

Colorado

# Stream Lines

QUARTERLY NEWSLETTER OF THE OFFICE OF THE STATE ENGINEER  
COLORADO DIVISION OF WATER RESOURCES

VOLUME V, NUMBER 1

JULY 1992

## SANCHEZ DAM, A COOPERATIVE EFFORT

By: *Frank Kugel, Dam Safety Engineer*

Sanchez Dam is located in the San Luis Valley in Water Division 3. On April 9, 1992, our Durango field office was contacted by the owners of the dam, Sanchez Ditch and Reservoir Company, to report that a sinkhole had developed on the upstream slope of the 130-foot high dam. Shortly after the initial discovery of the sinkhole, the owners observed muddy water exiting near the downstream toe of the dam. Based upon this report, it was determined that a serious safety problem existed at Sanchez Dam since it is classified as a Class I structure, meaning that lives would be at risk if the dam were to fail. Colorado's oldest community, San Luis, is located only five miles downstream of the dam.

Frank Kugel, resident dam safety engineer in Durango, immediately traveled to the dam site to assess the situation. After a thorough inspection of conditions, the State Engineer's Office determined that the dam could safely store the existing amount of water in the reservoir; however, additional storage was deemed unsafe due to the potentially dangerous seepage conditions.

To prevent additional storage of water, all streamflows normally diverted by the Sanchez Inlet Canal were allowed to flow down Culebra Creek. Since 1910, when Sanchez Dam was built, floodwaters have normally been captured by the inlet canal and the stored water is then released from the reservoir as needed for irrigation. As a result of this operation, high flows rarely occur downstream of the Sanchez diversion. The natural stream channel had thus been allowed to be encroached upon by farming operations and building

and road construction. The undiverted spring runoff from the Culebra Drainage would exceed the existing channel capacity of the stream and result in extensive damage to property in the San Luis area. This lack of flood control created an additional problem for the local community and the State Engineer's Office.

Charlie Quintana, Water Commissioner for District 24, closely monitored the streamflow conditions on Culebra Drainage. Through Charlie's work with local ditch companies, diversions into irrigation ditches upstream of San Luis were increased thereby limiting the streamflows down the Culebra channel and providing some protection against flooding.

SEO Denver staff promptly contacted the Colorado Water Conservation Board requesting their help in providing financial assistance from the Construction



Fund for the owners to make the necessary repairs. A grouting program along the right abutment contact was chosen as an interim repair for the dam. Problems developed during the operation when large flow quantities were encountered in the bedrock. The embankment dam has been placed against a highly fractured basalt formation and seepage through the fracture network was carrying the grout downstream before it had a chance to set. Various grout setting accelerators were unsuccessful in allowing the grout to properly set in the fractures. Sand was ultimately used to fill up the voids and slow the seepage flow sufficiently to allow the grout to set as desired. Seepage quantities near the downstream toe have decreased as a result of the grouting operation and interim repairs were completed the evening of May 17th. Frank Kugel and Charlie Quintana were at the dam site nearly every day for six weeks overseeing the emergency repairs.

After another thorough inspection of the dam, the State Engineer's Office has determined that an additional 6,000 acre-feet could be safely stored in the reservoir, which should be sufficient to provide flood protection for the people in San Luis and the surrounding communities, and hopefully addresses the potential flooding problem mentioned above. The Sanchez Ditch and Reservoir Company has engaged a consultant to evaluate possible permanent solutions to the seepage problem.

We would like to thank the Costilla County Commissioners, the Costilla County Sheriff's Office, the Colorado Water Conservation Board, the Colorado Office of Emergency Management, the Colorado Division of Local Government, the U.S. Army Corps of Engineers, the U.S. Soil Conservation Service, the National Weather Service, and especially the Sanchez Ditch and Reservoir Company for the invaluable assistance they provided.

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## INTERSTATE COMPACT MEETINGS

By: *Hal Simpson, Acting State Engineer*

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Colorado hosted the 53rd Annual Meeting of the Rio Grande Compact Commission on March 26, 1992, in Alamosa, Colorado. At the annual meeting the Compact Commissioners from Colorado, New Mexico and Texas received reports from various federal agencies, as well as from the Compact's Engineer Advisors concerning the delivery of water by Colorado and New Mexico for calendar year 1991. Colorado delivered 311,400 acre-feet to the Colorado-New Mexico stateline. The scheduled delivery pursuant to the Compact was 310,200 acre-feet. Colorado has an accrued credit in Elephant Butte Reservoir of 22,900 acre-feet as of January 1, 1992. The ability of the Division Engineer to administer water rights in a manner to accurately meet the Compact obligation is the result of several factors, including dedicated staff, cooperative water users, and the satellite monitoring system. New Mexico, for the first time in a number of years, is in a credit status due to high runoff below the Otowi index gage. For the first time in the history of the Rio Grande Compact, both states are in a credit status.

The water users on both the Rio Grande and Conejos River have elected to utilize their portion of the credit in 1992 by under delivering at their respective lower gages. As of June 1, 1992, the forecast for the 1992 Rio Grande Basin index supply is 530,000 acre-feet, and 196,000 for the Conejos River Basin, both of which are well below average. Thus, the credit water, when combined with the Closed Basin Project deliveries, will be helpful in providing additional water to irrigators in both basins this summer.

Colorado also hosted the 46th Annual Meeting of the Costilla Creek Compact Commission on May 5, 1992, in San Luis, Colorado, where the two Compact Commissioners from Colorado and New Mexico received reports for the 1991 compact year



From the Costilla Creek Water Master, the U.S. Geological Survey, and the Compact's Engineer Advisors. The water users properly received their allocations pursuant to the priorities established in the amended Compact. The costs per acre-foot of water for administering this Compact are quite high when compared to other compacts due primarily to the salary of the water master and the costs charged by the U.S. Geological Survey to operate and maintain some of the gaging stations pursuant to the Compact. In 1991, Colorado's share of Compact costs was \$30,326, for a delivery to Colorado ditches of 10,277 acre-feet. Various alternatives are being discussed for reducing the costs where feasible.

Colorado will host the Republican River Compact annual meeting in Denver on July 13, 1992, in Room 318, 1313 Sherman Street. This interstate compact allocates the use of water on the Republican River between the states of Colorado, Kansas and Nebraska.

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### **EMERGENCY REPLACEMENT WELL ~~HOTLINE~~**

The number of telephone calls to the Ground Water Information Desk has made it difficult for water commissioners and well drillers/pump installers to reach this office concerning the need for verbal approval of replacement wells in emergencies. To resolve this problem, the Permitting and Enforcement Section is implementing a new hotline for use by water well contractors and water commissioners requesting, reporting and obtaining verbal approvals in emergencies. This line will be in service on July 6, 1992, and available for **VERBAL APPROVALS ONLY** from 7:00 to 11:30 a.m. Well contractors and water commissioners will be notified by mail how to access this new hotline. Other existing procedures and policies concerning verbal approvals remain unchanged.

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### **BOARD OF EXAMINERS OF WATER WELL CONSTRUCTION & PUMP INSTALLATION CONTRACTORS RESOLUTIONS**

At your request to keep you apprised of new policies, procedures and/or guidelines of the State Engineer's Office, the Ground Water Commission and the Board of Examiners, enclosed with this issue are copies of four resolutions passed by the Board of Examiners in 1991.

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### **PROMULGATION OF RULES AND REGULATIONS**

Last year was a busy time for the State Engineer's Office with respect to promulgating new rules and regulations. Following our rulemaking hearing in June, *Rules for Small Capacity Wells in Designated Basins* became effective November 1, 1991; *Rules and Regulations for Implementation of Subsection 25-8-202(7), C.R.S.* (also known as the Senate Bill 89-181 Water Quality Rules and Regs) went into effect March 30, 1992, after two successful days of hearing the previous October; and the Ground Water Commission's Rules and Regulations concerning *Management and Control of Designated Ground Water* (large capacity wells) became effective May 1, 1992. Even though Rule 7.3.4 was appealed by Eagle Peak Farms to the Adams County and Denver District Courts, the rules are still in force and effect.

A public meeting was held in Denver on May 28th to discuss Version C of DWR's proposed geothermal rules and regulations, with a target date for publication of late July or early August.

Copies of the above rules and regulations can be obtained from our Denver office at (303) 866-3581.



## NEW WELL PERMIT APPLICATION PROCESS IN DIVISIONS 3, 4, 6 AND 7

The new procedures concerning the initial processing of well permits which began on July 1, 1991 for Divisions 3, 6 and 7, and February 1, 1992, for Division 4 (Gunnison Basin, Montrose) have been a great success in reducing turn-around time for the issuance of well permits, while at the same time significantly reducing the number of applications returned to the applicant for correction. Prior to initiation of the program, average processing times in these divisions was seven to eight weeks.

The process in general requires the submission of a well permit application to the Division Office instead of the central Denver office. The Division staffs have been trained in permit review and now make an initial review of the application prior to it being sent to Denver, enabling them to catch errors in the application and make a field inspection when necessary. Through the use of a check sheet that is also submitted by the Division to the Denver office, quicker review of the permit is accomplished in Denver resulting in fewer applications with incomplete or incorrect information, fewer returns to the applicant, and faster permit issuance.

In Division 7 (Durango) for example, new procedures have lead to permits being issued as quickly as seven working days, with an average processing time of one to two weeks. The percentage of permits returned prior to the change was 47%. That percentage has now been reduced to 10%. An example of the dramatic effects in Division 3 (Alamosa) is given below.

Month ('91)	No. Of Permits	Average Time in Division III	Average Time in Transit	Average Time in Denver	Average Days to Issuance
June (prior to implementing)	15	4.8	2.0	35.4	42.2
July	41	4.7	2.7	18.1	25.9
August	24	2.5	6.5	14.6	19.7
September	34	1.3	4.2	9.7	15.0
October	23	5.2	4.1	10.2	21.9
November	15	1.8	4.2	9.9	16.0
December	12	0.8	2.5	14.9	18.2
<b>Total/Average (July-Dec)</b>	149	2.7	4.0	12.9	19.4

The State Engineer's Office is examining ways of implementing these procedures on a statewide basis. However, Divisions 1, 2, and 5 present major problems in implementation due to their geographical boundaries and a much higher volume of well permit applications on a yearly basis. If such a plan is implemented in those divisions *Stream Lines* will let you know.



## 1992 LEGISLATIVE SESSION

The following bills involving water issues were passed during the 1992 legislative session:

**Senate Bill 87** - Water Conservation Board. This bill is the annual appropriation of funds for the Colorado Water Conservation Board. It included money for preliminary work on the Colorado River Decision Support System and completion of the Castle Pines Well Study. Additionally, the bill changes the date upon which the terms of board members expire and sets forth areas that appointees should have experience and expertise. Also, no more than five appointees to the Board shall be members of the same political party. This bill was signed May 17, 1992.

**Senate Bill 92** - Mitigation of Adverse Effects Resulting from the Removal of Water from Geographic Areas. Sponsored by Senator McCormick and Representative Jerke, this bill requires revegetation (and determines definition of same) of lands where irrigation water is removed as part of the change in use of a water right. Effective on the date of passage, this bill was signed into law on April 16, 1992, by Governor Romer.

**House Bill 1008** - Simplification of Water Well Permit Requirements. Sponsored by Senator McCormick and Representative Jerke, HB-1008 eliminated some publication requirements for the well permitting process, clarified the statutes that permits are issued under for monitoring and observation wells, and removed the six hundred-foot spacing requirement for individual residential wells where the pumping rate does not exceed 15 gallons per minute. The bill was signed by Governor Romer on March 19, 1992.

**House Bill 1131** - Dams Constructed with the Approval of the State Engineer. This bill enables the State Engineer to take control of a dam in emergency situations when there would not be sufficient time to issue an order to repair the

reservoir or when the dam is threatened by any large flood. It also sets up an emergency dam repair account in the Colorado Water Conservation Board Construction Fund to finance any such emergency actions. The dam owner must reimburse the State Engineer for costs related to said emergency actions. Additionally, the bill simplifies the application process for the construction of both livestock water tank and erosion control dams and redefines the method by which the priority of both is determined. The bill, sponsored by Senator Norton and Representative Eisenach, was signed by the Governor on June 3, 1992.

**House Bill 1200** - Water Quality Programs. After considerable debate and amendment, HB-1200, authorizes a study to be conducted jointly by the Governor's Office and the Departments of Health and Natural Resources to evaluate the organizational placement of Colorado's water quality program. The results of such study are to be presented to the legislature no later than November 1, 1992. Additionally, the bill establishes water quality "designations" adoptable by the Water Quality Control Commission. Sponsored by Senator Norton and Representative Irwin, HB-1200 was signed June 1, 1992, by Governor Romer, with an effective date of July 1, 1992.

**House Bill 1204** - Adoption of a Requirement that Applicants for Permits to Construct Water Wells Outside Designated Ground Water Basin Give Prior Notice to Persons with an Interest in the Land Affected Thereby. This new law requires applicants for permits to construct water wells in any nontributary aquifer or in the Dawson, Denver, Arapahoe, Laramie-Foxhills, and Dakota aquifers (Section 37-90-137(4)) outside of designated ground water basins to give prior notice to persons with an



interest in the land affected and to furnish the State Engineer with evidence of that notice. It does not apply to wells exempt under Section 37-92-602(1). This was signed by the Governor on March 20, 1992.

**Senate Joint Resolution 92-6 - Authorization of the Colorado Water Resources and Power Development Authority to Consider Financing the Southern Water Supply Project.** Self-explanatory.

**Senate Joint Resolution 92-8 - Colorado River Compact.** Confirming Colorado's right to develop and use its water allocation from the Colorado River system, that the General Assembly does not believe Congress has the legal authority to open, revise, or modify the Compact without Colorado's consent, and Colorado has not abandoned and cannot abandon its entitlement to the development and use of water from the Colorado River system.

**Senate Joint Resolution 92-9 - Designation of Additional Wilderness Areas in Colorado.** Setting forth areas of concern with respect to Congress passing legislation establishing additional wilderness areas in Colorado and requesting consideration of the consequences of such designation on water rights and the economic and social welfare of the citizens of Colorado.

**Senate Joint Resolution 92-15 - Recognition by the U.S. Forest Service of Rights to Colorado Water as Such Rights Exist Under Colorado Water Law.** Urging the Forest Service to consider the consequences of requiring specific bypass flow or release requirements upon water diversions, transmission, and storage facilities as a condition of renewing special use permits needed to continue such operation, repair, rehabilitation or replacement of such facilities located on Forest Service lands.

## PIEDRA WILDERNESS

**By: Chuck Lile, Division Engineer, Division 7**

The Division of Water Resources and the Colorado Water Conservation Board have been working on an evaluation of the present uses and potential future uses for water in the upper Piedra River Valley. The valley lies above the proposed Piedra Wilderness Area, and water users are concerned as to the impacts of a downstream wilderness proposal. The U.S. Forest Service would like to have adequate flows to meet the wilderness values.

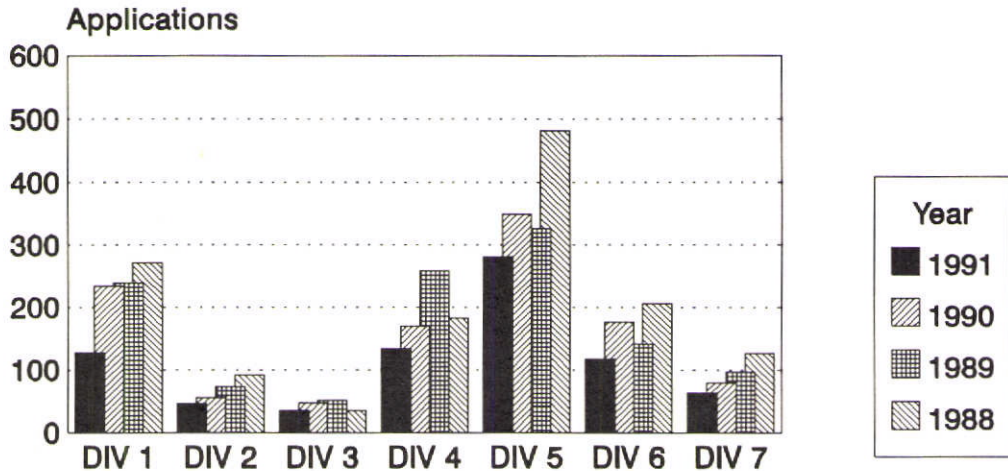
The studies include an evaluation of existing water rights, present irrigated acres, historic irrigated lands and potential future irrigation needs on both public and private land. This information will then be evaluated along with other possible water needs to determine the amount of water that should be reserved for future use while allowing for stream flows that are acceptable for wilderness values.

Meetings have been held with the water users in the Piedra River system to explain the process and to listen to their ideas and concerns. Once the data is finalized, additional meetings will be held with the water users and Forest Service representatives in an effort to reach a solution which will be satisfactory to all concerned parties.

### NEW PUBLICATION AVAILABLE *Stream Flow Data for Colorado 1991 Water Year*

A compilation of all streamflow records compiled by DWR personnel for the 1991 water year (October 1, 1990 to September 30, 1991). Cost is \$15. For an additional \$35 (\$50 total) all the data in the publication can be made available in a DOS-compatible format on either a 1.2M, 5 1/4" disk or a 1.44M, 3 1/2" disk. Available from DWR Records Section in the Denver office.

## Applications Filed in Water Court, 1988 - 1991



1991	127	46	35	133	281	117	64
1990	235	56	48	170	350	177	80
1989	240	74	52	259	327	142	97
1988	272	92	35	183	483	206	126

### CALENDAR OF EVENTS

- July 8-10** 107th Quarterly Meeting of the Western States Water Council, Salt Lake City, UT. Contact Craig Bell, WSWC (801) 561-5300.
- July 9-10** Colorado Water Conservation Board meeting, Cortez, CO. Contact Maria Martell, CWCB (303) 866-3441.
- July 13** 32nd Annual Meeting of the Republican River Compact Administration, Denver, CO. Contact Crystal Carter, DWR (303) 866-3581.
- July 13-17** Water Resources and Environment: Education, Training and Research. *"Using Educational Programs to Solve Water & Environmental Management Problems,"* sponsored by Colorado State University, Fort Collins, CO. Contact Janet Lee Montera, CSU (303) 491-7425.



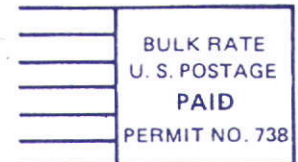
- July 22-24** 17th Annual Colorado Water Workshop, "Showdown on the Colorado River," sponsored by Western State College, Gunnison, CO. Contact Lucy High, WSC (303) 641-2238.
- July 25** Colorado Water Well Contractors Association Mid-Year Conference, Beaver Run Resort, Breckenridge, CO. NGWA test being offered at that time. Contact the CWWCA office in Denver at (303) 759-1756.
- August 4** Board of Examiners of Water Well Construction and Pump Installation Contractors meeting, 8:30 a.m., 8th floor conference room, 1313 Sherman Street, Denver, CO. Contact Paula Lacey, DWR (303) 866-3581.
- August 21** Colorado Ground Water Commission meeting, Steamboat Springs, CO. Contact Paula Lacey, DWR (303) 866-3581.
- August 27-28** Colorado Water Congress 17th Annual Membership Forum and Water Workshop, Red Lion Hotel, Colorado Springs, CO. Contact Dick MacRavey, CWC (303) 837-0812.
- Sept 13-16** Association of State Dam Safety Officials 9th Annual Conference, Baltimore, MD. Contact Lori Spragens, ASDSO, Lexington, KY (606) 257-5140.
- Sept 15-16** Colorado Water Conservation Board meeting, Grand Junction, CO. Contact Maria Martell, CWCB (303) 866-3441.
- Sept 17-18** Colorado Water Congress 12th Annual Colorado Water Law Seminar, Holiday Inn Northglenn, CO. Contact Dick MacRavey, CWC (303) 837-0812.
- October 6** Board of Examiners of Water Well Construction and Pump Installation Contractors meeting, 8:30 a.m., 8th floor conference room, 1313 Sherman Street, Denver, CO. Contact Paula Lacey, DWR (303) 866-3581.
- October 7-9** 108th Quarterly Meeting of the Western States Water Council, Albuquerque, NM. Contact Craig Bell, WSWC (801) 561-5300.

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