, fish and aquatic life as well as protecting groundwater supplies for beneficial domestic, agricultural, industrial and recreational uses.<sup>248</sup> The

242. The statutes include: Clean Water Act, 33 U.S.C. §§ 1251-1376 (1982); Safe Drinking Water Act, 42 U.S.C. §§ 300F-300J-10 (1982); Resource Conservation and Recovery Act, 42 U.S.C. §§ 6901-6987 (1982); Comprehensive Environmental Response, Compensation, and Liability Act, 42 U.S.C. §§ 9601-9657 (1982); Toxic Substances Control Act, 15 U.S.C. §§ 2601-2629 (1982); Federal Insecticide, Fungicide, and Rodenticide Act, 7 U.S.C. § 136-13 (1982); Surface Mining Control and Reclamation Act, 30 U.S.C. §§ 1201-1328 (1982); Uranium Mill Tailings Radiation Control Act, 42 U.S.C. §§ 2014, 2021, 2022, 2111, 2113, 2114, 2201, 7901, 7911-7925, 7941, 7942 (1982); National Environmental Policy Act, 42 U.S.C. §§ 4321-4370 (1982). For a discussion of the federal laws pertaining to groundwater quality, see Getches, *Controlling Groundwater Use and Quality: A Fragmented System*, 17 NAT. RESOURCES LAW. 623, 631 (1985); Ferland, *supra* note 241; 5 AM. L. OF MINING § 169.03 (1984).

243. See generally 42 U.S.C. § 300f-j-10 (1982). The UIC program is found in 42 U.S.C. § 300h-j, 40 C.F.R. § 147.2550. See 5 AM. L. OF MINING § 169.03[2] (1984).

244. 40 C.F.R. § 147.2550 (1987).

245. 40 C.F.R. § 147.2551 (1987).

246. See Gilbert, *Groundwater Contamination: Pollutants, Priorities, and the Pursuit of Sensible Regulation*, 32 ROCKY MT. MIN. L. INST. 2-1 (1986); Ferland, *supra* note 241, at 63; WESTERN STATES WATER COUNCIL REPORT, WESTERN STATE GROUND WATER MANAGEMENT 76 (October, 1986).

247. WYO. STAT. §§ 35-11-101 to -1104 (1977).

248. WYO. STAT. § 35-11-102 (1977).

Act empowers the state to prevent pollution, to preserve and enhance the air and water, to reclaim the land of Wyoming and to "plan the development, use, reclamation, preservation and enhancement of the air, land and water resources of the state . . ." <sup>249</sup> Two divisions of the DEQ have developed regulations pertaining to groundwater: Water Quality Division and Land Quality Division. The activities regulated by other divisions, such as Solid Waste, may also affect groundwater quality.

### C. Water Quality Division

Article 3 of the Environmental Quality Act empowers the Water Quality Division (WQD) to protect the waters of the state. <sup>250</sup> A permit must be obtained from WQD by any person if his activities may cause, threaten or allow the discharge of pollution or wastes into the waters of the state or alter the physical, chemical, radiological, biological or bacteriological properties of any waters of the state. <sup>251</sup> A permit is also required to construct, install, modify or operate a public water supply or any sewerage system, treatment works, disposal system, or other facility, excluding uranium mill tailing facilities, that are capable of causing or contributing to pollution. <sup>252</sup>

The statutes require the Agency to adopt water quality standards specifying concentrations of pollution, dissolved oxygen and other matter and setting effluent standards for discharges into waters of the state. In establishing these standards or in granting any permit, the Agency must consider all facts and circumstances bearing upon the reasonableness of the pollution involved, including the following:

---

249. WYO. STAT. § 35-11-102 (1977).

250. WYO. STAT. §§ 35-11-301 to -304 (1977).

251. WYO. STAT. § 35-11-301 (1977). Publicly owned or controlled public water supply and sewerage systems are exempted. Uranium mill tailing facilities are not required to be permitted by DEQ since the Nuclear Regulatory Commission regulates the facilities. 1987 WYO. SESS. LAWS ch. 227; Conversation with William L. Garland, Water Quality Administrator, DEQ (March 21, 1988) [hereinafter Garland]. DEQ still has jurisdiction over tailings facilities for purposes of compliance with surface and groundwater standards.

252. Pollution is comprehensively defined as follows:

"Pollution" means contamination or other alteration of the physical, chemical or biological properties of any waters of the state, including change in temperature, taste, color, turbidity or odor of the waters or any discharge of any acid or toxic material, chemical or chemical compound, whether it be liquid, gaseous, solid, radioactive or other substance, including wastes, into any waters of the state which creates a nuisance or renders any waters harmful, detrimental or injurious to public health, safety or welfare, to domestic, commercial, industrial, agricultural, recreational or other legitimate beneficial uses, or to livestock, wildlife or aquatic life, or which degrades the water for its intended use, or adversely affects the environment. This term does not mean water, gas or other material which is injected into a well to facilitate production of oil, or gas or water, derived in association with oil or gas production and disposed of in a well, if the well used either to facilitate production or for disposal purposes is approved by authority of the state, and if the state determines that such injection or disposal well will not result in the degradation of ground or surface or water resources.

WYO. STAT. § 35-11-103(c)(i) (1977).

- (A) The character and degree of injury to or interference with the health and well being of people, animals, wildlife, aquatic life and plant life affected;
- (B) The social and economic value of the source of pollution;
- (C) The priority of location in the area involved;
- (D) The technical practicability and economic reasonableness of reducing or eliminating the source of pollution; and
- (E) The effect upon the environment.<sup>253</sup>

#### D. Classification of Groundwater

Chapter VIII of the Water Quality Rules and Regulations establishes a classification system for groundwater. The purpose of the regulations is to protect underground water for all uses being made, intended to be made or which could be made.<sup>254</sup> Pursuant to direction given in the statutes, groundwaters are classified by the uses being made or intending to be made of the resource and identified in the statutes: domestic (Class I), agriculture (Class II), livestock (Class III), fish and aquatic life (Class Special (A)), industry (Class IV), commercial (Class V, hydrocarbon commercial, mineral commercial, or geothermal).<sup>255</sup> Class VI groundwater is considered unusable or unsuitable for use due to its lack of quality or to its impractical location.<sup>256</sup>

Unappropriated waters are classified by ambient water quality. Groundwater sources are classified on a site-specific basis depending on the use or proposed use of the water.<sup>257</sup> Besides the thirty-eight different specific numerical standards set out in the rules to classify groundwater into classes I, II, III or Special (A), WQD considers standards set by EPA as well as the latest available scientific information before a source is classified.<sup>258</sup>

In general, no discharge or activity may make the groundwater source unsuitable for its intended use.<sup>259</sup> No discharge into an aquifer classified as Class I, II, III or Special (A) may result in variations in range of any parameter or concentrations of constituents in excess of the standards set for each classification. However, a discharge resulting in concentrations in excess of those standards may be permitted if post-discharge water quality can be returned to the same pre-discharge water quality standards or better.<sup>260</sup> One commentator has criticized Wyoming's regulations that allow a discharge if a cleanup can be instituted because he believes that

253. WYO. STAT. § 35-11-302(a)(vi)(A-E) (1977).

254. WYOMING WATER QUALITY RULES AND REGULATIONS, ch. VIII, § 3 (c) (1980) [hereinafter WWQRR].

255. *Id.* at § 4; WYO. STAT. §§ 35-11-102, 103(c)(i) (1977).

256. WWQRR, *supra* note 254, at ch. VIII, § 4(d)(9).

257. Garland, *supra* note 251.

258. WWQRR, *supra* note 254 at ch. VIII, § 4. The EPA documents referenced in the rules are Water Programs, National Interim Primary Drinking Water Regulations, 40 C.F.R. pt. 141 (1985); Water Programs, Hazardous Substances, 40 C.F.R. pt. 302 (1985).

259. WWQRR, *supra* note 254, at ch. VIII, § 4(c).

260. *Id.* at § 4(d)(6).

restoring the quality of the receiving water is nearly impossible.<sup>261</sup> The current administrator of the WQD disagrees, noting that to allow absolutely no degradation of the water source is very restrictive.<sup>262</sup> Before any discharge is allowed, the applicant must prove to WQD that the groundwater can be restored to its classified level of quality. Obviously, the applicant must determine whether cleanup is economically justified before applying for a permit.

Classification of the groundwater is made only when pollution or the threat of pollution exists or if the physical, chemical, radiological or biological properties of the groundwater may be altered by man's activities.<sup>263</sup> This procedure allows some flexibility and common sense in the classification of groundwaters. As one commentator noted, the limited resources of the agency are maximized in a cost-effective manner by this type of site-specific classification.<sup>264</sup> However, the classification system may be too restrictive and myopic, since waters are classified solely on existing uses and quality and no provision is allowed for reclassifying any groundwater source.<sup>265</sup>

### *E. Permitting Procedure for Discharges*

Chapter IX of the Water Quality Rules addresses the permit requirements for any discharge to the subsurface including the vadose zone, which may degrade any groundwater in the state.<sup>266</sup> A "discharge" for which a permit is required covers a broad range of activities including, but not limited to, commercial, municipal and industrial wastes, special process discharges (in situ gasification, mining or leaching, borehole mining, slurry mining, etc.), groundwater replenishment, injection of chemical tracers, discharge from drainage wells for stormwater or highway runoff.<sup>267</sup> Chapter IX implements the classification system in Chapter VIII by requiring that new discharges will be allowed only pursuant to Chapter VIII.<sup>268</sup>

Although discharges are not allowed without a permit from WQD, all discharges are not prohibited. The agency may determine the discharge is exempt from the permitting process if, after balancing social, economic and environmental interests and considering the technological and economic feasibility factors, the agency determines the pollution is "reasonable."<sup>269</sup> Other exemptions include discharges associated with mineral exploration and production and water well drilling.<sup>270</sup> Although these

---

261. Ferland, *supra* note 241, at 941.

262. Garland, *supra* note 251.

263. WWQRR, *supra* note 254, at ch. VIII, § 5(c).

264. Ferland, *supra* note 241, at 955.

265. *Id.* at 957-60. Ferland comments that other factors should be considered, e.g., yield, potential effect on surface water, land use and the vulnerability of the source to contamination.

266. WWQRR, *supra* note 254, at ch. IX, § 3.

267. *Id.* at § 3(c).

268. *Id.* at ch. IX § 4.

269. WYO. STAT. § 35-11-302(a)(vi) (1977); WWQRR, *supra* note 254, at ch. IX, § 3(c).

270. WWQRR, *supra* note 254, at ch. IX, § 4(c). Mineral production is regulated by other state agencies including the Wyoming Oil and Gas Commission. Water well drilling is regulated by the State Engineer.

activities are exempted from the WQD permitting process, the WQD still has the enforcement authority to pursue anyone whose activities pollute or threaten to pollute groundwater.

Anyone discharging into the groundwater, if not exempt, must obtain a permit by filing an application with the WQD. The applicant is required to submit water quality data to facilitate the classification of the groundwater that may be affected. Detailed plans for monitoring the discharge and documentation showing that the discharge will not degrade the groundwater, impair existing groundwater supply sources or groundwater rights or be hazardous to public health are required.<sup>271</sup>

If the permit is denied, the applicant may appeal to the Environmental Quality Council and, ultimately, to the courts.<sup>272</sup> Public notice is required both if the application is for a permit to discharge into groundwater that is an existing source of water supply and if the discharge is for the purpose of underground management of commercial, municipal or industrial wastes.<sup>273</sup> The Agency must then allow at least a thirty-day public comment period, during which time any "interested person" or the applicant may request a public hearing.<sup>274</sup> If the Director of DEQ finds that there is a significant degree of public interest in holding a hearing, he may request the Environmental Quality Council to hold such a hearing.<sup>275</sup>

Once a permit is issued, it is reviewed at least every five years and automatically expires after the curtailment of the discharge operation.<sup>276</sup> Each permit is conditioned on several requirements, including access to the facility by DEQ, mechanical integrity of the facility or well, proper capping and plugging of wells if operations cease, and monitoring of the water quality.<sup>277</sup> If a significant leak develops in the casing or tubing or if there is fluid movement out of the discharge zone during the discharge of commercial, municipal or industrial wastes, the permittee is required to notify WQD within twenty-four hours of detection.<sup>278</sup>

A permit may be modified, suspended or revoked after notice and opportunity for hearing for any violation of the terms of the permit or if the permit was obtained by misrepresentations or without full disclosure of all relevant facts, or if a change in condition indicates a failure of the discharge system.<sup>279</sup> A permit may also be modified by the Environmental Quality Council to apply different standards or to prohibit the use of a toxic or any other substance present in the discharge.<sup>280</sup> The permittee

---

271. *Id.* at § 6.

272. WYO. STAT. § 35-11-802 (1977).

273. WWQRR, *supra* note 254, at ch. IX, § 7(a)(8).

274. *Id.* at § 17(c).

275. *Id.* at § 18.

276. *Id.* at § 7(a)(10).

277. *Id.* at § 8. The Federal District Court recently upheld the DEQ's authority to make warrantless searches. *V-1 Oil Co. v. Dept. of Env'tl. Quality*, 696 F. Supp. 578 (D. Wyo. 1988).

278. WWQRR, *supra* note 254, at ch. IX, § 9.

279. *Id.* at § 8(c).

280. *Id.* at § 8(d).

is responsible for compliance with the permit and may not transfer the permit without approval of WQD.<sup>281</sup> Approval depends on whether the current permit holder is in compliance with the permit and, if not, the proposed holder must agree to bring the permit into compliance. Finally, it should be noted that the Director of DEQ has the authority to issue any emergency orders necessary to protect human or animal health or safety.<sup>282</sup>

#### *F. Relationship Between Water Quantity and Water Quality Regulation*

Both the State Engineer and DEQ/WQD are charged with the duty to protect the "waters of the state," including groundwater. The WQD regulations are careful to note that control of the beneficial use of water resides in the State Engineer.<sup>283</sup> In the same manner, the State Engineer regulations note that other regulatory agency procedures may need to be met besides those of the State Engineer.<sup>284</sup> However, overlapping of authority and, at times, double permitting requirements are bound to exist. Generally, the overlap does not create a problem for the agencies or the applicant. To their credit, personnel of WQD and the State Engineer's office communicate with each other and if problems exist both agencies strive to solve them cooperatively.<sup>285</sup>

One example of a possible conflict pertains to water well construction standards. Both the WQD and State Engineer have promulgated rules specifying minimum construction standards. These rules and their application are not necessarily consistent. The WQD regulations require that any well penetrating more than one aquifer or water-bearing stratum must be sealed in a certain manner to prevent migration of groundwater to another strata.<sup>286</sup> The State Engineer's standards require sealing to prevent the movement of inferior quality water between "zones."<sup>287</sup> "Zones" is not defined and could be interpreted by the State Engineer as something different than "strata."

Another example of possible conflict occurs when WQD orders groundwater cleanup operations. The problem is illustrated by the example at the beginning of this section. One accepted method of cleanup is to pump the polluted water out of an aquifer through groundwater recovery wells and either treat it and discharge it into another water source or allow the water to evaporate in contained pits. Depending on the amount of pollution, this method conceivably could impair existing groundwater and surface water rights. To perform this type of cleanup, permits to appropriate groundwater must be obtained from the State Engineer. The permittee receives

---

281. *Id.* at § 15.

282. WYO. STAT. § 35-11-115 (1977).

283. See, e.g., WWQRR, *supra* note 254, at ch. VIII, § 3(a); *id.* at ch. VII, 5(a)(1) (no action of DEQ regarding produced water grants a water right).

284. See, e.g., 1974 REGS. OF ST. ENG., *supra* note 34, at pt. II, ch. II, 3 (dealing with well construction standards); *id.* at pt. II, ch. I, § 22 (requiring a permit from the Oil and Gas Commission for injection of wastes).

285. Stockdale, *supra* note 5.

286. WWQRR, *supra* note 254, at ch. VIII, § 6(a).

287. 1974 REGS. OF ST. ENG., *supra* note 34, at pt. III, § 4(f).

a priority date just as any other appropriator and conceivably could be regulated to prevent injury to other appropriations. One solution to the problem is to require the permittee to process the water to an acceptable quality and return it by injection to the groundwater source or to discharge it into surface water. Either solution would require a discharge permit from WQD. This approach allows water conservation and protection of other appropriators, but it necessarily requires coordination between the two agencies and the permittee.

The Wyoming Supreme Court recently had the opportunity to discuss the relationship between water quality and the right to appropriate water in the context of a civil tort case. In *Belle Fourche Pipeline Co. v. Elmore Livestock Co.*,<sup>288</sup> the plaintiff livestock company sued for damage to their land and the groundwater when defendant's pipeline ruptured and spilled oil onto the land. The suit was brought pursuant to the Environmental Quality Act.<sup>289</sup> A jury awarded the plaintiff damages for the injury to the land and also required the defendant to pay an amount to the court to be used for restoration of the groundwater.

At the time of the rupture, plaintiffs were not using the groundwater although before the trial they had obtained permits from the State Engineer to drill three irrigation wells. The wells were not completed at the time of trial but, where water had been produced, no oil pollution was apparent. The plaintiffs presented evidence through their consultants that oil pollution did exist in the groundwater source. The Wyoming Supreme Court found that since the plaintiffs had no water rights that were affected, i.e. had not appropriated the groundwater for beneficial use, they were not injured and could not recover. "They had no water right which was harmed since they had yet to apply any of the groundwater to beneficial use. It is elementary . . . in Wyoming [that] beneficial use is the basis, measure and limit of a water right."<sup>290</sup> Consequently, unless an overlying landowner is actually using the groundwater at the time pollution occurs, he cannot recover damages for the harm done to the aquifer.<sup>291</sup>

## V. CONCLUSION

Groundwater is one of Wyoming's most precious natural resources, and its wise use is essential to Wyoming's future. Although the breadth of this article has compelled the authors to treat some subjects less completely than may be deserved, the authors hope that the article is useful as a starting point to discuss the many important issues in groundwater law.

---

288. 669 P.2d 505 (Wyo. 1983).

289. WYO. STAT. §§ 35-11-101 to -115 (1977).

290. *Belle Fourche Pipeline*, 669 P.2d at 511.

291. *Id.* Since the plaintiffs did not suffer any harm, they could only file the suit as a private attorney general as provided for in the Environmental Quality Act which sets out strict procedural requirements. The court reversed the jury award for damages to the groundwater since those procedures were not met. The court said that only the state can initiate and pursue an action for damages to restore the groundwater and noted that the DEQ had initiated the proceedings against the pipeline company for pollution of the groundwater.