

**U.S.D.A. Forest Service**  
**Sourcebook**  
**of**  
**State Groundwater Laws**  
**in 2005**

## Acknowledgments

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This document is one part of a four part “package” of documents prepared to assist the many Forest Service and OGC personnel in implementing the new ground water resource management program of the USDA Forest Service launched in 2005. The other parts include: (1) FSM 2543 and FSM 2880 policy direction; (2) a Technical Guide to Managing Ground Water; and (3) an Inventory and Monitoring Guide.

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## INTRODUCTION AND USER GUIDANCE

This is a compilation of current state laws, selected regulations and case law governing ground water in the 42 states in which National Forest System lands are located. **States excluded are: Connecticut, Maryland, Massachusetts, Rhode Island, New Jersey, Delaware, Iowa, and Hawaii. The Commonwealth of Puerto Rico is also excluded.** The report is intended to be used as a handy reference source by USDA Office of the General Counsel and Forest Service personnel that need this information in managing ground water underlying or near National Forest System lands. **Information in this report is never to be used by Forest Service personnel as a substitute for legal advice of the USDA Office of the General Counsel.**

This report forms one part of a four part document system for ground water management on the national forests and grasslands. The other three parts are: Forest Service policy on ground water in FSM 2543 and FSM 2880, (2) an Inventory and Monitoring Guide and, (3) a Forest Service Technical Guide to Managing Ground Water written by an interagency team of experts in the science and management of ground water. The policy and technical guide are scheduled for release in 2005. All three parts, when complete, are intended to provide Forest Service line officers and technical specialists at all field locations with the policy, science and legal dimensions of ground water resource management for the first time. The Forest Service user of this document is strongly encouraged to refer to all three documents when dealing with a ground water resource issue to gain necessary insights on how to proceed.

### THE FEDERAL RESERVED RIGHTS DOCTRINE

While the central focus of this document is an overview of certain state laws affecting ground water, federal law may have limited application when allocating ground water resources. This doctrine is known as reserved rights, and applies to land reserved from the public domain. When the Federal government reserved land from the public domain, it also implicitly or sometimes explicitly, reserved the water needed to fulfill the reservation's primary legislative purpose.<sup>1</sup> As part of the creation of national forests, water rights were reserved for the purposes of securing

<sup>1</sup> *Winters v. United States*, 207 U.S. 564 (1908).

favorable conditions of water flows and to furnish a continuous supply of timber.<sup>2</sup> The U.S. Supreme Court rejected the United States' claim of reserved water rights for maintenance of in-stream flows, recreation, stock watering and wildlife within the Gila National Forest.<sup>3</sup>

The amount of water reserved is "only that amount of water necessary to fulfill the purpose of the reservation, no more."<sup>4</sup> However, the reservation encompasses an amount of water "sufficient for the future requirements of the area reserved."<sup>5</sup> The date of the reservation establishes the priority right and the water right applies only to previously unappropriated waters.<sup>6</sup> In *Cappaert*, the Supreme Court held that the reservation of land withdrawn under the American Antiquities Preservation Act, reserved subterranean water necessary for the maintenance of the Devil's Hole pupfish, and the United States did not have to perfect its water rights according to state law. However, in doing so the Supreme Court refused to define the sub-surface waters where the pupfish lived as "ground water."<sup>7</sup> The Supreme Court and Circuit Courts of Appeal have never made a determination as to whether the reserved rights doctrine applies to water lying beneath federal lands.

The federal courts have substantially left the question of whether reserved rights in ground water exist for a later day. Wyoming and Arizona have addressed whether there are federally reserved rights in ground water. Arizona came to the conclusion that the federal government did have reserved rights in stationary ground water and that those reserved rights entitle the federal government to greater protection than permittees with only state law rights. (See section on Arizona Water Law)<sup>8</sup>

Should federal courts establish that the federal government has reserved rights in ground water, federal agencies will still be presented by similar difficulties encountered from the *New Mexico* decision, namely that the use of the ground water would be confined to the statutory purposes of the reservation of the land.

## **STATE LAW AND ALLOCATION OF GROUND WATER FOR FEDERAL USES: LEGAL FRAMEWORK FOR GROUND WATER IN THE UNITED STATES**

Rights to use ground water are regulated by states through application of common law, state statutes and regulations, or judicial precedent. The ownership and allocation rules applicable to ground water are usually different from those applying to surface water. The following is a brief overview of ground water law in the United States. While ground water schemes can be divided into a few general categories, there are variations in every state. The USDA Office of General Counsel should be consulted as specific questions arise regarding ground water. States generally follow one of five basic systems of ground water allocation systems: the "English" rule of

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<sup>2</sup> 16 U.S.C. § 475; *United States v. New Mexico*, 438 U.S. 696, 707-08, 718 (1978)

<sup>3</sup> *Id.* at 708, 716-17

<sup>4</sup> *Cappaert v. United States*, 426 U.S. 128, 141 (1976).

<sup>5</sup> *Arizona v. California*, 373 U.S. 546, 601 (1963).

<sup>6</sup> *Cappaert v. United States*, 426 U.S. at 139

<sup>7</sup> *Cf. Cappaert v. United States*, 508 F.2d 313,317 (9<sup>th</sup> Cir., 1974) (the Ninth Circuit ruled the waters of Devil's Hole were ground water and found a reserved right).

<sup>8</sup> *In re General Adjudication of All Rights to use the Gila River System and Source III*, 195 Ariz. 411 (1999).

absolute ownership; (2) the “American” rule of reasonable use; (3) the prior appropriation rule; (4) the correlative rights rule,<sup>9</sup> and (5) regulated riparianism.<sup>10</sup>

### **ABSOLUTE OWNERSHIP.**

The absolute ownership doctrine is based on the English precedent of a landowner owning the airspace above and the soil beneath one’s property.<sup>11</sup> Under this doctrine, the landowner overlying an aquifer has an absolute right to extract all ground water from the aquifer beneath the landowner’s property. The overlying landowner can pump as much water as needed without regard to the needs or effect on other overlying landowners. The doctrine worked well in areas where abundant water was available. However, the drawbacks of the doctrine became apparent in the arid environment of the western states.<sup>12</sup> Most of the states that initially followed this rule abandoned it during the late nineteenth and early twentieth century in favor of the reasonable use or “American” rule.<sup>13</sup> States still following the absolute ownership rule include: *Connecticut, Georgia, Indiana, Louisiana, Maine, Massachusetts, Mississippi, Ohio, Rhode Island, and Texas.*<sup>14</sup> Most of these states have added a permit system to this legal doctrine as a practical matter.

### **REASONABLE USE.**

The reasonable use rule is a modified absolute ownership rule wherein ground water use by an overlying landowner must be “reasonable” and must be used for a beneficial purpose on the overlying land.<sup>15</sup> Use of ground water on non-overlying land is considered unreasonable. Reasonableness is based on such factors as well location, amount of water, and the proposed use and placement of the water.<sup>16</sup> Waste of water is not a reasonable use if it interferes with the right of adjacent landowners to use the water for the beneficial use of their overlying lands.<sup>17</sup> If the requirements of the rule are met, a landowner may withdraw ground water even if doing so deprives another landowner of the reasonable use of the ground water.<sup>18</sup> States applying the reasonable use rule include: **Alabama, Florida, Illinois, Kentucky, Maryland, New York, North Carolina and Tennessee.**<sup>19</sup> Most of these states also use a permit system to track water uses.

### **PRIOR APPROPRIATION.**

The prior appropriation doctrine gives priority to ground water users who put ground water to beneficial uses that are first in time. During water shortages, first in time appropriators have

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<sup>9</sup> Malone, Linda A., *The Necessary Interrelationship between Land Use and Preservation of Ground water Resources*, 9 UCLA J. Environmental Law & Policy 1, 5 (1990).

<sup>10</sup> Dellapenna, Joseph W. *The law of Water Allocation in the Southeastern States at the Opening of the Twenty-First Century*, 25 U.Ark. Little Rock L. Rev. 9, 2 (2002).

<sup>11</sup> *Acton v. Blundell*, 152 Eng. Rep. 1223 (Exch. 1843).

<sup>12</sup> Ashley, Jeffrey S. and Smith, Zachary A., *Ground water Management in the West*, University of Nebraska Press, 1999.

<sup>13</sup> A. Tarlock, *Law of Water Rights and Resources*, §4.04, Clark Boardman Callaghan, 1997.

<sup>14</sup> Malone at 5, fn. 25

<sup>15</sup> Malone at 6.

<sup>16</sup> *Id.*

<sup>17</sup> Ashley at 9.

<sup>18</sup> Tarlock at §4.05(1).

<sup>19</sup> Malone at 6.

priority over later appropriators.<sup>20</sup> Many states have statutory systems requiring permits to establish priority use. **Idaho, Kansas, Montana, Nevada, New Mexico, North Dakota, Oregon, South Dakota, Utah, and Wyoming** apply the doctrine of prior appropriation to ground water.<sup>21</sup> **California** applies it where surplus water exists above the needs of overlying owners. **Arizona**, once an absolute ownership state, now has a statutory scheme that creates Active Ground water Management Areas, grand-fathers pre-1980 water rights in these areas and sets up a permit administration system.<sup>22</sup> The states of **Colorado, Kansas, Montana, Nebraska, Nevada, New Mexico, Washington, and Oregon** have combined prior appropriation with critical area legislation to designate areas where new pumping may be prohibited and existing pumping may be restricted to preserve an acceptable amount of ground water.<sup>23</sup> Courts in **Idaho** have upheld limiting water available for extraction to the annual recharge rate and have issued injunctions against junior wells that exceed reasonably anticipated future rate of recharge.<sup>24</sup> **Arizona, Colorado** and **New Mexico** further limit ground water mining and extraction to a rate that will restore the aquifer to the level necessary for economically feasible extraction.<sup>25</sup> Some states exempt ground water that is a by-product of secondary oil and gas recovery (Wyoming), geothermal resources (California), or water from mine dewatering (New Mexico).<sup>26</sup>

### **CORRELATIVE RIGHTS.**

The correlative rights doctrine gives each overlying property owner a common right to the reasonable, beneficial use of the basin supply on the overlying land. This is similar to the doctrine of riparian rights to surface water. All overlying landowners have equal rights to the percolating ground water and all must share in any water shortages.<sup>27</sup> However, overlying landowners do not have a right to maintenance of the natural water table.<sup>28</sup> The states that adopted the correlative rights doctrine include **Arkansas, California, Delaware, Minnesota, Missouri, Nebraska and New Jersey.**<sup>29</sup>

Subject to future requirements on overlying lands, ground water that is surplus to the needs of overlying owners is available for appropriation for uses on non-overlying land. The burden of proof is on the appropriator to prove that a surplus exists beyond prior vested-right uses of overlying landowners. In the event of a shortage, overlying landowners have first priority.<sup>30</sup> Some uses of ground water on land overlying a basin have been held to constitute appropriative uses. For example, the public use of ground water is typically not an overlying use. Municipalities or public water agencies generally have appropriative rights, not overlying rights,

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<sup>20</sup> Malone at 8.

<sup>21</sup> Tarlock at §6.03(1).

<sup>22</sup> Patrick, Kevin L and Archer, Kelly E., *A Comparison of State Ground Water Laws*, 30 Tulsa L.J. 123, 132-33.

<sup>23</sup> L. Malone at 9-10.

<sup>24</sup> Malone at 10, fn. 48.

<sup>25</sup> Malone at 10.

<sup>26</sup> Tarlock at 6.03(3).

<sup>27</sup> *Tehachapi-Cummings County Water District v. Armstrong*, 49 Cal. App. 3d 992, 1001 (1975).

<sup>28</sup> *Katz v. Walkinshaw* 141 Cal. 116 (1903) [74 P. 766].

<sup>29</sup> Tarlock at §4.06(2).

<sup>30</sup> *Montecito Valley Water Co. v. Santa Barbara*, 144 Cal. 578, 584-85 (1904).

to the water pumped from a ground water basin to supply their customers. They do not exercise the overlying rights of their inhabitants.<sup>31</sup>

### **REGULATED RIPARIANISM.**

Compared to the common law derived riparian rights described above, this system mandates that a permit from a state agency be obtained prior to a water withdrawal. The rights of water users are determined by the permits' terms and conditions for a reasonable use of the water that are designed to protect other users and the public interest. Importantly, the water can be conveyed to non-riparian lands, and the permits have a set duration, often three to twenty years.<sup>32</sup>

Most **western, eastern and Midwestern states** now have a permit system for ground water extraction. Permit requirements differ in each state. Some states require a permit for all extractions. Others require permits where water is proposed to be withdrawn from certain designated areas. Some states have a common permit system for surface and ground water.<sup>33</sup>

The definition of "beneficial use" is a critical issue in analyzing ground water law in any state. Some uses are universally considered to be beneficial, i.e., the use of water for domestic, agricultural irrigation, manufacturing or stock watering purposes.<sup>34</sup> However, the states differ on whether protection of fish, recreation, aesthetic, or scenic uses are beneficial uses of water.<sup>35</sup>

Many of the eastern states have applied their regulated riparian laws to ground and surface waters. Several states apply separate regulatory schemes to each type of water, even involving the same legal principles, and a few have enacted regulated riparian statutes that apply only to ground water.<sup>36</sup> These statutes have similar provisions and operate with similar good and bad points as do regulated riparian laws for surface waters. There is no perfect law.

The rest of this report deals with specific state laws, regulations, and some court rulings that govern or affect ground water resources in the forty-two states that contain National Forest System lands, but not lands used exclusively for research facilities.

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<sup>31</sup> Hutchins, *The California Law of Water Rights*, 1956, p. 458; *San Bernardino v. Riverside*, 186 Cal. 7, 25 (1921) [198 P. 784].

<sup>32</sup> Dellapenna at 9.

<sup>33</sup> Malone at 12.

<sup>34</sup> Ashley at 10.

<sup>35</sup> *Id.*

<sup>36</sup> Dellapenna at 12.



# GROUND WATER LAW IN ALABAMA

## SUMMARY OF LAW

- Alabama common law follows a reasonable use rule for the extraction of ground water;
- Alabama has a statutory framework that regulates ground water extraction. See this website: <http://alisdب.legislature.state.al.us/acas/CodeofAlabama/1975/143806.htm>

## STATUTORY FRAMEWORK

The Alabama legislature enacted the Alabama Water Resources Act in 1993 governing the surface water and the extraction of ground water.<sup>37</sup> Water users must file a Declaration of Beneficial Use with the Office of Water Resources of the Department of Economic and Community Affairs. Users that must file include: (1) public water systems; (2) other users of 100,000 gallons or more per day; and (3) irrigators with the capacity to collectively withdraw over 100,000 gallons per day. The state *must* issue the permit to the applicant. Permits require holders to annually submit a report that shows monthly water use. Ground water is defined as “Water in a saturated zone or stratum beneath the surface of land or water, whether or not flowing through known and definite channels.”<sup>38</sup>

Statements of beneficial use are to contain the water source, primary uses, point of diversion, estimated quantity of the diversion in gallons the estimated potential capacity of water that could be diverted and the method for measuring, estimating or controlling the amount of water diverted.<sup>39</sup> Amendments to a declaration of beneficial use must be submitted within ninety days of a change in the elements of a statement.<sup>40</sup>

After the approval of a statement of beneficial use, the applicant is issued a Certificate of Use. This certificate contains the estimated daily water use per day in gallons, the maximum that may be withdrawn in one day, the duration of the certificate, and the frequency of water use reporting.<sup>41</sup> Permit duration may not be less than five years and not more than ten years.<sup>42</sup> When there is a change in ownership the new owner must re-submit a beneficial use statement. The Office can conduct a “critical use study” to determine if some areas should be declared “capacity stress areas” where demands exceed water supplies.<sup>43</sup> The Water Commission can place restrictions on Certificates of Use once it so designates a capacity stress area.<sup>44</sup> In these areas, water users under the 100,000-gallon threshold would be monitored. After declaring a critical use area the state has four management options available: regulations that protect the people’s interest in the waters of the state, development of additional water resources, restriction on water use or conservation.<sup>45</sup>

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<sup>37</sup> Ala. Code §§ 9-10B-19 to 9-10B-30

<sup>38</sup> Ala. Code §§ 9-10B-3.

<sup>39</sup> Ala. Admin. Code r. 305-7-10-.02.

<sup>40</sup> Ala. Admin. Code r. 305-7-10-.04.

<sup>41</sup> Ala. Admin. Code r. 305-7-11-.01.

<sup>42</sup> Ala. Admin. Code r. 305-7-11-.02

<sup>43</sup> Ala. Code § 9-10B-21.

<sup>44</sup> Ala. Code § 9-10B-21.

<sup>45</sup> Ala. Code 9-10B-21

## COMMON LAW DOCTRINE

Alabama courts apply a reasonable use theory to resolve disputes between ground water users.<sup>46</sup> Uses by a property owner are considered reasonable when the owner conducts any operation that the land is adapted to in a careful manner, even though the ground water supply may become depleted and other users injured. Unreasonable uses are those where water is drained without a reasonable need or where waters are willfully or negligently wasted in a way that should have been anticipated, and other ground water users are injured as a result of those actions.<sup>47</sup>

Despite the best intentions of Alabama's water statute, the Commission has not yet created any capacity stress areas, so the planned regulatory mechanisms have had no effect on actual water use within the state. Water users must still litigate under the common law if they are injured by actions of their neighbors.<sup>48</sup>

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<sup>46</sup> See *Adams v. Lang*, 553 So.2d 89 (1989).

<sup>47</sup> *Id.* at 91.

<sup>48</sup> Dellapenna at 14.

## GROUND WATER LAW IN ALASKA

### SUMMARY OF LAW

The state enacted the Water Use Act, AS 46.15, to regulate ground water appropriations and reservations of water. There is a permit system. Beneficial uses are defined and listed; there are special provisions for medicinal and mineral waters.

The Alaska Department of Natural Resources (ADNR) is responsible for administering the Water Use Act and determining water rights. Its website is <http://www.dnr.state.ak.us/> In addition, the Alaska Department of Environmental Conservation's (DEC) Division of Environmental Health is responsible for drinking water, and the Department's Division of Water is responsible for municipal water, non-point pollution and water quality standards programs, any of which can interface with ground water resources. Finally, DEC also includes the Division of Spill Prevention and Response which has issued a Fact Sheet titled "Introduction to Groundwater" and apparently plays some role in ground water clean up activities.

The Alaska drinking water rules<sup>49</sup> define groundwater as "water occupying a permeable saturated zone of soil 30 feet or more below ground surface, whether perched above impermeable strata, confined between impermeable strata, or unconfined."

### PERMITS

The ADNR issues permits to drill a well or divert water, and after the water is put to beneficial use in accordance with the terms of the permit, the DNR issues a certificate of appropriation, which establishes the water right. Application fees are proportional to the amount of water being put to use, ranging from \$50 to \$1,500 per application. There are also fees for certain public noticing, if the water comes from an anadromous fish stream or if there is much competition for the water source. Also, non-domestic water uses more than 500 gallons per day (gpd) are subject to an annual administrative service fee of \$50. Domestic water uses of less than 1,500 gpd are exempt from this fee.

A temporary water use permit may be needed if the amount of ground or surface water is a significant amount, the uses continues for less than five consecutive years, and the water is not already appropriated. These permits do not establish a water right, but help avoid conflicts with fisheries and water right holders. The fees are the same as for a water right.

A significant amount of water is defined<sup>50</sup> as the use of more than 5,000 gpd from a single source; or the regular daily or recurring seasonal use of more than 500 gpd for 10 or more days per year from a single water source; or the non-consumptive use of more than 30,000 gpd (0.05 cubic feet per second) from a single water source; or any water use that might adversely affect other water right holders or the public interest.

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<sup>49</sup> 18 AAC 80.900(17) 1990.

<sup>50</sup> 11 AAC 93.970(14) 2005

## GROUND WATER LAW IN ARIZONA

### SUMMARY OF LAW

The State of Arizona has a multifaceted approach to managing ground water resources. The following are the applicable laws associated with ground water management:

<http://www.azleg.state.az.us/ArizonaRevisedStatutes.asp?Title=45>

- If the water is within an active management area, permitting, and management provisions associated with active management areas apply.
- If the area is within an irrigation non-expansion area, then either (a) the specific rules associated with a legislatively organized basin apply, or (b) all irrigation in an area designated by rule is prohibited unless the area was irrigated within five years before the adoption of the rule;
- All areas (active management, irrigation non-expansion or not regulated) have restrictions placed on sub-basin and basin transfers;
- When ground water forms a subsurface flow which contributes to a surface stream, it is then considered a part of that stream and the doctrine of prior appropriation applies.
- All other ground water is subject to a rule of reasonable use.

### STATUTORY FRAMEWORK

#### DECLARATION OF ACTIVE MANAGEMENT AREAS.

An area may be declared an active management area if active management practices are necessary to preserve the existing supply of ground water for future needs; land subsidence or fissuring is endangering property or potential ground water storage capacity; or use of ground water is resulting in actual or threatened water quality degradation.<sup>51</sup> The rule creating an active management area is subject to notice and hearing requirements.<sup>52</sup> After the hearing process if the director of the water resources board implements the rule it must be published, and the findings, a map of the area and the rule are filed in the county recorder's office where the active management district exists.<sup>53</sup>

#### GROUND WATER MANAGEMENT PLANS.

After an area has been declared an active management area, a management plan is developed through a notice and comment period. There are specific management goals established for statutorily created management districts. There are five "periods" running in 10-year increments starting in 1980. The periods have management guidelines and limitations which must be incorporated into the management plan. Generally, the measures create a system of "duties" (fees) assessed on irrigators, conservation measures, and reductions in the amount of municipal

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<sup>51</sup> Ariz. Rev. Stat. § 45-412(A) (2000).

<sup>52</sup> Ariz. Rev. Stat. § 45-413 (2000).

<sup>53</sup> Ariz. Rev. Stat. § 45-414 (2000).

water usage. The fifth and final planning period ends in 2025, and additional legislative authority is required to continue the management process.

#### GRANDFATHERED GROUND WATER RIGHTS.

Arizona establishes a detailed system to determine grandfathered water rights in active management ground water basins. These provisions may be found at Article 5 of Chapter 2 of Title 45 of the Arizona Revised Statutes. Generally, there are three categories of grandfathered rights:

- Non-irrigation grandfathered rights associated with retired irrigated land as determined pursuant to §§ 45-463, 45-469 and 45-472.
- Non-irrigation grandfathered rights not associated with retired irrigated land as determined pursuant to § 45-464.
- Irrigation grandfathered rights as determined pursuant to § 45-465.

#### PERMITTING REQUIREMENTS.

A person may not withdraw ground water from a non-exempt well in an active management area unless the person obtains a ground water withdrawal permit from the director of the water resources board.<sup>54</sup> Grandfathered rights, ground water rights and uses in service areas, and water recovered from beneath mineral tailing ponds are exempted from permitting requirements.<sup>55</sup> There are seven permit classes: dewatering permits,<sup>56</sup> mineral extraction and processing permits,<sup>57</sup> general industrial permits,<sup>58</sup> poor quality permits,<sup>59</sup> temporary permits,<sup>60</sup> drainage water permits,<sup>61</sup> and hydrologic testing permits.<sup>62</sup>

Each of these permit classes has different orders for priority use, requirements for distribution, and allows the director the discretion to ensure that the permits are in conformance with the management plan in the active management area.

#### IRRIGATION NON-EXPANSION AREAS.

Irrigation non-expansion areas place a limit on the number of irrigated acres in a ground water basin. The director of the water resources board may declare an area an irrigation non expansion area if there is insufficient ground water to provide a reasonably safe supply for irrigation of the cultivated lands in the area at the current rates of withdrawal and the area is not eligible to be designated as an active management area.<sup>63</sup> Once declared a non-expansion area, only acres of land irrigated at any time during the five years preceding the date of the notice of the initiation of

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<sup>54</sup> Ariz. Rev. Stat. § 45-512 (2000).

<sup>55</sup> See A.R.S. Title 45, Ch. 2, Art. 5 (Grandfathered Rights); A.R.S. Title 45, Ch. 2, Art. 6 (rights and uses in service areas); and 45 A.R.S. § 513(B)(mineral tailings).

<sup>56</sup> Ariz. Rev. Stat. § 45-513 (2000)

<sup>57</sup> Ariz. Rev. Stat. § 45-514 (2000)

<sup>58</sup> Ariz. Rev. Stat. § 45-515 (2000)

<sup>59</sup> Ariz. Rev. Stat. § 45-516 (2000)

<sup>60</sup> Ariz. Rev. Stat. §§ 45-517 to 518 (2000)

<sup>61</sup> Ariz. Rev. Stat. § 45-519 (2000)

<sup>62</sup> Ariz. Rev. Stat. § 45-519.01 (2000).

<sup>63</sup> Ariz. Rev. Stat. § 45-432 (2000).

designation procedures may be irrigated.<sup>64</sup> The non-expansion area rule goes through a notice and hearing process, after which the new area is subject to the previously stated rule (5-year irrigation) or may irrigate if the director of the water resource board finds that there was a substantial capital investment to prepare the land for irrigation and that preparation began before the notice of designating the area a non-expansion area.<sup>65</sup> In addition, all irrigators and non-irrigators withdrawing more than ten acre feet per year are required to install a flow meter to their well and periodically submit reports to the director of the water resources board. Irrigators of ten or less acres of land are exempt from the reporting requirements.<sup>66</sup>

#### LIMITATIONS ON GROUND WATER TRANSFER.

Grand-fathered rights and water from an exempt well may be transferred within a sub-basin of an active management area if certain conditions are met.

Ground water withdrawn by a city, town, or private water company may be transferred within a sub-basin provided that the transfer is part of their service area or part of a delivery contract [see A.R.S. § 45-492].<sup>67</sup> Ground water may be transferred within a sub-basin by an irrigation district provided it is a part of their service area.

Ground water may be transferred between sub-basins of an active management area, subject to the payment of damages.<sup>68</sup> Ground water not in an active management area may be transported within a sub-basin or may be transported between sub-basins, subject to damages, but may not be transported outside of the ground water basin.<sup>69</sup> There are several basin and use specific exemptions from this general rule which may be found at A.R.S. § 45-544.

#### PRIOR APPROPRIATION OF SUBSURFACE FLOWS THAT CONTRIBUTE TO SURFACE STREAMS.

The statutes establishing prior appropriation in Arizona distinguish between percolating ground water and water in a subsurface stream with defined channels. Subsurface flows that contribute to the flow of a surface stream are treated as surface water and may be appropriated while “ground water” is subject to the rules of reasonable use.<sup>70</sup> “[S]ubflow” is not a scientific, hydrological term. ... “[S]ubflow,” for legal purposes, [is defined] as ‘those waters which slowly find their way through the sand and gravel constituting the bed of the stream, or the lands under or immediately adjacent to the stream, and are themselves a part of the surface stream.’<sup>71</sup>” “[T]he notion of ‘subflow’ is significant in Arizona law, for it serves to mark a zone where water pumped from a well so appreciably diminishes the surface flow of a stream that it should be governed by the same law that governs the stream.”<sup>72</sup>

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<sup>64</sup> Ariz. Rev. Stat. § 45-434 (2000).

<sup>65</sup> Ariz. Rev. Stat. § 45-436 (2000).

<sup>66</sup> Ariz. Rev. Stat. § 45-437 (2000).

<sup>67</sup> A.R.S. § 45-541(B); § 45-541(C)

<sup>68</sup> See A.R.S. § 45-543.

<sup>69</sup> See A.R.S. 45-544(A).

<sup>70</sup> See *In re General Adjudication of all rights to use water in the Gila River and Source* (III), 989 P.2d 739, 713 (Ariz., 1999).

<sup>71</sup> *In re General Adjudication of all rights to use water in the Gila River and Source* (IV), 9 P.3d 1069, 1073 (Ariz., 2000).

<sup>72</sup> *Id.*

Applications for appropriation for the subflow of surface streams (and surface streams) are filed with the Arizona Department of Water Resources. Applications include: the name and address of the applicant; the water supply from which the water will be withdrawn; the point of diversion and a description of the “works” by which the water will be placed to a beneficial use; the nature and the amount of the proposed use; and the time construction will begin and an estimate on how long it will take to complete.<sup>73</sup> Maps and legal descriptions should also be attached to the application.<sup>74</sup> Additional information may be required based upon the beneficial use, for example if water is used for fish, wildlife, or recreational purposes the applicant must provide the location and character of the area to be used as well as the specific purposes for which the area will be used.<sup>75</sup> If a water right claimed is submitted in the proper form and for a beneficial use the department is directed to approve the right unless the use would conflict with vested rights; is a menace to public safety; or is against the interest or welfare of the public.<sup>76</sup>

When a water right is approved on waters running through the lands of the United States government, those rights are held by the party who first effects the beneficial use of the water appropriated and his successors in interest (this provision is not to be construed to preclude the United States government from being the holder of a right if the United States first effects a beneficial use).<sup>77</sup> Further, a water source that is located on federal land owned by the United States and has been or may be appropriated under state law may be used beneficially on any land whether owned or not by the United States.<sup>78</sup> The priority for water use in Arizona, from highest to lowest priority is: domestic and municipal use; irrigation and stock watering use; power and mining use; wildlife, fish, and recreational use; and non-recoverable water storage.<sup>79</sup>

#### RECOGNITION OF FEDERAL RESERVED RIGHTS IN GROUND WATER

The Supreme Court of Arizona has recognized that the principle of a federally reserved right in ground water if the water is necessary to accomplish the purposes of the reservation and where other waters are inadequate to accomplish the purposes of the reservation.<sup>80</sup> The court settled the question in the abstract as a matter of law but has not ruled on whether the particular facts in the case warrant the creation of a federal right to ground water. In addition to stating that such a right existed the court also held the federal government may “invoke federal law to protect its ground water from subsequent diversion to the extent such protection is necessary to fulfill its reserved right ... [so long as the right] is appropriately tailored to minimal need.”<sup>81</sup>

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<sup>73</sup> A.R.S. § 45-152(A).

<sup>74</sup> A.R.S. § 45-152(C).

<sup>75</sup> See A.R.S. § 45-152(B).

<sup>76</sup> A.R.S. § 45-153(A).

<sup>77</sup> A.R.S. § 45-151(E).

<sup>78</sup> A.R.S. § 45-151(F).

<sup>79</sup> A.R.S. 45-157.

<sup>80</sup> See *General Adjudication of Gila River and Source* (III), 989 P.2d at 748 (Ariz., 1999).

<sup>81</sup> *Id.* at 750.

## GROUND WATER LAW IN ARKANSAS

### SUMMARY OF LAW

- In 1991 Arkansas enacted the “Arkansas Ground Water Management and Protection Act” Ark. Code. Ann. § 15-22-901 to-914 that offers some protection to ground water. Go to <http://www.arkleg.state.ar.us/> Title 15, Chapter 22 for the latest rules on ground water.
- In addition to the permitting system, the reasonable use approach of riparian rights applies.

### STATUTORY FRAMEWORK

All ground water users are merely required to register their water uses with the Soil and Water Conservation Commission, hereafter Commission, and they receive a Certificate of Registration automatically without question. The Commission is empowered to classify and manage ground water through designation of critical ground water areas. It can also impose regulatory controls on ground water withdrawals within such areas through issuance of water rights. Ground water users cannot sever a water right from the land to which the water right is attached.<sup>82</sup>

#### CRITICAL GROUND WATER MANAGEMENT AREA.

In order to designate an area as a critical ground water management area, the Commission must publish its rationale for the designation, and conduct a public hearing in each affected county.<sup>83</sup> Designation of a critical ground water area does not allow the state to use regulatory tools to control ground water use in the area. In order to actively manage the area an additional public comment period is required, after which users of ground water cannot withdraw ground water without a permit.

#### PERMITTING REQUIREMENTS.

The Act does not regulate domestic use, or wells drawing less than 50,000 gallons per day. There are exemptions for grand-fathered wells, unless an equally or less costly substitute exists. Exemptions from the permitting process also exist for persons who institute conservation practices.<sup>84</sup> The Commission establishes the length of permits.<sup>85</sup> The permits are limited to beneficial uses on the permittee’s property.<sup>86</sup> The water rights established in critical use areas attach to the land and cannot be sold separately from the sale of the property which they benefit.<sup>87</sup>

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<sup>82</sup> Dellapenna at 16.

<sup>83</sup> Ark. Code. Ann. § 15-22-908.

<sup>84</sup> Ark. Code Ann. § 15-22-905.

<sup>85</sup> Ark. Code Ann.. § 15-22-911(b)(1).

<sup>86</sup> Ark. Code Ann.. §§ 15-22-911(a); (f).

<sup>87</sup> Ark. Code Ann. § 15-22-911(g).



GROUND WATER.

Arkansas does not distinguish between subterranean streams and percolating ground water when applying the correlative rights rule.<sup>88</sup>

Correlative rights, as applied in Arkansas, differ from the original concept established in the California courts. The “eastern” version of correlative rights establishes a principle that the reasonable use of one landowner is viewed with respect to the effects on the other users of water in the basin. Currently, the eastern States that have adopted a system of correlative rights have not examined whether other principles established in California, such as appropriation of the surplus of water not used by overlying owners, etc., apply in the east.

Arkansas describes ground water rights as correlative, or viewed in the context of the rights of other users, allowing “each riparian owner ... an equal right to make a reasonable use of waters subject to the equal rights of other owners to make the reasonable use.” *Id.*

The common law also allows water to be transferred off the land provided there is no injury to the water uses by owners of land overlying the aquifer. The court stated “[i]t is permissible for a riparian owner to remove subterranean and percolating waters and use it away from the lands from which it was pumped if it does not injure the common supply of other riparian owners [citations omitted]. The rationale is that adjacent riparian owners cannot complain if they are not damaged by the removal.”<sup>89</sup>

REASONABLE USE RULE.

Arkansas applies the reasonable use theory to resolve water allocation problems in areas that have not been designated as critical ground water management areas.<sup>90</sup> The Arkansas Supreme Court examines whether a use is reasonable “under all the facts and circumstances of that particular case”<sup>91</sup> The court stated that reasonable rights of both parties are to be examined when determining whether there should be a remedy applied to the case.<sup>92</sup>

“In determining whether an artificial use of the water of a stream is reasonable or not, it is necessary to consider what the use is for, its extent, duration, necessity, and application, the nature and size of the stream, and the several uses to which it is put, the extent of the injury to one proprietor and the benefit to the other, and all other facts which may bear upon the reasonableness of the use.”<sup>93</sup>

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<sup>88</sup> *Lingo v. Jacksonville*, 258 Ark. 63, 65 (1975).

<sup>89</sup> *Id.* at 66.

<sup>90</sup> Dellapenna at 16.

<sup>91</sup> *Harris v. Brooks*. 225 Ark. 436,445 (1955).

<sup>92</sup> *Id.*

<sup>93</sup> *Id.* at 445 n.7.

## GROUND WATER LAW IN CALIFORNIA

### SUMMARY OF LAW

California's ground water code can be found at <http://www.leginfo.ca.gov/cgi-bin/calawquery?codesection=wat&codebody=&hits=20>. California does not have a comprehensive statewide ground water management statute or program. Counties regulate ground water in this state.<sup>94</sup> Much of California's ground water law has been developed by the judiciary.<sup>95</sup> Management policies are devised as needed to resolve conflicts on a local or regional basis. The legislature has not granted the State Water Control Board jurisdiction over groundwater, even though ground water is often interconnected with surface water through percolation. However, water in subterranean streams flowing through known and definite channels is subject to appropriation like surface water. Ground water is defined as water not flowing in known or definite channels. Groundwater not identified as flowing in definite underground streams is governed by the rules of reasonable use or overlying rights and appropriative rights under a correlative rights system. Water defined as surface or ground water may also be subject to the Pueblo rights doctrine in southern California.

### GROUNDWATER AGENCIES

State law encourages water management at a local or regional scale, and local agencies/counties manage ground water. Special act districts create agencies to regulate ground water in specific basins.<sup>96</sup> Such agencies may be authorized to: store water in groundwater basins; require conservation practices; regulate ground water withdrawals and replenishment programs; allocate available storage space in the soil mantle; seek legal action to stop unreasonable uses; define and quantify rights to groundwater within the district during times of shortage; require well registration, spacing and prohibiting well interference; controlling places of water use; prioritizing uses; and restricting water exports by requiring permits.<sup>97</sup>

### OTHER PROVISIONS

California courts rejected the common law rule that landowners own all ground water beneath their land and can use any such water at their discretion. Instead, overlying landowners of percolating water have correlative rights in the common supply whereby the rights of competing uses can be weighed and balanced to determine which ones are proper. The exercise of one's

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<sup>94</sup> Baldwin v. County of Tehama (1994) 31 Cal.App. 4<sup>th</sup> 166.

<sup>95</sup> A landmark case is *Katz v. Walkinshaw*, 141 Cal. 116, 70 Pac. 663 (1902) that created the doctrine of correlative rights of sharing of water from a common source.

<sup>96</sup> Bryner, G. and Purcell E. 2003. *Groundwater Law Sourcebook of the Western United States*. Natural Resources law Center, Univ. of Colorado School of Law, Boulder, CO. 228 p.

<sup>97</sup> Bryner and Purcell at 16.

correlative right entitles a reasonable use of the water for the benefit of the overlying land. Landowners must proportionally reduce ground water withdrawals in times of shortage.

No permit is required for initiation and exercise of overlying rights to ground water. Correlative rights to ground water do not depend on use and such rights cannot be lost by nonuse. In adjudicating competing claims to ground water, a trial court cannot subordinate an unexercised overlying right to a present appropriative use. California courts have the authority to limit production of ground water to protect supply and prevent onset of overdraft. Courts may also quantify rights to extract water from a ground water basin, and may impose solutions for operation of specific ground water basins through appointment of a water master.

California's policy for the management of ground water resources shows an interest in the correction and prevention of irreparable damage to, or impaired use of, ground water basins caused by overdraft, depletion, salt water intrusion or degraded water quality.

An appropriative right can be obtained for use on non-overlying lands. Appropriative ground water rights are analogous to appropriative rights to surface water in terms of priority. Such a right is initiated by taking water from the basin and beneficially using it on non-overlying lands or for municipal purposes in overlying communities. No permit is required for initiation and exercise of appropriative rights to ground water. It is possible to petition the State Board of Water Resources for a statutory adjudication of a river basin that includes ground water supplies (not flowing in known and definite channels, but that are nevertheless hydraulically connected) within a determination of surface water rights.

## **GROUND WATER BASIN MANAGEMENT**

There is no legislative guidance for ground water basin management regimes. Such management usually focuses on both water quantity and quality, may include both adjudicated and non-adjudicated basins and often seeks to provide conjunctive use of ground and surface waters, control overdrafting of aquifers, and protect water quality from runoff, seawater intrusion and artificially introduced water supplies. More than one agency may act to manage ground water. Available arrangements include joint powers agencies, cooperative agreements among ground water producers and overlying communities, special district acts, and court imposed solutions. Joint powers agencies can serve as water management agencies and as forums for dispute resolution. Four counties in southern California (Riverside, San Bernardino, Los Angeles, and Ventura) require anyone pumping more than 25 acre-feet of ground water in a year to file with the water board a "Notice of Extraction and Division of Water" and failure to file is equivalent to non-use for that year.<sup>98</sup>

Aquifer recharge is managed locally and regionally by ground water management agencies. Two landmark cases affirm a public entity's right to store water underground and to later recapture the stored water. Both *Niles* and *San Fernando* established: (1) The right to store water in a natural

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<sup>98</sup> Cal. Water Code Sections 5001 and 5004 (West 1970).

underground basin without compensation to overlying landowners; (2) the right to protect stored water from expropriation by others; (3) the right to recapture the stored water when needed; and (4) the public's priority to store water underground when there is a shortage of underground storage space.<sup>99</sup>

Like ground water, there is no statewide permit system for the allocation of underground storage capacity to be used where diverted surface water is stored. Whether the permission of landowners overlying the storage areas is required is unresolved in many areas. In some adjudicated ground water basins, storage of ground water is controlled by a water master. Courts ruled in *Pleasant Valley Canal Company v. Borrer, et. al.*, 61 Cal. App. 4<sup>th</sup> 742, (1998) that water extraction rights do not necessarily confer ground water storage rights.<sup>100</sup>

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<sup>99</sup> Patrick, K.L., and K.E. Archer. 1994. A Comparison of State Groundwater Laws. *The University of Tulsa Law Journal*, 30 Tulsa L.J. 123.

<sup>100</sup> Siemsen, LP and P.N. Singarella. 2004 Groundwater Storage Rights and reclaimed Water Pieces in the California Water Supply Puzzle. In: 22<sup>nd</sup> Annual Water Law Conference: Are States Still In Charge. American Bar Association. February 19-20, 2004, San Diego, CA. pp. 187-199.

## **GROUND WATER LAW IN COLORADO**

### **SUMMARY OF LAW**

- Colorado ground water law is extremely complex. It is divided into ground water presumed to be tributary to surface waters, and deep ground water. Tributary ground water is governed by a modified prior appropriation doctrine. Deep ground water is governed by specific statutes, rules, and regulations.
- Unless determined otherwise, there is a rebuttable presumption that ground water is tributary to surface water and its use is governed by the doctrine of prior appropriation. There are limited exceptions for exempt domestic and commercial wells. Water in a Designated Basin or from the Denver Basin is not governed by prior appropriation.
- A permit is required for all wells regardless of where they are located.
- Conjunctive use management governs the use of ground and surface waters.
- The state goal is full economic development of ground water, with mining allowed in identified aquifers.

### **TRIBUTARY GROUND WATER**

Tributary ground water is water flowing beneath the surface of the earth which, if not intercepted, will reach a natural stream and become a part of it (the water must have a reasonably defined general path, and the stream to which it flows must be identified.) There is a rebuttable presumption that all water is tributary to some natural stream. Use of tributary ground water is integrated with surface water use to protect vested rights while allowing the maximum utilization of ground water. A permit from the state engineer is required for wells, but these wells must be adjudicated in water court to obtain a water right and be put to beneficial use. Non-exempt wells do not have to be decreed, but may be. Similar to junior surface diversions, out-of-priority ground water depletions must be augmented, and augmentation plans must be filed with and approved by the water court. Augmentation plans provide a way for junior appropriators to obtain water supplies through terms and conditions that protect senior water rights from the depletions caused by the new diversions. Typically they will involve storing junior water when in priority and releasing that water when a call comes on the stream.

#### PERMIT REQUIREMENTS.

There are various types of well permits depending on the type of use request. For more information, see the *Guide to Colorado Well Permits, Water Rights, and Water Administration*, June 2002, Revised June 2003, at <http://water.state.co.us/pubs/wellpermitguide.pdf> . Rules and regulations governing the use of ground and surface waters are found at

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WFW\resources\pubs\watershed\rights\_uses\usfs\_sourcebook\_state\_groundwater\_laws\_2005.rtf  
<http://water.state.co.us/pub/reg.asp> . Permit forms are located at  
<http://water.state.co.us/pub/wellforms.asp> .

#### EXEMPT WELLS.

Exempt uses are uses not subject to adjudication under the priority system. Exempt uses are limited by the conditions of approval stated on the permit. In most cases, an exempt well permit limits the pumping rate to no more than fifteen gallons per minute. Exempt uses include small residential and livestock wells and commercial wells used for drinking and sanitary facilities (which often includes campground wells). Exempt wells do not have to be adjudicated in state water court, but the priority of the right is not enforceable unless the owner adjudicates the well in water court. See Section 37-92-602 C.R.S.

#### NON-EXEMPT WELLS.

Similar to surface water rights, tributary ground water rights for non-exempt wells can be changed in type, place or time of use, or point of diversion. Changes of water rights must be approved by the water court to assure that no injury occurs to other water rights. A definition of water right terminology is found at [http://www.waterknowledge.colostate.edu/wr\\_terms.htm](http://www.waterknowledge.colostate.edu/wr_terms.htm)

A good paper on surface and ground water administration in Colorado is located at  
<http://water.state.co.us/presentations/presentations.asp>

### **DEEP GROUND WATER**

Deep ground water is not connected to surface waters. It includes designated basin ground water, nontributary ground water, and not nontributary ground water. These waters are not subject to appropriation, but are regulated under a statutory permit system based on a modified doctrine of prior appropriation.

#### DESIGNATED BASIN GROUND WATER.

These basins are primarily located in Eastern Colorado and were established by the Colorado Ground Water Commission in accordance with C.R.S.A. 37-90-106. There are 8 basins designated. Designated ground water is ground water which, under natural conditions, is not available to or required for the fulfillment of decreed surface rights, or ground water in areas not adjacent to a continuously flowing natural stream which does not recharge or supplement surface water under natural conditions. In the administration of designated ground water, the Commission or the State Engineer has the sole authority to grant any new water rights or changes. The state engineer has the authority to approve exempt wells for residential or commercial operations that meet the requirements of Section 37-90-105 C.R.S. A map of the designated basins is located at <http://water.state.co.us/images/DesBasinsDrawing.gif>

#### DENVER BASIN WATER.

The Denver basin includes four aquifers: Dawson, Denver, Arapahoe, and Laramie-Fox Hill. The Denver Basin extends along the Front Range with the boundaries varying with the aquifer.

Denver Basin ground water is allocated to overlying landowners except that part of the basin included in a designated ground water basin. Use of the water requires replacement of water to surface streams, with a presumption of connection with the South Platte Basin. The landowners can withdraw water at the rate of 1 percent a year until the water is exhausted. Use must be replaced or augmented by returning part of the pumped water to the stream. There are two types of Denver Basin water outside of designated basins: nontributary ground water and not nontributary ground water. Well permits from the state engineer are required and the water must be adjudicated in state water court. A map of the Denver basin is located at <http://water.state.co.us/images/dba.jpg>

### **NONTRIBUTARY GROUND WATER**

Nontributary ground water is in a formation of the Denver Basin (Dawson, Denver, Arapahoe, and Laramie-Fox Hill aquifers) outside of a designated groundwater basin. Pumping of nontributary groundwater will not, within 100 years, deplete the flow of a natural stream at an annual rate greater than one-tenth of one percent of the annual rate of ground water withdrawals.

### **NOT-NONTRIBUTARY GROUND WATER**

This is groundwater located within those portions of the Denver Basin aquifers that are outside of any designated ground water basin in existence on January 1, 1985. Withdrawal of water from this type of ground water is authorized to deplete the flow, within 100 years, of a natural stream at an annual rate greater than one-tenth of one percent of the annual rate of withdrawal. Although this water is basically nontributary, this definition assumes that its withdrawal will impact surface flows, albeit at a much reduced rate.

## GROUND WATER LAW IN FLORIDA

### SUMMARY OF LAW

Through the Florida Water Resources Act of 1972, as amended by the 1997 Water Act, the State of Florida established a comprehensive system for managing all of its water resources in lieu of the reasonable use rule for ground water and the common law of riparian rights for surface water. The major components of this system consist of: (1) water resource planning; (2) water resource development projects; and (3) water resource management and permitting.

### STATUTORY FRAMEWORK

The regulatory system established in Florida applies to all waters of the state unless specifically exempted from the requirements. The water resource program operates at two levels: statewide general supervision and oversight, and regionally through five powerful water management districts. See [http://www.dep.state.fl.us/water/groundwater/rules\\_forms.htm](http://www.dep.state.fl.us/water/groundwater/rules_forms.htm)

#### MINIMUM WATER LEVELS.

The Florida Department of Environmental Protection is required to set minimum water levels for all aquifers in the state using the best information available and, where appropriate, take into consideration seasonal variations and non-consumptive uses of water.<sup>101</sup> The minimum water level is defined as “the level of ground water in an aquifer and the level of surface water at which further withdrawals would be significantly harmful to the water resources of the area.”<sup>102</sup> If the water is below the minimum water level or is projected within 20 years to fall below the minimum water level, then the Department is required to develop a water recovery or prevention strategy.<sup>103</sup> This strategy develops a timetable to provide sufficient water supplies for existing and potential reasonable and beneficial users. Methods for achieving this timetable include creating new sources of water supply, implementation of conservation and efficiency measures, and reductions in the amount of withdrawals.<sup>104</sup>

Permits may contain reasonable provisions to assure that such use is consistent with the overall objectives of the district or department and is not harmful to the water resources of the area. Domestic uses are the only ones exempted from the permitting process.<sup>105</sup>

Before receiving a permit applicants must show:

- that their use is a reasonable-beneficial use, meaning the use of water in such quantity as necessary for economic and efficient utilization for a purpose and in a manner which is both reasonable and in the public interest;
- will not interfere with any presently existing legal use of water; and
- *is in the public interest.*<sup>106</sup>

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<sup>101</sup> Fl. Stat. ch. 373.042(1).

<sup>102</sup> Fl. Stat. ch. 373.042(1)(b).

<sup>103</sup> Fl. Stat. ch. 373.0421.

<sup>104</sup> Fl. Stat. ch. 373.0421.

<sup>105</sup> Fl. Stat. ch. 373.219.



Further, the applicant may transfer and use surface or ground water beyond the overlying land, outside the watershed, or across county boundaries only when the transfer is in the public interest.<sup>107</sup>

#### INTER-DISTRICT TRANSFER OF GROUND WATER.

When water is conveyed outside of the local management district, the transferor must obtain a permit for this transfer and the transfer must be in the public interest (see above). In addition to those requirements, there is a notice and comment period, and review of the transfer by the relevant public agencies and interested members of the public. If the transfer suits the needs of the transferor and does not adversely affect the receiving area, the permit is issued.<sup>108</sup>

#### WATER USE PERMITS.

Permits may be granted for up to twenty years for individuals, corporations, or other legal entities. Permits for municipal or other government owned public works or public service corporations may last up to fifty years.<sup>109</sup> Florida law authorizes “general permits” for water use categories that have minimal adverse impacts, temporary permits for certain applications that take more time to evaluate, and limits the right to sue for damages to “abutting consumptive use permit holders” that violate the terms or conditions of a water use permit.<sup>110</sup>

#### **COMMON LAW DOCTRINE**

The State of Florida applies a modified version of the English or absolute ownership rule. The general rule in Florida is that if a landowner injures another landowner’s right to underground percolating waters, this is an injury without a legal remedy.<sup>111</sup> However, exceptions to the rule exist. The court states “Ordinarily, when a spring depends for its supply upon filtrations and percolations through the land of an adjoining owner, and the use of that land for lawful purposes the spring was destroyed, in the absence of malice and negligence on his part, is not liable for the damage occasioned, [b]ut if the act which causes the damage is persisted in after its effect has

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<sup>106</sup> Fl. Stat. ch. 373.223(1). When determining what is in the public interest the governing board or department is required to consider: (a) the proximity of the proposed water source to the area of use or application; (b) all impoundments, streams, ground water sources, or watercourses that are geographically closer to the area of use or application than the proposed source, and that are technically and economically for the proposed transport and use; (c) all economically and technically feasible alternatives to the proposed source, including, but not limited to, desalination, conservation, reuse of non-potable reclaimed water and stormwater, and aquifer storage and recovery; (d) the potential environmental impacts that may result from the transport and use of water from the proposed source, and the potential environmental impacts that may result from the use of other water sources identified in paragraphs (b) & (c); (e) whether existing and reasonably anticipated sources of water and conservation efforts are adequate to supply water for existing legal uses and reasonably anticipated future needs of the water supply planning region in which the proposed source is located; (f) consultations with local governments affected by the proposed transport and use; and (g) the value of the existing capital investment in water related infrastructure made by the applicant.

<sup>107</sup> Fl. Stat. ch. 373.223(2).

<sup>108</sup> See Fl. Stat. ch. 373.2295.

<sup>109</sup> See Fl. Stat. ch. 373.236.

<sup>110</sup> Dellapenna at 18.

<sup>111</sup> *Labruzzo v. Atlantic Dredging and Const. Co.*, 54 So.2d 673; 1951 Fla. LEXIS 1755; 29 A.L.R.2d 1346

become apparent, or is attended by negligence, or is merely wanton and of no use to the owner, the law is otherwise. If an injury to a neighbor's right's in wells or a water supply is plainly to be anticipated and can be avoided through the exercise of reasonable care and at a reasonable expense, a land owner is not exempt from all obligation to pay regard to the effect of his operations to subterranean waters.<sup>112</sup>

The Court had also found that while a defendant had the right to use waters in a way which polluted them, it was negligent on his behalf to allow the waters to migrate onto the plaintiff's property and therefore liability attached to plaintiff.<sup>113</sup>

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<sup>112</sup> Labruzzo at 677-78.

<sup>113</sup> *Pensacola Gas Co. v. Pebley*, 25 Fla. 381, 5 So. 593, 595

## GROUND WATER LAW IN GEORGIA

### SUMMARY OF LAW

- The State of Georgia applies a regulatory system established by statute (Ground-water Use Act of 1972) to manage ground water uses withdrawing more than 100,000 gallons per day.
- Special permitting rules apply for farm uses.
- Withdrawals of less than 100,000 gallons per day are governed by a common law rule of reasonable use if the water is part of an underground stream. If the water is percolating into an aquifer or if water withdrawals were done “maliciously,” Georgia courts apply the doctrine of absolute ownership.

### STATUTORY FRAMEWORK

#### GROUND WATER DEFINED.

The State of Georgia defines ground water as “water of underground streams, channels, artesian basins, reservoirs, lakes, and other water under the surface of the earth, whether public or private, natural or artificial, which is contained within, flows through, or borders upon this state or any portion thereof, including those portions of the Atlantic Ocean over which this state has jurisdiction.”<sup>114</sup> See [http://www.legis.state.ga.us/cgi-bin/gl\\_codes\\_detail.pl?code=12-5-92](http://www.legis.state.ga.us/cgi-bin/gl_codes_detail.pl?code=12-5-92) et seq.

#### NON-CONSUMPTIVE USE DEFINED.

Georgia defines non-consumptive as the use of water withdrawn from a ground-water system or aquifer in such a manner that it is returned to the ground-water system or aquifer from which it was withdrawn without substantial diminution in quantity or substantial impairment in quality at or near the point from which it was withdrawn, provided that in determining whether a use of ground water is non-consumptive, the division may take into consideration whether any material injury or detriment to other water users of the area, by reason of reduction of water pressure in the aquifer or system, has not been adequately compensated by the permit applicant who caused or substantially contributed to such injury or detriment.<sup>115</sup>

#### PERMITTING SYSTEM.

Georgia requires any person withdrawing more than 100,000 gallons per day to apply for a ground water permit.<sup>116</sup> In addition to this permit, the applicant is required to submit a water conservation plan if the planned usage will increase.<sup>117</sup> All farm uses are exempted from this process. The Georgia Environmental Protection Division is required to issue a permit for non-consumptive uses. If the use is consumptive, the State has four options:

- grant a conditional permit with conditions that satisfy the purposes of the Act;
- upon a showing of need grant a temporary permit;
- modify or revoke a permit; or

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<sup>114</sup> GA Code Ann. § 12-5-92 (6).

<sup>115</sup> GA Code Ann. § 12-5-92(7).

<sup>116</sup> GA Code Ann. § 12-5-96(a)(1).

<sup>117</sup> GA Code Ann. § 12-5-96(a)(2).

- deny the permit if the purposes are contrary to the Act.<sup>118</sup>

Applicants are required to submit: name and address of the applicant, the location of the wells, the county where the wells are located, the ground elevation of the well, the amount of water proposed to be withdrawn, any present or anticipated unreasonable adverse effects or potential unreasonable adverse effects on other water uses or users, including but not limited to, adverse effects on public or farm use, a statement specifying the beneficial use of the ground water withdrawn or to be withdrawn and whether the water use is a consumptive or non-consumptive use.<sup>119</sup>

If the water is for a non-consumptive use the applicant is required to show:

- the water treatment methods and the proposed methods to return water to the aquifer or ground water system where it was withdrawn;
- the location of the injection pumps;
- the chemical, physical, and bacteriological quality of the returned water (and any other criteria the department may require) noting specifically any substantial impairment of the water quality from the water withdrawn;
- the aquifer or ground water system from which the ground water is withdrawn, or intended to be withdrawn, and the amount of water to be returned to the aquifer or ground water system; and
- any substantial decrease in quantity as originally withdrawn from the aquifer or ground water system.<sup>120</sup>

Withdrawals made under a permit are only to be used for the purposes of the permit.<sup>121</sup> Permits issued under this section may not last less than 10 years or greater than 50 years and any permit over 25 years requires an additional finding that the permit will not affect the multiple uses of the people in using water over the life of the permit. The division must approve the transfer of any permit.<sup>122</sup> Permits also contain reporting requirements, to be filed on a 30 day interval, containing: a certified statement of quantities of water used and withdrawn, sources of water, and the nature of the use.<sup>123</sup>

Violation of these sections may result in civil<sup>124</sup> or criminal<sup>125</sup> penalties or injunctive relief.<sup>126</sup>

FARM USES DEFINED. Georgia defines farm use as the “irrigation of any land used for general farming, forage, aquaculture, pasture, turf production, orchards, or tree and ornamental nurseries; provisions of water supply for farm animals, poultry farming, or any other activity conducted in the course of a farming operation. Farm uses shall also include the processing of perishable

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<sup>118</sup> Ga. Code Ann. § 12-5-96(c).

<sup>119</sup> Ga. Comp. R & Regs r. 391-3-2-.04(5).

<sup>120</sup> Ga. Comp. R & Regs r. 391-3-2-.04

<sup>121</sup> Ga. Comp. R & Regs r. 391-3-2-.06(5).

<sup>122</sup> Ga. Code Ann. § 12-5-97.

<sup>123</sup> Ga. Code Ann. § 12-5-97.

<sup>124</sup> Ga. Code Ann. § 12-5-106

<sup>125</sup> Ga. Code Ann. § 12-5-107

<sup>126</sup> Ga. Code Ann. §12-5-100.

agricultural products and the irrigation of recreational turf, except in Chatham, Effingham, Bryan, and Glynn counties, where irrigation of recreational turf shall not be considered a farm use.

#### FARM USE PERMITTING REQUIREMENTS.

Farm uses occurring before July 1, 1988 for which a permit was requested before July 1, 1991 may receive a permit for either (1) the operating capacity in place on July 1, 1988 or (2) when measured in gallons per day on a monthly average for a calendar year, the greatest withdrawal capacity during the five-year period immediately preceding July 1, 1988.<sup>127</sup> If the application is submitted after July 1, 1991 or is for use established after July 1, 1988 the provisions of the permitting system as defined above and the classification shall be issued to ensure the applicant's right to a reasonable use of such ground water (regulating users of greater than 100,000 gallons per day).<sup>128</sup> In addition to the requirements above, farm users are required to issue:

- a description of the lands and the number of acres to be irrigated,
- name and address of applicant;
- description of the type of irrigation system used;
- well construction; and
- pump information, including rated capacity, pump setting depth, and power information.<sup>129</sup>

Farm Use permits have no annual reporting requirements, may not be revoked for nonuse, may be modified if they affect other permits reasonable use of water or there is an emergency drought situation.<sup>130</sup> Farm use permits do not have an expiration date and must be transferred after receiving notice of the transfer.<sup>131</sup>

#### SALT WATER INTRUSION.

Recently the Georgia Assembly placed a freeze on new ground water withdrawals from the Upper Floridian Aquifer found under its coastal plain and barrier islands to prevent future saltwater intrusion into this important freshwater supply aquifer. The Assembly also authorized a multi-year, multi-million dollar study termed the Coastal Georgia Sound Science Initiative, funded by the state and large ground water users in that area, that could lead to tighter ground water withdrawal regulations in coastal Georgia.<sup>132</sup>

#### **COMMON LAW DOCTRINE**

Georgia common law has not addressed ground water rights since the early 1900's. The court at that time stated that "an injury to a subterranean supply of water by lawful acts of an adjacent landowner, done within his own premises, is, unless the stream is well defined and its existence

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<sup>127</sup> Ga. Code Ann. § 12-5-105.

<sup>128</sup> Ga. Code Ann. § 12-5-105(a).

<sup>129</sup> Ga. Code Ann. § 12-5-105(a).

<sup>130</sup> Ga. Code Ann. § 12-5-105(b).

<sup>131</sup> Ga. Comp. R & Regs r. 391-3-2-.07.

<sup>132</sup> Holmes, E.T. 2004. *Organization Building of the Southeastern Water Resources Research and Environmental Policy Consortium*, Department of Civil Engineering, Univ. of Mississippi. 28 p.

known or easily discernible, or unless the injury is caused by malice, [a loss, hurt, or harm without injury in a legal sense].”<sup>133</sup> The court noted that the rules that apply to surface streams (reasonable use) also apply to subterranean streams; however, the burden is upon the injured party “to show that it is a stream of water flowing in a marked or well-defined channel in contradistinction to subsurface percolating water.”<sup>134</sup>

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<sup>133</sup> *Stoner v. Pattern*, 132 Ga. 178, 179 (1909).

<sup>134</sup> *Id.* at 180.

## **GROUND WATER LAW IN IDAHO**

### **SUMMARY OF LAW**

The State of Idaho follows a modified system of prior appropriation when allocating ground water resources. The Ground Water Act of 1951, as amended, provides the legal framework by which Idaho manages ground water. See Idaho Code, Title 42, Chapter 2 for appropriation of water rules, <http://www3.state.id.us/idstat/TOC/42FTOC.html>

### **PRIOR APPROPRIATION OF GROUND WATER**

#### WATER RESOURCES GENERALLY.

Idaho defines ground water as all water under the ground whatever may be the geological structure.<sup>135</sup> The doctrine of prior appropriation applies to ground water to the extent that it does not block the full economic development of that resource. The Director of the Idaho Department of Water Resources (IDWR) is to determine reasonable pumping levels [either generally or on a case-by-case basis] that protect senior-priority ground water rights against unreasonable lowering of ground water levels by junior priority surface or ground water appropriators.<sup>136</sup>

#### USES MUST BE BENEFICIAL AND REASONABLE.

In addition to the requirement that diversions be placed to a beneficial use, the statute grants the authority to the IDWR to allocate water in “reasonable” amounts to appropriators.<sup>137</sup>

#### EXEMPT USES OF WATER.

The state of Idaho exempts domestic use from the permitting process. Domestic use is defined as:

- The use of water for homes, organization camps, public campgrounds, livestock, irrigation of less than ½ acre of land and any other associated purpose provided that the use is not in excess of 13,000 gallons per day; and
- Any other use if the total use is not in excess of four one-hundredths (.04) cubic feet per second or a diversion volume of 2,500 gallons per day.

The provisions exempting domestic uses do not include multiple ownership subdivisions or mobile home parks commercial or business establishments, unless they fall into the second exception. The provision does not allow multiple domestic uses by a single person as a method to divert greater than allowed for a single domestic use.<sup>138</sup>

### PERMITTING PROCESS

Non exempt water users must apply to IDWR for a permit to appropriate water before commencing construction, enlargement, or extension of a well or other diversion works, or any work in connection with construction of diversion works or any other means to appropriate

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<sup>135</sup> Id. Code § 42-230.

<sup>136</sup> Id. Code § 42-226; IDAPA 37.03.11.18

<sup>137</sup> Id. Code. § 42-226.

<sup>138</sup> Id Code § 42-111 (2000).

water.<sup>139</sup> Permits filed with IDWR are to include: the name and post office address of the applicant, the source of the water, the nature of the proposed use and the period of year during which the water will be used, the location of the point of diversion, a description of the well or other diversion works, the amount of water proposed to be diverted or used, and the time required for the completion of the works and application of water to a beneficial use.<sup>140</sup> Applications shall be accompanied by a plan and map of the proposed works for the diversion and application of water to a beneficial use, the character, location, and dimensions of the well or other diversionary works and the lands proposed for irrigation or other place of beneficial use.<sup>141</sup>

If the proposed use is for an agricultural purpose, the applicant must show the proposed lands irrigated by legal subdivision and the total acres to be reclaimed. Irrigation greater than one cubic foot per second per fifty acres, or five acre feet to one acre, is prohibited unless granted approval by IDWR.

After receiving the application, IDWR is required to prepare notice for publication containing: The application number, the filing date, the name and post office address of the applicant, the source of the water supply, the amount of water to be appropriated, the general nature of the proposed use, the approximate location of the point of diversion, and the general location of the point of use. The department publishes the notice in a newspaper published in the county where the point of diversion is located, or if there is none, in a newspaper of general circulation in the county. If the diversion is greater than ten cubic feet per second or a storage volume greater than one thousand acre feet, the department must publish the notice in a newspaper or newspapers sufficient to achieve statewide distribution. The department is to publish the notice once per week for two consecutive weeks.

#### CRITERIA FOR APPROVING APPLICATIONS.

The IDWR may reject or condition an application to appropriate water if the director finds that the proposed use will reduce the amount of water under existing water rights; the water supply is insufficient for the purposes for which the appropriation is sought; where it appears to the satisfaction of the director that the application was not made in good faith, is made for delay, or speculative purposes; the applicant does not have the financial resources required to complete the diversion; the diversion will conflict with the local public interest; or where the water use is against the conservation water policy of the state.<sup>142</sup> After approval of the application, the appropriator is to begin construction of the diversion works, and must complete the works within five years or request an extension. Sixty days before the time designated for completion in the permit the department is to notify the appropriator that an affidavit of completion or request for an extension is necessary.

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<sup>139</sup> Id. Code § 42-202 (2000).  
<sup>140</sup> Id. Code § 42-202 (2000).  
<sup>141</sup> *Id.*  
<sup>142</sup> Id. Code § 42-203A (2000).



### TRANSFER OF GROUND WATER.

Water permits that seek to transfer water outside the immediate ground water basin, as defined by the director of IDWR, for the purposes of irrigating 5,000 or more acres on a continuous basis, or for a total volume of more than 10,000 acre feet per year, must be approved by IDWR and the Idaho legislature.

### **CONJUNCTIVE MANAGEMENT OF SURFACE AND GROUND WATER**

Idaho has established a system of conjunctive management for areas where there is a common ground water and surface water supply.<sup>143</sup> These rules recognize all elements of prior appropriation.<sup>144</sup> Domestic use and stock watering are exempt from these rules.<sup>145</sup> A petitioner may issue a “delivery call” claiming injury to a senior water right by one or more junior rights, in this delivery call petitioner must describe his water right, the junior water rights, provide information on the injury, and a description of the common ground water supply to be regulated.<sup>146</sup>

A petitioner may also suggest three remedies to the obstructions to the water right:

- Modify an existing water district so that ground water is regulated conjunctively with surface water, provided that the water rights in the basin have been adjudicated;
- Create a new water district to manage ground and surface water rights conjunctively, provided that water rights in the basin have been adjudicated; or
- Propose the creation of a ground water management area where there has not been adjudication of the water rights in that basin.<sup>147</sup>

After a hearing, the director of IDWR shall issue an order that: wholly or partially denies the “delivery call.” or grants the “delivery call,” in whole, in part, or upon conditions. In addition, the director may include provisions which: (1) incorporate the “common ground water supply area” into a water district, provided water rights have been adjudicated or create a new water district to provide the same; (2) determine the need for an adjudication of priorities and permissible rates and volumes of diversion of surface and ground water rights by the petitioner and respondents (junior right holders); (3) limit or prohibit the withdrawal of water from any well during any period where it is determined that water to fill any water right is not available without causing ground water levels to be drawn below the reasonable ground water pumping level or withdrawal of ground water at a rate in excess of the reasonably foreseeable natural recharge rate; or (4) establish a ground water management area if the amount of water is not available to meet current demands or it appears that the rate of withdrawal is greater than the reasonably foreseeable natural rate of recharge.<sup>148</sup>

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<sup>143</sup> IDAPA § 37.03.11.020.06

<sup>144</sup> IDAPA § 37.03.11.020.02.

<sup>145</sup> IDAPA § 37.03.11.020.11.

<sup>146</sup> IDAPA § 37.03.11.30.01.

<sup>147</sup> See IDAPA § 37.03.11.30.04 -- .06

<sup>148</sup> IDAPA § 37.03.11.30.07.

When delivery calls are made by a senior appropriator against junior appropriators in an area with a common water supply and within an organized water district, the director may regulate the diversion and use of water in accordance with the priorities and rights of the various surface or ground water holders which are included in the district provided that the director may phase in curtailment of rights over not more than a five year period to lessen the economic impact on junior priority right holders.<sup>149</sup> The director is to regulate through the water master who is to determine the amount of water available for appropriation on the surface and underground, determine whether approved mitigation plans (see next paragraph) which allow diversion out of priority, maintain records on surface and ground water withdrawals, and coordinate with other water masters to assure senior water rights are maintained, provided rights are adjudicated.<sup>150</sup>

Mitigation plans identify actions and measures to prevent or compensate senior priority appropriators for a material injury caused by diversions and use of water by the holders of junior priority ground water rights within an area having a common ground water supply.<sup>151</sup> The department of water resources considers fifteen criteria, found at IDAPA § 31.03.11.043.03., when determining whether the mitigation plan will prevent injury to senior rights.

#### DETERMINATION OF COMMON GROUND WATER SUPPLY.

In making a decision about conjunctive use of surface and ground waters in a local setting, IDWR may include scientific data and testimony of experts to show:

- Ground water source provides water to or receives water from a surface water source; or
- Diversion and use of ground water will cause water to move from the surface water source to the ground water source; or
- Diversion and use of water from the ground water source has an impact upon the ground water supply available to other persons who divert and use water from the same source.

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<sup>149</sup> IDAPA § 31.03.11.040.01.

<sup>150</sup> IDAPA § 31.03.11.040.02.

<sup>151</sup> IDAPA § 31.03.11.010.15.

<sup>152</sup> IDAPA § 37.03.11.031

## GROUNDWATER LAW IN ILLINOIS

### SUMMARY OF LAW

The Illinois Water Use Act of 1983 (525 ILCS 45/) established a reasonable use rule for ground water withdrawals and regulates points of withdrawal greater than 100,000 gallons per day. See <http://www.ilga.gov/legislation/ilcs/ilcs2.asp?ChapterID=44> and 525 ILCS 45/.

### STATUTORY FRAMEWORK

#### REPORTING REQUIREMENTS.

Wells with the capacity to withdraw more than 100,000 gallons per day are required to inform the local soil and water conservation district of the well or “point of withdrawal.” The district is required to investigate the impact of the well on other water users and publish its findings.<sup>153</sup>

#### SPECIAL JURISDICTIONS.

Any county where the Iroquois River flows, and any town with a population greater than 100,000 people where the Macinaw River flows are required to establish permits consistent with the requirements below.<sup>154</sup> A person owning land with a “point of withdrawal” capable of withdrawing more than 100,000 gallons per day must provide reasonable information required by the district.<sup>155</sup>

Upon receiving a complaint from a landowner whose well is not furnishing its normal supply of water the soil and water conservation district is instructed to investigate the complaint to determine whether there is a decrease in the normal supply of ground water, if that decrease is due to the substantial lowering of the ground water table, and that the party’s water removal equipment satisfies the standards established by the district for extraction (well casing etc.).<sup>156</sup> Upon completion of this investigation the district may recommend limitations on points of withdrawal over 100,000 gallons per day to the Illinois Department of Agriculture.<sup>157</sup>

### COMMON LAW DOCTRINE

The legislature has adopted a reasonable use rule to resolving ground water conflicts. This rule was extended by 525 Il. Comp Stat. 45/6. The Illinois Supreme Court has found that it was the intent of the legislature to extend the legal structure for surface rights to ground water.<sup>158</sup> Illinois’ approach to reasonableness is different than the common formulation of reasonable use. Uses are divided into “natural wants” and “artificial” wants. The court has defined natural wants as uses of water that are necessary to sustain life, such as domestic uses and using water for livestock. Artificial wants are those which may improve a person’s comfort or prosperity but are not essential to his life; examples of artificial needs are irrigation and industrial production.<sup>159</sup>

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<sup>153</sup> 525 Il. Comp. Stat. 45/5 (West, 2000).

<sup>154</sup> 525 Il. Comp. Stat. 45/5.1(a) (West, 2000).

<sup>155</sup> *Id.*

<sup>156</sup> 525 Il. Comp. Stat. 45/5.1(c) (West, 2000).

<sup>157</sup> *Id.*

<sup>158</sup> See *Bridgeman v. Sanitary District of Decatur*, 164 Ill. App. 3d 287, 291 (4<sup>th</sup> Dist., 1987).

<sup>159</sup> See *Evans v. Merriweather*, 4 Ill. 492, 495 (1842).

The court goes on to explain that riparian overlying land owners may use all the water necessary to meet their “natural needs” before others may take water for “artificial needs.”<sup>160</sup>

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<sup>160</sup> *Id.* at 496.

## GROUND WATER LAW IN INDIANA

### SUMMARY OF LAW

Indiana follows a modified rule of absolute ownership when allocating ground water resources. See <http://www.in.gov/legislative/ic/code/title14/ar25> and Chapter 3 for Indiana's code on ground water rights.

### STATUTORY FRAMEWORK

Indiana does not have a comprehensive method for allocating ground water resources. Statutes create emergency rights of action for small ground water users, withdrawing less than 100,000 gallons per day, to protect the source from depletion or degradation of ground water. The director of the Indiana Natural Resource Commission is required to investigate any complaint from a small ground water user that their well was unable to withdraw its normal supply or is not producing potable water.<sup>161</sup> If the investigation shows:

- that the well is unable to withdraw its normal supply or produce potable water,
- the well and the equipment are functioning properly at the time of the failure;
- that problem is a result of the substantial lowering of the ground water level;
- that the lowering of the ground water table was not the result of seasonal variations and is a substantial risk to the continued use of ground water in the area; and
- the decline was caused by at least one significant source [withdrawing more than 100,000 gallons per day] of ground water withdrawals,

the director may declare a ground water emergency.<sup>162</sup>

The director may also declare a ground water emergency if there is reasonable evidence that the continued withdrawals from a significant ground water withdrawal facility exceed the ground water recharge rate in the area.<sup>163</sup>

After the declaration of a ground water emergency, the director may restrict the quantity of ground water withdrawn from a large ground water user.<sup>164</sup>

### COMMON LAW DOCTRINE

The State of Indiana follows a modified rule of absolute ownership when resolving ground water resource conflicts. The Supreme Court of Indiana reaffirmed its adherence to absolute ownership in 1984 when the court stated “[g]round water is a part of the land and belongs to the owner of the land. It may be put to use to the fullest extent to the further enjoyment of the land,

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<sup>161</sup> Ind. Code Ann. § 14-25-4-8 (2000).

<sup>162</sup> Ind. Code Ann. § 14-25-4-9 (2000).

<sup>163</sup> Ind. Code Ann. § 14-25-4-10 (2000).

<sup>164</sup> Ind. Code Ann. § 14-25-4-12(a) (2000).

however this right does not extend to causing injury gratuitously or maliciously to nearby lands or their owners.<sup>165</sup>

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<sup>165</sup> *Wiggins v. Brazil Coal & Clay Corp.*, 452 N.E.2d 958, 964 (1983) (the court found that Brazil had drained plaintiff's lake in the process of dewatering a mine and plaintiff was without remedy).

## GROUND WATER LAW IN KANSAS

### SUMMARY OF LAW

- Kansas followed English common law and the riparian doctrine prior to 1945.
- IN 1945, Kansas enacted a comprehensive water appropriation law for surface and ground water that requires an application for a permit before any withdrawals can begin.

### PERMITS

Applications are submitted to the Water Resources Division of the Kansas Department of Agriculture prior to starting work on any extraction of ground water. After approval of the application, completion of the proposed water withdrawal works in accordance with the approved application, and the water is applied to a beneficial use, the applicant is then issued a certificate of appropriation by the state.<sup>166</sup> See <http://www.accesskansas.org/kda>.

Beneficial water users as of June 28, 1945 made under the former common law are grand fathered into the statutory system and are superior to the appropriative rights of the permittees, but there is no order of seniority among the prior right holders.<sup>167</sup>

### OTHER

The state allows formation of local Groundwater Management Districts through petition of local people. Plans for these districts are subject to approval of the Chief State Engineer. Each local district can apply its own standards for the spacing of wells and safe yield of the aquifer.<sup>168</sup>

### CASE LAW

The 1945 statute has been tested by two important cases, *State ex rel. Emery v. Knapp*<sup>169</sup> and *Baumann v. Smrha*,<sup>170</sup> which admitted its constitutionality. In the *Knapp* case, the court recognized prior error about England's contribution to the riparian doctrine which strengthened the 1945 law in Kansas, and went on to switch from a focus on individual water users to a broader public interest that the legislature had sought through the 1945 law.

In *Baumann*, a case of ground water rights, the federal district court declined to declare the 1945 law as violating the Fourteenth Amendment to the U.S. Constitution on the grounds that a State may alter its system of water rights because of its unsuitability to conditions in the State as long as vested rights are protected. The court also construed the *Knapp* case as having overruled earlier Kansas cases.<sup>171</sup>

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<sup>166</sup> Kans. Stat. Ann. Sec. 82a-714. (1969)

<sup>167</sup> Hutchins, W. 1974. *Water Rights laws in the Nineteen Western States, Vol. II, p. 642.*

<sup>168</sup> Getches at 269.

<sup>169</sup> *State ex rel. Emery v. Knapp*, 167 Kans. 546, 207 Pac. 2<sup>nd</sup> 440 (1949).

<sup>170</sup> *Baumann v. Smrha*, 145 fed. Supp. 617 (D. Kans.), affirmed per curiam, 352 U.S. 863 (1956).

<sup>171</sup> Hutchins at 643.

## GROUND WATER LAW IN KENTUCKY

### SUMMARY OF LAW

The State of Kentucky has created a permitting system to allocate ground water resources. See <http://www.lrc.ky.gov?KRS/151-00/CHAPTER.htm> for more information.

### STATUTORY FRAMEWORK

#### PERMITS.

Agricultural uses (including irrigation), domestic uses, any uses if less than amounts established by regulation, steam generating plants governed by the Kentucky Public Service Commission or that require a certification of environmental compatibility, and for water injected underground in connection with oil or gas extraction are exempt from the permitting process.<sup>172</sup>

Any person, business, industry, city, county, water district or other political subdivision desiring to withdraw, divert, or transfer public water must register with the cabinet and submit an application for a permit if not exempted by the law.<sup>173</sup> The State regulatory agency has created an exemption for persons with a 10,000 gallons per day average withdrawal rate, or a relatively constant rate each day where the withdrawal is equal to or less than 10,000 gallons per day.<sup>174</sup> The permit must have the specific quantity, time, place, and rate of diversion on the permit. Permits do not grant a property right, only a right to use the water.<sup>175</sup> Permits cannot be refused so long as the applicant has established an amount of water for which he has a need for a useful purpose, provided the requested amount of water is available.<sup>176</sup> While a permit may not be refused, it may be issued for an amount less than requested if that is found to be in the best public interest or other water users.<sup>177</sup>

### COMMON LAW DOCTRINE

#### PERCOLATING WATERS AND UNDERGROUND STREAMS.

Kentucky divides its waters into two classes: percolating waters without a clearly defined channel and underground streams. "Subterranean streams, as distinguished from subterranean percolations, are governed by the same rules, and give rise to the same rights and obligations, as flowing surface streams. But in order to bring subterranean streams within the rules governing surface streams their existence and their course must be, to some extent, known or notorious."<sup>178</sup> Percolating waters are governed by the English Rule of absolute ownership. "Percolating waters are parts of the earth itself, as much as the soil and stones, with the same absolute right of use and appropriation by the owner of the land."<sup>179</sup>

<sup>172</sup> Ky. Rev. Stat. Ann.. § 151.140.

<sup>173</sup> Ky. Rev. Stat. Ann. § 151.150(1).

<sup>174</sup> Ky. Admin. Regs. tit. 401, ch. 4, § 4:010 (1990).

<sup>175</sup> Ky. Rev. Stat. Ann. § 151.170(1).

<sup>176</sup> Ky. Rev. Stat. Ann. § 151.170(2).

<sup>177</sup> Ky. Rev. Stat. Ann. § 151.170(3).

<sup>178</sup> *Nourse v. Andrews*, 200 Ky. 461, 471 (1923).

<sup>179</sup> *Id.*



## GROUND WATER LAW IN LOUISIANA

### SUMMARY OF LAW

Louisiana's legislature passed Act 49 in 2003 that required prior notification of intent to drill new wells and the registration of water wells, created the Ground Water Resources Commission, provided a process for designation of, and possible limitations of access, within critical ground water areas, and transferred certain duties to the Office of Conservation within the state's Department of Natural Resources.

### STATUTORY FRAMEWORK

Prior to 2003, there was no statutory framework for ground water resource allocation in Louisiana for wells producing less than 50,000 gallons a day. A 1972 law authorized the Department of Public Works to regulate wells of more than 50,000 gallons per day. A 1974 law created the Capital Area (Baton Rouge) Groundwater Conservation District with permitting authority within five parishes surrounding the capital city. No national forest lands are affected. The 2003 Act 49 modified or eliminated the provisions of these earlier laws. See <http://www.dnr.louisiana.gov/cons/gwater/gwr-d-index.htm> then choose Laws, Rules and Forms and Critical Ground Water Areas for copies of Act 49, the new rules, and the relevant pages of the Louisiana Register, Vol. 30, No. 6 for June 30, 2004.<sup>180</sup>

### COMMON LAW DOCTRINE

Courts in Louisiana traditionally have compared underground water with fugitive mineral resources, such as oil and gas. The Court restates this rule as "Water and oil, and still more strongly gas, may be classed by themselves, if the analogy be not too fanciful, as minerals 'ferae naturae'. In common with animals, and unlike other minerals, they have the power and tendency to escape without the volition of the owner. Their 'fugitive and wandering existence within the limits of a particular tract is uncertain.' They belong to the owner of the land, are a part of it, and are subject to his control; but when they escape and go into other lands, or come under another's control, the title of the former owner is gone. Possession of the land, therefore, is not necessarily possession of the gas."<sup>181</sup>

It is too soon to know how the courts will apply and interpret the Act 49 of 2003 in resolving future disputes over ground water within Louisiana.

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<sup>180</sup> LAC 43:VI.Chapters 1-7 modified R.S. 38:3097 et seq. substantially.

<sup>181</sup> *Adams v. Griles*, 152 So. 2d 619, 622 (1963).

## GROUND WATER LAW IN MAINE

### SUMMARY OF LAW

The State of Maine applies the common law right of absolute ownership to ground water rights, with two limited exceptions. No permit system is in effect; injured ground water users must file a lawsuit for damages against other water users alleged to be causing the injury.

### STATUTORY FRAMEWORK

The legislature has created a right of action for domestic water users. The law states that any person who extracts more ground water than is necessary for his beneficial domestic use at a single family household and if his ground water usage causes harm to another existing beneficial domestic use, can be sued.<sup>182</sup> A beneficial domestic use is any ground water used for household purposes essential to health and safety, whether provided by individual wells or through public water supply systems.<sup>183</sup> A preexisting use is any use which was undertaken by a public water supplier, a landowner or lawful land occupant or a predecessor in interest of either of them, at any time during the period of three years prior to the commencement of the use which resulted in the interference.<sup>184</sup> See the following website for the text of Maine's statute on groundwater rights at Title 38, Section 404:

<http://janus.state.me.us/legis/statutes/38/title38sec404.html>

### COMMON LAW DOCTRINE

The State of Maine generally follows the absolute ownership doctrine which allows a property owner to use ground water without concern to the reasonableness of the use. This principle was affirmed as recently as 1999.<sup>185</sup> The court recognized that a landowner does not have the right to disrupt a watercourse to the injury of neighboring landowners.<sup>186</sup>

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<sup>182</sup> Me. Rev. Stat. Ann., tit. 38, § 404(b) (West, 2000).

<sup>183</sup> Me. Rev. Stat. Ann., tit. 38, § 404(1)(A) (West, 2000).

<sup>184</sup> Me. Rev. Stat. Ann., tit. 38, § 404(1)(B) (West, 2000).

<sup>185</sup> See *Maddocks v. Giles II*, 1999 Me 63.

<sup>186</sup> See *Maddocks v. Giles I*, 686 A2d. 1069 (Me. 1996). (Note: this provision was addressed in *Maddocks v. Giles II* in a footnote where the court stated that the law was inapplicable to Maddocks because: (a) Maddocks was not a domestic resident of the area; and (b) because Maddock's intent was not to use the water for domestic uses, Maddock was going to bottle and commercially distribute the water).

## GROUND WATER LAW IN MICHIGAN

### SUMMARY OF LAW

Michigan replaced its riparian common law system with a statutory permit system for certain ground water uses in its Natural Resources and Environmental Protection Act (Act 451 of 1994). See [http://www.legislature.mi.gov/documents/mcl/pdf/mcl\\_chap324.pdf](http://www.legislature.mi.gov/documents/mcl/pdf/mcl_chap324.pdf), parts 13, 17 and 31 of this 1,140 page Act.

### PERMITS

The Department of Natural Resources (DNR), successor to the Michigan Water Resources Commission, manages all water quantity related programs. The Michigan Department of Environmental Quality (DEQ) is responsible for water quality in the state, including quality of ground water. Section 324.3106 of Act 451 of 1994 authorized DEQ to establish pollution standards for all waters of the state, issue permits that will assure compliance with state standards for municipal, industrial and commercial discharges or the storage of any substance that may affect water quality, and to prevent pollution of any state waters, including ground water.

Section 324.3109a authorizes DEQ to allow for a mixing zone for discharges of venting groundwater similarly to the mixing zone for point source discharges to surface water. No permit is required if the groundwater being vented meets water quality standards and all of the rules of that part. The Act defines “venting groundwater” as groundwater that is entering a surface water of the state from a facility, as defined in Section 20101.<sup>187</sup>

Section 324.3122 authorizes DEQ to assess, collect and use annual groundwater discharge permit fees from facilities that discharge wastewater onto the ground or into groundwater, and to set the amount of the fee by the size of the facility. This authorization expires 10/1/2007.<sup>188</sup>

Section 324.3501 to 3508 authorizes DEQ to issue water permits for the mining and processing of low-grade iron ore in the Upper Peninsula from either surface or ground water sources for up to 50-years and according to terms and conditions necessary to protect public health and safety. This Section provides for public noticing, determination of the public interest in the proposed mining operation, emergency orders for abatement, and limited revocation or modification of a permit.<sup>189</sup>

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<sup>187</sup> Internet accessed 5/5/2005, [www.legislature.mi.gov/documents/mcl/pdf/mcl\\_chap324.3109a.pdf](http://www.legislature.mi.gov/documents/mcl/pdf/mcl_chap324.3109a.pdf)

<sup>188</sup> Internet accessed 5/5/2005, [www.legislature.mi.gov/documents/mcl/pdf/mcl\\_chap324.3122.pdf](http://www.legislature.mi.gov/documents/mcl/pdf/mcl_chap324.3122.pdf)

<sup>189</sup> Internet accessed 5/5/2005, [www.legislature.mi.gov/documents/mcl/pdf/mcl\\_chap324.3506.pdf](http://www.legislature.mi.gov/documents/mcl/pdf/mcl_chap324.3506.pdf)

## GROUND WATER LAW IN MINNESOTA

### SUMMARY OF LAW

- The State of Minnesota has established a statutory system where the Department of Natural Resources (DNR) administers the use, allocation, and control of all waters of the state; the establishment, maintenance, and control of lake levels and water storage reservoirs; and determines of the ordinary high water level of waters of the state.
- The courts in Minnesota apply a reasonable use theory when resolving ground water conflicts.
- See <http://www.revisor.leg.state.mn.us/stats/103G/> for the water permits section.

### STATUTORY FRAMEWORK

#### PRIORITIES IN USE.

The Minnesota law requires DNR to allocate water based on six priorities in descending order:

- domestic and municipal water supply, and power production that meets the contingency planning requirements described next;
- consumptive water use less than 10,000 gallons per day;
- agricultural irrigation and product processing involving consumption of water greater than 10,000 gallons per day;
- power production in excess of the contingency planning requirements;
- non-agricultural, non-power related consumptive uses in excess of 10,000 gallons per day; and
- nonessential uses.<sup>190</sup>

The law encourages the beneficial application of excess floodwaters, and the treatment and reuse of water for non-consumptive uses. It discourages appropriation of any water from lakes less than 500 acres in area and diversion of water outside of the State or to Canada.<sup>191</sup>

#### MANAGEMENT OF WATER SUPPLY.

The DNR is required to manage and develop water resources to assure long term seasonal requirements for domestic, municipal, industrial, agricultural, fish and wildlife, recreational, power, navigation, and quality control purposes for the state.<sup>192</sup>

If a water user plans to appropriate in excess of 2,000,000 gallons per day for use outside the state or the basin from which the water was drawn, the user must obtain a determination by DNR that the water remaining in the basin is adequate to meet the basins resource needs and must obtain approval of the state legislature.<sup>193</sup> If a water user plans to appropriate more than 2,000,000 gallons per day for a consumptive use within the basin, the user must obtain a determination by DNR that there are adequate resources remaining in the basin to meet the

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<sup>190</sup> Minn. Stat. § 103G.261(a).

<sup>191</sup> Minn. Stat. § 103G.261.

<sup>192</sup> Minn. Stat. § 103G.265(1).

<sup>193</sup> Minn. Stat. § 103G.265(2).

resource needs and obtain approval of the state legislature.<sup>194</sup> Legislative approval is not required if the water to be used for domestic water supply, agricultural irrigation or processing, construction and mineland dewatering, pollution abatement or remediation, and fish and wildlife enhancement using surface water resources.<sup>195</sup>

#### APPROPRIATION OF WATER.

No ground or surface water may be appropriated without a permit, unless the water is being used to supply less than twenty five people's domestic use or is less than the minimum amount prescribed by the department (10,000 gallons/day).<sup>196</sup> General permits may be issued for classes of activities that have a minimal impact on the waters of the state. Permits are to be consistent with state, regional, and local water and land resource management plans.

The DNR is prohibited from restricting agricultural irrigation withdrawals from a ground water source during the summer months unless a domestic water supply is endangered. The department is prohibited from permitting a "once-through" cooling system using in excess of 5,000,000 gallons annually. Permits are transferable to a successive owner of real property where the source of the water is located, provided that the department is notified and approves the transfer.

The Minnesota water diversion and appropriation law prohibits any person from appropriating water without measuring, and reporting annually, the amount of water appropriated.<sup>197</sup>

#### CRITICAL WATER DEFICIENCY.

If the governor declares a critical water deficiency, public water supply authorities must enforce conservation restrictions, including limitations on lawn sprinkling, golf course and park irrigation, vehicle washing, and other non-essential uses.

#### IRRIGATION OF AGRICULTURAL LAND.

Ground water permits are processed in the order received and divided into two categories: class A applications (where there is adequate ground water availability data) and class B for all other areas.<sup>198</sup> Class B permits are not complete until the applicant has supplied: (1) a summary of the anticipated well depth and subsurface geologic formation expected to be penetrated by the well, including for glacial drift aquifers, the logs of test holes drilled to locate the site of the proposed production well; (2) the formation and aquifer expected to serve as the ground water source; (3) the maximum daily, seasonal, and annual pumpage expected; (4) the anticipated ground water quality in terms of the measures of quality commonly specified for the proposed water use; (5) the results of a supervised pumping test; (6) when the area of influence of the proposed well is determined, the location of existing wells within the area of influence that were reported; and (7) the effects of the pumping tests on other wells in the area. Any of these provisions may be waived if the department necessary data is currently available.<sup>199</sup> Ground water permits may only be issued when proposed soil and water conservation measures are adequate based upon the

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<sup>194</sup> Minn. Stat. §103G.265(3).

<sup>195</sup> *Id.*

<sup>196</sup> Minn. Stat. § 103G.271.

<sup>197</sup> Minn. Stat. § 103G.281

<sup>198</sup> Minn. Stat § 103G.295(1).

<sup>199</sup> Minn. Stat. § 103G.295(4).

recommendation of the soil and water conservation district, and water supply is available for the proposed use without reducing water levels beyond the reach of vicinity wells constructed in accordance with Minnesota law.<sup>200</sup>

### COMMON LAW DOCTRINE

Users of ground water not regulated by Minnesota's water allocation statutes are still governed by the state's rules of reasonable use. State courts applied the reasonable use rule in 1903 stating "we therefore formulate and announce the rule governing the facts here to be that, except for the benefit or improvement of his own premises, or for his own beneficial use, the owner of the land has no right to drain, collect, or divert percolating waters thereon, when such acts will destroy or materially injure another person ...."<sup>201</sup> The extent of the reasonable use rule "always depends on the circumstances of each particular case. Courts need not be concerned if they fail to find exact precedent ... reasonable use is a question of fact."<sup>202</sup>

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<sup>200</sup> Minn. Stat. § 103G.295(5).

<sup>201</sup> *Stillwater Water Co. v. Farmer*, 89 Minn. 58, 66 (1903) (the court found that diversion of percolating waters into a ditch to be disposed of was wasteful, and therefore unreasonable).

<sup>202</sup> *Erickson v. Crookstown Waterworks, Power & Light Co.*, 105 Minn. 182 (1908) (the court found that the significant depletion of an artesian aquifer by a public water supplier was not unreasonable, despite harming other users).

## GROUND WATER LAW IN MISSISSIPPI

### SUMMARY OF LAW

The State of Mississippi has a statutory permitting system that encompasses, even mandates conjunctive use of surface and ground waters, and is basically a regulated riparian system. It relies upon the state's police power, sets forth a policy that water be put to its fullest beneficial use, while still preventing waste or unreasonable uses, promoting water conservation, and encouraging both public and private investments in water.<sup>203</sup>

### STATUTORY FRAMEWORK

By statute, ground water is defined as all water occurring beneath the surface of the ground.<sup>204</sup> The statute is administered by the state Department of Environmental Quality's Land and Water Resource Office and the pertinent regulations are found at:  
[http://www.mississippi.gov/frameSet.jsp?URL=http%3A%2F%2Fwww.deq.state.ms.us%2FMD%2FMD%2Fpage%2FMain\\_Home%3FOpenDocument](http://www.mississippi.gov/frameSet.jsp?URL=http%3A%2F%2Fwww.deq.state.ms.us%2FMD%2FMD%2Fpage%2FMain_Home%3FOpenDocument).

### DOMESTIC USES EXEMPT.

The State of Mississippi exempted domestic uses from the permitting requirements described below. The State defines domestic uses as "the use of water for ordinary household purposes, the watering of farm livestock, poultry and domestic animals and the irrigation of home gardens and lawns."<sup>205</sup>

### PERMITS.

The Omnibus Water Bill of 1985 made the entire state of Mississippi a "Capacity Use Area" in which permits are required for all non-domestic ground water uses from wells with casings six inches or larger diameter.<sup>206</sup> The state's Department of Environmental Quality is charged with developing regulations determining the scientific standards defining "mining ground water." The statute prohibits any ground water mining unless "the use is essential to the safety of human life and property or unless the applicant for a permit for such use can show to the satisfaction of the board that he or another person of sufficient financial capability has applied for permit or made any other definite commitment to a plan to acquire water from another source in lieu of the water being mined from the aquifer and which will not also result in mining of any other aquifer."<sup>207</sup>

Permits do not create a property right or absolute ownership of the water. The water must be applied to a beneficial use as defined through the regulations of the Department of Environmental Quality.<sup>208</sup>

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<sup>203</sup> Dellapenna at 24.  
<sup>204</sup> Miss. Code Ann. § 51-3-3(b).

<sup>205</sup> Miss Code Ann § 51-3-3(c).

<sup>206</sup> Bowman J. 1991. Ground Water Quantity Laws and Management. Illinois State Water Survey. p.27

<sup>207</sup> CMSR 08-020-001

<sup>208</sup> Miss. Code Ann. § 51-3-13.

When the Department receives a permit for a beneficial use that complies with all rules and regulations, and “does not prejudicially or unreasonably affect the public interest” then the State must approve the permit; however, if these requirements are not met, the State is required to modify or deny the permit.<sup>209</sup> A permit may be approved for less than the amount requested if the State finds the amount would interfere with a vested right or would be against the public interest.<sup>210</sup>

Permits may not be finalized until their contents are circulated in a publication of general distribution in the county where the application is pending.<sup>211</sup>

Permits expire automatically after 10 years, unless the permit holder has made an application for another permit.<sup>212</sup> Permits must be accepted unless the commission finds that they are contrary to the public interest.<sup>213</sup>

Permits issued to public water supplies may exceed the 10 year requirement. The State allows permits to last for a period long enough for the entity to amortize the initial investment in water related equipment.<sup>214</sup>

## COMMON LAW

The State of Mississippi applies the common law rule of absolute ownership to percolating waters beneath the surface. The court ruled there is a difference between percolating waters and an underground stream. The court states, “[t]he waters below are presumed to be wandering percolating waters until a defined, continuous channel is shown; and even then, in order to apply the rules settled in reference to surface streams, it must be further shown, not only that the stream has a distinct, defined, underground channel but this must be known or notorious.”<sup>215</sup> Without this showing, the court states “[n]ow based on the maxim, ‘*Cujus est solum ejus est usque ad coelum*,’ [ownership from the heavens to the depths of the earth] ... such waters belong to the reality, to be used at will by its owner for any purpose of his own, whether it be for machinery, mining, milling, or a ‘reservoir on his own land’”<sup>216</sup> The court notes that there may be exceptions to this rule: if there is a pretense of bad faith, if the operations in any way affect the agriculture of the neighborhood.<sup>217</sup>

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<sup>209</sup>

*Id.*

<sup>210</sup>

Miss. Code Ann. § 51-3-35.

<sup>211</sup>

*Id.*

<sup>212</sup>

Miss. Code Ann. § 51-3-9.

<sup>213</sup>

Miss. Code Ann. § 51-3-9(1).

<sup>214</sup>

Miss. Code Ann. § 51-3-9(2).

<sup>215</sup>

*Clarke County v. Mississippi Lumber Co.*, 31 So. 905, 906 (Miss., 1902).

<sup>216</sup>

*Id.*

<sup>217</sup>

*Id.*



## GROUND WATER LAW IN MISSOURI

### SUMMARY OF LAW

Missouri follows the common law riparian doctrine for ground water. Missouri also regulates by permits withdrawals of ground water as authorized by the Missouri Water Resource Law, Chapter 256, Missouri Revised Statutes. See:

<http://www.moga.mo.gov/statutes/chapters/chap256.htm> and  
<http://www.moga.state.mo.us/statutes/chapters/chap640.htm> for specific requirements.

### PERMITS

The Missouri Department of Natural Resources (DNR) is responsible for the permitting and administration of all water uses in the state, among many other responsibilities. Its safe drinking water commission sets rules necessary for the implementation, administration and enforcement of sections 640.100 to 640.140 and the federal Safe Drinking Water Act as amended. That commission inventories public water supplies, conducts sanitary surveys of public water systems, assists water suppliers, collects fees, makes grants and loans and develops water use plans. The Water Well Driller's Act, Section 256.000 to 256.640 of RSMo 1994, established a permit system, fees, performance standards for construction of water wells, and other requirements that affect ground water in Missouri.

### OTHER PROVISIONS

Section 640.403(4) of Missouri Revised Statutes defines "Groundwater" as water occurring beneath the surface of the ground, including underground watercourses, artesian basins, underground reservoirs and lakes, aquifers, other bodies of water located below the surface of the ground, and water in the saturated zone."<sup>218</sup> With considerable amounts of karst terrain in Missouri, this definition clearly intends to include those areas. The DNR is empowered to carry out ground water quality baseline and trend monitoring, and to identify areas at risk for contamination<sup>219</sup> The DNR also is charged with inventorying existing groundwater uses, the quantity of ground water available for future uses, and water extraction and use patterns.<sup>220</sup> The department is further responsible for developing a comprehensive "State Water Resources Plan" that includes all water supplies, sources, current and future uses, and may require data from groundwater and surface water users as necessary.<sup>221</sup> The DNR may establish special water quality protection areas if contamination that exceeds state or federal water quality standards is discovered, delineate the boundaries of such areas, conduct public hearings to evaluate a course of action, and if the contamination threat is no longer significant, it can remove the special protection designation.<sup>222</sup>

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<sup>218</sup> Missouri Revised Statutes Chapter 640.403(4).

<sup>219</sup> Missouri Revised Statutes Chapter 640.409.

<sup>220</sup> Missouri Revised Statutes Chapter 640.412.

<sup>221</sup> Missouri Revised Statutes Chapter 640.415.

<sup>222</sup> Missouri Revised Statutes Chapter 640.418 to 423.

## GROUND WATER LAW IN MONTANA

### SUMMARY OF LAW

Montana applies statutory management of controlled ground water areas, as well as appropriative permitting in non-controlled areas for uses over greater than thirty-five gallons per minute or that exceed ten acre-feet per year. Montana Code, Title 85, Water Use, Chapter 2, Part 5 contains Ground Water rules at [http://leg.state.mt.us/css/mrcode\\_const/laws.asp](http://leg.state.mt.us/css/mrcode_const/laws.asp)

### STATUTORY FRAMEWORK

#### DESIGNATION OF CONTROLLED GROUND WATER USE AREA.

The Montana Department of Natural Resources (DNR), upon petition from a state or local public health agency alleging effects on public health, or petition from twenty persons or one-fourth of the users (whichever is lesser) will begin the hearing process.<sup>223</sup> Petitions are to contain allegations of over allocation of the aquifer, conflicts between ground water users (over priority, amounts in use, etc), or degradation of water quality.<sup>224</sup> After notice and a hearing, the DNR is required to declare an area a controlled ground water area if the hearing shows the following:

- the public health, safety, or welfare requires a corrective control to be adopted; and
- one of the following elements is present -
- there is a wasteful use of water from existing wells or undue influence with existing wells; or
- any use or well will impair or substantially interfere with existing surface or ground water rights; or
- that facts alleged in the petition are correct.

After DNR determines the need for corrective measures, it develops an order to manage the ground water area. The order may include the following corrective provisions: closing the aquifer to further appropriation; establishing a total withdrawal and apportioning the permissible withdrawal between appropriators holding valid rights; allocation based on preference in use, provided that domestic and livestock purposes are first; adjusting the amounts of appropriators, rotation of ground water use; or any other provision required to protect the public health or welfare.<sup>225</sup> If the evidence presented in the hearing is insufficient to declare a permanent management area, a temporary one may be declared for two years and any of the aforementioned corrective controls may be adopted.<sup>226</sup> All waters in a controlled area are subject to the rules of appropriation (see description below).<sup>227</sup> Further, all ground water users have the right to initiate a hearing by DNR for the ascertainment of all existing rights in the ground water basin or sub-basin, regardless of whether the area is a part of a controlled use area.<sup>228</sup>

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<sup>223</sup> See Mont. Code Ann. § 85-2-506(2) (2000).

<sup>224</sup> *Id.*

<sup>225</sup> See Mont. Code Ann. § 85-2-507(4) (2000).

<sup>226</sup> Mont. Code Ann.. § 85-2-507(5) (2000).

<sup>227</sup> Mont. Code Ann. § 85-2-508 (2000).

<sup>228</sup> Mont. Code Ann. § 85-2-509 (2000).

#### PRIOR APPROPRIATION OF GROUND WATER.

Ground water users in a controlled ground water district or ground water users outside a controlled area appropriating greater than thirty-five gallons per minute or exceeding ten acre-feet per year<sup>229</sup> are required to comply with the appropriation statutes and rules associated with surface water.<sup>230</sup> After an application is made to the DNR, there are notice and hearing requirements. If the DNR finds on reasonable evidence that the appropriation will not adversely affect the rights of other persons, it will issue the permit.<sup>231</sup> If the application does not show a bona fide intent to appropriate water for a beneficial use, the department may terminate the application for a permit.<sup>232</sup>

#### PERMIT APPROVAL REQUIREMENTS, GENERALLY.

The DNR is required to issue a permit if the applicant shows that it is more likely than not that:

- Water is physically and legally available during the period in which the applicant seeks to appropriate.<sup>233</sup>
- Water rights of a senior appropriator will not be adversely affected;
- Proposed means of diversion, construction, and operation of the appropriation works are adequate;
- The use of water is beneficial;
- The applicant has a possessory interest or consent of the owner of the property where the water will be placed to a beneficial use;
- Water quality of an appropriator will not be affected;
- The use will not have an adverse effect on stream water quality standards; and
- The holder of a pollution discharge permit will not be adversely affected.<sup>234</sup>

#### LARGE QUANTITY WITHDRAWALS.

The appropriation of 4,000 or more acre-feet of water a year and 5.5 or more cubic feet per second are prohibited unless the applicant shows by clear and convincing evidence that all general permit requirements (see above) are met, and the appropriation is found to be “reasonable” based upon:

- Existing demands on the state water supply as well as projected demands including municipal water supplies, irrigation, and minimum stream flows;
- Benefits to the applicant and the state; effects on quantity and quality of existing beneficial uses in the source; and the feasibility of using low-quality water for the applicant’s purpose;
- Effects on property rights due to saline seep; and

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<sup>229</sup> The appropriation may be from one well, or from two or more wells diverting water from the same source.

<sup>230</sup> Mont. Code Ann. § 85-2-306(1) (2000).

<sup>231</sup> Mont. Code Ann.. § 85-2-307 (2000).

<sup>232</sup> See Mont. Code Ann. § 85-2-310(4) (2000).

<sup>233</sup> Mont. Code Ann. § 85-2-311(1)(a) (2000). (legal availability is determined through an identification of physical water availability; identification of legal demands on the source of supply and impact of the proposed use; and analysis of the physical water availability and existing legal demands).

<sup>234</sup> See Mont. Code Ann. § 85-2-311(1).

- Effects on water quality.<sup>235</sup>

TRANSFER OF WATERS OUTSIDE OF THE STATE.

The department may not issue a permit for the transportation of water outside of the state unless the applicant shows by clear and convincing evidence the requirements for general and large quantity withdrawals are met, where applicable; the transfer of water is not contrary to water conservation in Montana; and the proposed out-of-state use of water is not otherwise detrimental to the public welfare of the citizens of Montana.<sup>236</sup>

RESERVATION OF WATERS.

Any agency of the United States may apply to the department to acquire a state water reservation for existing or future beneficial uses or to maintain a minimum flow, level, or quality of water throughout the year or at periods or for a length of time the department designates.<sup>237</sup>

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<sup>235</sup> See. Mont. Code Ann. § 85-2-311(3) (2000).

<sup>236</sup> See Mont. Code Ann.. § 85-2-311(4) (2000).

<sup>237</sup> Mont. Code Ann. § 85-2-316(1) (2000).

## GROUND WATER LAW IN NEBRASKA

### SUMMARY OF LAW

Nebraska follows a combination of the reasonable use rule and statutory preferences, and enacted the Ground Water Management Act in 1976 that established controls on ground water use by irrigators. Neb. Rev. Stat. 46-601 to -655 (1993) and Section 46-703. See: <http://statutes.unicam.state.ne.us/Corpus/statutes/chap46/R4607009.html>

### PERMITS

The Nebraska Department of Natural Resources (<http://www.dnr.state.ne.us/>) administers the Nebraska statute and regulations on ground water at Section 46-233. Permits from the DNR are required of anyone intending to appropriate public waters for intentional underground water extraction, storage and recovery. Only a public water supplier may appropriate waters for induced ground water recharge, and must provide current and anticipated usage over the next 25-year period.<sup>238</sup>

Public suppliers may apply for a temporary permit to appropriate water for up to one year.

Section 46-613, revised in 2000, set forth a use preference system for ground water, with domestic purposes, including water for human needs as it relates to health, fire control, sanitation and domestic livestock on farms and ranches first, followed by agricultural/aquacultural purposes, then manufacturing and industrial uses last. Between domestic users of ground water, there is no preference or priority.<sup>239</sup>

Ground water can be transferred off overlying land if it will remain within Nebraska, be used for agricultural purposes or for any purpose pursuant to a ground water remediation plan under the Environmental Protection Act, will not injure another water user, is consistent with all applicable statutes and rules and regulations, and is in the public interest. Affected parties can object to the transfer and an investigation will follow. The natural resources district can deny the proposed transfer and it can request the DNR to hold a public hearing after which the director of DNR will render a decision.<sup>240</sup>

Each natural resources district is required to maintain a ground water management plan that addresses ground water supplies, local recharge characteristics, data collection programs, past, current and potential ground water uses, water quality concerns, potential for conjunctive uses, management objectives for ground water, and other aspects of sustaining ground water resources.<sup>241</sup>

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<sup>238</sup> R.R.S. Neb. Sec. 46-233(2) (2000)

<sup>239</sup> *Prather v. Eisenmann*, 200 Neb. 1, 261 N.W. 2d 766 (1978).

<sup>240</sup> R.R.S. Neb. Sec. 46-691 (2003)

<sup>241</sup> R.R.S. Neb. Sec. 46-709 (2004)

## GROUND WATER LAW IN NEVADA

### SUMMARY OF LAW

Nevada applies an appropriative system in allocating ground water resources. This system uses provisions applicable to surface water and modified provisions associated to ground water. See Nev. Rev. Stat. Title 48, Ch. 533 and 534. Also, <http://www.leg.state.nv.us/NRS/Index.cfm>

### PRIOR APPROPRIATION OF GROUND WATER

Rights to appropriate ground water from an artesian basin or basin with clearly defined channels became effective March 22, 1913. Rights to appropriate percolating ground waters without a clearly defined basin were effective March 25, 1939.<sup>242</sup> The state engineer may designate a ground water basin for management in two ways: (1) a petition signed by forty percent of the appropriators in the basin requesting administration by the state engineer, or (2) a determination by the state engineer that management of the basin is necessary.<sup>243</sup> An active designation requires that applicants submit and gain approval of a permit to appropriate before commencing the first step to appropriate water (e.g. construction of a diversion). In non-designated areas, applicants are required to obtain a permit before putting water to a beneficial use.<sup>244</sup>

### PROCESS FOR APPROPRIATING GROUND WATER.

Beneficial use is the basis, measure, and limit of the right to use water in the State of Nevada.<sup>245</sup> The application process for ground water is the same as that for surface water.<sup>246</sup> The applicant is required to submit to the state engineer:

- applicant's name and address;
- the source from which the appropriation is to be made;
- the amount of water to be used in cubic-feet per second, unless for storage then in acre feet;
- the purpose for which the application is made<sup>247</sup>;

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<sup>242</sup> Nev. Rev. Stat. § 534.080 (2001).

<sup>243</sup> N.R.S. § 534.030 (2001). For all practical purposes, all waters in the state are considered designated for management by the state engineer. See Walch, Greg, *Water Law: Treading Water Law – A Nevada Water Law Primer*, 6 Nevada Lawyer 18, 20 (1998).

<sup>244</sup> N.R.S. §534.050 (2001).

<sup>245</sup> N.R.S. § 533.035 (2001).

<sup>246</sup> See N.R.S. § 534.030 (2001).

<sup>247</sup> Certain uses have additional informational requirements which must be a part of the permit application: (a) irrigation uses must include the acres of land irrigated and description of the land with legal subdivisions if possible; (b) power purposes require the vertical head under which water will be applied, the location of the proposed power house, and the use to which the power will be placed; (c) municipal and domestic supply must include the approximate number of people served and the approximate future requirements; (d) mining purposes must include the methods of applying and utilizing the water; and (e) stockwatering purposes must include the approximate number and character of animals watered. See Nev. Rev. Stat. § 533.340 (2001).

- a substantially accurate description of the location of the point of diversion, and if there is a return flow where the location of proposed point of return;
- a description of the proposed works;
- the cost of the works;
- an estimate of the time to construct the works and place the water to a beneficial use; and
- the signature of the applicant or his/her agent's signature.<sup>248</sup>

The State engineer publishes the application with a portion of the fee dedicated to the notice provisions.<sup>249</sup> Wells located in a county with a population less than 400,000, intended for a municipal, quasi-municipal, or industrial use, and whose reasonably expected rate of diversion is one-half cubic foot per second or more are required to mail a copy of the notice to any real property owner within 2,500 feet of the proposed well. The notices are to be sent by certified mail return receipt requested and those receipts filed with the engineer before action on the application may be taken.<sup>250</sup>

The state engineer is required to approve applications for appropriation if located within an irrigation district, do not adversely affect the cost of water for other permit holders or lessen the efficiency of the district in its delivery or use of water. In addition, the applicant must show through adequate proof the applicant's intent and financial ability to construct the works and place the water to a beneficial use.<sup>251</sup> The state engineer may not grant a permit where there is no un-appropriated water in the proposed source of supply or when the appropriation threatens to prove detrimental to the public interest.<sup>252</sup>

Applicants are required to complete the well used to divert water from the source within five years after the date of approval of the application, and the water is to be placed to the beneficial use within the application within ten years of the approval of the application.<sup>253</sup> The state engineer may limit the applicant to a smaller quantity, shorter time for the completion of the works, and a shorter time for perfection of the application than required by the permit.<sup>254</sup> The state engineer may extend the time frames for completion of the well or application of the water to beneficial use upon the request of the applicant thirty days before the well is to be completed, and a proof and evidence from the applicant showing reasonable diligence towards the perfection of the application.<sup>255</sup>

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<sup>248</sup> N.R.S. § 533.360(1) (2001).

<sup>249</sup> N.R.S. § 533.360(2).

<sup>250</sup> N.R.S. § 533.360(3) (2000).

<sup>251</sup> N.R.S. § 533.370(1) (2001).

<sup>252</sup> N.R.S. § 533.370(3), (2001). Factors considered not to be in the public interest are appropriations in a basin that is over-appropriated, and the storage of high level nuclear waste, see *United States v. Nevada*, 123 Fed. Supp. 2d 1209, 1211 (Nev., 2000).

<sup>253</sup> N.R.S. § 533.380(1), (2001). Note that municipal and quasi-municipal applicants have different provisions as discussed in this section.

<sup>254</sup> N.R.S. § 533.380(2), (2001). Note that municipalities and quasi-municipal applicants may not have the time allowed for perfection shortened by the state engineer.

<sup>255</sup> N.R.S. § 533.380, (2001). Note that municipal and quasi-municipal applicants have different provisions as discussed in this section.

Permits for appropriation of ground water are perfected by submitting to the state engineer satisfactory information that the elements of the permit have been met, the engineer then issues a certificate which includes: the name and address of the permit holder(s), the date, source, purpose, and amount of the appropriation, a description of the irrigated lands, , and the permit number under which the certificate was issued.<sup>256</sup> Ground water permits are accompanied by the rules regarding forfeiture and abandonment<sup>257</sup> (see below).

To change the manner of use, place of use, or place of diversion the applicant is to submit all information required by the state engineer on a form created by the state engineer.<sup>258</sup> Applicants may seek temporary changes of not more than one year, provided that the change is in the public interest, does not impede water rights of existing users, and is accompanied by the requisite fee.<sup>259</sup>

#### FORFEITURE AND ABANDONMENT OF WATER RIGHTS.

If water is not used for five consecutive years for the purpose stated in the permit or certificate, the right is forfeited. In areas where the state engineer keeps pumping records, after four years of non-use the engineer is required to notify the permit or certificate holder that they are required to apply the water to a beneficial use and submit proof of the beneficial use. The engineer may grant an extension before the right is forfeited.<sup>260</sup>

In addition, a ground water right may be lost through abandonment. The state engineer may determine that a right is abandoned when upon examination of an application in the same source, the engineer believes that a right has been abandoned. If upon notification the right holder does not appeal the ruling, then the abandonment declaration becomes final.<sup>261</sup>

#### CRITICAL MANAGEMENT OF GROUND WATER RESOURCES.

The state engineer is granted authority to establish rules and regulations in ground water sources where the engineer deems are depleting. As a part of these rules the engineer may designate preferred uses and act on applications for appropriations in accordance with those preferences, issue temporary permits, limit the depth of domestic wells, and revoke temporary permits when domestic users have the ability to obtain water from water district or municipal supplies.<sup>262</sup>

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<sup>256</sup> N.R.S. § 533.425(1), (2001). This section also applies when perfecting changes to the elements of a permit.

<sup>257</sup> N.R.S. § 533.425(2), (2001).

<sup>258</sup> N.R.S. § 533.345. Forms for a change in permit/certificate requirements may be found on the website of the Nevada State Engineer.

<sup>259</sup> N.R.S. § 533.345.

<sup>260</sup> Nev. Rev. Stat. § 534.090(X). The state engineer may grant an extension upon a showing of good cause and upon consideration of: (a) whether the holder has shown good cause for the failure to use some or all of the water for the purpose within the permit; (b) the unavailability of water to place to a beneficial use which is beyond the control of the holder; (c) any economic conditions or natural disasters which made the holder unable to place the water to a beneficial use; and (d) whether the applicant has demonstrated efficient methods of irrigation, including center pivot irrigation.

<sup>261</sup> N.R.S. § 534.090(4). The abandonment and forfeiture laws in Nevada are retroactive (claims vested before 1963 are subject), however “substantial use” after the statutory period of nonuse cures the forfeiture or abandonment. The burden to show that a forfeiture or abandonment took place, and the quantity, is on the state engineer who must prove with clear and convincing evidence. See *Town of Eureka v. Office of the State Engineer of Nevada*, 826 P.2d 948,952 (1992).

<sup>262</sup> N.R.S. § 534.120. (2001).



## GROUND WATER LAW IN NEW HAMPSHIRE

### SUMMARY OF LAW

New Hampshire applies a test of reasonableness in a very broad context when determining the extent of an owner's property rights. This view of reasonableness extends to landowners rights to ground water.

### STATUTORY FRAMEWORK

The State of New Hampshire does not have a statute that comprehensively regulates ground water resource allocation. See <http://www.des.state.nh.us/dwspp/rules/.pdf> which sets forth the regulations of the state's Department of Environmental Service regarding groundwater discharge permitting and registration. Ground water is defined as "subsurface water that occurs beneath the water table in soils and geologic formations."<sup>263</sup>

A groundwater discharge permit is required for unlined wastewater, septage or sludge lagoons; land disposal of wastewater; any discharge of a regulated contaminant; discharge of domestic wastewater from a subsurface disposal system of more than 20,000 gallons/day; and smaller amounts of wastewater for a single lot that either violates setback distances for nitrate or there are overlapping leach fields.<sup>264</sup> Additional informational requirements also apply.

### COMMON LAW DOCTRINE

The State of New Hampshire rejected the absolute ownership doctrine in 1862 stating "If this doctrine of absolute ownership is not well founded in legal principles, certainly there is nothing in its practical operation that so commends it to our approval as to lead to its adoption."<sup>265</sup> In finding that a rule of reasonableness applies to ground water the *Basslett* court stated "[a]s in these cases of the water-course, so in the drainage, a man may exercise his own right on his own land as he pleases, provided he does not interfere with the rights of others. The rights are correlative, and, from the necessity of the case, the right of each is only to a reasonable user or management; and whatever exercise of one's right or use of one's privilege, in such case is, under all the circumstances, and in view of the rights of others, such a reasonable user or management is not an infringement of the rights of others; but any interference by one land-owner with the natural drainage, injurious to the land of another, and not reasonable, is unjustifiable. Every interference by one land-owner with the natural drainage, actually injurious to the land of another, would be unreasonable, if not made by the former in the reasonable use of his own property. Although the plaintiffs' land was not situated upon the river, yet, if the defendants, by means of their dam, obstructed its natural drainage to the actual injury of the plaintiff, they are liable, unless the obstruction was caused by the reasonable use of their own

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<sup>263</sup> Adopted Rule Part Env-Ws 1502.1(i), 2/23/1999 under RSA 482-C:2, VIII.

<sup>264</sup> Adopted Rule Part Env-Ws 1504.01.

<sup>265</sup> *Basslett v. Salisbury Mfg. Co.*, 43 N.H. 569, 575 (1862).

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land or privilege; and the reasonableness of the use would depend upon the circumstances of the case.”<sup>266</sup>

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<sup>266</sup> *Id. at 577-78.*

## GROUND WATER LAW IN NEW MEXICO

### SUMMARY OF LAW

Waters in the State of New Mexico have been declared a public resource and subject to the rules of prior appropriation. For New Mexico Statutes Annotated, see <http://www.amlegal.com/nxt/gateway.dll?f=templates&fn=default.htm&vid=newmexico:statutes>

New Mexico is considering changes to their ground water statutes as of mid- 2005; the reader should verify what changes occurred before proceeding with the text below.

### PRIOR APPROPRIATION OF GROUND WATER

#### GROUND WATERS PUBLIC WITH PERMIT EXCEPTIONS FOR CERTAIN USES.

The State of New Mexico applies the doctrine of prior appropriation to underground waters that are in a reasonably defined channel.<sup>267</sup> The rules applied to ground water are not the rules applied to surface water, even though many of the substantive rights attached to an appropriation of water are the same.

If the applicant is to use the waters for stock watering, irrigation of less than one acre of noncommercial trees, lawn, or garden, or household domestic use then the applicant is to complete a form provided by the state engineer which shall be approved, provided it complies with all municipal laws.<sup>268</sup> In the case of stock watering, the applicant must also show legal entitlement to place livestock on federal or state land where the water is to be used, and the applicant was granted access to the drilling site and has been granted permission to occupy a portion of federal or state land where the well is to be drilled and operated.<sup>269</sup>

If the applicant desires to appropriate three or less acre feet for a period of one year or less for the purposes of prospecting, mining, highway, road, or public works construction, or drilling operations then the applicant must file an application (discussed below) for each proposed use.<sup>270</sup> If the state engineer finds the proposed use will not impair existing rights of others the engineer shall grant the permit without notice or hearing.<sup>271</sup> If the engineer determines there is impairment of existing rights then the application is subject to the advertisement and hearing process (discussed below).<sup>272</sup>

#### RECOGNITION OF EXISTING RIGHTS.

An appropriator claiming a vested right is required to submit to the state engineer on a form provided the beneficial use of the water, the date the water was first applied, the continuity of the use and application, the location of the well, and if for irrigation purposes, a description of the land irrigated.<sup>273</sup> The applicant is required to verify the elements in the form, by personal

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<sup>267</sup> NM Stat. Ann. § 72-12-20.

<sup>268</sup> NM Stat. Ann. § 72-12-1.

<sup>269</sup> NM Stat. Ann. § 72-12-1(A).

<sup>270</sup> NM Stat. Ann. § 72-12-1(B).

<sup>271</sup> *Id.*

<sup>272</sup> *Id.*

<sup>273</sup> § 72-12-5.

knowledge, information, or belief.<sup>274</sup> The form constitutes prima facie evidence of the truth of the contents.<sup>275</sup>

#### PERMITTING PROCESS.

An applicant must provide information to the State Engineer on a form provided by Engineer about the underground water source from which the water is to be appropriated, the beneficial use of the water, the location of the proposed well, the name of the owner of the land where the well is to be located; the proposed amount of water, the place of use and, if for irrigation, a description of the land to be irrigated.<sup>276</sup> If the applicant does not own the land or is not the lessee of the oil, mineral, or gas rights of the land, the application must include an acknowledged statement executed by the owner of the land stating that the applicant has a right of access to the land and has received permission to occupy the land to drill and operate the well.<sup>277</sup>

The application is to be published and any person, corporation, firm or other legal entity with an interest in the matter may object.<sup>278</sup> If there are no objections and the State Engineer determines that there are unappropriated waters in the source, or that the appropriation will not affect existing rights and the appropriation is not contrary to conservation of water or against the public welfare, then the State Engineer shall grant the permit. If there are objections or if the engineer believes that the permit should not be issued then he may deny the permit with or without a hearing.<sup>279</sup>

#### CHANGES TO PERMIT ELEMENTS.

Changes in use or location of the permit requires the permit holder to show that the change will not impair existing rights and the change will not be contrary to the conservation of water within the state and will not be detrimental to the public welfare.<sup>280</sup> If these elements are not proved the engineer may require a hearing (see above).<sup>281</sup> Temporary changes for one year or less, and for three acre-feet or less may be approved unless the engineer finds the changes permanently impair vested rights of others.<sup>282</sup> If there are objections to the applications, or the State Engineer believes that the permit should not be granted, then the Engineer may deny the permit with or without a hearing.<sup>283</sup>

#### FORFEITURE.

If the holder of a water right does not beneficially use the water for the purpose dedicated in the right or permit, then the right is subject to forfeiture.<sup>284</sup> The State Engineer is required to notify

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<sup>274</sup> Id.  
<sup>275</sup> Id.  
<sup>276</sup> NM Stat. Ann. § 72-12-3(A).  
<sup>277</sup> NM Stat. Ann. § 72-12-3(B).  
<sup>278</sup> NM Stat. Ann. § 72-12-3(D). Interest in the matter is defined as (a) it impairs the objector's water right or (b) the application is contrary to the conservation of water in the state or detrimental to the public welfare and the objector will be substantially and specifically affected by the permit.  
<sup>279</sup> NM Stat. Ann. § 72-12-3(F).  
<sup>280</sup> NM Stat. Ann. § 72-12-7(A)  
<sup>281</sup> Id.  
<sup>282</sup> § 72-12-7(B)  
<sup>283</sup> § 72-12-7(C).  
<sup>284</sup> § 72-12-8(A), (2000).

the right holder that the water must be placed to a beneficial use.<sup>285</sup> One year after notification, if the water has not been placed to the beneficial use then it is forfeited.<sup>286</sup> The Engineer may grant extensions to the right holder for good cause and that such extensions are in the public interest.<sup>287</sup> These extensions are not to exceed three years. There are several statutory exceptions that affect the four-year forfeiture period.<sup>288</sup>

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<sup>285</sup>

Id.

<sup>286</sup>

Id.

<sup>287</sup>

§ 72-12-8(B), (2000).

<sup>288</sup>

§ 72-12-8(C) to (H). Water dedicated to lands not under cultivation due to the Food Security Act of 1985 (federal) P.L. 99-198; periods of non-use when the right is placed in an Engineer approved water conservation program; a lawful exemption through a provision of another statute; water rights acquired by municipalities for implementation of their water development plan; when the right holder is on active duty in the military.

## GROUND WATER LAW IN NEW YORK

### SUMMARY OF LAW

- New York has a “sole source” aquifer protection law that regulates land use in counties with a sole source aquifer and a permit system elsewhere. See <http://dec.state.ny.us/website/regs/part601.html> for requirements.
- New York courts apply a common law reasonable use rule when resolving conflicts between ground water users.
- The Great Lakes Water Conservation and Management Act of 1989 places certain added requirements on water users in the Great Lakes Basin, which includes all of the Finger Lakes National Forest. See <http://www.dec.state.ny.us/website/dow/bwp/withdrawal1.html>.

### STATUTORY FRAMEWORK

New York’s law allows any municipality or person to nominate an area (which is already designated federally) as a sole source if the county population exceeds one million.<sup>289</sup> There are several informational requirements that must be submitted with the plan that may be found at NY ECL §§ 55-0109(2) – (3). The “commissioner” shall review the plan and may approve, modify, or disapprove the plan. Once the plan is approved it is eligible for funds to develop and comply with all requirements of the plan, not to exceed three years.<sup>290</sup> The local planning entity prepares a ground water protection plan with an emphasis on maintaining water quality, but including recharge rates, the amount of sustainable development that can take place in the aquifer, changes in land-use planning that will further ground water quality and recharge of the aquifer.<sup>291</sup> There are noticing and hearing requirements to be met before the plan may take effect.<sup>292</sup>

### COMMON LAW DOCTRINE

The courts in New York began to follow the reasonable use rule in the early 1900’s in *Smith v. City of Brooklyn* where the Supreme Court of New York rejected its adherence to the absolute ownership rule determining that it was better to search out a more equitable rule than attempting to reconcile English rule with the injustice in these facts. The Court went on to state that there is certainly an inconsistency in the rule which allows the owner to use a stream as a natural right and yet allows another, in search of underground water, the right to destroy the stream absolutely. There is no difference between drawing water from the stream itself or cutting off the supply.<sup>293</sup> The Court went on to state that there was no fixed rule for determining the reasonableness of ground water use, rather each case is determined on its individual facts and circumstances.<sup>294</sup>

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<sup>289</sup> NY CLS ECL § 55-0109.

<sup>290</sup> NY CLS ECL § 55-0111.

<sup>291</sup> NY CLS ECL § 55-0115.

<sup>292</sup> NY CLS ECL § 55-0117.

<sup>293</sup> See *Smith v. City of Brooklyn*, 18 A.D. 340, 349 (1897).

<sup>294</sup> *Id.* at 350.

## GROUND WATER LAW IN NORTH CAROLINA

### SUMMARY OF LAW

- The State of North Carolina General Statute G.S. 143-215.22H (Effective March 1, 2000) requires any non-agricultural water user who withdraws 100,000 gallons per day (gpd) or more from surface or ground water sources, or transfers at least 100,000 gpd of water from one river basin to another must register the withdrawal or transfer with the state Department of Environment and Natural Resources (DENR) and update those registrations at least every five years. Other exempt water users include local government units with a Local Water Supply Plan, water users in the Central Coastal Plain Capacity Use Area that are registered or have a water use permit, and owners of dams that discharge water solely at the toe of the dam.<sup>295</sup> See <http://www.enr.state.nc.us>
- North Carolina common law recognizes the reasonable use rule in determining ground water use.

### STATUTORY FRAMEWORK

#### DESIGNATION OF CAPACITY USE AREA.

Before the regulatory elements of the state water permitting requirements are triggered, DENR must determine that a location could be a capacity use area. There are two reasons for this designation: “the aggregate uses of ground water or surface water, or both, in or affecting said area (i) have developed or threatened to develop to a degree which requires coordination and regulation, or (ii) exceed or threaten to exceed, or otherwise threaten or impair, the renewal or replenishment of such waters or any part of them.”<sup>296</sup> After an examination of the scientific data and a public process, DENR may find an area at capacity use for surface water, ground water, or both. The department must clearly mark the boundaries of the area and then may issue a rule

- Prohibiting any person withdrawing more than 100,000 gallons of water per day from increasing the amount of their withdrawal above such limit as may be established in the rule.
- Prohibiting any person from constructing, installing or operating any new well or withdrawal facilities having a capacity in excess of a rate established in the rule; but such prohibition shall not extend to any new well or facility having a capacity of less than 10,000 gallons per day.
- Prohibiting any person discharging water pollutants to the waters from increasing the rate of discharge in excess of the rate established in the rule.
- Prohibiting any person from constructing, installing or operating any facility that will or may result in the discharge of water pollutants to the waters in excess of the rate established in the rule.
- Prohibiting any agency or political subdivision of the State from issuing any permit or similar document for the construction, installation, or operation of any new or existing

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<sup>295</sup> See also [http://ncwater.org/Permits\\_andRegistration/Water-Withdrawal?Registration/faq.php?](http://ncwater.org/Permits_andRegistration/Water-Withdrawal?Registration/faq.php?)

<sup>296</sup> N.C. Gen. Stat. § 143-215.13(b).

facilities for withdrawing water from, or discharging water pollutants to, the waters in such area in excess of the rates established in the rule.<sup>297</sup>

#### ELEMENTS OF CAPACITY USE AREA RULE.

The Environmental Management Commission may determine with respect to surface waters, ground waters, or both any provisions concerning the timing of withdrawals; provisions to protect against or abate salt water encroachment; provisions to protect against or abate unreasonable adverse effects on other water users within the area, including, but not limited to, adverse effects on public use.<sup>298</sup>

With respect to ground waters: provisions concerning well-spacing controls, and provisions establishing a range of prescribed pumping levels (elevations below which water may not be pumped) or maximum pumping rates, or both, in wells or for the aquifer or for any part thereof based on the capacities and characteristics of the aquifer.<sup>299</sup>

#### ELEMENTS OF PERMITTING SYSTEM.

Every person within a capacity area who falls under the provisions of the rule (100,000 gallons per day for existing users or 10,000 gallons per day for new users) is required to obtain a permit.<sup>300</sup> The permit must contain a certified statement of quantities of water used and withdrawn, sources of water, and the nature of the use thereof not more frequently than 30-day intervals.<sup>301</sup>

The DENR is required to issue a permit for non-consumptive uses. If the use is consumptive, the State has four options:

- grant a conditional permit with conditions that satisfy the purposes of the Act;
- upon a showing of need, grant a temporary permit;
- modify or revoke a permit; or
- deny the permit if the purposes are contrary to the Act.<sup>302</sup>

Where a user can show that the use predates the declaration of a capacity use area, the department shall take into consideration the extent to which the prior use was reasonably necessary to meet the water user's needs. A permit shall be issued to meet those reasonable needs provided there would be no present or potential effect on other users.<sup>303</sup>

Permits are to last no longer than (a) ten years, or (b) the duration of the capacity use designation, or (c) the period found by the department to be necessary for reasonable amortization of the applicant's water-withdrawal and water-using facilities.<sup>304</sup>

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<sup>297</sup> N.C. Gen. Stat. § 143-215.13(d).

<sup>298</sup> N.C. Gen. Stat. § 143-215.14(a)(1).

<sup>299</sup> N.C. Gen. Stat. § 143-215.14(a)(2).

<sup>300</sup> NC Gen. Stat. §143-215.16(c).

<sup>301</sup> NC Gen. Stat. §143-215.16(c).

<sup>302</sup> N.C. Gen. Stat § 143-215.15(c).

<sup>303</sup> N.C. Gen. Stat § 143-215.16(e).

<sup>304</sup> N.C. Gen. Stat § 143-215.16(a).



## COMMON LAW DOCTRINE

The Supreme Court of North Carolina restates the reasonable use rule as “the doctrine of ‘reasonable use,’ by which the landowner is said to have the right only to a reasonable and beneficial use of the waters upon the land or its percolations or to some useful purpose connected with his occupation and enjoyment. The ‘reasonable use’ theory does not prevent the proper consumption of such waters in agriculture, manufacturing, irrigation, or otherwise, nor the development of the land for mining and the like, although the underground waters of neighboring properties may be thus interfered with or diverted. He may consume it, but he must not waste it to the injury of others. He may pump or draw or drain such waters without liability to his neighboring landowners, when it is proper for the natural and legitimate use or improvement of his own land, but not in an unreasonable manner to force and increase the flow to divert them to some use disconnected with such improvement and enjoyment whereby the flow of waters or their percolation under the lands of others are destroyed or diminished.”<sup>305</sup>

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<sup>305</sup> *Bayer v. Nello L. Teer Co.*, 256 N.C. 509, 556 (1963).

## GROUND WATER LAW IN NORTH DAKOTA

### SUMMARY OF LAW

North Dakota applies the doctrine of prior appropriation when allocating ground water resources. <http://www.state.nd.us/lr/cencode/t61c04.pdf> is the website where the language of the pertinent statute can be found.

### PRIOR APPROPRIATION OF GROUND WATER

North Dakota applies prior appropriation when allocating ground water resources. The state defines beneficial use as the basis, measure, and limit of the right to use water in the state.<sup>306</sup> The use of water must be in the best interests of the people of the state.<sup>307</sup> Domestic, livestock, fish, wildlife, and recreational uses of less than twelve and one half acre feet are exempt from the permitting processes. However, an appropriator may apply for a permit to clearly establish the priority of the use.<sup>308</sup>

The state engineer has been delegated all authority to describe the form and elements to be submitted by the applicant in the permitting process.<sup>309</sup> The state engineer is required to issue a permit when the rights of a prior appropriation will not be unduly affected, the proposed means of diversion and construction are adequate, the proposed use of water is beneficial, and when the proposed use of water is in the public interest.<sup>310</sup>

When determining what is in the public interest, the state engineer is directed to consider:

- Benefit to the applicant resulting from the proposed appropriation;
- Effects on the economic activity resulting from the proposed appropriation;
- Effects on fish, game, and public recreational opportunities;
- Effect of loss of alternate uses of water that might be made within a reasonable time if not hindered or precluded by the appropriation;
- Harm to other persons resulting from the proposed appropriation; and
- Intent and ability of the applicant to complete the appropriation.<sup>311</sup>

When issuing a conditional permit, the engineer may issue it for less than the amount requested, but never for more than the amount that can be placed to a beneficial use, unless the water permit is requested by a municipal or rural water district where there is a reasonable projection of future need.<sup>312</sup>

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<sup>306</sup> N.D. Cent. Code § 61-04-01.2.

<sup>307</sup> N.D. Cent. Code § 61-04-01.1(1).

<sup>308</sup> N.D. Cent. Code § 61-04-02 (2001).

<sup>309</sup> ND Cent. Code § 61-04-05 (2001).

<sup>310</sup> ND Cent. Code § 61-04-06.

<sup>311</sup> ND Cent. Code § 61-04-06(4).

<sup>312</sup> ND Cent. Code § 61-04-06.2

### PERFECTING WATER RIGHTS.

The state engineer must inspect the well to determine its actual capacity, its safety, and efficiency to perfect a water right in North Dakota. If the engineer determines that the well is not properly constructed, changes must be made in a reasonable time, or the applicant may lose the permit's priority date. If the engineer determines that the works are constructed in a satisfactory manner, a final permit is issued setting forth the capacity of the works and any conditions or limitations present in the conditional permit.<sup>313</sup>

Permits may be assigned only on the approval of the state engineer. Permits may be transferred to any parcel owned or leased by the holder of the permit, upon approval of the state engineer. The engineer must determine that reasonable proof exists that the assignment or transfer is without detriment to existing holders of water rights in the same source.<sup>314</sup>

### ASSIGNMENT OR TRANSFER OF WATER RIGHTS.

An appropriator may assign or transfer a water right with the approval of the state engineer. Water rights may be transferred only when the appropriator owns or leases the property to which the right is to be transferred. When proposing a transfer or assignment an appropriator must present reasonable proof that the assignment or transfer can be made without injury to existing rights. Interested parties in the same source of the proposed change within sixty days may object to the proposed transfer or assignment. Objections are heard in the district court located in the county of the proposed change.

### CHANGE IN POINT OF DIVERSION, PLACE OF USE, NATURE OF USE.

An appropriator may change the point of diversion, place or nature of the use with the approval of the state engineer. Proposals for a change are processed in the same manner as application for a permit. The engineer is required to approve the application if there is no effect on senior appropriators. Changes in nature of use may only be made for a higher priority use, including domestic, municipal, livestock, irrigation, industrial, fish, wildlife, or recreational uses.

### FORFEITURE AND ABANDONMENT OF WATER RIGHTS.

Water rights may be forfeited if not used for the beneficial use stated in the permit for three successive years, unless the water was unavailable, there was a justifiable inability to complete the works, or for other good and sufficient cause.<sup>315</sup> Permit holders in the same source, and other interested parties may request that the state engineer conduct a hearing to cancel any unused water rights to the common source. The decisions of the state engineer are appealable.

Prior to the hearing, the state engineer is to serve notice to the permit holder and owner of the lands benefited. The notice includes a description of the water appropriated, the permit number in the engineer's records, the date of priority, the point of diversion, the description of the lands benefited as submitted in the application for appropriation, and notice that the permit holder and

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<sup>313</sup> N.D. Cent. Code § 61-04-09

<sup>314</sup> N.D. Cent. Code § 61-04-??.

<sup>315</sup> N.D. Cent. Code § 61-04-23 (2000). Note that municipalities and rural water districts reasonable future needs are considered justifiable exceptions to this process.

owner of the lands benefited and other interested parties are to show why an appropriation or portion of an appropriation should not be cancelled.

In addition to service personally or through registered mail to the owner of lands benefited and permit holder, the notice is published in a newspaper of general circulation in the county where the point of diversion is located once per week for two weeks. The verified report of the state engineer is prima facie evidence of the cancellation of the permit, or portion of the permit. If no parties appear at the hearing, the state engineer must cancel the permit in whole or part.

## GROUND WATER LAW IN OHIO

### SUMMARY OF LAW

- Ohio applies a system of reasonable use when conflicts arise between users of ground water.
- Ohio has enacted a statutory system that requires users of greater than 100,000 gallons of water per day to register with the state Department of Natural Resources. See: [http://www.dnr.state.oh.us/water/orclaw/groundwater\\_law\\_main.htm](http://www.dnr.state.oh.us/water/orclaw/groundwater_law_main.htm)

### STATUTORY FRAMEWORK

#### REGISTRATION REQUIREMENTS.

Users who have a facility that has the capacity to withdraw greater than 100,000 gallons per day must register the facility with the chief of the division of water.<sup>316</sup> The registration shall include the location and sources of the facility's water supply, the facility's withdrawal capacity per day and the amount withdrawn from each source, the uses of the water, places of use, and places of discharge, and other information as required.<sup>317</sup> Water users in a ground water stress area that withdraw more water than an amount designated by the Division of Water must register. Information required for withdrawals over 100,000 gallons per day are also required for withdrawals over the designated amount.<sup>318</sup>

### COMMON LAW DOCTRINE

#### MODIFIED RULE OF REASONABLE USE.

The State of Ohio adopted a "model" rule for resolving conflicts over ground water resources. The rule is "A proprietor of land or his grantee who withdraws ground water from the land and uses it for a beneficial purpose is not subject to liability for interference with the use of water by another, unless (a) the withdrawal of ground water unreasonably causes harm to a proprietor of neighboring land through lowering the water table reducing artesian pressure, (b) the withdrawal of ground water exceeds the proprietor's reasonable share of the annual supply or total store of ground water, or (c) the withdrawal of the ground water has a direct and substantial effect upon the watercourse or lake and unreasonably causes harm to a person entitled to the of its water."<sup>319</sup> In addition the legislature passed a statute reaffirming the State's adherence to the rule noting factors to take into consideration: the purpose of the use; the suitability of the use to the watercourse, lake or aquifer; the economic value of the use; the social value of the use; the extent and the amount of harm it causes; the practicality of avoiding the harm by adjusting the quantity of water used by each person; the protection of existing values of water uses, investments, and

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<sup>316</sup> ORC Ann. § 1521.16(A).

<sup>317</sup> *Id.*

<sup>318</sup> ORC Ann. § 1521.16(B).

<sup>319</sup> *Cline v. American Aggregates Corp.*, 15 Oh. St. 3d 384,387 (1984) quoting Restatement (Second) Torts § 858.

enterprises, and the justice of requiring the user causing the harm to bear the loss.<sup>320</sup> These factors are to all be considered without limitation.<sup>321</sup>

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<sup>320</sup> ORC Ann. § 1521.17(B).

<sup>321</sup> ORC Ann § 1521.17(A).

## GROUND WATER LAW IN OKLAHOMA

### SUMMARY OF LAW

The State of Oklahoma applies the doctrine of prior appropriation to allocate ground water resources among water users. See:

[http://www.owrb.state.ok.us/supply/watuse/pdf\\_wat/howto.pdf](http://www.owrb.state.ok.us/supply/watuse/pdf_wat/howto.pdf)

### OKLAHOMA WATER RESOURCE BOARD REGULATIONS

#### DETERMINATIONS OF AQUIFER MAXIMUM ANNUAL YIELD [CH. 30, SUBCH. 9].

The state divides aquifers into two classes: “major” basins and “minor” basins. Major basins are aquifers having the same or similar characteristics where ground water wells will yield fifty gallons per minute from a bedrock aquifer or one hundred and fifty gallons per minute from an alluvium and terrace aquifer.<sup>322</sup> Both minor and major aquifers are to have hydrologic surveys after which the Water Resource Board will make a tentative ruling on the maximum annual yield assuming a minimum aquifer life of twenty years. When determining the maximum yield, the decision is to be based on factors which include: the overlying land area; the rate of recharge and draining; the amount of water in storage; the possibility of pollution; and the transmissibility or transmissivity of the basin aquifer.<sup>323</sup> For minor basins the maximum yield is based upon the present and reasonably foreseeable use of the basin, recharge and total discharge, the geographical region in which the basin is located, and any other relevant factors.<sup>324</sup> After the tentative aquifer yield is determined, the Board conducts a notice and comment period which shall not exceed one year, and the maximum annual ground water yield that it determines shall be allocated to each overlying acre to the basin.<sup>325</sup>

#### PERMITS. [CH. 30, SUBCH. 5].

Permits are required to include the date of filing, the county(ies) where the wells are located, the date of permit approval, the amount of water in acre-feet authorized for withdrawal annually, the purpose for which the water will be used and the legal description of the land, the location of the wells, the ground water basin from which the water is withdrawn, and such additional requirements as the board may deem necessary after the notice and comment period.<sup>326</sup> There are five different types of permits authorized by the Oklahoma Water Resources Board under this act: Regular Permits, Temporary Permits, Special Permits, Provisional Temporary Permits, and Limited Quantity Permits.

Regular Permits are authorizations to place a proportionate share of ground water to a beneficial use. Domestic purposes are exempt from permitting. Regular permits are granted only after the determination of the maximum annual yield and permit duration shall not be less than twenty years. Regular permits specify the location of wells. If the lands dedicated to application lie over two or more basins where the maximum annual yield has been determined then the regular

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<sup>322</sup> Okla. Admin. Code §785:30-1-2 (2000).

<sup>323</sup> Okla. Admin. Code §785:30-9-2(a). (2000).

<sup>324</sup> Okla. Admin. Code §785:30-9-2(c).

<sup>325</sup> Okla. Admin. Code §785:30-9-4. (2000).

<sup>326</sup> Okla. Admin. Code §785:30-5-5.

permit shall be calculated by the aquifer having the greatest maximum annual yield. If water is being drawn from one basin, then the permit will be calculated on that basin. If the lands dedicated to application overlay two basins and the maximum annual yield has been determined for only one basin then the permit shall be calculated on that basin.

Temporary Permits are calculated by the Board before the calculation of the maximum annual yield and these permits must be renewed annually. Unless requested by a majority of the overlying landowners or the applicant, a temporary permit shall not be issued for less than two acre feet annually for each overlying acre.<sup>327</sup> The applicant has the opportunity to show by clear and convincing evidence that two acre feet or greater of water will not exhaust the ground water basin in less than twenty years.<sup>328</sup>

Special Permits are authorizations, in lieu or in addition to, a regular or temporary permit. The water may only be used for the purpose designated in the permit.<sup>329</sup> Special permits are issued for six months and may be renewed three times before they expire, successive permits must not be issued for the same purpose, and permits may be revoked if they are not used for the purpose stated in the permit.<sup>330</sup>

Provisional Temporary Permits are nonrenewable permits granted at the discretion of the executive director of the water resources board not to exceed 90 days. The permits are exempt from the notice and hearing requirements.<sup>331</sup>

Limited Quantity Permits are permits that may be issued at the discretion of the executive director for less than fifteen acre feet per year.<sup>332</sup> The applicant is required to notify all owners of land within six hundred feet or within the applicable well spacing distance (if greater) and allow ten days for written comments to the board.<sup>333</sup>

#### REPORTING REQUIREMENTS.

The water resource board mails annual use report forms to all valid permit holders who must respond within thirty days or have their permit revoked. Special permit holders must file a report within thirty days after the expiration of the permit.<sup>334</sup>

#### CHANGES TO PERMITS.

Permits may be amended to change the purpose, quantity, or location of the water use.<sup>335</sup> To make changes the permit holder must request the permission of the water resources board and, if protested, has the right to a hearing.<sup>336</sup> The permit holder may also dedicate additional land to a

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<sup>327</sup> Okla. Admin. Code §785:30-5-2(b).  
<sup>328</sup> Okla. Admin. Code §785:30-5-2(b)(2).  
<sup>329</sup> Okla. Admin. Code §785:30-5-3(a).  
<sup>330</sup> Okla. Admin. Code §785:30-5-3(b).  
<sup>331</sup> Okla. Admin. Code §785:30-5-4.  
<sup>332</sup> Okla. Admin. Code §785:30-5-4.1.  
<sup>333</sup> Okla. Admin. Code §785:30-5-4.1.  
<sup>334</sup> Okla. Admin. Code §785:30-5-9.  
<sup>335</sup> Okla. Admin. Code § 785:30-7-1.  
<sup>336</sup> *Id.*



beneficial use, and has the right to a hearing if there is protest to the application.<sup>337</sup> In addition, ground water rights are transferable subject to the rules established by the board.<sup>338</sup>

ADDITIONAL PROVISIONS.

There are numerous other provisions detailed in the Water Resource Board rules including the regulation of water placed to use in removing oil and gas, where the board requires additional economic information on obtaining alternatives to freshwater before placing freshwater to use.<sup>339</sup> The section also includes notice and hearing requirements under this section.<sup>340</sup> There are also additional requirements under this section for well spacing. Within ground water basins where there are established maximum annual yields, authorized existing wells must be a minimum of 1,320 feet apart.<sup>341</sup> The Board has discretion in making exceptions to this rule.<sup>342</sup>

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<sup>337</sup> Okla. Admin. Code §785:30-7-5.  
<sup>338</sup> See Okla. Admin. Code §785:30-7-7.  
<sup>339</sup> See Okla. Admin. Code §785:30-3-2.  
<sup>340</sup> See Okla. Admin. Code §785:30-3-4.  
<sup>341</sup> Okla. Admin. Code §785:30-3-6(a).  
<sup>342</sup> See Okla. Admin. Code §785:30-3-6(b).

## **GROUND WATER LAW IN OREGON**

### **SUMMARY OF LAW**

Oregon's Revised Statutes, Chapter 537, Appropriation of Water Generally, sets forth a comprehensive and fairly innovative set of rules for regulating via permits most ground water uses in the State. See <http://www.leg.state.or.us/ors/537.html>. The Oregon Water Resources Department (OWRD) is responsible for the administration of Oregon's water laws as directed by the Water Resources Commission.

#### PERMITS.

Oregon requires a permit for ground water appropriations that are for beneficial uses. Beneficial use without waste is the basis, measure and extent of the right to take groundwater. Non-use for five successive years creates a rebuttable presumption of forfeiture; there are 14 exceptions to the forfeiture rule.<sup>343</sup> Conditions may be imposed to minimize effects upon existing wells. There are special rules where surface water and ground water are hydraulically linked to ensure conjunctive management of both types of water takes place.

The State may designate special areas such as critical ground water management areas and close them to new appropriations and/or restrict withdrawals by existing water right holders. Some types of water uses are exempt from permits, including livestock watering, small domestic uses under 15,000 gpd, or small commercial and industrial uses of less than 5,000 gpd. Exempt uses are limited to only the amount necessary for beneficial use, and they may be regulated by the OWRD according to priority date if needed. If a normally exempt new use is within a declared Groundwater Management Area, a groundwater permit must be obtained.

The OWRD is responsible for ensuring groundwater permits preserve the public welfare, health and safety. Protests to proposed final orders that authorize a new use can be filed and a hearing may be scheduled if there are significant issues or if the applicant requests a contested case hearing. After that, a final order or a modified order with terms and conditions in the permit is issued. A new well must be completed within five years after approval of the application.<sup>344</sup>

Wells that pump from aquifers that are hydraulically linked to surface waters are assumed to cause interference with the surface water source if any of four explicit sets of conditions are met. Where such is the case, the OWRD can impose conditions or limitations in the permits or ask the Water Resources Commission to initiate rule-making that would designate the affected area a critical groundwater area. If that occurs, additional corrective measures and administrative proceedings and orders by the commission may follow.<sup>345</sup>

#### GROUNDWATER STORAGE.

The OWRD manages two types of ground water storage, aquifer recharge and aquifer storage and recovery (ASR). Permits are required for both types and the OWRD does studies and

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<sup>343</sup> Bryner and Purcell at 46.

<sup>344</sup> Bryner and Purcell at 48.

<sup>345</sup> Bryner and Purcell at 49.

requires the applicant to furnish study results prior to deciding if a permit will be issued. In 1995, Oregon enacted its aquifer storage and recovery statute and the OWRD has since enacted rules for its administration.<sup>346</sup>

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<sup>346</sup> OR.ADMIN.R. 690-350-0010 (2001).

## GROUND WATER LAW IN PENNSYLVANIA

### SUMMARY OF LAW

Pennsylvania applies a system of reasonable use when conflicts arise between users of ground water. Water Allocation Permits are required to use water from springs and surface sources, but not most domestic wells.

### STATUTORY FRAMEWORK

Pennsylvania does not have a statute that directly regulates the allocation of ground water resources, but the Water Rights Act of June 24, 1939 (P.L. 842, No. 365) 32 P.S. Section 631-641, has some effect. The state posts a 30-page file titled "Water Allocation Application and Instructions" on its website at <http://www.dep.state.pa.us>. Once there, look for Permits and Authorizations Package/Water Management/Water Allocation/3900-PM-WM0001Rev 9/2001. Ground water wells are not required to have a permit, unless they are owned by a municipality. Safe yield of water from each water source, as well as the quantity of water being put to use, must be estimated and reported to the Pennsylvania Department of Environmental Protection's Bureau of Watershed Management to obtain a Water Allocation Permit if surface sources and ground water are used conjunctively.

All water well drilling contractors are required to be licensed in accordance with the Act of May 29, 1956 (P.L. 1840) (32 P.S. Sections 645.1 thru 645.13). Copies of well logs must be sent to the Department of Conservation and Environmental Resources. A notice of intent to abandon a well must be sent to that department at least 10 days prior to sealing or filling the well.<sup>347</sup>

### COMMON LAW DOCTRINE

The Supreme Court of Pennsylvania has adopted the common law rule of reasonable use when resolving conflicts between ground water users. The court noted the trend away from the harsh application of the English rule and the "increased acceptance of the viewpoint that [a landowner's] use [of water] must be limited to purposes incident to the beneficial enjoyment of the land from which they were obtained ...."<sup>348</sup> Before applying the law to the facts at hand, the court determined that the reasonable use standard would be used in their determination.<sup>349</sup>

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<sup>347</sup> Pa Code Chapter 47.1 and 47.8.

<sup>348</sup> *Rothrauff v. Sinking Spring Water Co.*, 14 A.2d 87, 90 (Pa., 1940).

<sup>349</sup> *Id.* at 91.

## GROUND WATER LAW IN SOUTH CAROLINA

### SUMMARY OF LAW

South Carolina has enacted a comprehensive regulated riparian statute for ground water in 1969 called the Groundwater Use and Reporting Act that applies to all withdrawals and uses of ground water. It includes permitting and reporting requirements.<sup>350</sup>

### STATUTORY FRAMEWORK

Ground water management is under the jurisdiction of the South Carolina Department of Health and Environmental Control (the Department). Ground water withdrawers are defined as individuals, or local, state, or federal government units that withdraw more than 3,000,000 gallons per month from one or more wells within a one mile radius of any one existing or proposed wells.<sup>351</sup>

The South Carolina Act requires ground water withdrawers to register their withdrawals and uses with the Department, including the location, amount, and use of all ground water withdrawals anywhere in the state.<sup>352</sup> If the Department determines that excessive withdrawals threaten natural resources, public health, safety or economic welfare, or the long-term sustainability of the aquifer, it can declare a capacity use area in which withdrawals are subject to Departmental permitting and regulation.<sup>353</sup>

#### CAPACITY USE AREA DESIGNATION.

Beyond reporting requirements the State can designate “capacity use areas.” When determining whether there is a need for a capacity use area, the State may consider “where excessive ground water withdrawal presents potential adverse effects to the natural resources or poses a threat to public health, safety, or economic welfare or where conditions pose a significant threat to the long-term integrity of a ground water source, including salt water intrusion.”<sup>354</sup> A petition for the designation of a capacity use area may be made by the Department of Health and Environmental Control, local governments, other government entities, or users of the ground water.<sup>355</sup> After the initial notice and public hearing, the local government and ground water users are to develop a management plan for the ground water resource. If they are unable to do so, the Department shall administratively develop a plan.<sup>356</sup> After the plan is in place all non-exempt users are required to obtain a permit.<sup>357</sup> Permits are required before applicants can begin withdrawing ground water.<sup>358</sup>

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<sup>350</sup> S.C. Code Ann. §§ 49-5-10 to -150 (West Supp. 2001)

<sup>351</sup> 49 S.C. Code Ann. § 30(12).

<sup>352</sup> 49 S.C. Code Ann. § 40.

<sup>353</sup> S.C. Code Ann. § 49-5-60.

<sup>354</sup> 49 S.C. Code Ann. § 60(a).

<sup>355</sup> *Id.*

<sup>356</sup> 49 S.C. Code Ann. § 60(b).

<sup>357</sup> 49 S.C. Code Ann. § 60(c).

<sup>358</sup> 49 S.C. Code Ann. § 100(a).

The Department is granted the authority to adopt regulations to further the purposes of this act, issue, modify, deny, and revoke permits, and collect information amongst other functions to ensure the provisions of this act are implemented and enforced.<sup>359</sup> The State of South Carolina has adopted two capacity use areas in the eastern section of the state: the Waccamaw Area and in the Low Country Area.<sup>360</sup> These areas do prescribe restrictions for ground water withdrawers under 100,000 gallons per day to prevent salt water intrusion.<sup>361</sup>

#### EXEMPTIONS.

A person withdrawing ground water at a single-family residence or household for noncommercial use; non-consumptive uses; withdrawing ground water for the purpose of wildlife habitat management; and any emergency withdrawals are exempt from both reporting requirements and the permitting requirements.<sup>362</sup>

All dewatering operations, Type I wells installed into crystalline bedrock in the Coastal Plain Ground Water Management Area, and any replacement wells are exempt from the permitting process.<sup>363</sup>

Aquifer storage and recovery wells are exempt from the reporting and permitting requirements if a permit in accordance with the Underground Injection Control Regulations, Regulation 61-87, is obtained and the amount of water withdrawn does not exceed the amount of water injected.<sup>364</sup>

#### **COMMON LAW DOCTRINE**

There is not a single case which directly addresses ground water resources in South Carolina.

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<sup>359</sup> 49 S.C. Code Ann. § 110.

<sup>360</sup> See S.C. Code of Regulations, Chapter 121.

<sup>361</sup> See 121 Code Ann. of Regs 1.3.A(1).

<sup>362</sup> S.C. Code Ann. § 49-5-70(A).

<sup>363</sup> S.C. Code Ann. § 49-5-70(B).

<sup>364</sup> S.C. Code Ann. § 49-5-70(C).

## GROUND WATER LAW IN SOUTH DAKOTA

### SUMMARY OF LAW

- South Dakota applies prior appropriation doctrine when allocating ground water resources, except for individual domestic water uses under 25,950 gallons/day or a peak rate of 25 gallons/minute (gpm) which take precedence over appropriative rights.<sup>365</sup>
- Applicants for water permits may appropriate water where there is sufficient unappropriated water available for the use, where the use will not affect the rights of senior appropriators, and the use is beneficial and in the public interest. Reasonable domestic uses, vested right claims, water distribution systems and other systems for common distribution, as well as public recreation areas using less than eighteen gallons per minute are exempt from the permitting requirements. The Department of Environmental and Natural Resources prohibits appropriations that exceed the estimated average annual recharge in the ground water source, except for water utilities.<sup>366</sup>
- [See http://www.state.sd.us/denr/des/waterrights/WR\\_laws.htm](http://www.state.sd.us/denr/des/waterrights/WR_laws.htm)

Permits from the state Department of the Environment and Natural Resources are required for any well that is allowed to flow more than 18 gpm, except those described above, or any commercial water use at any flow rate. Anyone that applied water to a beneficial use from a constructed well as of February 28, 1966 may qualify for a vested water right pursuant to SDCL 46-6-1 if that vested right has not been forfeited or abandoned. After approval of a water right permit, the permit holder has five years to complete construction of the water works, and an additional four years to put the water to beneficial use. Time extensions can be granted. The Chief Engineer of the Water Rights Program can also issue temporary permits for limited amounts of water and all such permits expire on the last day of the calendar year they were issued.<sup>367</sup>

All flowing wells must be controlled by the owner to produce only the amount of water needed and to prevent any waste of water. When a replacement well is constructed and the old well is planned to be abandoned, the old one and any other abandoned wells must be capped.<sup>368</sup>

A well driller must be licensed to drill wells in the state and must file a copy of the well construction report with the Water Rights Program within 30 days of well completion.<sup>369</sup>

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<sup>365</sup> SDCL 46-2A-9 & 12, 46-4-1&2, 46-5-4,7,8,34,34.1, 46-6-3; 46-1-5, 46-1-6(7); 46-1-6(14)

<sup>366</sup> S.D. Codified Laws § 46-2-14 and 46-6-3.1 (2000).

<sup>367</sup> SDCL 46-5-40.1 Water Management Board Rules ARSD 74:02:01:32 thru 74:02:01:34.02.

<sup>368</sup> SDCL 46-6-18 and 46-6-27.

<sup>369</sup> SDCL 46-2A-13, 46-6-9, 46-6-11.

## GROUND WATER LAW IN TENNESSEE

### SUMMARY OF LAW

The State of Tennessee now follows a regulated riparianism approach to managing its water resources. There are earlier court rulings based upon a system of correlative rights to ground water. There appear to be no water rights in the state, just an information system as to large water users not already exempt from registering their water uses.

### STATUTORY FRAMEWORK

The Water Resources Information Act of 2002 (TCA Section 69-8-301 et seq.) requires the annual registration of water withdrawals of 10,000 gpd on any day from any water source. Lesser amounts and some purposes (agriculture, emergency uses, nonrecurring uses, or water purchased from a utility or an industry) are exempt. The Water Wells Act regulates the licensing of well drillers and pump setters. The State's Division of Water Supply within the Department of Environment and Conservation is responsible for administering both of these Acts, the Safe Drinking Water Act and the Safe Dams Act. The Division's Ground Water Management Section is responsible for ground water protection strategy development, well-head protection, underground injection of water and some pesticide management activity under the Water Quality Control Act.<sup>370</sup> The Division is responsible for administration of the Subsurface Sewage Disposal Program based upon TCA 68-221-401 et seq. aimed at regulating septic systems. For further information, go to: <http://www.state.tn.us/environment/dws/WWregprog.php>.

### COMMON LAW DOCTRINE

The Supreme Court of Tennessee has never addressed the extent of a person's rights to ground water. The issue was addressed in the Tennessee Court of Appeals where the court stated no difference existed between surface and subsurface rights for clearly defined streams and underground lakes.<sup>371</sup> The court goes on to state that all waters are presumed to be percolating unless the existence and course of a permanent channel can clearly be shown.<sup>372</sup> If the parties cannot show a defined watercourse then there is no actionable remedy that can be pursued. The Correlative Rights theory, or "American Rule" of reasonable use, allows a riparian owner to use an amount of water that is reasonable to the person's needs so long as the use does not injure an adjoining riparian landowner.<sup>373</sup>

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<sup>370</sup> Website: <http://www.state.tn.us/environment/dws/> accessed 4/29/2005.

<sup>371</sup> See *Tennessee Power Co. v. Van Dodson*, 14 Tenn. App. 54, 57 (1931).

<sup>372</sup> *Id.* at 58.

<sup>373</sup> *Nashville C. & St. L RY v. Rickert*, 19 Tenn. App. 446, 458 (1935).



## GROUND WATER LAW IN TEXAS

### SUMMARY OF LAW

The State of Texas created a Conservation District Statute that has regulatory powers over ground water in the State. See Texas Water Code § 36.001 *et. seq.* This law does not affect the common law rule of absolute ownership of ground water.

### STATUTORY FRAMEWORK

The Texas Natural Resource Conservation Commission (“the Commission”) establishes a system of Ground Water Conservation Districts (“the District”) for the management of ground water resources as provided in the Act.

#### GROUND WATER MANAGEMENT PLAN.

After its establishment the District is to create a ground water management plan addressing five goals: (1) providing the most efficient use of ground water; (2) controlling and preventing waste of ground water; (3) controlling and preventing subsidence; (4) addressing conjunctive surface water management issues; and (5) addressing natural resource issues.<sup>374</sup> District management plans shall be consistent with regional water plans approved by the Texas Water Development Board.<sup>375</sup> District plans also include a specific methodology to address the goals of the plan and include information on the existing total usable amount of ground water within the district; the amount of ground water being used on an annual basis; the annual amount of recharge, if any, to the ground water resources within the district and how natural or artificial recharge may increase the projected water supply and demand for water within the district.<sup>376</sup>

#### PERMIT EXEMPTIONS.

Wells extracting less than 25,000 gallons per day, water extracted to supply the domestic needs of ten or less families, water for agricultural uses (including livestock), and water used for hydrocarbon production permitted by the Railroad Commission of Texas before 1985 are exempt from the permitting process.<sup>377</sup> Wells exempted from the permitting process must still register with the District, and comply with requirements for casings, pipes, and fittings.<sup>378</sup>

#### REQUIREMENTS WITHIN PERMITS.

Terms of the permit may include the purpose of the water’s application, the location and use of the water, any conditions or restrictions placed upon the amount of withdrawal, conservation methods of drilling or operating the well, and plans to close and plug the well.<sup>379</sup>

### COMMON LAW

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<sup>374</sup> Texas Water Code § 36.1071(a).  
<sup>375</sup> Texas Water Code § 36.1071(b).  
<sup>376</sup> Texas Water Code § 36.1071(e).  
<sup>377</sup> Texas Water Code § 36.117(a).  
<sup>378</sup> Texas Water Code § 36.117(g).  
<sup>379</sup> Texas Water Code § 36.1131.

The State of Texas applies a harsh interpretation of the English Rule of absolute dominion. The Court has restated its general rule as “[i]n the absence of express contract and a positive authorized legislation, as between proprietors of adjoining land, the law recognizes no correlative rights in respect to underground water percolating, oozing, or filtering through the earth ....”<sup>380</sup> This law was applied in 1979 when the court found that a defendant was not liable for excessive pumping where he knew through reports of engineers that the pumping would cause subsidence and where the pumping caused subsidence, erosion, flooding, destruction of buildings, and homes.<sup>381</sup> The rule is well settled and not likely to be reversed, unless done so by the legislature.<sup>382</sup>

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<sup>380</sup> *Houston & T.C. Ry. Co. v. East*, 81 S.W. 279, 280 (Tex. 1904) quoting *Fraizer v. Brown*, 12 Oh. St. 294.

<sup>381</sup> *Friendswood Devl. Co. v. Smith Southwest Ind.*, 576 S.W. 2d 21, 22 (Tex., 1978).

<sup>382</sup> *Id.* at 27.

## GROUND WATER LAW IN UTAH

### SUMMARY OF LAW

Utah follows the prior appropriation doctrine for ground water.

#### PERMITTING PROCESS.

A form prescribed by the State Engineer must be filed by the applicant before beginning or preparing to divert waters: the name and address of the applicant; the nature of the proposed use; the quantity of water, in acre feet, or flow of water, in second-feet, to be appropriated; the time of year of use; the name of the stream or source of water to be diverted; the point of diversion; and other facts that clearly define the appropriation.<sup>383</sup> If water is being diverted for irrigation, the applicant must report two additional factors: the legal subdivisions and acreage of land to be irrigated and the character of the soil.<sup>384</sup> If the water is being diverted for power production purposes, the applicant must report four additional factors: the number, size, and kind of wheels employed and head under which the wheels are operated; the amount of power produced; the purposes for the power production and place of power use; and the point where the water will be returned to the natural stream or sources.<sup>385</sup>

The State Engineer is required to approve permits:

- that acquire unappropriated water in the proposed source;
- where the proposed use will not impair existing rights;
- where the proposed act is physically and economically feasible ... and would not prove detrimental to the public welfare;
- if the applicant is financially able to complete the works; and the application was filed in good faith and was not an attempt to monopolize or prospect water rights.<sup>386</sup>

If permits have a point of diversion in the state of Utah with a beneficial use in another state or a change in the place or nature of use would apply water in another state, the Utah State Engineer must also consider:

- all elements applicable for the appropriation of water in the state of Utah, or changes in the elements of a water right;
- that the applicant has a representative in the state of Utah to receive service of process or other legal notification;
- that the use is consistent with Utah's conservation policies and objectives;
- is not contrary to the public welfare;
- does not impair the state of Utah to comply with its obligation under any interstate compact or judicial decree which apportions water amongst states;

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<sup>383</sup> Utah Code § 7-3-2(1)(b).

<sup>384</sup> Utah Code § 7-3-2(2)(a).

<sup>385</sup> Utah Code 7-3-2(2)(b).

<sup>386</sup> Utah Code § 7-3-8.

- that the water can be transported, measured, delivered, and beneficially used in the recipient state; and
- when considering Utah's conservation policies and objectives and the public welfare, the State Engineer is also to consider:
  - the supply of water available to the state of Utah;
  - the current and reasonably anticipated water demands on the state of Utah;
  - whether there are current or reasonably anticipated water shortages within the state of Utah;
  - whether the water subject to application could feasibly be used to alleviate current or reasonably anticipated water shortages within Utah;
  - alternate supply and sources of water available to the applicant in the state where the applicant intends to use the water; and
  - demands placed on the applicant's alternate water supply in the state where the applicant intends to use the water.<sup>387</sup>

Failure to satisfy any element in an application to use water outside the state of Utah results in rejection of the application.<sup>388</sup> Conditions may be placed upon the permit to ensure that the permit complies with laws, rules, and controls placed that may be imposed on water users within the state or elements to ensure consistency with the terms and conditions with any applicable interstate compact to which the state of Utah is a party.

#### CHANGES IN PERMIT ELEMENTS.

Any person with a right to use water, perfected unperfected or temporary, may make a permanent or temporary change in the point of diversion, beneficial use or place of use, provided that changes that affect vested rights include just compensation when vested right holders are affected and the State Engineer approves. Forms to change the point of diversion, nature or place of use are provided by the State Engineer and require the applicant to provide the name of applicant, a description of the water right, the stream or source of water; the point of diversion, the proposed new point of diversion, the place, purpose, and extent of the present use, the place, purpose, and extent of the proposed use, and any additional information the Engineer may require.

Procedures for a change in permit elements are the same as those for an application to appropriate water. If the applicant seeks to make a temporary change, the State Engineer is required to investigate the application to determine whether there would be an effect on existing right holders. If the Engineer determines that there is no effect on existing right holders, the application is granted, however if there may be an effect on existing right holders then the right holders are notified and may object to the change. The Engineer may not deny the change solely on the grounds that vested rights are affected. These provisions do not apply to replacement wells within 150 feet of original point of diversion and conform to the drilling requirements found in section 73-3-28.

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<sup>387</sup> Utah Code § 73-3a-108 (2000).

<sup>388</sup> Utah Code § 73-3a-108(3) (2000).

NOTICE, HEARING, AND PROTEST.

Notice for permit applications or changes to the elements to a permit are published once per week in a paper of general circulation in the county where the water is being diverted, information submitted to the State Engineer and the proposed development plan. When hearings are informal, protests must be submitted within 20 days after publication of the notice. Formal hearings require filing of protests within 30 days.

PERFECTION OF A WATER RIGHT.

Sixty days before the designated time in the permit, the State Engineer is required to notify the applicant to make a showing of proof that the water in the permit has been placed to a beneficial use. In that showing the applicant must present:

- a description of the works constructed
- the quantity of water in acre feet or the flow of water in second feet of water appropriated;
- the method of applying the water to a beneficial use;
- detailed measurements of the water placed to a beneficial use;
- the date the measurements were taken;
- the name of the person taking the measurements;
- maps, profiles, or drawings by a licensed land surveyor or professional engineer showing
- the location of the completed works
- the nature and extent of the completed works;
- the natural stream or source where the applicant is planning the point of diversion and the point of return flow if the water is for a non-consumptive use; and
- the place of use.

The State Engineer may waive the requirements for maps if the written proof adequately describes the works and the nature and extent of the use.

## GROUND WATER LAW IN VERMONT

### SUMMARY OF LAW

Ground water resources in Vermont are governed by the land use development law commonly known as Act 250 (Chapter 151 of Title 10).

### STATUTORY FRAMEWORK

#### JURISDICTION OF THE ENVIRONMENTAL BOARD AND DISTRICT COMMISSIONS.

Act 250 jurisdiction applies to any “development” or “substantial change” to a development. The law defines development as the construction of improvements on a 10-acre or larger tract of land owned or controlled by a person within a zoned area or on a one acre tract where a municipality has not adopted zoning ordinances or bylaws.<sup>389</sup> Any person who falls under the jurisdiction of the law must apply for a permit from the local district commission. There is an exemption for waterworks enhancements that do not expand the facilities capacity by more than ten percent.<sup>390</sup>

#### PERMITTING REQUIREMENTS.

Act 250 requires the satisfaction of ten criteria before the district commission or environmental board may issue the permit. The criteria of importance for ground water include:

- The development will not result in undue air or water pollution, including all applicable standards established by the Departments of Health and Environmental Conservation. The standards apply to the quality of ground or surface waters flowing through or upon lands not devoted to intensive development, with drainage areas of twenty square miles or less, or watersheds of public water supply as designated by the Department of Health, or areas supplying significant amounts of recharge waters to aquifers.<sup>391</sup>
- The applicant must show the design has considered water conservation, incorporates multiple use or recycling technology where economically feasible, and uses the best available technology in these systems.<sup>392</sup>
- The applicant must show there is sufficient water available for the reasonably foreseeable needs of the development.<sup>393</sup>
- The applicant must show his or her development will not cause an unreasonable burden on an existing water supply, if one is to be used.<sup>394</sup>

The burden on proving that these criteria are satisfied is upon the applicant.<sup>395</sup> Applications for a permit are to be filed in with the local district commission containing plans for the development and information regarding the applicant (name, address, etc).<sup>396</sup>

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<sup>389</sup> 10 V.S.A. § 6001(3).

<sup>390</sup> 10 V.S.A. § 6081(d)(2).

<sup>391</sup> 10 V.S.A. § 6086(a)(1)(A).

<sup>392</sup> 10 V.S.A. § 6086(a)(1)(C).

<sup>393</sup> 10 V.S.A. § 6086(2).

<sup>394</sup> 10 V.S.A. § 6086(3).

<sup>395</sup> 10 V.S.A. § 6088(a).

## COMMON LAW DOCTRINE

The State of Vermont has modified its common law through the adoption of statutory law, abolishing the absolute ownership rule in favor of reasonable use.<sup>397</sup> The law allows an action for equitable relief (an injunction), a tort to recover damages, or both for withdrawing, diverting or altering the character or quality of ground water.<sup>398</sup> When determining the unreasonableness of any harm, courts are to consider: the purposes of the relative uses; the economic, social, and environmental value of the respective uses; the nature and extent of the harm; the practicality of adjusting the quantity or quality of the water affected and the method of use by each party; the maintenance or improvement of ground water and surface water quality, the burden and fairness of requiring the person who caused the harm to bear the loss; and the burden and fairness of requiring a person to bear the loss, who causes harm in the conduct of reasonable agricultural activities, using good agricultural practices conducted in conformity with federal, state and local laws and regulations.<sup>399</sup> These sections apply to a person who alters ground water quality or character as a result of agricultural or silvicultural activities only if the action was negligent, reckless, or intentional.<sup>400</sup>

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<sup>396</sup> 10 V.S.A. § 6083.

<sup>397</sup> See 10 V.S.A. § 1410.

<sup>398</sup> 10 V.S.A. § 1410(c).

<sup>399</sup> 10 V.S.A. § 1410(e).

<sup>400</sup> 10 V.S.A. § 1410(d).

## **GROUND WATER LAW IN VIRGINIA**

### **SUMMARY OF LAW**

The State of Virginia has a statutory permitting system for ground water in management districts; reporting requirements exist for all areas.

### **STATUTORY FRAMEWORK**

#### ESTABLISHING GROUND WATER MANAGEMENT AREAS.

The State Water Control Board, either independently or upon the petition of a county, city, or town in the area in question, may begin a proceeding to declare a ground water management area.<sup>401</sup> Prior to the establishment of a Ground Water Management Area, the Board must find (1) ground water levels are declining or expected to decline excessively; (2) the wells of two or more ground water users within the area are interfering or may reasonably be expected to substantially interfere with one another; (3) the available ground water supply has been or may be overdrawn; or (4) the ground water in the area has been or may become polluted (chemically/physically/or biologically); and (B) that the public welfare, safety, and health require that regulatory efforts be initiated. Currently, two management areas exist - one is the Eastern shore and the other is in eastern Virginia. See <http://www.deq.state.va.us/water/homepage.html#ground> for more information.

#### EXEMPTIONS FROM PERMITTING REQUIREMENTS.

There are a number of exemptions from the permitting process which include: (a) any user of less than 300,000 gallons per month; (b) temporary construction dewatering; (c) ground water remediation; (d) coal, oil, gas, or other mineral withdrawals where those withdrawals do not have an injurious effect on other aquifer users or the aquifer's quantity or quality.<sup>402</sup>

#### GRANDFATHERING OF WATER RIGHTS.

There is a complex system of where pre-existing water uses are grand-fathered into the permitting system. These provisions are contained in Va. Code Ann. §§ 62.1-260 – 62.1-261

#### PERMITTING PROCESS.

When considering a permit for a ground water withdrawal, the Board may consider: the beneficial use, the proposed use of alternative or innovative approaches for storage, recovery and conjunctive use of surface and ground water; the unique requirements for nuclear power; economic cycles; population projections, the status of land use and other necessary approvals, and the adoption and approval of a water conservation and management plan proposed by the applicant.<sup>403</sup> The State Water Control Board may include any terms, conditions, and limitations necessary for the protection of the public welfare, safety and health.<sup>404</sup> Permits are to last for a fixed time not exceeding ten years and may be modified if the permittee violates the terms of the

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<sup>401</sup> Va. Code Ann. § 62.1-257.

<sup>402</sup> Va. Code Ann. § 62.1-259.

<sup>403</sup> Va Code § 62.1-263.

<sup>404</sup> Va. Code Ann. § 62.1-266(A).



permit or the activity permitted is found to endanger human health or the environment, or another material change in conditions exist.<sup>405</sup>

## COMMON LAW DOCTRINE

### PERCOLATING WATERS AND UNDERGROUND STREAMS.

Virginia courts divide water into two classes: percolating water and underground streams. The court has stated “If so known or ascertainable, liability is determined, ordinarily, by the rules applicable in the case of surface streams (for underground streams); but if unknown or unascertainable, by the rules applicable in the case of percolating waters.”<sup>406</sup> However, if the waters are shown to be percolating, the English Rule of absolute ownership applies to the waters and even if a party were to suffer an injury due to an abutting landowner, the injury is without remedy.<sup>407</sup>

### BURDEN OF PROOF.

The court states that all waters are assumed to be percolating unless shown otherwise, and the burden of proof lies with the aggrieved party.

Further, the court states “It is a mistake, however, to suppose that only those waters which ooze or percolate through the soil are subject to the law of percolating waters. They may flow in a well defined channel and be such as if on the surface would answer the description of a water course, but in order to be subject to the law of surface water, the existence, location and flow of the water must be known to the owner of the land through which it flows, or it must be discoverable from the surface of the earth. Otherwise, no one could with safety make excavations on his own land. Furthermore, the knowledge required cannot be reasonably held to be that derived from a discovery in part by excavation exposing the channel, but must be knowledge by reasonable inference, from existing and observed facts in the natural or rather preexisting condition of the surface of the ground. The onus of proof lies, of course, on the plaintiff claiming the right, and it lies upon him to show that, without opening the ground by excavation, or having recourse to abstruse speculation of scientific persons, men of ordinary powers and attainments would know, or could with reasonable diligence ascertain, that the stream, when it emerges into light, comes from, and has flowed through a defined subterranean channel.”

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<sup>405</sup> Va. Code Ann. § 62.1-266.

<sup>406</sup> *C & W Coal Corp. v. Slayer*, 200 Va. 18, 23 (1958).

<sup>407</sup> *See Id* at 22.

## GROUND WATER LAW IN WASHINGTON

### SUMMARY OF LAW

- The State of Washington applies a modified scheme of appropriation with special rules applicable to ground water.
- In addition to appropriation, Washington has established a system of ground water management areas with additional statutory and regulatory controls.

### STATUTORY FRAMEWORK

#### PRIOR APPROPRIATION OF GROUND WATER.

The rules for appropriation of ground water are to augment the rules for the appropriation of surface water. Withdrawal of ground water for stock watering, watering a noncommercial lawn or garden of less than one half acre in size, and domestic or industrial purposes using less than five thousand gallons per day are exempt from the ground water requirements.<sup>408</sup> The department may require additional informational requirements from exempt users.<sup>409</sup> In addition, the applicant may still apply for and receive a permit for exempted uses following the same procedure as required for a normal permit if they desire.

#### PERMIT ELEMENTS.

Rules for the appropriation of ground water follow the same rules and procedures as the appropriation of surface water, with some adjustments. Permits to appropriate ground water are submitted to the Washington Department of Ecology (DOE) on a form provided by the department and include:

- The name and post office address of the applicant;
- The name and post office address of the owner of the land on which the wells are to be located;
- The location of the proposed wells or other works for the proposed withdrawal;
- The ground water area, sub-area, or zone, in accord with Rev. Code Wash. § 90.44.340 (2000) (rules re: ground water management areas);
- The amount of water proposed to be withdrawn in gallons per minute and acre feet per year;
- The depth and type of construction proposed for the well or other works<sup>410</sup>;
- The time of the year when the water is proposed to be used;
- The time within which the construction will be complete and the water applied to a beneficial use; and
- Maps and drawings, in duplicate, as may be required by the department.<sup>411</sup>

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<sup>408</sup> Rev. Code Wash. § 90.44.050 (2000).

<sup>409</sup> *Id.*

<sup>410</sup> Rev. Code Wash § 90.44.060 (2000).

<sup>411</sup> Rev. Code Wash. § 90.03.260 (2000).

There are additional information requirements for specific uses. Agricultural uses must submit a description of the land and acreage to be irrigated by legal subdivision. Municipal water suppliers must submit a description of the population currently served and an estimate of future requirements. Mining uses must provide a description of the nature of the mines to be served, the methods of supplying and utilizing the water, and the location of the mine by legal subdivision.

#### NOTICE AND HEARING REQUIREMENTS.

After the receipt of the notice by the DOE, the applicant is required to publish notice of the appropriation in a newspaper of general circulation once per week for two weeks. The applicant is to choose a paper in the county where the point of diversion and the place of use is to be made.

When considering a permit, if the DOE determines that the application does not have all the necessary information on which to base its findings, it may issue a preliminary permit not to exceed three years. When issuing this permit the department may require the applicant to make such surveys, investigations, studies and progress reports as may be required.

#### PERMIT APPROVAL.

When considering a permit, DOE creates a record which contains: written findings of fact concerning all things investigated, whether water is available to appropriate to a beneficial use; and whether the appropriation, as proposed, will not impair existing water rights or be detrimental to the public interest. The department may reject a permit where no water exists to be appropriated or when the appropriation of water would interfere with existing rights or the public interest. Where there are conflicts with existing rights, the department may allow the applicant to condemn or purchase water rights that conflict with the new appropriation. The department may also approve an appropriation for less than the full amount.

When applications are made to divert water from Washington to a beneficial use in another state or country, Washington requires that the applicant's country provide reciprocal treatment towards citizens of Washington (allowing Washington citizens the ability to divert water from that state/province/country and beneficially use it in Washington).

After the approval of the permit the applicant is to commence construction of the well or other means of diversion within a reasonable time and must complete it before the time noted in the permit. When setting the time of completion the department is to take into consideration the cost and magnitude of the project and the physical and engineering features to be encountered.

#### CHANGE IN POINT OF DIVERSION, PLACE OF USE OR PURPOSE OF USE.

If a holder of a water right or permit wishes to change an element of a water use, he or she may do so with the approval of the department. Applicants wishing to change the place or manner of use outside the location of the original well are required to publish notice and have a hearing on the change. The department may approve such a change if it finds: the additional replacement wells tap the same body of ground water as the original well, the original well's use has ceased and the well has been properly sealed. If additional wells are constructed, the original well may

continue to be used but the combined withdrawal is not to enlarge the right granted by the original permit, and other existing rights are not to be impaired.

Applicants wishing to change the place or manner of use at the location of the original well may do so without notice or a hearing, provided:

- the additional replacement wells tap the same body of ground water as the original well;
- if a replacement well is tapped, use of the original well is to cease and the well is to be properly decommissioned;
- where additional wells are constructed, those wells cannot create a combined withdrawal greater than the withdrawal granted by the original permit;
- the construction or use of wells are not to interfere with an earlier priority date than granted in the original water right;
- the replacement well is not to be located closer than the original well or to a well it might interfere with;
- the department may specify an approved manner of construction of the well; and
- the applicant must show compliance with the provisions above.

#### PERFECTION OF A WATER RIGHT.

In order to obtain a water right certificate (perfected water right), the permittee must make a satisfactory showing that all of the elements of the permit have been met. In addition, permittees seeking perfection of ground water rights must also show:

- the location of each well or other means of withdrawal constructed under the permit, both with respect to official land surveys and in terms of distance and direction to any pre-existing wells or works constructed within ¼ mile under a permit or vested right.
- the depth and diameter of each well and general specifications of any other works constructed under the permit;
- the thickness, in feet, and the physical characteristics of each bed, stratum, or formation penetrated by each well;
- the length and position in feet below the land surface, and the commercial specifications of all casing, also of each screen or perforated zone in the casing of each well constructed;
- the tested capacity, in gallons per minute, determined by the discharge of the pumps after continuous operation for at least four hours or in the case by measuring the natural flow at the land surface;
- compliance with all other conditions set forth in the water right.

#### GROUND WATER MANAGEMENT AREAS.

The purpose of ground water management areas is to protect water quality, assure water quantity, and to manage water efficiently to meet future needs. Local governments are the lead agencies in the development and implementation of ground water management plans. RCW § 90.44.400(2). Factors to consider when designating a management area include areas where:

- there is restricted recharge or over utilization;

- the ground water has be over appropriated;
- the area is being considered for a water supply reservation under state law;
- the aquifer is a primary source of supply for a public water supply;
- the aquifer has been designated as a sole source aquifer by the federal EPA; and
- where land use may result in contamination or degradation. *Id.*

A ground water advisory committee is formed consisting of state, local, federal, tribal, and private groups. WAC 173-100-090. This committee is charged with the creation of a study which includes:

- a characterization of the area, the legal boundaries of the area, scientific conditions in the area, and projections of the future needs;
- a discussion of the various problems that effect the area;
- the goals and objectives of the management plan;
- alternative management strategies;
- recommendations on management strategies; and
- plans for implementation, monitoring, and review of the ground water management program. WAC 173-100-100.

After the plan is completed it is subject to the notice and hearing provisions applicable under state law.

## GROUND WATER LAW IN WEST VIRGINIA

### SUMMARY OF LAW

- West Virginia has a Ground Water Protection Act, codified at WVC Section 22-12, that created a mandatory permitting system for regulating ground water developments by the Division of Environmental Protection.
- The relevant website is <http://www.legis.state.wv.us/WVCODE/22/masterfrm.FRM.htm>
- There is a companion law, the Water Resources Protection Act, codified at WVC Section 22-26 at the same website as above, which includes both ground and surface waters of the State, excluding “water encountered during coal, oil, gas or other mineral extraction and diverted, but not used for any purpose and not a factor in low flow conditions for any surface or groundwater, is not deemed a withdrawal.” Groundwater is defined as all water under the surface of the ground.<sup>412</sup>

### PROVISIONS

West Virginia created a ground water management strategy, a centralized database for all water uses, rules for collecting and analyzing ground water quality data and mandated biennial reports to the state legislature about the new ground water programs created by the Ground Water Protection Act. The division of environmental protection (DEP) is the lead state agency for these programs and is to closely work with the bureau of public health, and the state department of agriculture. A groundwater certification program was established that requires every state, county or local government body that reviews or issues permits, licenses, registrations or certificates for any activity that may affect the quality of ground water to first submit to the director of the division of environmental protection an application for certification of the proposed activity. Terms and conditions can be set by the lower entity and added by the director prior to approval. The director can also waive certification for categories of activities or approvals where he or she deems appropriate.

Starting in 2003, every person withdrawing more than 750,000 gallons of water in any month, except those purchasing water from a public or private utility, is required to report all requested information about their withdrawals to the state DEP.<sup>413</sup>

A groundwater protection fund was also created by the recent Act referred to above, to be funded by fees collected from applicants for groundwater permits, up to a maximum of one million dollars per year per applicant. Once fees in the aggregate exceed one million dollars, the excess annually rolls over into a Groundwater Remediation Fund if the director takes action to do so.<sup>414</sup>

The DEP is also responsible for tracking and reporting surface and groundwater withdrawals by either the water users themselves or other parties for a three year period after the water use was registered with DEP. If the withdrawals remain within ten percent of the 3-year average, no

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<sup>412</sup> WVC Section 22-26-2.

<sup>413</sup> WVC Section 22-26-3.

<sup>414</sup> WVC Section 22-12-9.

further reporting is required. Altering the locations of the intakes and discharge points that result in an impact to the withdrawal rates of ten percent or more are also to be reported. A final report to the West Virginia legislature on beneficial water uses by DEP is due December 31, 2006.

## **GROUND WATER LAW IN WISCONSIN**

### **SUMMARY OF LAW**

The State of Wisconsin has a new law that requires a permitting and reporting system for high capacity wells (pumping over 100,000 gallons/day), requires notification to a state agency of new well construction of any capacity, establishes two ground water management areas in southeastern Wisconsin and the Lower Fox River Valley, and creates a Ground Water Advisory Committee to review the new regulations and recommend changes.

Since 1974, Wisconsin uses the “reasonable use” doctrine when resolving disputes between ground water pumpers or alleged polluters.

### **STATUTORY FRAMEWORK**

Effective April 22, 2004, Wisconsin has a ground water protection law (2003 Wisconsin Act 310) which expands the state’s authority to consider environmental impacts of high capacity wells, begins to address regional ground water quantity in two areas, increases oversight of well construction activities and provides an oversight committee to evaluate the effectiveness of the new law and to recommend any needed changes. See <http://www.dnr.state.wi.us/org/water/dwg/>

Wisconsin also has had a high capacity well law (Wis. Stats. Sections 281.17 and 281.35) that required registration of all wells withdrawing an average of 100,000 gpd within a 30-day period with the State Department of Natural Resources (DNR), periodic reporting of volumes of water pumped, and approval of the well by DNR. Wells that supply 2 million gpd or more have additional requirements, and wells of five million gpd within the Great Lakes Basin need prior notification and comment by the governors and premiers of the states and provinces in the Basin.

### **COMMON LAW DOCTRINE**

The Courts in Wisconsin have adopted a common law rule of reasonable use that replaced the previous rule of absolute ownership when resolving disputes over ground water resources. In 1974 the state Supreme Court reversed the absolute ownership rule, relying in large part on the changes over time in science. It found “the basis for [the absolute ownership rule] was a feeling that the ways of underground water were too mysterious and unpredictable to allow adequate and fair rules for regulation ... however today the field of hydrology has certainly advanced to the point where a cause and effect relationship can be established between a tapping of ground water and the level of the water table in the area so that liability can be fairly adjudicated consonant with due process.”<sup>415</sup> The court now follows a model rule of reasonable use which states “a possessor of land or his grantee who withdraws ground water from the land and uses it for a beneficial purpose is not subject to liability for interference by another unless (a) the withdrawal of ground water causes unreasonable harm through lowering the water table or reducing artesian pressure; (b) the ground water forms an underground stream (in which case other rules apply);

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<sup>415</sup> *State v. Michel’s Pipeline Const.*, 217 N.W.2d 339, 344-45 (Wis., 1974).



and (c) the withdrawal of water has a direct and substantial effect upon the water of a watercourse or lake, in which case (other rules apply).<sup>416</sup>

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<sup>416</sup> *Id.* at 350-51 *quoting* Restatement (Second) Torts § 858A (from the draft restatement, 1971).

## **GROUND WATER LAW IN WYOMING**

### **SUMMARY OF STATE LAW**

Since 1947, the state of Wyoming applies the doctrine of prior appropriation to the allocation of ground water resources and required registration of ground water uses. No regulation of ground water uses was provided. In 1957 the state revised their statutes, added a permit requirement and empowered the Board of Control to create ground water control areas that have additional requirements. See <http://legisweb.state.wy.us/statutes/sub41.htm>

Wyoming's statutes define ground water as any water under the surface of the land or the bed of a stream, lake, reservoir or any other body of water of surface water, including water exposed to the surface by means of excavation, and also hot springs, geothermal steam, and by-product water resulting from some non water-related human activity.<sup>417</sup> Wyoming is one of very few states that recognize and treat interconnected aquifers or interconnected surface and ground water as a single source when it comes to terms, conditions and priorities in the ground water permit.

#### PERMIT ELEMENTS.

Persons desiring a water right are to apply to the state engineer on a form provided. The application to appropriate includes:

- The name and post office address of the applicant;
- A detailed description of the proposed use;
- The location by legal subdivision of the proposed well or other means of obtaining underground water;
- The estimated depth of the proposed well;
- The quantity of water proposed to be withdrawn and beneficially utilized in gallons per minute and acre feet per year;
- The location and legal subdivision of the area or point of use; and
- Other such information as the state engineer requires.

#### CRITERIA FOR APPROVING A GROUND WATER APPROPRIATION.

The state engineer shall approve an application for a permit or a change to permit elements only if:

- There are un-appropriated waters in the proposed source;
- The proposed means of diversion or construction is adequate
- The location of the proposed well or other work does not conflict with any well spacing or well distribution regulation; and
- The proposed use is not detrimental to the public interest.

#### CHANGES IN POINT OF DIVERSION, PLACE OF USE, NATURE OF USE.

Approval of the state engineer is needed for any changes in point(s) of diversion of ground water, place(s) of use, or the purpose(s) of use.

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<sup>417</sup> WYO. Stat. Section 41-3-901(a)(ii)(2003)

## **CONTROL AREA DESIGNATION AND OTHER PROTECTION OF GROUND WATER RESOURCES.**

When a well interferes with a well developed solely for domestic or livestock purposes, whether or not in a ground water control area, the state engineer may require the interfering well owner to cease pumping or supply an alternate source of supply for the aggrieved party.

### GROUND WATER CONTROL AREAS.

The Board of Control may designate a ground water control area when it finds that the use of underground water is approaching the recharge rate, ground water levels have declined or are declining excessively, conflicts between users are occurring or may occur, the waste of water is occurring or may occur, and other conditions that may arise that require regulation for the protection of the public interest. The state engineer may enact temporary corrective measures where there is an immediate need for action in a basin. Before issuing permanent corrective measures the state engineer is to hold a hearing and make a determination whether sufficient water exists to meet the needs of all appropriators in the basin. One or more corrective actions may be used to ameliorate ground water resource problems.

- Close the ground water basin to further appropriation;
- Determine the total permissible withdrawal for each day, month, or year and apportion the permissible withdrawal amongst the appropriators, the basis of which is on the priority of the rights in the basin;
- Reduce the withdrawals by junior appropriators if those appropriations have a material and adverse affect on senior appropriators;
- If the withdrawals of junior appropriators do not have an adverse effect on senior appropriators, the state engineer is to develop a system of rotation of use in the controlled area; and
- The state engineer may institute well spacing requirements if permits are granted to develop new wells.

The state engineer is directed to encourage the parties to enter into voluntary agreements in lieu of regulatory controls. When examining an agreement among appropriators, the state engineer must find that the agreement is in writing, consistent with the purposes of the act and not detrimental to the public welfare. After the agreement has been implemented, if the state engineer finds that the agreement is not being substantially complied with or that changed conditions have made the agreement inequitable, or inconsistent with the intent of the act, or detrimental to members of the public, then the state engineer must terminate the agreement.<sup>418</sup>

### CONJUNCTIVE USE.

In addition to the corrective controls mentioned above the state engineer may regulate ground waters and surface waters that are so interconnected as to constitute one source of supply. In such areas, the state engineer is to correlate all rights and create a schedule of priority comprising both ground and surface waters.<sup>419</sup>

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<sup>418</sup> Wyo. Stat. § 42-3-915 (2000).

<sup>419</sup> Wyo. Stat. § 42-3-917 (2000).