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### Chronic and Emerging Water Issues in the South Platte/Front Range Corridor

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**CHRONIC AND EMERGING WATER ISSUES  
IN THE SOUTH PLATTE/FRONT RANGE CORRIDOR**

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*Water and Growth in the West*

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**NATURAL RESOURCES LAW CENTER  
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I. Introduction. It has been said that the Front Range is the source of all of Colorado's water problems. While not totally true, there is a large measure of fact in this statement. The history of the development of water in the South Platte basin is at the heart of the development of Colorado water law and issues of environmental regulation, land use, endangered species and interstate water law. This presentation will explore the chronic water problems of the South Platte River Basin and the Denver Front Range, from the early development of transbasin diversions and the relationships to the West Slope, to the new "post Two Forks" era.

II. The Earliest Chronic Issue — Finding Water.

A. Early settlers to the Platte River basin found the River to be "a mile wide and an inch deep" during spring runoff, and nonexistent at other times of the year. Steadier base flows were found higher in the basin. Therefore, water development in the basin occurred from the top of the basin and moved lower over time, as return flows from upstream irrigation provided steadier year round flows. Water rights in the basin are therefore aligned in accordance with order of development, with the senior rights in the top of the basin near the foothills and most junior rights downstream toward the state line.

B. The search for water lead to the development of transbasin diversion projects. Under Colorado law, these efforts were upheld. Colorado's first transbasin diversion case, *Coffin v. Left Hand Ditch Co.*, 6 Colo. 442 (1882), originated in the Platte River basin. In that case, the Colorado Supreme Court upheld Colorado's "pure" prior appropriation doctrine, recognizing the "imperative necessity" of allowing the diversion of water for beneficial use elsewhere. In *City and County of Denver v. Sheriff*, 96 P.2d 836 (Colo. 1939) , the Supreme Court rejected the notion that transbasin diversions could be conditioned to somehow require Denver to first most efficiently use native South Platte supplies before

developing Colorado River sources. The Court also affirmed the right of a transbasin diverter to use, reuse, successively use, and dispose of transbasin water, subject to the requirement of "dominion and control." See, *City and County of Denver Board of Water Commissioners v. Fulton Ditch Irrigation Company*, 506 P.2d 144 (Colo. 1972); *Public Service Co. v. Willows Water District*, 856 P.2d 829 (Colo. 1993); *City of Thornton v. Bijou Irrigation Co.*, 926 p.2d 1 (Colo. 1996); C.R.S. §37-82-106.

### III. Developing the Water

- A. In reliance on the legal principles articulated in the Colorado Constitution and supported by the Colorado Supreme Court, Front Range irrigation and municipal interests appropriated water rights on the West Slope and began to develop — or sought to develop — their water supplies from the Colorado River. Denver and the Northern Colorado Water Conservancy District took different approaches in the development of their supplies.
- B. Denver did not rely on outside funding to develop its water. As a result, it took an aggressive approach to purchasing land, litigating its rights and developing its water. The Moffat Tunnel Collection System and the Roberts Tunnel and Dillon Reservoir were developed with this approach. Moreover, Denver viewed itself as "the" water provider for the greater Denver Metropolitan Area. This strategy received judicial sanction with the articulation of the "great and growing cities" doctrine by the Colorado Supreme Court in *City and County of Denver v. Sheriff*.
- C. Largely because of the economics of irrigation, the Northern Colorado interests (which later organized into the Northern Colorado Water Conservancy District) sought federal funding for the development of its Colorado-Big Thompson Project, and as a result politics came into play. The West Slope, through the

Western Slope Protective Association (which later evolved into the Colorado River Water Conservation District) and Rep. Edward T. Taylor, was able to prevent the appropriation of any federal funds in support of the project until a negotiated compromise was reached for the construction of Green Mountain Reservoir as a component of the project, as replacement water for out-of-priority diversions to the East Slope, and as "compensation" to the West Slope to allow for future development in that basin.

#### IV. Development Hits the Wall — Two Forks, Homestake and Windy Gap

- A. A fundamental shift in the manner and substance of municipal water supply planning and development in the Denver metro area occurred over about 20 years. The shift was built upon issues surrounding the City and County Denver and its interrelationships (or lack thereof as the case may be) with its suburban neighbors. Many of the issues had nothing to do with water supply planning or development.
- B. The "beginning of the end" perhaps came with the 1974 Poundstone Amendment to the Colorado Constitution, which effectively eliminated the ability of the City and County of Denver to expand its territory through annexation. This in turn limited the ability of the Denver Water Board from appropriating and developing water supplies for the Denver metropolitan area, except pursuant to contracts which are subservient to the Water Board's primary responsibility to provide a water supply to Denver. The Amendment therefore guaranteed the continued balkanization of water service to the metro area. There are well over 70 different water providers in the Denver metro area.
- C. Also, as of the early 1970's, Denver was no longer untouched by the requirements of federal law. Denver was planning the development of the Foothills Treatment Plant and Strontia Springs Dam, new federal laws such as the Clean Water Act

and NEPA resulted in public controversy and regulatory assertions of federal and state agencies. Through a negotiated settlement, Foothills came on line, but under an agreement that Denver would conduct a systemwide EIS for the development of new supplies; implement a defined water conservation program; and appoint a Citizens Advisory Committee to the Denver Water Board.

- D. For nearly 100 years Denver had on the books a proposal to built a massive dam on the East Slope that would store South Platte River water and water diverted through the Roberts Tunnel from the West Slope. In the 1970's, Denver began pushing the idea of the dam's development. However, the Poundstone Amendment and the Foothills settlement meant that Denver could no longer operate in a vacuum. In an effort to create consensus over the Two Forks proposal, Governor Lamm in 1980 created the Metropolitan Area Roundtable, comprised of representatives of East and West Slope water interests. The six year process revealed not only the anticipated East/West Slope splits, but also divisions within the East and West Slope interests. Denver began a system-wide EIS and environmental permitting process, and undertook a Two Forks development partnership with 44 other Denver-area water supply agencies, that eventually took ten years and cost \$40 million.
- E. In the end, the fate of the project was decided not at the local level but at the federal level, through the veto in 1989 of environmental permits by the Environmental Protection Agency on the premise that Denver was not making the most efficient use of its existing supplies. *Alameda Water & Sanitation District v. Reilly*, 930 F. Supp 486 (D.Colo. 1996).
- F. Also affecting the process were efforts by the state of Nebraska to kill Two Forks, ostensibly because of impacts to whooping crane habitat in Nebraska, but in

reality in order to stifle development in Colorado so as to allow for continued unregulated well development in Nebraska.

- G. Finally, disputes between Denver and Grand County, and Aurora/Colorado Springs and Eagle County, over local land use authority pursuant to H.B. 1041 stalled the development or expansion of other proposed transbasin diversion projects. *See*, C.R.S. §24-65.1-101 et. seq. The courts upheld the authority of local governments under H.B. 1041 to review proposals for transmountain diversion projects. *City and County of Denver v. Bergland*, 517 F. Supp. 155 (D. Colo. 1981); *City and County of Denver v. Board of County Commissioners*, 782 P.2d 753 (Colo. 1989); *Colorado Springs v. Eagle County Board of County Commissioners*, 895 P.2d 1105 (Colo. App. 1994). Under that authority, Eagle County denied permits requested by Colorado Springs and Aurora for the development of the Homestake Project.
- H. One new project was developed in this time period, the Northern District's Windy Gap Project to supply municipal water to northern cities. Under the compensatory provisions of the conservancy district organic statute, the Northern District and the Colorado River Water Conservation District negotiated, among other things, a payment of \$10 million to the River District for the construction of compensatory storage in Western Colorado. The River District subsequently used this fund to construct its portion of the Wolford Mountain joint use reservoir with Denver. C.R.S. §37-45-118(b)(II); *Colorado River Water Conservation District v. Municipal Subdistrict*, 610 P.2d 81 (Colo. 1979).

## V. Lessons Learned

- A. These events required confronting a number of different questions by the various interests involved — on all sides. Can or should water availability limit or direct



growth? What is the right process to develop new water supplies? What is the role of conservation, reuse, inter-system wheeling, and other measures designed to more effectively manage existing supplies? Would the transbasin diversion stalemate result in a new threat — ag-to-urban transfers from Northern Colorado, the Arkansas Valley or the San Luis Valley?

- B. Traditional water supply development had focused on minimizing price to the customer and maximizing system development and reliability. Planning was an internal and proprietary process. Public participation and outside agency involvement were considered nuisances. The Colorado Supreme Court was a friendly forum to establish rights.
- C. In the post-Two Forks planning era, agencies have been forced to actively consider conservation and reuse. The primary goal of development of additional supplies was joined by the equally important objective of simply preserving existing yield in the face of new environmental regulation. The primary economic focus of development at the least cost to the ratepayer was joined by a broader focus of public values and environmental impacts. The internal planning process was supplemented by outside agency consultation, environmental impact statements and public process.

## VI. The Response of Denver

- A. The Denver Water Board formally abdicated its role as the Denver metropolitan water provider. In a 1991 policy, it stated that "Denver's Water Board may no longer serve a central planning role for water supply under current institutional and political constraints. Having assessed Denver assets and obligations in light of current events, the Water Board is preparing for a different role in metropolitan water supply and development."

- B. In 1993, Denver initiated its Integrated Resource Planning (IRP) process. This process called for developing an overall plan defining the additional supplies Denver would have to develop or demand management measures it would have to institute to meet future needs. The approach looked not just at water development, but also at alternatives such as conservation, reuse, system modifications, conjunctive use and cooperative projects. It also looked at the processes necessary to secure existing yield and acquire additional supplies. At the end of the process, the Denver Water Board took two important steps. In 1996 it issued a Board Resource Statement. First, the statement outlined Denver's yield (345,000 acre feet), its safety factor (30,000 acre feet), its near-term and long-term demands (55,000 and 45,000 acre feet, respectively), and a strategy for meeting those demands (a combination of conservation, non-potable reuse, small-scale system modifications, and supply projects). Second, the statement outlined Denver's role in metropolitan water supply service. While recognizing that the Denver metro area is "a socially and economically integrated whole," The Board limited its primary role to its Combined Service Area — the geographic area of all distributors who rely solely on Denver water for their water supply — and committed itself to cooperative actions with other metro water supply agencies and the West Slope.
- C. Denver demonstrated the efficacy of the new approach through the consummation of the Wolford Mountain and Clinton Gulch Projects. Both these facilities were developed in cooperation with West Slope entities, and involve water development for multiple purposes.

## VII. Colorado Springs/Aurora's Response

- A. As a result of the struggle in Eagle County to develop Homestake, Colorado Springs and Aurora began to initiate a dialogue with Eagle River interests, including Eagle County, Vail Associates, Eagle River special districts, the Climax Mine and the River District, on ways to approach water development to achieve benefits on both sides of the Continental Divide. Colorado Springs/Aurora also explored ways to reformulate Homestake or develop water in more acceptable ways such as through groundwater storage at Camp Hale and through rehabilitated reservoir structures at the Climax Mine.
- B. These discussions, through the Eagle River Assembly, are ongoing.

## VIII. The State's Response

- A. In January, 1993, Colorado Governor Roy Romer and DNR Executive Director Ken Salazar convened a statewide water conference, which focused on Front Range water supply planning and transbasin diversions. The conference was precipitated by the state's concern about "water supply planning through litigation." In his opening remarks, the Governor cited over \$80 million in litigation and planning efforts over failed project proposals such as Two Forks, AWDI, Union Park, and others, without any additional water supply to show for it.
- B. As a result of input from the conference that the state could play a role in facilitating a new cooperative approach to water development, the Governor by executive order appointed the Front Range Water Forum to oversee the development of a Metropolitan Water Supply Investigation (MWSI). The General Assembly appropriated \$450,000 to the CWCB to proceed with the study, to

investigate opportunities for enhanced coordination in meeting the water supply needs of the metropolitan area.

- C. The MWSI started on a rocky road, but through a scoping process, representatives of major Denver area water providers and the West Slope determined to analyze four water supply categories: conjunctive use, effluent management, interruptible supply arrangements, and systems integration. The study also divided the metro area into water supply service regions, based on differences in geography and water supply.
1. The Central Service Area Region (Adams, Clear Creek, Denver, Gilpin, Jefferson and Park Counties and that part of Arapahoe County served by Aurora) is largely urbanized and heavily influenced by Denver's system. Water providers in this area receive most of their supply from surface water, either native flows or transbasin diversions.
  2. The North Service Area Region (Boulder, Larimer, Logan, Morgan, Sedgwick, Washington and Weld Counties) is largely agricultural in nature but rapidly urbanizing. The Northern Colorado Water Conservancy District and its Municipal Subdistrict is the leading water supplier. Like the Central Region, this area is largely dependent on surface supplies from the South Platte Basin (with many facilities on National Forest land), and transbasin diversions. The Northern area is very concerned about potential transfers of agricultural water to the south, and the consequent effect on the ability of the North Region to maintain existing economies and grow and develop.
  3. The South Service Area Region (portions of Douglas County and Arapahoe County not served by Aurora) included sixteen water providers serving the rapidly developing "southern tier" of the Denver metro area, who have formed the Douglas County Water Resource Authority. This

area is situated directly over the Denver Basin aquifer system. As a result of its relatively late development, it has very little surface supply, and is largely dependent on non-tributary groundwater withdrawals.

#### D. Conclusions

Region	1996 Population	1996 Water Supply	Projected Service Area Population	Reasonably Certain Future Supply	Additional Needed Supply
Central	1.759 million	409,000 acre feet per year	2.784 million	603,300 acre feet per year	100,000 acre feet per year
North	676,000	194,000 acre feet per year	1 million	290,000 acre feet per year	none
South	139,500	35,000 acre feet per year	485,000	128,100 acre feet per year	2,000 acre feet per year
<b>TOTAL</b>	2.574 million	638,000 acre feet per year	4.269 million	1.021 million acre feet per year	102,000 acre feet per year

- ▶ Future unmet needs can be met effectively through a variety of cooperative water supply managements options, which do not require significant new transbasin diversion systems, except that some additional transbasin diversions will be necessary to relieve the southern area from dependence on non-tributary groundwater.
- ▶ South Platte flows out of Colorado are likely to increase in the fall, winter and early spring months, as a result of the mix of water supplies to be developed in the basin.
- ▶ Use of non-tributary Denver Basin water supplies will remain at relatively low levels, about 84,000 acre feet per year, and could be significantly reduced by conjunctive use.
- ▶ Under current plans, transmountain diversions could increase by about 100,000 acre feet per year, from 450,000 acre feet to 550,000 acre feet.

- E. The MWSI was used in conjunction with or initiated several other planning efforts and agreements, including the Metro Wastewater Reclamation District effluent management studies; the Denver Water IRP process; conjunctive use proposals and discussions in the South service area; planning by Denver for instream flows and improvement of the South Platte corridor; the Platte River Endangered Species agreement between Colorado, Wyoming, Nebraska and the Department of the Interior; the Colorado River Recovery Implementation Program; the Denver Basin and South Platte River Basin Technical Study conducted by the Department of Natural Resources; the U.S. Forest Service proposal to designate portions of the South Platte River as wild and scenic; and a U.S. Army Corps of Engineers study regarding the reallocation of storage in Chatfield Reservoir for water supply purposes.

#### IX. The West Slope Response

- A. For its part in the post-Two Forks era, the Colorado River Water Conservation District engaged in cooperative discussions and ventures with its East Slope counterparts, including the Wolford Mountain and Clinton Gulch water projects.
- B. In March, 2000, the River District issued a Policy Statement Regarding Transmountain Water Diversions. In the statement, the River District noted the findings of the MWSI, and expressed its support for implementation of the MWSI recommendations. The River District noted several cooperative processes in which it is involved, including the Eagle River Memorandum of Understanding, the Douglas County Water Resource Authority/Denver/River District collaborative water supply investigation, and the Upper Colorado River study.

- C. Although the River District recognizes that additional transmountain diversions may occur, it states that additional diversions will occur "only with the acceptance and involvement and the mutual benefit of East Slope and West Slope interests." The River District will seek protection for the West Slope economy, environment and recreational needs in such processes.

## X. The Arapahoe County Response

- A. Not all Front Range water providers have taken a new approach. Arapahoe County continues to pursue the litigation approach in seeking water rights for the Union Park Project, a proposed transbasin diversion project from the Gunnison River. Litigation commenced some ten years ago over water rights for the project is now in the Colorado Supreme Court for the second time.
- B. Arapahoe County interests also sought legislation in the Colorado legislature in the 1999-2000 session that would seek to encourage the development of new transbasin diversion projects.
1. An amendment to HB-1419, the annual CWCB construction fund bill, would have required the CWCB to estimate new water supplies needed for residential and industrial growth in Colorado by the year 2020, to suggest water sources to meet that demand without drying up agriculture, and to report on the amount of water "lost" on the Colorado River to the Lower Basin.
  2. SB-113 would have expanded the membership of the CWCB by appointing one member from each congressional district in addition to one person from each river basin. This would have balanced the Board to the Front Range.

3. SB-215 would have directed the CWCB to pursue a transmountain diversion project of at least 150,000 acre feet per year, and study its own reorganization along east-west lines.

XI. The Endangered Species Act and Federal Land Management — Continued Uncertainty for Front Range Water Supplies

- A. The Platte River Endangered Species Program is a fifteen year, \$75 million program negotiated between Colorado, Nebraska, Wyoming and the Department of the Interior. The Program will be designed to implement water and habitat elements to improve the habitat for listed endangered species — the whooping crane, least tern, piping plover and pallid sturgeon — in the Platte River in central Nebraska. The measures funded by the Program will serve as a reasonable and prudent alternative for the continued development of water supplies in the Colorado Front Range. Due to the effects of continued water development and growth in the Front Range, water flows in the South Platte River are expected to actually increase over time, in the fall, winter and spring seasons. This conclusion was developed as a result of aggregating the effect of development of a variety of sources of supply in the three supply regions of the Front Range. Some sources (transmountain diversions, non-tributary groundwater development and ag-to-urban transfers) are additive to flows. Other sources (native supply development and reuse) are depletive. Conservation is flow neutral. Therefore, new flow development is not necessary to mitigate the effects of growth in the Front Range, but changes in flow timing are. Under the Program, Colorado agreed to develop a groundwater recharge project near the state line to reregulate water flows in the river from the winter to the spring and summer seasons when needed for habitat maintenance and development.



- B. The Colorado River Endangered Species Recovery Program is a similar effort designed to implement measures to improve populations of endangered Colorado River fish. Recently, the state, Fish and Wildlife Service, water users and environmental interests agreed on a programmatic biological opinion that will specify measures to be undertaken that will serve as the reasonable and prudent alternative for the development of up to 120,000 acre feet of water per year in the Colorado River mainstem, including potential new transmountain diversions from the Colorado River to the Front Range. The PBO also provides a degree of regulatory certainty to existing diversions by Denver, Northern and other Front Range water interests, so that existing project yield is more secure.
- C. The Platte and Colorado River programs, although linked in the sense that transmountain water affects both basins, are not mutually dependent in any way.
- D. The "threatened" listing of the Prebles Meadow Jumping Mouse, which occupies riparian habitat in the Front Range below an elevation of about 7500 feet, also impacts water supply development in the Front Range. Pipeline crossings and other activities that impact riparian zones may be stopped or significantly delayed. A programmatic approach to this issue was initiated by the state and the Department of the Interior in 1998, but has not been successfully implemented. Therefore, compliance with the ESA for impacts to Prebles habitat must be undertaken on a case-by-case basis.
- E. Land management practices on National Forest land also may affect the yield of existing water supply systems. In 1991, the special use permits for four Front Range cities, one irrigation company, and Public Service for water facilities located on the Arapahoe-Roosevelt National Forest expired. In the renewal process, the Forest Service sought to impose bypass flow requirements on the facilities, some of which had been in place for over 100 years. This created a

firestorm of debate in Colorado and in Washington. Significantly, the action threatened to reduce the yield of existing water facilities in place, forcing the municipalities to look elsewhere for additional water supplies. The permittees cooperated in the development of an overall plan to meet flow enhancement goals in parts of the River in a way that did not reduce yield. The plan was approved by the Forest Service. The controversy sparked the creation of a national task force that looked at issues in Forest Service permitting of water facilities.

XII. Conclusion. Water supply development to meet the growing needs of the Denver Front Range has evolved with new demands and impacts on the West Slope and the environment. The processes, programs and relationships of the major interests in Front Ranch supply development in the post Two Forks era give hope that new water service to new population growth can, for the foreseeable future, be met rationally and with minimum environmental impact. However, recent proposals in the Colorado legislature and the continued confrontation over the Union Park Project illustrate that there will always be pressure to go back to the "old way" of doing things.