

# [***CONFERENCE REPORT: ANSWERING A CALL ON THE COLORADO RIVER COMPACT: COLORADO BAR ASSOCIATION: WATER LAW SECTION & UNIVERSITY OF DENVER WATER LAW REVIEW***](https://advance.lexis.com/api/document?collection=analytical-materials&id=urn:contentItem:4H22-6RJ0-00SW-50D4-00000-00&context=1516831)

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As drought conditions continue to plague the Western states, the ***Colorado*** ***River*** provides much of the needed water for these states. Hydrologic, legal, and political debates circle around the appropriation of ***Colorado*** ***River*** Water. The ***Colorado*** ***River*** Compact Conference, a one-day, collaborative presentation by the ***Colorado*** Bar Association and the University of Denver Water Law Review, provided an opportunity for engineers, lawyers, students, and others to evaluate potential impacts of appropriation and calls on the ***Colorado*** ***River***. The conference stimulated discussion about the future of the ***Colorado*** ***River*** Compact and its effect on the Basin states. The conference focused on the impact of a shortage in water on the Upper Basin states and ***Colorado*** in particular.

Session One: Update on the Law of the ***Colorado*** ***River*** and Future Legal Issues -- Carol Angel, Assistant Attorney General, ***Colorado*** Office of the Attorney General

Interstate and Federal Water Rights

After an introduction from Bill Paddock of the Rio Grande Water Users Association, Carol Angel, the assistant attorney general for the ***Colorado*** Office of the Attorney General's Interstate and Federal Water Rights Division, commenced the conference with an update on the law of the ***Colorado*** ***River*** and future legal issues associated therewith. She provided a thorough overview of the terms of the Compact and its history.

The ***Colorado*** ***River*** Compact was negotiated in 1922, and became effective in 1929. Ms. Angel noted some important compromises in the Compact: (1) Lee Ferry as a dividing point or "funnel" from Upper to Lower Basin States; (2) recognition that ***Colorado*** ***River*** tributaries may contribute of up to 2.3 million acre feet ("MAF") per year; and (3) the Compact allows for trans-basin diversion of water. She also stated that, when the Compact was negotiated in 1922, the Upper and Lower Basin states were under no treaty obligation to provide water to Mexico, but if there is a deficiency of water at the Mexican border, the Upper Basin states must contribute one-half of such a deficiency. Ms. Angel stated that, in the event of no surplus, or only a partial surplus, it is unclear what is required of the Upper Basin states. She also noted that, at the time of negotiation, the Upper and Lower Basin states were in a surplus water year and thus believed that additional water would **[\*733]** be available for "future equitable apportionment." However, because of droughts, the "equitable apportionment" clause of the Compact has never come into play.

With respect to future legal issues, Ms. Angel stated that each state maintains control over the water within its boundaries, but that Upper Basin states cannot withhold water from the Lower Basin, and the Lower Basin may not require additional water that will not be put to beneficial use. The Compact states, "present perfected rights to the beneficial use of waters of the ***Colorado*** ***River*** System are unimpaired" by the Compact. Courts have not interpreted this clause and may indicate that the doctrine of prior appropriation applies between states.

The Upper Basin states entered into a Compact addressing Upper Basin concerns in 1949. The motivation behind the Upper Basin Compact was to avoid federal control, particular by the Bureau of Reclamation. The Upper Basin Compact has several salient features: (1) temporary overuse by one state is acceptable as long as the overuse does not injure another Upper Basin state; and (2) curtailment of water is proportional to each Upper Basin state's overage, except for rights perfected prior to November 24, 1922 (the signing date of the ***Colorado*** ***River*** Compact). The Lower Basin states do not apportion according to an interstate compact; rather, litigation determines apportionment. Ms. Angel stated that the Lower Basin allots no credit for water salvage because the Compact defines consumptive as diversions less return flow.

Ms. Angel addressed questions about curtailment, specifically whether Lake Powell is a "dead pool," what previous deliveries past Lee Ferry totaled in the past nine years, and whether there have been deficiencies to Mexico attributable to the Upper Basin. She noted that these questions must be answered with specific hydrological data in order to address the actual need for curtailment. She also stated that Lake Powell is currently low because of drought conditions, and while Basin states have been strongly urged to reach an agreement about curtailment, no such agreement materialized.

Session Two: Keynote Address -- Randall Peterson, Environmental Resources Division, United States Bureau of Reclamation

Randall Peterson of the Environmental Resources Division of the United States Bureau of Reclamation presented the keynote address. He stressed three goals of the ***Colorado*** ***River*** Compact: consultation, communication, and cooperation. Mr. Peterson focused on the foundational assumptions of the Compact and agreements, and reviewed the impact of those assumptions on the future of the ***Colorado*** ***River*** System. Mr. Peterson stated that the principle issue of shortage is di **[\*734]** rectly related to minimum objective releases from Lake Powell and Lower Basin shortage criteria.

Mr. Peterson stressed the importance of Lake Powell and Glen Canyon Dam as drought insurance for the Upper Basin states: both water bodies allow the Upper Basin to consume ***Colorado*** ***River*** water while making Lower Basin deliveries. He reiterated that Lake Powell ensures that Lake Mead will not be fully depleted. Mr. Peterson stated that coordination efforts require that Lake Mead and Lake Powell be equalized with one another to meet the Compact's 602(a) yield if Lake Powell levels are greater than both Lake Mead and 602(a) levels. Glen Canyon Dam, on the other hand, is not an Upper Basin reservoir: the Upper Basin does not have any consumptive uses from Glen Canyon Dam. However, Glen Canyon serves as drought insurance for the Upper Basin by further stabilizing Lake Mead levels and providing much needed power generation revenue. Additionally, Mr. Peterson stated that Glen Canyon Dam serves the electric needs of many communities, and if the power plant were to go off-line, nearly $ 80 million annually would be required to fund dam operations. Such operations include environmental mitigation in both Basins. Further, without Glen Canyon Dam, power prices could potentially double, leaving many customers without power. Mr. Peterson also noted that failure to release Glen Canyon Dam water could have disastrous environmental effects, and it is in the best interests of all the Basin states to maintain Glen Canyon.

Mr. Peterson noted that there are several options to keep Lake Powell above minimum power pool levels, including: (1) reducing Glen Canyon Dam annual releases below the minimum objective of 8.23 MAF; (2) moving mainstream reservoir storage to Lake Powell; or (3) implementing Upper Basin conservation agreements to maintain Lake Powell inflow.

Mr. Peterson concluded his address by noting that the Bureau of Reclamation is currently reassessing the annual operating plans for ***Colorado*** ***River*** System reservoirs. He stated that in order to reduce conflict over water during these drought years, all Basin states must come to an agreement over the operation of Lake Powell, Lake Mead, and Glen Canyon Dam.

Session Three: East Slope Review -- Peter Binney, P.E., Director of Utilities, City of Aurora, ***Colorado***

Peter Binney, P.E. is the director of utilities for the City of Aurora, ***Colorado***. He addressed ***Colorado***'s east slope water concerns. He focused on increasing population and water demand in ***Colorado***'s Front Range, trans-mountain diversion projects from the west slope to east slope, reuse of trans-mountain diversions, and future water development options. **[\*735]**

Mr. Binney discussed the rapid development of ***Colorado***'s Front Range. He noted that while the west slope receives eighty percent of ***Colorado***'s moisture, the east slope receives only twenty percent and is home to four out of five Coloradoans. The current population of the State is approximately four million; by 2030, an additional 2.4 million people will inhabit the east slope. Increases in population, coupled with onerous laws and regulations and insufficient municipal water systems, strains the already scarce water supply in ***Colorado***. Mr. Binney stated that Front Range water service providers are unable to maintain adequate water supplies to meet increasing customer demands. Further, a shortage of sustainable strategies plagues Front Range municipalities, and requires trans-mountain diversions from the west slope.

Mr. Binney evaluated the major trans-mountain diversion projects and their applications along the Front Range. The Adams Tunnel, operated by the Northern ***Colorado*** Water Conservancy District ("NCWCD"), provides the greatest amount of water to the Front Range at a rate of approximately 230,000 acre-feet per year. The Adams Tunnel, part of NCWCD's ***Colorado***-Big Thompson ("CBT") project, serves twenty-nine municipalities, over 100 ditch and reservoir companies, and 620,000 acres of irrigated farmlands. To meet changing water demand demographics, the CBT project's mission and benefits have been substantially altered; while the CBT project initially served agricultural purposes, it now primarily serves municipal water systems. Mr. Binney also discussed several other trans-mountain diversions, including: the Moffat and Roberts Tunnels, which provide the forty and sixty percent of Denver Water's supply respectively; the Fryingpan-Arkansas project, which provides 80,400 acre-feet per year for municipal use and an additional 280,600 acre-feet per year for supplemental irrigation in southeastern ***Colorado***; the Homestake Tunnel, which provides substantial water to both ***Colorado*** Springs and Aurora; the Busk-Ivanhoe project, which provides water to both Aurora and Pueblo. Under ***Colorado*** law, any water introduced into a system from trans-mountain diversion is considered "foreign water."

Mr. Binney stated that, under the prior appropriation doctrine and ***Colorado*** Revised Statute section 148-2-6 (1963), foreign water is not subject to appropriation. He explained that an agency that imports water may freely reuse the water, move the point of diversion, or sell or lease the water to others. He noted that reuse of trans-mountain diversions will be an important aspect in long-term municipal water planning because it reduces the amount of "new" water that an agency must import to meet increasing demands.

Mr. Binney concluded by outlining future water development options in the Front Range. Such options include: (1) water conservation plans; (2) modification of water uses in communities; (3) non-potable water reclamation projects for irrigation; (4) indirect potable uses; (5) **[\*736]** non-tributary groundwater, such as confined aquifers; (6) rehabilitation, enlargement, and integration of existing water supply systems; (7) additional trans-mountain and trans-basin diversions; and (8) changes from historical agricultural uses to municipal uses.

Session Four: What Do We Lose Beyond Water? -- James S. Lochhead, Esq., Brownstein Hyatt & Farber PC

James Lochhead of Brownstein Hyatt & Farber PC addressed the consequences to the State of ***Colorado*** of a call on the ***Colorado*** ***River***. He discussed the history of the Compact, current hydrology and required delivery obligations, and curtailment consequences.

Mr. Lochhead stated that the ***Colorado*** ***River*** Compact simply allocates the right to use water, but does not allocate actual water. He evaluated the development and negotiation of the Compact. The negotiation of the ***Colorado*** ***River*** Compact was initially driven by local and state needs. The Upper Basin states urged the federal government to comprehensively manage the ***Colorado*** ***River***. The Upper Basin wanted the federal government to construct a series of reservoirs to create a "bank account" of stored water that ensured that the Upper Basin could meet its 602(a) obligations. The reservoirs created (Flaming Gorge, Navajo, and Glen Canyon Dams) allowed the Upper Basin states to fully develop their respective water rights without being subject to a Compact call.

Mr. Lochhead stated that Lower Basin state Arizona wanted to develop the Gila ***River***, and thus wanted to exclude the Gila ***River*** from the Compact. As part of Arizona's development plan, the Central Arizona Project was initiated, allowing storage in Arizona. However, as part of the Central Arizona Project, diversions to the Project are limited so that California is guaranteed 4.4 MAF annually. In essence, both Arizona and Nevada are "junior" to California. As a result, many of the projects envisioned by the Central Arizona Project have yet to materialize. Nevertheless, Arizona currently diverts its apportionment into aquifers for future withdrawal and municipal development. Mr. Lochhead noted that Arizona's water banking, while controversial, is an instance of Arizona acting like a good junior water rights user. However, there is significant debate over whether such storage is considered a beneficial use.

The Lower Basin is currently at full allotment of ***Colorado*** ***River*** water. Releases from Lake Mead average 9.5 MAF per year; however, releases from Lake Powell average 8.23 MAF per year. Mr. Lochhead stated that the Upper Basin states urged the federal government to release less than the 8.23 MAF per year objective because the Upper Basin is required only to provide 75 MAF every ten years on running average. He noted that the Upper Basin has delivered over 100 MAF over the past ten years, and therefore has no obligation under the **[\*737]** Compact to deliver additional water. Additionally, Mr. Lochhead stated that the Upper Basin has no obligation to provide any portion of the Mexican treaty delivery. However, Arizona contend that Article III(c) of the Compact relates to total water supply; a deficiency in the Upper Basin means that the Upper Basin is required to meet both Mexican treaty and transit losses.

Mr. Lochhead then addressed the impact of a call on ***Colorado***. He noted that there has never been a call on the ***River***; the rules for curtailment and the mechanics of doing so are foreign. Further, the Upper Basin has the right consumptively use 7.5 MAF per year, subject to delivery of 75 MAF over a ten-year period and potential Mexican treaty obligations. Mr. Lochhead noted that it is unclear whether the Upper Basin can consumptively develop 7.5 MAF annually and still meet its obligations. Additionally, he stated that, in the event of a call, ***Colorado*** would assert defenses, such as waste of water in the Lower Basin. Finally, Mr. Lochhead noted that continued development of ***Colorado***'s unallocated share of the ***River*** increases the probability of a call. If an Upper Basin state overuses its share, it must "pay back" the overuse before other states must contribute to the deficiency. This may result in curtailment of junior users and thus, severe economic loss in ***Colorado***.

Session Five: How Would ***Colorado*** Address the Call? -- Moderator: Rod Kuharich, ***Colorado*** Water Conservation Board

Rod Kuharich of the ***Colorado*** Water Conservation Board moderated a panel discussion on the impacts to ***Colorado*** of a call on the ***River***. Participants in the panel discussion included: Peter Fleming, Esq. of the ***Colorado*** ***River*** Conservation District; James Lochhead, Esq. of Brownstein Hyatt & Farber PC; David Robbins, Esq. of Hill & Robbins PC; and Randy Seaholm, Chief of Water Supply Protection of the ***Colorado*** Water Conservancy Board. The panel discussion focused on the impacts to ***Colorado*** and means of curtailment in the Upper and Lower Basins.

The panel addressed the implied provisions of delivery obligation under the ***Colorado*** ***River*** Compact. Upper Basin states that use more than their allocation must proportionally deliver their overuse in the event of a shortfall at Lee Ferry. The delivery to Lee Ferry implies the inclusion of transit losses. Curtailment of consumptive uses is also proportional; a state using more than its fair share of ***River*** water must curtail uses accordingly. Further, water rights perfected prior to November 24, 1922 are excluded from potential curtailment. However, the panel noted that there are salient questions about the equity of proportional curtailment. Questions included: (1) whether an entire prior perfected right is protected, or just that water diverted?; (2) how **[\*738]** do Upper Basin states establish actual prior perfected rights if early diversion records are incomplete?; (3) because ***Colorado***'s records are more accurate than other Upper Basin states' records, how do the Upper Basin states ensure equity?; (4) should Upper and Lower Basin states be treated equally in curtailment?; and (5) how does ***Colorado*** assure deliveries past the state line to Lee Ferry? Mr. Fleming also stated that, while the Upper Basin states are required to follow Upper ***Colorado*** Commission curtailment recommendations, the ***Colorado*** ***River*** Compact itself conflicts with the Upper ***Colorado*** Commission's findings.

The panel discussed the calculation of consumptive use. The Upper ***Colorado*** Commission makes findings as to the quantity of water used in each Upper Basin state. The quantity of water used includes evaporative depletions; in ***Colorado***, this adds approximately 300,000 to 400,000 acre-feet per year. However, the panel called into question the methodology for calculating evapo-transpiration rates; many states rely on the Blaney-Criddle formula, which is not the most accurate formula available. The panel discussed the impact of different evapo-transpiration formulas by different states on the quantity of water consumptively used.

The panel addressed alternative arrangements for curtailment, while still meeting human needs. Alternatives include: (1) water conservation; (2) agricultural efficiency; (3) permanent or interruptible agricultural water transfers; (4) new storage; (5) enlargement of existing storage; (6) conjunctive uses of surface and groundwater sources: (7) potable and non-potable water reuse; and (8) control of non-native phreatophytes.

Finally, the panel noted that various curtailment mechanisms are available. The State Engineer's office may elect to administer curtailment by strict statewide prior appropriation, by the native or natural yield of the respective sub-basins, or by equitable apportionment. Mr. Robbins noted that there are both elastic and inelastic water demands. Elastic demands may more readily be curtailed without much economic impact, while inelastic water demands could suffer great economic hardship if water is curtailed to those users. Mr. Robbins further stated that the doctrine of prior appropriation should not be used to curtail junior, inelastic users at great economic impact to the State.

In conclusion, the lively panel discussion raised a plethora of important questions regarding the impact of a ***Colorado*** ***River*** call on ***Colorado***.

Session Six: Planning for a Compact Call: Collaborative Process on Developing Compact Rules -- Hal Simpson, P.E., State Engineer, ***Colorado*** Division of Water Resources **[\*739]**

Hal Simpson, ***Colorado*** Division of Water Resources State Engineer, addressed ***Colorado***'s approach to managing and addressing a compact enforcement obligation. Mr. Simpson noted that additional legal and technical analysis must be completed to effectively implement new rules. Further, he stated that public education is imperative to the promulgation of successful rules for enforcing a call, that the public must understand ***Colorado***'s obligations, and outreach and water user participation is important to the develop of rules in the event of a call.

Mr. Simpson stated that the ***Colorado*** ***River*** Compact is administered in ***Colorado*** under [***Colorado*** *Revised Statute section 37-80-104*](https://advance.lexis.com/api/document?collection=statutes-legislation&id=urn:contentItem:61P5-WY01-DYDC-J35H-00000-00&context=1516831). The state engineer's office is charged with such administration, and thus must address several salient questions in the development of Compact enforcement, including: (1) legally acceptable methods of curtailment; (2) definition of "present perfected rights; (3) protection of water to the state line and consideration of transit losses; (4) whether curtailment includes wells; and (5) whether certain trans-basin diversions are limited under federal law. He indicated that the State Engineer's office must research the office's rulemaking power under the Compact, the Upper ***Colorado*** ***River*** Compact, and federal authorizing legislation and decrees. Mr. Simpson expected such research to expend approximately eight months.

In addition to legal research and analysis, technical issues must be addressed. Such issues include updating diversion records into HydroBase and accurate determination of consumptive uses with ***Colorado***. Mr. Simpson stated that while the State's consumptive use modeling is accurate for irrigation uses, additional work is required for non-irrigation uses, including municipal and industrial uses. He also noted that data on reservoir evaporation must also be updated. Along with consumptive use records, the state engineer's office currently identifies storage rights so that upstream out-of-priority storage may be allowed in the event of a call on the ***River***.

Central to ***Colorado***'s rulemaking on curtailment is the need for public outreach. Mr. Simpson noted that although public understanding is imperative to effective rulemaking, not all water users will support such rules. However, input from users is vital to promulgation of rules, and the State Engineer's Office will solicit input by holding public hearings, preparing draft rules, establishing a public website for comments, utilizing Basin roundtables, and consulting with the ***Colorado*** Water Conservancy Board.

Mr. Simpson also addressed the need for additional or modified legislation to meet Compact obligations. He stated that existing statutes concerning Interruptible Water Supply Agreements, water banking, and Substitute Water Supply Plans must be reviewed for compliance with the Compact. Mr. Simpson also proposed that new legislation may need to be established for rotational fallowing programs that **[\*740]** allow domestic and municipal users access to water supplies. He estimated that the ***Colorado*** State legislature will need to appropriate approximately $ 135,000 towards the rulemaking process.

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