



New Mexico  
Office of the State Engineer  
Interstate Stream Commission  
2004-2005 Annual Report



# Contents



## 2004-2005 Annual Report

Office of the State Engineer  
Interstate Stream Commission  
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required by law (NMSA 1978  
Section 72-2-5.)



## Message from the New Mexico State Engineer

In recent years, the Office of the State Engineer has boldly faced growing administrative challenges associated with an increasing demand for water with a variable and often limited available supply. This agency is working in cooperation with other state agencies, counties, and communities to prepare for those recurring water administrative challenges.

Several years of drought made it clear that New Mexico must put tools in place now for effective management of our state's future water supply. Therefore, a key focus of time and resources for this agency is the Active Water Resource Management strategy, or AWRM, launched in January 2004.

AWRM refers to a broad range of activities that emphasize permitting transfers, monitoring and metering diversions, and limiting diversion of water to the amount authorized by existing water rights – all within the prior appropriation system.

The objective of AWRM is not to threaten rights to the use of water. Rather it is aimed at protecting and preserving rights to the use of water, in the amount and priority of use of each water rights owner. We will require metering and measuring of water use, creation of special water subdistricts, hiring water masters, and promulgating rules and regulations.

After receiving substantial public input, general statewide rules and regulations for AWRM were approved in December 2004.

Water masters in most subdistricts have already been hired, and

we are now working on the task of developing district-specific rules and regulations tailored to meet the needs of these priority basin areas.

I have targeted seven areas of heightened concern around the state to begin implementation of AWRM. They include in order of priority: the Lower Pecos, Lower Rio Grande, San Juan, Upper Mimbres, Rio Gallinas, Nambe-Pojoaque-Tesuque area, and Rio Chama. Progress to date includes the designation of project teams for each priority basin, establishing realistic schedules and budgets for field implementation of water master guidelines. A comprehensive plan for communication with the public was also developed – because I believe that public involvement is a critical part of the process. I anticipate that the AWRM initiative will take several years to fully implement statewide, but we have made tremendous strides so far in a very short period of time.

Voluntary agreements among water users – such as shortage sharing, rotation, or water banking concepts – are encouraged. A “priority call” by a senior water right holder could trigger priority administration – but it should be a measure of last resort.

This agency has made many strides in just a few short years. Substantial progress has been made this past year by the Office of the State Engineer in resolving several longstanding Native American Water Rights Settlements, which will benefit the State of New Mexico. Earlier this year the State of New Mexico entered into a settlement agreement with the Navajo Nation to adjudicate their rights within the San Juan Basin.

We have also taken steps to ensure the State of New Mexico continues to control its own water destiny by making substantial progress on implementing the Pecos River Settlement Agreement. This historic agreement consists of purchasing and retiring land and associated water rights to bring the basin into long term hydrologic balance and

**At the Office of the State  
Engineer, we are dedicated to  
excellent public service and  
sound management of our  
state's waters.**

### State Engineer

John D'Antonio, PE



includes construction of augmentation well fields to facilitate New Mexico's delivery obligations to the State of Texas.

Other issues of note this past year that I'd like to touch on include implementation of New Mexico's first State Water Plan, which sets a workable framework for responsible future water use in our state. This plan is a living document with prioritized agency work schedules, key milestones, and deliverables that better define our performance standards as an agency. Work continues in the exploration of new sources of water. We will continue to make sure compact deliveries are made while continuing the progress made with endangered species protection and recovery efforts. Work also continues in the adjudication of our state's waters while keeping up with technological improvements.

New Mexicans know this is a wonderful place to live, work and raise their families. At the Office of the State Engineer, we are dedicated to excellent public service and sound management of our state's waters.



## John D'Antonio, P.E.

A registered professional engineer in New Mexico and Colorado, State Engineer John D'Antonio has experience in hydraulic design, acequia rehabilitation, water resource management, and water policy development.

Before being appointed by Governor Bill Richardson to the state's chief water post, D'Antonio was cabinet secretary of the New Mexico Environment Department in 2002. He served as director of the Water Resource Allocation Program for the Office of the State Engineer from 2001 to 2002 and served as the State Engineer's Albuquerque district supervisor from 1998 to 2001.

D'Antonio worked 15 years with the U.S. Army Corps of Engineers as a hydraulic design engineer, as chief of the Hydrology, Hydraulics, Sedimentation, and Floodplain Management Program, and as project manager for the Acequia Rehabilitation Program.

A native New Mexican, D'Antonio received a bachelor's degree in civil engineering from the University of New Mexico in 1979.

He has been a member of the Governor's Blue Ribbon Task Force on Water Issues from 1998 to the present.

In his post as State Engineer, D'Antonio is secretary of the Interstate Stream Commission, chairman of the Water Trust Board, Governor's Water Infrastructure Investment Team, and Governor's Drought Task Force and the New Mexico Commissioner to the Rio Grande, Costilla and Upper Colorado river compacts.

D'Antonio and his wife, Cassandra, along with their son, Nick, make their home in Albuquerque.



## Past New Mexico State Engineers

John D'Antonio has been State Engineer since his appointment in January 2003. His predecessors and their terms:

### David White

April 1905-March 1907

### Vernon Sullivan

April 1907-December 1910

### Charles Miller

January 1911-July 1912

### James A. French

July 1912-December 1918

### Leslie A. Gillett

January 1920-December 1920

### Charles A. May

January 1921-December 1922

### James A. French

January 1923-December 1924

### George M. Neel

January 1925-June 1926

### Herbert W. Yeo

July 1926-June 1930

### George M. Neel

July 1930-June 1932

### Thomas M. McClure

July 1932-November 1946

### John Bliss

November 1946-November 1953

### John R. Erickson

December 1953-February 1955

### John Bliss

March 1955-August 1955

### Stephen E. Reynolds

September 1955-March 1990

### Phillip B. Mutz

April 1990-June 1990

### Carl L. Slingerland

July 1990-December 1990

### Eluid I. Martinez

January 1991-December 1994

### Thomas C. Turney

January 1995-December 2002



## Executive Summary

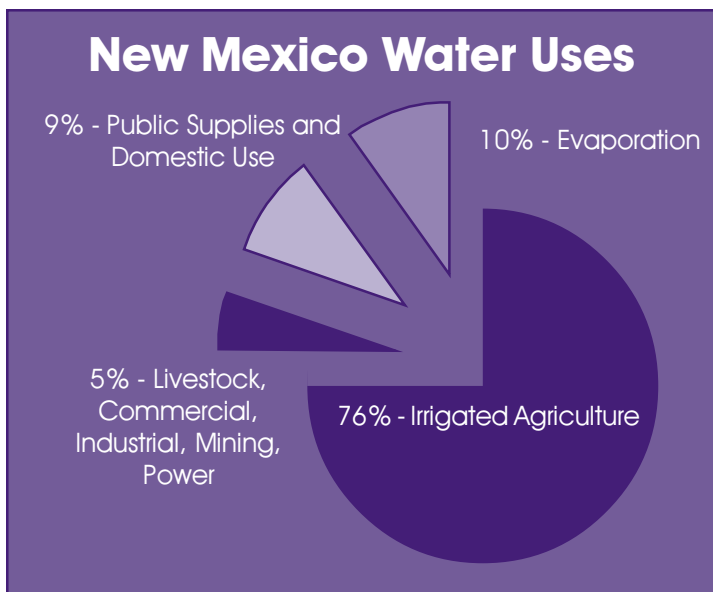
**The State Engineer's approval is required for every use of water in New Mexico**

The State Engineer is statutorily charged with supervising the state's water resources through the measurement, appropriation, and distribution of all ground and surface water in New Mexico, including streams and rivers that cross state boundaries. Created as the Office of the Territorial Irrigation Engineer in 1905, seven years before statehood, the agency assumed responsibility over all surface water in 1907 and was renamed the Office of the Territorial Engineer. With statehood in 1912, the organization's responsibilities were expanded again to include all groundwater within declared groundwater basins – now some 84 percent of the state – and the office was renamed the Office of the State Engineer.

The State Engineer's approval is required for every use of water in New Mexico. State Engineer permission is needed to make a new appropriation, drill a well, divert surface water, or change the place or purpose of use of an existing water right. The Office of the State Engineer acts on water rights applications, evaluates existing water rights, measures and tracks water use and resources, promotes conservation, and performs the scientific, historical and legal research needed to support all of its activities. Additional duties include reviewing subdivision water-supply plans submitted by counties, licensing water-well drillers, inspecting non-federal dams, and rehabilitating diversion dams and irrigations ditches.

Although separate under state law, the Interstate Stream Commission staff members function as a division within the Office of the State Engineer. The State Engineer, appointed by the Governor and confirmed by the state Senate, serves as the Secretary of the Interstate Stream Commission. The Interstate Stream Commission Director serves as the deputy state engineer. The Legislature created the Interstate Stream Commission in 1935 and gave it broad powers to investigate, protect, conserve and develop the state's water supplies. Its separate duties include protecting New Mexico's right to water under eight interstate stream compacts and ensuring the state complies with each of those compacts, as well as developing and promoting regional and statewide water planning.

Water management in New Mexico is guided by several nearly 100-year-old principles in the New Mexico Constitution: (1) All unappropriated water belongs to the public and



is subject to appropriation by law. (2) The acquisition or continuation of a water right and where and how much water can be used is dependent on how the water is put to beneficial use. (3) Older water rights have priority over more recent water rights. Since 1907, a permit from the State Engineer has been required to divert surface water and put water to beneficial use. Permits are required for diverting groundwater anywhere that the State Engineer has declared a groundwater basin, which by December of this year will be the entire state of New Mexico.

The Office of the State Engineer processes some 18,000 water rights documents a year, with the overwhelming majority involving groundwater. Currently, a third of the applications for new appropriations of groundwater concern domestic or stock uses. More than 100 applications a year draw protests and are then subject of a hearing process.

Water management in New Mexico is complicated by the state's long history. Some uses have been in place for centuries, some before written records or water laws. Another key activity of the Office of the State Engineer is legally establishing existing water rights through water rights adjudication. This court process is required by statute and is akin to a quiet title suit for establishing a clear title to land. The first phase of adjudication is a hydrographic survey to locate, quantify and date water uses within a stream system or



## Agency Trust Funds

The Ferguson Act of 1898 designated about one-ninth of all land in the state as trust land to benefit certain public institutions. The legislation identified the beneficiaries of the trust land, dedicated the amount of land to be held in trust for each beneficiary and provided for a board made up of the public land commissioner, territorial governor and solicitor general of the territory to assign specific tracts of trust land to each beneficiary.

The act designated 500,000 trust land acres to benefit reservoirs and other irrigation works and 100,000 acres to fund improvements to the Rio Grande. These lands and the trust lands set aside for 19 other beneficiaries are managed by the State Land Office, which transfers the income from certain revenue-raising activities directly to the beneficiaries and deposits the revenue from activities that deplete the resource – such as mining – in the Land Grant Permanent Fund. That fund is invested by the State Investment Council and the investment income is distributed to the trust beneficiaries.

*Irrigation Works Construction Fund.* The Legislature created the Irrigation Works Construction Fund in 1955 to receive the funds from the trust land acres designated for reservoirs and irrigation works, as well as certain special appropriations. Under the administration of the Interstate Stream Commission, the monies are used to make loans to acequias, and, through contracts with irrigation and water conservancy districts, to individual water users for construction and rehabilitation of on-farm irrigation works. The Irrigation Works Construction Fund pays for technical assistance and design improvements for acequias through an annual contract with the Natural Resources Conservation Service of the U.S. Department of Agriculture. Other contracts with the Conservation Service provide

for watershed planning, agricultural water conservation demonstration projects, and snow surveys. The Irrigation Works Construction Fund is also a source for the non-federal cost-share required by the U.S. Corps of Engineers Acequia Program. Loans also have been made to county flood commissions for protection of irrigation lands and works. Other appropriations have been made for dam rehabilitation and the control of phreatophytes, non-native, high-water-using plants and shrubs. The Irrigation Works Construction Fund also funded the \$14 million payment to Texas ordered by the U.S. Supreme Court to compensate Texas for historic under-deliveries on the Pecos River. It has also been a major source of funding for the Pecos River Lease/Purchase Program aimed at acquiring water rights to improve deliveries to Texas.

*Improvement of the Rio Grande Income Fund.* Each year the Interstate Stream Commission prepares a plan and budget for projects to be funded by the Improvement of the Rio Grande Income Fund and submits it to the Governor. Ongoing projects include cooperative agreements with the U.S. Bureau of Reclamation for vegetation management in Elephant Butte and Caballo reservoirs, for water salvage in the Middle Rio Grande, and channel maintenance along the Rio Chama below Abiquiu Dam. Through cooperative programs with the U.S. Geological Survey, the fund pays for data collection, hydrologic studies and the evaluation of reclamation projects. The fund has been used to buy San Juan-Chama Project water to establish and maintain a sediment pool in Jemez Canyon Reservoir. Significant grants to the Middle Rio Grande Conservancy District from the fund covered the non-federal share of the Corrales Levee and San Acacia to Bosque del Apache Flood Control projects.



underground aquifer. The second, or legal, phase of an adjudication starts with the filing of a lawsuit that names water right owners as defendants and ends with a court order that delineates the parameters and priority of each owner's water right. The process provides the water right owners with opportunities to challenge the state and each other and to negotiate. The Office of the State Engineer is involved in numerous adjudications, some of which are decades old.

Water management in New Mexico is further complicated by the scarcity of the supply and the eight interstate stream compacts. New Mexico is under pressure to meet its water delivery obligations to other states. Failure to comply can and often does result in litigation. For example, the U.S. Supreme Court in 1988 ordered New Mexico to pay damages to Texas for New Mexico's failure to meet its delivery obligations on the Pecos River and a court-appointed river master monitors New Mexico ongoing compliance.

Optimal management of New Mexico's water is dependent on good information and planning. Those needs have been highlighted both by the increasing demand placed on the limited resource by a growing population and by the added stress of a drought. Office

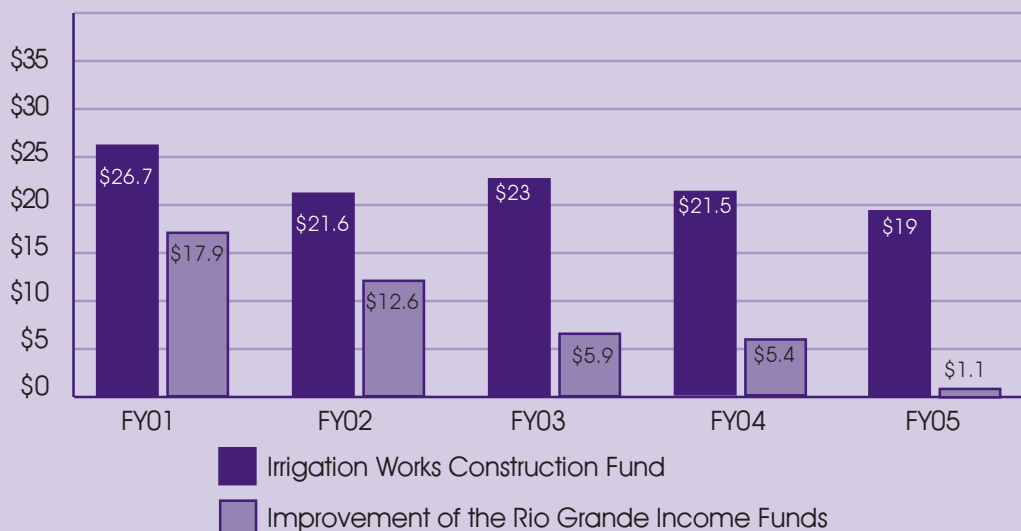
of the State Engineer staff are developing more sophisticated tools for measuring and monitoring water resources, have been active in the development of regional water plans over the past few years, and in 2003 began and completed work on a comprehensive, statewide water plan.

The activities of the Office of the State Engineer and Interstate Stream Commission are financially sup-

## Trust Fund Year-End Balances

FY01-FY05

In Millions



ported with state general funds and income from state trust land. Although the income from the trust land varies, the agencies received a good portion of their funding in the 2003-2004 fiscal year from the two trust land funds: the Irrigation Works Construction Fund and the Improvements to the Rio Grande Income Fund. The trust lands, set aside under the Ferguson Act of 1898 along with trust lands for some 19 other beneficiaries, are managed by the State Land Office. This agency transfers some income directly to the agencies and the rest to the State Investment Council. The council invests the income generated through activities that deplete the resource – like mining – and the earnings on the investment go into the trust funds.

The dependency of the Office of the State Engineer and Interstate Stream Commission on these funds to meet recurring expenses and the resulting depletion of the fund balances has been brought to the attention of the executive and legislative branches. The agency must receive additional general fund support, the trust funds must be replenished, or both, for substantive and effective water administration to continue.



## State of the State's Waters



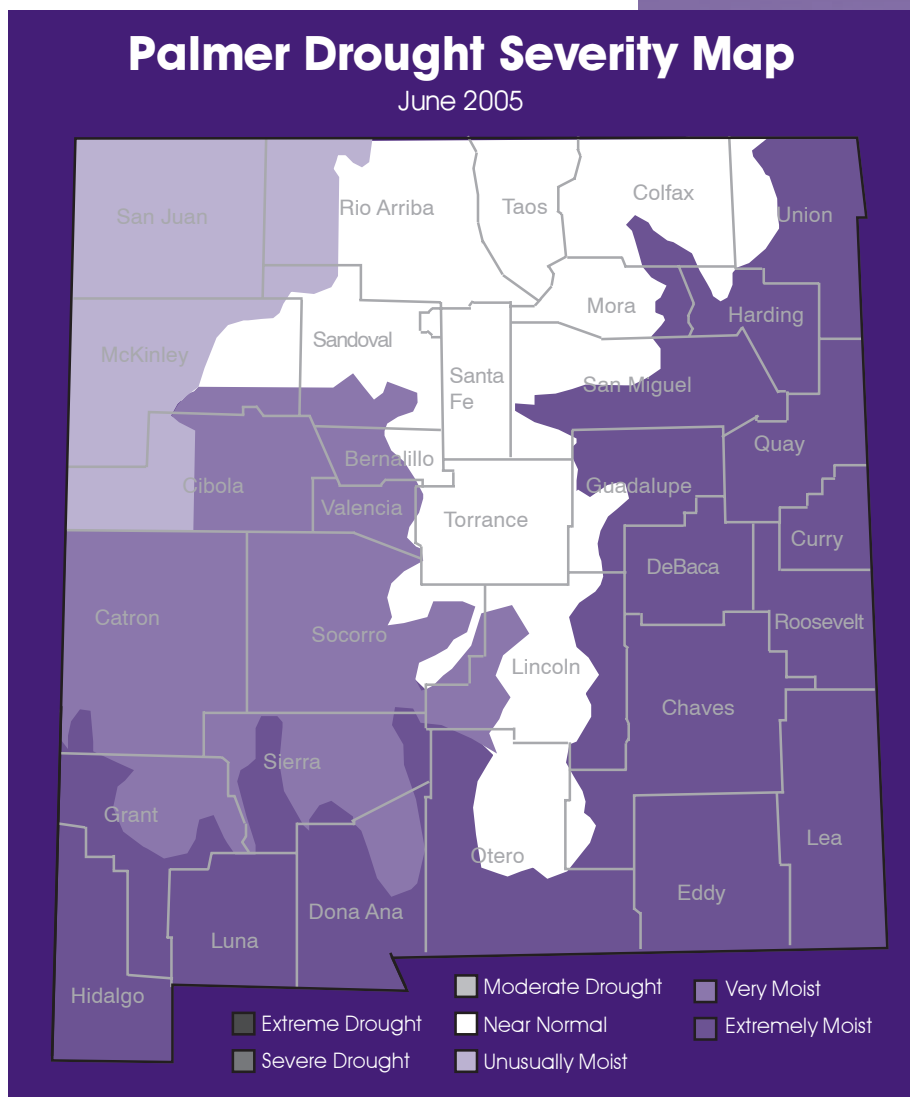
Abundant rain and snow in the winter and spring of 2005 finally brought New Mexico, at least temporarily, out of a drought that had affected the state for the past seven years. In summer 2004, drought conditions and low surface water supply still plagued much of the state, but the first three months of 2005 were extremely wet, with numerous storms bringing far-above-average precipitation and causing significant flooding in the south-western part of the state on the Gila and Mimbres rivers. Snow continued to fall in the highlands even in May. Spring 2005 runoff in watersheds throughout New Mexico ranged from 140 percent to 200 percent of average, including the San Juan, Gila, Mimbres, Rio Grande, Canadian and Pecos rivers. By July 2005, the Palmer Hydrologic Index had improved so much that all of New Mexico was categorized “moderately moist” to “extremely moist,” a marked contrast to recent summers when the state was categorized as “moderate drought” to “extreme drought.”

Despite greatly improved conditions, however, New Mexico could return to drought conditions in the near future. Previous drought cycles have included one or two wet years amid many dry ones. It remains to be seen whether 2005 will mark a return to wetter conditions, or whether it will turn out to be a solitary good year (such as 1973 or 1952) in the midst of a much longer drought.

Climatic forecasts indicate “ENSO neutral” conditions, weather influenced by neither the warm ocean currents of El Niño, which tends to give New Mexico wet winters, nor the cool ocean currents of La Niña, which tends to give us very dry winters. Late May and June 2005 were somewhat warmer and drier than normal, and as of July 2005, consistent monsoonal rains had not reached New Mexico.

### Surface Water

The abundant runoff in the spring of 2005, following years of drought, brought water levels in many of New Mexico’s reservoirs up to near or above average levels. Although Rio







Grande reservoir storage was still only about half of average in June 2005, this was a big improvement over the last few years, and in 2005 Elephant Butte Irrigation District was able to provide a full supply of surface water to their irrigators for the first time since 2002. Pecos River reservoirs were filled to well over average levels, and the Carlsbad Irrigation District also had a full supply of Pecos River water for the first time in several years. Reservoir storage in the San Juan basin was also above average, as Navajo Reservoir was essentially full by the end of June 2005.

## Groundwater

Generally, groundwater levels are less variable than surface water supply because aquifers are not strongly affected by annual or seasonal fluctuations in climate. Nevertheless, drought conditions can affect fractured rock aquifers common in mountainous areas and shallow alluvial aquifers along streams. Consequently, wells drawing water from these sources become more reliable in wet years. However, away from lakes and streams, and in upland areas, groundwater can be deep and is less dependent on streams.

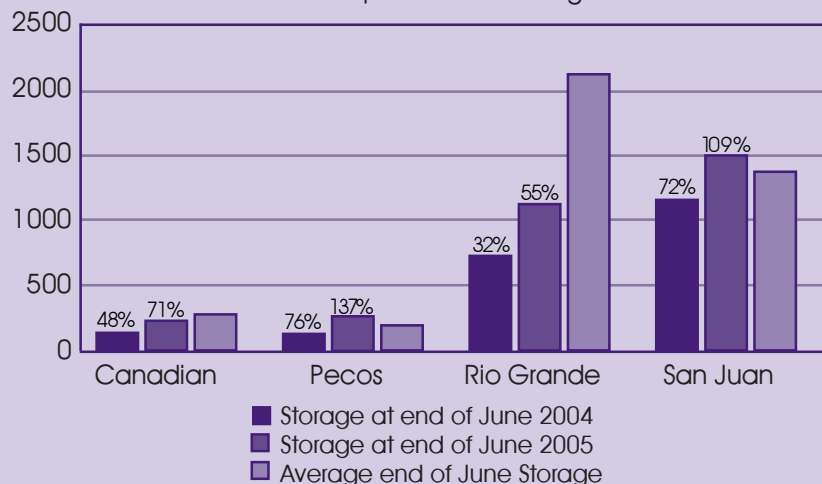
Water levels in many wells monitored in New Mexico continued trends evident over the last several decades. In the Estancia Basin and other closed basins in the southwest-

ern part of the state and in Ogallala aquifer in eastern New Mexico, water levels continue to decline, primarily in response to pumping for irrigation, although water levels are rising in the western parts of Lea and Curry counties. Rising water level trends, generally associated with diminished pumping, also continued in some wells in the southern San Juan Basin. Water levels in wells near Albuquerque, Silver City and Las Cruces continue to decline in response to municipal and industrial pumping.

Long-term effects of the recent drought on some groundwater supplies may not be evident for some time. If below normal precipitation resumes, increased reliance on groundwater pumping is likely to impact water levels in wells in many areas. Marginal domestic wells are the most likely to fail.

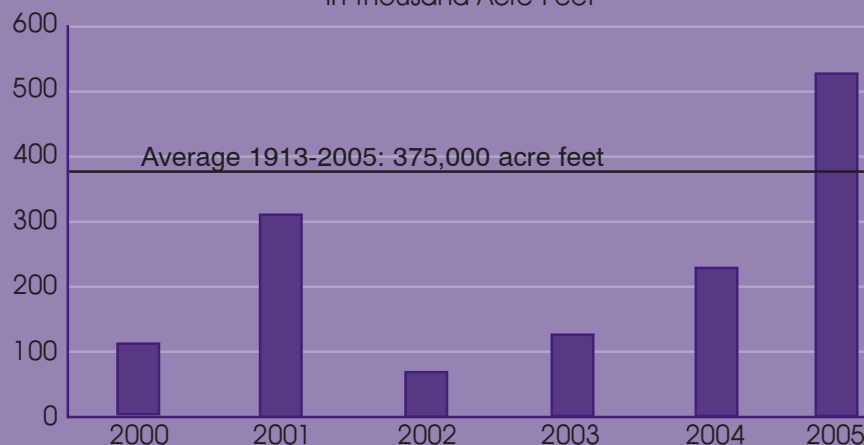
### Reservoir Storage by River Basin

In Thousands of Acre-Feet  
with percent of average



### Rio Grande Runoff at Embudo

In Thousand Acre-Feet



## Program Support



Program Support provides administrative and management support services to the Office of the State Engineer to allow for the smooth functioning of all other programs. The program has four bureaus – Finance, Budget Services, Information Technology Systems, and Human Resources – which handle the agency’s payroll, budget planning, contract preparation, fixed assets, accounting, procurement, property management and control, personnel management, and computer systems and communication systems development and support.

### Finance Bureau

The Finance Bureau is responsible for reconciling all disbursements and accounts receivable for the agency. It is also responsible for administering the expenditures and receipts portion of the agency’s regional water planning efforts, Pecos River water rights leases and purchases, numerous loans and grants issued under the Dams and Ditches Rehabilitation Loans Program, federal grants, and capital projects. This bureau also administers the agency’s procurement function, which includes capital outlay, agency vehicles, furniture, computers, office supplies, and office space rentals.

### Budget Bureau

The Budget Bureau is responsible for the planning and preparation of the agency’s operating budget and the preparation of the capital improvement projects budget. This bureau is also responsible for administering, tracking and disbursing the professional services contracts, joint power agreements and joint funding agreements for the agency. The budget bureau also conducts the physical inventory of fixed assets for the Office of the State Engineer, which includes all the district offices throughout the state.

### Human Resources Bureau

The Human Resources Bureau supports the day-to-day operations of Office of the State Engineer. Services include employee recruitment, employment, compensation, labor/employee relations, and administration of employee benefits and payroll, and training and staff development.

The bureau is committed to providing the highest quality customer service. It partners with management to recruit and retain a highly qualified, diverse staff; facilitate positive employee relations; and coordinate training to enhance employee skills, performance and job satisfaction. The bureau provides adjudication of employee grievances and disciplinary actions that protect the rights of all parties and encourage two-way communication. A primary focus of the Human Resources Bureau is to provide management and its employees with a comprehensive and supportive human resource system based on integrity and sound management principles. This includes the development of policies, procedures, information and training in support of the agency’s mission and management’s objectives.

### Information Technology Systems Bureau

The Information Technology Systems Bureau (ITSB) designs new computer applications and provides technical support for personal computers, servers, imaging

#### Director

Herman Garcia



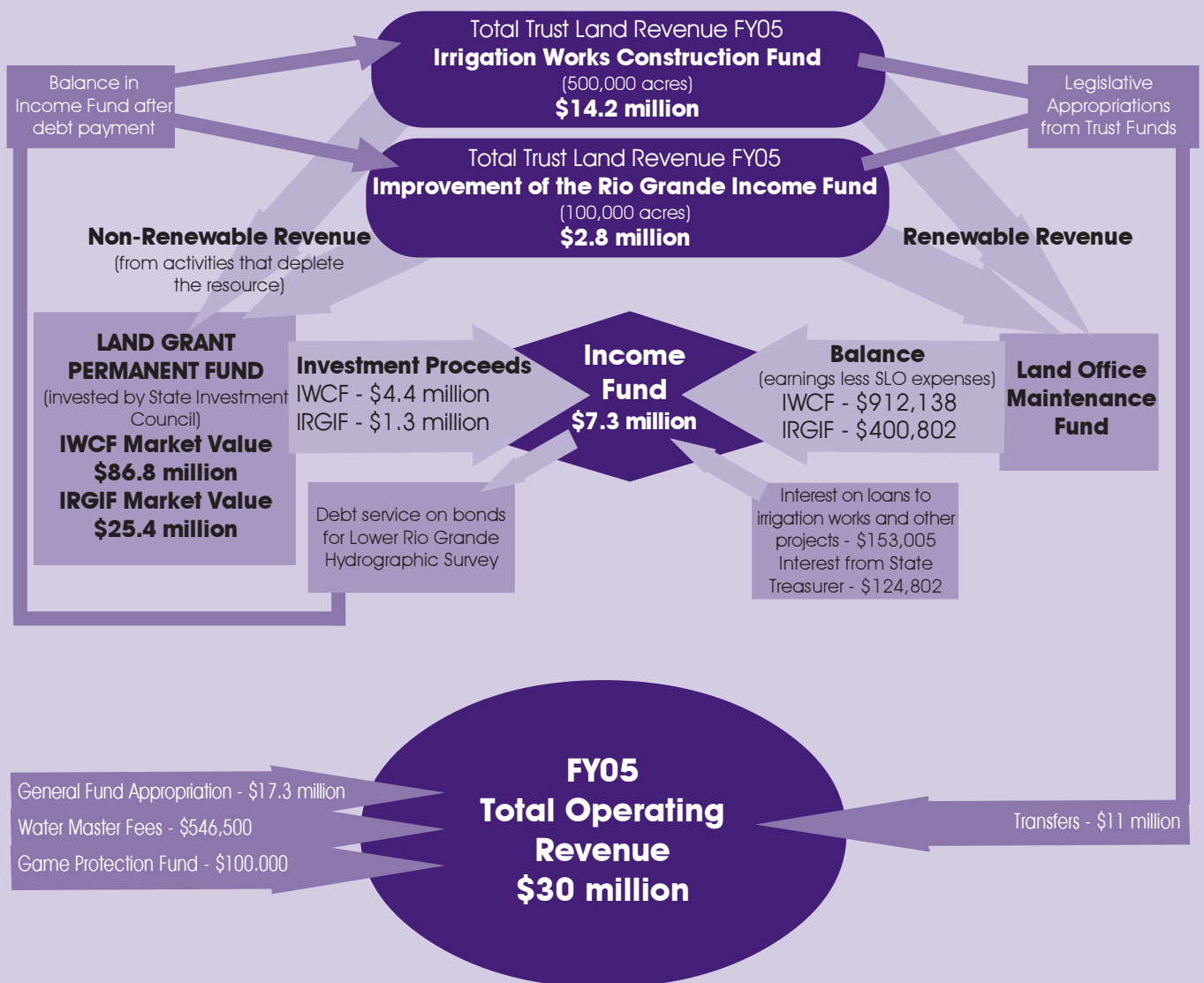
hardware and software, optical character recognition, bar code recognition, relational database management systems, e-mail, voice and data telecommunications, the agency website, multi-tier web applications, geographic information systems, and global positioning systems.

To make the agency's massive quantity of water rights information more accessible to employees and the public, ITSB maintained and enhanced a computer imaging and database system, the Water Administration Technical Engineering Resource System (WATERS). About a year ago, staff began the transition of the WATERS application to Enterprise Water Administration Technical Engineering Resource System (eWATERS), a modular web-based version of the WATERS application.

eWATERS converts the cumbersome water rights paper documents into an easily searched and read computer format. eWATERS includes a tracking system that will follow a water-right application from the time it is received to its approval or disapproval. The system also tracks approved applications to the final disposition of the permit. It contains all information relevant to each application, including the amount of water to

## State Engineer Revenue Flow Chart

July 1, 2004 - June 30, 2005



be appropriated; the name of the stream, ditch, or groundwater formation that is the source of the water; the use of the water; the location and construction details of the works or well; and details on the source, such as the depth to water.

The system serves water-rights administration and hydrographic surveys and adjudications. It streamlines research of water rights, improves enforcement of water-permit conditions and state water use laws, eases the tracking of progress on adjudications, and aids drought management and statewide planning. When fully implemented, eWATERS will link all data under the supervision of the State Engineer to other important water databases managed by U.S. Geological Survey and others. The end user, whether from inside or outside the agency, will have instant access to all the relevant information resources to fully research their water-resource question or problem.

As water rights paper documents are entered into eWATERS, they are also scanned into the Office of the State Engineer imaging system. These documents are then readily available electronically via eWATERS and to the public via the Office of the State Engineer website <http://www.ose.state.nm.us>.

The website is a comprehensive source of information on New Mexico's most valuable resource. In addition to the eWATERS database, the site includes administrative guidelines for the Lower Rio Grande Basin and others; New Mexico dam safety criteria; the Regional Water Planning Handbook; and Water Conservation Program information and brochures. Access to eWATERS is through the Internet application called iWATERS that enables visitors to query the WATERS database for images of actual water rights documents available on the web. The webmaster updates the site regularly, ensuring media releases, job opportunities, meeting agendas, Hearing Unit decisions, and other timely postings are up-to-date.

Under the careful guidance of the agency Geographic Information System Technical Team (GISTT) the implementation of the agency Enterprise GIS (EGIS) is now supporting more than 70 analytical users located in every program area. A scientist, engineers, and a specialist are taking advantage of this integrated technology to support ground and surface water modeling, dam breach predictions, water right mapping, historical trend analyses, adjudication assessments for water use, and surface



## Employees of the Year 2004-2005

**Paul Saavedra**

Water Resources Allocation Program

**Nancy Knouse**

Program Support

**Nic Medley**

Interstate Stream Commission

**Mara Smith**

Information Technology Services

**Mark Salazar**

Hydrographic Survey Bureau

**Winifred Taylor**

Litigation and Adjudication Program

## Albuquerque

**Eric Robinson**

Water Resources Allocation Program

**Roxanne Lucero**

WATERS

## Roswell

**Johnny Hernandez**

Water Resources Allocation Program

## Deming

**John Mora**

Water Resources Allocation Program

## Las Cruces

**Andrea Mendoza**

Water Resources Allocation Program

**Rassool Ahadi**

Litigation and Adjudication Program

## Statement of Activities for the Year Ending June 30, 2005

### REVENUES

PROGRAM REVENUES	
CHARGES FOR SERVICES	\$1,687,109
OPERATING GRANTS AND CONTRIBUTIONS	\$10,822,169
MISCELLANEOUS	\$3,198
GENERAL REVENUES	
GENERAL FUND APPROPRIATIONS	\$15,170,700
SPECIAL APPROPRIATIONS	\$19,167,554
BOND PROCEEDS	\$12,097,842
REVERSIONS	-\$204,650
<b>TOTAL REVENUE</b>	<b>\$58,743,922</b>

### EXPENSES

PERSONAL SERVICES	\$19,204,557
CONTRACTUAL SERVICES	\$17,238,173
OTHER	\$9,117,357
INTEREST	\$55,150
DEPRECIATION	\$1,016,491
<b>TOTAL EXPENSES</b>	<b>\$46,631,728</b>

### NET

**\$12,112,194**





## Statement of Net Assets June 30, 2005

### ASSETS

CURRENT ASSETS	\$79,737,400
NON-CURRENT ASSETS	\$4,030,000
CAPITAL ASSETS	\$40,453,700
<b>TOTAL ASSETS</b>	<b>\$124,221,100</b>

### LIABILITIES

LONG-TERM LIABILITIES	\$495,700
OTHER LIABILITIES	\$6,153,700
<b>TOTAL LIABILITIES</b>	<b>\$6,649,400</b>

### NET ASSETS

**\$117,571,700**

water capacity calculations. In addition, a new feature of EGIS is an Internet application that assists staff in accessing water right data and creating a map with that information. Using EGIS, staff has won two first-place awards for mapping excellence as part of an international entry, is recognized as a leader in GIS, and has pioneered the use of advanced aerial imagery technology. The technical team will now embark on establish-

ing a solid mapping foundation for district offices and creating time-saving tools in support of production work.

The Office of the State Engineer computer network architecture underwent several additions and upgrades this fiscal year. All external access is now provided through secure entry points. Among the many other network improvements were the implementation of a wireless wide area network link within one of agency's Santa Fe offices.

## New Name for Headquarters

The state building in Santa Fe that houses administrative offices for the Office of the State Engineer was renamed in July 2004 in honor of Concha Ortiz y Pino de Kleven, a former

New Mexico legislator, educator, and community activist. The building at 130 South Capitol, formerly owned by the National Education Association, was renamed during a ceremony with Governor Bill Richardson.

Concha Ortiz y Pino – Doña Concha – was born and raised in Galisteo. She attended Loretto

Academy in Santa Fe, returning to Galisteo to found the state's first vocational school. She taught the traditional arts and crafts of New Mexico, including woodworking and weaving.

Doña Concha was elected to the New Mexico State Legislature in 1936 at the age of 26. She was the first woman in the United States to be elected a majority whip in a state legislature and is believed to be the first Hispanic woman elected to a state legislature. She was re-elected twice to the New Mexico Legislature.

As a legislator, educator, community activist, and philanthropist, Concha Ortiz y Pino has worked to provide opportunities for her fellow citizens and equality for women throughout her life.

In the early 1800s, Doña Concha's great-grandfather, Pedro Bautista Pino, a rancher, was elected mayor of Tomè, and ultimately was elected to represent the Province of New Mexico to the Spanish Parliament.

Doña Concha has never really "retired" from public service. She has always remained active and dedicated to helping her fellow New Mexicans. She has served on many boards and foundations, including the Albuquerque Symphony Orchestra, Board of Regents of the University of Albuquerque, New Mexico Arts Commission, and Albuquerque Hispanic Culture Foundation.



## Public Information/Public Outreach



Public information and public outreach efforts continued to support agency initiatives in fiscal year 2004-2005. A communication campaign was launched to support Active Water Resource Management efforts in four basins. Media efforts supported the creation of a new sub-district and the hiring of a water master in the Rio Gallinas Basin and a public meeting on district-specific rules and regulations was held in April 2004. Media efforts also supported the hiring of a new water master in the San Juan Basin and the change from a court-appointed water master to a water master answering to the State Engineer in the Mimbres Basin. Media efforts supported public meetings held in the Lower Pecos Basin as well as in the Lower Rio Grande.

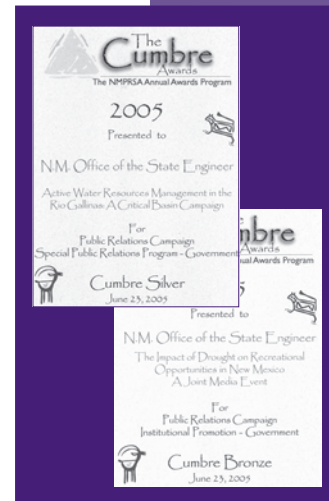
Communication staff was also involved in efforts surrounding the proposed Navajo Nation water rights settlement agreement.

Public outreach efforts surrounding the proposed Aamodt settlement agreement conceptual proposal also involved communication staff. A public announcement came from the Governor's Office on June 1, 2005, and two public meetings were scheduled in July 2005.

For the second year in a row, the office received two Cumbre Awards from the New Mexico Public Relations Society of America recognizing public relations excellence for outstanding achievement in producing strategic public relations campaigns or tactics.

The division received a second-place "silver award" for "The Active Water Resource Management Initiative in the Rio Gallinas" in the category of government-special public relations. The division received a third-place "bronze award" for a public relations campaign titled "Impact of Drought on Recreational Opportunities in New Mexico" in the category of government-institutional promotions. In this effort, the agency took the lead in a March 2005 news conference held jointly with the State Parks Division, state Tourism Department, and Energy, Minerals, and Natural Resources Department. The purpose of the news conference, well attended by local news media, was to announce reservoir levels and a good outlook for summer recreational opportunities.

In fiscal year 2004-2005, the Office of the State Engineer and Interstate Stream Commission continued to expand outreach efforts. The agency mailed quarterly issue briefs to legislators, municipal and county leaders, special interest groups, and opinion leaders around the state to better inform them about the State Engineer's and Commission's policies and initiatives. These issue briefs served not only to promote a greater awareness of the role of the Office of the State Engineer and Interstate Stream Commission in funding better water management programs, but also to generate feedback to help develop successful strategies for expanding outreach efforts in future. Also in fiscal 2004-2005, the office made progress on a new agency website, which will launch in December 2005.



## Public Outreach



State Engineer John D'Antonio and Interstate Stream Commission Director Estevan Lopez share the mic during an interview at KAZX radio in Farmington.

**Director**  
Karin Stangl, APR



## Legislation and Policy

The agency closely monitored more than 125 water-related bills during the 2005 legislative session. Most died when legislators ran out of time to act on them. Governor Bill Richardson signed into law three key bills supported by the agency.

Legislation calling for a strategic water reserve became law, which will provide additional water to meet future compact requirements and will assist in water management efforts for the benefit of threatened or endangered species. Senate Bill 123 was sponsored by Sen. Carlos Cisneros (D-Questa), and House Bill 195 was sponsored by Rep. Joe Stell (D-Carlsbad). Governor Bill Richardson pledged and the Legislature appropriated \$2.8 million from capital-outlay money for the fund.

Legislation to create an Indian Water Rights Settlement Fund was also signed into law. Senate Bill 172 was sponsored by Sen. Carlos Cisneros (D-Questa). Although the legislation calls for a special fund to pay the state's share of costs for projects for the non-Indian portion of water rights settlements with Indian Tribes and Pueblos, no money was appropriated for the fund. House Bill 126, sponsored by Rep. Ray Begaye (D;-Shiprock); was the duplicate bill in the House, which died on the Senate floor when the session came to an end.

Also, signed into law was House Bill 1110, which was conceived and carried by Rep. Richard Cheney (R-Farmington). The law provides funding to the State Engineer and to the Administrative Office of the Courts for the efficient adjudication of water rights. The Legislature has given its endorsement and commitment to the Governor's water court initiative.

In addition, House Joint Memorial 68 passed by the Legislature requests that the Interstate Stream Commission in cooperation with the Governor, the State Engineer, the Secretary of Economic Development, and the Secretary of Finance and Administration study the most effective options for New Mexico to conserve and develop groundwater in the Salt Basin and other groundwater basins for the benefits and use by New Mexico communities. The memorial was sponsored by Rep. Joe Stell (D-Carlsbad).

Some significant good news for the agency resulted from the Governor's signing of the budget bill (House Bill 2). In recent years nearly one-third of the positions in the agency were considered "term" status. Lawmakers authorized the conversion of 85 of those term positions to permanent status as of July 2005. The result will be better retention of legal and technical staff as well as a better ability to recruit qualified individuals to work for the agency. The agency received \$1 million for surface and groundwater metering in the Nambe-Pojoaque-Tesuque basin.

Also, the Legislature approved \$12 million of the \$30 million requested to complete the minimums required to implement the Pecos Settlement.

Significant bills that died during the session would have resulted in the following:

- Authorized the State Engineer to deny new domestic wells in areas facing groundwater shortages (SB 120 and HB 285);
- Increased the domestic well permit application fee from \$5 to \$200 (HB 293);

### Water Resources Allocation Program

#### Director

John T. Romero,  
PE



- Acknowledged the efforts between the Navajo Nation and the Interstate Stream Commission in reaching a settlement of the Navajo Nation water rights (HJM 53);
- Appropriated money to the Interstate Stream Commission to conduct a study of the Salt Basin Water Resource for use by New Mexico communities (HB 961);
- Appropriated \$150,000 from the Arizona Water Settlement to begin planning to realize the full benefits the state would receive from the Arizona Water Settlements Act (SB 819 and, without money, HJM 34);
- Appropriated money for water management research and education programs by the Agricultural Experiment Station and Cooperative Extension Service (HB 297 and SB 100).



## Water Committees

### WATER TRUST BOARD

The New Mexico State Engineer is the chairman of the Water Trust Board, established by the Legislature in 2001 to recommend funding for large water projects. Those projects include water storage, conveyance or delivery projects; implementation of federal Endangered Species Act collaborative programs; restoration and management of watersheds; flood prevention; and conservation, recycling, treatment and reuse projects. Since 2003, 10 percent of the proceeds from severance tax bonds are set aside for Board-authorized water projects. The Board in early 2005 authorized \$17.7 million for 14 regional water projects, one endangered species project, and four watershed restoration and management projects. The Board in early 2004 funded five regional projects and three watershed restoration and management projects.

#### Members:

- State Engineer John D'Antonio, chairman
- William Sisneros, New Mexico Finance Authority
- Paula Garcia, acequia water users
- Trudy Healy, irrigation or conservancy district, surface water
- Tom Davis, soil and water conservation districts
- Eileen Grevey-Hillson, irrigation or conservancy district, groundwater
- Denise Fort, environmental community
- Gustavo Cordova, New Mexico Association of Counties
- William Fulginiti, director, NM Municipal League
- Nelson Cordova, NM Commission on Indian Affairs
- Frank Dayish, vice president, Navajo Nation
- I. Miley Gonzalez, director, NM Department of Agriculture
- Bruce Thompson, director, NM Department of Game and Fish
- Joanna Prukop, cabinet secretary, NM Energy, Minerals and Natural Resources Department
- Ron Curry, cabinet secretary, NM Environment Department

### GOVERNOR'S DROUGHT TASK FORCE

In May 2003, Governor Richardson established the State Drought Task Force through Executive Order 2003-19. The 12-member Task Force is chaired by the State Engineer and includes the cabinet secretaries from the state departments of Environment, Finance and Administration, Agriculture, Tourism, Economic Development, Indian Affairs, and Energy, Minerals and Natural Resources. Other members are the executive director of the New Mexico Finance Authority and the directors of the Interstate Stream Commission, Office of Emergency Management, and Governor's Office of Policy and Planning.

The Task Force is charged with monitoring drought conditions statewide and with making annual recommendations to the Governor for drought mitigation. The Task Force has established six work groups to evaluate the impact of drought on different sectors of the state and to develop drought mitigation plans as well as programs to prevent emergencies arising from drought. The work groups focus on monitoring the drought and the issues of drinking water, agriculture, wildlife and wildfires, recreation and tourism and resource development.

Throughout the year the Task Force produces a monthly drought status report that has become a resource to local and state managers and the news media. The report is published on the Drought Task Force Internet site. The Task Force also produced the *2004 New Mexico Drought Plan*. The Drought Task Force also sponsors the annual Drought Summits, which attracted more than 300 attendees in 2003 and 2004.

#### Members:

- State Engineer John D'Antonio, chairman
- Ron Curry, cabinet secretary, NM Environment Department
- James Jimenez, cabinet secretary, NM Department of Finance and Administration
- Estevan López, director, Interstate Stream Commission
- Joanna Prukop, cabinet secretary, NM Energy, Minerals and Natural Resources Department
- I. Miley Gonzalez, director, NM Department of Agriculture
- Tim Manning, director, NM Office of Emergency Management
- Benny Shendo Jr., cabinet secretary, NM Department of Indian Affairs
- William Hume, director, Governor's Office of Policy and Planning
- Rick Homans, cabinet secretary, NM Economic Development Department
- Mike Cerletti, cabinet secretary, NM Department of Tourism.
- William C. Cisneros, executive director, NM Finance Authority

### BLUE RIBBON TASK FORCE

The Blue Ribbon Task Force is a group that investigates and engages in discussions regarding current water policies and laws. The Task Force advises the State Engineer, Interstate Stream Commission director, and any other relevant state agencies regarding water policies and laws. The Task Force also provides its recommendations to the Governor on an annual basis every November and provides copies to the State Engineer and Interstate Stream Commission director.





## Native American Water Liaison

Created by the governor in 1995, the Native American Water Resources Program is aimed at promoting a spirit of cooperation, coordination, communication, and good will between Tribal governments and the state as separate sovereignties. More recently, Governor Bill Richardson signed a statement of policy and process with the 19 Pueblos to work in good faith to resolve issues and differences amicably and fairly using a government-to-government consultation process. This policy and process statement also extends to the other Indian Tribes and Nations within New Mexico.

Rights to the use of water on Indian grant lands and reservations in New Mexico fall within one or a combination of three different doctrines: pueblo historic use water rights, federal reserved water rights, or water rights established under the laws of the State of New Mexico. Water rights administration, litigation, and negotiation leading to a settlement of rights to water is, therefore, exceedingly complex when Indian water rights are involved.

The Native American Water Liaison's role is to advocate equal protection of all water users, emphasizing conservation and the development of feasible alternative water supplies. An important goal is to resolve disputes between the State of New Mexico and Indian Pueblos, Tribes and Nations without costly litigation.

While the state has been adjudicating water rights on New Mexico's major rivers and tributaries for decades, the water entitlements for most of the state's 22 Indian Pueblos, Tribes and Nations have not been quantified for several reasons, including a lack of federal support until recently. The history of Indian water rights litigation in New Mexico and the West suggests that all parties, including New Mexico and its citizens, would be better served by negotiated settlements rather than by continued litigation. The quantification of Indian water rights will eliminate the uncertainty that currently overshadows Indian water requirements and the impact on other water rights owners.

The Water Trust Fund Act, enacted by the New Mexico Legislature, makes funds available for Indian water right settlements. The act represents a significant and beneficial recognition that the state is committed to resolving critically important water issues concerning Indians in New Mexico. Two members of the Water Trust Board are from Indian communities: the president of the Navajo Nation and a member nominated by the New Mexico Department of Indian Affairs.

In the 2004-2005 fiscal year, the Native American Water Liaison was actively involved in several high-profile water settlement discussions, including those for the Aamodt and Abeyta adjudications. Progress has been made in the settlement negotiations for both adjudications.

During the 2005 legislative session, the tribal liaison worked on legislation regarding the Indian water rights settlement fund, Navajo Agricultural Products Industries, and protection of Native American water rights. In addition, the tribal liaison also worked on government-to-government consultations with several Rio Grande Pueblos on Upper Rio Grande water operations and efforts to meet the objectives of the 2003 Biological Opinion to build a second Rio Grande Silvery Minnow Refugium in the Middle Rio Grande region.

Next fiscal year, the tribal liaison is scheduled to organize a State-Tribal Water Institute to bring together tribal and state leaders to discuss elements of New Mexico's first State Water Plan.

### Native American Water Liaison

Myron Armijo

# Water Resources Allocation Program



The Water Resources Allocation Program is primarily responsible for processing water-rights applications, conducting the scientific research for making those water rights decisions, maintaining water rights records, and enforcing any conditions or restrictions on water use. Water masters in the program measure stream flow, allocate the water within a stream system based on state law, and regulate and control diversions. Staff also inventories water resources, monitors water use, and cooperates with the U.S. Geologic Survey in monitoring groundwater levels throughout the state. Additional duties are licensing all well drillers, maintaining and updating the rules and regulations of the State Engineer, inspecting non-federal dams, evaluating subdivision water-supply plans submitted by counties, and promoting water conservation. In addition to the Water Rights Division, the Water Resources Allocation Program also includes the Hydrology, Water Use and Conservation, and Dam Safety bureaus and the WATERS (Water Administration Technical Engineering Resource System) project. This program is responsible for populating the WATERS database with all the individual water rights files within the state.

Under New Mexico water law, all ground and surface waters belong to the public and are subject to appropriation under the Doctrine of Prior Appropriation, a constitutional provision that says earlier appropriations have priority over later appropriations.

## Water Rights Division

The Water Rights Division administers water rights within the state. The division has district offices in Albuquerque, Roswell, Deming, Las Cruces, Aztec and Santa Fe. In addition, the Cimarron water master maintains an office in Cimarron.

Anyone wanting to use water in New Mexico, must have a permit from the State Engineer. Before granting a permit for a new appropriation or to change the place or purpose of use of existing water rights, state law requires the State Engineer determine the proposed appropriation or proposed change will not impair existing rights, will not be contrary to the conservation of water within the state of New Mexico and will not be contrary to the public welfare of the state. The law also requires the applicant publish legal notice of the purpose of the application in a newspaper to give anyone with a legitimate objection the opportunity to protest the application.

During fiscal year 2004-2005, the 131 employees of the Water Rights Division processed 1,525 surface water and 17,335 groundwater documents pertaining to the appropriation and use of surface- and groundwater. Most surface water in the state has been fully appropriated and recent water rights activity has been concerned primarily with groundwater. The District II Office in Roswell, responsible for licensing all well drillers in the state, issued 37 new and 164 amended or renewed licenses this fiscal year.

During this fiscal year, the Water Rights Division was actively involved in Active Water Resource Management (AWRM) partially in response to extreme drought conditions throughout the state. AWRM is a program to connect the management of both groundwater and surface water within river basins. Water Rights and WATERS personnel played an active role on inter-departmental teams formed by the state engineer to implement AWRM in areas of the state hardest hit by the drought.

Water masters were appointed for several AWRM priority basins throughout the state: the Upper Rio Chama, Rio Gallinas, Hondo and Lower Rio Grande. Water Rights

### Director

John T. Romero, PE

### Water Rights Division Bureau Chief

Jim Sizemore, PE

(as of 1/05)

Paul Saavedra, PE

### Hydrology Bureau Chief

Tom Morrison, PE

### Dam Safety Bureau Chief

Elaine Pacheco, PE

### Water Use and Conservation Bureau Chief

John Longworth, PE

### WATERS Program Manager

Richard DeSimone



personnel were actively involved in developing basin-specific rules and regulations to administer water during times of shortage for the protection of senior water rights. Also Water Rights staff worked on and promulgated new *Well Drillers Rules and Regulations* adopted by the State Engineer on August 31, 2005. Staff also worked on developing a draft of the *General Provision Rules and Regulations for Administration of Water and Ground Water Rules and Regulations* that will be promulgated in fiscal year 2006. WATERS personnel channeled their efforts toward abstracting and imaging water rights documents into the WATERS database in support of the AWRM initiatives.

WATERS and Water Rights division staff continued to work on the decade-long effort to convert paper water rights records into an electronic database called WATERS. New applications are directly entered into the system, and resources are being dedicated to input the thousands of existing records that must be organized, abstracted and key-entered into the database. Information from priority areas is being entered first to provide the state engineer with the information and the tools necessary to administer water by priority if necessary. Those priority basins are the Lower Pecos, Lower Rio Grande, San Juan, Rio Gallinas, Mimbres, Rio Chama and Nambe-Pojoaque-Tesuque

## District Activity

During fiscal year 2004-2005, **District I** staff continued to abstract, image, and verify data entered for the Sandia Basin. Geographic information system (GIS) mapping techniques are being used to locate wells and other points of diversion and efforts to link the GIS data

## District Offices

### District V

Aztec Sub-Office  
100 South Gossett, Suite A  
Aztec, NM 87410-2432  
505-334-4571

San Juan Basin, Animas, La Plata  
rivers and groundwater basins

Jicarilla, Navajo and Ute Mountain  
Ute nations

Robert Genualdj, District Supervisor

### District I

Springer Square Building  
121 Tijeras NE, Suite 2000  
Albuquerque, NM 87102  
505-764-3888

Bluewater, Sandia, Estancia, Rio  
Grande, and San Juan groundwater  
basins

Jess Ward, District Supervisor

### District VI

Bataan Memorial Building  
P.O. Box 25102  
407 Galisteo Street Rm 102  
Santa Fe, NM 87504  
505-827-6120

All surface water rights and all  
protested applications statewide

Northern Rio Grande, Upper Pecos,  
Tucumcari, Canadian River groundwater  
basins

Rio Chama water master

#### Cimarron Sub-Office

Cimarron-Rayado Water District

Linda Gordon, Bureau Chief

### District II

1900 West Second Street  
Roswell, NM 88201  
505-622-6521

Capitan, Carlsbad, Curry County,  
Fort Sumner, Hondo, Jal, Lea County,  
Portales and Roswell groundwater  
basins

Ogalalla Aquifer

All well-driller license applications

Art Mason, District Supervisor

### District III

P.O. Box 844  
216 South Silver  
Deming, NM 88031  
505-546-2851

Animas Valley, Gila-San Francisco,  
 Lordsburg Valley, Mimbres Valley, Nutt-  
Hockett, Playas Valley, San Simon and  
Virden Valley groundwater basins.

Charles Jackson, District Supervisor

### District IV

P.O. Box 729  
1680 Hickory Loop Suite J  
Las Cruces, NM 88004  
505-524-6161

Lower Rio Grande, Tularosa, Hueco,  
Las Animas Creek, Hot Springs and  
Salt groundwater basins

Hydrographic Survey Bureau

Calvin Chavez, District Supervisor



with the WATERS database have been initiated. Staff also continued to work on administration of water rights by acting on WATERS-identified compliance issues.

District I staff spent several days in the Grants and Gallup areas helping the public file declarations in response to the Zuni adjudication. The many Gallup Basin declarations were entered into WATERS. Although the original deadline for filing a declaration was October 2003, the deadline has been extended several times.

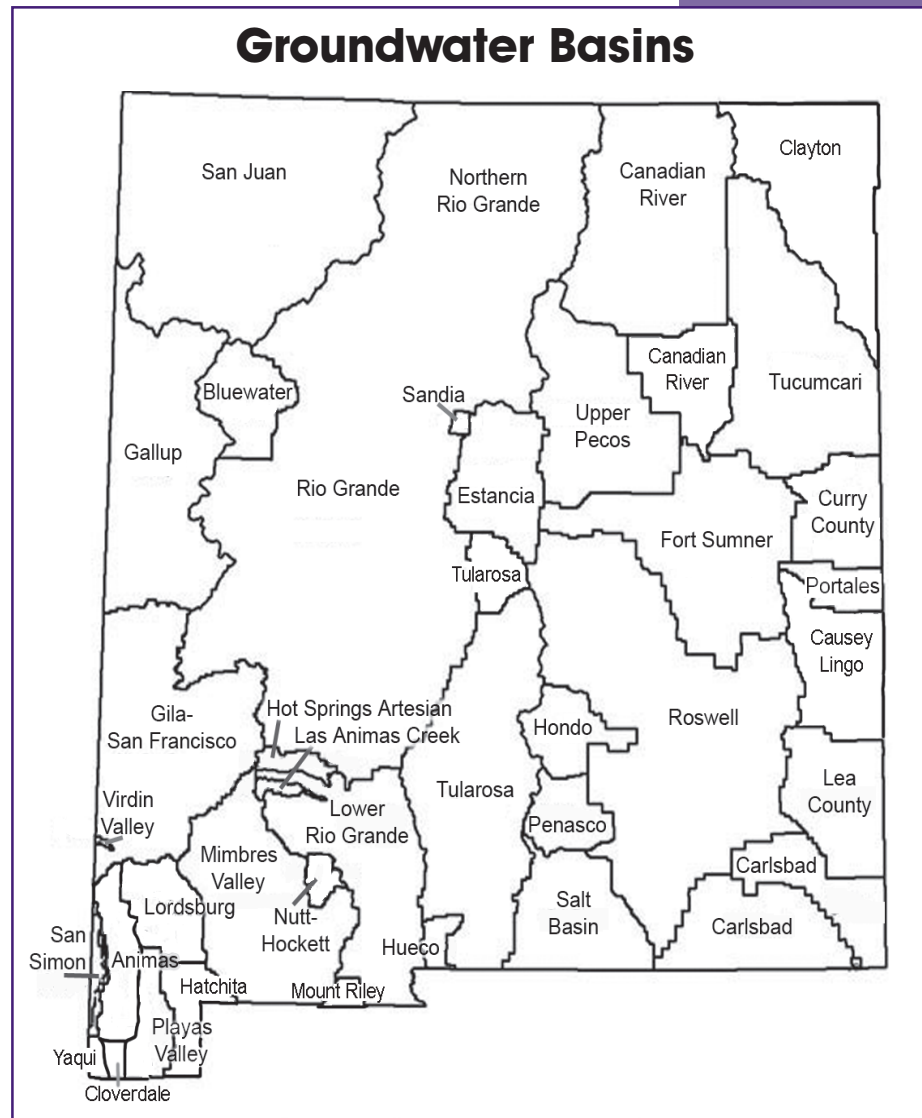
Staff from the district also traveled around the district to take annual well measurements, information shared with the U.S. Geological Survey as part of the joint effort to monitor long-term trends of water levels in various basins around New Mexico. Using a global positioning system, staff located and recorded wells in the Bluewater Basin, San Augustin Plains area, and Estancia Basin. The results and analysis of this well information contribute to the formulations of basin guidelines, aquifer characterization, and determination of critical management areas where domestic well permits issued after the area is declared are limited to up to a half-acre foot of water per year.

District I staff this year continued to work on the department's transition to GIS (geographic information system) administration, which relies on multi-layer mapping rather than written descriptions. Staff acquired aerial photographs for the Cuchillo Valley area for the years 1935, 1953 and 1978 and acquired, scanned and rectified historical aerial photographs for the area extending from Corrales to Isleta and La Mesita to Moriarty for the years 1935, 1951, and 1978. An inventory of all available GIS data for the Sandia Basin was compiled in preparation for developing a GIS toolbox for basin administration.

District I staff also continued to participate in the Rio Puerco Watershed Management Committee along with several federal, state, local entities and private landowners and in the HUB Resource, Conservation and Development Committee. In addition, District I staff helped reduce a backlog of water rights applications filed in District IV.

The **District II** staff is responsible for the administration of surface and groundwater rights within the Pecos River area and the mined underground water basins of the Ogallala Aquifer. In addition, District II staff process all applications for well drillers licenses for the entire state, oversees the plugging and construction of artesian wells, particularly in the Roswell Artesian Basin, and performs most of the measurements within the district for the cooperative groundwater level monitoring programs.

During the fiscal year, district staff continued to monitor groundwater diversions of the Roswell Basin, administered on five-year accounting basis by the Roswell Basin water master, and surface water diversions within the Pecos River drainage area, administered on a yearly basis by the Pecos River water master.







During fiscal year 2004-2005 the Roswell District Office processed more non-domestic well applications than any other area of the state.

The **District III** staff continued to maintain the detailed annual records of the diversions and consumptive use of the water appropriated from the Gila and San Francisco rivers. This process culminated with an annual crop survey of all irrigated lands within the Gila-San Francisco, San Simon and Virden Valley basins. The district has primary responsibility to administer water rights in the Gila-San Francisco, San Simon and Virden Valley basins in accordance with the U.S. Supreme Court decree in *Arizona v. California* and the Globe Equity Decree No. 59.

As the court-appointed water master for the Mimbres Basin, District III staff continued Active Water Resource Management of the Mimbres River. This management included public meetings, administration of a water-use rotation schedule for surface water users on the Upper Mimbres River and daily monitoring of water use from the Mimbres River. As part of the AWRM initiative, District III staff worked with the U.S. Army Corps of Engineers on a watershed study for control and measurement of diversions from the Mimbres River.

The District III staff completed GIS mapping and the population of the WATERS database for the Mimbres River during the fiscal year, allowing for the first complete electronic GIS model to be used with Active Water Resource Management.

In February and March, staff members assisted state and federal emergency management officials assess damages to community ditches on the Mimbres and Gila Rivers as the result of extensive flooding in mid-February. Staff members identified damaged structures and provided technical information for repair estimates, among other tasks. The estimated total damage on both stream systems exceeds \$1 million.

In addition, the District III staff started the analysis and delineation of four new groundwater basins and five expansions of existing groundwater basins, completed crop surveys for the Animas Valley, Playas, Lordsburg and Nutt-Hockett Under-

## Active Water Resource

The Office of the State Engineer this fiscal year adopted general rules and regulations for administering Active Water Resource Management, the next step in the challenging task of getting firm control over the administration of New Mexico's water resources. In many of the areas designated as critical, State Engineer staff have also begun the process of implementing basin-specific rules.

The implementation of Active Water Resource Management, partially driven by the drought, came in response to legislation adopted in 2003 that called for the State Engineer to respond to the urgent need for water rights administration without waiting for the completion of statewide adjudications.

Active Water Resource Management refers to a broad range of activities that emphasize easing the transfer of water rights, monitoring and metering diversions, and limiting diversion of water to the amount authorized by existing water rights, all within the prior-appropriation system. The activities build on the State Water Plan already being implemented.

The State Engineer has targeted seven areas of critical concern around New Mexico to begin implementation of Active Water Resource Management: the San Juan River, Rio Gallinas, Rio Pojoaque, Rio Chama, Mimbres, Lower Rio Grande, and Rio Hondo/Rio Peñasco tributaries in the Pecos River.

The State Engineer has organized teams within the agency to implement Active Water Resource Management in the areas of critical concern. He also has hired several new water masters to gain the benefits of the real world experience that will be useful in developing basin-specific, workable regulations.

Other steps include designating basin managers; implementing water master guidelines; establishing a realistic budget for covering the costs of metering, guidelines, implementation, and enforcement; developing a plan for communication with the public; hiring and training water masters for each area of critical concern; and setting realistic short-term and long-term objectives.

The general Active Water Resource Management rules adopted in November 2004 provide that, when necessary,

ground Water Basins and the Mimbres Rivers, and performed all of the measurements within the district for the cooperative groundwater-level-monitoring program with the U.S. Geological Survey. The staff also again this year participated in the annual water fair in Palomas, Mexico, and other outreach activities in New Mexico.

In **District IV**, implementation of Active Water Resource Management was marked by the creation in December 2004 of the Lower Rio Grande District and the hiring of a water master. At the same time, the State Engineer issued an order requiring metering for most wells and charged the water master with implementation and enforcement of the order.

District IV staff won approval in February to change the use of irrigation water to the Tularosa Basin National Desalination Research Facility. The facility, under construction, will be a national center for research in the desalting of brackish groundwater found in “inland” states. The research conducted at the facility will focus on treating brackish water to meet drinking water standards in a cost-effective way. Groundbreaking ceremonies for the facility were held on June 29, 2004, and some research is already underway.

Additional information on the Tularosa Basin National Desalination Research Facility can be found at <http://wrri.nmsu.edu/tbndrc/>.

Also this fiscal year, the State Engineer signed an order partially approving an application submitted by Tularosa to drill 10 wells north of Tularosa to pump brackish water. Alamogordo plans to treat the water and use it for irrigation or municipal, industrial or commercial uses. The application was filed in 2000 but was protested. The State Engineer order has been appealed by both the applicant and the protestants.

**District V** staff continued to be busy in the 2004-2005 fiscal year, in large part because of activity in the San Juan Basin. Among other duties, staff worked on the settlement of the Navajo Nation’s water rights in the basin, overall stream system adjudication, installation of a diversion metering network, and drafting of basin-specific rules and regulations as part of Active Water Resource Management.

## Management Progress

junior water-rights holders will be able to temporarily and quickly acquire senior water rights from willing sellers. The provisions for expedited transfers does not apply within acequias or community ditches. Also, the expedited transfer provisions do not take water from senior water rights holders, but enhance their ability to benefit from the higher monetary value of those rights, should they choose, either on a temporary lease basis or a sale. The proposed rules also protect the safety and welfare of the public by ensuring drinking water cannot be cut off without recourse.

Although prompted by the drought, the new rules are intended to make water rights administration more effective both in dry years and wet years. Basin-specific rules and regulations are being tailored to meet the needs of critical basin areas.

Under Active Water Resource Management, the State Engineer encourages voluntary agreements among water users, such as shortage sharing, rotation, and water banking. The program acknowledges the need for priority administration, under which junior water-right holders can be cut off, but considers it a measure of last resort. Typically, senior water-right holders include Native Americans, acequias, and agricultural users. Municipalities and industrial, residential, and recreational water users tend to hold junior rights. Priority administration is already enforced on the Cimarron River and Rio Costilla.

The objective of Active Water Resource Management is not to threaten rights to the use of water but to protect and preserve rights to the use, amount and priority of each water-rights owner.



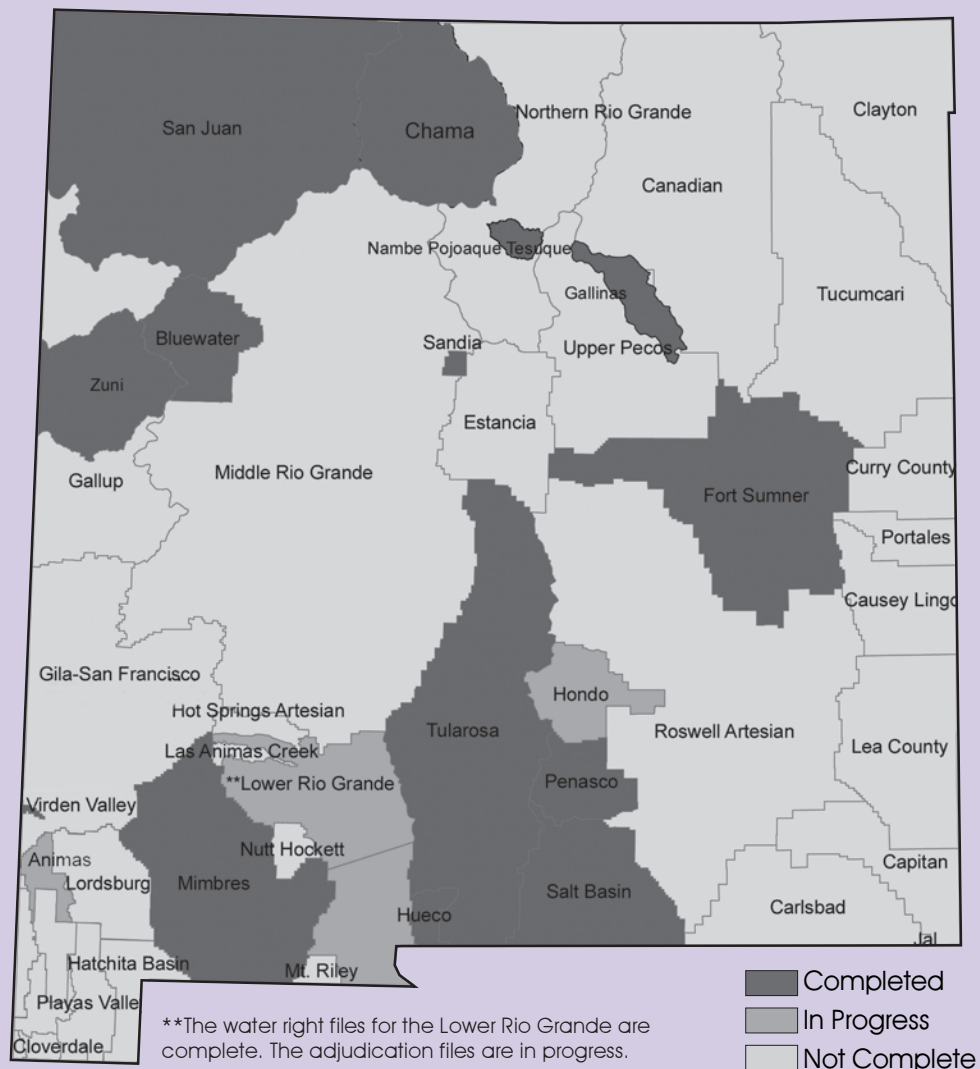


In December 2004, the Interstate Stream Commission, the Governor and the state Attorney General approved a draft of the Navajo Nation water rights settlement. The tribe is expected to be the largest single owner of water rights in the San Juan Basin, the subject of an ongoing adjudication of water rights. The Navajo Nation settlement will now proceed to the U.S. Congress for approval before being entered into the district court for adjudication. The first sub-file order in the San Juan Basin adjudication worked its way through district court this fiscal year while adjudication of other irrigation rights started with breaking down the basin into manageable sub-areas. A scheduling order for adjudication of the Upper La Plata rights, the first of those sub-areas, was prepared and submitted to the court for approval.

District V staff completed work on the San Juan Basin Metering Construction Project was completed during the fiscal year. The project involved construction of 30 metering stations on irrigation ditches throughout the basin. Most of the stations include a measuring flume, equipment housing, data-logger and satellite telemetry equipment. Data collected at the stations is now available on the Internet through the Office of the State Engineer website.

Staff also made significant progress on basin-specific rules and regulations related to Active Water Resource Management. Draft documents are expected to be presented to the public for review and comment during the upcoming fiscal year.

## Status of WATERS Implementation





During this fiscal year, the Water Rights Division reorganized its district offices to create a **District VI** staff in Santa Fe. The office, formerly the division's main office, administers surface water rights and all protested water-right applications for the entire state as well as water rights in the northern section of the Rio Grande, Upper Pecos, Tucumcari, and Canadian River underground water basins, and the surface water rights associated with those basins.

During the fiscal year, water masters were hired for water administration on the Rio Chama, Nambe-Pojoaque-Tesuque Rivers, and the Rio Gallinas. The Santa Fe Office also oversees existing water master operations of the Cimarron-Rayado water master in Cimarron and on the Rio Chama below Abiquiu Reservoir.



## Hydrology Bureau

The Hydrology Bureau's 14 employees perform a wide range of activities in support of the Office of the State Engineer and the Interstate Stream Commission. The bureau develops water resource models and administrative policies, evaluates water availability, assesses and quantifies hydrologic impacts, provides expert testimony for litigation and adjudication cases, designs and manages technical projects, provides geographic information systems and mapping services, and runs the agency library.

## Water Administration Technical Engineering Resource System

The Water Administration Technical Engineering Resource System, or WATERS, is a web-based system created by the Office of the State Engineer WATERS to make the agency's extensive water right records more readily accessible to staff and the public. For the staff, WATERS is a critical tool in the administration of water rights and for active water management. The database tracks the progress of new applications through the stages of the administration process from the date of filing until action is taken. Activity after the application has been acted is also tracked via the database, as will any non-compliance of permit conditions, greatly facilitating the agency's monitoring of permit compliance. The locations and water levels of domestic wells are also entered and stored in the database and a meter-reading module allows division staff to track metered water use, facilitating tracking and enforcement of metered appropriations.

For both the staff and public, WATERS provides information on the history of individual water right claims in New Mexico, court orders and decrees, hydrographic survey results, water right applications pending before the State Engineer, and electronic images of water right documents. Using WATERS, anyone can obtain instant information concerning water use, including comprehensive data about domestic, irrigation, commercial and other water rights, location of rights, and owners of rights, as well as details of well construction. In particular, users can find out how much water use is permitted in a water basin, track changes in water use patterns, bring together regional data on water use, and compile and analyze data

to build water-use models. WATERS is capable of linking to a geographic information system to create intricate maps of water rights and resources. WATERS is fulfilling one of the Governor's initiatives to fully automate the agency and help implement the vision of Active Water Resource Management. It will help enable the state to manage its water both in times of plenty and in times of drought.

The program's success requires adequate resources to accomplish this monumental initiative. The system is operational in six of seven high-priority water basins and is partially complete in the seventh basin. Another five areas are also complete as well as all pending water right applications. An update of the Lower Rio Grande Basin has begun to include recent water-rights adjudication activity.

While completion is slated for 2018, WATERS is already providing water planners, researchers, administrators and the general public with state-of-the-art access to water-use information. WATERS is streamlining research, improving enforcement and making water application tracking easier, and improving the ability of the Office of the State Engineer to serve the public. Also, by archiving the up to 100-year-old water right records, it is helping to preserve a vital aspect of New Mexico's history.

To access WATERS from the Office of the State Engineer website, click on "Water Information" on the home page. Then, click on the "WATERS User Login/Registration" hyperlink at the top of the page. All users are asked to register using their e-mail address as their user identification.





The Hydrology Bureau provided extensive technical support during the 2004-2005 fiscal year to the Active Water Resource Management initiative in the Lower Pecos River, Lower Rio Grande, Gallinas River and Upper Mimbres River areas. Bureau hydrologists provided project management and water master support, conducted field investigations and hydrologic analyses, and assisted in the development of basin-specific regulations for these areas.

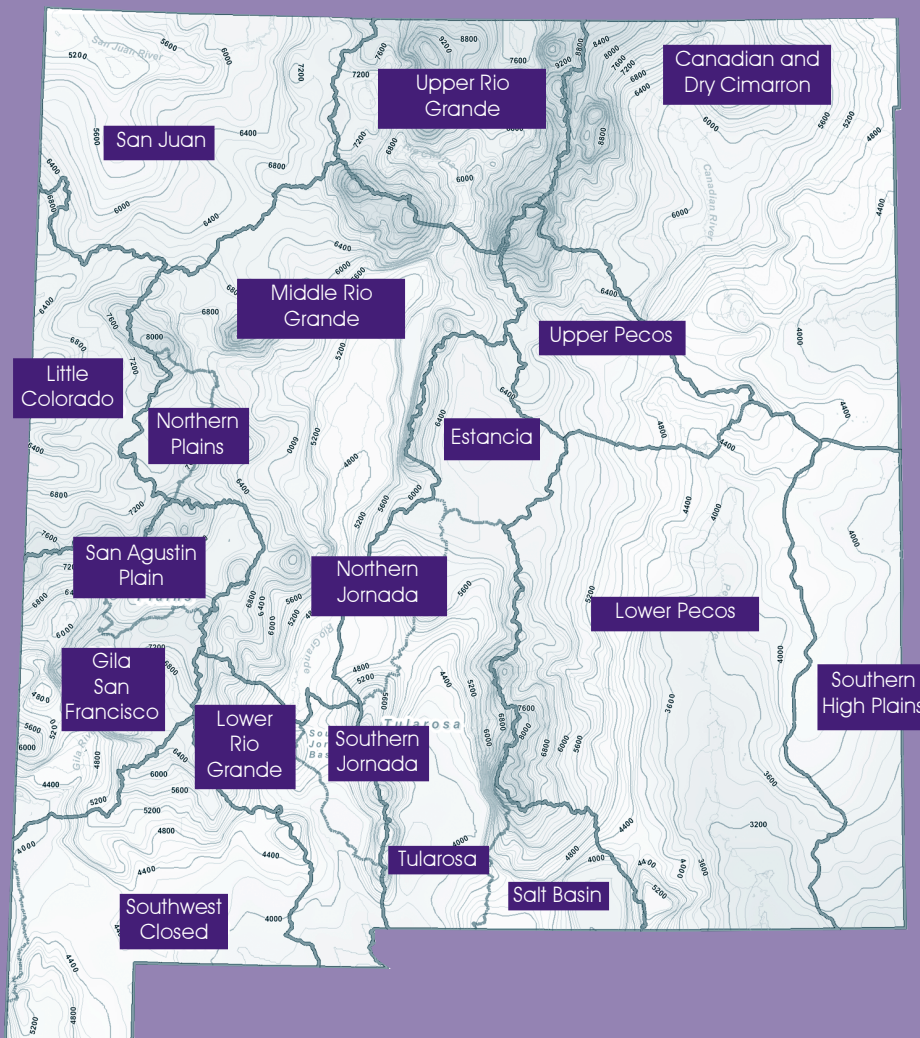
During this fiscal year the Hydrology Bureau worked on more than 86 hydrologic investigations in support of water rights application processing. An investigation may pertain to a single water rights application or multiple applications, and may involve anywhere from a few acre-feet up to tens of thousands of acre-feet of water. Eighty of the 86 investigations involved protested or aggrieved applications processed in cooperation with the Administrative Litigation Unit. The bureau also worked on six unprotested applications submitted by the Water Rights Division that required non-routine hydrologic evaluation. Not all of the 86 water rights investigations performed during the year were finalized. Several investigations were resolved prior to project completion, and some investigations continued into the 2005-2006 fiscal year.

Notable this fiscal year were investigations of Chama River surface water transfers of several hundred acre-feet for a reservoir, evaluation of effects from irrigation of lands in the Middle Rio Grande basin near Belen, a surface water transfer across Navajo Reservoir by the City of Bloomfield, and several complicated and interrelated water right transfers by the Village of Ruidoso.

The bureau also provided support to the Water Use and Conservation Bureau, evaluating proposed subdivisions in Bernalillo, Santa Fe and Torrance counties.

The bureau continues to develop state-of-the-art technical tools to assess hydrologic impacts. A number of groundwater flow models prepared by the Office of the State Engineer, the U.S. Geological Survey, and private consultants are available for various portions of the state. These models must be updated and new models developed as activity increases in an area. During the fiscal year, bureau staff enhanced the Middle Rio Grande model, extensively revised and updated the Tularosa Basin model, and developed a graphical user interface for the Roswell Basin model. In conjunction with a multi-agency technical team, the bureau created a version of the Taos model for water rights administration. Using available models, bureau hydrologists

## Surface Basins and Sub-Basins with Groundwater Contours



supported the development of draft administrative guidelines for the southern High Plains Basins.

The bureau also participated in other policy development, including reviewing legislation related to domestic wells and the use of produced water from oil and gas activities, proposed federal oil and gas leasing policies for Otero Mesa, and agency rules and regulations regarding surface water, groundwater, and domestic wells. Bureau hydrologists also reviewed two underground storage and recovery projects proposed under the governor's innovative water fund.

The Hydrology Bureau continued to provide valuable assistance to the Interstate Stream Commission and Litigation and Adjudication Program attorneys on litigation related to the Pecos River Consensus Plan. Bureau staff prepared expert testimony and exhibits used in the successful motion for summary judgment. On Lower Rio Grande issues, the bureau continued work on studies aimed at improving the state's understanding of the hydrologic system below Elephant Butte Reservoir. These efforts assist New Mexico to better manage water resources in this area, assist in the resolution of the ongoing adjudication, and protect New Mexico's interests in case of threatened litigation by Texas.

The Hydrology Bureau remained integrally involved in state and regional water planning activities during this fiscal year, and helped implement elements of the State Water Plan. The bureau reviewed draft regional plans for the Mora-San Miguel-Guadalupe, Southwest New Mexico, and Lower Rio Grande water planning regions, and the water plan for the Becenti Chapter of the Navajo Nation.

The bureau continued to support agency efforts in several adjudications across the state, including assisting with an alternative administration proposal for the Taos area that has arisen from settlement negotiations. This alternative relies in part on the new Taos groundwater model. The bureau also conducted analyses and participated in settlement meetings related to the Jemez River adjudication and the Aamodt adjudication in the Nambe-Pojoaque-Tesuque area.

Also during this fiscal year, the bureau continued its involvement in cooperative water resource investigations in the Española Basin with the state Bureau of Geology and Mineral Resources and the USGS. The bureau provided project management of multiple studies that included geophysical, geochemical, hydrogeologic and surface water investigations involving extensive coordination between various state and federal agencies and private contractors. Notable among these projects was the installation of several monitoring wells near Santa Fe by the U.S. Geological Survey, providing vital groundwater data for the area.

The Hydrology Bureau continued its joint efforts with the Geological Survey to collect and store stream-flow and groundwater-level data throughout New Mexico. This year the bureau supervised initiation of the agency's statewide water-level monitoring program, taking over monitoring activities from the Geological Survey in the Estancia, Upper Rio Grande, Bluewater, Grants, Santa Fe, Salt Basin and Lower Rio Grande areas.

The Hydrology Bureau also maintains the State Engineer library. The bureau is working to establish Internet access to the holdings of the library to improve research capability for the agency, other agencies, and the public, with the goal of establishing the facility as one of the premier water resource libraries in the state. A preservation program is underway to slow the deterioration of the library holdings, which include many unique historical documents.



## Hydrologic Investigations in Support of Applications

Basin	Protested or Aggrieved	Unprotested	Total
Canadian River	1	0	1
Carlsbad	5	0	5
Curry County	2	0	2
Estancia	5	3	5
Hondo	12	0	12
Lea County	6	0	6
Lower Rio Grande	6	1	7
Penasco	2	0	2
Portales	4	1	5
Rio Grande	18	2	20
Roswell	3	0	3
Salt	4	0	4
Sandia	2	0	2
San Juan	1	0	1
Tularosa	8	0	8
Surface Permits	1	2	3
<b>Total</b>	<b>80</b>	<b>6</b>	<b>86</b>



## Dam Safety Bureau

The responsibilities of the Dam Safety Bureau include inspecting existing dams to verify the dams are operated and maintained in a safe condition. The bureau reviews plans for new dams and modifications and repairs to existing dams and issues permits to construct and operate the dams. The bureau also inspects construction to verify the dams are built or repaired in accordance with the plans on file with the State Engineer. Safety orders are issued when a serious dam safety deficiency exists, resulting in a threat to life and property. Safety orders are reported to the Office of Emergency Management, so they can inform local officials of potential emergencies in their area.

During the 2005 fiscal year, the bureau inspected 165 dams on the inventory and three dams that were the subjects of complaints. The bureau issued an order to breach an unsafe, non-inventory dam in Doña Ana County and the dam was successfully breached. Cabresto Lake Dam owners in Taos County received a safety order to investigate and repair seepage that threatened the integrity of the dam and work is ongoing.

### Dam Safety Inspections

Year	Dams Inspected	Orders Issued
1995	155	4
1996	193	1
1997	142	1
1998	155	4
1999	126	3
2000	96	0
2001	103	2
2002	198	2
2003	172	4
2004	160	1
2005	168	2

The Dam Safety Bureau reviewed, accepted plans, and issued new permits for the city of Albuquerque's Rio Grande diversion dam and raw water storage dams in Bernalillo County. The bureau also issued permits for Mosaic Potash Clay settling dam in Eddy County and Southwest Cheese Pond in Curry County, now complete. The bureau reviewed plans to repair, modify, rehabilitate, or reclaim 13 existing dams, including the Ute Dam in Quay County, Eagle Nest Lake Dam in Colfax County, and several tailings dams for mines. Most are in planning or construction phases. The bureau also reviewed plans for several dairy ponds in the southern portion of the state. Construction was completed on the final planned lift to MolyCorp Tailings Dam 4 in Taos County and Romero Lake Dam in Catron County where a permit was issued last fiscal year. Construction is ongoing on the phase 2 lift at Arizona Public Service Company's lined tailings dam, approved in the previous fiscal year. All newly constructed dams were added to the inventory and routine inspections by staff will be scheduled.

The Dam Safety Bureau continued to fund three dam rehabilitation projects this year with funds received from the state Legislature. The projects included the design repair to Power Lake Dam, a recreational dam for the city of Santa Rosa, the construction rehabilitation of Hackberry Dam Site 1, a flood control dam for the Hackberry Draw Watershed District in Eddy County, and the design and construction repair to Bloomfield Dam, a water supply dam for the city of Bloomfield. Construction was completed on Hackberry Dam Site 1 and the project was closed out. Engineering planning and design continued on Power Lake Dam and Bloomfield Dam No. 1.

With funding from the Federal Emergency Management Agency to improve dam safety, the bureau has resumed the project to scan dam construction drawings and dam safety reports to improve access to the data.

The State Engineer adopted the Dam Safety Bureau's new rules and regulations governing dam design, construction and safety in March 2005. Copies of the rules and regulations were sent to all dam owners with notices of any compliance deadlines. The rules and regulations replace past publications addressing the state engineers design criteria. The bureau is working on guidelines to help dam owners and engineers comply with the rules and regulations. Copies of the rules and regulations and other dam safety information can be downloaded from the state engineer website at [www.ose.state.nm.us/doing-business/DamSafety/Dam-menu.html](http://www.ose.state.nm.us/doing-business/DamSafety/Dam-menu.html)

The Dam Safety Bureau hosted the Association of State Dam Safety Official's "2005 Western Regional Conference on Dam Safety." The conference was held in Santa Fe in April. More than 160 engineers and dam owners participated in the conference to discuss issues on hydrology and hydraulics, erodibility of spillways, seepage, failure mode analysis, monitoring and dam rehabilitation.



# Water Use and Conservation Bureau

The Water Use and Conservation Bureau inventories surface and groundwater withdrawals and depletions by category, county, and river basin; maintains water-use databases; and analyzes crop, weather, and water-use data. The bureau quantifies water requirements for irrigation and other uses and prepares technical reports for the water resources investigations and adjudication activities of the Water Rights Allocation and Litigation and Adjudication programs. In addition, the bureau coordinates water conservation activities, including maintaining a bibliographic database and clearinghouse for information; developing and distributing educational materials to school children, the



## Water Conservation Education

The Water Use and Conservation Bureau manages an active outreach program on water conservation education. This program evolved in response to the increasing pressures on the state's limited water supply and the realization that, for many parts of the state, water conservation may

be the only practical method to meet the demand for water. The program encourages wise water use by New Mexico citizens, businesses and organizations. It includes free publications and workshops, a multi-level education curriculum, participation in water fairs, and partnerships with business, government and citizens' groups.



In 2004-2005, the program developed a new elementary curriculum called, "Rio! The Water

Detective." The curriculum, with both student and teacher guides, provides teachers with the tools to develop their students' fundamental understanding of water issues and their responsible use of water in New Mexico.

In the guide, Rio, a kangaroo rat, leads students through graphs, games, fun facts, and activities. For example, students can play the Aquifer Game to learn how their actions impact the water supply, or connect the dots to follow the path irrigation has taken through New Mexico's history and cultures. The teacher's guide provides background information, demonstrations, and additional activities to assist the teachers in the classroom.

The Office of the State Engineer produced the publication with the help of the Bernalillo County Water Utility Authority, City of Las Cruces, City of Santa Fe Water Division, City of Rio Rancho, and New Mexico State University Rio Grande Basin Initiative.

The curriculum is available for free by calling 1-800-WATERNM or e-mailing [waternm@ose.state.nm.us](mailto:waternm@ose.state.nm.us). Also, the curriculum is available on the agency website at [www.ose.state.nm.us/water-info/conservation](http://www.ose.state.nm.us/water-info/conservation).

Other significant contributions in the 2004-2005 fiscal year:

- Distribution of more than 102,000 pieces of educational water conservation materials to schools, municipalities, businesses, organizations and individuals.
- Publication of *A WaterWise Guide to Toilets*, a brochure

that offers helpful information about how to choose a water-efficient toilet and maintain it properly to retain water savings.

- Publication of a new *Agua Action* brochure to provide residential water conservation tips to homeowners and others. This brochure, first published in 1994, was revised to reflect innovations in water saving technology.
- Continuation of work with the WaterWise Development Committee to address issues related to the water efficiency of new residential and commercial developments. The committee published two documents on residential gray water use: a basic informational brochure titled *Using Gray Water in New Mexico's Residential Landscapes*, and the *New Mexico Gray Water Guide*, a more detailed booklet on residential gray-water use. The committee is composed of landscapers, developers, builders, real estate agents, and local and state government representatives.
- Receipt of a grant from the U.S. Bureau of Reclamation for the development of additional water conservation materials on rainwater harvesting and residential water conservation tips, some in Spanish.
- Participation in the development of water conservation policy recommendations for implementation by state government, as part of the work conducted by the Drinking Water Work Group of the Governor's Drought Task Force. Bureau staff also actively tracked and commented on state and federal financial, regulatory and legislative developments related to water conservation.
- Presentations at state and national water conservation conferences – and participation in state water festivals, fairs, teacher workshops and other educational events, including hands-on activities.
- Update of the Water Conservation Program section on the Office of the State Engineer's website. The water conservation web page received approximately 2,200 hits during the year.
- Participation in state and national associations involved in water conservation and environmental education activities.







general public, public water suppliers, and businesses; conducting workshops; and assisting public water suppliers, irrigation districts, and government institutions in establishing demonstration projects and water conservation programs.

The bureau also evaluates subdivision proposals submitted by county governments to determine whether or not they satisfy the requirements of the New Mexico Subdivision Act and County Subdivision Regulations.

During the 2004-2005 fiscal year, the bureau prepared technical reports on consumptive irrigation requirements for cropland irrigated with surface water from the Rio Gallinas in San Miguel County and in the Gallina area of Rio Arriba County and continued work on irrigation water requirements for the Lower Rio Grande. At the request of the Administrative Litigation Unit, the bureau quantified irrigation requirements and potential return flow for Alto Lakes Golf Course and Moriarty and Edgewood elementary schools. At the request of the Interstate Stream Commission, the bureau reviewed the regional water plans for the Becenti Chapter of the Navajo Nation, Southwest New Mexico, and San Miguel-Guadalupe-Mora.

The bureau also reviewed the water development plans and water conservation plans for Alamogordo, Ruidoso, Santa Rosa, Española, Eunice, Quay County, and New Mexico State University, and reviewed Milan's water conservation ordinance.

Another duty of the Water Use and Conservation Bureau is to review water-supply plans for certain subdivisions. State law requires county commissioners to request an opinion from the State Engineer on whether the subdivider has enough water to meet the demand of the subdivision and can fulfill the proposals included in his subdivision plan. The Office of the State Engineer has 30 days to submit the opinion after receiving a written request and information from the county commission. Without the opinion, the commission is allowed to proceed in accordance with its own best judgment.

When the State Engineer receives a subdivision proposal it checks if the subdivider's analyses of water demand and availability are technically correct and reasonable and demonstrate that sufficient water is available. The bureau also checks if the subdivision has sufficient water rights available and if the water rights are valid. This information is compared with the water availability assessment, the water demand analysis, the disclosure statement, and the restrictive covenants.

In fiscal year 2004-2005, the bureau reviewed 151 subdivision and development proposals, issued favorable opinions on 39 proposals, unfavorable opinions on 93 proposals, and deferred 19 proposals.

Bureau staff also provides technical assistance to county staff, subdividers, developers, consultants, and the general public. In fiscal year 2004-2005, the Section assisted Bernalillo, Taos, Otero, and Santa Fe Counties in development of their subdivision regulations. The bureau maintains and updates a database containing a summary of all subdivisions and development reviews. This database can be accessed on the State Engineer's website at <http://www.ose.state.nm.us/water-info/subdivisions.html>.

### Subdivisions Reviewed

Year	Reviewed
1991	37
1992	24
1993	35
1994	40
1995	92
1996	141
1997	168
1998	186
1999	149
2000	116
2001	104
2002	94
2003	84
2004	119
2005	151

## Hearing Unit



The State Engineer's Hearings Unit conducts administrative hearings on protested and aggrieved water right applications. As of July 1, 2004, 119 hearing matters were pending on the unit's docket. During the 2004 – 2005 fiscal year, 82 new hearing matters were opened and 95 matters were closed.

Final dispositive orders were entered in 46 of the 95 matters closed. The final actions in those 46 matters include eight approvals (in whole or in part subject to condition), 18 denials, and 20 dismissals upon withdrawal of applications. Forty-nine matters were remanded to the Water Rights Division for further evaluation following withdrawal, dismissal or settlement of protests.

As of June 30, 2005, 106 cases were pending on the unit docket. Copies of selected State Engineer hearing decisions and the hearing examiner's report and recommendations are posted on the agency's website ([www.ose.state.nm.us](http://www.ose.state.nm.us)). Information concerning the status of pending matters on the Hearing Unit docket is also available on the website. To view posted information concerning hearing matters select the category "Water Information" from the index at the agency's home page.

A brief synopsis of a few of the hearing decisions issued during the 2004-2005 fiscal year follows.

### **Hearing No. 98-001 Applications by Entranosa Water and Wastewater Cooperative (EWWC) No. E-6722 and E-6722-S**

On September 20, 2004, the State Engineer issued his order adopting the report and recommendation of the hearing examiner and partially approving EWWC's application to appropriate groundwater from the Estancia Underground Water Basin of New Mexico. EWWC filed applications E-6722 and E-6722-S in 1996 for a combined diversion of 2400 acre-feet/year. Parties opposing the applications included David W. King and Marty King, T.C. and Rita Horton and the Horton Family, and the County of Santa Fe. A hearing was held in 1999 and a report and recommendation was submitted to the State Engineer. The matter was subsequently remanded and stayed for further evaluation on adoption of new Estancia Basin guidelines. Following adoption of the guidelines the remaining parties (the Horton Family withdrew its protest and it was dismissed in December 2003) filed stipulations incorporated in the State Engineer's decision partially approving the applications, subject to conditions, for a combined diversion of up to 419 or 424 acre-feet/year, depending on well locations.

### **Hearing No. 00-023 Application by Seven Rivers, Inc., No. RA-3200 et al., into RA-5060(T)**

On December 29, 2004, the State Engineer issued his order adopting the report and recommendation of the hearing examiner and partially approving Seven Rivers' application for a temporary change in location of well and place and purpose of use of groundwater of the Roswell Underground Water Basin. The application, filed in 1999, requested temporary transfer of 50 acre-feet per year of stacked water rights appurtenant to 794.9 acres of land. Gregory Rockhouse Ranch, LLC, protested the application. Following hearing, the application was approved for a temporary diversion of 35 acre-feet per year subject to conditions.

The matter is on appeal in the 5th Judicial District Court, CV-2005-062.

**Hearing Officers**  
Victor Kovach

**Hearing Unit  
Administrator**  
F. Eileen Serna



#### **Hearing No. 02-017 Application by City of Albuquerque Public Works Department No. 4830**

On July 8, 2004, the State Engineer issued his order adopting the report and recommendation of the hearing examiner and conditionally approving the City of Albuquerque Public Works Department's application to divert surface water from the Rio Grande for its drinking water project. The application was opposed at hearing by a coalition of protestants: Amigos Bravos, Rio Grande Restoration, Sierra Club, New Mexico Public Interest Research Group, Socorro Soil and Water Conservation District, John Carangelo, and the Assessment Payers Association of the Middle Rio Grande Conservancy District.

The State Engineer's order allows the city to divert up to 48,200 acre-feet/year of San Juan-Chama Project water, less conveyance losses, and up to an equivalent amount of "native" Rio Grande surface water, subject to a number of conditions including the following: return of 100 percent of the amount of the native water diverted to the Rio Grande, maintenance and reservation of sufficient project water in storage to offset residual and ongoing effects to the Rio Grande as a result of groundwater diversion under city permit RG-960 et al., reductions in average annual per capita water use, curtailment of diversions of native Rio Grande surface water when native flow in the channel of the Rio Grande is less than 195 cubic feet per second above the point of diversion, suspension of diversions of native Rio Grande surface water when the amount of return flow to the Rio Grande is less than the amount of native water diverted or native flow in the channel of the Rio Grande is equal to or less than 130 cubic feet per second measured immediately above or below the point of diversion or flows at the Albuquerque Central Avenue gauge are less than 122 cubic feet per second or the State Engineer determines that suspension is necessary to meet compact obligations or to protect existing water rights, plan and site inspection, and approval, metering, monitoring and reporting requirements. The matter is on appeal in the 2nd Judicial District Court, CV-2004-5036.

#### **Hearing No. 02-035 Applications by City of Alamogordo No. T-3825-T-3825-S-9**

On December 29, 2004, the State Engineer issued his decision adopting the report and recommendation of the hearing examiner and partially approving the City of Alamogordo's applications to drill 10 wells for diversion and desalination of groundwater of the Tularosa Underground Water Basin for use for municipal, industrial and commercial purposes. The applications, for a combined diversion of 10,000 acre-feet/year (amended from 13,450), were opposed by HFR Corporation, Three Rivers Cattle Ltd Co., David and Julia Christopher, the Tularosa Community Ditch and several individual irrigators from the Tularosa area. The application was approved subject to conditions for a total combined annual diversion limited to 3,000 acre-feet/year, with the proviso that the total annual combined diversion in any calendar year may be increased up to 4,500 acre-feet/year provided that the sum of diversions for any consecutive five-year period does not exceed 15,000 acre-feet/year. Approval is subject to a number of conditions related to protection of existing water rights, conservation and public welfare. The matter is on appeal in the 12th Judicial District Court, CV-2005-019, 043 and 049.

#### **Hearing No. 02-057 Application by the City of Bloomfield No 04711 into 2800**

On June 21, 2005, the State Engineer issued his decision adopting the report and recommendation of the hearing examiner and denying the City of Bloomfield's application for permit to change the point of diversion and place and purpose of use of surface waters of the Los Pinos River, a tributary of the San Juan River. The city proposed to transfer 48 acre-feet/year of Pine River surface water (with delivery to the appurtenant move-from acreage reported to be via the U.S. Indian Ditch and the Hersch Lateral) to its existing surface-water diversion point for the Citizen's Ditch on the San Juan River for domestic, industrial and irrigation use with the city's service area. The Navajo Nation opposed the granting of the application. The undisputed evidence presented at hearing confirmed that the subject water right had not been used or exercised since 1965 and the hearing examiner found that the applicant had failed to establish that the subject water right is a valid and existing right.

**Hearing No. 02-082 Application by City of Santa Fe Sangre de Cristo Water Division No. RG-3767 et al., and [RG-3767 et al., into RG-66978-(T)] into RG-304-S**

On September 15, 2004, the State Engineer issued his decision adopting the report and recommendation of the hearing examiner and approving the City of Santa Fe's application to transfer 52.62 acre-feet/year of water rights from its Acres Estates and MRC Wells to its Osage Well, subject to conditions. Protesting parties opposed to the granting of the application included Elliot Streeper, President of the Santa Fe Basin Water Association, Bernie Valdez, Gardner F. (Pete) Dowrey, Irene M. Dowrey, Joe Maes and Eva M. Maes.

**Hearing No. 03-004 Applications by City of Santa Fe Nos. RG-20516-S-10 thru RG-20516-S-13**

On September 15, 2004, the State Engineer issued his decision adopting the report and recommendation of the hearing examiner and approving the City of Santa Fe's application for permits for supplemental wells for the continued diversion of up to 10,000 acre-feet/year of groundwater authorized under permit No. RG-20516 et al., (Buckman permit), subject to conditions. The Santa Fe Basin Water Association and Elliot Streeper opposed the granting of the application.

The matter is on appeal in the First Judicial District Court, D-101-CV-2004-2038.

**Hearing No. 03-018 Application by Berrendo Cooperative Water Users Association (BCWUA) No. RA-130 et al.**

On June 7, 2005, the State Engineer issued his decision adopting the report and recommendation of the hearing examiner and denying BCWUA's application to increase its appropriation of groundwater of the Roswell Artesian Underground Water Basin by 480.42 acre-feet per year in recognition of return flow from septic leach fields. Morgan Nelson opposed the granting of the application. The State Engineer found that the evidence presented by BCWUA failed to adequately consider subsurface evapo-transpiration of water discharged from septic leach fields and that the amount of return flow reaching the aquifer from the leach fields could not be determined. The State Engineer also found that an increase in BCWUA's permitted groundwater diversions would be contrary to the conservation of water within the state because of BCWUA's recent history of increasing average per capita water usage and system losses. The State Engineer did not address limitations associated with increased depletion effects that would result from an increase in diversions in an amount equal to return flows, as the amount of those return flows could not be reliably determined.

The matter is on appeal in the Fifth Judicial District Court, CV-WD-04-1910.

**Appellate Court Decisions**

The New Mexico Court of Appeals affirmed the District Court Decision upholding the decision of the State Engineer in the following cases:

*Lynn Montgomery, Dr. Robert Wessely, and Dr. Catherine Harris v. New Mexico State Engineer, and Lomos Altos, Inc. and Garden Path Associates*, Opinion No. 2005-NMCA-071. Appeal from decision in Hearing Unit (HU) No. 99-068 and 99-058 Consolidated, OSE File Nos. 03713-C and 03713-D into RG-52013; 04595 into RG-52013 and 04600-B into RG-71805. Certiorari was granted, No. 29,202, June 2, 2005.

*Ellis B. and Laverne Herrington v. State of New Mexico ex rel. Office of the State Engineer*, Opinion No. 2004-NMCA-062. Appeal from the decision in HU No. 99-054, OSE File No. 02543 and M-5776. Certiorari was granted, No. 28,628, May 17, 2004.

*Hope Community Ditch Association v. New Mexico State Engineer*, Opinion No. 2005-NMCA-002. Appeal from decision in HU No. 01-004, OSE File No. 0807. Certiorari was denied, No. 28,969, December 30, 2004.

*Eldorado Utilities, Inc., v. State Engineer*, Opinion No. 2005-NMCA-041. Affirmed the decision of the First Judicial District Court (cause of action No. D0101-CV-200002668) that the State Engineer acted within his discretion in refusing to accept for filing amended declarations tendered by Eldorado Utilities, Inc. Appeal from the decision in HU No. 99-022, OSE File No. RG-18523 and RG-18524. Certiorari was denied, No. 29,129, April 12, 2005.







## Litigation and Adjudication Program

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Dario Rodriguez

### **Managing Attorney, Administrative Litigation Unit**

Hilary Lamberton

The Litigation and Adjudication Program serves as the legal advisor to the State Engineer. As commissioned special assistant attorneys general, the program's attorneys prosecute all water rights adjudications brought on behalf of the State of New Mexico in state and federal courts. They provide legal representation to the Water Resources Allocation Program in all water-use-permit administrative hearings and to the State Engineer in appeals of his decisions to district court. Litigation and Adjudication Program attorneys also seek injunctions on the State Engineer's behalf against illegal uses of water or over-diversions of water. Technical staff in the program's Hydrographic Survey Bureau perform hydrographic surveys and provide the foundation documentation for all adjudications. Survey staff within each of the program's three adjudication bureaus works closely with legal staff in providing technical support for ongoing adjudications.

The program maintains offices in Santa Fe and Las Cruces. The Santa Fe office is staffed with attorneys, engineers, surveyors, legal assistants and administrative support staff. Their efforts are primarily directed at completing the 11 ongoing adjudications statewide. Staff within the Administrative Litigation Unit is dedicated to administrative hearings for protested or aggrieved water-use-permit applications. The Las Cruces Office is staffed with engineers, surveyors and other technical staff who provide technical support for the Lower Rio Grande adjudication and serve as a local point of contact for water users involved in that adjudication.

## Water Rights Adjudications

Water rights adjudications are required by statute. Their purpose is to obtain a judicial determination and definition of all water rights within each stream system or underground basin in the state. Typically, before an adjudication suit is filed, Hydrographic Survey Bureau staff performs a hydrographic survey to locate, quantify, and date water uses within a stream system or underground water basin. Once adjudication is initiated, during the subfile phase, the legal basis and characteristics of each water right claim are reduced to a written offer then conveyed to the claimant, accepted or rejected by the claimant, and, if rejected by the claimant, litigated between the state and the claimant. After individual water rights claims have been adjudicated between the state and claimants in the subfile phase, defendants may challenge the water rights of others during the *inter se* phase of the adjudication. After the *inter se* phase, the court issues a final decree, which defines the rights of each and every claimant on the stream system.

The 11 active adjudications currently pending in New Mexico courts involve stream systems in the Rio Grande, Pecos, Upper Colorado River, and Lower Colorado River drainage basins. The entire Pecos River stream system is the subject of an adjudication that began in 1956. Adjudications of several tributaries to the Upper Rio Grande were started between 1966 and 1983 involving water rights of many of New Mexico's Indian pueblos and tribes, the federal government, municipalities, community ditches, and thousands of individual defendants. The adjudication of the lower portion of the Rio Grande was originally filed in 1985 by the Elephant Butte Irrigation District but remained inactive until 1996. It involves New Mexico's largest irrigation district, a major federal reclamation project, municipal and county water rights, New Mexico State University, the City of Las Cruces, and thousands of individual groundwater claims within Doña Ana

## The Water Rights Adjudication Process

The State Engineer orders a hydrographic survey of a stream system or ground-water basin.

Litigation and Adjudication Program Hydrographic Survey staff review water-rights records, obtain current and historical aerial imagery, analyze water uses, and verify land ownership records.

Hydrographic Survey staff check all water uses, perform site inspections when necessary, and produce final maps.

Hydrographic Survey staff compile all data into a report that, combined with the final maps, constitutes the final hydrographic survey.

The state, federal government, or an interested person files a lawsuit and all water right owners are joined in the suit.

In the subfile phase, the plaintiff sends an offer of judgment to each water-right owner, who can agree with or challenge the description of his or her water rights. After resolution, the court enters subfile orders to confirm the agreements.

Water right owners can challenge the water rights of others in the *inter se* phase.

The court holds hearings to resolve challenges.

The court issues a partial final or final decree defining the water rights in the adjudicated area.



For more information on the status of adjudications, see Appendix A starting on page 62. For more information on the status of hydrographic surveys, see Appendix B on page 68.

County. The San Juan River stream system has only been partially adjudicated. The water right claims of the Navajo Nation, the United States, and thousands of private claims have not been surveyed or adjudicated in a comprehensive stream system adjudication required by State law. Hydrographic Survey staff is currently surveying the non-Indian private claims.

The Zuni River stream system adjudication was filed in 2001. It encompasses the water rights claims of Zuni Pueblo, the United States, local governments and individual, non-Indian defendants.

## Hydrographic Survey Bureau

By statute, the first stage of the adjudication process is the completion of a hydrographic survey. During this process, hydrographic survey staff gathers all of the information used to legally describe a water right and records that information in the hydrographic survey report and associated maps. The report is then filed with the adjudication court. The information in the final hydrographic survey is presumed by the court to be correct, and any party wishing to dispute these facts bears the burden of proving the survey wrong.

Hydrographic survey staff members make every effort to ensure the information recorded in the survey report is correct. They search county ownership records, State Engineer water rights records and other historical records, perform field surveys and interviews, and acquire and analyze current and historical aerial imagery. The source documents, however, are not always accurate or up-to-date.

Traditionally, a water right claimant was not involved in the adjudication process until formally joined and served as a defendant in the adjudication. Hydrographic survey staff, together with staff from the Water Resources Allocation Program, now conduct field offices prior to beginning the actual survey to update water rights records and to educate claimants on the hydrographic survey and adjudication processes. This new procedure is designed to improve the efficiency and accuracy of the initial field surveys. Surveyors have the benefit of knowing what they are looking for during their initial visit, claimants are better able to articulate important facts to the surveyor, and

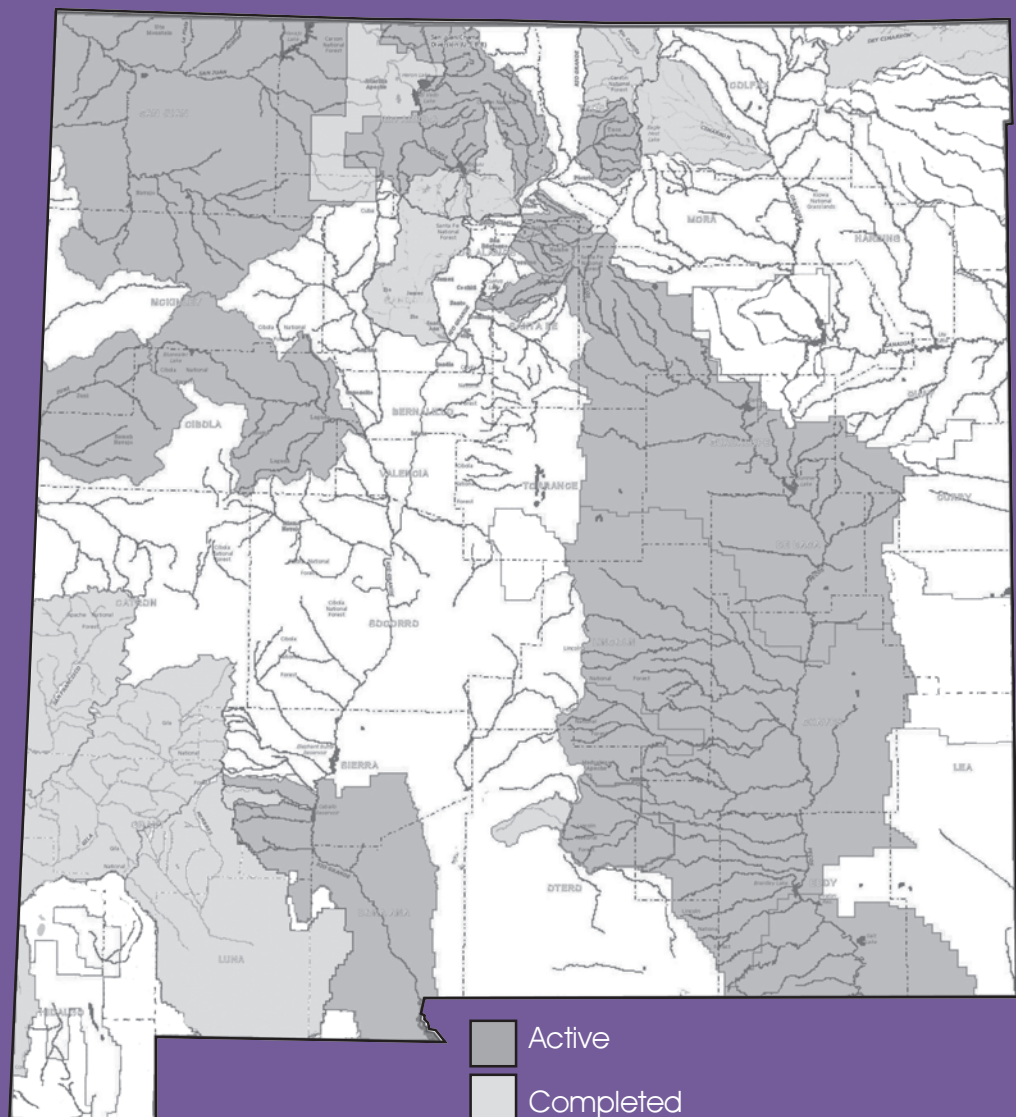


disputed issues are narrowed and more easily resolved in later procedures. This process is being successfully used in the Zuni adjudication and is planned for the San Juan hydrographic survey.

All hydrographic surveys are now based on geographic information systems (GIS) and computer mapping technologies. Interpretation of aerial imagery is performed using digital ortho imagery – computer-generated imagery corrected for visual distortions caused by camera orientation and terrain – and all field measurement is made with global positioning systems receivers. These new technologies dramatically reduce the time it takes to conduct a survey. For example, the report on the Nutt-Hocket basin survey in the Lower Rio Grande was produced in less than seven months, compared with years for similarly sized surveys conducted with traditional methods. The new databases also significantly enhance the ability to analyze the results of the survey. These computer-based tools also allow the Office of the State Engineer to readily disseminate hydrographic survey results to the public, to automate the production of maps and basic subfile pleadings, and to track the status of individual subfile proceedings more effectively.

Hydrographic Survey staff continues to explore ways of applying the most advanced mapping and GIS technologies. These include contracting, for the first time ever in the United States, for the acquisition of high-resolution digital imagery. The imagery was

## Status of Adjudications





acquired in cooperation with the Interstate Stream Commission for the San Juan, Costilla, and Los Pinos/San Antonio areas. This was the first program in the Office of the State Engineer to apply advanced spatial data management and represented an important initial step in the agency's Enterprise GIS and data integration initiatives. This initial effort has been followed by the acquisition of similar digital aerial imagery over the Peñasco/Mescalero area in the summer of 2004.

Bureau staff members also have worked with the Interstate Stream Commission to develop remote sensing mapping tools for use with satellite imagery to perform cropping area estimates for the entire state. These estimates will be used to develop a water use model for the state of New Mexico. Initial results for the Lower Rio Grande area using 2002 Landsat ETM imagery are very encouraging, and the Bureau plans to continue the project using 2004 imagery. The Bureau continues to expand its use of digital orthophoto maps and now applies that technology to all of its active surveys.

Hydrographic survey efforts have also been enhanced by the Bureau's move to the Litigation and Adjudication Program. In the five years since the move, engineers and attorneys have worked closely to identify and solve hydrographic survey problems as they arise rather than at the end of the process. The first surveys using this new procedure – the Upper Rio Chama basin and the Carlsbad Irrigation District – are currently being adjudicated and are proceeding at a rapid rate. Similar results are now being achieved in the survey work for the San Juan, Zuni, and San Jose adjudications.



## Staff Award

Three Office of the State Engineer employees won a second-place award in the Software Application Fair Venue at the 2004 Annual Environmental Systems Research Institute International User Conference in San Diego in July 2004.

The employees are Christina Knofsker, Hydrographic Survey Bureau, Steve Hayes, Information Technology Systems Bureau, and Elizabeth Ayarbe, formerly with the Hydrographic Survey Bureau – all from the Santa Fe Office.

The trio's entry titled, "Water Right Edit Journal," is a program that allows notes and comments on the history of a water right to be captured during the adjudication process.

The "Water Right Edit Journal," or WREJ, manages journal entries stored as Binary Large Objects (BLOBs) in ArcGIS. With this software, water right specialists can now view and easily add an unlimited number of comments to a water-right file.



## Administrative Litigation Unit

The Administrative Litigation Unit is a specialized group of program employees, comprising attorneys and a paralegal, charged with handling protested and aggrieved water use permit applications. The unit was originally formed five years ago to handle a backlog of at least 300 cases. During fiscal year 2005 the original backlog was finally eliminated, allowing the unit to take on other vital legal tasks in addition to handling the current caseload of pending applications.

The unit represents Water Resources Allocation Program staff in all administrative hearings on protested or aggrieved applications for water use permits. An attorney from the unit is assigned to each protested or aggrieved application and works with the applicants and any protestants to informally resolve disputed matters and eliminate the need for a formal administrative hearing. If a case cannot be resolved informally, it is slated for the hearing process, where, if settlement seems possible, it is directed to mediation or, if not, to a formal hearing. Most hearings are scheduled within about nine months of being sent to the Hearing Unit.

The unit also represents the State Engineer in all district court and appellate court appeals of State Engineer decisions on protested or aggrieved applications. During fiscal year 2005, the unit handled 18 such appeals, many involving applications for municipal water by cities such as Santa Fe, Albuquerque, Alamogordo, and Silver City.





The unit works closely with the water resources staff and serves as legal advisor for the district offices. During fiscal year 2005, the unit initiated a program to educate all district office employees on the various laws and legal procedures that impact their work.

The unit also works with water resources staff to resolve enforcement issues, such as over-diversions or other illegal diversions of surface water in the various stream systems of the state. For example, unit attorneys are pursuing enforcement actions along the Chama River, the San Juan River, the Pecos River, and the Lower Rio Grande. The unit is also developing and implementing long-term strategic plans for the enforcement of various State Engineer regulations and the U.S. Supreme Court Decree regarding the Pecos River issued in *Texas v. New Mexico*.

# Interstate Stream Commission Program



The New Mexico Interstate Stream Commission, created by Chapter 25 of the 1935 legislative session laws, has broad powers to investigate, protect, conserve and develop New Mexico's waters, including both interstate and intrastate stream systems. The Commission has eight unsalaried members appointed by the Governor. The ninth member is the State Engineer, who under state law is the secretary of the Commission. The Commission Director serves as the deputy state engineer.

The Commission's authority under state law includes negotiating with other states to settle interstate stream controversies. New Mexico is a party to eight interstate stream compacts including the Colorado River, Upper Colorado River Basin, La Plata River, Animas-La Plata Project, Rio Grande, Costilla Creek, Pecos River, and Canadian River compacts. Commission staff is also responsible for compliance with provisions of the U.S. Supreme Court decisions governing water allocations on the Pecos, Canadian and Gila rivers. To assure compact compliance, staff analyze, review, and implement projects in New Mexico and in other states and analyze streamflow, reservoir levels, and other data on the stream systems.

The Commission is also authorized by statute to investigate and develop the water supplies of the state, and institute legal proceedings in the name of the state for planning, conservation, protection, and development of public waters. Under a 1987 law, the Commission promotes and funds the development of regional water plans and has been responsible for statewide water planning that integrates and reconciles the regional plans. Under the State Water Plan Act, enacted in 2003, the Commission was directed to coordinate with the Office of the State Engineer and the Water Trust Board to develop a comprehensive state water plan and to update it periodically.

The Commission is responsible for programming, budgeting, and directing expenditures from several sources: the Commission operating budget; the Ute Dam Construction Fund, because the Commission owns and operates Ute Dam and Reservoir; special appropriations; and two trust funds – the Improvement of the Rio Grande Income Fund and the Irrigation Works Construction Fund. Both trust funds were created by the Ferguson Act of 1898, which set aside grants of trust land in what was then the Territory of New Mexico to generate income for specified beneficiaries.

## Planning and Communication

Strategic planning and effective communication are critical areas of focus for the Office of the State Engineer and the Interstate Stream Commission. Public communication is essential to planning activities that integrate resource-based science and public policy, particularly for complying with both state and federal water law.

### Regional Water Planning

The New Mexico State Legislature recognized the state's need for water planning and created the state's regional water planning program in 1987 to balance current and future water needs for a region. The Legislature gave the Interstate Stream Commission the responsibility of overseeing a regional planning grant program and the planning process itself. The Commission has worked with all regions of the state to prepare their respective regional water plans. Once regional water plans are completed, the Office of the State

### Commission Director/Deputy State Engineer

Estevan López, PE

### ISC General Counsel

Tanya Trujillo

### Planning and Communication Director

Karin Stangl

(as of 5/05)

### Rio Grande Basin Manager

Rolf Schmidt-Petersen

### Pecos Basin Manager

Dr. Bhasker Rao

### Colorado/San Juan Basin Manager

John Whipple

### Other Basins, Acequias and Irrigation Projects Manager

Craig Roepke



## Interstate Stream Commissioners

• **Jim T. Dunlap**, chairman, is a businessman and rancher. The Farmington native owns the L-Bar Ranch and the Farm Center, a John Deere dealership. From 1976 to 1986, Dunlap managed the Lower Valley Water System. He also is a retired vocational agriculture teacher. Dunlap's water-related activities have included being president of the National Rural Water Association, director and founder of the New Mexico Rural Water Users Association, president of the Upper La Plata Water Users Association, president of the Lower Valley Water Users Association, and vice chairman of the San Juan Water Commission.

Dunlap served three terms as a San Juan County commissioner, including two and a half terms as commission chairman, and was a volunteer fireman. He is vice chairman of the San Juan County Communications Authority and a member of the Lion's Club, Secretary of Agriculture's Water 2000 Project, New Mexico Farm Bureau, New Mexico Cattle Growers' Association, and the New Mexico Farm and Ranch Heritage Foundation. Dunlap is also an advisor to the Kirtland Future Farmers of America and Colorado State University. He has served as the president of the Northwest Teachers Association, president of the Farmers Mutual Ditch Association, and president of the New Mexico Vocational Agriculture Teachers Association. Dunlap received a master's degree in vocational education in 1967 and a bachelor's degree in 1954 from New Mexico State University.

• **Julia Davis Stafford** is a fourth-generation rancher from northeastern New Mexico. Since 1873, her family has run the CS Cattle Company, Inc. In 1986, Davis Stafford and her husband returned to the area to run the ranch. From 1983 to 1984, she worked for the New Mexico Public Defender's Office as a staff attorney. From 1985 to 1986, Davis Stafford worked with the New Mexico Environment Department as a staff attorney. During Gary Johnson's administration, she was appointed to the Governor's Blue Ribbon Task Force for Water Issues. Previously, Davis Stafford was involved with the Colfax County Regional Water Plan Steering Committee and currently is an active member of the Cimarron River Watershed Management Group. She serves on the board of Mountain States Mutual Insurance Company. Davis Stafford received a law degree in 1982 and a bachelor's degree in English in 1978 from the University of New Mexico.

• **Judith Espinosa**, a resident of Albuquerque, is the director of the University of New Mexico's Transportation Research Institute. From 1991 to 1994, she was secretary of the New Mexico Environment Department and prior to that she was a manager in the City of Albuquerque's Environmental Health Department. A former member of the National Environmental Justice Advisory Council since 2002, Espinosa was a German Marshall Fund Environmental Fellow selected to participate in the Alliance for Transportation Institute, an international program on environment and transportation. In 1992, former President Bill Clinton appointed her to the Council on Sustainable Development. She was also recognized in 1991 by the United States Environmental Protection Agency for her work on air quality. Espinosa served as state Secretary of Transportation from 1983-1985. Espinosa was awarded a law degree from the University of New Mexico in 1980. She completed a master's degree in public health administration at the University of California in 1975 and received a bachelor's degree in nursing from the University of New Mexico in 1972.

• **Patricio Garcia** is a native of Rio Chama whose family has lived in the Rio Chama Valley since the 1700s. A land-use planner for the past 10 years, Garcia is currently the Planning Department director for Rio Arriba County. In 2000, he was instrumental in obtaining the Western Planners Four Corners Planning Award for an environmental ordinance that protects county farmland and water rights. He has also worked as an outreach worker for mutual domestic water associations, and as a mineral exploration driller at sites including Heron Lake Dam, Cochiti Lake Dam, and Nambé Dam. Garcia belongs to the Rio Chama Acequia Association and is the secretary of the Acequia Martinez y Duranes. He also worked as a Volunteer in Service to America (VISTA). A Vietnam War veteran, Garcia served in the U.S. Navy from 1965 to 1968. Garcia attended New Mexico State University, and received an associate's degree from Northern New Mexico Community College in 1975.

• **Buford Harris** is a farmer from Mesilla whose family has raised cotton and alfalfa in the Mesilla Valley for four generations. Harris studied business and agriculture at New Mexico State University from 1977 to 1981.

• **Blane Sanchez**, a tribal member and resident of Isleta Pueblo, is the first Native American to serve on the Commission. His professional work includes facilitation, management of tribal environmental and water quality standards program, and natural resources management. Sanchez has completed a full complement of graduate course work in the Water Resources Program at the University of New Mexico and expects to graduate in December 2005. He received a bachelor's degree in range science from New Mexico State University in 1981.

• **J. Phelps White III** is a retired farmer and rancher and a native of Roswell. He serves as president for the Community Foundation of Chaves County and is a member of the board of directors of the Historical Society for Southeastern New Mexico Foundation. He is a past president of the Roswell Rotary Club, New Mexico Woolgrowers Inc., and New Mexico State University Foundation. White attended the New Mexico Military Institute and served in the U.S. Army. He received a bachelor's degree of business administration from the University of Texas in 1955. He served as an officer in the U.S. Army from 1955 to 1957.

• **James Wilcox**, a resident of Carlsbad, is a consultant to the state potash industry. He worked for Mosaic Potash for 32 years prior to retiring in 1999. He continues to serve Mosaic as a consultant. While employed at Mosaic, he was responsible for the Human Resources, Safety, and Public Relations departments, as well as management of water resources. He also served as chairman of the National Mining Association's Safety Committee, chairman of the U.S. Labor Department's Mining Industry Committee on Substance Abuse, and chairman of the Palmer Drug Abuse Program, in Carlsbad. Wilcox has received numerous awards of recognition from his peers, the State of New Mexico, and the U.S. Department of Labor for his efforts to enhance safety in the mining industry.

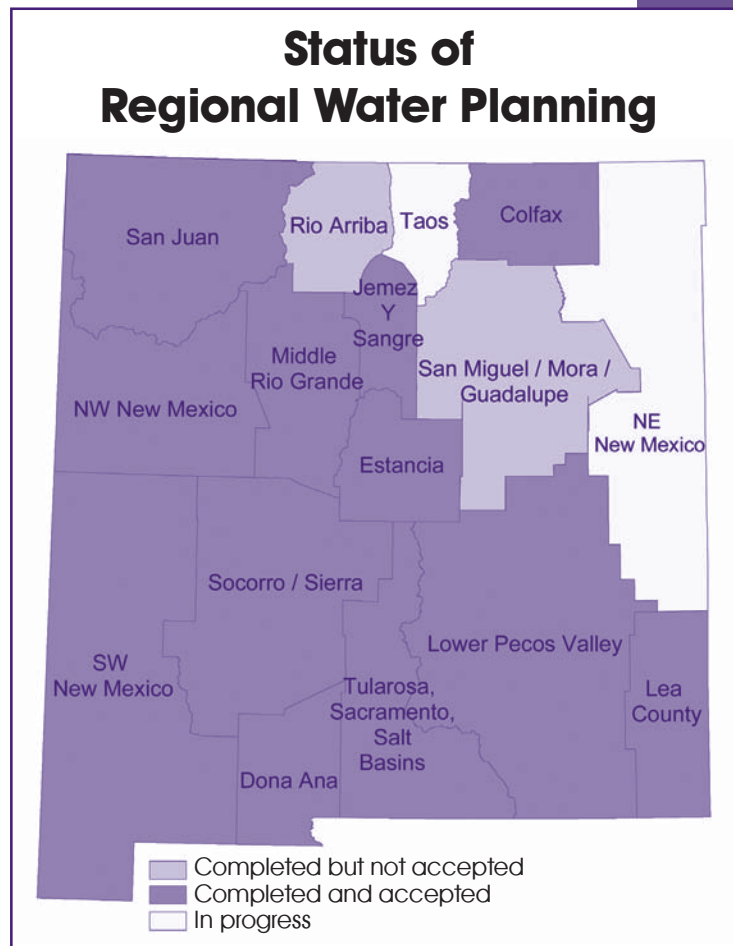
Engineer and Commission staff must review them. A regional water plan is considered completed when it is accepted by the Commission.

The Commission accepted three regional water plans this fiscal year: the Middle Rio Grande Water Plan, the Lower Rio Grande Regional Water Plan, and the Southwestern Regional Water Plan.

The Middle Rio Grande Water Plan includes the counties of Valencia, Bernalillo, and Sandoval. Also included are the municipalities of Albuquerque, Rio Rancho, Jemez Springs, Cuba, San Isidro, Bernalillo, Corrales, Los Ranchos de Albuquerque, Bosque Farms, Los Lunas, and Belen. Other entities such as the Albuquerque Metropolitan Arroyo Flood Control Authority, the Southern Sandoval County Flood Control Authority, and the Middle Rio Grande Conservancy District are also included. The Jicarilla Nation and the Pueblos of Jemez, Zia, San Felipe, Santa Ana, Sandia, and Isleta as well as portions of the Tohajiilee Chapter of the Navajo Nation and the Pueblos of Santa Clara, Cochiti, Santo Domingo, and Laguna are within the region. Principal uses of water in the region are for irrigated agriculture, municipal, industrial, and domestic consumptive uses, riparian evapotranspiration, and evaporative losses from conservation and recreation storage. The plan addresses future challenges to managing water resources in the region, including drought conditions, Rio Grande Compact constraints, unadjudicated water rights, federal Endangered Species Act issues, and projected population growth. Development of the plan, at a cost of more than \$1.3 million, was funded with grants from the Interstate Stream Commission and the Middle Rio Grande Council of Governments, as well as contributions from local governments and the Middle Rio Grande Water Assembly.

The Lower Rio Grande Regional Water Plan covers south-central New Mexico in the Rio Grande Basin north of the Texas border. The plan included input from representatives from the City of Las Cruces, Elephant Butte Irrigation District, New Mexico State University, Doña Ana County, Doña Ana Mutual Domestic Water Consumers Association, the Village of Mesilla, the Berino Mutual Domestic Water Consumers Association, and the Village of Hatch. Most of the water supply in the region is used for agriculture and is stored in Elephant Butte Reservoir. Municipalities and other entities use groundwater, which is directly linked to the surface water system. The plan addresses projected demand for public water supply and other needs, expected to grow significantly due to rapidly growing municipalities in the region. The plan was developed with grants from the Interstate Stream Commission totaling more than \$437,000. The Lower Rio Grande Water Users Organization contributed matching funds and in-kind services.

The Southwestern Regional Water Plan includes Catron, Grant, Hidalgo, and Luna counties. Most of the surface water supply in the region is for agricultural use. Municipalities and other entities use groundwater. The plan addresses projected demand for public







For information on stream activity in the Colorado River Basin, see page 43. For Pecos River Basin, see page 52. For the Rio Grande Basin, see page 55. For acequias and other community irrigation districts, see page 60.

water supplies and other needs as they are expected to grow in the next 40 years. The plan was coordinated by a steering committee, which included representatives of the counties, municipalities, and agricultural and mining water users. The City of Deming was the fiscal agent for the project. The plan was developed with grants from the Interstate Stream Commission totaling more than \$369,000.

Regional water plans were accepted previously for the Colfax County, Jemez y Sangre, Lower Pecos Valley, Lea County, Tularosa-Sacramento and Salt Basins, Estancia Basin, Socorro-Sierra, San Juan Basin, and Northwest New Mexico regions.

### Statewide Water Planning

Implementation of New Mexico's first State Water Plan continues. The plan was developed in 2003 in response to legislation calling for a comprehensive approach to managing the state's water resources.

Accepted by Governor Richardson in January 2004, the plan reflects a year of intense staff work that included 29 public meetings attended by more than 1,500 people and a New Mexico First Town Hall meeting. The public meetings featured in-depth discussions on key water topics such as water banking, drought management, shortage sharing, watershed restoration, strategies for water conservation and other issues. The State Water Plan is available for review on the website for the Office of the State Engineer, at [www.ose.state.nm.us](http://www.ose.state.nm.us)

Ongoing implementation efforts include making progress on effective management of water during times of drought, continuing adjudications, entering information into the Water Administration Technical Engineering Resource System database, making progress on settling Native American water rights cases, developing new water sources, and continuing the progress made with the Endangered Species programs.

## The Eight Interstate

*Colorado River Compact.* Signed in 1922, the Colorado River Compact was ratified by California, Colorado, Nevada, New Mexico, Utah and Wyoming by 1929 and approved by Congress in the Boulder Canyon Project Act of 1929. Although Arizona did not ratify the compact until 1944, the President of the United States proclaimed it effective in 1929. It apportions the use of waters of the Colorado River system to the upper and lower basins. Parts of Arizona, Colorado, New Mexico, Utah and Wyoming constitute the upper basin. The lower basin includes parts of Arizona, California, Nevada, New Mexico, and Utah. The compact does not provide for an administrative commission. Instead it provides that each state, through the state official charged with water rights administration, together with certain agencies of the federal government, shall cooperate to promote the systematic determination and coordination of the facts as to flow, appropriation, consumption and use of water in the Colorado River basin; ascertain and publish the annual flow of the Colorado River at Lee Ferry, the point of division between the two basins; and perform such other duties as may be assigned by mutual consent of the signatory states.

*Upper Colorado River Basin Compact.* Signed in 1948 by Arizona, Colorado, New Mexico, Utah, and Wyoming, and approved by Congress in 1949, the compact creates the Upper Colorado River Commission to administer its provisions with members representing the United States, Colorado, New Mexico, Utah, and Wyoming. Arizona is not included. The UCRC maintains an office and staff in Salt Lake City, Utah. Members of the Commission staff serve as engineering and legal advisers and assist the New Mexico commissioner.

*La Plata River Compact.* Dividing the waters of the La Plata River between Colorado and New Mexico, the La Plata River Compact was signed in 1922 and approved by Congress in 1925. The compact provides that the state engineers of the two states shall administer the waters of the La Plata River in accordance with the terms of the compact. This requires daily administration of the flows of the La Plata River except from December 1 through February 15. The compact also provides for cooperative collection, exchange, and publication of streamflow data. Commission staff monitors and evaluates the daily operation of the river and assists the State Engineer in administering the compact. The La Plata Conservancy District employs a water master to supervise water diversion within the district in New Mexico. The water master and the district's board of directors cooperate with commission staff to collect data necessary for the daily operation analysis.

*Rio Grande Compact.* Signed in 1938, with Colorado, New Mexico, and Texas as parties and approved by Congress in 1939, the Rio Grande Compact apportions the waters of the Rio Grande above Ft. Quitman, Texas, among the three states. It provides for administration by a commission consisting of the state engineers of Colorado and New Mexico, a commissioner appointed by the Governor of Texas, and a represen-

## Canadian River Basin Activity

### INTERSTATE STREAM COMPACT, DECREE AND TREATY ADMINISTRATION

#### Canadian River Compact-Decree in *Oklahoma and Texas v. New Mexico*

Ute Reservoir, which begins 32.1 miles upstream from where the Canadian River crosses into Texas, underwent routine dam operation and maintenance activities during the fiscal year. The Commission owns and operates the dam and reservoir, constructed in 1962. Originally built with a capacity of 110,000 acre-feet, the construction of a raised spillway in 1984 increased capacity to over 246,600 acre-feet but, under the 1993 U.S. Supreme Court decree in *Oklahoma and Texas v. New Mexico*, the conservation pool is limited to 200,000 acre-feet.

Although snow pack in the upper Canadian basin was 160 percent of average, inflow

conditions made it unnecessary to release water from Ute Reservoir to meet the court-ordered operation schedule during the reporting period from July 2004 through June 2005. The schedule is part of a stipulated judgment and decree entered on December 13, 1993, in the U. S. Supreme Court case *Oklahoma and Texas v. New Mexico*. The operation schedule specifies annual operating elevation limits for Ute Reservoir.

#### FEDERAL MANAGEMENT ISSUES

##### Endangered Species Act Issues

On November 23, 1998, the Arkansas River shiner, a small minnow present in the Canadian River below Ute Dam to the Texas-New Mexico state line, was listed as threatened under the federal Endangered Species Act. In March 2001 the U.S. Fish and Wildlife Service designated 1,148 miles of river, including this reach and 300 feet of land along each side of the river channel, as critical habitat under the federal act. In October 2003,



## Stream Compacts

tative of the United States. The Rio Grande Compact establishes delivery obligations for Colorado and New Mexico. It provides for debits and credits to be carried over from year-to-year until extinguished under provisions of the compact. Accrued credits or debits are an important element of compact accounting. The Engineer Advisers to the compact commissioners meet prior to the Annual Rio Grande Compact Commission meeting to prepare data on scheduled and actual delivery of water and other related topics. The U.S. Geological Survey acts as Secretary to the Compact Commission under an annual cooperative agreement, and prepares monthly and annual reports and maintains the official Compact Commission files.

**Costilla Creek Compact.** Representatives of Colorado and New Mexico signed the Costilla Creek Compact in 1944, and Congress approved it in 1946. The compact was amended through a similar process in 1963. The compact provides for delivery of apportioned water to users in New Mexico and to Colorado at interstate points of delivery on the New Mexico-Colorado state line. It provides for an administrative commission composed of the official in each state charged with administering public water supplies.

The Costilla Creek irrigation system begins south of the Colorado state border in the Sangre de Cristo Mountains of north-central New Mexico and extends some 40 miles downstream via Costilla Creek and irrigation ditches onto the high desert plains of New Mexico and Colorado. The compact requires daily administration of the direct flow and storage waters of the system during the irrigation season. A water master performs this function.

**Pecos River Compact.** Signed by New Mexico and Texas in 1948 and approved by Congress the following year, the compact provides for a commission to administer its provisions. Under state law New Mexico's Pecos Compact commissioner is appointed by the Governor to serve for a term of two years. One of the Commission's major concerns is compliance with the U.S. Supreme Court Amended Decree governing New Mexico's delivery of Pecos River water to Texas. Under the decree, New Mexico is prohibited from allowing a net shortfall in its deliveries to Texas. The Commission's Pecos River water rights lease/purchase program has increased the flow of water to the state line.

**Canadian River Compact.** Signed in 1950 with New Mexico, Oklahoma, and Texas as parties and approved in 1952, the compact provides for a commission to administer its provisions with one commissioner for each state and one for the United States.

**Animas-La Plata Project Compact.** The states of Colorado and New Mexico concluded the Animas-La Plata Project Compact, which was approved by Congress in 1968. The compact does not provide for an administrative compact commission. It establishes equal priority for the water supply to be diverted by the project for uses in New Mexico with the priority for the project granted by the Colorado state court.



U.S. District Court Judge C. Leroy Hansen of Albuquerque upheld an appeal by the Arkansas River Shiner Coalition, (a coalition of 17 associations and governmental entities in Texas, Oklahoma, New Mexico and Kansas), and struck down the March 2001 rule. The judge agreed with the Coalition that the Fish and Wildlife Service had failed to conduct a proper economic analysis of the impact of designating critical habitat. The Service accepted the ruling, which has now been vacated. In October 2004, the Service proposed designating as critical habitat the reach of the Canadian River from Ute Dam near Logan downstream to Lake Meredith in the Texas panhandle.

The Canadian River Municipal Water Authority, a member of the Coalition, requested the Interstate Stream Commission support a management plan for the reach of the Canadian River from just below Ute Reservoir to Lake Meredith. The management plan is a cooperative effort among various local, state, and federal entities in eastern New Mexico and the Texas Panhandle, with the input and cooperation of local landowners. The goals of this management plan:

- Conserve and protect the existing healthy self-sustaining population of Arkansas River shiner;
- Maintain the existing ecological functions and processes that currently support the population of Arkansas River shiner, improve habitat integrity, and provide a mechanism for monitoring the status of the Arkansas River shiner in these portions of its habitat; and
- Encourage landowners and other involved parties to utilize good management practices on lands adjacent to the Canadian River to prevent damage to the riparian ecology and minimize harm from the activities of off-road and all-terrain vehicles.

A short-term intended purpose of this plan is to exclude the need to designate critical habitat between Ute Dam and Lake Meredith by identifying and enacting those conservation strategies listed in this plan. A long-range goal of this plan is to contribute to the eventual de-listing of the Arkansas River shiner upon re-establishment of the species in sufficient portions of its range, while maintaining a healthy population in the Canadian River from Ute Dam to Lake Meredith and elsewhere, as may be accomplished by other efforts. The Interstate Stream Commission at its June 16, 2005, meeting delegated authority to the commission director to approve the management plan and any subsequent memorandum of agreement.

## **WATER PLANNING AND DEVELOPMENT**

### **Ute Dam and Reservoir**

Ute Reservoir underwent routine dam operation and maintenance during the fiscal year. The reservoir content was approximately 181,959 acre-feet on June 30, 2005. A gross estimate of inflow, calculated solely from reservoir elevations and average annual evaporation and precipitation, totaled approximately 31,987 acre-feet from July 1, 2004, to June 30, 2005. The continuing drought made it unnecessary to release any water to comply with the Supreme Court judgment and decree.

In February 2002, the Commission entered into professional services agreements for sediment surveys, dam safety studies, engineering and design for spillway repairs, seismic studies, and construction oversight. The sediment survey was completed in 2003, the Seismic Hazard Evaluation and technical specifications for the Ute Dam Spillway Repair was completed in May 2005.

In March 2002, the Commission approved an application process that allows for licensing of boat docks and encroachments pursuant to guidelines recommended by the Ute Advisory Committee and regulations developed by the New Mexico Parks Department. During the 2004-2005 fiscal year, the Commission approved the license renewal for approximately 24 residents with existing boat docks or encroachments on Commission property.

In May 2003, the Eastern New Mexico Rural Water Authority was formed under a joint powers agreement to plan, develop, finance, construct and operate a proposed water treatment and supply system using Ute Reservoir water. The U.S. Bureau of Reclamation



has funded planning and conceptual design of the project since 1997. During the 2002 New Mexico legislative session, House Bill 88 provided \$2 million for capital improvements and during the 2005 legislative session an additional \$1 million was provided to the water supply project. On June 17, 2004, a congressional hearing regarding a proposal to authorize the Secretary of the U.S. Department of the Interior to provide financial assistance to the Water Authority for the project was conducted in Washington D.C. The administration testified that it could not support authorization at this time, but pledged to work more closely with the project sponsor. The Water Authority is continuing to develop financial plans and feasibility studies to support legislative authorization. Commission staff regularly attends Water Authority meetings to comment on the feasibility of the proposed water system project.

### **Canadian River Commission**

The Canadian River Commission conducted its annual meeting on March 7, 2005, in Albuquerque. In addition to a report on the status of releases at Ute Reservoir, commissioners heard from the Palo Duro River Authority that the Palo Duro lake level had not significantly changed since last year and remains very low. The Canadian River Municipal Water Authority reported that Lake Meredith experienced a new record low level of only 53.41 feet. Salt cedar control along the Canadian River continued, with about 850 acres in New Mexico treated. Salt cedar beetles were released in the Lake Meredith area. The water authority, in conjunction with the Arkansas River Shiner Coalition is using this salt cedar control as a mitigation effort to preclude the need to designate critical habitat between Ute Dam and Lake Meredith.

## **Colorado River Basin Activity**

### **INTERSTATE STREAM COMPACT, DECREE AND TREATY ADMINISTRATION Upper Colorado River Basin Compact**

The Upper Colorado River Basin Compact, signed by Arizona, Colorado, New Mexico, Utah, and Wyoming in 1948 and ratified by Congress in 1949, created the Upper Colorado River Commission to administer its provisions. The river commission consists of representatives of the United States and all compact states except Arizona and has an office and staff in Salt Lake City, Utah. During the 2004-2005 fiscal year, the commissioners and staff of the river commission directed much of their effort toward the operating plan for the Colorado River reservoirs system. Because of the extreme drought in the Colorado River Basin during 2000-2004, storage of water in Lakes Powell and Mead was drastically reduced. A number of meetings were held, including meetings of the seven Colorado River Basin States and the Department of the Interior, to discuss potential management strategies for operation of the two reservoirs under such low storage conditions. This effort is likely to continue in the next fiscal year.

The commissioners and staff of the river commission also worked to support congressional appropriations for authorized projects, participated in salinity control program activities and the Glen Canyon Dam Adaptive Management Program, and prepared analyses of environmental impact statements and federal water resource legislation.

The river commission has been working under a 1988 determination by the Bureau of Reclamation that the yield available to the Upper Basin is at least 6.0 million acre-feet annually. In December 1999, the river commission: (1) resolved that while it disagrees with the assumption used by Reclamation in the 1988 yield study of a minimum release of 8.23 million acre-feet per year from Glen Canyon Dam, it does not object to using for water planning purposes and water supply studies in the Colorado River Basin schedules of anticipated future depletions that assume a yield to the Upper Basin of at least 6.0 million acre-feet annually; and (2) approved schedules, dated January 2000, of depletions anticipated to occur in each Upper Division state from 2000 through 2060. The State of New Mexico's Upper Basin depletion schedule was modified slightly in 2002 and again in April 2005 to reflect the San Juan River Basin in New Mexico Navajo Nation Water Rights Settlement Agreement, signed by the State of New Mexico and the Navajo Nation on April 19, 2005.





## **La Plata River Compact**

The State Engineers of Colorado and New Mexico administer the provisions of the La Plata River Compact. Pursuant to Article II.3 of the compact, the State Engineers agreed to rotations of alternating water use between the two states for a few weeks during the summer of 2004 to collect hydrologic data under differing operational approaches during low-flow conditions. Still, disagreements between the state engineers over Colorado's stateline deliveries of water to New Mexico under the compact remain unresolved. The total flow of the La Plata River at the Colorado-New Mexico stateline gauge was 14,700 acre-feet during calendar year 2004, about 58 percent of normal.

The La Plata Water Conservancy District in Colorado during fiscal year 2005 continued planning for the proposed Long Hollow Dam and Reservoir for uses in Colorado. Inflow to the La Plata River from Long Hollow accounts for a significant portion of the flow of the river at the stateline gauge, particularly during periods of low flow. The State of New Mexico remains concerned that operations of the Long Hollow Reservoir, in conjunction with other water uses in Colorado, may impair Colorado's stateline deliveries of water as compared to the delivery required by Article II.2 of the La Plata River Compact. Reservoir operations also could result in reductions of stateline flows available to meet domestic and stock uses during winter months.

## **FEDERAL MANAGEMENT ISSUES**

### **Operating Plan for Colorado River Reservoirs**

The Colorado River Basin Project Act requires the Secretary of the U.S. Department of the Interior, in consultation with the Colorado River Basin states and other interests, to prepare the annual operating plan for the Colorado River System Reservoirs. The plan is developed through meetings of the Colorado River Management Work Group and the 2005 plan was approved by the Secretary of the Interior in November 2004.

Because of low storage conditions in Lakes Mead and Powell, the 2005 annual operating plan included a provision for conducting a mid-year review, pursuant to the Long-Range Operating Criteria. The mid-year review was conducted in April 2005 to determine if the runoff forecast warranted an adjustment to the release amount from Lake Powell for water year 2005. The Secretary of the Interior in May 2005 concluded that an adjustment was not warranted. In issuing her conclusion, the Secretary retained authority pursuant to applicable law and the Long-Range Operating Criteria to adjust releases from Glen Canyon Dam to amounts less than 8.23 million acre-feet per year.

### **Colorado River Water Delivery Shortage Guidelines**

The Department of the Interior in June 2005 published in the Federal Register a notice that the Bureau of Reclamation has been directed to develop additional Colorado River management strategies to address operations of Lakes Mead and Powell under low reservoir storage conditions. Such strategies could identify those circumstances under which the Department of the Interior would reduce annual water deliveries from Lake Mead in the Lower Basin or releases from Lake Powell, and the manner in which annual operations would be modified. Development of Lower Basin shortage guidelines is expected to take about two years.

### **Colorado River System Simulation Model Replacement**

Reclamation continues to develop a new hydrology and operation model for the Colorado River system to be used for planning and policy analyses. The new model is based on "RiverWare," a generic modeling tool or framework developed by CADSWES of Boulder, Colorado. The Colorado River "RiverWare" model replaces the Colorado River Simulation System Cyber model that has been used since the early 1980s. A scaled-down version of the Colorado River "RiverWare" model replaces the personal-computer-based version of the Cyber model.

The new Colorado River system models are used for Lower Basin water conservation projects, Lower Basin water banking projects analysis and projections, analysis for development of annual operating plans for Colorado River reservoirs and other similar activities of the basin states and the federal government. The salinity projection module for Colorado

River salinity studies continues to be developed in coordination with the basin state representatives to the Colorado River Basin Salinity Control Forum Work Group.

Commission staff has participated in meetings on activities for which the model is being developed and applied, has furnished information and data for incorporation into the model, and has reviewed and commented on model outputs.

#### **Glen Canyon Adaptive Management Work Group**

The Glen Canyon Adaptive Management Work Group is a cross-interest committee chartered by the Secretary of the Interior to provide advice to the Secretary on the Adaptive Management Program for Glen Canyon Dam. The Grand Canyon Monitoring and Research Center operates within the Adaptive Management Program to define research objectives and develop monitoring programs to meet information needs of the Program. The research center currently is developing parameters of a long-term research plan that will form the basis for future research projects to study the effects of operation of Glen Canyon Dam on the Grand Canyon. The objective of the work effort is to improve conditions in the Colorado River immediately downstream of the dam. The research center also is completing elements of a core monitoring program to measure long-term changes in the canyon below Glen Canyon Dam.

Goals of the Adaptive Management Plan for the dam include conservation of sediment resources and sand bars in the Colorado River through the Glen, Marble and Grand canyons downstream from Glen Canyon Dam and control of non-native fish species that are detrimental to endangered native fish. Sediment and sand bars provide for native fish habitat, riparian vegetation, rafter campsites and protection of archeological sites. Successful tests using mechanical means to capture and remove non-native fish led the federal agencies to expand fish removal operations using mechanical means in fiscal year 2004. Mechanical removal of trout was continued in fiscal year 2005.

The Adaptive Management Work Group has directed the Technical Work Group to develop a long-term experimental flow program for Glen Canyon Dam to attempt to define the flow regime needed to conserve sediment in downstream canyons. A two-year test flow program was continued during fiscal year 2005 to investigate: (1) storing tributary sediment inputs below Glen Canyon Dam during the monsoon season by maintaining low dam releases and small power load filling during the summer and fall; and (2) picking up and redistributing the stored sediment onto beaches through the Grand Canyon by making a large dam release in excess of power plant capacity in January. The below-dam, in-stream sediment storage trigger was reached late last fall and the work group recommended that a short-duration, high beach-building test flow be conducted in November 2004 instead of in January. The five-day test flow commenced on November 8, 2004, and lasted for only about half the duration of the previous beach building flow conducted in 1996. The 2004 test flow had a maximum release rate of 41,300 cfs from Glen Canyon Dam, with a partial bypass of the power plant that resulted in the loss of approximately \$2 million in power revenues. The 2004 test flow resulted in a significant buildup of beaches in Upper Marble Canyon, with less or no increase in beach areas in Lower Marble Canyon. Some young humpback chub may have been carried downstream during the test flow, but their fate is not known.

Also being evaluated are flow regimes and non-flow measures needed to conserve populations of endangered humpback chub in the Colorado River and tributaries within the Grand Canyon. The adult population of humpback chub in nature has declined since the early 1990s. In fiscal year 2003, the U.S. Fish and Wildlife Service issued a recovery plan that requires the development and maintenance of the current population as well as other populations outside the Grand Canyon vicinity. Trout predation on humpback chub is believed to be high, and efforts to minimize trout predation include electrofishing and removal of trout at the confluence of the Colorado and Little Colorado rivers and implementation of a fish barrier and trout removal project on Bright Angel Creek. A long-term experimental flow program may need to be developed in conjunction with other conservation measures. During fiscal year 2006, mechanical trout removal efforts will continue







and high-fluctuating-flow releases from Glen Canyon Dam also will be continued to disadvantage trout reproduction.

The Bureau of Reclamation and the Grand Canyon Monitoring and Research Center are studying the effects of temperature of power generating flows and quality of water released from Glen Canyon Dam on native fish species in the Grand Canyon. The Adaptive Management Work Group has requested additional research studies as a result of declining reservoir storage levels and increased temperatures in the river associated with existing flow regimes. The work group has recommended that the Secretary of the Interior complete National Environmental Policy Act compliance activities on a temperature-control device, and a feasibility assessment is being prepared on a temperature control device for the outlet penstocks at the Glen Canyon Dam power plant. Reclamation has completed a public review and comment process to help clarify the scope of the temperature control project for environmental compliance. Reclamation also has commissioned work to identify the engineering feasibility and cost of several of the most promising alternatives for controlling the temperature of releases from Glen Canyon Dam.

The availability of water for use by the Upper Division States, including New Mexico, could be impaired by changes in releases from Glen Canyon Dam. Changes in dam release criteria also may negatively impact power production and, consequently, power consumers.

### **Colorado River Salinity**

Mexico began protesting the salinity of the Colorado River in 1961 and Congress enacted the Colorado River Basin Salinity Control Act in 1974 authorizing the construction, operation and maintenance of certain works in the Colorado River Basin to control the salinity of water delivered to users in the United States and Mexico. A desalting plant was built in the 1980s and began operation in 1992, but operations were suspended in early 1993 because of the operating costs. New Mexico has agreed the plant should be maintained on standby status to enable restart within a reasonable time. The Bureau of Reclamation consults with the basin states at least annually on the status of the plant and the need to operate during the year.

The Colorado River Basin Salinity Control Forum was created by the basin states in response to a proposal by the Environmental Protection Agency and promulgation of a regulation (40 CFR 120) on basin-wide salinity control policy that required the states to adopt water quality standards for salinity. Forum activities include reviewing program progress, recommending and cost-sharing salinity control projects, preparing and recommending the triennial review of water quality standards within the basin, and development of future program objectives. Without future controls and continued implementation of salinity control projects, current studies show that the numeric criteria of the water quality standards for salinity could be exceeded and damages could escalate. An economic damage model is being updated to estimate current and future damages from salinity, most of which occur in the Lower Colorado River Basin. Presently, there is concern that salinity levels in the Colorado River could rise further if the basin-wide drought continues and storage in mainstem reservoirs continues to be low.

The Navajo Nation is studying salinity loadings in the Hogback area near Shiprock, N.M., in anticipation of developing a salinity control project. Studies throughout the Colorado River Basin will continue to identify the cost-effective areas for implementation of salinity control projects.

### **Endangered Species Act Issues**

*Colorado River Delta.* Minute 306 to the 1944 Treaty between the United States and Mexico for the Utilization of the Waters of the Colorado and Tijuana Rivers and the Rio Grande establishes a conceptual framework for joint studies to prepare recommendations concerning the riparian and estuary ecology of the Limitrophe Section of the Colorado River and its associated delta. The seven Colorado River Basin states have stated their opposition to any proposed restoration measures that would involve delivery of Colorado River water from the United States to Mexico in excess of the current Treaty delivery obligation.

The basin states have appointed representatives to a technical committee to maintain contacts, gather information as available, and report to the basin state representatives on the delta issues being considered.

*San Juan River Basin Recovery Implementation Program.* The San Juan River Basin Recovery Implementation Program is a multi-state, cross-agency effort to conserve populations of Colorado pikeminnow and razorback sucker in the basin while water development in the basin proceeds in compliance with interstate compacts and other applicable laws. In fiscal year 2005, the recovery implementation program's Biology Committee: (1) conducted research; (2) collected field data; (3) completed a draft program integration report that summarizes monitoring activities and findings through the research and recovery implementation period of the program; (4) updated the program's long-range plan and a budget for the program's long-range plan; and (5) worked on evaluating fish passage for endangered and native fish at the diversion structures for the Four Corners Power Plant and the Fruitland Irrigation Canal, and on increasing pond capacity for rearing razorback sucker for augmenting the population in the San Juan River. The Bureau of Reclamation continued preparation of an environmental impact statement to implement recommendations for flows needed to provide for the habitat needs of endangered fish populations in the San Juan River and for operating rules for Navajo Dam to meet the recommended flows of the recovery implementation program. Two areas overlapping New Mexico have been designated critical habitat: the reach of the San Juan River from Farmington to Lake Powell, Utah, for the Colorado pikeminnow and from the Hogback to Lake Powell for the razorback sucker. Reclamation in June 2005 was in formal consultation with the Fish and Wildlife Service under section 7 of the Endangered Species Act regarding impacts of the proposed operation of Navajo Reservoir to meet the flow recommendations or a reasonable alternative, and the environmental impact statement on the proposed operation is scheduled to be completed in late 2005.

The flow recommendations report previously prepared by the Biology Committee of the recovery implementation program indicates that the Animas-La Plata "lite" Project and Navajo Indian Irrigation Project may be fully developed without infringing on the flow recommendations, but that the flow recommendations may influence or inhibit other future water development in the basin. The flow recommendations are being reviewed in



## Cooperative Agreement on San Juan River

For the third year in a row, major water users on the San Juan River developed and endorsed recommendations and principles for the operation of Navajo Dam and the administration of diversions from the river for the remainder of the year. The New Mexico State Engineer and Reclamation have accepted the recommendations and principles.

The recommendations were developed in response to low water supplies during 2002-2004, the continuance of the drought until the spring snowmelt runoff in 2005 that refilled storage in Navajo Reservoir, and competing needs for water.

The water users making the recommendations include the Bloomfield Irrigation District, City of Farmington, Hammond Conservancy District, Farmers Mutual Ditch, Jewett Valley Ditch, Public Service Company of New Mexico, Arizona Public Service Company, BHP Billiton, Jicarilla Apache Nation and Navajo Nation. The Navajo Nation approved the recommendations and principles on behalf of the Navajo Indian Irrigation Project

and the Fruitland and Hogback irrigation projects.

Under the recommendations and principles, the water users share in the water supply available to meet the water use needs from the San Juan River. No shortages will occur in 2005 under the cooperative recommendations as the runoff and Navajo Reservoir storage will be shared to meet all demands on the river in 2005 while still recovering reservoir storage to near capacity during the summer.

The State Engineer will assist in monitoring the implementation of the recommendations and principles. With funding support from the Commission, the State Engineer has installed gauging equipment on most non-Indian ditches in the basin diverting from the San Juan, Animas and La Plata rivers. The Bureau of Indian Affairs installed gauging equipment on the Fruitland and Hogback irrigation canals. Measurement of diversions is necessary to implement water rights administration and cooperative solutions such as the recommendations.



light of continued fish and habitat monitoring and in conjunction with the program integration report.

The Biology Committee also identified a need to implement capital works to recover the populations of endangered fish species in the San Juan River. The total potential cost of capital works needed is estimated at about \$18 million. Proposed capital works include fish passage structures at diversion dams, fish screens on diversions, ponds for rearing endangered fish, and physical habitat modifications. Additional costs in excess of \$18 million may be incurred if it is determined that installation of a temperature-control device on the outlet works of Navajo Dam is warranted to control water temperatures in the San Juan River below the dam for endangered fish, and if such installation is determined to be feasible.

Construction was completed in fiscal year 2003 on a selective fish passage that has since been operated to allow only native fish to move upstream of the Public Service Company of New Mexico San Juan Generating Station diversion weir. Native fish, including endangered species, have been found using the fish passage, and non-native fish captured at the fish passage are removed from the river. Other capital projects identified to assist in recovery of the endangered fish in the San Juan River include a fish passage at the Arizona Public Service Company Four Corners Power Plant diversion dam

and fish screens at the Hogback Project canal heading. In 2002, a non-selective fish passage was completed at the Hogback irrigation project diversion structure and the Cudei irrigation project diversion structure was removed from the river. Cudei project lands now receive irrigation water from the Hogback canal.

During fiscal year 2005, the Hydrology Committee continued work on the development or refinement of a hydrology model for the San Juan River Basin. A hydrology model for the basin has been, and will continue to be, used to assess the availability of water supply for meeting endangered fish flow and habitat needs and water development needs. An updated model revision is expected to be completed in fiscal year 2006.

The US Fish and Wildlife Service in fiscal year 2003 issued recovery plans and goals for the Colorado pikeminnow and razorback sucker. Under the plans, development and maintenance of the San Juan River populations to specific population goals are integral to achieving recovery and delisting of both species.

## Navajo Nation Settlement

The State of New Mexico and the Navajo Nation on April 19, 2005, signed a water rights settlement that would resolve the claims of the Navajo Nation for the use of waters of the San Juan River Basin in northwestern New Mexico.

The settlement agreement is intended to adjudicate the Navajo Nation's water rights and provide associated water development projects for the benefit of the Navajo Nation in exchange for a release of claims to water that could potentially displace existing non-Navajo water users in the basin and seriously impact the local economy.

This settlement agreement would establish the water rights of the Navajo Nation in the San Juan Basin in New Mexico. It would draw to a close more than 20 years of efforts to adjudicate the Navajo Nation's water rights claims. Importantly for non-Navajo water right owners, it would protect existing uses of water, it would allow for future growth, and it would do so within the amount of water apportioned to New Mexico by the Colorado River Compacts.

The settlement agreement is available for public inspection at the Office of the State Engineer's website at: [www.ose.state.nm.us](http://www.ose.state.nm.us).

The settlement agreement must be approved by Congress and executed by the United States, acting through the Secretary of the Interior. Commission staff is working with United States Department of the Interior and Department of Justice officials and the New Mexico Congressional delegation on federal legislation to authorize the Navajo-Gallup Water Supply Project and to approve the settlement agreement. It is anticipated that the legislation will be introduced early in fiscal year 2006.



*From Left: State Engineer John D'Antonio, Attorney General Patricia Madrid, Governor Bill Richardson, and Navajo Nation President Joe Shirley.*



*San Juan River Basin Hydrology Model.* New Mexico continues to raise concerns about the use of the San Juan River Basin hydrology model in the recovery implementation program or in federal environmental and endangered species compliance. New Mexico's position is that the data, methodologies and assumptions used in the model are not fully accurate; do not under any circumstances constitute evidence of actual water use, water rights or water availability under compact apportionments; and should not be construed as binding on any party. Furthermore, use of the model, model data, methodologies and assumptions does not change the responsibilities of the respective states to maintain records of water rights and water use.

## **WATER PLANNING AND DEVELOPMENT**

### **Upper Colorado River Basin Development**

Much of the water use apportioned to New Mexico by the Upper Colorado River Basin Compact is put to use through projects in the San Juan River basin developed and operated by Reclamation. These projects include Navajo Dam and Reservoir, the Hammond Project and the San Juan-Chama Project. In addition to operation of these projects, Reclamation continues work on the Animas-La Plata Project and its study of the Navajo-Gallup Water Supply Project.

*Navajo Dam and Reservoir.* The Office of the State Engineer and Interstate Stream Commission staff during fiscal year 2005 negotiated with Navajo Nation representatives on a settlement to the water rights claims of the Navajos to waters of the San Juan River Basin in New Mexico, including to Navajo Reservoir contract rights. The United States this fiscal year also participated in the Navajo Nation water rights negotiations through members of a federal water rights negotiation team to assist in furthering a negotiated settlement. Navajo Nation use of Navajo Reservoir water supply is a key component to the water rights settlement. The reservoir provides river regulation pursuant to the Colorado River Storage Project Act, and provides storage for the Navajo Indian Irrigation Project, the Hammond Project, and municipal and industrial uses.

In December 2003, the State Engineer and the Navajo Nation released a draft water rights settlement for public review and comment. The comment period ended in January 2004, but comments and discussions continued after that date. The State Engineer and the Navajo Nation in July 2004 released a revised draft water rights settlement that addressed comments to the extent possible. Further public comment was received on the revised draft. The Interstate Stream Commission heard public comments on the revised draft Settlement Agreement at its August 2004 meeting in Farmington. A third revised draft water rights settlement was released for public inspection and for consideration for approval in December 2004. The Navajo Nation Council approved the third draft on December 29, 2004, and the Commission approved it at its January 12, 2005, meeting in Farmington. The State of New Mexico and the Navajo Nation signed the Settlement Agreement on April 19, 2005. Introduction to Congress of legislation to approve the settlement is expected to occur in fiscal year 2006. A major component of the settlement is construction of the Navajo-Gallup Water Supply Project.

During fiscal year 2003, the Bureau of Reclamation released for public comment a draft environmental impact statement on Navajo Reservoir operations that identifies as the preferred alternative operating Navajo Dam to meet the San Juan River Basin Recovery Implementation Program's flow recommendations for the San Juan River or a reasonable alternative. Navajo Dam and Reservoir has been operated since 1991 to produce downstream flow hydrographs that mimic natural spring snowmelt runoff patterns. This operation is believed to benefit endangered fish populations in the San Juan River. The recovery implementation program has recommended flows and operating procedures that address the needs of both the species and water users. Operation of Navajo Reservoir to meet the habitat and recovery needs of populations of endangered fish species in the San Juan River provides Endangered Species Act compliance for federal water operations in the San Juan River Basin, including for the San Juan-Chama Project, the Animas-La Plata Project, the Navajo Indian Irrigation Project, the Hammond Irrigation Project, and





the proposed Navajo-Gallup Water Supply Project. The final Navajo Reservoir operations environmental impact statement is expected to be released in 2006.

The State Engineer and the Interstate Stream Commission, in order to meter surface water diversions in the San Juan River Basin, installed new flow measurement flumes on 18 irrigation ditches and remote sensing gage equipment on existing and new flumes on ditches in the basin during fiscal years 2003, 2004 and 2005. The flumes are equipped with flow recorders and remote sensing equipment. The work on diversion metering facilities in the basin is largely completed.

The State Engineer anticipates administering diversions in the San Juan River Basin in accordance with water rights priorities and available flows so as to protect rights and meet New Mexico's commitment under the San Juan River Basin Recovery Implementation Program to protect releases from Navajo Dam made to benefit endangered fish species. Administration of diversions in the Basin is anticipated to begin in 2007 after preparation for administration is completed in accordance with the rules and regulations approved by the State Engineer in December 2004 for implementation statewide of active water resource management. The rules and regulations require the State Engineer to promulgate additional rules and regulations for administration of water rights specifically in the San Juan River Basin and to use public processes for developing a water master manual and for developing a priority list determination of rights in the basin in New Mexico. Commission staff is assisting the State Engineer to prepare for administration in the basin.

*Navajo Indian Irrigation Project.* Construction of facilities to deliver water to lands under Block 8 of the Navajo Indian Irrigation Project was completed during fiscal year 2003. Eight of the scheduled 11 blocks of the project are now receiving irrigation water. Construction of water delivery facilities for Block 9 of the project continued during fiscal years 2004 and 2005. The Navajo Agricultural Products Industry, formed by resolution of the Navajo Tribal Council, is responsible for the operation and management of the project's irrigation works and for the farming and marketing activities of the project.

*Navajo-Gallup Water Supply Project.* The proposed Navajo-Gallup Water Supply Project would deliver water from Navajo Reservoir to Gallup and communities on the Navajo Reservation in both New Mexico and Arizona for municipal and domestic water uses. The Bureau of Reclamation during fiscal year 2005 continued its feasibility planning study for the project and its development of an environmental impact statement for the project that is scheduled to be completed in fiscal year 2006. The U.S. Bureau of Indian Affairs has the role of lead federal agency for the purpose of pursuing Endangered Species Act Section 7 consultation on the project with the U.S. Fish and Wildlife Service. Section 7 consultation on the Navajo-Gallup Water Supply Project is ongoing.

Interstate Stream Commission staff participates with the federal agencies, the Navajo Nation, the City of Gallup and others on a steering committee that provides oversight to the planning process for the Navajo-Gallup Project. Progress on the environmental impact statement for the project was slowed during the fiscal year for several reasons, including: evaluation of the impacts of the project on the implementation of the San Juan River Basin Recovery Implementation Program's flow recommendations; the delay in the Navajo Reservoir operations environmental impact statement caused by delays in the issuance of a biological opinion on the proposed operation of the reservoir to meet the flow recommendations or a reasonable alternative; the negotiation process for the Navajo Nation water rights settlement; and evaluation of water supply issues for the project. In June 2003, the Upper Colorado River Commission approved a resolution supporting New Mexico's use via the project of a portion of its Upper Basin apportionment in the Lower Basin. The water supply for the Arizona portion of the project remains unidentified. Still, the Secretary of the Interior pursuant to Public Law 87-483 must submit to Congress a hydrologic determination that sufficient water is likely to be available within the states' compact apportionments to supply the project uses.

Commission staff continues to participate in discussions with representatives of Reclamation and the Colorado River Basin states to resolve water supply issues, including

developing the required hydrologic determinations. The schedule for completing the environmental impact statement for the project has been delayed into fiscal year 2006. It is anticipated that the hydrologic determination for the project uses in New Mexico will be completed in 2006.

### **Lower Colorado River Basin Development**

*Little Puerco Wash Flood Control Project.* The U.S. Army Corps of Engineers has completed the design of a flood control project for the Little Puerco Wash aimed at protecting the City of Gallup, and construction of the project is underway with completion anticipated by December 2005. The project includes a retention dam 42 feet in height, roller-compacted concrete spillway, culvert and habitat mitigation to replace 2.5 acres of riparian vegetation.

*New Mexico's Gila River Allocation.* The Colorado River Basin Project Act in 1968 authorized the Central Arizona Project and provided that the Secretary of the Interior will contract with water users in New Mexico for water from the Gila River, its tributaries and underground sources in amounts that would permit an annual average of 18,000 acre-feet of consumptive use in New Mexico in addition to the consumptive use provided by the 1964 *Arizona v. California* decree. The act further provides that the consumptive use of the 18,000 acre-feet per year could not begin until, and would continue only so long as, Colorado River water is delivered via the Central Arizona Project to downstream Gila water users to offset the New Mexico use and only so long as the additional consumptive uses in New Mexico are made without economic injury or cost to senior rights.

The Bureau of Reclamation in 1987 deferred further planning under its Upper Gila Water Supply Study, which study had investigated alternatives for developing the additional consumptive uses in the Grant County area of New Mexico. Additional plans have since been proposed to develop New Mexico's 18,000 acre-feet allocation. The New Mexico Legislature in 1998 appropriated \$100,000 to the Commission to reassess the water needs of southwest New Mexico and development alternatives for the 18,000 acre-feet of Gila River water allocated to New Mexico. The Commission in July 2001 began a supply and demand study for the region that could be served by development of the 18,000 acre-feet of water.

Beginning in 2001, the Commission staff entered into intensive negotiations to protect and advance New Mexico's interests in the Arizona Water Settlements Act, S.437, introduced by Sen. Kyl in the spring of 2003. New Mexico had two main areas of interest in this bill. First, in the Upper Valley Defendant ("UVD") Agreement approved in Title II of the bill, New Mexico farmers in the Virden Valley are defendants in a suit over groundwater pumping brought by the Gila River Indian Community. Senate Bill 437 provides for settlement of that suit. Amendments to the legislation were negotiated that allowed Virden Valley farmers to conjunctively divert up to six acre-feet per acre from ground and surface water, regardless of priority. In return, Virden



## **Gila Settlement**

With the signature of the president of the United States in December 2004, the Gila Settlement became law, preserving New Mexico's right to an additional 14,000 acre-feet of water a year. The settlement also provides for New Mexico to receive \$66 million for water-use activities, an amount that could increase by as much as \$128 million if a water development project is to be considered.

The bill providing for the settlement of Indian water rights claims on the Gila River was introduced by Senator Jon Kyl of Arizona.

Following the enactment of the law, the Interstate Stream Commission launched a series of public meetings to explain the settlement, discuss options to meet present and future water needs, and optimize the use of funding.

More than 100 people attended the first of the meetings held in January in Silver City. Interstate Stream Commission staff made presentations on the legal, technical and environmental aspects of the settlement and answered questions.





farmers in New Mexico will be required to retire up to 240 acres of irrigated lands, 160 of which will be purchased by the Department of the Interior from willing sellers.

Second, the authorization for development of a New Mexico unit of the Central Arizona Project under Section 304 of the 1968 act had to be protected and advanced. Under the Arizona Water Settlements Act as passed by Congress and signed into law by the President in October 2004, provisions were included to permit New Mexico to develop 140,000 acre-feet of additional depletions from the Gila River Basin in New Mexico during any period of 10 consecutive years, provided that specific flow bypass requirements and other terms are met. As long as these terms of diversion are met, senior downstream users are bound to not protest any additional diversions by New Mexico water users made for the purpose of developing up to 14,000 acre-feet per year, on average, of depletions over and above the consumptive use provided by the 1964 *Arizona v. California* decree. To effect the additional depletions in New Mexico, the Secretary of the Interior is bound to enter into a contract with New Mexico water users to exchange Central Arizona Project water for the Gila River water that downstream Arizona water users will forbear calling. The Interstate Stream Commission must approve any contract between the Secretary and New Mexico water users.

The Arizona Water Settlements Act as signed into law also provides for up to \$128 million in non-reimbursable federal funding for the New Mexico development, \$66 million of which is restricted only to water utilization projects in the Southwest Region of New Mexico and is not necessarily tied to any water utilization project that exchanges Gila Basin water for Central Arizona Project water.

## **Pecos River Basin Activity**

### **INTERSTATE STREAM COMPACT AND AMENDED DECREE ADMINISTRATION**

#### **Pecos River Compact Administration**

The Pecos River master found that, for calendar year 2004, New Mexico was able to meet its compact delivery obligation to Texas and to add 8,300 acre-feet of credit. This increased New Mexico's accumulated delivery credit from 8,900 to 17,200 acre-feet. In 1988, the U.S. Supreme Court found in *Texas v. New Mexico* that New Mexico had under-delivered to Texas, on average, 10,000 acre-feet per year during the period from 1950 to 1983. New Mexico was allowed to clear its past debt with a payment of \$14 million to Texas. However, the court mandated that New Mexico deliver its future water obligations to Texas on an annual basis without ever incurring a cumulative shortfall. Delivery overages, or credits, are permitted to accumulate with no limits imposed. The court-appointed river master determines New Mexico's compliance with delivery obligations to Texas on the Pecos River each year.

The New Mexico Legislature, in response to the U.S. Supreme Court order, directed the Commission to purchase and retire adequate water rights on the Pecos River to meet compact obligations, and to avoid catastrophic economic consequences that may result from net shortfalls in deliveries to Texas. Approximately \$33.8 million was spent on the Pecos River water rights acquisition program and water leases between 1991 and 2004. The breakdown is \$19.4 million on the purchase and retirement of 27,300 acre-feet of water rights and \$14.4 million on leases of water to meet short-term delivery needs. Commission staff estimates that the purchase and retirement of water rights has increased state-line flows by about 8,600 acre-feet per year. The water rights lease/purchase program has allowed New Mexico to remain in compliance with its Pecos River Compact delivery obligations to date.

Anticipating a delivery shortfall in 2001, the Commission created an ad hoc committee of water users, now called the Lower Pecos River Basin Committee, made up of representatives from five irrigation districts, six municipalities, four counties, the Lower Pecos River Basin Regional Planning Committee, four industries, and Reclamation. Asked to craft a long-term solution to the Pecos River Compact compliance problem, the committee developed a consensus plan that included the purchase and retirement of land and appurtenant water rights in the Lower Pecos River Basin, long-term and short-term augmentation pumping from

the Roswell Artesian Aquifer to the Pecos River, and short-term leasing of water and water salvage projects. The Legislature authorized and partially funded the committee's plan and the committee is serving in an advisory capacity while the long-term solution is implemented.

Important caveats were placed on the 2003 appropriation by the Legislature. One requirement is that the Commission had to complete additional agreements to settle Carlsbad Irrigation District water rights adjudication issues. In March 2003, the Carlsbad Irrigation District, Pecos Valley Artesian Conservancy District, Reclamation and the Commission reached a settlement agreement adjudicating the irrigation district's water rights and implementing the consensus plan. Commission staff is working to implement the various elements of the Consensus Plan including the purchase of 18,000 acres of irrigated farmland in the Pecos Valley, the development of well fields to augment the flows of the Pecos River, along with related contracts enabling Carlsbad Project water to be released for deliveries to the state line with completion of any necessary environmental compliance, and completion of an environmental impact statement on Reclamation operations and Endangered Species Act compliance.

In 2004-2005, Commission staff continued to negotiate with land and water rights offerors. As of June 30, 2005, staff has negotiated purchase contracts for a total of approximately 9,500 acres with appurtenant water rights in the basin; 6,500 acres are in the Pecos Valley district and 3,000 are in the Carlsbad Irrigation District. Closings on these contracts are planned on a monthly basis until the settlement's minimum acreage requirements are met.

Augmentation pumping is being developed in three locations. The primary augmentation well field is located in the Seven Rivers area. Here, 10 out of 10 well sites have been surveyed and easements for development have been acquired. Four wells have been drilled in this area. Two complementary augmentation sites are being developed elsewhere. In December 2004, a pipeline connecting a lateral of the Hagerman Canal to the Rio Felix was completed to deliver Commission-owned and -leased water to the Pecos River in the winter months. A second pipeline has been designed for the Lake Arthur area. The anticipated completion date of this project is late fall 2005. The Lake Arthur pipeline will deliver Commission-owned water to the Pecos River in the winter months.

## FEDERAL MANAGEMENT ISSUES

During the 2004-2005 fiscal year, the Commission and Reclamation, joint lead agencies in conducting National Environmental Policy Act (NEPA) compliance on the Pecos River, continued to work on the two NEPA processes initiated in spring 2002. One environmental impact statement will address modified dam operations needed for Endangered Species Act compliance and associated water supply impacts.



## Land and Water Purchases in Pecos River Basin

The Interstate Stream Commission has received bids from landowners offering to sell more than 27,000 acres of land and associated water rights in the Lower Pecos River Basin under the state's land and water rights acquisition program.

The acquisition program was authorized by House Bill 417, approved during the 2002 session of the state legislature. The legislation authorizes the Commission to purchase up to 6,000 acres of land with water rights in the Carlsbad Irrigation District and up to 12,000 acres above Brantley Dam, which includes the Pecos Valley Artesian Conservancy District and the Fort Sumner Irrigation District.

Landowners interested in selling their land were required to submit bids to the Commission. Of the acreage submitted for sale to the Commission, about 7,300 acres are within the Carlsbad Irrigation District, about 18,900 are within the Pecos Valley Artesian Conservancy District, and about 800 acres are within the Fort Sumner Irrigation District.

Commission staff evaluated the bids and determined that acreages most effective in delivering water to the Pecos River was in the Carlsbad Irrigation District and the senior artesian and senior artesian source acres in the Pecos Valley Artesian Conservancy District. Making those the priority acquisition areas, commission staff began negotiations with landowners in the 2003-2004 fiscal year and negotiations continued into the 2004-2005 fiscal year. As of June 30, 2005, staff has negotiated purchase contracts for a total of approximately 9,500 acres with appurtenant water rights in the basin: 6,500 acres in the Pecos Valley district and 3,000 in the Carlsbad district. Of these negotiated contracts, staff has closed purchases on about 1,800 acres and additional closures are planned.

The acquisition program was first proposed in 2002 by the Lower Pecos River Basin Committee, an organization comprised of local stakeholders along the lower Pecos River, including irrigation districts, county and municipal governments, and business representatives. The acquisition program is one component of a long-term Consensus Plan devised by the Lower Pecos River Basin Committee as a means of insuring that New Mexico meets its interstate delivery obligation to the State of Texas under the Pecos River Compact and the U.S. Supreme Court Decree.



Commission staff members co-lead the hydrology, biology and water depletion offset work groups developing the impact statement. The other environmental impact statement will address the consequences of Reclamation entering into a long-term contract with the Carlsbad Irrigation District and the Commission to allow project water to be used for miscellaneous purposes, other than solely irrigation purposes. This action will allow water associated with the State of New Mexico's acquisition of land within the irrigation district to be used for state-line deliveries to Texas. The Commission, as joint lead on NEPA efforts with Reclamation, will develop and prepare the impact statements and all other compliance documentation required for the projects.

### **Endangered Species**

Responding to a finding by the U.S. Fish and Wildlife Service (Service) in 1991 that Reclamation operations on the Pecos River were harming the threatened Pecos bluntnose shiner, Reclamation and the Service, New Mexico Department of Game and Fish, and Carlsbad Irrigation District agreed to work together to address threats to the survival of the shiner. The Interstate Stream Commission joined the effort in 1997. Modifications to dam operations to conserve the federally threatened Pecos bluntnose shiner resulted in additional depletions of the fully appropriated Pecos River waters.

In 1998-1999 and 1999-2000, Reclamation signed agreements with the the Commission to make its best effort to fully offset any new depletion with other valid New Mexico water rights to protect New Mexico's ability to meet its Pecos River Compact obligations. If Reclamation's best efforts were insufficient to offset the depletion, Reclamation agreed to lease any water needed for the offset from the Commission's Water Resource Conservation Project. The federal agency continues to fully offset new depletions resulting from activities related to the conservation of endangered species in the Pecos River.

Four invertebrate species (Roswell springsnail, Koster's tryonia, Pecos assiminea, and Noel's amphipod) located in the Bitter Lake National Wildlife Refuge area in New Mexico and Pecos and Reeves counties in Texas were proposed for listing as endangered with critical habitat under the Endangered Species Act in February 2002. The Center for Biological Diversity and Forest Guardians sued the U.S. Fish and Wildlife Service in April 2004 to complete the listing process for these species. The final listing was scheduled for August 2005.

Threats to the species identified in the listing package included local and regional groundwater depletion, surface and groundwater contamination, oil and gas extraction, and direct loss of habitat. The Commission submitted formal comments to the Service to more accurately characterize the threats imposed by groundwater pumping in New Mexico, and to provide additional hydrologic information that may not have been available to the Service when the proposed listing was drafted. The Service listed these species as endangered on August 9, 2005. The final listing package did not designate critical habitat for these species in New Mexico and accepted comments the Commission submitted regarding groundwater pumping.

In 2002, the Commission initiated research to increase the knowledge base of information for the federally protected Pecos bluntnose shiner. Two important studies were completed in 2004 and made available to several federal and state agencies. Those studies are being submitted to a scientific journal for publication. One study focused on the relationship between river discharge, habitat availability, and habitat use. Results of the study indicated that the habitat types most consistently used by the shiner were available in the same quantities across the full range of flows sampled, indicating that habitat is available to the shiner even at low flows. These results assist in selecting dam operations being considered as part of the environmental impact statement.

The other study focused on the effect that irrigation block releases have on shiner eggs and shiner larvae. By releasing artificial eggs with similar mass and buoyancy to natural shiner eggs after a block release was initiated and collecting these eggs at various distances downstream, the amount of eggs retained in various river reaches could be calculated. The results of the study suggest that most of the eggs produced during increased



flows associated with block releases remain close to their population center, and that block releases are not the primary threat to the shiner.

### **Water Planning and Development**

*Rio Hondo Channel Capacity Improvement.* A channel capacity analysis performed by the U.S. Army Corps of Engineers concluded the channel could not maintain adequate flow throughout its length. Work to resolve remaining issues among the affected landowners, the City of Roswell, Chaves County, the Chaves County Flood Commission and the Corps is ongoing. A Joint Powers Agreement between the Commission, Chaves County, Chaves County Flood Commission and the City of Roswell to clarify the responsibilities of those parties in the channel capacity augmentation project was signed in October 2002. The City of Roswell commissioned an engineering firm to generate a construction level design for the channel augmentation. The design was completed in 2003. Natural and cultural resource surveys were conducted in the areas affected by the proposed augmentation. The Commission is working with the landowners to resolve construction design concerns and to negotiate construction and maintenance easements.

*Phreatophyte Control.* Congress has authorized Reclamation to carry out a program of eradication and management of phreatophytes – high-water-use, non-native plants – in the flood plain of the Pecos River extending from Santa Rosa to Girvin, Texas. The states of New Mexico and Texas are required to acquire such lands, easements, rights of way, and other interests in lands as are necessary to carry out the program.

The Commission has contracted with Reclamation for acquisition of new and permanent easements required for the program and contributes \$150,000 annually to the maintenance of the cleared areas. No new phreatophyte clearing was undertaken, but all of the previously cleared areas in New Mexico (33,230 acres) were kept clear by root plowing during fiscal year 2005.

*New Stream Gauges.* In September 2005, the Interstate Stream Commission Pecos Bureau installed a stream gauge on the right bank of the Pecos River above the Nine Mile Draw, between Acme and Artesia, to improve the monitoring of releases from Hagerman Irrigation Company and provide continuous flow measurements and monitoring of flow changes in the Acme-Artesia reach of the Pecos River. The Pecos Bureau is planning to install another gauge above Brantley Lake before the start of the Commission's winter release in 2005 from the Lake Arthur and Hagerman augmentation sites.

## **Rio Grande Basin Activity**

### **INTERSTATE STREAM COMPACT, DECREE AND TREATY ADMINISTRATION Amended Costilla Creek Compact**

Snow and rain from December 2004 through June 2005 brought relief from the drought that dominated the state from 2000 to 2004. Precipitation and snow water equivalent for Sangre de Cristo snowpack recorded at the North Costilla SNOTEL site indicated 142 percent of average in February 2005. The increase in average precipitation contributed to increased runoff and flooding potential. Precautions were taken in February to ensure the Costilla Dam butterfly and sleeve valves were operating properly in the event of excessive runoff conditions. On April 15 an early release was approved by the Costilla Creek Compact engineer advisors to evacuate water from the reservoir in anticipation of the reservoir exceeding capacity. The Commission maintained communications with the Taos County Office of Emergency Management and the public in Costilla. Because of daily administration of the Costilla system, only minor flooding and washouts occurred during the high runoff period.

The 2005 irrigation season began with 7,905 acre-feet of water in Costilla Reservoir, or 50 percent of its capacity. The reservoir spilled on June 12 and continued to spill until July 16. Approximately 3,600 acre-feet of water spilled during the 2005 spring runoff period. During the period of high runoff, the water master made water deliveries to the designated points of diversion and consistently balanced the system to minimize flooding and damage. The compact requires daily administration of the direct flow and storage





waters of the system during the specified irrigation season from May 16 to September 30. Monthly stream measurements conducted by the water master at assigned gauging stations during the irrigation season indicated the assigned gauges are within acceptable accuracy. During the 2004 reporting period, maintenance, repairs and calibration were performed on all instrumentation for the assigned gauging stations. The accuracy of U.S. Geological Survey (USGS) gauges continues to be in doubt. In early 2002, both the Commission and USGS staff found some gauges were inaccurate. Observations from July 2004 to June 2005 indicate that some USGS gauges are still inaccurate.

The May 2001 operations manual and a daily accounting spreadsheet were reviewed and adopted for continued operations at the 2005 Costilla Creek Compact meeting. The operations manual has been used consistently to resolve outstanding administrative and

operational issues on the Costilla system and has proven to be a reliable and effective tool for the water master and engineer advisers. The water master uses the daily accounting spreadsheet to digitally record actual deliveries of both storage and direct flow waters and to calculate required deliveries. A daily report derived from the daily spreadsheet is posted in the communities of Costilla, New Mexico, and Jaroso, Colorado. Electronic copies of the daily report are transmitted daily via electronic mail to the engineer advisers in New Mexico and Colorado.

### **Rio Grande Compact**

Both Colorado and New Mexico remained in an accrued credit status throughout the 2004-2005 fiscal year, and both states met their scheduled 2004 deliveries under the Rio Grande Compact. Colorado over-delivered a total of 4,400 acre-feet for an accrued credit as of January 1, 2005, of 4,400 acre-feet. New Mexico over-delivered a total of 35,500 acre-feet for an accrued credit as of January 1, 2005, of 35,600 acre-feet. New Mexico has not been in deficit in compact deliveries on the Rio Grande since 1990.

The most significant management challenge related to the Rio Grande Compact during the 2004-2005 fiscal year remained the impact of Article VII of the compact, which prohibits the

## **Elephant Butte Pilot Channel**

The U.S. Bureau of Reclamation and the Interstate Stream Commission have collaborated since 2001 on a joint river channel excavation and maintenance project called the Elephant Butte Pilot Channel. The purpose of the project is to maintain an active connection and efficient conveyance between the reservoir pool and the river channel below San Marcial. The reservoir has receded more than 20 miles in the last four years, exposing a sediment delta of mud, large expanses of shallow open water and skeleton salt cedar trees, and hindering the flow of the Rio Grande into the active reservoir pool. Since Reclamation began work in 2000, about 22 miles of channel had been excavated and maintained through the winter of 2004. Work planned for calendar year 2005 includes excavation and maintenance of areas impacted by the spring 2005 runoff. Additional work is dependent on state funding.

The pilot channel has had a positive impact on stored water supplies, recreational water users at Elephant Butte, and flood-fighting efforts. That positive impact should be reflected in the local economy through the agricultural and recreational industries.

Because it played an instrumental role in getting New Mexico out of the Article VII of the Rio Grande Compact storage prohibition during the 2005 spring runoff by helping to raise the water level in Elephant Butte Reservoir, the Middle Rio Grande Conservancy District was able to store over 120,000 acre-feet in the upstream El Vado



Reservoir before the runoff subsided. That water will be used directly to provide a full supply for irrigators in the middle valley and, indirectly, to meet endangered species flow targets. Without the pilot channel, it is likely that storage prohibition would have remained in effect into June, past the peak spring runoff, and little water would have been available for storage in El Vado Reservoir. In addition, the efficient delivery of the snowmelt runoff water to Elephant Butte Reservoir aided in raising the lake water level such that the 2005 Memorial Day and Independence Day holiday weekends saw higher water levels than at any time in the past two years.

The pilot channel also aided upstream flood-control operations by efficiently conveying both water and sediment and by deepening the river channel, resulting in increased conveyance capacity and reduced pressure on the adjacent levees. Without the pilot channel it is likely that a sedi-

ment plug would have formed in the river near the top of the delta and that the river may have breached the levee. The impact on water deliveries and endangered species from such a breach could be significant.

Finally, the pilot channel provides substantial water savings. Water savings that are a direct consequence of the pilot channel are estimated to be in the range of 15,000 to 20,000 acre feet per year. As a comparison, that's approximately twice the amount of water that the City of Santa Fe consumes each year.

storage of native Rio Grande water in post-1929 reservoirs if the usable water in Elephant Butte and Caballo reservoirs is below 400,000 acre-feet. When Article VII is in effect, New Mexico cannot increase native water storage in the McClure and Nichols reservoirs on the Santa Fe River, El Vado Reservoir on the Rio Chama, or in any other reservoir built after 1929 in the Rio Grande basin upstream of Elephant Butte Reservoir.

The flow into Elephant Butte Reservoir during the summer and fall of 2004 was insufficient to bring the amount of usable water above 400,000 acre-feet. However, the high and prolonged 2005 snowmelt runoff, in conjunction with the pilot channel constructed through the upper portion of Elephant Butte Reservoir and significant efforts by the U.S. Bureau of Reclamation to repair levee problems, resulted in an inflow to Elephant Butte Reservoir that on May 20, 2005, brought the amount of usable water above the 400,000 acre-foot level for the first time since July 2002. The Commission alerted the Middle Rio Grande Conservancy District, Reclamation, and the City of Santa Fe to begin storing water on May 20, 2005. That date also corresponded to the peak runoff on the Rio Chama into El Vado Reservoir. As a result, the Middle Rio Grande Conservancy District was able to store over 120,000 acre-feet of water in the reservoir during the runoff for release during subsequent summers.

If not for the efforts of the Commission and the Bureau of Reclamation to construct and maintain the pilot channel and Reclamation to maintain levee's in the San Acacia reach during the snowmelt runoff, the amount of usable water in Rio Grande Project Storage would not have exceeded 400,000 acre-feet in May 2005 and the conservancy district would have been able to store little, if any, native Rio Grande water this year.

Commission staff worked diligently with Reclamation, the Corps, the conservancy district, the National Resource Conservation Service, the National Weather Service, and the State Office of Emergency Management during the late winter and spring of 2005 to evaluate and communicate possible flood fighting issues on the Rio Grande. Staff presented possible river flow and flooding issues to local emergency managers at an April meeting of the State Emergency Management Association. Additionally, staff participated in daily conference calls and numerous interagency meetings to plan for and assess the accumulated snowpack, current river flows and reservoir releases and estimates of upcoming weather. That information was used to develop assessments of upcoming and current flood potential. Further, the Commission paid for two interagency plane flights over the Rio Grande during the height of the snowmelt runoff to evaluate river conditions and guide on the ground activities.

## FEDERAL MANAGEMENT ISSUES

During the 2005 fiscal year, the Commission, Reclamation, and the U.S. Army Corps of Engineers continued their efforts to produce the first integrated plan for the operation of federal facilities in the Rio Grande Basin above Fort Quitman, Texas. The plan, to be developed through a review of the Upper Rio Grande water operations and preparation of an Environmental Impact Statement, excludes El Vado Reservoir and Elephant Butte and Caballo reservoir operations, except for the flood control function of these two reservoirs. The Commission participated as a joint lead agency with Reclamation and the Corps in the review to assure that the resulting operations plan 1) supports New Mexico's compliance with its obligations under the Rio Grande Compact, 2) reflects New Mexico's social and economic interests, and 3) protects the rights of New Mexico's water users. An agreement among the three agencies requires unanimous decisions on how to conduct the review and environmental impact statement. Primary activities in 2005 included preparation of an internal draft impact statement and the initiation of consultation with potentially affected Tribes and Pueblos. Given the complexity of the technical analyses involved in assessing the proposed alternatives, the timeline for finalizing the impact statement has been extended. The process is now anticipated to end in 2006 with the publication of separate Records of Decision, stating each agency's plan for future exercise of its authorities in light of the findings.







## Endangered Species

This fiscal year, the Commission continued to take a leadership role in the Middle Rio Grande Endangered Species Act Collaborative Program. The goal of the program is to meet endangered species habitat needs in the Middle Rio Grande while protecting existing agricultural, municipal, industrial, and other beneficial uses of water. The program has been successful in securing over \$35 million of federal funding over the past five years to address endangered species issues. Over \$5 million of state funding has been expended or dedicated to projects to meet the federally mandated non-federal cost share for the program. As part of the program, the Commission has led efforts to improve middle valley surface water management, propagate silvery minnow, assess river flow conditions during the irrigation season, aid the Fish and Wildlife Service in rescuing and relocating stranded fish, develop a habitat restoration plan for the middle Rio Grande valley, and conduct research. The Commission also serves as a joint lead agency for conducting National Environmental Policy Act review on the program. The success of the program was evident in June 2005 when the relatively high snowmelt runoff of 2005 resulted in significant silvery minnow spawning with hundreds of thousands of minnows observed within the river and inundated floodplain of the middle valley.

During 2005, the Commission put woody debris in the river near Albuquerque to provide habitat for adult silvery minnow and developed an environmental assessment and acquired related permits for the construction of various types of silvery minnow habitat in the Albuquerque reach of the Rio Grande. It also started work on a second silvery minnow refugium and implemented numerous projects under grants or contracts with the U.S. Bureau of Reclamation. Some of the projects:

- installation of new river gauges to aid in river management activities;
- development of an irrigation decision-support system for the Isleta Division of the Middle Rio Grande Conservancy District to reduce river diversion demand and aid in the efficient delivery and use of stored water to farmers in the middle valley;
- development of linked surface water/groundwater models in the Albuquerque area to aid in water loss assessments;
- evaluation of river bars as silvery minnow habitat;
- evaluation of the availability of food in the river for silvery minnow;
- evaluation of impact of water quality on the silvery minnow; and
- evaluation of silvery minnow egg drift and retention under various flow conditions.

Finally, the Commission was involved in development of draft federal legislation authorizing the Collaborative Program.

Rio Grande endangered species issues continue to be influenced by lawsuits. In late June 2003, a three-judge panel of the U.S. 10th Circuit Court of Appeals issued a split-decision ruling in the Rio Grande silvery minnow lawsuit (*Minnow v Keys*). The appeals court vacated its ruling and remanded the case back to the district court. As of June 30, 2005, the district court had not ruled on the various motions submitted on whether the case was moot and should be vacated, a partial settlement agreement, and cross claims.

## WATER PLANNING AND DEVELOPMENT

### Improvement of the Rio Grande Income Fund Programs

The Commission continues to use funding from the Improvement of the Rio Grande Income Fund for numerous high-priority projects. The Commission continues to cooperate with Reclamation on maintaining the river channel and associated drainage facilities along the Rio Grande between Velarde and Elephant Butte Reservoir to minimize conveyance losses and non-beneficial consumption of water. The Commission contributes funding and equipment to that effort, and Reclamation contributes manpower and equipment. Each year, work in the lower half of the Middle Rio Grande includes cleaning, mowing, and maintaining several state-owned drains; conducting levee repairs; and maintaining the pilot channel.

Work in the 2005 fiscal year continued to focus on construction and maintenance of a pilot channel through the sediment delta of Elephant Butte Reservoir to ensure efficient

conveyance of Rio Grande water into the active reservoir pool. By January 2005, the Commission and Reclamation had succeeded in constructing 22 miles of pilot channel through the Elephant Butte Reservoir sediment delta, which effectively conveyed the high stream flows of the 2005 snowmelt runoff into the reservoir. The pilot channel helped to reduce the potential for a catastrophic breach of the river levees upstream of the reservoir and contributed significantly to the quantity of water delivered to the reservoir thereby accelerating the lifting of the Article VII Compact storage prohibition. It is estimated that a maintained pilot channel will reduce evaporative losses by 15,000 to 20,000 acre-feet per year.

The Commission also continues to work with Reclamation to reduce the non-beneficial consumption of groundwater by invasive phreatophyte vegetation – high-water-use, non-native plants – on 11,000 acres of the flood plain areas at Caballo and Elephant Butte reservoirs. The Commission contributes funding and equipment to the program and Reclamation contributes manpower and equipment. The Legislature has restricted the use of funding for this work to maintenance of previously cleared areas. The primary means of clearing has been mowing. However, in 2003, Reclamation began a pilot study on 200 acres in the Caballo delta on the effect of herbicidal treatment on salt-cedar-infested land previously maintained by mowing. The study has shown that herbicidal treatment of previously mowed salt cedar using a mixture of herbicides approved for aquatic environments will result in complete mortality only if the leaf mass available for absorption of the herbicide is substantially greater than the root mass. Additional follow-up studies are being conducted. This project has been successful in controlling the growth of non-native vegetation at Elephant Butte Reservoir (below the Narrows) as the reservoir has receded.

The Commission continues to work with the Middle Rio Grande Conservancy District and the Elephant Butte Irrigation District to improve water management; water metering and measurement; and data collection, storage, and retrieval. Such efforts are critical to gain a better understanding of where and how much water is being used and to better deliver the reduced amount of water available as a result of the recent drought. The Commission contributes funding and supplies to this effort and the districts contribute manpower and equipment.

In cooperation with the U.S. Corps of Army Engineers, the Commission completed a three-phased study of the available water supplies between Cochiti Dam and Elephant Butte Reservoir. Among its major findings is the conclusion that the present Middle Rio Grande water supply (including San Juan-Chama Project water) is barely adequate to meet the present uses. The complete reports from the study are available on the Office of the State Engineer website, <http://www.ose.state.nm.us>.

On another joint project with the U.S. Army Corps of Engineers, the Commission is conducting monitoring and data evaluation for a surface water and groundwater interaction characterization program. The program seeks to refine the understanding of the temporal and spatial interactions between surface water and groundwater in the reach of the Rio Grande from San Acacia to Elephant Butte Reservoir. The characterization work included drilling and installing more than 140 piezometers (pressure gauges); installing staff gauges in the river, low-flow conveyance channel, and riverside drains; and installing 70 automatic water-level data loggers. Students from the New Mexico Institute of Mining and Technology continue to work with the Commission with this project under a joint powers agreement. A report with initial analyses and results of data collection activities will be finalized in 2006. Characterizing and understanding the hydrology of the San Acacia reach is essential for making sound water management decisions related to endangered species management and Rio Grande Compact compliance.

Finally, Commission staff have developed and implemented a linked surface water/groundwater model for the San Acacia Reach of the Rio Grande using, in part, data and information collected from the efforts described above. The model has been used to develop estimates of water losses through the reach and to evaluate operation of the Low





### **FY05 Acequia Construction Program**

**80/20 Grant Program recipients:** Sabinoso Community Ditch, \$117,000; Acequia de la Apodaca, \$120,000; San Augustin Community Ditch, \$120,000; Acequia Junta y Cienega, \$79,677.

**Section 215 Grant Program recipients:** East Puerto de Luna Community Ditch, \$177,110; Tularosa Community Ditch, \$171,010; Tierra Amarilla Community Ditch, \$140,502; Acquia Gonzales y Gurule, \$75,389.

**Acequia Capital Projects:** Acequia de Alcalde, \$20,000; Acequia del Llano-Española, \$45,000; Acequia del Rincón, \$10,000; Acequia de la Cienega, \$50,000; Acequia de la Agua Caliente, \$5,000; Fort Sumner Irrigation District, \$60,000.

Flow Conveyance Channel. Results of the work have been incorporated into the Upper Rio Grande Water Operations model and environmental assessments.

### **San Juan-Chama Project**

The San Juan-Chama Project is a transbasin diversion authorized in 1962 by federal law to divert an annual average of 135,000 acre-feet per year of Upper Colorado River basin water allocated to New Mexico under the Upper Colorado Basin Compact into the Rio Grande basin for use in New Mexico. The water is diverted from tributaries to the San Juan River and brought through a tunnel under the Continental Divide to the Rio Chama drainage, where it is stored in Heron Reservoir until it is released to New Mexico contractors for use in the Rio Grande basin above Elephant Butte Reservoir.

Diversions from the San Juan River Basin by the San Juan-Chama Project in any given year are limited by the available water supply. The project has three points of diversion in Colorado on the Blanco River, the Little Navajo River and the Navajo River. The diversions are administered to provide minimum bypass flows required by the authorizing legislation for the preservation of fish and aquatic life in the Blanco and Navajo rivers.

The total quantity of water delivered into Heron Reservoir during the 2004 calendar year was about 84,900 acre-feet. At the end of 2004, storage of San Juan-Chama Project water in Heron Reservoir was approximately 111,000 acre-feet, the lowest level since 1977.

## **Acequia Construction Program**

Acequias, or community ditches, are recognized under New Mexico law as political subdivisions of the state. Many of the state's acequia associations have been in existence since the Spanish colonization period of the 17th and 18th centuries. Historically, they have been a principal local government unit for the distribution and use of surface water. The associations have the power of eminent domain and are authorized to borrow money and enter into contracts for maintenance and improvements. The costs of maintenance and improvements are borne by the individuals served by the irrigation system.

The Interstate Stream Commission has established an Acequia Construction Program to assist acequia associations with construction and repair projects. The U.S. Department of Agriculture's Natural Resources Conservation Service (NRCS) and the U.S. Army Corps of Engineers (Corps) support the Acequia Construction Program. Commission staff coordinate the involvement of these agencies, support and advise the acequias, review design and construction, and manage state and federal support in the form of loans or grants.

In 2003, the Commission entered into a multi-year agreement with the NRCS to provide design work on acequia projects. Previous agreements were on a year-to-year basis. The multi-year agreement allows for more efficient staffing by NRCS. The Commission funds up to \$250,000 of work per year with actual costs based on New Mexico Society of Professional Engineers cost schedules.

The Acequia Construction Program includes five ongoing sub-programs: the Loan Program, the 80/20 Acequia Grant Program, the Corps Section 215 Acequia Program, the Corps Section 1113 Acequia Program, and Legislative Special Appropriations Projects (capital projects).

**Loan Program.** The loan program makes low-interest loans from the Irrigation Works Construction Fund available to acequia, community ditch, and other organizations for construction and repair of irrigation works. Acequia associations may use the loans to pay their share of costs of construction programs. The loans are provided at 2.5 percent interest and the usual repayment period is 10 years.

**80/20 Grant Program.** The New Mexico State Legislature appropriates funds from the Irrigation Works Construction Fund to the State Engineer for grants for improvement and repair work on specific acequias. Eighty percent of project cost, up to \$96,000 per project, can be covered by the grant. Total construction costs for this program are capped at \$120,000.



**Section 1113 and Section 215 Acequia Programs.** The federal Water Resource and Development Act of 1986 authorized the Secretary of the Army to undertake measures necessary to preserve and restore the diversion structures and associated canals of acequias. Under both the Section 1113 and Section 215 programs, the federal government funds 75 percent of total project costs. The annual federal funding for Section 1113 and Section 215 Programs, routed through the U.S. Army Corps of Engineers, ranges from approximately \$1.5 million a year to approximately \$5 million a year. The Commission provides 17.5 percent of the total cost and the acequia association provides 7.5 percent of the total cost.

Under the Section 1113 Acequia Program, the Corps is responsible for all design, National Environmental Policy Act (NEPA) compliance activities, real estate easements, advertisement of the construction bids, contract awards, construction inspection and oversight, and project financial management. Under the Section 215 Acequia Program, the acequia manages construction. NRCS typically completes the project design through the Commission's technical assistance programs. The Corps manages NEPA compliance activities.

In July 2002, the Corps and Commission signed an agreement concerning the Section 215 and Section 1113 programs that clarifies the responsibilities of each agency and specifies criteria for design deadlines, compliance activity schedules, program and project financial reporting, and project prioritization and construction timelines. The agreement supplements a March 8, 1999, agreement between the Corps and the Commission.

**Acequia Capital Projects.** The New Mexico State Legislature appropriates funds to individual acequias for specific projects. Commission staff reviews plans, specifications, and ditch eligibility; executes contracts and agreements; and inspects the completed projects.



# Appendix A

## Status of Active Adjudications

### INTRODUCTION

Adjudications are currently underway in both federal and state courts in New Mexico which the State Engineer's attorneys prosecute on behalf of the state of New Mexico. The entire Pecos Stream System is the subject of a comprehensive adjudication, which began in 1956. Adjudications of several tributaries to the Upper Rio Grande were started between 1966 and 1983 and involve water rights of most of New Mexico's Indian Pueblos and Tribes, the federal government, municipalities, community ditches, and thousands of individual defendants. The adjudication of the Lower Rio Grande began in 1985 and involves an irrigation district, a major federal reclamation project, municipal and county water rights, a state university, the City of El Paso, and thousands of individual groundwater claims within Doña Ana County.

The State Engineer is mandated by law, NMSA 1978 Section 72-4-13 (1982), to perform hydrographic surveys and investigations of each stream system and source of water supply in the state, beginning with those used primarily for irrigation. Upon completion of the hydrographic survey, the State Engineer, through his attorneys who are commissioned special assistant attorneys general, institutes an adjudication to obtain a judicial determination and definition of water rights within each stream system and underground basin as required by law, NMSA 1978 Section 72-4-15 (1907).

The legal bases and characteristics of each and every water right claim within an adjudication must be identified and surveyed, reduced to a written offer of judgment, conveyed to the claimant, accepted or rejected by the claimant, and, if rejected by the claimant, litigated between the state and the claimant through evidentiary hearings before a special master or judge. After individual water rights claims have been adjudicated between the state and individual claimants, defendants may challenge the water rights of others during the *inter se* (among themselves) phase of the adjudication. After holding hearings on any *inter se* challenges, the court issues a final decree which defines the water rights of each and every claimant on the stream system.

### PECOS RIVER DRAINAGE BASIN

The adjudication of the Pecos River Stream System began in 1956 with the filing of the action denominated *State of New Mexico ex rel. State Engineer v. Lewis* in the Fifth Judicial District Court (the Lewis case, or adjudication). The objective at that time was to adjudicate all groundwater rights in the Roswell Artesian Basin to obtain administrative control of illegal and excessive pumping. Because a number of groundwater rights were supplemental to the Hagerman Canal surface water rights, a separate action was filed to adjudicate the Canal. After all rights had been adjudicated and subfile orders had been entered, the two cases were consolidated and a partial final decree was entered by the District Court adopting all subfile orders.

In 1972, the adjudication was expanded to include the Hondo Basin because of anticipated large new diversions by the Mescalero Apache Indian Tribe. The Tribe's rights were then adjudicated, along with all non-Indian rights in the Hondo Basin. That portion of the *Lewis* case was essentially completed in 2004. Only the *inter se* phase remains.

In 1976, the Carlsbad Irrigation District (CID) asked the State Engineer to administer priorities. After the CID's priority call, the *Lewis* case was expanded to the entire Pecos River Stream System.

The CID's priority call continues to be one of the two driving forces behind the *Lewis* adjudication. The other is the Supreme Court's 1988 Amended Decree in *Texas v. New Mexico*. Under the Amended Decree, New Mexico is required to meet its water delivery obligations to Texas pursuant to the Pecos River Compact within a short time frame. If New Mexico under-delivers, the shortfall must be remedied within six months.

The State has three current objectives in the *Lewis* adjudication: (1) perform preliminary work necessary to facilitate the administration of the Pecos River according to the laws of New Mexico; (2) perform work necessary to meet New Mexico's delivery obligations to Texas under the Pecos River Compact and; (3) perform preliminary work necessary to enjoin uses if New Mexico under-delivers.

The State has successfully met its Pecos River interstate obligations over the past decade. The highly variable nature of Pecos River flows, however, means

that in any given year the State may face a potential under-delivery situation. This pressing concern is stretching even further the resources the State is able to muster to complete the adjudication of the Pecos River.

The State's current area of concentration in furtherance of these objectives is the Carlsbad Basin. A description of the status of the State's efforts in the various sections within this massive adjudication follows:

**Rio Hondo.** This adjudication is between non-Indian claimants and the State was completed in August 1997. *Inter se* proceedings will be scheduled as staffing and budgetary resources permit. Such proceedings are not expected to commence until after completion of the CID, the Carlsbad Underground Basin, and Roswell Basin Sections.

#### Roswell Basin

**Relation-Back Claims.** The State had begun the readjudication of priority dates of pre-1947 groundwater rights for individual claimants in the Roswell Artesian Basin (RAB) who claim that their previously adjudicated ground water priority dates relate back to an earlier appropriation of surface water. This readjudication has been suspended for the foreseeable future due to the necessity to divert the State's resources to the adjudication of the Gallinas River Subsection.

**Bitter Lakes National Wildlife Refuge.** The five-year test period to determine the amount of water used by U.S. Fish and Game Department has been completed. The State is meeting with the Department of Interior to negotiate and draft a final consent order regarding federal reserved water rights in the Bitter Lakes National Wildlife Refuge.

**Pecos River Miscellaneous Adjudications.** Hydrographic Survey staff have recently surveyed approximately 38 locations of miscellaneous unadjudicated declarations in the Roswell-Artesian and Fort Sumner Basins. In addition, there are 40 new declarations of wells by 13 owners in the Fort Sumner Basin and 12 new declarations by 9 owners in the Roswell-Artesian Basin that have not been surveyed. The State is surveying and seeking adjudication of these miscellaneous water rights as available staff resources permit.

**Pecos River Supplemental Adjudications.** The State is currently adjudicating water rights that were omitted or delayed in the original Roswell Artesian Basin adjudication in 1956. Of these 48 water rights adjudications, there remain 15 to be completed. Staffing limitations also control progress in this area.

#### Carlsbad Irrigation District

**Carlsbad Project.** The Court ordered and the State conducted supplemental service of a stipulated offer of judgment involving the rights of the United States and the CID in the Carlsbad Project. A special committee of counsel, appointed by the district judge, submitted a proposed pretrial order, which the Court entered on February 26, 1996. In accordance with the pretrial order, briefing on all procedural issues and threshold legal issues has been completed. The State filed its motion to consolidate the member and project adjudications on April 12, 1996, and the motion was subsequently granted. The purpose of consolidation is to allow members to participate in briefing on issues that potentially affect them such as ownership of water rights. By May 2002, the Court had issued its final decision on all procedural and threshold legal issues. Only the project (offer) issues regarding a project priority date and quantities of water remain to be litigated.

In its 2002 regular session, the legislature appropriated \$30 million to the Interstate Stream Commission (ISC) for the purpose of acquiring valid existing rights to the use of water in the Pecos River basin, to limit New Mexico's surface water depletion to its entitlement under the Pecos River Compact. To ensure that any expenditures made are effective towards achieving this goal, the legislature required that the CID's offer of judgment first be adjudicated, whether by settlement or litigation, before the ISC could expend any of the funds. Pursuant to the legislature's mandate, the State and the ISC have negotiated with CID, Pecos Valley Artesian Conservancy District, Fort Sumner Irrigation District, and the United States Bureau of Reclamation to settle the project (offer) phase of the litigation. The parties executed a settlement agreement on March 25, 2003 resolving a number of factors related to the project phase of the proceedings. Included in the list of resolved items are the priority dates, the diversion amounts for the project as well as a structure for dealing with priority call and short-delivery events. Under the terms of the agreement, certain conditions precedent must

have been satisfied or waived on or before December 31, 2004. This deadline has since been extended to August 31, 2006. If the conditions precedent are neither satisfied nor waived by that date, the settlement will be considered void *ab initio* and the project litigation will be restored to the status quo prior to the undertaking of the settlement negotiations. The Court entered a partial final decree approving and adopting the settlement agreement on December 10, 2004. Two of the objectors to the settlement agreement filed an appeal from the Court's decree. That appeal is currently pending.

**Carlsbad Irrigation District Members.** The first volume of the member hydrographic resurvey (CID Section 1) was completed and filed with the Court in September 2002. The second volume (CID Section 2) was completed and filed with the Court on April 14, 2003. In early 2001, the State Engineer engaged an outside engineering contractor to perform a hydrographic survey of portions of the District and other parts of the Pecos stream system. The survey work performed by this outside contractor has been received as an initial draft of the hydrographic survey report to be completed by the Hydrographic Survey Bureau. Work is continuing on the hydrographic survey reports for CID Sections 3 and 4. In 2004, the State moved its adjudication activity to Section 4 of the CID. The hydrographic survey report for Section 3 of the CID is expected to be completed by the second quarter of 2006.

In mid 2003, the State began serving offers of judgment on the members of CID Sections 1 and 2. All members of CID Sections 1 and 2 have been served with offers of judgment and there are now pending a small number of files in which the water-right claimant and the State are involved in resolving disputed offers. These few disputed offers may be tried by the Court and it is expected that they will be completed by the middle of 2006. The State began serving proposed consent orders on members of CID Section 4 during the spring of 2004. The State is experiencing a high rate of acceptances of the proposed consent orders and has been filing the accepted orders with the Court. Offers of judgment or proposed consent orders that are rejected by a member of the CID will be investigated and, if an agreement amicably resolving the reason for the rejection cannot be reached between the State and the claimant, the matter will be set for determination by the Court. It is expected that all the members of CID Section 4 will be served with proposed consent orders and that the completion of the adjudication of Section 4, including contested subfiles, will be achieved by the end of 2006.

Since mid 2002, members of the State's legal and hydrographic survey staffs have conducted regularly scheduled field offices with individual CID members in Eddy County as part an effort to resolve issues relating to their water right acreage. The State plans to continue holding field offices, at least monthly, subject to budget and staff limitations. Many claims are expected to be resolved through negotiation, while others may need to go to trial.

**Carlsbad Underground Basin.** The hydrographic survey is scheduled to be completed during 2007. Joinder of water rights owners and service of consent orders will follow shortly thereafter.

**Black River.** An outside contractor for the State Engineer prepared initial drafts of the hydrographic survey and maps for this section. The Hydrographic Survey Bureau will perform quality assurance and quality control checks on the materials produced by the outside contractor, and will complete the final version of the hydrographic survey report and associated maps as time and resources permit. Currently, this hydrographic survey is scheduled for completion in mid 2006. As with the Carlsbad Underground Basin, joinder of defendants and service of consent orders will follow thereafter.

**Fort Sumner.** All of the groundwater within this section has been adjudicated. The legislature has not appropriated any funds for the hydrographic survey of the surface water in this section. Once funded and started, this survey will take approximately two years to complete.

**Rio Peñasco.** As with the Fort Sumner Section, there is no funding for a hydrographic survey of this section in the budget for the upcoming fiscal year. Once funded in a future budget and work begins, this survey will take approximately two years to complete.

**City of Las Vegas.** The City's appropriative water rights claims were adjudicated in February 1997. The Court's decision was rendered and the City appealed. All appeals have been concluded, so that the City's appropriative rights claim has been finalized. In a separate court proceeding, the New Mexico Court of Appeals rejected the City's claim to a so-called pueblo water right in 1994. The New Mexico Supreme Court granted further review, but stayed proceedings in order to facilitate settlement negotiations. Once it became clear that negotiations held no realistic prospect for settlement, the parties informed the Supreme Court

which lifted the stay effective December 31, 2001 and set a briefing schedule. The briefing process was completed and the oral argument was had before the Supreme Court on October 7, 2002. A final decision by the Supreme Court rejecting the City's claim of a Pueblo Water Right was rendered in spring 2004. The matter was remanded to the District Court with instructions to develop an equitable remedy that takes into account a number of factors. That matter has been pending before the District Court since the remand and has included extensive negotiations between the City and the State in an attempt to resolve the issues. Other entities were permitted to participate in the discussions, but have since withdrawn their participation. In the summer of 2005, the City and the State reached an agreement resolving their differences and presented it to the Special Master for approval and transmission to the Court for entry as a consent order. That matter is still pending before the Special Master and the City and the State are pursuing the entry of the Consent Order as a resolution of the matter.

**Gallinas River Basin.** The State has finalized the adjudication of the Storrie Project subfiles. In the fall of 2002 a group of Acequias filed motions with the District Court seeking an order directing the State to resume active adjudication of the Acequias' water rights. The Court entered its Order directing the State to do so and both the State and the acequias have been engaged in developing an appropriate scheduling order as a structure for the resumed adjudication. The State has begun rechecking ownership and acreage issues in the subfiles and expects to have that process completed for Volume 1 of the Gallinas River Hydrosurvey by the end of 2005. Certain section-wide and ditch-wide issues remain, e.g., priority dates and irrigation water requirements. Due to limitation of resources to obtain expert input regarding these issues, it is expected that completion of the adjudication of the water rights in Volume 1 of the Gallinas River Hydrosurvey will not occur until the end of 2006. The District Court, through the Special Master, has begun addressing the section and ditch-wide issues. Involvement in the section and ditch-wide issues as well as the City of Las Vegas remand issue (discussed above), without additional resources, has slowed the adjudication of the water rights for claimants in the Gallinas Subsection. Following the adjudication of the rights contained in Volume 1 of the Gallinas River Hydrosurvey, and assuming the availability of resources to continue, the State will continue adjudicating the rights related to subsequent volumes of the Gallinas River Hydrographic Survey.

## **RIO GRANDE DRAINAGE BASIN**

**Rio Pueblo de Taos and Rio Hondo.** *State of New Mexico ex rel. State Engineer v. Abeyta, et al.*, U.S. District Court Nos. 69cv7896 BB and 69cv7939 BB (Consolidated) are consolidated lawsuits for the adjudication of all water rights in the Rio Pueblo de Taos and Rio Hondo stream systems, including the claims of the United States and the Pueblo of Taos.

Claims on behalf of Taos Pueblo were originally filed on August 1, 1989, and subsequent claims were made in 1992, 1996, and 1997. A motion by the State and certain non-Pueblo defendants to disallow some of these claims is still pending before the Special Master. Beginning in 2003, the parties have intensified efforts to resolve the Taos Pueblo claims through mediated negotiations. The parties reported to the Court that their goal is to develop by October 2005 a draft settlement agreement that the parties' negotiators can recommend to the parties for approval.

With the exception of priority dates, nearly all non-Pueblo surface water rights have been provisionally adjudicated in the Taos and Rio Hondo stream systems. Efforts to resolve the remaining non-Pueblo claims in the last few years include the following:

**MDWCA Claims.** The Special Master conducted an evidentiary hearing on the rights claimed by twelve Taos-area Mutual Domestic Water Consumer Associations in August 2001, and post-trial briefing was completed in 2002. The dispute has been awaiting a decision by the Special Master since then.

**Remaining Individual Claims.** In January 2002, in response to a deadline established by the Special Master, approximately 120 claims were filed with the Court alleging that water rights were either incorrectly adjudicated or erroneously omitted from the adjudication. During the summers of 2002, 2003, and 2004, the Northern New Mexico bureau staff field-checked each claim with the assistance of acequia representatives, the acequia liaison, and the water right claimants. The State also analyzed historical aerial photography relevant to each claim. All of these claims were resolved in 2004.

**Remaining Acequia Claims.** In January 2002, approximately 25 community acequias filed with the Court claims of error in the State's hydrographic survey or



the Court's orders. All but two of these claims have been resolved, and the remaining two claims are expected to be resolved before the end of 2005. Under a separate process established by the Special Master, 22 acequias also submitted to the State in June 2002 claims to water from multiple springs within the Taos and Rio Hondo stream systems. The State conducted field investigations in these complex claims during the summers of 2002, 2003, and 2004. Although some of these claims have been resolved by consent order, 20 acequias filed springs claims with the Court in June 2005, thereby commencing the official process for resolving those claims.

**Courtis Errors and Omissions Process.** The State and the Courtis data manager are conducting a thorough errors and omissions process to prepare for issuance of the partial final decree for non-Pueblo water rights. This process is ongoing and identifies and corrects apparent discrepancies between adjudicated subfile orders and hydrographic survey maps.

**Subfile Priority Dates.** Beginning in February 2002, the Court began the process of acting upon Special Master Zinn's 1993 report on priority dates for non-Pueblo subfiles. The Court has entered three orders confirming the priority dates of multiple acequias, but the Court has not yet issued an order confirming the priority dates of several other acequias.

**Santa Fe River.** *Anaya v. Public Service Company of New Mexico, et al.*, Santa Fe County Cause No. 43, 347, was filed in 1971 and refiled in 1974. The state intervened in the suit in 1975 and completed the Santa Fe hydrographic survey in 1978.

In 1990, the Public Service Company of New Mexico was ordered to release Santa Fe River water from its dams in an amount calculated to reach the downstream Acequias Madre and Cerro Gordo. There is now in place an operating agreement that requires the State Engineer to certify that these two acequias, parties to the lawsuit, are prepared to accept water from the releases. Every spring the State Engineer must conduct a field visit to these two ditch systems and submit a report to the court stating the condition of the ditches and whether water should be released.

The Sangre de Cristo Water Company, previously owned by the Public Service Company of New Mexico, sold its water rights and water system to the City of Santa Fe. The City's previously held rights and those of Sangre de Cristo have been merged and will be adjudicated together after the City makes a statement of claims and those claims are substantiated. An attorney from the LAP Northern New Mexico Bureau is now permanently assigned to the Santa Fe adjudication and is conducting a detailed review and analysis of the history and status of the adjudication and of the few remaining subfiles yet to be resolved.

**Rio Chama.** *State of New Mexico ex rel. State Engineer v. Aragon, et al.*, U.S. District Court No. 69cv7941 BB, involves the adjudication of all water rights in the Rio Chama stream system, including the claims of the United States, the Pueblo of San Juan, and the Jicarilla Apache Tribe. The suit was originally filed in state court in 1948 and was later removed to the federal District Court in 1969. The federal suit incorporates prior state court orders adjudicating non-federal water rights on the mainstream Rio Chama below Abiquiu Dam and on the Rio Puerco, a tributary to the Rio Chama.

Surface water diversions in the Rio Chama mainstream section, consisting of the mainstream of the Rio Chama from El Vado Dam to the confluence of the Rio Chama and the Rio Grande, including the waters of Abiquiu Creek, the Rio Frijoles, and the Los Ojitos de Agua Salada Donosa, have been adjudicated. A water master appointed pursuant to a 1971 Partial Final Judgment and Decree administers this area. Surface diversions in Section 6, the Cañones Creek area, and Section 8, the Rio Puerco area, also have been adjudicated. The water uses of the Jicarilla Apache Nation are subject to a Partial Final Judgment and Decree entered in April 1998.

In 1995, the District Court ordered the State Engineer to complete the hydrographic survey of the remainder of the Rio Chama Stream system in six years. The amended hydrographic survey report for Section 5, Rio Gallina, was filed with the Court in January of 2000. Surface water users in Section 5 identified in the report were joined to the adjudication suit and served with offers of judgment from the State.

The claims of these users with respect to the amount and location of irrigated acreage have all been resolved. The Court has reserved the determination of priority dates and irrigation water requirements for future determination. In February 2005, the State and community acequias in Section 5 filed a stipulation on priority dates for the community ditches in Section 5. Discussion between the

State and the community ditches in Section 5 on irrigation water requirements are ongoing.

Hydrographic survey reports for Section 3, Rio Nutrias, Rio Cebolla, and Canjilon Creek, were completed and filed with the Court between June and August 2000. Water rights claimants in Section 3 were joined in early 2001 and the determination of claims in these areas is approximately 80 percent complete. The determination of priority dates and irrigation water requirements has been reserved for future determination.

The hydrographic surveys for Section 7, Rito de Tierra Amarilla, Rio Brazos, Rutheron and Plaza Blanca, Cañones Creek, and Village of Chama, were completed between January 2001 and July 2003. The defendants in these areas have been joined to the adjudication and the determination of claims in these areas is approximately 60 percent complete. As in Sections 3 and 5, the determination of priority dates and irrigation water requirements has been reserved for future determination. The water uses of the Jicarilla Apache Nation on reservation lands in Section 7 are subject to a Partial Final Judgment and Decree entered in April 1998.

The State is also negotiating the reserved water right claim of the United States under the Wild & Scenic Rivers Act below El Vado, and is also in the process of evaluating the United States' claims for stock and wildlife uses in Sections 3 and 5.

**Rio San Jose.** *State of New Mexico ex rel. State Engineer v. Kerr-McGee Corp., et al.*, Cibola County Cause Nos. CB-83-190-CV and CB-83-220-CV, is the general water rights adjudication suit concerning the Rio San Jose stream system. In November 1992, the Special Master issued a report recommending, among other matters, that the State's motion for partial summary judgment on the water rights of the Pueblos of Acoma and Laguna be granted. The District Court adopted the report and included language permitting interlocutory appeal. The Pueblos and the non-Indian defendants requested interlocutory appeal, which was granted by the New Mexico Court of Appeals. The Court of Appeals ultimately remanded the case to the District Court for further action on issues relating to the quantification of the Pueblos' claims for existing and historic uses. Petition for *certiorari* to the New Mexico Supreme Court was denied. After the remand of this case to the District Court, the case was inactive for several years.

In January 2001, a new Special Master was appointed to preside over the adjudication. On September 23, 2002, the court granted the joint motion of the State and the United States to establish an expedited *inter se* subproceeding to adjudicate the water rights of Acoma Pueblo and Laguna Pueblo based on past and present uses of water. The United States on behalf of the Pueblos has filed its answer to the State's subproceeding complaint asserting the water right claims of the Pueblos based on past and present uses of water, and the evaluation of these claims by the State and other parties is now underway.

In the summer of 2004 the State provided direct mail notice of the expedited subproceeding to approximately 12,000 landowners and potential water right claimants, as well as notice to the public via radio announcements, publication, public meetings, and posting on the Office of the State Engineer website. The notified water right owners in the stream system were given an opportunity to object to the water right claims of the Pueblos. Approximately 1200 objections were filed. Of these objectors, approximately 60 have opted to be active parties in the subproceeding. The subproceeding is now transitioning from a procedural to more substantive posture. The United States and the Pueblos have submitted their initial disclosures (a list of potential witnesses and documents supporting their claims.) By the end of 2005, the State and active parties will have submitted their initial disclosures. In early 2006, a status conference will be held before the Special Master to set the matter for further discovery, motions, and trial.

**Rio Santa Cruz and Rio de Truchas Systems.** The Rio Santa Cruz and Rio de Truchas adjudication suits, *State of New Mexico ex rel. State Engineer v. Abbott, et al.*, U.S. District Court Nos. 68cv7488 BB and 70cv8650 BB, Consolidated, were filed in 1968 and 1970, respectively. The suits were consolidated in 1970 because water right claimants in the Rio de Truchas suit use the Acequia de la Sierra to divert water from the North Fork of the Rio Quemado, a tributary of the Santa Cruz River, for use in the Truchas area.

The Rio Santa Cruz adjudication was filed because of a proposal to provide water from the San Juan-Chama diversion project to the proposed Llano Unit, a tributary project. The Llano Unit was proposed to divert water from the Rio Grande at Velarde and deliver it for use as a supplemental supply for lands irrigated from the lower Santa Cruz River. As a result, all existing water rights in the Santa Cruz River stream system that might have been affected by the Llano

Unit needed to be adjudicated. The Llano Unit failed to get local support for its construction, however, and the San Juan-Chama project water has been allocated to other uses.

In 1975, the District Court entered a Partial Final Decree confirming and approving all prior orders adjudicating water rights in the Santa Cruz and Truchas Stream Systems. This decree reserved jurisdiction to adjudicate water right priorities and the water rights of the United States and the Pueblos of San Juan, Santa Clara, and San Ildefonso. The 1975 Decree adjudicated *inter se* the water right claims of 2,500 defendants in approximately 3,500 individual subfile orders. The adjudicated irrigation water rights totaled 5,045.38 acres in the Santa Cruz River System and 2,159.80 acres in the Rio de Truchas system.

Since then, community acequias in Truchas have identified additional tracts, which they claim should have been adjudicated irrigation water rights. In the Rio Santa Cruz, approximately 155 individual water right claimants, involving 186 tracts, submitted written requests for correction to subfile orders adjudicating their water rights. With funding from the 1999 legislature, the Hydrographic Survey Bureau staff, the acequia liaison, the claimants and acequia representatives field checked each claim. The claimants then were contacted with regards to each of the 186 original claims. Of these, 52 generated no response and 40 were withdrawn. This left 94 claims, of which 72 were found to have no merit and the claimants were so notified. 22 remaining claims have not yet been resolved.

At the time the 1975 Partial Final Decree was entered, approximately 13 community ditches and 300 individuals filed objections to water right priorities adjudicated to other parties in subfile orders. The Court reserved jurisdiction in the 1975 Decree to consider and decide these objections at a later time. The Court appointed two historians to investigate the records of the Spanish and Mexican archives to find evidence documenting the existence or construction of irrigation ditches or the irrigation of lands. The historians' draft report was completed in 1986. In 1995, the State filed pleadings describing stream flow allocation rights between community acequias in the Santa Cruz and Truchas systems. The State also took the depositions of individuals who have knowledge of stream flow allocation. At the conclusion of the depositions, and after the Court's historian completes additional research on the Santa Cruz system priorities, the State will decide whether to make offers regarding stream flow allocation rights to the community acequias.

On October 4, 1999 the Court amended the scope of the adjudication to include an area of land lodged between the western junction of the Santa Cruz and Truchas basins. The State has since performed two site inspections of the area and determined that the land is returning to its native State and no substantive water rights claims are indicated.

The water right claims of Pueblos within the adjudication are now being addressed in a series of subproceedings defined by a procedural order entered by the Court's Special Master. In Pueblo Claims Subproceeding 1, certain water right claims of the Pueblos of Nambé and San Ildefonso were resolved by a negotiated settlement agreement filed with the Court on March 15, 2002. The United States, the Pueblos of San Juan and Santa Clara, the State, the City of Española, Santa Fe and Rio Arriba Counties, and acequia associations from the Truchas and Santa Cruz areas all were parties to the settlement agreement. The State and the United States have agreed on a proposed consent order resolving the remaining claim in Subproceeding 1, which was circulated among the other parties to the subproceeding in June 2005 for their review. Subproceeding 2, involving Pueblo claims based on past or present uses of diverted water on the lands of the Pueblo of San Juan, was initiated in March 2005 by the filing of subproceeding complaints by the United States and San Juan Pueblo.

**Jemez River.** *United States v. Abousleman, et al.*, U.S. District Court No. 83cv1041 MV, is a suit filed by the United States on its own behalf and on behalf of the Pueblos of Jemez, Santa Ana, and Zia to adjudicate water rights in the Jemez River system.

During the 1996 summer drought, the Pueblos of Jemez and Zia moved for a temporary restraining order (TRO) and preliminary injunction seeking to cut off irrigation uses above the Pueblos that the Pueblos claimed diminished surface water supply for their agricultural activities. The Court did not grant a TRO or preliminary injunction, but instead entered an Order adopting a stipulation between the Pueblos and the community acequias that established a rotation schedule to share the available supply in dry years.

The Court has entered a Partial Final Decree for the proprietary claims of the United States except for its Wild and Scenic River claim, which is pending before

the Special Master.

In 1991, a proposed partial final decree on the water rights of non-federal, non-Pueblo parties was prepared and made available for public inspection. The Pueblos filed *inter se* objections to 61 subfiles. The Special Master dismissed nineteen of the objections, and after hearing evidence on the remaining forty-two, issued a report and recommendations on April 24, 1995. The District Court subsequently entered orders on the objections. On December 1, 2000, the Court held a presentment hearing in Albuquerque and entered a Partial Final Decree for the water rights of non-Pueblo, non-federal parties in the Jemez stream system.

In September 1988, the Special Master recommended rulings to the Court on summary judgment motions argued by the State, the United States, the Pueblos, and non-Indian defendants concerning the future use claims asserted by and on behalf of the Pueblos. The United States and the Pueblos filed objections to the Master's report, and the Court in December 1989 held oral arguments on those objections. In separate proceedings, the Special Master held evidentiary hearings in July and December 1988 on questions related to the Pueblos' historic and existing use claims. The Special Master filed his report and recommendation to the Court on these claims in October 1991, and the United States and the Pueblos filed objections to that report. The Court has not yet ruled on the 1991 Special Master's report.

In early 2004, the Court directed the parties to provide additional briefing on the objections to the 1988 and 1991 Special Master's reports. That briefing was completed in July 2004. In a Memorandum Opinion and Order entered in October 2004, the Court granted in part and denied in part the summary judgment motions of the State and the non-Indian defendants concerning the Pueblos' future use claims. In that same opinion and order the Court declined to act on the Special Master's 1991 report and recommendation on the Pueblos' historic and existing use claims.

Pursuant to a scheduling order entered in November 2004, the Pueblos provided proposals for the settlement of their claims to the State and non-Indian parties in June 2005. Since that time the parties have been exploring the potential for a negotiated settlement of the Pueblos' claims.

Although the adjudication of non-Pueblo, non-federal water rights was completed in 2000, the New Mexico Commissioner of Public Lands filed a Declaration in September 2004 claiming that federal reserved rights attached to groundwater beneath state trust lands. The State *ex rel.* State Engineer and the Pueblos filed motions to dismiss the Commissioner's Declaration, and the Court entered an order dismissing the Declaration in July 2005.

**Rio Pojoaque System.** *State of New Mexico ex rel. State Engineer v. Aamodt, et al.*, U.S. District Court No. 66cv6639 MV, was filed in 1966 and involves the adjudication of all water rights in the Rio Pojoaque system, including the claims of the Pueblos of Nambé, Pojoaque, Tesuque, and San Ildefonso. The lawsuit has been active since that time, and has resulted in the adjudication of a significant portion of those rights in both Pueblo and non-Pueblo.

**Global Settlement.** For the past five years the parties have been engaged in discussions aimed at resolving through a global settlement all remaining issues in the case, including the claims of the Pueblos of Nambé, Pojoaque, Tesuque, and San Ildefonso. Since August 31, 2000, proceedings before the Special Master have been stayed to facilitate these settlement negotiations. On June 18, 2003, however, the Court entered its Order setting a case management conference for September 30, 2003 to discuss topics and scheduling for trials on all remaining undecided issues in the case. A series of status conferences have followed which have been utilized both to report the progress of negotiations to the Court, and to identify for the Court the litigation tasks that will remain in the event of either a settlement or a return to litigation. The last of these status conferences in fiscal year 2005 was held on April 26, 2005. The negotiations have been mediated by an Arizona District Court Judge and are protected from public disclosure by a confidentiality agreement. Congress has contributed \$1.5 million to the process to perform a settlement study of a pipeline project that might serve as the centerpiece of any settlement.

On February 5, 2004 the draft Aamodt Settlement Agreement was made public by the mediation parties, followed by a series of public meetings designed to provide information about the Settlement Agreement, and to take comments and reactions from the parties affected. In response to public opposition expressed at those public meetings and elsewhere regarding the proposed settlement, the Court on May 27, 2004 appointed two individuals to represent the opposition parties in the ongoing global settlement negotiations. Since that time, attorneys representing large groups of opponents of the original settlement have also joined

the mediation process. For the remainder of 2004, settlement negotiations largely focused on hearing the concerns of the opposition, and negotiating remaining issues not resolved by the February 5, 2004 draft proposed settlement agreement.

Then, at a status conference on January 12, 2005, the United States informed the Court and its mediation partners that it would be unwilling to fund the *Aamodt* settlement in anything like the amounts that had been previously contemplated. Instead, the United States reported that a likely federal contribution would be on the order of less than one quarter of what had previously been discussed. This of course left a massive gap in funding for the *Aamodt* Settlement. Nonetheless, negotiations continued.

In the months following the United States' January 12, 2005 announcement, the negotiating parties wrestled with the twin problems of community opposition and lack of funding for the Settlement Project. The approach that was taken was to step out of the original Settlement Agreement, an extremely lengthy and complex document, and develop a secondary document, a shorter, more conceptual document, to describe in broad terms how the original Settlement Agreement must be changed. This approach was in many respects successful, and the Governor announced on June 1, 2005 that a Conceptual Agreement had been reached, at least as between the attorneys at the negotiating table. Since June 1 the negotiators have worked to integrate the Conceptual Proposal into the original Settlement Agreement, to develop a consolidated settlement document the attorneys could then recommend to their clients.

If a global settlement is not reached, the remaining undecided issues which the Court contemplates taking to trial include:

**Nambé Reservation Reserved Rights Claim.** After the conclusion of an evidentiary hearing lasting approximately four weeks, the Special Master prepared a draft report on these claims, recommending their denial. The District Court, however, concluded that the report was inadequate for purposes of deciding these claims.

**Pueblosí Domestic and Livestock Rights.** The Court has ordered mandatory settlement negotiations on the Pueblosí domestic and livestock rights claims, and these talks have continued as part of the global settlement negotiations.

Other issues in the case, but which fall outside the scope of the Court's agenda for litigation at this time, include:

**Post-1982 Domestic Wells.** On January 13, 1983, the Court ordered that all subsequent domestic well permittees in the basin would be restricted to indoor uses only. In 1996, the Court allowed litigation to commence concerning all aspects of this Order, and in 1997, discussions began as to possible settlement of this particular issue. After more than a year of negotiations, representatives of the state, Pueblos, United States, and individual well owners reached a settlement agreement, which the Court approved on October 4, 1999. The state has notified all post-1982 well owners of the agreement, and held public meetings encouraging them to participate in this settlement, which allows all settling well owners to use water from their wells for outdoor uses. Approximately 325 well owners ultimately participated in the Post-1982 Wells Settlement Agreement, and a water master has been appointed to verify compliance and field check those wells to confirm their locations. The process of metering and monitoring the wells is ongoing.

**Comprehensive Basin Administration Plan.** The state and the United States have jointly proposed a plan for the metering and/or measurement of all diversions in the basin for the purpose of administration of water rights. Refinement of the metering plan, development of a water-rights administration plan for the basin, and attempts to obtain funding for implementation of the plans are ongoing.

**Motion to Enjoin Pueblo of Pojoaque Overdiversions.** On September 12, 2002 the state filed a Motion asking the Court to issue a preliminary injunction against the Pueblo of Pojoaque ordering it to halt its overdiversions of groundwater. The Pueblo has been diverting water in a quantity nearly double the amount it is entitled to under the Court's orders, and is planning future uses which would result in a total diversion three times or more the amount of water to which it is entitled. On November 26, 2002 a Magistrate Judge held a trial on the state's Motion, and on June 30, 2003 the Court entered its Order denying it.

**Lower Rio Grande.** *State of New Mexico ex rel. State Engineer v. Elephant Butte Irrigation District, et al.*, Third Judicial District Cause No. CV 96888 (formerly: *Elephant Butte Irrigation District v. State Engineer*, Dona Ana County Cause No. CV86848) was originally filed in 1986 during the height of the litigation surrounding the applications of the City of El Paso for water from southern New

Mexico. After 10 years of litigation over procedural matters involving venue, jurisdiction and indispensable parties, the State Engineer secured \$250,000 from the legislature for the purpose of initiating the hydrographic survey of the Lower Rio Grande. During the 1997 Legislative Session, the State Engineer and the ISC successfully lobbied for passage of legislation to authorize the issuance of bonds to fund the hydrographic survey for the region. Laws 1997, Ch.241 and Ch.246.

With sufficient funds in hand, the State Engineer hired a private engineering firm to conduct the hydrographic survey with a projected completion date in the year 2000. The first phase of the hydrographic survey, for the Nutt-Hockett Basin, was filed with the Court on April 29, 1998. The second phase of the hydrographic survey, for the Rincon Section, was filed on May 20, 1999. The third phase of the hydrographic survey, for the North Mesilla Section, was filed on July 20, 2000. Reports for the fourth (South Mesilla) and fifth (Outlying Areas) sections were filed on March 28, 2001. A separate supplementary hydrographic survey of surface water claims for small domestic and agricultural users, so-called "flat-raters," was commissioned in 2001 and collection of field data for this survey has been completed. Integration of that data into the Lower Rio Grande Hydrographic Survey has commenced and will proceed during the coming year.

Adjudication of all water rights in the Nutt-Hockett Basin has been largely completed and subfile orders have been entered for most of the water rights. Adjudication of water rights in the Rincon, Northern Mesilla, and Southern Mesilla Sections is progressing. As of July 1, 2005, offers of judgment have been sent to claimants for 5,476 subfiles in these sections, and subfile orders have been entered for 3,241 of these subfiles.

The State has also been successful in its request for the Court to adopt procedures to streamline the adjudication process. In place of traditional adversarial litigation, the Court has adopted an alternative dispute resolution (ADR) process for resolution of legal issues and factual disputes through informal negotiations and/or mediation before any formal hearings or trials are scheduled by the Court. ADR provides an opportunity for claimants to resolve issues arising after service of the original offer of judgment through informal negotiations with the State or formal mediation. The ADR process has been very successful and the vast majority of disputes referred to mediation have been resolved without the need for formal hearings.

As the result of additional funding provided by the legislature, additional attorneys and technical staff have been hired over the past three years. These additional personnel have increased significantly the pace at which subfiles with objecting claimants are being resolved through negotiation, mediation, or formal hearing. This fast-track approach is intended to result in a fairly rapid adjudication of water rights in the Lower Rio Grande. It is estimated that there are between 13,000 and 14,000 claims to surface and groundwater rights that will need to be adjudicated in the Lower Rio Grande, most of which are claims of individuals within the Elephant Butte Irrigation District. Adjudication of the surface and groundwater rights among the many claimants will include all municipal, domestic, agricultural, industrial and other uses.

## **LOWER COLORADO RIVER DRAINAGE BASIN**

**Zuni River.** The Zuni River adjudication suit, *United States v. A&R Productions, et al.*, U.S. District Court No. 01cv0072 BB, was filed by the United States on January 19, 2001 without meaningful prior notice to or consultation with the State Engineer or the State of New Mexico. From the outset, the suit suffered from several serious defects, not the least of which was a failure to join the proper parties, and ambiguity as to whether the United States sought quiet title and declaratory judgment relief or sought a statutory adjudication of water rights in the stream system pursuant to New Mexico law. These problems were compounded by the fact that the United States had made no effort to educate the community regarding the nature and implications of an adjudication prior to joining the defendants, and as a result the suit immediately generated a great deal of resistance, misunderstanding, and hostility from area residents.

Due to the dismay and confusion generated in the local community by the United States' suit, the Court stayed the proceedings to allow the United States and the State of New Mexico to confer regarding cost and resource issues presented by undertaking the adjudication of the Zuni River stream system. The discussions were not fruitful, and the State and the United States independently submitted their own proposals to the Court as to how the adjudication should proceed.

On July 15, 2002, the Court acted on the recommendations of the Special Master, and effectively adopted the State's proposal. The Court ordered that



the matter remain stayed, that the United States confer with the State to define the geographical scope of the adjudication, that the United States amend the Complaint to clearly plead a general stream system adjudication, and that the State be realigned as a plaintiff when that occurred. Perhaps most significant, the Court ordered that the United States alone support the cost of the hydrographic survey. The Court allowed that erroneously joined defendants who were not claiming water rights could be dismissed by filing a disclaimer. The Court also required that the United States make progress reports to the Court every six months, and maintain a public repository of pertinent adjudication documents and a public website containing information on the adjudication.

The State and the United States have since consulted with regard to the conduct of the hydrographic survey and reached agreement as to the details of it. The survey is being conducted by the United States' contractor, at the United States' expense, but to the specifications and under the supervision of the Hydrographic Survey Bureau of the Office of the State Engineer. For purposes of the hydrographic survey, the stream system has been divided into ten sub-areas, which will be sequentially surveyed and adjudicated. On February 21, 2003, the State and the United States filed their Joint Progress Report, describing in detail their agreed arrangement for the conduct of the hydrographic survey.

To facilitate the hydrographic survey process, the Water Resources Allocation Program conducted a series of field offices in the Zuni area so that water rights claimants could update their water rights files with State Engineer. To further that end, on June 24, 2003, the Special Master entered an Order requiring all water rights claimants in the Zuni River stream system to update their files with the State Engineer. This generated significant attendance at the field offices, and resulted in the update or creation of hundreds of water rights files. Water Resources Allocation Program (WRAP) staff abstracted the paper files into the State Engineer's electronic *WATERS* database, and that information has provided the foundation on which the hydrographic survey is being built. A collateral advantage to this approach has been that WRAP's files were made more current, and that WRAP itself has been brought into the adjudication process, building a bridge to the administration of a Zuni final decree, which ultimately will be the responsibility of that program.

On May 21, 2003, the Court ordered that the geographical scope of the adjudication shall be limited to the boundaries of the surface drainage of the Zuni River; the United States has since served and filed its amended complaint, the State has been realigned as a Plaintiff; and the stay in the case has been lifted.

Since that time, the United States' hydrographic survey contractor has completed the hydrographic survey for sub-areas four and eight, conferred with the State, and filed survey reports and maps with the Court. By July 18, 2005, the United States had prepared and the State had reviewed all the proposed consent orders for sub-areas four and eight, and the United States had planned to begin serving them by the end of that month. However, on June 8, 2005, the Special Master ordered that no proposed consent orders should be served pending review of them by her.

The United States' hydrographic survey contractor has completed the hydrographic survey of sub-areas nine and ten, and the State has reviewed and approved it. The plaintiffs are presently prepared to file the survey reports and maps with the Court but are awaiting the Special Master's approval of the proposed consent orders for sub-areas four and eight before proceeding further on sub-areas nine and ten.

The fieldwork for the hydrographic survey of sub-area seven has now been completed and a draft hydrographic survey report is expected to be completed before the end of September 2005.

With regard to sub-areas one, two, and three, the United States obtained aerial photographs of the irrigated lands near the town of Ramah, New Mexico, in July 2004. The field work for the hydrographic survey of the private lands in those sub-areas is ongoing and is expected to be completed by the end of September 2005, with a draft of the hydrographic survey report expected by November 30, 2005.

The Court had ordered that the United States complete the hydrographic survey of the Zuni River stream system by December 2006, and that all Indian claims be prepared and filed by that date. However, on July 26, 2005, the Special Master ordered that the Plaintiffs should not issue proposed consent orders for domestic well rights until she issues further instructions, and further ordered that the State and the United States show cause why quantification of domestic well rights should not be heard in a stream system-wide proceeding. While hydrographic survey activity will likely continue, other aspects of the adjudication, including the

service of proposed consent orders, will halt until the issue of whether or not the quantification of domestic well rights should be heard in a stream system-wide proceeding is resolved. This could result in a change to the schedule for the adjudication.

#### UPPER COLORADO RIVER DRAINAGE BASIN

**San Juan River.** *State of New Mexico ex rel. State Engineer v. United States, et al.*, San Juan County Cause No. D-1116cv7500184, is a suit to adjudicate all water rights in the San Juan River stream system. The non-Indian, non-federal water rights of the San Juan River Stream System were hydrographically surveyed in the late 1930s and adjudicated by the Echo Ditch Decree in 1948. The State was not a party to this adjudication, however, and no Indian or federal water rights were adjudicated in the Echo Ditch Decree. The State Engineer conducted a second partial survey in the early 1980s, and the Hydrographic Survey Bureau is in the process of updating the survey using all available current and historical data, including infrared aerial digital imagery taken in 2003.

In response to an Order to Show Cause issued by the Court in January 2005, the State successfully argued that the San Juan Adjudication should not be dismissed for failure to prosecute. The Court appointed an attorney advisory committee to assist the State in drafting a scheduling order for the adjudication of water rights in the La Plata Section and an overall case management order. The proposed orders have not yet been approved by the Court at the time of this writing, but the State anticipates that the State will join and serve all claimants in the La Plata River Section before April 1, 2006, and that the State will commence making offers of judgment to water rights claimants on four northern La Plata Section ditches about the same time.

The State and the Navajo Nation signed the Navajo Settlement agreement in 2005, but the United States cannot sign the agreement unless and until Congress first enacts legislation approving the agreement. Once the United States executes the agreement, the State anticipates that a proposed order adjudicating the Navajo Nation's water rights will be filed with the Court and, after notice is provided, an expedited *inter se* proceeding will be conducted to allow all other water right claimants in the San Juan River stream system to raise objections to the proposed adjudication of the Navajo Nation's rights. The State anticipates that this process will require several years to complete.

## Appendix B

# Status of Hydrographic Surveys

### RIO GRANDE

**Rio Chama.** In 1948, a group of landowners sued another group of landowners in the Rio Puerco de Chama subbasin of the Rio Chama. In September 1951, the Court entered an order directing the State Engineer to make or furnish a hydrographic survey of the stream system and community ditches named in that complaint. The Office of the State Engineer completed the mapping and report for the Rio Puerco de Chama during the 1952-53 period. In August 1957, State Engineer S.E. Reynolds directed his staff to make a hydrographic survey of the entire Rio Chama Stream System below El Vado Reservoir. The Chama drainage basin was divided into eight subbasins for survey and adjudication purposes.

In 1995 the United States District Court for New Mexico ordered the State Engineer to complete the hydrographic survey of the remainder of the Rio Chama drainage basin within the next six years. During fiscal year 2000, the Hydrographic Survey Bureau (HSB) completed, published and filed with the Court the first of nine reports in the 3 sections that remained unsurveyed. The entire Chama river basin has now been surveyed and is in the process of adjudication. The HSB is currently participating in the adjudication process by supporting the adjudication attorneys as the process proceeds.

**Rio San Jose.** In 1984, the Cibola County District Court ordered the State Engineer to conduct a hydrographic survey of the surface and ground water uses in the Rio San Jose drainage basin, which encompasses approximately 3,700 square miles. The federal government, through a private contractor, completed a hydrographic survey of the area in October 2001 using 1981 aerial photography and field work. The HSB currently is reviewing this hydrographic survey of the Acoma and Laguna Pueblos and is conducting a detailed independent investigation of past water use on Pueblo lands by examining four sets of historical aerial photography (1935, 1971, 1991 and 1997).

**Rio Pueblo de Taos/Rio Hondo.** Three sections of this survey were completed and filed with the Court in 1969. In 2002, however, the Court allowed claimants to file claims to allegedly omitted surface water rights. More than 100 such claims were filed. HSB completed the field checking and mapping of these claims in July. HSB is also working in conjunction with the Court's Data Manager to provide technical support for the errors and omissions process being conducted by the Court.

**Lower Rio Grande.** The initial survey was completed by a contractor under the direction of the HSB in 2000. Additional survey work was finished during this fiscal year to determine the extent of the water rights of approximately 6,500 small domestic and agricultural users of water within the Elephant Butte Irrigation District and to support the adjudication as it proceeds. The additional survey work is being integrated into the adjudication process.

### PECOS RIVER

**Rio Peñasco.** The survey involves approximately 5,500 acres of land irrigated by surface water, groundwater, and surface water supplemented by groundwater. The Rio Peñasco drainage area encompasses about 1,080 square miles and extends from the Pecos River on the east to Cloudcroft on the west, a distance of approximately 95 miles. The area was surveyed in the early 1980s and high resolution aerial imagery is planned to be acquired in 2004. The plans also cover the nearby Mescalero Apache area in preparation for future adjudication work.

**Carlsbad Irrigation District.** This survey involves approximately 800 owners of tracts irrigated by surface water, groundwater, and surface water supplemented by groundwater. The survey has been divided into four separate geographic areas by township, with those tracts within CID and Township 24S comprising Section One, Township 23S comprising Section Two, Township 22S comprising Section Three and Township 21S surveyed as Section Four. Sections One and Two have been completed and filed with the Court and are proceeding through adjudication. Section Four has been completed but has not yet been filed with the Court and Section Three will be completed during fiscal year 2005.

**Carlsbad Underground Basin.** This survey will report all the remaining water uses within the Carlsbad Underground Basin. It is expected that this work will be performed during the 2007 and 2008 fiscal years.

**Black River.** The Black River is a west-side tributary of the Pecos River in southern Eddy County. Irrigated cropland in the Black River drainage includes approximately 2400 acres reported in the Carlsbad Irrigation District section and 2500 acres outside the district. It is expected that this work will be performed during

fiscal years 2006 and 2007.

### SAN JUAN RIVER

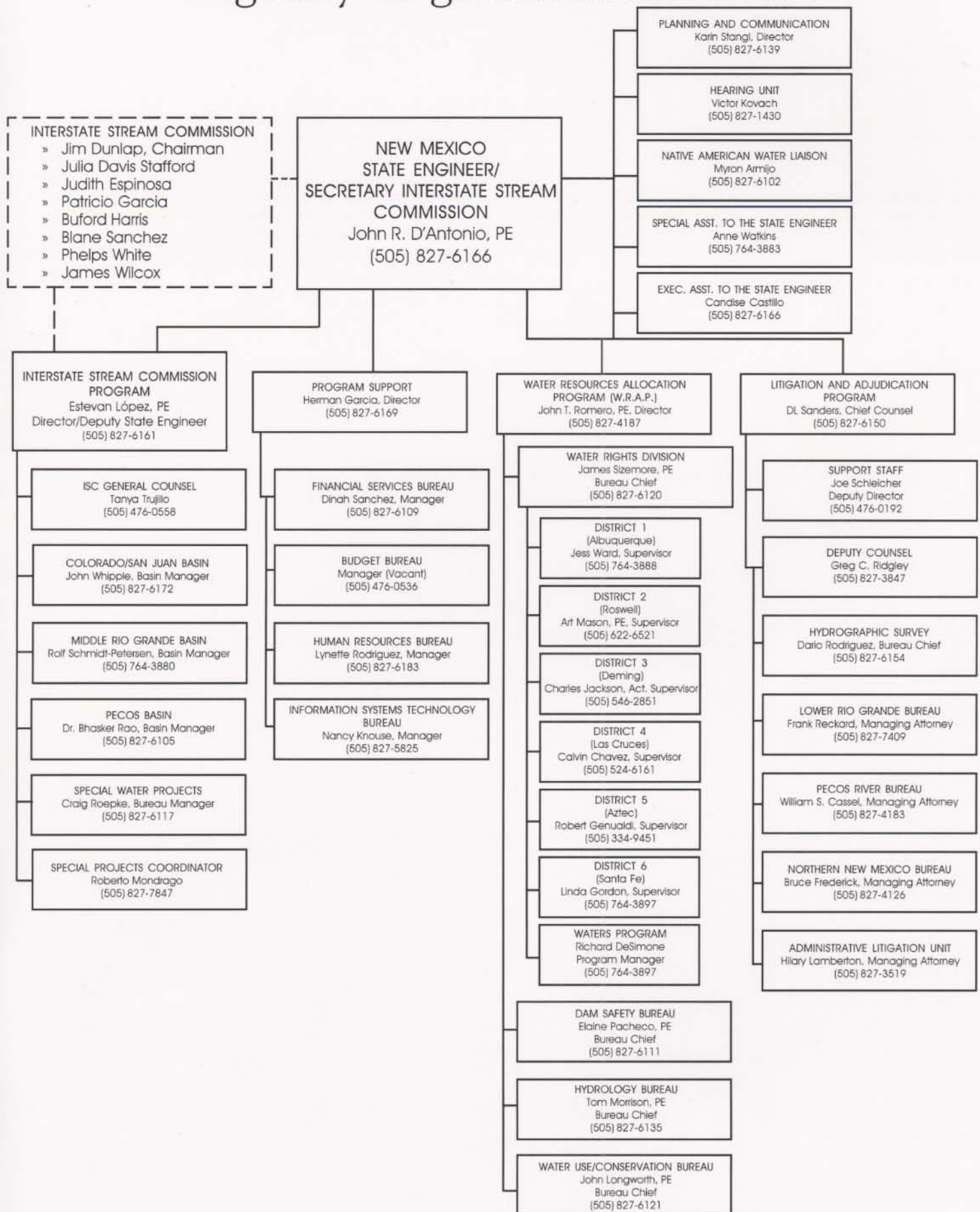
The non-Indian, non-federal water rights of the San Juan River Stream System were hydrographically surveyed in the 1930s and adjudicated by the Echo Ditch Decree in 1948. The State was not a party to this adjudication, however, and no Indian or federal water rights were adjudicated in the Echo Ditch Decree. The State Engineer conducted a second partial survey in the early 1980s, and HSB is in the process of completing the survey using all available current and historical data, including infrared aerial photography taken in 2003. The State will use this data to analyze the current ownership and status of non-Indian, non-federal water rights and seek adjudication of these rights by the Court. The Court will also adjudicate Indian and federal water rights.

### ZUNI RIVER

The United States commenced this adjudication in 2001 in the United States District Court for New Mexico, and the Court subsequently ordered the United States to conduct the hydrographic survey subject to review by HSB. So far 2 out of 8 sections of the Zuni River stream system have been surveyed, reviewed by HSB, and filed with the Court.

This hydrographic survey has provided an opportunity to implement new procedures designed to promote claimant involvement from the initial steps of the process. HSB has worked with the OSE Water Resource Allocation Program and the federal government's hydrographic survey contractor to hold field offices to work with claimants to compile and update water rights information in the basin and to educate the public about the hydrographic survey and adjudication process. To date, results from this pilot project have proven encouraging with significant participation from basin claimants during these pre-survey field offices.

# Agency Organizational Chart







New Mexico  
Office of the State Engineer  
Interstate Stream Commission  
2004-2005 Annual Report