

An hourglass-shaped graphic with a globe of the Earth inside. The top bulb is dark grey, and the bottom bulb is light blue. The central neck is a darker blue. The globe is centered within the hourglass, showing the Americas on the left and Europe/Africa on the right.

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February 2, 2009

Congressional Research Service

Report RS22986

*Water Rights Related to Oil Shale Development in the Upper  
Colorado River Basin*

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November 18, 2008

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## CRS Report for Congress

# Water Rights Related to Oil Shale Development in the Upper Colorado River Basin

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### Summary

Concerns over fluctuating oil prices and declining petroleum production worldwide have revived interest in oil shale as a potential resource. The Energy Policy Act of 2005 (P.L. 109-58) identified oil shale as a strategically important domestic resource and directed the Department of the Interior to promote commercial development. Oil shale development would require significant amounts of water, however, and water supply in the Colorado River Basin, where several oil shale reserves are located, is limited. According to news reports, oil companies holding water rights in the region have not exercised those rights in decades, which has allowed other water rights holders to use the water for agricultural and municipal needs. Because of the nature of the water rights systems in the relevant states, these users might face significant limitations in their future use of water from the Basin if the oil companies exercise their rights. This report will provide a brief overview of water rights in Colorado, Utah, and Wyoming, including changes that may be made to currently held water rights and the possibility for abandonment of unused water rights.

Concerns over the price of oil and supply of petroleum have revived interest in alternative energy supplies, including the development of oil shale to help address energy needs in the United States.<sup>1</sup> The process used to develop oil shale resources requires a plentiful water supply. According to news reports, oil companies currently hold senior water rights in the states where oil shale reserves are located.<sup>2</sup> As explained below, appropriation of water in these states is based on a priority system, under which water

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<sup>1</sup> For more information on oil shale development, see CRS Report RL33359, *Oil Shale: History, Incentives, and Policy*, by Anthony Andrews.

<sup>2</sup> Gary Harmon, 'Oil Shale 800-pound Gorilla' With Predictions of Water Use, GJSentinal.com, September 19, 2008; Todd Hartman, *Groups Seek Answers About Oil Shale's Impact on Water*, Rocky Mountain News, June 8, 2007; Leslie Robinson, *Commentary: Oil Shale Development Could Force a Choice Between Gas and Food*, The Colorado Independent, June 26, 2008.

rights holders have seniority over other water rights holders who acquired rights later. These senior rights reportedly have not been exercised for decades, allowing junior water rights holders to use the water.<sup>3</sup> Because of the nature of the water rights systems in the relevant states, junior water rights holders might face significant limitations on their future use of water from the Basin if the oil companies exercise their rights. This report will provide a brief overview of water rights in Colorado, Utah, and Wyoming; changes that may be made to currently held water rights; and the possibility for abandonment of unused water rights.

## Water Rights in the Colorado River Basin Generally

The law of water rights is traditionally an area regulated by the states, rather than the federal government. Individual states may choose the system under which water rights are allocated to water users.<sup>4</sup> Western states, including Colorado, Utah, and Wyoming, generally follow the prior appropriation doctrine of water rights, often referred to as “first in time, first in right.” These states typically are drier and experience regular water shortages. The prior appropriation system allows water users to acquire well-defined rights to certain quantities of water by designating senior and junior rights to avoid uncertainty during times of water scarcity.

Under the prior appropriation doctrine, a person who diverts water from a watercourse and makes reasonable and beneficial use of the water acquires a right to use of the water.<sup>5</sup> The user’s location relative to the watercourse (whether upstream, downstream, adjacent, or remote) does not affect the ability to obtain a water right. Typically, under a prior appropriation system of water rights, users apply for a permit from a state administrative agency which manages the acquisition and transfers of such rights. The prior appropriation system limits users to the quantified amount of water the user secured under the permit process with a priority based on the date the water right was conferred by the state. The user’s right that was appropriated first (the senior water right) is considered superior to later appropriators’ rights to the water (the junior water right). Appropriators fill their needs according to the order in which they secured the right to the water and not based on the available quantity. Therefore, in times of shortage, junior rights holders could be without the water they need.

## Colorado Basin States’ Laws Affecting Water Rights

The issues regarding water rights in the Colorado River Basin arise from the fact that a limited supply of water is sought after by many different users. Junior rights holders

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<sup>3</sup> *Id.*

<sup>4</sup> Depending on the individual state’s resources and historical development, it may use one of three doctrines of water rights: riparian, prior appropriation, or a hybrid of the two. Under the riparian doctrine, a person who owns land that borders a watercourse has the right to make reasonable use of the water on that land. Rather than having appropriated quantities of water per user, users must share the water resources and reduce their usage proportionally in times of shortage. *See generally* A. Dan Tarlock, *Law of Water Rights and Resources*, ch. 3, “Common Law of Riparian Rights.”

<sup>5</sup> *See generally id.* at ch. 5, “Prior Appropriation Doctrine.”

who use waters from the Basin to meet agricultural and municipal interests potentially are limited by what oil companies, as senior rights holders, use. These junior rights holders have been able to use water to fill their needs for decades, while senior rights holders have not used the water. The dispute over a possible water shortage when both groups wish to use water likely will raise questions about the nature and administration of water rights, whether existing water rights may be amended to account for the changed circumstances, and the options available for users who seek to claim unused water rights from other users.

Water rights typically are established through an administrative permit system of the state in which the water is being appropriated. Water rights seekers must file an application with the proper state administrative organization, which dates the seniority of the water right. State law provides that the water is the property of the state, but a water right is considered an individual's property right in the priority of the use of the state's water.<sup>6</sup> The specific nature of water rights may vary depending on the state. For example, in Colorado, water rights can be either absolute or conditional.<sup>7</sup> Absolute rights are assigned to users who have diverted water and put the water to beneficial use, whereas conditional water rights allow the user to maintain the priority of the right he intends to acquire until the diversion is complete.<sup>8</sup> In other words, a user with an absolute right has fulfilled all the requirements necessary to acquire a right to the water. A user with a conditional right has asserted an intention to acquire a right but has not yet fulfilled all of the requirements necessary to do so, and that right is conditioned on the completion of all requirements. Utah law provides that water rights become real property only when the application has been perfected under the required legal process, meaning that title of the right is properly filed with the state.<sup>9</sup> Wyoming issues permits to applicants for water rights, which allow the user time to construct and complete a project to put water to a beneficial use.<sup>10</sup> The water right is not considered permanent until the process is complete and may be disputed or removed until that time. In the context of oil shale in the Colorado River Basin, oil companies hold both absolute and conditional rights for water in Colorado. The nature of the rights held could influence the future use of the water and may provide a basis for junior rights holders to challenge the continuing validity of the senior rights holders' rights.

Both junior and senior rights holders may seek to alter certain water rights if circumstances of water use change. For example, in Colorado, senior rights holders may seek to convert their conditional rights to absolute rights, as discussed. Other state laws

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<sup>6</sup> Colo. Const. art. XVI, §§ 5-6; Utah Code Ann. § 73-1-1 (2007); Wyo. Stat. Ann. § 41-3-101 (2007).

<sup>7</sup> Colo. Rev. Stat. § 37-92-301 (2007).

<sup>8</sup> Conditional rights holders must demonstrate reasonable diligence in completing the diversion every six years in order to maintain the conditional water right. Upon completion of the diversion, the user may apply for an absolute water right, which would have a priority dating back to the date of the conditional right. *Id.*

<sup>9</sup> Utah Code Ann. § 73-1-10. The distinction of a real property right from a personal property right affects the options available to water users regarding transferability. As real property, perfected water rights must be conveyed by deed to the new holder.

<sup>10</sup> See Wyo. Stat. Ann. § 41-4-501 *et seq.*

provide for water rights to be altered as circumstances change. Junior or senior rights holders may seek to change the geographic or purpose parameters set at the time they acquired their rights. Water rights generally are allocated based on a specific point of diversion, location of use, and purpose of use. In order to change the point from which water is diverted from its source or to change the place or purpose of use, a water right holder must apply to the appropriate state office for approval.<sup>11</sup> The state office considering the change may consider factors such as whether the change would exceed historical levels and whether other users' vested water rights would be impaired by the change.<sup>12</sup>

Junior rights holders may seek to secure water by acquiring the rights of senior rights holders under the water rights transfer process in each state. In Colorado, a water right may be bought, sold, or leased to other entities if the transfer is filed with the appropriate state office and the transfer would not injure the vested rights of another user.<sup>13</sup> Similarly, Utah water law provides that a water right may be bought or sold if the transfer is approved by the state.<sup>14</sup> Under Wyoming law, a water right attaches to the lands or the place of use in the permit rather than to an individual.<sup>15</sup> Water rights may be transferred only if included in the sale of land, or by petition for a change in place of use to the appropriate state office.

Senior rights holders may lose their rights if those rights are not used. Conditional rights in Colorado require rights holders to demonstrate continuous efforts in developing the water right on a regular basis.<sup>16</sup> Other water rights also may be lost under certain circumstances according to state law. If senior rights holders lose their rights, the water supply available for junior rights holders to fill their needs would increase. In Colorado, a water right may be considered abandoned if it is not used for a 10-year period and there is an intent to abandon.<sup>17</sup> In Utah, water rights may be abandoned or forfeited.<sup>18</sup> For a water right to be abandoned, there must be intent to abandon by the user and there is no time requirement. For a water right to be forfeited, the water right must not be used for a five-year period. In Wyoming, abandonment may take three forms.<sup>19</sup> First, the user may voluntarily abandon the water right. Second, one user may allege that another user's right has been abandoned because the other user has not used the right for a five-year period and that reactivation of that right would injure the user's right. Third, the state may allege

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<sup>11</sup> Colo. Rev. Stat. § 37-92-302; Utah Code Ann. § 73-3-3; Wyo. Stat. Ann. §§ 41-3-104, 41-3-114.

<sup>12</sup> *See, e.g.*, Colo. Rev. Stat. § 37-92-302.

<sup>13</sup> *Strickler v. Colorado Springs*, 16 Colo. 61 (1891).

<sup>14</sup> Utah Code Ann. § 73-1-10.

<sup>15</sup> Wyo. Stat. Ann. § 41-3-323.

<sup>16</sup> Colo. Rev. Stat. § 37-92-301.

<sup>17</sup> Colo. Rev. Stat. § 37-92-103(2). Conditional rights may be considered abandoned if the user does not demonstrate the reasonable diligence required by state law. *See* Colo. Rev. Stat. § 37-92-301.

<sup>18</sup> Utah Code Ann. § 73-1-4.

<sup>19</sup> *See* Wyo. Stat. Ann. § 41-3-401.

an abandonment if the water is not put to beneficial use for a five-year period and reallocation would serve the public interest. Water rights that are lost under these processes revert to the state and may be appropriated in the future.

## The Law of the River and Interstate Water Allocation

State water laws govern the allocation of water within the state, but water resources rarely are confined to state boundaries. Rather, like the Colorado River Basin, water basins spread across several states. As a result, states often compete for resources from shared basins, and the competition often leads to water disputes between states in regions with shared water resources.<sup>20</sup> Interstate water disputes may be resolved in various manners. Two of the most common methods are equitable apportionment in the U.S. Supreme Court<sup>21</sup> and interstate compact negotiated by the parties and approved by Congress.<sup>22</sup> The Colorado River Basin is no exception to the likelihood of disputes and is subject to a number of judicial decisions and interstate compacts, commonly referred to as the Law of the River.

The Law of the River governs the waters of the Colorado River Basin in addition to regulation by the individual states in which water rights are allocated. The Law of the River is a collection of laws and agreements that govern the distribution of the water throughout the Basin as a whole.<sup>23</sup> Because the Colorado River Basin includes seven states, which have varying needs and all draw upon the same resources, a series of court decisions, statutes, interstate compacts, and international treaties address the use and management of Colorado River water.<sup>24</sup> The laws and agreements that form the Law of the River attempt to allocate the waters of the Colorado River Basin among the states, providing broad parameters for the distribution of the Basin's waters. Thus, the Law of the River would not govern individual water rights directly, but it would place limits on the water available for allocation by each state.

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<sup>20</sup> At least 47 states and the District of Columbia have been involved in interstate water disputes. *See Documents on the Use and Control of the Waters of Interstate and International Streams: Compacts, Treaties, and Adjudications*, H.R. Doc. No. 319, 90th Cong. 2d Sess. (1968). An online collection of interstate compacts can be accessed at [<http://ssl.csg.org/compactlaws/comlistlinks.html>].

<sup>21</sup> The U.S. Supreme Court has original jurisdiction to hear disputes between states. U.S. Const., Art. III, § 2, cl. 1. If a state pursues litigation against non-state parties, as occurred in the Apalachicola-Chattahoochee-Flint dispute, the case must be initiated in lower courts, and only reaches the Supreme Court as a final appeal.

<sup>22</sup> Generally, an interstate compact, which creates a binding agreement between two or more states, requires congressional approval in addition to approval by the states involved in the agreement. U.S. Const., Art. I, § 10, cl. 3.

<sup>23</sup> Some of the laws and agreements that comprise the Law of the River include the Colorado River Compact of 1922, the Boulder Canyon Project Act, the Mexican Water Treaty of 1944, the Upper Colorado River Basin Compact of 1948, the Colorado River Storage Project of 1956, the Colorado River Basin Project Act of 1968, and the U.S. Supreme Court decision in *Arizona v. California*.

<sup>24</sup> The Colorado River Basin states include Arizona, California, Colorado, Nevada, New Mexico, Utah, and Wyoming.