

Arizona

TITLE 12. NATURAL RESOURCES

CHAPTER 15. DEPARTMENT OF WATER RESOURCES

R12-15-705. Assured Water Supply Requirement - Consistency with Management Goal

- A.** The Director shall approve an application for a certificate of assured water supply or a designation of assured water supply only if the applicant submits information from which the Director determines that the proposed groundwater use will be consistent with the achievement of the management goal of the active management area.
- B.** In the Prescott Active Management Area, the proposed use of an applicant for a certificate of assured water supply or a designation of assured water supply is consistent with the achievement of the management goal of the active management area, regardless of the volume of groundwater withdrawn from within the active management area for the proposed use, until the Director enters a final decision and order determining that the Prescott Active Management Area is no longer at safe-yield under the provisions of this Article.
- C.** The Director shall determine whether the Prescott Active Management Area continues to be at safe-yield by analyzing a minimum of three annual data reports containing information on:
 1. Groundwater levels,
 2. Changes in groundwater levels,
 3. Pumpage volumes from confined and unconfined aquifers,
 4. Long-term precipitation records,
 5. Surface water flow records,
 6. A comparative evaluation of groundwater conditions as related to climatic normal conditions.
- D.** When the reports from three successive annual data reports using normalized information, including committed demand and demands associated with the groundwater allocation for designated entities for calendar year 1995, made in accordance with subsection (F)(2), show ongoing water level declines and increased pumpage, the Director shall make a preliminary determination that the Prescott Active Management Area is no longer at safe-yield.
- E.** Before entering a final decision and order that the Prescott Active Management Area is no longer at safe-yield, the Director shall publish a notice once each week for two consecutive weeks in a newspaper of general circulation in Yavapai County stating that the Director shall conduct a hearing to determine whether the Prescott Active Management Area is no longer at safe-yield. After publishing notice in the manner described above, the Director shall hold a hearing in the Prescott Active Management Area within 30 days of the last notice. Any person may appear at the hearing and submit oral or documentary evidence on the issue of whether the Prescott Active Management Area is no longer at safe-yield. A person may submit written comments, concerning matters discussed at the hearing, within 30 days after the hearing. Within 180 days after the termination of the public comment period, the Director shall enter a final decision and order, determining either that the Prescott Active Management Area remains at safe-yield or that the Prescott Active Management Area is no longer at safe-yield.
- F.** If the Director enters a final decision and order determining that the Prescott Active Management Area is no longer at safe-yield, the Director shall calculate the volume of groundwater that may be withdrawn consistent with the management goal of the active management area in accordance with subsection (A) by adding to the volume of assured water supply credits determined in accordance with subsection (M), the volume calculated as follows:
 1. If the application is for a certificate of assured water supply:
 - a. Subtract the declaration year from 2025, unless the date of application occurs subsequent to the declaration year, in which case subtract the year of the date of application from 2025.
 - b. Determine the total volume of water, from any source, projected by the Director to meet 100 percent of the applicant's water demands for the 15th calendar year after the date of application, consistent with the conservation requirements established in the management plan in effect on the date of application for the municipal provider proposed to serve the applicant.

- c. Multiply the number determined in subsection (F)(1)(a) by the amount calculated in subsection (F)(1)(b).
 - d. Divide the product obtained in subsection (F)(1)(c) by two. The minimum volume that may be calculated in this subsection is zero acre-feet.
2. If the application is for a designation of assured water supply:
- a. And, except as provided in subsection (F)(2)(c), the date of application occurs within 180 days after the declaration date:
 - i. Multiply 100 by the volume of groundwater withdrawn from within the active management area by the applicant during the declaration year or calendar year 1995, whichever volume is greater, consistent with the conservation requirements established for the applicant in the management plan in effect on the date of application.
 - ii. Determine the volume of the applicant's total water demand, from any source, for the declaration year, consistent with the conservation requirements established for the applicant in the management plan in effect on the date of application.
 - iii. Determine the volume of the applicant's total water demand, from any source, for the 15th calendar year after the declaration year, consistent with the conservation requirements established for the applicant in the management plan in effect on the date of application.
 - iv. Subtract the volume calculated in subsection (F)(2)(a)(ii) from the volume calculated in subsection (F)(2)(a)(iii).
 - v. Subtract the declaration year from 2025.
 - vi. Multiply the volume calculated in subsection (F)(2)(a)(iv) by the number calculated in subsection (F)(2)(a)(v).
 - vii. Divide the product obtained in subsection (F)(2)(a)(vi) by two.
 - viii. Add the volume calculated in subsection (F)(2)(a)(vii) to the volume calculated in subsection (F)(2)(a)(i).
 - b. And, except as provided in subsection (F)(2)(c), the date of application does not occur within 180 days after the declaration date, subtract from the volume calculated in subsection (F)(2)(a) the volume of groundwater calculated in subsection (F)(2)(b)(iii). The volume shall be calculated as follows:
 - i. Determine the volume of groundwater withdrawn by the applicant from within the active management area during the period beginning January 1 of the declaration year and ending either December 31 of the declaration year or December 31 of the calendar year before the date of the application, whichever is later.
 - ii. Multiply the volume of groundwater withdrawn by the applicant from within the active management area in the declaration year by the number of calendar years in the period beginning with the declaration year and ending with the calendar year before the date of application.
 - iii. Subtract from the volume calculated in subsection (F)(2)(b)(i) the volume calculated in subsection (F)(2)(b)(ii).
 - c. And the applicant did not exist as of the declaration date, or the date of application occurs after calendar year 2025, the maximum volume of groundwater that the applicant may use for the proposed use for 100 years from the date of application consistent with the achievement of the management goal for the Prescott Active Management Area is zero acre-feet.
3. If the Director receives an application for a certificate of assured water supply or a designation of assured water supply before the declaration year, the Director shall perform the calculations described in subsection (F)(1) or (2) after the Director enters a final decision and order determining that the Prescott Active Management Area is no longer at safe-yield.

The field services section of the ADWR has virtually no information available. This seems to be an overview of what they would like to do.

The Arizona Department of Water Resources and its cooperators throughout the State have conducted groundwater-monitoring activities for many years. As part of the dialog with the Governor's Water Management Commission it became apparent that there exists

a need for an increased level of monitoring of hydrologic conditions throughout the State of Arizona. This emphasis on monitoring affords the department the opportunity to design and implement comprehensive monitoring programs.

These programs are not be limited to collection of groundwater data alone, but include the collection of surface water data, water-quality data, subsidence data, gravimetric data and water use data. This will give the ADWR the ability to construct more timely and more accurate water budgets and monitor hydrologic behaviors throughout the State.

The Arizona Ground Water Management Code was created in 1980.

The goal is to sustain safe yield by 2025

<http://www.water.az.gov/adwr/Content/Publications/files/gwmgtovw.pdf>

Safe-yield is defined as a long-term balance between the annual amount of groundwater withdrawn in the AMA and the annual amount of natural and artificial recharge.

Unless agricultural irrigation occurred between 1975 and 1980 and the user received an irrigation grandfathered right for those historic agricultural acres, no land may be put into production within an Active Management Area. Only those lands that have been certified, based on historic water use, may continue to be irrigated with groundwater.

Users who pump groundwater from non-exempt wells in AMAs also must report annual pumpage to ADWR. This provision helps ADWR determine how much water is being used and where it is being used.

California

<http://www.groundwater.water.ca.gov/bulletin118/>

Despite California's heavy reliance on groundwater, basic information for many of the groundwater basins is lacking. Particular essential data necessary to provide for both the protection and optimal use of this resource is not available. To this end, the California Legislature mandated in the Budget Act of 1999 that the Department of Water Resources prepare:

"... the statewide update of the inventory of groundwater basins contained in Bulletin 118-80, which includes, but is not limited to, the following: the review and summary of boundaries and hydrographic features, hydrogeologic units, yield data, water budgets, well production characteristics, and water quality and active monitoring data; development of a water budget for each groundwater basin; development of a format and procedures for publication of water budgets on the Internet; development of the model groundwater management ordinance; and development of guidelines for evaluating local groundwater management plans."

Despite the increased groundwater management opportunities and activities, the extent of local efforts is not well known.

- There is no general requirement that groundwater management plans be submitted to DWR, so the number of adopted plans and status of groundwater management throughout the State are not currently known.
- There are no requirements for evaluating the effectiveness of adopted plans, other than during grant proposal review.
- No agency is responsible for tracking implementation of adopted plans.
- Unlike urban water management plans, groundwater management plans are not required to be submitted to DWR, making the information unavailable for preparing the California Water Plan.

Despite the fact that several agencies often overlies each groundwater basin, there are few mechanisms in place to support and encourage agencies to manage the basin cooperatively.

- Some local agencies have recognized the benefits of initiating basinwide and regional planning for groundwater management and have recorded many successes.
- Regional cooperation and coordination depends on the ability of local agencies to fund such efforts.
- There is no specific State or federal program to fund and support coordination efforts that would benefit all water users in a region and statewide.

- Groundwater management in California is a local agency responsibility.

A second general method of managing groundwater in California is through ordinances adopted by local governments such as cities or counties. Twenty-seven counties have adopted groundwater ordinances, and others are being considered. The authority of counties to regulate groundwater has been challenged, but in 1995 the California Supreme Court declined to review an appeal of a lower court decision *Baldwin v. County of Tehama* (1994) that holds that State law does not occupy the field of groundwater management and does not prevent cities and counties from adopting ordinances to manage groundwater under their police powers. However, the precise nature and extent of the police power of cities and counties to regulate groundwater is uncertain.

Most county groundwater management ordinances require that an export proponent prove the project will not deplete groundwater, cause groundwater quality degradation, or result in land subsidence. Although these factors could be part of any groundwater management plan, these ordinances do not require that a groundwater management plan be developed and implemented.

The only ordinance requiring development and adoption of objectives to be accomplished by management of the basin was adopted by the Glenn County Board of Supervisors in 2000. The action came after a citizens committee spent five years working with stakeholders. The process of developing a groundwater management ordinance for Glenn County began in 1995 when local landowners and county residents became concerned about plans to export groundwater or substitute groundwater for exported surface water. Control of exports was the focus of early ordinance discussions.

After long discussions and technical advice from groundwater specialists, the committee realized that goals and objectives must be identified for effective management of groundwater in the county. What did the county want to accomplish by managing groundwater within the county? What did groundwater management really mean?

The concept of establishing basin management objectives emerged (BMOs). BMOs would establish threshold values for groundwater levels, groundwater quality, and land surface subsidence. When a threshold level is reached, the rules and regulations require that groundwater extraction be adjusted or stopped to prevent exceeding the threshold. There is no single set of management objectives that will be successful in all areas. Groundwater management must be adapted to an area's political, institutional, legal, and technical constraints and opportunities. Groundwater management must be tailored to each basin or subbasin's conditions and needs. Even within a single basin, the management objectives may change as more is learned about managing the resource within that basin.

Groundwater Management in California

The first basin-wide adjudication of groundwater rights in California was in the Raymond Basin in Los Angeles County in 1949 (*Pasadena v. Alhambra*). The City of Pasadena, on September 23, 1937, filed a complaint in Superior Court against the City of Alhambra and 29 other pumpers to quiet title to the water rights within Raymond Basin. The court ruled that the city must amend its complaint, making defendants of all entities pumping more than 100 acre-feet per year, and that it was not a simple quiet title suit but, a general adjudication of the water rights in the basin.

In February 1939, a court used the reference procedure under the State Water Code to direct the State Division of Water Resources, Department of Public Works (predecessor to the Department of Water Resources) as referee to review all physical facts pertaining to the basin, determine the safe yield, and ascertain whether there was a surplus or an overdraft. The study took 2-1/2 years to complete and cost more than \$53,000, which was paid by the parties. The resulting Report of Referee submitted to the court in July 1943 found that the annual safe yield of the basin was 21,900 acre-feet but that the actual pumping and claimed rights were 29,400 acre-feet per year.

Most parties agreed to appoint a committee of seven attorneys and engineers to work out a stipulated agreement. In 1944, the court designated the Division of Water Resources to serve as watermaster for the stipulated agreement, which all but one of the parties supported. On December 23, 1944, the judge signed the judgment that adopted the stipulation. The stipulation provided that (1) the water was taken by each party openly, notoriously, and under a claim of right, which was asserted to be, and was adverse to each and all other parties; (2) the safe yield would be divided proportionally among the parties; and (3) each party's right to a specified proportion of the safe yield would be declared and protected. It also established an arrangement for the exchange of pumping rights among parties. Based on the stipulation, the court adopted a program of proportionate reductions. In so doing, the court developed the doctrine of mutual prescription, whereby the rights were essentially based on the highest continual amount of pumping during the five years following the beginning of the overdraft, and under

conditions of overdraft, all of the overlying and appropriative water users had acquired prescriptive rights against each other, that is, mutual prescription. In 1945, one party appealed the judgment, and in 1947, the District Court of Appeals reversed and remanded Pasadena v. Alhambra. However, on June 3, 1949, the State Supreme Court overturned the appellate court's decision and affirmed the original judgment. In 1950, the court granted a motion by the City of Pasadena that there be a review of the determination of safe yield, and in 1955, the safe yield and the total decreed rights were increased to 30,622 acre-feet per year. In 1984, watermaster responsibilities were assigned to the Raymond Basin Management Board.

*In City of Los Angeles v. City of San Fernando (1975) the California Supreme Court rejected the doctrine of mutual prescription and held that a groundwater basin should be adjudicated based on the correlative rights of overlying users and prior appropriation among non-overlying users.

Colorado

<http://water.state.co.us/surfacewater/prior.asp>

Of course, the appropriation system is much more complicated than this. Some priorities on major stream systems in the state date back to the 1850's, and most of the stream systems have been overappropriated (overappropriated means that at some or all times of the year, a call for water by a senior appropriator is not being satisfied) since the 1890's. The example above does however, describe the basic theory behind the system.

How does this affect you? Practically speaking, it means that in most river drainages a person cannot obtain an underground water right without a plan for augmentation that replaces the depletions associated with that diversion. (Surface water appropriations may still be allowed if they can be shut off when a senior water right is calling for water. Domestic surface water rights are discouraged in overappropriated basins without augmentation so the domestic supply does not have to be shut down). For the most part, only small residential and livestock wells exempt from water rights administration that meet strict criteria set forth by the legislature are allowed to be drilled without providing for protection to senior water rights.

<http://www.westernwaterlaw.com/colorado.htm>

To be perfected as a legal right, a Colorado water right must be approved in a decree issued by one of the state's special Water Courts. Appeals from the decision of the Water Court may be taken directly to the Colorado Supreme Court as a matter of right.

RULES AND REGULATIONS FOR THE MANAGEMENT AND CONTROL OF DESIGNATED GROUND WATER

2 CCR 410-1

5.2.2.2 All new appropriations shall be controlled by management criteria that limit the maximum allowable rate of depletion to 40% of the water in storage within the saturated materials over a 100 year period. The amount of water in storage shall be determined as of the date of acceptance of a complete application.

5.3.2 Allowable Rate of Withdrawal

5.3.2.1 The allowable rate of withdrawal for these aquifers shall be limited so as to allow at least a 100 year aquifer life. Waters which have not been separated from land owned by the applicant or waters to which applicant has separate title under a described land area shall be available for appropriation. The availability of such waters is limited by the provisions of these rules to prevent unreasonable impairment to existing water rights.

5.3.2.3 The allowed average annual amount of withdrawal of water from any of these aquifers is determined by the formula:

Average Annual Withdrawal (acre-feet) = land area (acres) x saturated aquifer materials (ft.) x S.Y. 100 years

Where S.Y. is the specific yield of the aquifer (dimensionless). See Rule 5.3.4 for the thickness of saturated aquifer materials and Rule 5.7 for Specific Yield values.

Idaho

<http://www.hcn.org/primer/waterprimer/idaho.html>

Longtime Idaho Water Resources Director Keith Higginson denies that either the Snake or the Big Lost is overtapped. "There's no such thing as an overappropriated stream in Idaho," he says. "There will be years when flood flows will fill all of the water rights in the basin."

Higginson's philosophy of management is simple: If an irrigator's home stream dries up, drill a well.

"The resource is so huge that the water being consumed is only a small part of what's there," he says of the Snake Plain Aquifer. "If we hadn't had a drought, it's my view that this issue would never have come up and no one would be complaining. But the drought has accentuated the problem and now everyone is complaining."

From a political standpoint, it has always been state policy to fully consume the Snake to avoid water-grabs from Southern California and downstream interests in Washington and Oregon.

"We are seeking - we always have been and we always will - the ways and means of developing every drop of water that tumbles from the snow packs of the Snake River watershed," former Republican Gov. Robert Smylie told a U.S. Senate subcommittee in 1955. "And when we have used that water, whether to help grow a potato or turn a turbine, or both, then, and only then, will we willingly send it flowing into the canyons below Weiser to help develop still another empire further West." Current Republican Gov. Philip Batt might well make the same speech today.

Since there seemed to be no need to conserve, until 1971 Idaho laws and policies did not even require farmers to apply for a permit to divert water from a surface water source. Permits for groundwater wells were first required in 1963, but the Idaho Legislature didn't give the Water Resources Department authority to shut down unauthorized wells until 1986. And until 1994, the Legislature did not require groundwater pumpers to

measure their consumption. Full implementation of water measurement is expected to take at least five years.

Many people argue that historical water policies in Idaho caused the Snake to be overappropriated and the Snake Plain Aquifer to be mined.

But laissez-faire policies are catching up with Idaho. Says farmer McFadden: "If they approve any more pumps out here, we'll have World War III."

37.03.11 - RULES FOR CONJUNCTIVE MANAGEMENT OF SURFACE
AND GROUND WATER RESOURCES
010. DEFINITIONS (RULE 10).

For the purposes of these rules, the following terms will be used as defined below.
Reasonable Ground Water Pumping Level. A level established by the Director pursuant to Sections 42-226, and 42-237a.g., Idaho Code, either generally for an area or aquifer or for individual water rights on a case-by-case basis, for the purpose of protecting the holders of senior-priority ground water rights against unreasonable lowering of ground water levels caused by diversion and use of surface or ground water by the holders of junior-priority surface or ground water rights under Idaho law.

020. GENERAL STATEMENTS OF PURPOSE AND POLICIES FOR CONJUNCTIVE
MANAGEMENT OF SURFACE AND GROUND WATER RESOURCES (RULE 20).

08. Reasonably Anticipated Average Rate Of Future Natural Recharge. These rules provide for administration of the use of ground water resources to achieve the goal that withdrawals of ground water not exceed the reasonably anticipated average rate of future natural recharge. (Section 42-237a.g., Idaho Code)

TITLE 42

IRRIGATION AND DRAINAGE -- WATER
RIGHTS AND RECLAMATION
CHAPTER 15
MINIMUM STREAM FLOW

42-1501. LEGISLATIVE PURPOSE -- MINIMUM STREAM FLOW DECLARED
BENEFICIAL

USE. The legislature of the state of Idaho hereby declares that the public health, safety and welfare require that the streams of this state and their environments be protected against loss of water supply to preserve the minimum stream flows required for the protection of fish and wildlife habitat, aquatic life, recreation, aesthetic beauty, transportation and navigation values, and water quality. The preservation of the water of the streams of this state for such purposes when made pursuant to this act is necessary and desirable for all the inhabitants of this state, is in the public interest and is hereby declared to be a beneficial use of such water. The legislature further declares that minimum stream flow is a beneficial use of water of the streams of this state for the purpose of protecting such waters from interstate diversion to other states or by the federal government for use outside the boundaries of the state of Idaho. Minimum stream flows as established hereunder shall be prior in right to any claims asserted by any other

state, government agency, or person for out of state diversion. It is, therefore, necessary that authority be granted to receive, consider, approve or reject applications for permits to appropriate water of the streams of this state to such beneficial uses to preserve such water from subsequent appropriation to other beneficial uses under the provisions of chapter 2, title 42, Idaho Code.

TITLE 42

IRRIGATION AND DRAINAGE -- WATER
RIGHTS AND RECLAMATION
CHAPTER 15
MINIMUM STREAM FLOW

42-1502. DEFINITIONS. Whenever used in this act, the terms:

- f) "Minimum stream flow" means the minimum flow of water in cubic feet per second of time or minimum lake level in feet above mean sea level required to protect the fish and wildlife habitat, aquatic life, recreation, aesthetic beauty, navigation, transportation, or water quality of a stream in the public interest;
- g) "Unappropriated water" means water which is not subject to diversion and use under any prior existing water right established by diversion and application to a beneficial use or by application, permit or license on file or issued by the director under the provisions of chapter 2, title 42, Idaho Code, with a priority of water right date earlier than an application for appropriation of minimum stream flow filed under the provisions of this act.

Kansas

<http://www.accesskansas.org/kda/dwr/>

- 34 K.A.R. 5-3-10. Availability of water for appropriation - safe yield. (a) Except as set forth in subsection (b) and K.A.R. 5-3-16 and K.A.R. 5-3-17, the approval of any new application to appropriate groundwater or surface water for beneficial use, except for domestic use, temporary use and term permits for five years or less, shall not cause the safe yield of the source of water supply to be exceeded, neither shall it otherwise prejudicially and unreasonably affect the public interest. The approval of term permits shall not allow impairment nor prejudicially and unreasonably affect the public interest.
- (b) This regulation shall not apply to an application which proposes:
- (1) to divert water from a source of water supply subject to a different safe yield, allowable appropriation, depletion or other similar type of criteria adopted by rule and regulation of the chief engineer or intensive groundwater use control area order of the chief engineer issued pursuant to K.S.A. 82a-1036 et seq., or
 - (2) to use water in a manner so that there is no significant net consumptive use of the local source of supply either in quantity or availability of water for use by other appropriators.
- (c) If a total quantity of water that is available for appropriation in any basin, subbasin, stream reach or other hydrologic unit has been determined by the chief engineer prior to the date that application is filed, the total quantity of water authorized by vested rights, prior appropriations, requests by prior unapproved applications and the proposed appropriation shall be determined by the chief engineer.
- (1) If the total quantity of water authorized and requested by applications with earlier filing dates is less than or equal to the total annual quantity of water determined to be

available for appropriation, or if no total quantity of water available was determined by the chief engineer prior to the date the application was filed, the following procedures shall be used by the chief engineer to further evaluate the applications:

- (A) K.A.R. 5-3-11 shall be used to evaluate an application to appropriate groundwater from an unconfined aquifer;
 - (B) K.A.R. 5-3-14 shall be used to evaluate an application to appropriate groundwater from a confined aquifer; or
 - (C) K.A.R. 5-3-15 shall be used to evaluate an application to appropriate surface water.
- (2) If the total quantity of water authorized and requested exceeds the limit determined by the chief engineer pursuant to this subsection, the application shall be denied or considered only for the quantity available. (Authorized by K.S.A. 82a-706a; implementing K.S.A. 1993 Supp. 82a-711; effective Nov. 28, 1994.)

K.A.R. 5-3-11. Availability of water for appropriation-safe yield; unconfined groundwater aquifers. (a) Each application to appropriate groundwater from an unconfined aquifer shall be processed in accordance with this regulation.

(b) To determine the safe yield available for appropriation from an unconfined aquifer at a specific location, the following procedure shall be used by the chief engineer:

(1) The amount of calculated recharge occurring within the area of consideration shall be determined by the chief engineer.

(2) That amount shall be multiplied by the percent of calculated recharge determined by the chief engineer to be available nondomestic groundwater and surface water for appropriation.

(3) The total quantity of water authorized and requested in the same area of consideration shall be subtracted from the number derived from paragraph (b)(2) above. If a water right or permit authorizes more than one point of diversion and not all of them are within the area of consideration, the authorized quantity shall be divided equally between or among all the points of diversion, unless information is available to more accurately distribute the authorized quantity between or among the multiple points of diversion.

(c)(1) If the quantity of water remaining is sufficient to satisfy the proposed application, then the safe yield criteria shall be deemed to have been met, unless there are other relevant factors that need to be taken into account in order to protect the public interest. The application shall then be processed according to other criteria in effect in that area.

(2) If there is sufficient water available to reasonably satisfy part of the request, then the application shall be approved for the quantity available if the remaining quantity is reasonable for the proposed use and the application meets the other applicable criteria in that area.

(3) If no water is available to satisfy the proposed application, then the application shall be denied by the chief engineer.

(d)(1) In making a safe yield calculation, unless the context clearly requires otherwise, the following words and phrases shall have the meanings ascribed to them:

(A) "Circle" means a circle with a two-mile radius, with the proposed point of as the center.

(B) "Area of consideration" means the portion of the two-mile circle located within the limits of the unconfined aquifer expressed in acres, including any area of the circle located within the boundaries of a groundwater management district. The area of

consideration shall not include any portion of the circle located outside the state of Kansas.

(C) "Total quantity of water" means the total combined authorized annual quantities under all groundwater rights and approvals of applications, and requested by pending applications with a senior priority in that unconfined aquifer except for domestic use, temporary permits, and term permits for five or fewer years with priority dates senior to the proposed application and with points of diversion located within the area of consideration.

(D) "Calculated recharge" means that portion of the average annual precipitation that becomes recharge to the unconfined aquifer, calculated using the data shown on water resources investigations report 87-4230, plate no. 4, dated 1987, prepared by the United States geological survey, hereby adopted by reference, interpolated to the nearest tenth of an inch, unless better or more specific recharge data for the area of consideration, basin, or aquifer is supplied by the applicant or is already available to the chief engineer. (See insert, pg 43.)

(2) The calculated recharge in the Kansas river alluvium shall be determined by taking 25% of the average annual rainfall in the area of consideration as taken from figure 2, United States geological survey water resources investigation report 92-4137, dated 1993, hereby adopted by reference, interpolated to the nearest 0.1 of an inch. (See insert, pg 44.)

(3) For each application to appropriate groundwater from an unconfined aquifer filed on or after the effective date of this regulation, the percentages of calculated recharge that shall be considered to be available for appropriation shall be determined using the following table:

K.A.R. 5-3-14. Availability of water for appropriation - safe yield; confined groundwater aquifers. (a) Each application to appropriate water from a confined aquifer shall be processed on a case by case basis so that the safe yield of the source of water supply is not exceeded.

Montana

<http://www.westernwaterlaw.com/montana.htm>

Water rights in Montana are regulated by the Montana Water Use Act of 1973 (Mont. Code Ann. § 85-2-101 et seq.). The Water Use Act sets up two methods for perfecting a water right. First, all water rights existing prior to July 1, 1973, must be perfected in one of a number of statewide adjudications (§ 85-2-211 et seq.). Pre-1973 domestic and livestock water uses are exempt from the adjudication process. A special water court, divided into four water divisions, was created to adjudicate pre-1973 water rights. Second, new or additional water right claims made after 1973 must be perfected by seeking a permit from the Department of Natural Resources and Conservation ("DNRC") (§ 85-2-301 et seq.).

Today, a party may appropriate unappropriated water by applying for a "Permit to Appropriate Water" from the DNRC. In order to appropriate water, the party must prove by a preponderance of evidence that: (1) there is water physically available at the proposed point of diversion; (2) the water rights and/or water quality of a prior

appropriator will not be adversely affected; (3) the water will be placed to a beneficial use on property in which the party has a possessory interest; and (4) the party has the capability to carry out the diversion (§ 85-2-310). Water appropriations that may significantly affect the quality of the human environment require the preparation of an environmental impact statement for the application. Applications to appropriate water are generally processed in 210 days.

Groundwater in Montana is governed by appropriation requirements similar to surface water. A party does not need to apply for a permit to develop a well with an anticipated use of 35 gallons per minute or less (not to exceed 10 acre-feet per year). Small well users need only keep a "Well Log Report" for 60 days and send it to DNRC. For valid well appropriations, DNRC will issue a Certificate of Water Right. For groundwater appropriations over 35 gallons per minute, a party must submit an application for a "Permit to Appropriate Water" before developing the well.

Some unique features of Montana water law designed to deal with modern water right issues include: provisions that regulate the appropriation of water for transport out of state (§ 85-2-311(4)); a special rule that only DNRC may make an appropriation in excess of 4,000 acre-feet (§ 85-2-301(2)(a)(ii)); a requirement that the state legislature must approve any groundwater appropriation in excess of 3,000 acre-feet (§ 85-2-317); a right for the Department of Environmental Quality to petition for special restrictions in "highly appropriated basins" where water quality would be threatened by additional appropriations; the ability of the state to make reservations of water for future beneficial uses in the basin where it is reserved (§ 85-2-316(2)); and creation of a special commission to negotiate compacts to resolve federal reserved water right claims (§ 85-7-701).

<http://nris.state.mt.us/wis/>

<http://www.dnrc.state.mt.us/wrd/home.htm>

Montana's Basin Closures and Controlled Groundwater Areas December 2003

1. Controlled Groundwater Areas — The Department of Natural Resources and Conservation (DNRC) may designate or modify controlled groundwater areas. In addition, another state or local agency can petition for a controlled groundwater area. This is often done when health risks are identified. Water users on the source can petition for a controlled groundwater area as well.

2. Petitioned Surface Water Basin Closures by Rule — DNRC may adopt Administrative Rules to close a drainage basin. To adopt rules, DNRC must receive a petition.

CONTROLLED GROUNDWATER AREAS

In a controlled groundwater area, anyone wishing to drill a well must first apply for and receive a Permit for Beneficial Water Use (85-2-508, MCA). This applies to any size and type of appropriation, including wells to be used at less than 35 gallons per minute (GPM) and less than 10 acre-feet per year.

Criteria for Issuance of a Permit
Section 85-2-311(1), MCA

The applicant for a water use permit to appropriate less than 4,000 acre-feet a year and 5.5 cfs has the initial burden to prove by a PREPONDERANCE OF THE EVIDENCE that the criteria for issuance of a permit are met. These include the following:

1. Water is physically available at the proposed point of diversion in the amount that the applicant seeks to appropriate.
2. Water can reasonably be considered legally available during the period in which the applicant seeks to appropriate, in the amount requested.
3. The water rights of a prior appropriator under an existing water right, a certificate, a permit, or a state WATER RESERVATION will not be adversely affected.
4. The proposed means of diversion, construction, and operation of the appropriation works are adequate.
5. The proposed use of water is a beneficial use.
6. The applicant has a possessory interest, or the written consent of the person with the possessory interest, in the property where the water is to be put to beneficial use.

An applicant is required to prove one of the following criteria if a valid objection is filed:

1. The DISCHARGE PERMIT holder has the ability to satisfy EFFLUENT limitations of a permit issued in accordance with Title 75, chapter 5, part 4, MCA.
2. The proposed use will be substantially in accordance with the classification of water set for the source of supply pursuant to section 75-5-301(I), MCA.
3. The proposed use will not adversely affect the ability of a discharge permitholder to satisfy effluent limitations in accordance with Title 75, chapter 5, part 4, MCA.

Montana has closed some of its river basins to certain types of new water appropriations because of water availability problems, overappropriation, and a concern for protecting existing water rights. Sections 85-2-319 and 85-20-401, MCA, legislatively authorize the closure of basins to certain new appropriations through the adoption of administrative rules and negotiation of reserved water rights compacts.

The law also provides for the closure of highly appropriated basins through the adoption of administrative rules.

Nevada

<http://water.nv.gov/>

<http://www.leg.state.nv.us/NRS/NRS-534.html>

<http://water.nv.gov/home/nrs.htm>

Nothing useful found through Internet search

New Mexico

<http://www.nmenv.state.nm.us/>

Surface waters that were diverted for beneficial use in New Mexico prior to the adoption in 1907 of the New Mexico Water Code. No permit was required to appropriate public waters before 1907, and such water rights are evidenced in the State Engineer's office only by water right declarations, unless, after 1907, the right has been transferred to another location or use, in which case the State Engineer's office records will contain a permit authorizing a transfer.

The 1907 Water Code codified the prior appropriation doctrine and established the Office of the Territorial Engineer to supervise a permit system for water right appropriations and transfers.

The New Mexico Water Code was not made applicable to groundwater until 1931 and then only in declared groundwater basins. Until a basin is declared by the State Engineer, appropriations and transfers of water rights are accomplished without State Engineer involvement. After an underground basin is declared by the State Engineer, no lawful appropriation can occur without a State Engineer issued permit.

<http://www.westernwaterlaw.com/newmexico.htm>

Unlike other Western states, New Mexico applies the doctrine of prior appropriation to both surface water (§ 72-5-1 et seq.) and to groundwater (§ 72-12-1 et seq.). New Mexico uses a permit system to regulate new appropriations of water.

A permit is required for all new withdrawals from "Declared Underground Basins." Roughly 75 percent of the state is located in a declared basin. Small livestock and domestic groundwater users must submit a permit application, but are otherwise exempt from the permitting process. All other appropriators of groundwater in designated basins must prove to the State Engineer that they meet the same criteria as surface water appropriators.

When the availability of surface or ground water to fulfill water rights is in dispute, the state, federal government or an interested party may initiate a suit to adjudicate the water rights of a particular stream system. (§ 72-4-13 et seq). Adjudications occur in two phases. First, the State Engineer drafts a hydrographic survey for the stream system identifying all water users and the history of water use. The State Engineer drafts "offers of judgment" based on the hydrographic survey that are sent to water users. Second, the case is heard in the New Mexico District Court. Once in court, a water right holder may challenge the State Engineer's offer of judgment and/or the water rights of other appropriators. The adjudication ends with the issuance of a decree for the stream system.

<http://www.seo.state.nm.us/water-info/NMWaterPlanning/2003StateWaterPlan.pdf>
New Mexico's surface waters in many parts of the State have been fully appropriated since the early to middle 1900s. Most of the municipal and community water supplies developed since then have relied on the State's substantial potable ground water reserves. However, much of that ground water is in storage in aquifers that are hydrologically connected to the State's rivers and is not available for use because the pumping of that ground water would reduce river flows and impair senior surface rights. Therefore, development of these ground water resources has required the identification, purchase and retirement of surface rights.

Ultimately, in order to protect senior water rights, there is no alternative to administration of the State's waters. In order to accomplish this, the rights must be adjudicated or otherwise quantified and ranked. Quantification of senior water rights is important to provide certainty to all water right holders, to facilitate the active management of the

State's waters, and to enable the State to maintain administrative authority over its waters.

North Dakota

<http://www.swc.state.nd.us/>

<http://www.swc.state.nd.us/waterlaws/rules/8903WatApp.pdf>

<http://www.state.nd.us/lr/cencode/t61c01.pdf>

61-01-26. Declaration of state water resources policy. In view of legislative findings and determination of the ever-increasing demand and anticipated future need for water in North Dakota for every beneficial purpose and use, it is hereby declared to be the water resources policy of the state that:

1. The public health, safety and general welfare, including without limitation, enhancement of opportunities for social and economic growth and expansion, of all of the people of the state, depend in large measure upon the optimum protection, management, and wise utilization of all of the water and related land resources of the state.
2. Well-being of all of the people of the state shall be the overriding determinant in considering the best use, or combination of uses, of water and related land resources.
3. Storage of the maximum water supplies shall be provided wherever and whenever deemed feasible and practicable.
4. Accruing benefits from these resources can best be achieved for the people of the state through the development, execution, and periodic updating of comprehensive, coordinated, and well-balanced short-term and long-term plans and programs for the conservation and development of such resources by the departments and agencies of the state having responsibilities therefore. The plans and programs for the conservation and development of these resources may include implementation of a program to cost-share with local sponsors of water quality improvement projects.
5. Adequate implementation of such plans and programs shall be provided by the state through cost-sharing and cooperative participation with the appropriate federal and state departments and agencies and political subdivisions within the limitation of budgetary requirements and administrative capabilities, including consideration of cost-sharing for water quality improvement projects.
6. Required assurances of state cooperation and for meeting nonfederal repayment obligations of the state in connection with federal-assisted state projects shall be provided by the appropriate state department or agency.
7. Required assurances of local cooperation and for meeting nonfederal repayment obligations of local interests in connection with federal-assisted local projects may, at the request of political subdivisions or other local interests be provided by the appropriate state department or agency, provided, if for any reason it is deemed necessary by any department or agency of the state to expend state funds in order to fulfill any obligation of a political subdivision or other local interests in connection with the construction, operation, or maintenance of any such project, the state shall have and may enforce a claim against the political subdivision or other local interests for such expenditures.

<http://www.state.nd.us/lr/cencode/t61c04.pdf>

61-04-02. Permit for beneficial use of water required. Any person, before commencing any construction for the purpose of appropriating waters of the state or before taking waters of the state from any constructed works, shall first secure a water permit from the state engineer unless such construction or taking from such constructed works is for domestic or livestock purposes or for fish, wildlife, and other recreational uses or unless otherwise provided by law. However, immediately upon completing any constructed works for domestic or livestock purposes or for fish, wildlife, and other recreational uses the water user shall notify the state engineer of the location and acre-feet [1233.48 cubic meters] capacity of such constructed works, dams, or dugouts. Regardless of proposed use, however, all water users shall secure a water permit prior to constructing an impoundment capable of retaining more than twelve and one-half acre-feet [15418.52 cubic meters] of water or the construction of a well from which more than twelve and one-half acre-feet [15418.52 cubic meters] of water per year will be appropriated. In those cases where a permit is not required of a landowner or the landowner's lessee to appropriate less than twelve and one-half acre-feet [15418.52 cubic meters] of water from any source for domestic or livestock purposes or for fish, wildlife, and other recreational uses, those appropriators may apply for water permits in order to clearly establish a priority date; the state engineer may waive any fee or hearing for such applications. An applicant for a water permit to irrigate need not be the owner of the land to be irrigated.

Oklahoma

<http://www.owrb.state.ok.us/util/links.php>

TITLE 785. OKLAHOMA WATER RESOURCES BOARD

CHAPTER 30. TAKING AND USE OF GROUNDWATER

785:30-1-2. Definitions

"Equal proportionate part or share" means the maximum annual yield of water from a groundwater basin or subbasin which shall be allocated to each acre of land overlying such basin or subbasin. It shall be that percentage of the maximum annual yield, determined as provided by 82 O.S., §1020.5 and 785:30-9-2 which is equal to the percentage of the land overlying the fresh groundwater basin or subbasin which is owned or leased by an applicant for a regular permit.

785:30-5-1. Regular permit

- (a) A regular permit is an authorization to put groundwater to beneficial use for other than domestic purposes. [82:1020.11(A)]
- (b) The regular permit shall be granted only after completion of the hydrologic survey and determination of the maximum annual yield for the appropriate basin or subbasin. [82:1020.11(A)]
- (c) A regular permit shall allocate to the applicant his proportionate part of the maximum annual yield of the basin or subbasin. [82:1020.9]
- (d) His proportionate part shall be that percentage of the total annual yield of the basin or subbasin previously determined to be the maximum annual yield...which is equal to the percentage of the land overlying the fresh groundwater basin or subbasin which he owns or leases. [82:1020.9]
- (e) The permit shall specify the location of the permitted well or wells. [82:1020.9]

- (f) A regular permit shall not be granted for less than the remaining life of the basin or subbasin as previously determined by the Board. [82:1020.9]
- (g) If the lands dedicated to the application overlie two or more groundwater basins which overlie each other and both basins have had maximum annual yields determined, the amount to be authorized by the regular permit shall be calculated on the basin having the greatest maximum annual yield. [82:1020.9]
- (1) If the existing or proposed well(s) are completed in both groundwater basins or subbasins, so that the well(s) are capable of taking water from both basins or subbasins, the amount to be authorized by the regular permit shall be calculated on the basin or subbasin having the greatest maximum annual yield.
 - (2) (2) If the existing or proposed well(s) are completed in only one of the groundwater basins or subbasins, the amount of water authorized by the regular permit shall be calculated on the maximum annual yield for that basin or subbasin.
- (h) If the lands dedicated to the application overlie two or more groundwater basins which overlie each other and the maximum annual yield has been determined for at least one but not all the basins or subbasins, a regular permit shall be issued. See also 785:30-5-2(b)(4).

785:30-9-1. Hydrologic surveys and investigations

- (a) Prior to making orders establishing the tentative maximum annual yield for major groundwater basins or subbasins therein, the Board shall make hydrologic surveys and investigations. The Board is authorized to cooperate with state and federal agencies engaged in similar surveys and investigations and may accept and use the findings of such agencies. [82:1020.4]
- (b) Prior to making orders establishing the tentative maximum annual yield for minor groundwater basins or subbasins therein, the Board shall prepare reports using information from hydrologic surveys and investigations of groundwater basins or subbasins having substantially the same geological and hydrological characteristics and data from wells in such basin or subbasins and other relevant information. [82:1020.4]
[Source: Amended at 11 Ok Reg 2935, eff 6-13-94]

785:30-9-2. Determination of maximum annual yield

- (a) After completing the hydrologic survey, the Board shall make a tentative determination of the maximum annual yield of groundwater to be produced from each major groundwater basin or subbasin therein. Such determination shall be based upon the following:
- (1) The total land area overlying the basin or subbasin;
 - (2) The amount of water in storage in the basin or subbasin at the time of the survey or investigation;
 - (3) The rate of recharge to the basin or subbasin and total discharge from the basin or subbasin the time of the survey or investigation;
 - (4) Transmissibility or transmissivity of the basin or subbasin; and
 - (5) The possibility of pollution of the basin or subbasin from natural sources.

(b) The maximum annual yield of each groundwater basin or subbasin shall be based upon a minimum basin or subbasin life of twenty (20) years from the order establishing the final determination of the maximum annual yield. [82:1020.5]

(c) For minor groundwater basins or subbasins therein, the tentative determination of the maximum annual yield shall be based upon present and reasonably foreseeable future use of groundwater from such basin or subbasin, recharge and total discharge, the geographical region in which the basin or subbasin is located and other relevant factors. [82:1020.5(C)]

(d) The maximum annual yield of each minor groundwater basin or subbasin shall be based upon a minimum basin or subbasin life of twenty (20) years from the order establishing the final determination of the maximum annual yield.

[Source: Amended at 11 Ok Reg 2935, eff 6-13-94]

Oregon

There is a group in Oregon called Water Watch who "has always felt there was a real question of whether we were issuing permits for water that was not in the stream."

The following is excerpted from a legislative debate transcript:

<http://arcweb.sos.state.or.us/legislative/legislativeminutes/1991%20House%20Water%20Policy.txt/hWTR042591.txt>

108REP. DWYER: Would there be no more withdrawals if all the streams are already overappropriated?

113MYRON: Yes.

The Department has a definition of "overappropriated" in their rules. If water is not available 80 percent of the time, the stream is considered overappropriated.

130DAVID MOSKOWITZ, NORTHWEST STEELHEADERS: Testifies in support of HB 3425 which would take some of the burden off Water Resources in making determinations. Should look at how many applications Water Resources has granted in the past several years.

150REP. MARKHAM: What would it cost a farmer who might want to make an application?

155MOSKOWITZ: The cost might be high. The Department might be able to extrapolate the cost for an applicant based on their costs.

165REP. DWYER: Since 1957 we have required a determination that water is available. Every appropriation since 1957 was supposed to have been based on availability.

Where would a person go to get information needed to determine availability?

180MOSKOWITZ: Call local watermaster to find out if water is available. In some cases, a farmer could utilize the same resources. Main problem is that data is not available. The Department should not grant a permit on the basis of no data. The individual who is determined to get a permit might need to make the business decision, as a cost of doing business, to hire a consultant to gather that data.

...

215BEV HAYES, WATER RESOURCES DEPARTMENT: The Commission has no position on HB3425.

Thinks they view part of it favorably as they have decided to require, by rule, that users in the Malheur Basin must show by a preponderance of evidence that water is available before they can apply for a permit.

The Commission believes it can do this administratively and has chosen to do it on a site by site basis.

There would be a substantial cost to the applicant but it would reduce the Department's cost for processing applications if the applicant had to show that water was available before they could apply.

The rule adopted in the Malheur says that the applicant must show by a preponderance of evidence, and that would be evidence gathered by a qualified hydrologist or Water Resources Specialist, that water is available. Would require them to use streamflow measurements, gauged records if available, or a good estimate of water availability.

Adopted the rule as a requirement in the Malheur Basin because the Department's preliminary analysis of the Malheur Basin suggested that water was not available.

Commission has adopted definition of "over-appropriated" in its statewide policies. The definition says that if water is not available four out of five years it is considered overappropriated.

In the Water Availability Report produced for the Commission last week, we say that 63 percent of the sites we investigated showed that water is not available at least one month out of the year. This would suggest that not all the streams are overappropriated, but we do have problems on a good many of them.

<http://www.wrd.state.or.us/publication/aquabook02/protectations.html>
Water Protections and Restrictions
managing water appropriations

Basin-by-Basin Water Use Restrictions

Some waters within the state may be closed to new appropriation by legislative action or restricted by an administrative rule or order of the Water Resources Commission. These restrictions on new uses from streams and aquifers are adopted to assure sustained supplies for existing water users and to protect important natural resources. Except in

very severe situations (e.g., critical ground water areas), these restrictions do not affect existing water uses, only the Department's ability to authorize new uses in these basins.

Basin Programs

The Water Resources Commission adopts basin programs to set policies for managing river basins. A river basin includes all the land area, surface water bodies, aquifers and tributary streams that drain into the major namesake river.

Basin programs include water use "classifications" that describe the types of new water right applications that may be considered by the Department. Applicants should check with the Department before submitting an application to determine what classifications have been adopted on the proposed source of water.

The Commission has adopted basin programs for all but two of the state's 20 major river basins. Although the Commission has not adopted basin programs for the Klamath and Malheur Lake basins, use of water in those basins is still subject to other administrative rules. The Commission revises classifications in basin programs when the lack of available water or other factors indicate that new appropriations should not be allowed. Any change in the classification of a stream or aquifer restricts only new uses of water. Basin programs are updated periodically.

Critical Ground Water Areas

The law requires that when pumping of ground water exceeds the long-term natural replenishment of the underground water reservoir, the Water Resources Commission must act to declare the source a critical ground water area and restrict water use. The law is designed to prevent excessive declines in ground water levels. The order setting the limits of the critical area may also provide for certain users of water to have preference over other users, regardless of established water right priority dates. Critical ground water areas also can be declared if there is interference between wells and senior surface water users or deterioration of ground water quality.

Once a critical ground water proceeding is initiated by the Commission, no new well permits are issued during the course of the proceeding. The final order may restrict both existing and future uses in order to stabilize the resource.

The role of the Department is to prevent excessive ground water declines, restore aquifer stability, and preserve aquifers with limited storage capacity for designated high public value uses. As more wells are drilled, the Department may find other areas where use from basalt and other aquifers must be limited. Such limitation applies to the specific aquifer that a well is tapping. In some cases, water may still be available at a different depth from a different formation.

Enforcing Water Laws

Watermasters and field staff protecting rights and resources

Watermasters respond to complaints from water users and determine in times of water shortage, which generally occur every year, who has the right to use water. Each summer as streamflows drop, they regulate junior users to provide water to more senior users. On many streams throughout the state, by the end of summer, there is only enough water to supply users who established their rights in the late 1800s. All of the more recently established rights will have been regulated off by the watermaster.

Watermasters work with all of the water users on a given water system to ensure that the users voluntarily comply with the needs of more senior users. Occasionally, watermasters take more formal actions to obtain the compliance of unlawful water users or those who are engaged in practices which "waste" water. The waste of water means the continued diversion of more water than is needed to satisfy the specific beneficial use for which the right was granted.

DIVISION 8
STATUTORY GROUND WATER TERMS
690-008-0001
Definition and Policy Statements

6) "Excessively Declining Water Levels" (Note: "Excessively" as used in ORS 537.730(1)(a) is taken to modify both "are declining" and "have declined") means any ongoing lowering of the water level in a ground water reservoir or part thereof which:

- (a) Precludes, or could preclude, the perpetual use of the reservoir; or
- (b) Represents an average downward trend of three or more feet per year for at least 10 years; or
- (c) Represents, over a five year period, an average annual lowering of the water level by 1% or more of the initial saturated thickness as determined by observation or investigation in the affected area; or
- (d) Results in water quality deterioration.

690-009-0040

Determination of Hydraulic Connection and Potential for Substantial Interference

For the purposes of permitting and distributing ground water, the potential for substantial interference with surface water supplies shall be determined by the Department.

(4) All wells that produce water from an aquifer that is determined to be hydraulically connected to a surface water source shall be assumed to have the potential to cause substantial interference with the surface water source if the existing or proposed ground water appropriation is within one of the following categories:

- (a) The point of appropriation is a horizontal distance less than one-fourth mile from the surface water source; or
- (b) The rate of appropriation is greater than five cubic feet per second, if the point of appropriation is a horizontal distance less than one mile from the surface water source; or
- (c) The rate of appropriation is greater than one percent of the pertinent adopted minimum perennial streamflow or instream water right with a senior priority date, if one is applicable, or of the discharge that is equaled or exceeded 80 percent of time, as determined or estimated by the Department, and if the point of appropriation is a horizontal distance less than one mile from the surface water source; or
- (d) The ground water appropriation, if continued for a period of 30 days, would result in stream depletion greater than 25 percent of the rate of appropriation, if the point of appropriation is a horizontal distance less than one mile from the surface water source. Using the best available information, stream depletion shall be determined or estimated by the Department, employing at least one of the following methods:

690-009-0050

Ground Water Controls

- (1) The Department shall review existing ground water appropriations to determine the potential to cause substantial interference with a surface water source on a case-by-case basis, in accordance with OAR 690-009-0040, whenever substantial interference with a surface water source is suspected to exist by the Department.
- (2) Whenever the Department determines that substantial interference with a surface water supply exists, the Department shall control those groundwater appropriations that have been determined under section (1) of this rule to have the potential to cause substantial interference. The controls shall be similar to or compatible with, but not more restrictive than controls on the affected surface water source, in accordance with the relative dates of priorities of the ground water and surface water appropriations:
 - (a) Prior to controlling the use of any well greater than 500 feet from a surface water source, the Department shall determine whether any control would provide relief to the surface water supply in an effective and timely manner. The Department shall make the determination on the basis of the best available information, employing at least one of the methods set forth in OAR 690-009-0040(4)(d);
 - (b) The Department shall control the use of wells greater than one mile from a surface water source only through a critical ground water area determination in accordance with ORS 537.730 through 537.740.

Stat. Auth.: ORS 537

537.730 Designation of critical ground water area; rules; notice. (1) The Water Resources Commission by rule may designate an area of the state a critical ground water area if:

(a) Ground water levels in the area in question are declining or have declined excessively;

(b) The Water Resources Department finds a pattern of substantial interference between wells within the area in question;

(c) The department finds a pattern of interference or potential interference between wells of ground water claimants or appropriators within the area in question with the production of geothermal resources from an area regulated under ORS chapter 522;

(d) The department finds a pattern of substantial interference between wells within the area in question and:

(A) An appropriator of surface water whose water right has an earlier priority date; or

(B) A restriction imposed on surface water appropriation or a minimum perennial stream flow that has an effective date earlier than the priority date of the ground water appropriation;

(e) The available ground water supply in the area in question is being or is about to be overdrawn;

South Dakota

<http://www.state.sd.us/denr/des/waterrights/waterprg.htm>

The Water Rights Program is responsible for managing the appropriation and use of the state's water resources. In order to complete this responsibility, the program monitors over 1,600 observation wells to track fluctuations in ground water levels and cooperates with the US Geological Survey in maintaining 52 stream gauging stations to monitor stream flows. This ground and surface water data coupled with water use data obtained from the annual irrigation water use questionnaire enables the program to manage water usage in South Dakota. Management of the state's water resources is especially critical for those water sources that are fully appropriated as well as during drought periods.

http://www.state.sd.us/denr/des/waterrights/wr_permit.htm

In South Dakota, all water (surface and ground water) is the property of the people of the state and whether you need a water right permit depends on the type of your water use. The only type of water use which does not require a water right permit is domestic use. However, even domestic use of water requires a permit if your water use exceeds either 25,920 gallons per day or a peak pump rate of 25 gallons per minute. Examples of domestic water uses are: 1) drinking, washing, sanitary, and culinary uses by an individual or household, 2) irrigation of a noncommercial garden, trees, etc. not exceeding one acre in size, 3) stock watering, and 4) eighteen gallons per minute for use

in schools, parks, and public recreation areas. It should also be noted that water distribution systems using eighteen gallons per minute or less do not need to get a water right permit. Water distribution systems include municipalities, rural water systems, suburban housing developments, etc.

<http://www.state.sd.us/denr/des/waterrights/46-2a.htm#46-2A-9>

46-2A-9. Appropriation of water - When permit may be issued. A permit to appropriate water may be issued only if there is reasonable probability that there is unappropriated water available for the applicant's proposed use, that the proposed diversion can be developed without unlawful impairment of existing rights and that the proposed use is a beneficial use and in the public interest.

<http://www.state.sd.us/denr/des/waterrights/46-6.htm#46-6-3.1>

46-6-3. Appropriation of groundwater authorized. Subject to vested rights and prior appropriations, groundwaters of the state may be appropriated pursuant to the procedures contained in chapter 46-2A.

46-6-3.1. Annual withdrawal of groundwater not to exceed recharge - Exception for water distribution systems.

No application to appropriate groundwater may be approved if, according to the best information reasonably available, it is probable that the quantity of water withdrawn annually from a groundwater source will exceed the quantity of the average estimated annual recharge of water to the groundwater source. An application may be approved, however, for withdrawals of groundwater from any groundwater formation older than or stratigraphically lower than the greenhorn formation in excess of the average estimated annual recharge for use by water distribution systems.

<http://legis.state.sd.us/rules/rules/7402.htm#74:02:05>

74:02:05:01. Definitions. Terms defined by SDCL 46-1-6 and §§ 74:02:01:01 and 74:02:04:20 have the same meaning when used in this chapter. In addition, terms used in this chapter mean:

(1) "Water shortage," the lessened water supply conditions existing in an aquifer during a period of substantially less than average annual recharge.

74:02:05:03. Constraints on withdrawals of water from large-capacity wells. When regulating withdrawals of water from large-capacity wells, the board may require reasonable efforts to maintain sufficient artesian pressure in the aquifer to maintain water supplies in existing individual domestic use wells which are dependent upon artesian pressure, but continuance of artesian pressure at all times will not be assured. The board may restrict water withdrawals from an aquifer by large-capacity wells by limiting drawdown, limiting daily operating periods, reducing the rate of withdrawal based upon priority, or other means by which adverse effects upon the aquifer may be lessened in the degree necessary to conform with this chapter.

Texas

<http://www.texaswater.org/water/law/default.htm>

Groundwater law, which pertains to any water that is underground, is fairly limited. Groundwater includes water percolating through soil and rock, underground flow in confined channels, artesian water, and stream underflow.

In Texas, groundwater is considered the property of the owner of the surface property from which it is pumped - much like a mineral or oil and gas.

The English common law of "rule of capture" is in force, allowing landowners to pump as much as they want without regard to how such action might affect a neighbor's water supply.

<http://texaswater.tamu.edu/groundwater.GCD.htm>

Groundwater is and will continue to be a major source of water for Texas. However, in many parts of the state, more groundwater is being used than is being replenished through natural means. If this practice continues, Texas water costs will rise, land could subside, water quality could decline and people in some areas could run out of water.

To address this problem, the Texas Legislature has provided a way for groundwater resources to be managed and protected locally, through the creation of groundwater conservation districts (GCDs). A GCD is a local unit of government authorized by the Texas Legislature and ratified at the local level to manage and protect groundwater.

Utah

<http://www.water.utah.gov/>

WEBER RIVER BASIN
PLANNING FOR THE FUTURE
July 20, 2004

http://www.water.utah.gov/Planning/SWP/Weber_riv/WeberDraft0704.pdf

UTAH'S M&I WATER CONSERVATION GOAL

The state has developed a specific goal to conserve water use directly linked to M&I needs. This goal is to reduce the 1995 per capita water demand from public community systems by at least 25 percent before 2050.

Specifically, statewide per capita demand will need to decline from 321 gallons per capita per day (gpcd) to a sustained 240 gpcd or less. This goal is based on modeling and research that indicates indoor and outdoor water use can be reduced by 25 percent or more. Indoor reductions will be realized through the installation of more efficient fixtures and appliances and public education. Outdoor reductions will be realized through public education, emphasizing more efficient application of water on landscapes, and reduction of turf areas.

73-3-8 Approval or rejection of application - Requirements for approval - Application for specified period of time - Filing of royalty contract for removal of salt or minerals.

(1) It shall be the duty of the state engineer to approve an application if: (a) there is unappropriated water in the proposed source; (b) the proposed use will not impair

existing rights or interfere with the more beneficial use of the water; (c) the proposed plan is physically and economically feasible, unless the application is filed by the United States Bureau of Reclamation, and would not prove detrimental to the public welfare; (d) the applicant has the financial ability to complete the proposed works; and (e) the application was filed in good faith and not for purposes of speculation or monopoly. If the state engineer, because of information in his possession obtained either by his own investigation or otherwise, has reason to believe that an application to appropriate water will interfere with its more beneficial use for irrigation, domestic or culinary, stock watering, power or mining development or manufacturing, or will unreasonably affect public recreation or the natural stream environment, or will prove detrimental to the public welfare, it is his duty to withhold his approval or rejection of the application until he has investigated the matter. If an application does not meet the requirements of this section, it shall be rejected.

Washington

<http://www.ecy.wa.gov/programs/wr/wrhome.html>

RETTKOWSKI v. DEPARTMENT OF ECOLOGY
122 Wn.2d 219, 858 P.2d 232

Supreme Court: Holding that the Department of Ecology had no authority to adjudicate and enforce the water rights and that the Superior Court had jurisdiction to review the orders, the court affirms the judgment.

PUD Dist. 1 of Pend Oreille v. Ecology, 70372-8 (2002)

This case raises the question whether the Department of Ecology has authority to condition a water quality certification under the Clean Water Act (33 U.S.C. sec.sec. 1251-1387) on maintenance of minimum instream flows, where such conditions affect existing water rights.

We hold that a water quality certification under sec. 401 of the Clean Water Act may be conditioned on maintenance of bypass flows in order to meet state and federal water quality standards ensuring that waters will not be degraded so as to interfere with or injure existing beneficial uses, and may do so where such conditions affect existing water rights.

Postema v. PCHB, et al., Citation pending, (2000)

We conclude that hydraulic continuity between groundwater and a surface water source with unmet minimum flows or which is closed to further appropriation is not, in and of itself, a basis on which to deny an application to withdraw groundwater.

RCW 90.44.030

Chapter not to affect surface water rights.

The rights to appropriate the surface waters of the state and the rights acquired by the appropriation and use of surface waters shall not be affected or impaired by any of the

provisions of this supplementary chapter and, to the extent that any underground water is part of or tributary to the source of any surface stream or lake, or that the withdrawal of ground water may affect the flow of any spring, water course, lake, or other body of surface water, the right of an appropriator and owner of surface water shall be superior to any subsequent right hereby authorized to be acquired in or to ground water.

Wyoming

<http://waterplan.state.wy.us/>

<http://library.wrds.uwyo.edu/wrp/90-17/90-17.html>

Wyoming Water Law: A Summary

James J. Jacobs, UW Professor, Natural Resource Specialist

Gordon Fassett, State Engineer, Cheyenne

Donald J. Brosz, Associate Director, Wyoming Water Research Center

The state engineer is the chief administrator of Wyoming waters. In administering these waters, the state is divided into four water divisions. Water division 1 includes the North Platte and South Platte River drainages and the Little Snake and the Niobrara River drainages. Water division 2 includes all drainages north of the Niobrara and North Platte River drainages and east of the Big Horn Mountains. Water division 3 includes the Big Horn and Clark's Fork River drainages, and water division 4 includes the Green, Bear, and Snake River drainages.

The same general procedures to acquire surface-water rights apply to acquiring a ground-water right:

Before a well is drilled, you must file an application and have it approved by the state engineer. This requirement applies to all wells used for any purpose.

Forms to be filed with the state engineer are available from that office, the water division superintendent's office, or the county clerk's office.

A permit to construct a well will generally be granted as a matter of course by the state engineer. An exception may be in a ground-water control area.

Remember that the permit to appropriate ground water carries with it no guarantee of a continued water level or artesian pressure.

Where underground waters in different aquifers are so interconnected as to constitute one source of supply, or underground water and surface water are so interconnected as to constitute one source of supply, priorities of rights to the use of the interconnected waters shall be correlated and a single schedule of priorities shall relate to the common water supply.

<http://www.westernwaterlaw.com/Wyoming.htm>

<http://legisweb.state.wy.us/statutes/sub41.htm>

Groundwater is appropriated by obtaining a permit from the State Engineer. (§ 41-3-901 et seq.). The State Engineer may grant a permit only if there is unappropriated water, the well is adequate, the new use will not conflict with any state groundwater regulations, and the appropriation is not detrimental to the public interest. Special restrictions on

groundwater appropriation may be imposed if a Groundwater Control Area is designated to deal with groundwater overdraft problems.