

Colorado

Stream Lines

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

1313 Sherman St. Room 818, Denver, CO 80203 (303) 866-3581

1999, Vol. XIII, No. 2

Designation of Critical Habitat May Affect Delivery of Water on the Rio Grande

The Rio Grande Compact Commission met in Santa Fe, New Mexico, on March 25, 1999, to hold its annual meeting. Reports were received from the Engineer Advisers, the U.S. Geological Survey, the U.S. Fish and Wildlife Service, and the Legal Committee.

Colorado has an accrued credit of 11,500 acre-feet, and New Mexico has an accrued credit of 153,500 acre-feet. Presently, there is about 1,750,000 acre-feet in project storage, which will be more than adequate for the normal demand of 790,000 acre-feet per year.

The major issue facing the Rio Grande Basin water users is the designation of critical habitat for the

endangered Silvery Minnow. The U.S. Fish and Wildlife Service has been ordered by the Federal Court to designate the critical habitat by the end of May, 1999. Once designated, the critical habitat, if affected by water management operations and/or channel maintenance, could result in impacts on these operations and fines if these operations cause a take of the Silvery Minnow. The Rio Grande Compact Commission passed a resolution asking the U.S. Fish and Wildlife Service to conduct a complete environmental impact analysis on the potential impacts of the designation.

- Hal D. Simpson, State Engineer -

Visit DWR's Website to View Rules and Regulations

We are pleased to inform you that our **Rules and Regulations** are now available on the Internet. Our website can be found at <http://water.state.co.us/default.htm>. The Rules and Regulations, along with our Mission Statement, water administration policies, various forms and applications, and the results of the 1998 Public Opinion Survey can be located under "Organization".

Well Permitting in the Information Age



Well Tools

The Division of Water Resources used the Sun Microsystems Java development software to create our web-enabled Well Tools, which is going into production on April 15, 1999. The Well Tools consist of three software applications that will significantly increase the efficiency of well permitting by allowing real-time data entry and editing, and state-wide access to well data via our wide area network. Our Internet version of this web-enabled application, which is currently under construction, will allow the public online access to our data soon.

Well Tools consist of three applications that increase in complexity: Well View, Well Edit, and Well Evaluation.

Well View is a tool that allows quick and easy viewing and printing of data. It contains search wizards that help users locate permits by number, owner or location.

Well Edit combines the viewing capabilities of Well View and allows editing of records. This new edit screen will increase efficiency and data accuracy by blending automated field recognition and pull down menus for data entry. To ensure data quality, location information is tied to our GIS, which authenticates the validity of entered locations. Users can choose one of 3 data entry screens to customize the application to their needs.

Well Evaluation combines the functionality of Well View and Well Edit and adds "WYSIWYG" permit features with "conditioning" wizards that automate permit generation. In addition, this new system enables access to data on sub-divisions and rules for decision making that were not digitally accessible prior to these new tools.

A critical piece of well permitting is the actual permits and correspondence associated with all wells. Our agency has permits dating back to the 1800's. To ensure that the information on these old documents is never lost, we have implemented an Imaging System. This storage and retrieval system will be integrated into the Well Tools to provide completed digital access to all information regarding ground water permitting by the summer of 2000.

Imaging

The Division of Water Resources has embarked on an effort to image all of our existing paper well permits and their associated documents, to ensure that this mission critical information is never lost.

Our agency houses more than 300,000 well permits, some of which date back to the 1800's. The documents could not be replaced in the event of a natural disaster. The Imaging Project is broken into two sub-projects; the imaging system itself, and the actual scanning of the Backfile documents. We use the terms "Day Forward" to describe the system and its specific use to scan all documents as they arrive from now on, and "BackFile" to describe the scanning of all the old documents.

(continued on next page)

Well Permitting in the Information Age (cont.)

Day Forward

The Day Forward System Project was completed on March 18, 1999. We purchased IBM's Visual Info software and contracted with their partner Avacom to provide a web-enabled Java application, install and test the system. This project was implemented in 45 days, on time and under budget.

Avacom's JavaCom software is a Java application, which we intend to integrate into our Well Tools to provide electronic access of well permits. This will greatly increase the efficiency of well permitting by reducing the amount of time spent on file retrieval, and routing. We plan to take advantage of JavaCom's workflow components that automatically track and route documents in the system.

Backfile

We have contracted the BackFile Project out to Central Services. This State agency will begin the scanning of our paper documents this summer. We have approximately 7 million documents to scan and will be able to scan nearly one third of them this year.

Our imaging system is robust and scalable. In the future we plan to expand our Imaging capabilities to Surface Water Administration and to increase the efficiency of our purchasing system.

- Leah Lewis, Manager, Information Technology Branch -

NEWS HIGHLIGHTS FROM THE GROUND WATER COMMISSION

The Commission held its quarterly general meeting on Friday, February 19, 1999, in Room 318 of the Centennial Building, 1313 Sherman Street in Denver. The Commission heard the Executive Director's Report, the Staff Activity Report, Attorney General's Report and the reports from the representatives of various designated ground water management districts. Mr. George VanSlyke summarized the report on annual ground water level measurements within the designated basins. Mr. Pat Kowaleski provided a brief on Amendment 14 (Hog Farm Initiative) rulemaking and the relationship to water rights within the designated basins. The Commission discussed a report from Mr. Kowaleski on the issue of public notice requirement prior to Commission considering a request for variance from the Commission's rules.

Dr. Reiner Haubold, who served as hearing officer for the Commission, is retiring at the end of March this

year. The Commission adopted a resolution in appreciation for services provided to the Commission by Dr. Haubold and appointed Steve Lautenschlager as its new hearing officer. Mr. Jody Grantham was also appointed to be the alternate hearing officer. At the end, the Commission met in an executive session to discuss various pending litigation matters.

The Commission is responsible for administration of ground water within the boundaries of the designated ground water basins which are located in eastern Colorado and include the Northern and Southern High Plains, Kiowa-Bijou, Lost Creek, Camp creek, Upper Black Squirrel, Upper Big Sandy and Upper Crow Creek. Persons with questions about the Commission's activities can call the Ground Water Information Desk at the State Engineer's Office in Denver at (303) 866-3587.

- Dr. Purushottam Dass, Manager, North Region Group -

Denver Basin Core Project Underway

The Division of Water Resources is a participant in a unique and exciting project to explore the geologic history and hydrogeology of the Denver Basin Bedrock Aquifers. The project, lead by the Denver Museum of Natural History aims to obtain a continuous core of the sediments that comprise the four aquifers found in the Denver Basin. In addition to obtaining the core, the project includes plans to perform several kinds of laboratory analysis on the sediments in the months following the actual completion of the well as a monitoring and observation well.

The well is located on the Elbert County Fairgrounds, and coring operations began on March 1. As of March 26th, the well had reached a total depth of 1,880 feet in what is probably the top of the Laramie-Fox Hills Aquifer. Because of deteriorating hole conditions, the drilling contractor, Layne – Western is now (March 30) reaming the core hole open to a large enough diameter to install protective casing to the top of the Laramie-Fox Hills interval. The hole will be geophysically logged prior to installing casing, and then coring will continue to the top of the Pierre Shale at an estimated depth of about 2,200 feet.

The analyses to be performed on the core and the hole itself will consist of determinations of aquifer transmissivity, specific yield, horizontal and vertical permeability, and porosity. In addition, analysis will be made to identify plant types that were alive at the time the formations were deposited. This process, called palynology, involves extracting samples of the plant pollen and spores recovered from the cores. Samples of the core will also be analyzed to determine the pattern of reversals in the earth's magnetic fields (paleomagnetism) in the time represented by the cores (about 69 million years). Fission Tracking studies will be made to learn more about the temperature history of the basin and the adjacent mountains. Of significant interest is the location of what is called the K-T Boundary, or the boundary which represents the contact of the younger Tertiary rocks with the underlying, older Cretaceous

boundary. This thin layer is thought to be the record of the impact of an extremely large meteorite that fell on the Yucatan Peninsula in Mexico. That impact may have brought about the extinction of the dinosaurs and numerous other species around the world.

Before the well is permanently completed, attempts will be made to recover water from the two lowermost aquifers, the Arapahoe and Laramie-Fox Hills.

Major funding for the project was provided to the Denver Museum of Natural History through a National Science Foundation Grant. Other groups or organizations that are providing resources, either in cash or in kind, or both, include the U.S. Geological Survey, the Colorado Division of Water Resources, the Colorado Water Conservation Board, Colorado State University, the University of Colorado at Boulder, Scripps Institute of Oceanography, the University of Alaska at Fairbanks, Colorado State Extension Service Office in Kiowa, Elbert County Government through the Board of County Commissioners, the Town of Kiowa, Layne-Western, Prima Energy, and Cellular One of Northeast Colorado.

Public education has been one of the primary goals of the project, and the museum has taken extraordinary steps to accomplish that goal. Over one thousand visitors have made the trip to Kiowa to observe the coring. The museum has devoted part of its extensive website to the project (www.dmnh.org/dbasin1.htm), and most of the Front Range television stations have shown the project on their news programs.

If you would like more information about the ground water related benefits of this project, please contact Glenn Graham at the Division of Water Resources.

- Glenn Graham, Sr. Geologist -

Status of Extreme Precipitation Project

The Phase 2 and Phase 3 parts of the project were combined in 1998 and a request for proposals was published on September 14, 1998. Two proposals were received by the submission date of October 21, 1998. An Evaluation Committee was organized to review the proposals using a standard score sheet. The committee met on December 3, 1998 to review their ratings and to discuss the proposals. After reviewing the proposals, the committee decided to award the contract to CSU.

Alan Pearson, Chief of the Dam Safety Branch, was appointed as Project Manager, and requested that he assemble a Technical Review Group (TRG) for the project. The Department of Natural Resources Project Management Team will include Hal Simpson, State Engineer and Jack Byers, Assistant State Engineer; and Peter Evans and Larry Lang from the Colorado Water Conservation Board. They will have project oversight and provide guidance in the performance of the provisions and terms of the contract.

1998 Public Opinion Survey Results

The Colorado Division of Water Resources conducted a Public Opinion Survey in January, 1999, to determine public opinion regarding the importance of customer service and the effectiveness of our Division. The survey is part of the Division's on-going effort to monitor, examine and to learn how our external customers view our performance. We would like to extend our sincere appreciation to the organizations and individuals who took the time to fill out and return the survey.

The written comments provided excellent insight to areas where the Division is performing particularly well, along with some indications of

concern. Division staff are currently reviewing these concerns and will be addressing them in future issues of the Streamlines. Since this is the third year of the survey, a baseline of data is beginning to be formed from which comparison, trends and sound analysis can occur. The honest feedback that we received provides insight into areas of concern and suggestions for improvements. The entire report and results are located in the Division's website at <http://water.state.co.us/default.htm> under "Organization".

- Marta Ahrens, Public Information Officer

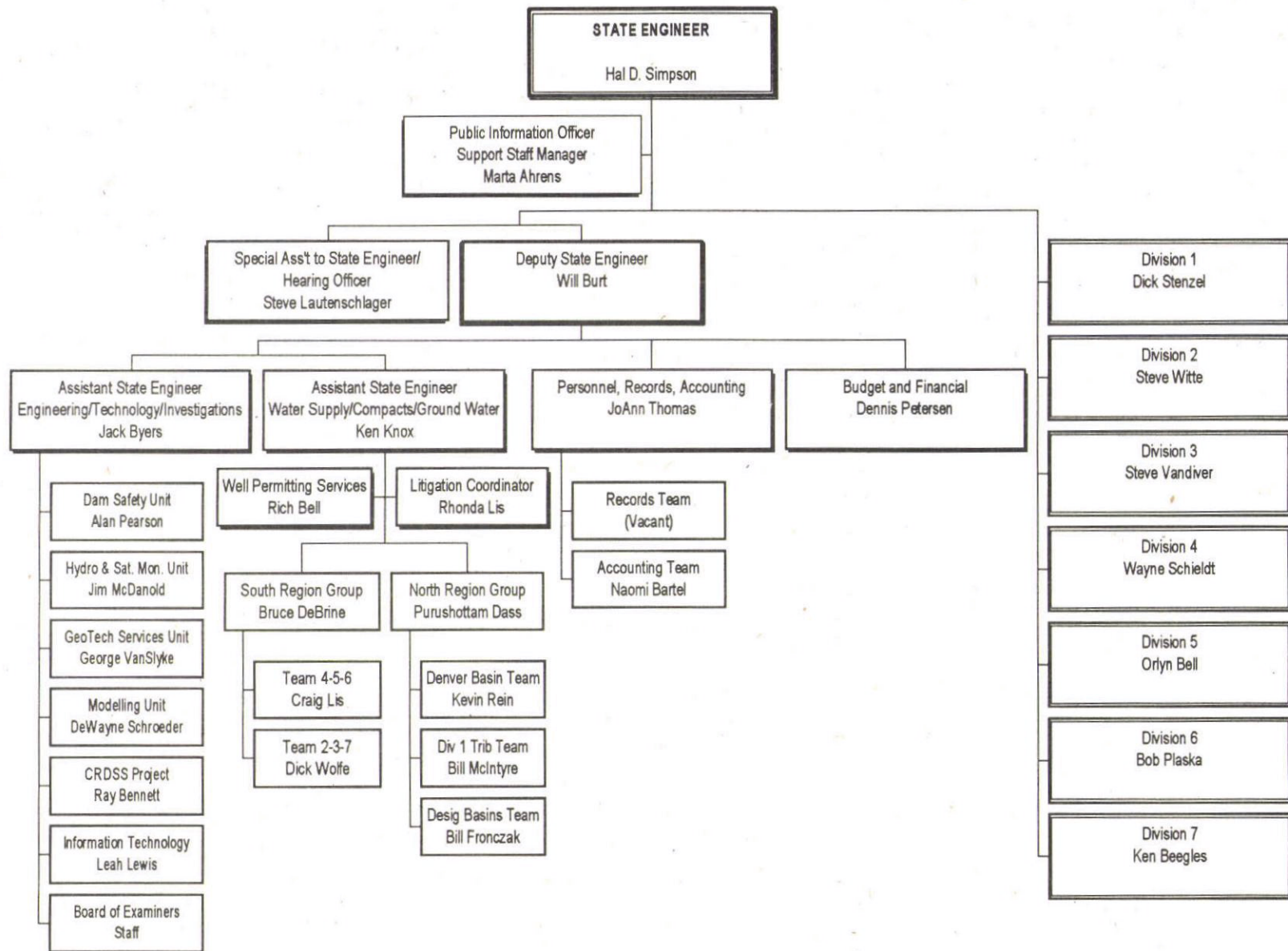
Division Holds Annual Meeting

The 1999 Annual Meeting was held March 3-5, 1999, at the Embassy Suites Hotel Denver Southeast. Some of the agenda items included finalizing the Division's Long Range Plan (for 1999-2003), a report on the results of the Public Opinion Survey, results of the Employee Survey, reports by the Assistant State Engineers and Division Engineers, a Colorado Peak Performance Workshop, a presentation on the benefits of Decision Support Systems, and a question and answer session on water administration issues. As part of the Annual Meeting, a special awards

luncheon was held and the following awards were given to the 1998 Employees of the Year: *Support* - Mary Andrews, Administrative Assistant in the Denver Office; *Technical* - Ina Bernard, Engineering Technician in the Pueblo Office; *Professional* - David Nettles, Professional Engineer in the Greeley Office; *Manager* - Bill Tyner, Professional Engineer in the Pueblo Office; and *Leadership* - Jack Byers, Assistant State Engineer in Denver.

Division of Water Resources / Office of the State Engineer

Organization Units & Supervisors



Human Resources

Retirements....

Reiner Haubold retired on March 31, 1999, after 27 1/2 years of service to the Division of Water Resources. Mr. Haubold started his career with this office evaluating well permit applications in the tributary groundwater areas of the state. In 1973, Reiner became head of the group responsible for all groundwater matters in the South Platte drainage. In the early 1980's, he became the group leader for groundwater matters and well permitting for the entire state. He held that position until he was made the Division's ombudsman (Hearing Officer) in the 1989 reorganization of the Denver office. He also did geothermal permitting and wrote the rules. Mr. Haubold will remain in the water arena on a part-time basis since he was recently appointed to be the Executive Director of the Colorado Water Well Contractors Association.

Dwayne Konrad, the Water Commissioner for the Northern High Plains Designated Ground Water Basin, retired on March 1, 1999, after 6+ years of service. Dwayne joined the Division and the Ground Water Commission Staff as a part-time employee on August 3, 1992. Dwayne has been responsible for the investigation of water well uses in the field, verifying beneficial uses of existing water rights, conducting field inspections on possible violations, and communicating with ground water users on Commission rules, policies and applicable statutes. The Division of Water Resources, the Colorado Ground Water Commission, and the Commission Staff would like to thank Dwayne for his hard work as the water commissioner, and wish Dwayne all the best in the future.

Betty Dyce, Records Manager for the Division, retired on April 1, 1999. Betty supervised the public Records Section for the last 10 years, served as the Division's Training Coordinator, and also worked in the Ground Water Section for 10 years. Her high standards for customer service are greatly appreciated by both staff and the public. Betty will be sorely missed by not only the Division staff, but also the numerous customers who frequented the Records Section.

New Employees...

Thomas W. Ley started employment with the Division 2 Office in Pueblo, on February 15, 1999, when he was assigned as the Lead Hydrographic Engineer in Division 2. Mr. Ley's most recent position prior to beginning work with the State was as a Senior Irrigation Engineer with Winrock International in Cairo, Egypt. He has an MS in Agricultural Engineering from CSU and a Ph.D. in Irrigation Engineering from Utah State University. Mr. Ley has also been a member of the faculty of Washington State University.

Eshan Ali became a permanent member of the Records Section on March 1, 1999. He is a graduate of Florida Atlantic University. His hometown is Diego Martin, Trinidad, West Indies. Some of his duties will include providing research, information, interpretation and/or copies of historic documents for wells, water rights, etc. to the public and staff; provide instructions for the use of the water databases, microfilmed records, and other resources for self-research; and organize documents for microfilming and imaging.

Susan Petersmann started on April 5, 1999, as the new Water Commissioner in Water District 47, and will be administering the water rights of the North Platte River and its tributaries. Ms. Petersmann has a Bachelor of Science degree in Ecology from the University of Illinois and a Master of Science Degree in Horticulture from Colorado State University. In the past, Susan worked for the U.S. Forest Service as a forestry technician, for an analytical lab as an associate chemist, and in the Jackson County Administrator's Office.

Jerry Figueroa will start on April 12, 1999 and will assume the water commissioner duties on Dry Creek and the main stem of the Gunnison River. Mr. Figueroa owns and operates a small farm in the Cedaredge area and has been the Cedar Mesa Ditch Rider for about four years. He is also the president of the Upper Surface Creek Domestic Water System. Jerry enjoys raising cattle and fishing as hobbies.

Calendar of Events

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| May 21 | 2nd Quarterly Meeting of the Colorado Ground Water Commission, 1313 Sherman Street, Room 318, Denver, CO; for more information, contact: Marta Ahrens at (303) 866-3581 |
| May 24-25 | Colorado Water Conservation Board, Board Meeting, Pagosa Springs; for more information, contact Susan Maul at (303) 866-3441 |
| June 1 | Board of Examiners of Water Well Construction and Pump Installation Contractors Meeting, 1313 Sherman St., Room 615, Denver, CO; for more information, contact Gina Antonio at (303) 866-3581 |

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