

STATE OF WYOMING

2001

ANNUAL REPORT

OF THE

STATE ENGINEER

STATE BOARD OF CONTROL

**BOARD OF REGISTRATION FOR
PROFESSIONAL ENGINEERS AND
PROFESSIONAL LAND SURVEYORS**

July 1, 2000 through June 30, 2001

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Introduction
by
Richard G. Stockdale
Deputy State Engineer

The search for a permanent State Engineer continued during the first one-half of FY 2001. In January of 2001, Governor Geringer appointed Patrick Tyrrell State Engineer. Mr. Tyrrell is a native born Wyomingite who received his formal engineering education from the University of Wyoming. He has gained 20 years of practical water resource engineering experience working in the environmental department at a major coal mine in northeast Wyoming and by working for several water resource consulting firms in the Midwest and Wyoming. I want to take this opportunity to welcome Mr. Tyrrell as Wyoming State Engineer and wish him well and great success.

With the appointment of Mr. Tyrrell as State Engineer, my sojourn as Acting State Engineer was concluded. I was appointed by Mr. Tyrrell as Deputy State Engineer, a position that had been eliminated by former State Engineer, Jeff Fassett. Mr. Tyrrell reinstituted the Deputy State Engineer position to direct the general administration of the office and to assist him with technical issues related to legislation, budget, office policy, etc. Mr. Tyrrell is in the process of reviewing various functions within the office with an eye toward potentially reshaping some areas to increase efficiency within the Agency.

A significant statewide drought during early FY 2001 created numerous water administration and management problems for the State Engineer's Office and the Board of Control. While the drought conditions were felt statewide, extremely dry conditions plagued the southwest portion of the State. Water right regulation was required in areas of the state that seldom receive such attention. Based upon available water supplies and the forecasted runoff for late FY 2001, it would seem that the drought has intensified and FY 2002 will experience additional water supply shortage. This will dictate even greater water right administration over large areas of the state.

The North Platte River Settlement continued to require substantial personnel commitment from the Agency during FY 2001. Details of the settlement required exhaustive discussions with the legal and technical negotiating teams from Wyoming and Nebraska. The settlement agreement was completed in mid-FY-2001 and was submitted to the Special Master, Owen Olpin, for his review and recommendation on March 15, 2001, prior to its submission to the United States Supreme Court.

I want to close this introductory section of the Annual Report by expressing my sincere gratitude to the entire staff of the State Engineer's organization for all of your help and counsel while I was Acting State Engineer. The sheer magnitude of the workload, be it field or office, and the dedication and professionalism exhibited by the staff as you complete your tasks is an effort that I am extremely proud to be a part of. Thanks to each and every one of you!

Introductory Remarks

by

Patrick T. Tyrrell
State Engineer

In my review of the draft of this annual report, I noted Mr. Stockdale's kind comments regarding the new State Engineer. I appreciate those words, and it is indeed an honor to occupy this important position. I also felt it appropriate to provide a summary of my first experiences as State Engineer and comment upon the agency and its direction.

Upon taking office on January 16, 2001, I embarked on a steep learning curve both in the areas of water law and in the operations of this historic and noble agency. Coming from the private sector with no previous employment in state government, my preparatory experience in water resources was extensive and valuable but not necessarily thorough in its exposure to Title 41 nor the Rules and Regulations under which we operate. To Dick Stockdale, the Division Administrators, and to each employee I owe a debt of gratitude for their help, support, and encouragement as I dove into the duties of the job. Without their help, this would have been a very difficult task. With their help, I had a very rewarding first year.

Two areas received my primary focus in 2001. First was the need to learn as much as possible about the agency mission, our employees, and the organizational structure under which we operated. A special effort was made to take a hard look at our division of work in Cheyenne to see if there were efficiencies that could be gained, and if so, what changes might be warranted. This effort resulted in a "reshaping" of our reporting structure that will see full fruition in 2002. The reshaping essentially will consolidate the Big Horn adjudication work back to more formal supervision under the Board of Control, consolidate work considered to be supportive of our major responsibilities into a new "Support Services" Division, and better manage our interstate streams obligations and workload by re-establishment of an Interstate Streams Division. Such changes more clearly define our efforts by removing some of the ad-hoc assignments that had, albeit innocently and probably unintentionally, crept into our structure over the years. Learning the agency organization and its daily task load made me aware of another important fact of life in state government – we have very good people who are very busy. So busy, in fact, that important work is going undone in our efforts to be responsive to virtually every phone call. We could be making better use of digital technology and the internet for information dissemination. A challenge ahead will be to prioritize our workload so that we can stay ahead of the resource, permitting, adjudicating and administration issues without getting bogged down.

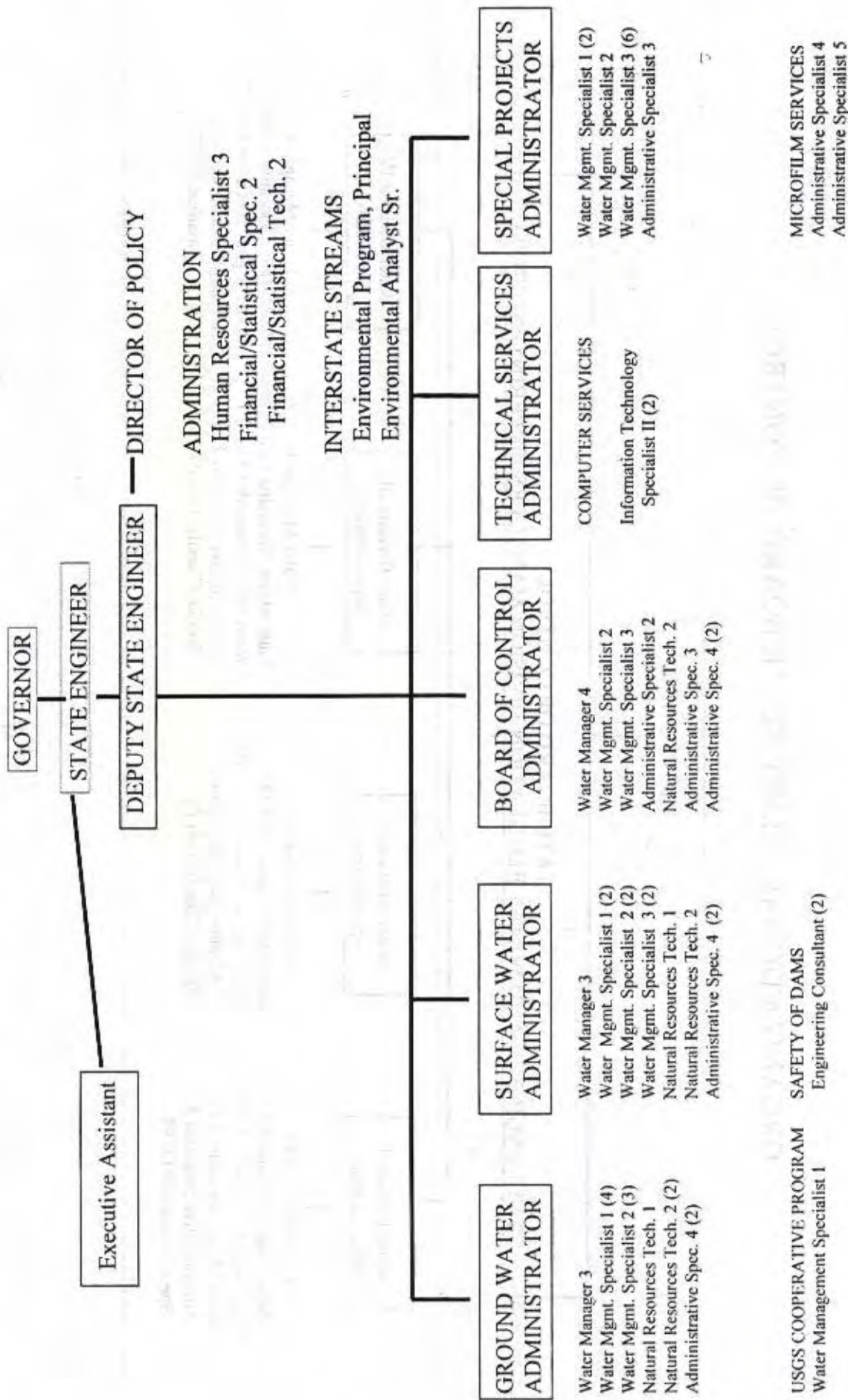
An equally important part of understanding the agency and its function was the need to spend time with the four Division Superintendents and our field

employees. Given the depth of drought in 2001 (and likely continuing into 2002), this has been a particularly trying time "on the creek." In June of 2001, I blocked out 2 weeks to visit all four divisions, meet as many of the field staff as I could, and learn more about the current water resource issues that affect our regulation efforts. This was valuable and well-spent time, and I plan to continue these types of field visits in the future.

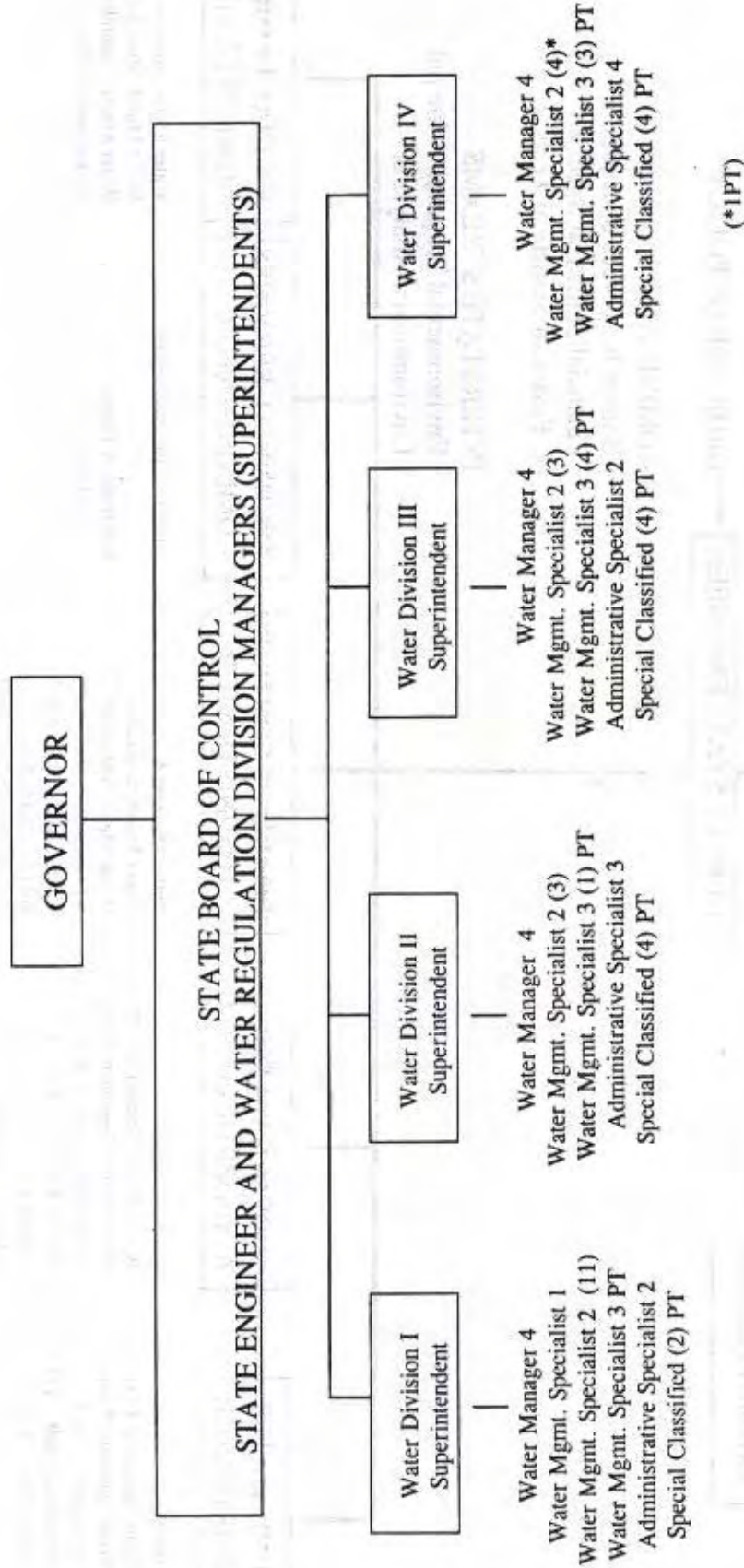
The second area of focus was the study of the statutes under which we operate, our rules and regulations, and the high-profile issues of the day. I sought to get to know our major constituent groups and some of the individual users who rely on the State Engineer's Office to administer the laws fairly and consistently. In 2001, the issues demanding greatest attention included increased Coal Bed Methane development and the resource pressures created thereby, the contents of the proposed North Platte River Settlement and Modified Decree and their ramifications, and, of course, drought. There are issues in the interstate arena, such as requests for more water for the Colorado River Delta, where Wyoming water is potentially at stake and must be fiercely protected. Addressing the puzzles presented by issues, statutes, rules and personalities can be dizzying at times but is certainly fascinating *all* the time.

In closing, the first year went by amazingly quickly. We have challenges ahead in managing our workload, using technology to our best advantage, and still providing the core services our constituents have come to expect. We will be challenged to protect our water against downstream interests. These challenges will be attacked head-on with smart use of our people and budget, and I am excited about the future of this office and what it can do. It's a pleasure to be here, and I look forward, with the help of the great people of this agency, to managing Wyoming's water for Wyoming's people.

ORGANIZATIONAL CHART - THE STATE ENGINEER'S OFFICE



ORGANIZATIONAL CHART-STATE BOARD OF CONTROL



ORGANIZATIONAL CHART-STATE BOARD OF REGISTRATION

FOR PROFESSIONAL ENGINEERS AND PROFESSIONAL LAND SURVEYORS



ADMINISTRATION & INTERSTATE ACTIVITIES DIVISION

Richard G. Stockdale
Deputy State Engineer

The Administration Division of the Agency consists of the Human Resources, Fiscal, State Engineer support staff and the Interstate Streams, Water Planning and Water Conservation Sections.

Fiscal and Human Resource Issues

The Agency continues to be deluged with various kinds of water right applications associated with coalbed methane (CBM) activities. Well applications and reservoir applications are the primary types of applications and their associated fees that are being processed by the fiscal staff. The receipt of "outside" funds from various other cooperating state, federal and local governmental entities to pay for special activities related to mapping, water administrative issues, etc., continues to grow and places additional burdens on the fiscal staff. Procurement of equipment, both office and field, and the associated inventory accounting has also increased during FY 2001 and is consuming additional fiscal staff time.

Salary adjustments were awarded by the Agency in August, 2000. The goal was to bring all our employees to at least 80% of market. Many of our employees are still between 80% and 100% and our goal is to get our employees at a salary level competitive with the private sector. As there are few water resources jobs similar to those performed by our employees, obtaining meaningful market data is difficult. In addition to the market adjustments, a \$25 per month increase was made in the state contribution to medical insurance, and an additional \$10 per month longevity payment will be made for every 5 years of state service.

Coordination on Water Resource Issues

Coordination activities with the other state Natural Resource agencies also continued throughout the reporting period. Bi-weekly meetings of the Natural Resources Subcabinet, which is comprised of the Natural Resource agencies and their department directors, continued to be held with staff of the Governor's Office. Quarterly meetings were held with the Department of Environmental Quality and the Game and Fish Department to ensure coordination between the State Engineer and the other two agencies on water resource issues. The State Engineer and staff of the Administrative Division continued their involvement in chairing the State Water Forum. The State Engineer and staff continue to participate in the Western States Water Council and the Interstate Council on

INTERSTATE STREAMS SECTION

By

John W. Shields

Sue Lowry

Interstate Streams Engineer

Director of Policy and Administration

Objectives

The State Engineer is charged with administering and overseeing all matters involving Wyoming's interstate and intrastate streams and rivers. A primary objective of the agency is to safeguard the State's current and future water supplies by preserving Wyoming's ability to use and develop our water allocations under our interstate compacts and court decrees. The functions of the Interstate Streams Section are directed towards accomplishing that objective. Wyoming is party to seven interstate river compacts, and court decrees have been entered in several river basins. The Interstate Streams Section (ISS) provides technical and policy support for water allocation and administration issues associated with these governing compacts and decrees. The Water Planning and Water Conservation activities of the agency are also coordinated in this Section of the office. The functions of the ISS are further described by the following:

- 1) The majority of the management and administrative workload completed by the various interstate river basins is accomplished through technical staff-level committees that meet throughout the year. Wyoming's participation and technical support on those committees is provided by the ISS.
- 2) In addition to the State Engineer's representation on the interstate compact and decree organizations and committees associated with the specific river basins, other regional and national organizations provide additional interstate forums to address and cooperatively resolve various water management issues on both a regional, West-wide or national level. The ISS assists and supports the State Engineer with his involvement or directly provides Wyoming's participation in certain of these water organizations.
- 3) The two Interstate Streams Engineers provide technical assistance and staff support to the State Engineer on diverse water legislative, policy, information and topical issues.

Interstate Streams Activities

The following summarizes notable activities of the Interstate Stream Section by river basin or issue:

Missouri River Basin

The Missouri River Basin Association (MRBA) has continued to actively work with the Corps of Engineers in their Master Manual Review. The Master Manual is the guidance document for the operations of the 6 mainstem Corps of Engineers reservoirs on the Missouri River. The MRBA met several times during the year, throughout the Basin:

August 25, 2000	Kansas City, MO
September 27, 2000	Technical Committee (Drought Flow Recommendations)
October 5, 2000	Minneapolis
October 24, 2000	Conference Call
November 29, 2000	Conference Call
December 14, 2000	Denver
January 3, 2001	Technical Committee (Review of Biological Opinion)
February 12, 2001	Technical Committee (Additional Study Runs for draft EIS)
February 22, 2001	Omaha
April 4, 2001	Washington, DC
May 30-June 1, 2001	Sioux Falls, SD (Stakeholder Conference)

The Master Manual Review was initiated in 1989 during the major drought of the late 1980's. The upper Missouri River basin states were concerned with the delayed water conservation measures of the current Master Manual. A draft EIS was released in 1994 and the threat of many major lawsuits led the Corps to requesting the MRBA work on developing a consensus position for the basin. As that effort was moving forward, the US Fish and Wildlife Service revealed they would likely give a jeopardy option to any of the alternatives being explored by the Corps under the required Section 7 consultations under the Endangered Species Act. The FWS issued a final Biological Opinion on the current operations of the Missouri River basin in November, 2000. The Biological Opinion covers 3 species listed in the basin under the Endangered Species Act: the pallid sturgeon, the least tern, and the piping plover. The major provisions of that Biological Opinion were as follows:

- Intrasystem regulations of the 3 major reservoirs (Ft. Peck, Oahe, Garrison)
- such that in any given year one of the reservoirs might be drawn down further relative to the other two. These operations would allow for the growth of vegetation on the sandbar areas that would be exposed during the drawdown. This vegetation would provide fish habitat in the subsequent years when the areas were again flooded by reservoir storage.
- Ft. Peck Spring rise: When hydrologic conditions would permit, the releases out of Ft. Peck would be increased to simulate pre-dam spring conditions and then monitoring would be put in place to see if the releases

would provide the trigger to pallid sturgeon for spawning.

- **Monitoring:** The FWS is directing the Corps to monitor the impacts of any changes to operations on the habitat and reproductive success of the 3 listed species.
- **Habitat:** The Biological Opinion recognizes the necessity of improved habitat as well as any flow changes in the river. The Service believes that both components are necessary for the species to recover.
- **Gavins Point flow releases:** Gavins Point is the furthest downstream reservoir in the system. From a biological point of view, it is believed that increased flows in the River in the springtime, coupled with low releases in the summer would be beneficial for the pallid sturgeon. Floodplain farmers are concerned that additional flows in the springtime would increase their risk of flooding and delay when they would be able to get into their fields for planting. The navigation industry wants full support in the summer and is not in favor of any decrease in the summer flows for species reasons. The MRBA explored a recommendation on Gavins Point releases, and were not able to reach a recommendation acceptable to the states. This recommendation is by far the most contentious of the provisions in the Biological Opinion.
- **Hatcheries:** The FWS does recognize the benefit of some propagation of the species, particularly the pallid sturgeon in hatcheries, at least until populations begin to increase.
- **Adaptive Management:** The Service is supportive of the concept of adaptive management and being flexible in making mid-course changes should the monitoring information show the different flow releases would improve the species numbers.

The Stakeholder meeting held in Sioux Falls in May, 2001 was the fourth conference held by the MRBA. This conference focused on the ESA impacts on river management and to describe the provisions of the Biological Opinion to the interested public. The meeting was well attended and the public should be congratulated on their willingness to discuss these issues and talk about the impacts to their particular interest in the river. In many ways, the stakeholders are more understanding and willing to be flexible in their positions than are the member states.

The MRBA has been discussing the concept of a full ESA Recovery Committee for the Missouri River for three years now. The participants at the Sioux Falls meeting were asked to comment on what type of committee they felt made the most sense of the Missouri River. The MRBA is now in the process of working on the details of membership, governance, timing of the development and adaptive management components of a Recovery Committee. The Corps continues to develop their Implementation Plan for how to respond to the Biological Opinion. The MRBA feels strongly that the states and tribes need to be included in that process. The MRBA is now working with the Missouri River Natural Resources Committee on how to best proceed with the Corps and with the stakeholders in a Recovery

Committee.

The drought that affected most of Wyoming is also impacting the Missouri River Basin. Fortunately, the eastern portions of the Dakotas received above average precipitation during the spring of 2001, which helped maintain the levels of the reservoirs. There was still a 9 million acre feet decline in reservoir storage during water year 2000.

The MRBA also worked on the issue of whether the operations of the Kansas River system should be for the benefit of downstream navigation. The state of Kansas believes that those reservoirs should not be drawn downs merely for meeting downstream navigation targets on the Missouri River mainstem. Working on the passage of funding for the Missouri River Environmental Assessment Program (MoREAP) was also a work item. Sen. Kerrey did introduce stand alone legislation on MoREAP, but the issue then got caught up in upstream/downstream politics and led to an appropriations rider that asserted the Corps could not use any of the attached appropriation for the "change in river operations". President Clinton ultimately vetoed this provision in October, 2000.

Litigation on several items impacting the Missouri River basin were on-going during the reporting period:

- The State of Missouri sued the US Fish and Wildlife Service over the lack of designation of critical habitat as specified under the Endangered Species Act.
- The State of Kansas sued the Corps of Engineers over the operation of the Kansas River system for the benefit of downstream navigation support on the Missouri River.
- The Standing Rock Sioux sued the Corps of Engineers over the elevations of Oahe Reservoir concerned over the exposure of cultural/historical sites when the reservoir is drawn down to lower elevations.
- The state of Missouri sued the US Fish and Wildlife Service (particularly the Missouri River Natural Resource Committee) on a Freedom of Information Request on biological data.

The state of Missouri negotiated a Memorandum of Understanding with Manitoba over concern of the re-formulated Garrison project that is being studied. One provision in the study being reviewed brings Missouri River water into the Red River of the North basin. Missouri has been very vocal and outspoken that they do not believe the upper basin states should be further developing any water that depletes the amount of water that would flow downstream to them.

Sue Lowry served as the Vice-Chair of the MRBA during this period.

North Platte River Basin

The observed inflow to Seminole Reservoir for the months of July, August and

September, 2000 was 21, 30 and 60 percent, respectively, of the thirty year normal. These values reflect the overall extremely dry conditions experienced in Water Year 2000. Water Year 2001 continued the trend, with below average snowpack and less than normal inflows. June 2001 inflows to the reservoir system were incredibly sparse, as shown on the following table:

Reservoir	June Inflow		Percent of Average
	Water Year 2001	30 Year Average	
Seminole	88.3	317.4	28
Pathfinder	7.1	32.5	22
Glendo	-1.3	26.2	0
Guernsey	0.3	6.7	4

The annual Natural Flow and Ownership meeting was held on April 19, 2001 in Torrington, Wyoming. A number of minor changes were made to the Storage Ownership and Natural Flow Accounting Procedures, several of which were occasioned on account of agreements reached since the preceding NFO meeting in the course of developing the terms of the settlement to end the interstate litigation. On account of the settlement among the parties of the interstate litigation and the likelihood of approval of the settlement by the Supreme Court of the United States, this may have been the last Natural Flow and Ownership meeting, as future meetings will likely be of what is to be known as the North Platte Decree Committee pursuant to the terms of the settlement between the parties. The Control Crest Subcommittee continues to provide a mechanism for Wyoming, Nebraska and the U.S. Bureau of Reclamation to reach agreement on the rating curves and zero shift ranges that are to be used at each of the gaging stations at which artificial control crests were installed in prior years under the direction of the State Engineer's Office through cooperative agreements that included funding from both Wyoming and the U.S. Bureau of Reclamation. Regardless of the committee that meets next year, a report from the subcommittee will be received.

PLATTE RIVER COOPERATIVE AGREEMENT – Becky Mathisen

The Cooperative Agreement for Platte River Research and Other Efforts Relating to Endangered Species Habitats along the Central Platte River, Nebraska just completed its fourth year and has been extended until the middle of 2003. Consistent with the extension of the Cooperative Agreement, the states of Wyoming and Nebraska, with support from the Department of Interior, were successful in convincing Congress to delay the due date for renewal of the Glendo Reservoir contracts.

The extension of the Cooperative Agreement is the result of slipping schedules, legislative calendars, and new topics such as sediment. The sediment topic first came to light in the spring of 2000 when the Bureau of Reclamation team

working on the Programmatic Environmental Impact Statement (PEIS) announced that it had a draft model that predicts adverse changes to sediment and vegetation as flows are changed in the Central Platte River of Nebraska. During the summer of 2000, the PEIS team gradually moved away from the sed-veg model, but still expressed concern that the habitat for the species will not be improved by the Proposed Program or any of the other alternatives that the PEIS team was analyzing. Adding a sediment or channel stability component to the water and land components of the Program is viewed by the three states as a major change in the Program.

The three states hired a consultant, Parsons Engineering, to review the channel stability (also called "sed/veg") information relied upon by the PEIS team. During the report year, Parsons met several times with the PEIS team and conducted their own analyses of the channel stability issues. Parson's report is expected in the fall of 2001.

For two years now, the Environmental Account (EA) has been releasing water from Lake McConaughy, intended to benefit the fish community and tern forage base in the Central Platte River. The EA account in Lake McConaughy started water year 2001 with 44 kaf of carryover and peaked at a maximum of 92.5 kaf. Releases totaled 6.7 kaf, 28.3 kaf, and 26.2 kaf in June, July and August respectively, resulting in a carryover of 27.8 kaf for water year 2002 after considering evaporation.

The ten-member Governance Committee of the Cooperative Agreement (consisting of representatives of the states of Nebraska, Colorado and Wyoming, the U.S. Fish and Wildlife Service, the Bureau of Reclamation, three water user representatives and two environmental group representatives) continues to meet, but no longer on a monthly interval. Meetings are open to the public, and attendance approaches 50 at each meeting. During the report year, State Engineer Pat Tyrrell was appointed as Wyoming's alternate to Governance Committee member Mike Besson.

The Governance Committee's subcommittees for land, water, technical (biological) issues, public outreach, drafting and finance continue to meet as topics arise. Subcommittee meetings are also open to assure stakeholder interests are heard and their views are taken back to the Governance Committee. Public attendance and participation is particularly high at the land committee meetings, almost always held in Nebraska. Each committee reports its progress toward the Cooperative Agreement's extended Milestones during the Governance Committee meetings.

During the report year, the Water Management Committee completed or postponed its milestones under the original Cooperative and Agreement and began work on its assignments under the Extension. Several meetings and workshops focused on providing the PEIS team the information it needs to

evaluate the water components' effects on pulse flows. Many of the members of the Water Management Committee were also involved in the channel stability issue.

Nothing changed in the past year in the Water Action Plan which lists the water supply projects that each of the three states could implement, and a means of changing the mix of projects. The Water Action Plan will be analyzed for NEPA and ESA compliance by the PEIS team and its cooperating agencies.

The Technical Committee consists of academic, private and government scientists of different disciplines such as biologists and hydrologists. It is generally responsible for developing the monitoring and peer review components of the Program.

The Outreach Committee has been less active than in past report years. Activities could include speaking at community events, guest appearances on television and radio shows, booths at state fairs and other agricultural and environmental events, press events, interviews with local reporters, newspaper insert, and distribution of brochures.

The Department of the Interior is continuing to prepare a Programmatic Environmental Impact Statement (PEIS), expected in the summer of 2002. The PEIS Office provides a courtesy progress report at each meeting of the Governance Committee.

NEBRASKA V. WYOMING LITIGATION – see "Legal Activities" Section of this report.

Yellowstone River Basin

The Yellowstone River Compact Commission met December 5, 2000 in Sheridan, WY. Much of the meeting focused upon the Memorandum of Understanding being negotiated between the Environmental Quality agencies for the two states on the release of coalbed methane water in the Powder River drainage. The Commission received a briefing from the two states environmental quality personnel on the status of the MOU and the provisions being negotiated. Both states discussed their drought planning activities and water conservation programs. Montana also raised the issue of whether discussions should be again initiated on the administration of the compact between the two states. As the water planning efforts in Wyoming are nearing completing in the Powder-Tongue River Basins, the two states may meet to discuss using those data to estimate flows above Tongue River reservoir in Montana.

Drought conditions were seen across the Yellowstone River basin, with the following streamflows, shown as a percent of the average for the period of record at the Compact supported USGS gages:

Clarks Fork	85%
Bighorn River	68
Tongue River	57
Powder River	54

Belle Fourche River Basin

Coalbed methane development issues were also highlighted in this basin. However, in general the amounts of water being produced from the wells in this basin are not as great as the water production of wells in the Powder and Tongue River basins. Curt Anderson is the project manager for the Bureau of Reclamation facilities in the Belle Fourche River basin, including Keyhole Reservoir in Wyoming and Belle Fourche Reservoir in South Dakota. Curt was invited to give a presentation on the operations of these facilities to the Northeast Water Planning Basin Advisory Group in April, 2001. The Bureau continues to monitor the coalbed methane development over interest in seeing if the long term effect will be an increased firm annual yield at Keyhole. At this point, it appears that any increased flow is not yet measurable at the Moorcroft USGS streamflow gage.

Cheyenne River Basin

While there is no compact or decree covering the allocation of the flow of the Cheyenne River basin, some of the same coalbed methane issues arise in this basin as in the Belle Fourche river basin. Phillips Petroleum has proposed installing a pipeline and bringing coalbed methane produced water from the Powder River basin into the Cheyenne River basin. Reservoirs would be constructed in each basin and a pipeline and pumping plant system would bring water from one basin to the other. Residents in the Cheyenne River basin are concerned with both water quantity issues as well as water quality concerns. The Sodium Absorption Ratio (SAR) water quality concerns in the Powder River have residents in the Cheyenne River nervous that they could see similar impacts. Most of the rivers in the Cheyenne are ephemeral and those landowners have adapted to having a less than year round water supply.

Colorado River Basin

Water Year 2001 followed the pattern experienced in the prior 2000 water year of being a very dry year. Lake Powell began water year 2001 with 20.9 MAF of storage (86 percent of capacity). From October 2000 through June 2001, releases from Glen Canyon Dam were scheduled to achieve equalization of storage between Lake Mead and Lake Powell by the end of water year 2001 in accordance with Article II.(3) of the Operating Criteria. Hydrologic conditions became drier as water year 2001 progressed, however. Forecasted April through July unregulated inflow to Lake Powell in January 2001 was 92 percent

of average. By the end of June 2001, forecasted inflow had dropped to 4.30 MAF, amounting to 56 percent of the average runoff-season volume. This forecast was sufficiently low that storage equalization no longer became the governing criterion in the operation of Glen Canyon Dam.

Important progress was made during this reporting year on the seven Basin States efforts to resolve Colorado River management and operation issues associated with California's long-term use of Colorado River water in excess of its basic apportionment of 4.4 million acre-feet per year (MAFY). Since 1991, the other six states have been pressing the State of California to develop and implement a plan to reduce its annual uses of the Colorado River to its basic apportionment of 4.4 MAFY in "normal" water supply years. This dialogue has been necessitated as the annual use of the three Lower Division states approached, and now is at and over 7.5 MAFY. This 7.5 MAF amount is the maximum annual use amount that is allowable in years of normal water supply. The Secretary of the Interior must determine a surplus water supply condition exists in his annual operating plan for the Colorado River Reservoir System in order for Lower Basin annual uses in excess of 7.5 MAFY to be made. Conversely, the Lower Division States must limit their Colorado River water use to the entitlements set forth in the Colorado River Compact in the absence of a surplus declaration.

On July 7, 2000, the Bureau of Reclamation released its draft Environmental Impact Statement (DEIS) on the Colorado River Interim Surplus Criteria for review and comment. Subsequently, on January 16, 2001 in his last public appearance, the Secretary of the Interior signed the Record of Decision (ROD) for the Interim Surplus Operating Criteria. This was followed on January 25, 2001 with the publication in the Federal Register of the notice of the ROD. During the signing ceremony, the Secretary of the Interior dated that: "[S]igning this record of decision is a truly historic event in the history of the Colorado River. It provides a 'soft landing' for California by providing benchmarks which provide for staged reductions in its use of Colorado River water over a fifteen year period."

The Interim Surplus Operating Criteria establish a mechanism for gradually reducing California's dependence on "surplus" Colorado River water. The Secretary must annually make a determination in his Annual Operating Plan of whether the available water supply is "normal," "surplus" or "shortage." The 1970 Operating Criteria provide that until Central Arizona Project water deliveries are made, Lower Basin reasonable consumptive use requirements will be met (Article III. (2)). Thereafter, the consumptive use requirements will be met in light of the Secretary's annual determination of the available water supply for Lower Division consumptive use, with such use being governed by the Secretary's water supply declaration: in "normal" years (7.5 maf); surplus (i.e., quantities greater than normal); and shortage (i.e., insufficient water to satisfy 7.5 maf annual consumptive use requirements).

The stated purpose of the Interim Surplus Criteria, as described in the Federal

Register, is "... to assist the Secretary in making annual determinations of surplus conditions, and will afford entities that have contracted for surplus water a greater degree of predictability with respect to the annual existence of surplus water available for diversion. This greater predictability will assist the California water users who share California's entitlement of Colorado River in the management of their water resources during the next fifteen years.

The Surplus Guidelines adopted this year allow water anticipated to be surplus to reservoir storage to flow to California for 15 years, while the conservation/transfer programs are being implemented. This "bridge" of surplus water allows California to reduce its demand at an achievable pace, without economic dislocation. The continuation of the Surplus Guidelines is contingent upon California Plan progress, including completing a binding agreement among the California agencies to implement conservation/transfer programs, and achieving defined conservation /transfer targets by specified dates.

The California Colorado River Water Use Plan ("California Plan") is dependent upon using Colorado River water made available from surplus declarations on the Colorado River as a way to ease the State's transition to living within its basic apportionment. The other Colorado River Basin States have been insistent that changes to the reservoir operating criteria on the Colorado River to accommodate California must only be an interim measure while California steps down its Colorado River water use. The Six States insisted that California demonstrate a tangible commitment to reduce its water use before entertaining discussions of reservoir operating criteria that might facilitate that reduction. That commitment has been demonstrated in several ways, including the appropriation by the California State Legislature of over \$238 million dollars for the lining of the All-American and Coachella Canals.

Further, it seems appropriate to address why the Interim Surplus Guidelines were needed and what would have happened in their absence. "Surplus water" is available to agencies that have contracted with the Secretary for delivery of surplus water, for use when their water demand exceeds their basic entitlement, and when the excess demand cannot be met within the basic apportionment of their state. By adopting these specific interim surplus guidelines, the Secretary will be able to provide California users of surplus Colorado River water a greater degree of predictability and certainty with respect to the likely existence, or lack thereof, of surplus conditions on the River in a given year.

Importantly, continuing implementation of the interim surplus guidelines is entirely dependent on progress by California in reducing its dependence on the Colorado River. The surplus guidelines will be used to identify the specific amount of surplus water which may be made available in a given year, based upon factors such as the elevation of Lake Mead, during a period within which demand for surplus Colorado River water will be reduced. The increased level of predictability with respect to the prospective existence and quantity of surplus

water will assist in planning and operations by all entities that receive surplus Colorado River water pursuant to contracts with the Secretary. Without the guidelines, there would be no capability for a transition period during which California can and will reduce its Colorado River dependence and use—rather, there would be surplus until it is gone and all of a sudden California would have to cut back. This would create severe hardship that would have attendant economic impacts in California.

An emerging issue that will require attention and careful interaction in order to prevent or minimize the potential impacts on Wyoming's future ability to develop our Compact apportionment within the Green River Basin concerns the Colorado River Delta in Mexico. On December 12, 2000, the United States and Mexican sections of the International Boundary and Water Commission signed a Conceptual Minute to the 1944 Water Treaty concerning the delta estuary region of the Colorado River. This conceptual minute is intended to provide a framework for binational cooperation - including all stakeholders on both sides of the border - on how to improve the riparian and estuarine ecology of the delta and to find a balance between all the competing water users and resource needs on a basin-wide scale. In announcing the minute at the annual meeting of the Colorado River Water Users Association in Las Vegas, Nevada, the Secretary of the Interior stated that Minute No. 306 concerns "... a key agenda item for our two nations as the new century begins. *** I want to emphasize that dealing with the needs of the Delta may be the single most important piece of unfinished business on the Colorado River, and I urge you, as water users on the American side of the border, to approach this issue proactively." Without doubt, this subject will be addressed in future annual reports.

The State Engineer is a member of both the Colorado River Basin Salinity Control Forum (Forum) and the Colorado River Basin Salinity Control Advisory Council. The Forum's Work Group is comprised of at least one representative from each of the Basin States. The Work Group provides technical review and analysis for the Forum, who is the policy-making group. John Shields represents the State Engineer's Office on the Forum's Work Group.

On November 7th, an act authorizing the appropriation of an additional \$100 million of funding for the U.S. Bureau of Reclamation's Basin-wide Colorado River Basin Salinity Control Program was signed into law as Public Law 106-459. The support of the Wyoming Congressional Delegation, who signed on as cosponsors supporting the passage of this legislation is gratefully acknowledged. Reclamation's competitive bid-process, basin-wide Colorado River Basin Salinity Control Program was first authorized in 1995 and has been quite successful to date.

Public Law 106-459 also included a directive that the Secretary of the Interior "prepare a report on the status of implementation of the comprehensive program for minimizing salt contributions to the Colorado River from lands administered by

the Bureau of Land Management directed by section 203(b)(3) of the Colorado River Basin Salinity Control Act" and further directs that "the report shall provide specific information on individual projects and funding allocation." The Colorado River Basin Salinity Control Forum believes that there is considerable opportunity for the BLM to do more to reduce salt loading on public lands in a most cost-effectiveness manner. Congress previously direct that BLM present a comprehensive plan for salinity control by 1987, pursuant to the Colorado River Basin Salinity Control Act amendments of 1984.

The seven-state Forum continued to direct much attention to the Department of Agriculture's salinity control program, which is carried out and funded through the Environmental Quality Incentives Program (EQIP), during this reporting year. When the Federal Agriculture Improvement and Reform Act (FAIRA) was signed into law on April 4, 1996, it combined the functions of the Colorado River Basin Salinity Control Program and three other USDA programs into the EQIP. FAIRA amended the Colorado River Basin Salinity Control Act to allow the Basin States to up-front cost-share on salinity control measures, rather than just repaying the Federal Treasury for the reimbursable portion of the Federal costs of salinity control measures as they are implemented. This up-front cost-sharing authorization provides a means to leverage the EQIP funding allocated to salinity control and to accomplish more salinity reduction than the funds appropriated to the USBR and the lending authority from the Commodity Credit Corporation for the EQIP allow.

This reporting year was the fourth year during which governmental entities within the States of Colorado, Utah and Wyoming administered this newly-created "parallel" salinity control program. In September, 1998, the Wyoming State Engineer and the Bureau of Reclamation entered into a cooperative agreement that transferred Colorado River Basin Development Fund moneys, authorized to be expended by virtue of EQIP expenditures for salinity control at the Big Sandy Salinity Control Project, to the State Engineer's Office. The Cooperative Agreement for this Basin States Cost Sharing Salinity Control Program is allowing the State Engineer's Office to provide funds from the Upper Colorado River Basin Development Fund, transferred to our office by the USBR, in addition to the NRCS's EQIP payments to farmers; thus there are three-way contracts on the Big Sandy Unit. The local producer, the NRCS and the State Engineer's Office are entering into contracts that are resulting in salinity control measures being put in place on lands within the Big Sandy Salinity Control Project area. As noted in prior reports, the Big Sandy River Unit is the single USDA CRSCP salinity control project currently being implemented within the State of Wyoming. The Big Sandy continues to be the most cost-effective (in terms of dollars spent per ton of salt reduction) of the USDA CRSCP units.

The Colorado River Operations Management Group, comprised of technical personnel from each of the seven Colorado River Basin States, involved Federal agencies and other interested parties, developed the draft Annual Operating Plan

(AOP) for the Colorado River Reservoir System for Water Year 2001. This AOP provided for a surplus water supply declaration by the Secretary of the Interior, which authorized more than 7,500,000 acre-feet of beneficial consumptive use to take place in the Lower Division States during calendar year 2001. As described above, the willingness of the other states to go along with this determination was tied to our assessment of the efforts being made by California to develop its "Colorado River Water Use Plan." This work group has developed the draft AOP each year since its formation in May 1986.

As a result of the October 1996 Record of Decision (ROD) for the Glen Canyon Dam Final Environmental Impact Statement (FEIS), a Glen Canyon Adaptive Management Work Group (GCAMWG) was formed as a Federal Advisory Committee Act (FACA) committee. The Interstate Streams Engineer has been designated as Wyoming's member of this Work Group. The GCAMWG formed a technical work group that has been meeting on approximately a once-monthly basis since its formation at the October 1997 GCAMWG meeting. The GCAMWG and its Technical Work Group provide forums for the federal agencies, Colorado River Basin States, environmental and recreation groups and contractors for power generated at Glen Canyon Dam to collectively make recommendations to the Secretary of the Interior as to how he can protect downstream resources and strike a wise balance on river operations within the constraints of the Law of the River.

Wyoming's participation in the Recovery Implementation Program for Endangered Fish Species in the Upper Colorado River Basin continues to be an important commitment for the State Engineer's Office. The Recovery Program is a Federal/State/private entities cooperative and collaborative program to recover four fish species native to the Colorado River Basin (resulting in removal of the species from the federal Endangered Species Act endangered species listing) while allowing water development to proceed in compliance with the Endangered Species Act. The Recovery Program was established in January 1988 to provide an administrative means to deal with the conflict between further development of water allocated by compact to the Upper Division States of the Colorado River Basin and the provisions of the Federal Endangered Species Act. The Program's participants are the States of Colorado, Wyoming and Utah, the U.S. Bureau of Reclamation, USFWS, Western Area Power Administration, representatives of the environmental community, electrical power retailers and water users associations in the three States. Since our last report, the National Park Service and the Colorado River Energy Distributors Association have both joined the Program as voting Program participants.

The State Engineer is the State of Wyoming's representative on the Recovery Implementation Committee, which meets twice per year. John Shields continued to serve as the Chairman of the Program's Management Committee. Paul Dey of the Wyoming Game and Fish Department is now serving as the Chairman of the Program's Biology Committee.

We are very pleased to report that on October 30, 2000, President Clinton signed into law Public Law 106-392, authorizing federal and non-federal cost-sharing for capital construction projects for the Upper Colorado Recovery Program and its sister program initiated in 1992 in the San Juan River Basin. Governor Geringer, the Wyoming State Engineer, the Wyoming Water Development Commission Director and the Wyoming Water Association submitted testimony in support of this necessary legislation. U.S. Representative Barbara Cubin was a co-sponsor of this legislation.

This public law authorizes appropriations for the Upper Colorado River Recovery Program at \$82 million through the year 2005 and the San Juan River Basin Endangered Fish Recovery Program at \$18 million through the year 2007. The law establishes cost sharing mechanisms for construction of the capital construction portions of the two recovery programs. The appropriations authorized by this legislation will fund capital construction projects which include fish hatchery and refugia facilities for the genetic conservation and propagation of the four endangered species; for the restoration and enhancement of floodplain habitat and fish passage; for regulation and/or supply of instream flows; for preventing fish entrapment in canals; and for the removal or translocation of non-native fishes.

As we have noted in prior year's reports, the State of Wyoming did not wait for passage of the legislation to appropriate the State's cost-share funding to be contributed upon passage of the federal legislation. Following up on their action during the 1998 Legislative Session, the 1999 Wyoming Legislature appropriated the second one-half (\$850,000) of Wyoming cost sharing for the capital construction portion of the Recovery Implementation Program. Wyoming's share of the \$17 million that the four states have agreed to provide for capital construction for the Recovery Program was negotiated to be a total of \$1,700,000. We are nearing completion on a cooperative agreement between the State of Wyoming and the National Fish and Wildlife Foundation that will provide the "vehicle" for Wyoming to efficiently move its funding into the Program.

Contracts have been awarded and construction will soon be getting underway on the High Savery Dam and Reservoir Project, which will deplete the flows of the Little Snake River by an average of 7,724 acre-feet per year. The predecessor project to the High Savery Project, then known as the Sandstone Project, was a central reason why Wyoming chose to participate in the Recovery Program.

Work continued on the development of a programmatic biological opinion (PBO) for the Yampa River Basin (Wyoming's portion principally includes the Little Snake River Basin). The intent of the PBO is to address the depletion impacts associated with all current and anticipated future depletions in the Yampa River Basin through 2045. The desired outcome is for the USFWS to find that the

Upper Colorado Recovery Program's Recovery Action Plan items that are being implemented or will be done are sufficient to avoid the likelihood of jeopardy and/or adverse modification of critical habitat for depletion impacts for individual existing depletions and future depletions in the Yampa River Basin. By completion of a programmatic biological opinion, individual consultation is not required on future specific Federal actions within the scope of the opinion. The Interstate Streams Section has actively participated in the Yampa River PBO Working Group that has been formed with participation by a number of entities in both States. The Resource Coordinator for the Little Snake River Conservation District has also been participating in this activity.

The Green River Basin Water Plan was completed at the end of October 2000. Water planning is discussed separately below in this report. Since that time, the Green River Basin Advisory Group has met approximately once each four months in various locations around Wyoming's portion of the Colorado River Basin. These so-called "interim" Basin Advisory Group meetings have provided valuable opportunities for the State Engineer and his staff to seek input from and brief affected citizens living in the Basin about ongoing State Engineer's Office and interstate programs, activities and concerns.

Bear River Basin

The dry conditions led to another busy, but less contentious year in the Bear River basin. As described in last year's annual report under the Division 4 report, a situation arose in the Central Division of Idaho during deliveries in July and August, 2000. At the end of the water year, the diversion numbers submitted by Idaho to the Engineer-Manager for publication in the Commission's Biennial Report were not the same as the weekly call-in numbers from the Idaho Water Commissioner. These discrepancies led to a Management Committee meeting being held in August, 2000, resulting in an assignment to the Technical Advisory Committee (TAC) to review the technical aspects of whether the Bear River below the Border gage at the Wyoming-Idaho stateline is a gaining or losing reach of river and whether similar circumstances could be documented. The TAC met March 28, 2001 in Montpelier and discussed historical years with similar hydrologic conditions. The TAC also discussed the states' reports in the biennial report and how much freedom the states have in giving their perspective of the events. Wyoming believes that if a topic was discussed or has interstate implication, it should be covered in the state report. The other two states seem to feel that the item should be reported only if the Commission took some formal action on the item. The TAC then visited the Idaho Central Division later in the afternoon. Representatives of the USGS met the TAC at the Border gage to discuss if other sites might be better for the gage location. The gaging crew for PacifiCorp met us at the Rainbow Canal and discussed PacifiCorp's commitment to gather their gage data in a more timely matter. Utah and Idaho had concern that if a petition for Lower Division interstate delivery were ever to be sent to the Commission and the interstate model would need to be run in a day's time, that the critical data from

PacifiCorp for running the model might not be available.

Engineer-Manager Barnett went on a field trip in May, 2001 with the Idaho water commissioner and his supervisor to discuss the discrepancy in the reported versus the called in numbers. Idaho has ordered in a number of improved measuring devices and has made other changes in their data collection methods.

The USGS agreed to conduct a spot check below the Border gage, but above the first diversion in Idaho to gather more concrete data on the quantity of water the reach might be gaining or losing. A spot check was made on June 28, 2001.

The Lower Division Procedures had been accepted by the Commission on an interim basis, and that interim acceptance expired in November, 2000. At that meeting, the Commission chose to again renew the Procedures on interim basis for another two years. The Commission was hopeful that the groundwater component of the procedures could be developed in that length of time and be included in any final procedures.

The snowpack conditions as of the time of the April, 2001 Commission meeting were much below average. Engineer-Manger Barnett was directed by the Commission to conduct "mock" Lower Division calls to see if the data for running the model could be accessed in a timely manner. Three such calls were made during the delivery season, with the results of the model being run more quickly and efficiently each time.

The National Water Quality Assessment (NAWQA) by the USGS concluded its intensive sampling phase during the summer of 2001. Synoptic sampling throughout the basin in the tributaries as well as the mainstem was done in March 2001 and another synoptic is scheduled for August, 2001. The NAWQA program on the Bear River will cut back on its sampling schedule during the off-phase of the program. A Water Quality grant from EPA has been requested by the Bear River Commission to coordinate the Total Maximum Daily Load development in each of the three states.

The Bear River Commission sponsored a tour of the lower river basin in August, 2000 covering the river from Bear Lake downstream to the Bear River refuge.

PacifiCorp is working on the renewal of several of its Federal Energy Regulatory Commission (FERC) licenses. As a part of those renewals, some of the groups active on Bear Lake issues requested that Bear Lake be considered by FERC as jurisdictional to the re-licensing process. The three states intervened in this jurisdiction issue in September, 2000 requesting that FERC find that Bear Lake is not operated for the benefit of downstream power generation and should not be included in the licensing process.

Columbia River Basin

Review of water management and its impact on salmon recovery proceeded on several fronts, including the Lower Snake Salmon Migration Feasibility Study and the Basinwide Salmon Recovery Strategy, or the so-called 4 H's (habitat, hydropower, harvest, hatcheries) analysis. This study was released in December, 2000 covering the options for increasing salmon numbers. While much of this study focuses on areas downstream of Wyoming, we did watch with the interest the million acre feet analysis that the Corps of Engineers asked the Bureau of Reclamation to complete for the study. The million acre feet study analyzed the impacts of delivering an additional million acre feet for salmon recovery from the upper Snake and Boise River systems. As the irrigated lands in Wyoming produce significantly lower value crops per acre than those areas in the Minidoka project where potatoes and malting barley are the main cash crops, the Bureau did make projections based on lands in Wyoming coming out of production. While the Corps chose to not focus much of the final study on the million acre feet analysis, it is prudent to keep track of these studies in case they would resurrect themselves in the future. The Bureau is currently required to deliver 427,000 acre feet annually from the upper Snake River for its contribution to salmon recovery. During this dry water year, it is likely the full 427,000 AF delivery will not be met this year.

The US Fish and Wildlife Service completed their Biological Opinion on Bull Trout recovery in December 2000. While Bull Trout were not historically found in Wyoming, we have followed some of the bull trout issues to better understand what ramification we may face if any of the cutthroat species are ever listed under the ESA.

Snake River Basin

As agreed to in our negotiated operations agreement between the Bureau of Reclamation and the State of Wyoming, a spring and fall coordination meeting was held. The fall meeting was held September 28, 2000. A winter release of 400 cfs was agreed upon given the hydrologic factors going into the winter and the amount of storage space available in Palisades Reservoir. As the ramping down was occurring moving into winter operations, the Bureau took advantage of the low stream flows to fix an area downstream of Jackson Lake dam where a cavern was undercutting the north bank, just downstream from the dam. The area was grouted and the Bureau feels comfortable the problem has been rectified. The Bureau is still looking to complete a dam safety fix on Grassy Lake Dam, but the start date for the construction has been postponed a year due to budget constraints. The current schedule is for the construction to begin in 2004. Until that time, minimal storage restrictions will remain in place. The Spring Coordination meeting and Public meeting were held on May 18, 2001. The Wyoming Game and Fish presented the results of a cutthroat trout tracking study

at that meeting.

Planning Activities

(This portion written by Chace Tavelli, Water Planning Engineer)

The 1996 Legislature directed the Wyoming Water Development Commission (WWDC) and the State Engineer's Office (SEO) to prepare recommendations for updating the 1973 Wyoming Framework Water Plan. Following this direction, the two agencies submitted a joint recommendation to the Governor, the Select Water Committee, and the Water Development Commission on October 1, 1996.

In 1997, the Legislature directed the WWDC to conduct a water-planning feasibility study with the assistance of the SEO and the University of Wyoming (UW). The Bear River Basin was chosen as the site for the feasibility study and a pilot analysis soon began. Throughout the pilot study the WWDC maintained an intensive public outreach effort, completed a statewide water data inventory, and was advised by a multi-agency scoping group. With the help of an independent consulting firm, under contract to the WWDC, final recommendations for implementing future water plans were drafted for seven planning areas in Wyoming. The recommendations consist of time lines, necessary agency staffing, estimated costs, process goals, and vision of the final products.

The final products created for each plan consist of a series of technical memorandum describing each topic outlined in the contract with the WWDC. A final executive summary, spreadsheet model of the basin's water supply and uses, and various mapping products are also part of the final product. All of these finished products will be placed on the Water Planning website <http://waterplan.state.wy.us/>. This will enable access for anyone interested in the data, mapping, modeling, etc.

There are seven planning areas within Wyoming - the Bear, Green/Little Snake, Powder/Tongue, Northeast Wyoming (Little Missouri, Belle Fourche, Cheyenne, and Niobrara basins), Snake/Salt, Wind/Bighorn, and Platte/Laramie basins. All the individual basin plans are projected to be finished within five to seven years from commencement and will be updated every five years in perpetuity. It takes a year and a half to finish an individual basin plan. The completion of each water plan is achieved with the help of the public, private consultants, and State and Federal agencies. The public participation is in the form of a local Basin Advisory Group (BAG). BAG membership is comprised of people residing within the specific basin being studied. The BAG determines membership requirements, meeting rules, meeting dates, times and locations. During a planning period, the BAG will meet every other month. When a basin plan is completed, the BAG will start to meet every four months (referred to as the Interim BAG period or IBAG) until the update of their basin begins approximately

five years later. The IBAG meetings provide a platform for the IBAG to learn of progress on other basin plans, hear updates from State, Local, and Federal agencies, and to learn of current activities within their basin.

The following summarizes notable activities of Water Planning per each basin plan.

Bear River Basin Plan

The draft final report as well as all of the technical memoranda have been reviewed by water planning staff and returned to the consultants. However, the final report has yet to be finalized and turned over to the WWDC. This project was to be concluded the end of October 2000, and it has yet to be determined when the final products will be received. When the final products are received, and accepted, by the WWDC then they will be put online. The Bear River BAG has assumed the IBAG role and continues to meet every four months. The lead consultant for this basin plan is Forsgren and Associates.

Green River Basin Plan

The Green River Plan has been finished since December 1, 2000. The final report is online, and the graphical data and the spreadsheet model are both being added currently. The Green River Basin Plan will be the first completed product available on the Internet. The Green River BAG has also assumed the IBAG role. The lead consultant for this basin plan was States West Water Resources.

Northeast and Powder/Tongue River Basin Plans

These two basin plans are being worked on concurrently and are at similar stages of development. Irrigated lands mapping, attribution of the irrigated lands and basin hydrology are the focus of the consultants right now. The consultants will be developing technical memoranda to be reviewed by the water planning staff very soon. These two plans are expected to be completed in December 2001. Both BAGs are formed and meet bi-monthly to develop issues important to the respective planning areas. The lead consultant for both of these basin plans is HKM, Inc.

Wind/Bighorn River Basin Plan

This basin plan began in January with an open house meeting designed to gather public interest in becoming a BAG member and to introduce water planning to the basin residents. The BAG has been formed and began working on issues identification, and topics for presentations at future BAG meetings. The lead consultant for this basin plan is BRS Engineering.

Snake/Salt River Basin Plan

This basin plan is at the same level of development as the Wind/Bighorn River Basin Plan. The lead consultant for this basin plan is Sunrise Engineering.

North Platte/Laramie River Basin Plan

There is nothing to report for this plan. The date to begin the planning process has yet to be determined.

Water Conservation

The 1998 Wyoming Legislature authorized the development of a Water Conservation Program within the State Engineer's Office, including the hiring of a contract staff person. This position was funded on a 50-50% basis with the Bureau of Reclamation. Ron Vore served in this position from July, 1998 through the end of this fiscal year. At the end of this reporting period, the position is being moved to the Water Development Commission, per legislative directive during the 2001 Legislative Session. To finish up his contractual obligations to the State Engineer's Office, Ron completed a summary report of his work in the three years he was affiliated with our agency. This report is available online at <http://seo.state.wy.us>. A highlight of his activity was a conference jointly sponsored by the Wyoming State Engineer's Office, the Bureau of Reclamation, the Western States Water Council, and the Natural Resources Conservation Service. The Conference was held in Casper July, 2000 with a focus on water conservation activities across the west. Eleven of the Western States Water Council member states participated. While much of the discussion centered around traditional irrigated agriculture, western states with exploding population centers like Phoenix, Las Vegas, and Salt Lake City concentrated their discussions on the need for additional municipal conservation and education. A tour of the Casper Alcova Irrigation District and Pathfinder Dam was held on one afternoon of the conference. At the conclusion of the conference, the attendees felt continuing this dialog was important and recommended that the WSWC form a water conservation/water efficiency committee and seek to hold a similar conference every two years.

Related to this water conservation/water efficiency sub-committee of the Western States Water Council, Sue Lowry was asked to serve as the WSWC representative to the Bridging the Headgate partnership. The Bureau of Reclamation initiated the Partnership as a part of the revisions to the Reclamation Act. Irrigation Districts and other Bureau water supply contract holders are developing water conservation plans. As these plans were being written, the constraints of the Bureau only focusing upon the water delivery and distribution system and not being able to look at the on-farm needs, which had

traditionally been the purview of the Natural Resources Conservation Service, became a limitation. So the Bureau developed Memorandums of Understanding with the NRCS, the National Association of Conservation Districts, and the National Association of Soil and Water Conservation Agencies. A short time later the MOU was expanded to include the Western States Water Council and the National Water Resources Association. A Task Force of a representative from each of the signatories has been formed and the group met the first time in Provo, Utah June 18-19, 2001 in conjunction with the Water Resources Committee of the National Association of Conservation Districts. The Task Force toured some lands in the Provo Area Office where numerous conservation measures had been installed. Utah has been a leader in getting a statewide Bridging the Headgate group formed.

Organizations

In addition to the several compact commissions and organizations briefly reported on above, the State Engineer's Office participates actively on the Western States Water Council, the Interstate Council on Water Policy (Sue Lowry serves as the Vice President), the Colorado River Water Users Association, the Upper Missouri Water Association, the National Water Resources Association, the Committee of Fourteen, the Association of Western State Engineers and the Four States Irrigation Council. These organizations provide an avenue for the western states and water user interests at the local, state-wide and Federal levels to present unified positions with regard to Federal regulations, legislation and policy matters and a forum for policy development. The educational programs of these organizations serve to increase public awareness of and involvement in vitally important, broad-spectrum water resource issues.

The State Engineer also serves as the Chairman of the Wyoming State Water Forum. The Water Forum meets monthly during the September through May "school year" period and provides state and federal agency personnel a regular opportunity to share information and insight on the water activities that are ongoing in their respective agencies. Each month a special program is presented providing a more in-depth review of a particular water-related issue or topic. The Forum continues to provide an important information exchange mechanism in an informal setting.

The complex issues coming under consideration at various interstate basin organizations frequently reach far beyond looking at only water quantity issues. In an effort to better coordinate between the various interests potentially impacted by the water management decisions, quarterly update meetings are now being scheduled with the Wyoming Game and Fish Department; the Wyoming Department of Environmental Quality; and a consortium of groups interested in public hydropower generation, marketing and planning. We are pleased with the useful information sharing that these meetings are providing to us and other members of the State Engineer's staff.

Federal Legislative Tracking

Various Federal legislative actions, including bills to reauthorize the Clean Water Act, the Safe Drinking Water Act and the Endangered Species Act have been monitored and input given to our Congressional delegation and various interstate organizations regarding potential impacts to Wyoming water rights, law and allocations.

Through our membership and participation in the Western States Water Council (WSWC) and the Interstate Council on Water Policy (ICWP), several contacts were made with our Congressional delegation and federal agency staff on the need for better streamflow and runoff projections data. Steady erosion has been occurring in the funding for the basic water collection budget of the US Geological Survey and the SNOTEL network of the Natural Resources Conservation Service. WSWC recognized the impact of this decline in funding for Streamgaging and snow deposition information and made this a priority. While the federal budgets are not yet finalized, it appears we will be successful getting an additional \$8.5 million added to the NRCS budget for upgrading the SNOTEL system, which has fallen into disrepair over the years. Both WSWC and ICWP have been focusing upon the Streamgaging program in the USGS. The ICWP hosted a series of 4 workshops across the country to respond to the National Streamflow Information Program (NSIP) that the USGS was proposing for moving additional gages to be fully federally funded under criteria set under the NSIP. The workshops were held to get feedback from the cooperators about the NSIP proposal and if gages are to be fully federally funded, which gages should be prioritized.

Summary Analysis and Problem Areas

Protection of Wyoming's water resources for future use of the citizens of our State is a continual and important responsibility of the Wyoming State Engineer. Our agency's broad powers and responsibilities in the interstate arena, as compared to other Western States' water resource agencies, allow the State Engineer's Office to function in a straightforward and direct manner in carrying out our prime objective of protecting Wyoming's rights and interests to the waters of our interstate rivers. We can be certain that Wyoming's interests will only be well represented when the Wyoming State Engineer and his interstate streams staff participate in the groups and discussions discussed in this report.

Interstate tasks and negotiations are critical activities that present time- and labor-intensive challenges. Population and development growth in neighboring downstream states and the ensuing greater demand for water continue to mandate an increasing level of State Engineer involvement in interstate river basin activities. Endangered species conservation/recovery program and river/riparian

habitat concerns have significantly added to the workload of the Interstate Streams Section as compared to a decade ago.

Our neighboring states are finding it necessary to deal with reallocating among water uses due to full use of their apportionments. The pace of these activities elsewhere continues to accelerate and intensify. While that situation will likely not present itself in many of Wyoming's river basins, it is important that Wyoming monitor those activities in order to assure that our undeveloped compact-apportioned waters continue to be available to meet our future beneficial use needs in the future.

Western water policy continues to evolve due to changing values, pressures and competition. These forces are apparent in the nature of the ongoing activities that the ISS is involved with and monitoring: the ongoing review and EIS of the Missouri River Main stem Operations Master Manual; the Columbia River System Operations Review; and the Recovery Implementation Program for Endangered Fish Species in the Upper Colorado River Basin. The significant amount of Federal development and construction of water project facilities across the West virtually ensures that it will be necessary for the Wyoming State Engineer's Office to be involved in Endangered Species Act, National Environmental Protection Act and other federal statute-driven activities in Wyoming and our neighboring States.

The Wyoming State Engineer's proactive involvement in interstate river basin activities is unarguably in the State's interests. Each activity presents new challenges, water management questions and administrative issues that must be addressed during their solution development and implementation phases. The Wyoming State Engineer's ISS staff is participating in these matters and fully coordinating with State, Federal and local officials and publics in order to properly advise and assist the State Engineer.

Research on quantifying water uses and other administrative information needed to actually accomplish compact administration for several of Wyoming's compacts are not being accomplished due to higher and more immediate priorities associated with the "normal" workload.

Recommendations and Conclusion

With primarily two individuals working on interstate activities, it is necessary to have a reasonable working knowledge of issues being addressed by one another so that questions can be answered when the primary person is unavailable. In the case of endangered species activities, the underlying issues seemingly are the same irrespective of the species or the basin. Timely communication between the ISS and the State Engineer is critical and continuously ongoing on the many activities and projects that are being addressed.

The addition of a water planning engineer to the staff has been very helpful in

being able to train another person as a backup on these history-intensive interstate issues. As the potential exists for a settlement of the North Platte litigation that may result in additional interstate commitments, it is crucial to look at how this agency delivers its interstate functions. Some reorganizing and increase to the staffing level will be necessary in order to adequately monitor and represent Wyoming's interest across these various river basins.

The Interstate Streams Section is appreciative of the generous support and cooperation of the Cheyenne Office and statewide State Engineer and the Board of Control staff. The water resources personnel in the employ of the State of Wyoming are dedicated, tireless and professional and deserve our commendations.

The Wyoming State Engineer's primary commitment is to the people of the state. This commitment is reflected in the State Engineer's active participation in the state's water management efforts. The State Engineer's office is currently working on a number of projects that will improve the state's water management system. These projects include the development of a water management plan, the implementation of a water conservation program, and the establishment of a water conservation fund. The State Engineer's office is also working on a number of projects that will improve the state's water management system. These projects include the development of a water management plan, the implementation of a water conservation program, and the establishment of a water conservation fund.

Research on streamlining water uses is a high priority for the State Engineer's office. The State Engineer's office is currently working on a number of projects that will improve the state's water management system. These projects include the development of a water management plan, the implementation of a water conservation program, and the establishment of a water conservation fund. The State Engineer's office is also working on a number of projects that will improve the state's water management system. These projects include the development of a water management plan, the implementation of a water conservation program, and the establishment of a water conservation fund.

Recommendations for the Future

With limited resources, the State Engineer's office is currently working on a number of projects that will improve the state's water management system. These projects include the development of a water management plan, the implementation of a water conservation program, and the establishment of a water conservation fund. The State Engineer's office is also working on a number of projects that will improve the state's water management system. These projects include the development of a water management plan, the implementation of a water conservation program, and the establishment of a water conservation fund.

The ongoing of a water planning effort is the first step in the process of improving the state's water management system. The State Engineer's office is currently working on a number of projects that will improve the state's water management system. These projects include the development of a water management plan, the implementation of a water conservation program, and the establishment of a water conservation fund.

TECHNICAL SERVICES DIVISION

By

Becky Mathisen, Administrator

During the report year of July 1, 2000 through June 30, 2001, the Technical Services Division staff was comprised of three permanent and two contract positions. We lost Donna Crock and gained Andrea Collins in the middle of the report year. While Amy Seekins and Steve Vossler were busy with data entry and proofing, the two full time information technology professionals (Steve Rea and Andrea Collins) were fully occupied with hardware challenges, network issues and programming projects. The Technical Services Administrator, Rebecca Mathisen, devoted her time to Platte and Wind River Basin issues and Information Technology policy and project management.

DATA ENTRY AND PROOFING - Thanks are due to Amy Seekins and Steve Vossler, our two contract staff, who have become experts in digitizing the water rights records.

Amy's expertise includes a thorough knowledge of the Streams and PtSrc tables that list the 24,591 tributary sequences and the headgate locations, respectively, for surface water rights in Wyoming. Now that the Division III portion of PtSrc has been polished, Amy has reported that there are 11,555 headgates and reservoir outlet locations in Division III. She has also been resolving the differences between the Streams and TbTrib tables, first completing Division III in preparation for printing the Tabbook for that division. Amy also helps with proofing, assigning surface district numbers to well permits, and assigning srcID numbers to surface records in several tables. There are still 5567 records in PtSrc that Amy will correlate to the Streams Table by assigning the proper StrKey value.

Steve Vossler spent most of his time reading, understanding and entering the 54 Order Record books into the Order Details table (to be combined with the AppropAJ table), including the 8 Interlocutory Decree Books for a total of 32,281 records. He also entered and proofed all 10 Groundwater certificate record books in the AppropAJ table with the help of Amy Seekins and others. He helped the Board of Control proof the certificate record books for the AppropAJ Table, and helped Amy enter data into the PtSrc table.

Expected to be complete during the next report year, the Approp* tables (AppropGW, AppropSW, and AppropAJ) will include identical fields for describing appropriated amounts; including appropriation types, appropriation amount, unit of amount, acres, uses, supply type, how other permits are related, and other

information. The table will contain all petition, original adjudication and Interlocutory Decree information.

We want to thank the Surface Water and Board of Control Divisions for their patience in training us to read and interpret their records. We look forward to beginning a similar data entry and checking project for the Ground Water records in the next report year.

INTRANET - In late June, the SEO contracted with LCCC student Lora Davis to develop an intranet for SEO employee use. While working for the SEO, Lora will earn college credit through the Cooperative Student program.

WEB COMMITTEE - State Engineer Patrick Tyrrell assembled a committee to document the web vision for the SEO. Their final report is expected in August 2001.

COMPUTER COMMITTEE - The SEO Computer Committee met nine times during the report year. We discussed pending purchases or how existing equipment could be relocated to meet our needs without purchases. We talked at length about security issues. Each participant reported on projects and requested IT help as needed.

The committee identified the following exception budget needs for FY2003-04: recabling of the Cheyenne network; a web site; a virtual private network; additional IT staff; replacement of servers; replacement of certain computers, monitors and printers; streamflow reduction software; imaging certain records; and a color laserjet.

NETWORK SPEED - Three 10/100 Cisco switches with Gigabit capacity were installed on April 6, 2001. These switches will allow the State Engineer's Office LAN to gradually move to 100 megabits and the servers to Gigabit traffic, thus quickening the State Engineer's LAN. The State Engineer's LAN could be further improved by rewiring of the office with Quad CAT-5 cabling.

BACKUPS- When the old DAT tape backup system failed, a Compaq DLT 40/80 was purchased to backup the two servers.

SECURITY - The Department of Administration and Information (A&I) hired an IT security consulting firm and invited the agencies to participate, for a fee. This security check will occur in the next report year.

A&I also proposed several dozen security policies, and held several workshops to review and edit those policies. The policies have not yet been adopted by the Information Technology Oversight Panel and the Governor.

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STANDARDIZATION PROJECT - Thanks to the 2000 Legislature, the SEO has a fund to standardize its desktop computers and software. The minimum hardware standard was set at 128 Mb ram and 300 Mhz processor speed. All desktops that do not meet that hardware standard will be replaced. The standard desktop software was set as Office2000 Professional (Access, Excel, Powerpoint, Word), driven mostly by the need for MS Access on almost every user. Access95 will be retained until all Access databases have been moved to Access2000. The standard operating system for new machines is Windows2000.

After testing, the Dell Optiplex GX110 machine was chosen as the standard desktop for new purchases for most Cheyenne staff. These machines far exceed the SEO's minimum hardware standard listed above. The new machines have 196 Mb or more Ram and a speed of 700 Mhz or greater. Using Dell's cloning service, the SEO purchased 33 identical machines, thus quickening the deployment time. Each new computer still required several hours of setup to customize the computer for each user. Each new machine was configured with Windows 2000 Professional, GroupWise, Microsoft Access 95, and Microsoft Office 2000 Professional, and printer drivers. Applications developed in Microsoft Office 1995/1997 are being modified to work in Microsoft Office 2000 Professional.

The standard mapping, field desktop, and laptop configurations will be determined in the next report year.

REPLACEMENT PROJECT - Again thanks to the 2000 Legislature, the SEO has a fund to replace printers and monitors as they fail. Six all-in-one printer/fax/scanner/copier machines (either HP Laserjet 3200 series or HP OfficeJet GX series) were ordered for various field locations. A conflict between the Microsoft NT operating system and old Epson LQ dot matrix printer in Surface Water forced the purchase of a new dot matrix printer for that division. Failing monitors are being replaced with 19 inch models.

We have already received word that the replacement fund will not exist in the next biennium.

TABBOOK PROJECT - Beginning in August 2000, monthly meetings occurred to track the progress of building data tables for printing the Division III Tab book to wrap up the Big Horn General Adjudication lawsuit. The goal is to deliver a perfect Division III Tab book to Judge Hartman in April 2002. This project involves the Technical Services, Board of Control, Ground Water and Surface Water Divisions.

OTHER IT ACCOMPLISHMENTS

- We drafted an IT budget for the 2003-2004 biennium.
- The Log Book in the Ground Water Division was automated.

- The Surface Water Division's Entry Record book was automated.
- The Technical Services Division stayed involved in forming IT policy affecting the Executive Branch by participating in the Information Technology Coordinating Committee, the Information Technology Review Committee, the IT reclassification review committee, the Network Administrators Special Interest Group, Wyoming on the Web, the Training Special Interest Group, and ARMA (Association of Information Records Managers and Administrators).

IT RECOMMENDATIONS:

- The SEO needs more IT staff. With only two permanent IT professionals, we are not able to progress as fast as the SEO Divisions would like. Also, we are very exposed to the impacts of attrition.
- We should move the SEO web site to the SEO.
- We should implement an Intranet site for SEO staff to become comfortable with viewing the water rights database on line.
- New servers will be needed in the 2003-2004 biennium, if not sooner.
- We should implement more office automation such as printing the certificates of appropriation from the water rights database (instead of a separate database in Clipper), and automating the Surface Water expiration letters.
- We should consolidate more databases as users become comfortable with the concept of one central water rights database within the SEO.
- We should move certain data tables out of Access and into SQL Server to benefit from its granular security.
- Software applications written as DOS base applications or dependent on a particular operating system need to be upgraded to the current version or replaced by another software application.
- Training needs to be provided to agency personnel who are not comfortable Microsoft Office Suite.
- Personal data assistants (PDAs) and hand held computers should be considered for certain field use.

SURFACE WATER AND ENGINEERING DIVISION

The Surface Water and Engineering Division report includes surface water permit activities, weather modification permits, and dam safety activities. Three separate reports for the Division follow:

SURFACE WATER RIGHTS SECTION

By

JOHN R. BARNES

ADMINISTRATOR, SURFACE WATER AND ENGINEERING DIVISION

Objectives

The objectives of the Surface Water Rights Section are mandated by the requirements of State water law and the State Engineer's Rules and Regulations as well as the goal to be of service to the public. The Section objectives are:

1. To promptly review and process surface water applications and petitions and submit them to the State Engineer for his review and approval.
2. To maintain and update the statuses of all unadjudicated water rights records to accurately reflect the current statuses of these permits. The updated records are entered into the water rights database and microfilmed to keep all records current.
3. To provide a service to the public by promptly filling requests for data on the statuses of water rights and for copies of records.
4. To provide technical advice and instruction to engineers, surveyors, and the public on the proper procedures for filing applications for permits and water use agreements and for permit status updating.
5. To provide technical assistance to the State Engineer, office staff, and water administration field personnel in matters requiring interpretation of surface water rights.

Accomplishments

The 2000-2001 winter brought well below normal snow pack over the state. Most of the reservoirs in the state were above average capacity at the end of the 2000 irrigation season. Due to the below normal runoff, the Governor asked that the Drought Task Force continue to meet and deal with the situation. As of August 1, 2001, fourteen counties had submitted the paperwork to be declared drought

areas. There continues to be a large number of inquiries regarding water rights, water law, and related matters.

Categorized work submitted to the Surface Water Division during FY 2001 included: a) applications for permits - 1067; b) petitions - 15; c) temporary water agreements - 175; d) water rights information searches - 778. In addition, the Dam Safety Section conducted and reviewed 162 field safety inspections of dams and performed other activities as reported in a separate section of this Division report.

Application Reviewing And Processing

A total of 1067 surface water applications were received in FY 2001. The following table gives a comparison of applications and petitions filed with the State Engineer for the past years, beginning with FY 1995 and continuing through FY 2001. The EOY backlog has increased to 1312 applications as the number of CBM reservoir applications continue to increase.

FY	APPLICATIONS			PETITIONS		
	No. Recd	Approv/ Reject	EOY BackLog	No. Filed	Approv/ Dismiss	EOY BackLog
95	1002	506	1700	18	10	55
96	534	642	1592	19	18	59
97	572	818	1346	11	12	58
98	415	482	1279	14	16	56
99	522	460	1341	11	8	59
00	910	1406	845	19	10	68
01	1067	600	1312	15	6	77

Applications fall into several categories. The more complex categories include ditches/pipelines, enlargements, and reservoirs. The less complex applications and those that can easily be reviewed and approved include applications for stock reservoirs and temporary water uses. Applications for permits for instream flows, the first of which was received in FY 1987, include a requirement by law that the State Engineer hold a hearing before granting or rejecting instream flow applications. Only the State of Wyoming, through the Wyoming Water Development Commission, can file instream flow applications. Two instream applications were received in FY 2001 but no hearings were held regarding instream flow segments.

COMPARISONS OF TYPES OF APPLICATIONS RECEIVED				
Category	FY 1998	FY 1999	FY 2000	FY 2001
Ditches/Pipe-lines	51	53	64	113
Enlargements	26	49	34	17
Reservoirs	139	162	237	230
Stock Reservoirs	83	144	410	530
Temporary Use	110	114	159	175
Instream Flow	6	0	6	2
Totals	415	522	910	1067

Petition Processing

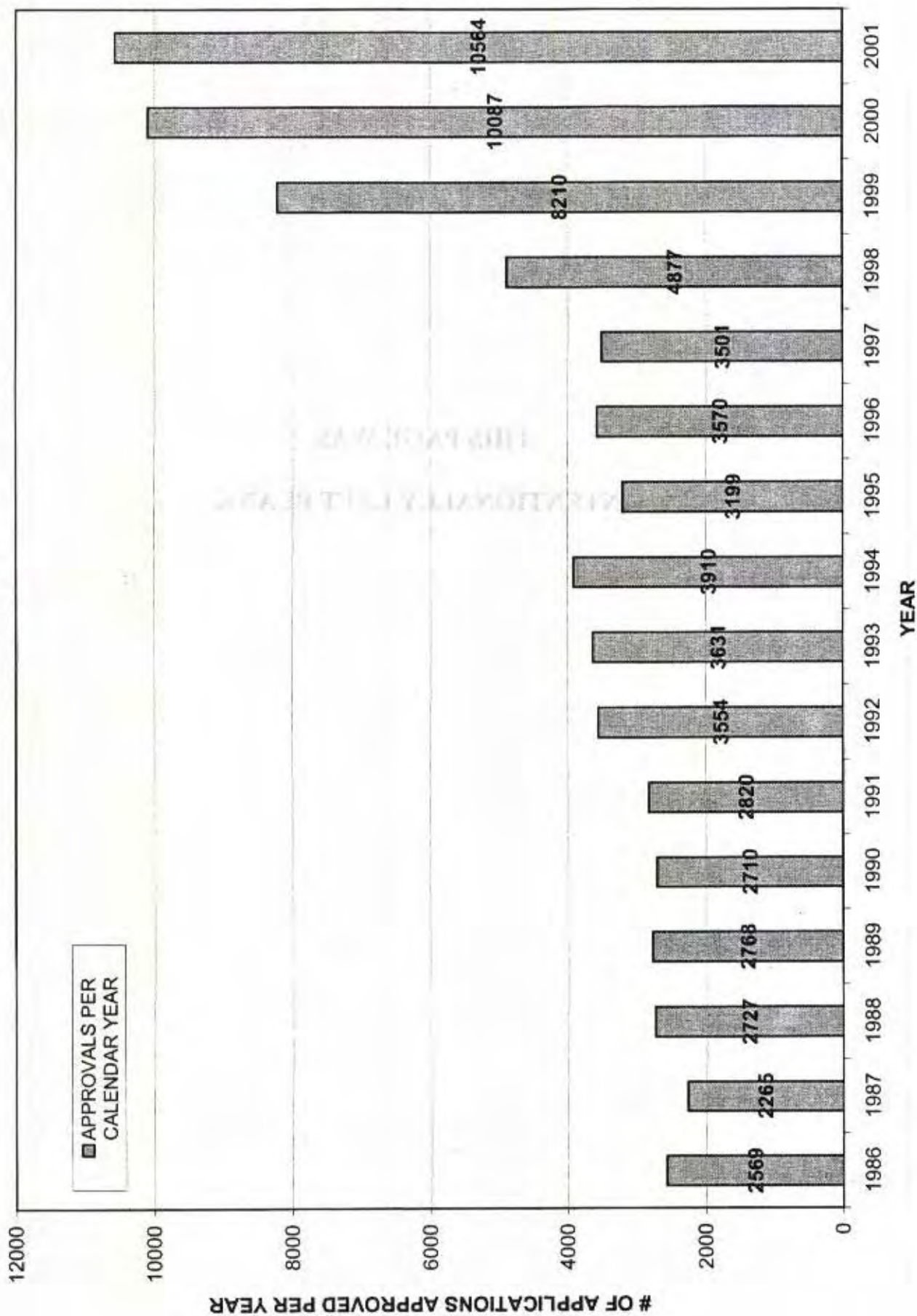
The first table printed above included data on petitions submitted to the State Engineer to correct or to amend permits. During FY 2001, the number of petitions approved/dismissed (6) brought the backlog to 77 on hand.

Temporary Water Agreements

Where water is not available under a new permit for construction purposes and other temporary uses, the temporary water users can enter into agreements with holders of valid, senior-priority water rights to obtain water for their temporary use. Water agreements must be reviewed and approved by the State Engineer's Office and an Order entered to allow the temporary use. To meet the needs of the construction industries, water agreements are quickly reviewed, and approval orders are normally issued within a few days of receipt of the agreement. In FY 2001, a total of 130 water agreements were received and approved. A comparison with previous years follows:

FY	Water Agreements
1996	110
1997	151
1998	120
1999	112
2000	105
2001	130

STATE ENGINEER'S OFFICE
GROUND WATER PERMIT APPROVALS (ALL USES) PER CALENDAR YEAR
1986-2001



Permit Endorsements

Once a permit is issued, it is recorded in the computer information system and a permanent microfilm record is made. The records must be updated every time a notice for completion of construction or beneficial use is filed with the State Engineer for a given permit. If approved, requests for extensions of time must be endorsed on the permit and the update recorded in the computer and microfilm systems. Elimination of points of use from a permit, reinstatements of permits, cancellation of permits, assignments, or any other changes by petition to the State Engineer require endorsements to permits and updates of the computer and microfilm records.

Information Searches

Landowners, surveyors, engineers, attorneys, realtors, and others routinely request copies of permits, certificates of appropriation, maps, and other information pertaining to water rights records. During FY 2001, a total of 778 requests were answered requiring records searches. The following table indicates the history in the numbers of requests received.

<u>FY</u>	<u>SEARCH REQUESTS</u>
1994	545
1995	590
1996	550
1997	506
1998	530
1999	568
2000	647
2001	778

Some of the information requests are related to the preparation of applications and maps by engineers and surveyors for permits or petitions. Again in FY 2001, the bulk of the requests appeared to be from realtors and bankers who desired water rights information in real estate sales transactions or for use in real estate loans.

Field Activities

Site visits were made to areas where controversies were occurring. Site visits were also made by the Safety of Dams staff to observe reservoir construction, to inspect reservoirs as part of the dam safety program, and to investigate alleged illegal activities.

Other Activities

The Surface Water Division continues to participate in reviewing the activities of the U.S. Board of Geographic Names (USBGN). This review provides for coordination of names used on maps, particularly those of streams, since every year, many streams are given names by issuance of water rights permits.

The Surface Water Division maintains a complete file and inventory of all USGS maps in Wyoming for use by the State Engineer's office and field personnel.

Problem Areas

Coal Bed Methane Reservoir Impacts

The number of applications filed has increased tremendously. Most of this increase is due to reservoir filings by the coal bed methane (CBM) industry in the Powder River Basin. This increase has prompted a need for additional personnel.

One extra water rights technician and an additional clerical staff member are necessary to keep up with the number of applications arriving in the office.

Employee Compensation

The Legislature funded employee pay raises that placed everyone at 96.8 percent of market value. This has been a big morale booster. The level of production has increased. Time will tell how this affects the turnover rate within the Division.

Records Rehabilitation

The past Annual Reports detailed the needs to upgrade the condition of the permanent records in the Surface Water Division. Work continues on the encapsulation of maps that were found to be in bad shape. Map records that need to be updated and maintained include the paper plats, USGS maps, county maps, and permit maps-all of which are in daily use for supporting the water rights records and in providing information to the public.

Upgraded Technology

The computer system is now in use by the Division for some technical work including the use of databases and word processing. We now have the ability to search the water rights database to aid in answering information requests. Data processing problems which have occurred are being addressed. New report formats are being developed. Additional access is being developed to help in application reviews and processing. The water rights database is in the process of being converted for use in new database software that should provide easier access and programming.

Many Surface Water man-hours have been spent on computer assistance to the other divisions resulting in increased office efficiency while reducing the ability to process surface water applications. We continue to update our current computers with new, higher speed computers to be able to use them with the graphic information systems and the possible use of an imaging system. We need to continue to update our computers, as funds are available.

State Engineer's Instructions And Regulations

Work has continued on the State Engineer's Office rules and regulations. It has been reviewed by several members of the State Engineer's and Board of Control staff and was reviewed by the Assistant Attorney General. We continue to look for time to prepare the final draft and complete the promulgation process.

WEATHER MODIFICATION PERMITTING ACTIVITIES

Objectives

The primary objective of the Weather Modification Program is to procure, compile and evaluate information resulting from weather modification experiments, research and related activities conducted in the State of Wyoming. Weather Modification Permits are issued by the State Engineer for each modification program, experiment or activity.

Accomplishments

One permit was issued for weather modification purposes during this reporting period. Permit Number 81 was issued to Eden Valley Irrigation and Drainage District in Farson, Wyoming, with the objective of their continuing weather modification program to increase the water supply in the Big Sandy River drainage.

This is a wintertime operation, which operates during proper weather conditions from November 15th through April 15th. The mobile, ground-based, cloud seeding generators are strategically placed along Highway 191 and are operated in accordance with daily weather conditions.

The Eden Valley District wintertime project is in its thirtieth year of cloud seeding activities in cooperation with the University of Wyoming, Department of Atmospheric Sciences.

SAFETY OF DAMS SECTION

By

David S. Benner
SAFETY OF DAMS ENGINEER

Introduction

In 1977, the State Legislature, recognizing the potential hazards to the public safety due to waters impounded by dams throughout the state, and the economic benefits of well maintained and safely operated dams, authorized the Wyoming Safety of Dams Program, with passage of the Safety of Dams Law (Wyoming Statutes 41-3-307 through 41-3-318). The law was amended in 1992 to clarify inspection requirements, duties of the State Engineer and lien procedures; provided for penalties; and granted rule-making authority.

While a permit from the State Engineer is required for all dams, the Safety of Dams Law mainly pertains to dams, which are greater than 20 feet high or impound 50 acre-feet or more and diversion systems with a capacity of 50 cubic foot per second or greater. However, the State Engineer may enforce any sections of the law on any size facility, when necessary, to insure the public safety or the protection of property.

Objectives

The objective of the Wyoming Safety of Dams (SOD) Program is to protect the public safety by reducing the potential for flooding and loss of life as a result of failure of a dam or diversion system. This objective is accomplished in two ways, as stipulated by the Safety of Dams Law:

1. By reviewing plans and specifications for proposed work and by reviewing inspection and progress reports outlining current construction activities.
2. By conducting periodic safety inspections of existing facilities.

Accomplishments

During the past year, eight construction, rehabilitation, and/or enlargement projects of jurisdictional sized dams and one diversion system project were completed. Initially, this section was involved with design review and plan approval of all these projects. During construction, we were involved in monitoring the construction

activity, reviewing weekly progress reports, and visits to the sites to observe the work.

Work was started on four other dam projects. The rehabilitation work or construction of ten other reservoirs and one diversion system project is on hold. Permits for four other dams were issued, but construction has not yet started. There were no dam removals this year. A permit for one previously approved dam was cancelled.

In addition, several projects are in the planning, permitting and design stages. Studies are underway to determine the feasibility or design of new construction, rehabilitation, and/or enlargement of other facilities in the state. We have been actively involved with many of these projects through meetings with the owners, sponsors, and engineers and by review and comments on reports outlining the proposed work.

Studies and/or design continue on the six other reservoirs. Seven other projects are on hold. Studies, permitting, and/or design is underway on thirteen new projects or reservoir enlargements.

In addition to the work involved with design review and/or construction monitoring activities, a considerable amount of time is spent on the other aspect of the Safety of Dams Program, the Periodic Inspection Program. Wyoming Statute 41-3-311 states: "Any dam, subject to the terms of this act shall be inspected at least once every ten years or as often as deemed necessary based on the hazards of the dam to insure the continued protection of public safety and property." Only very low hazard dams located in remote areas of the state are inspected less frequently than every five years.

Currently, 1,366 dams meet the criteria of the Safety of Dams Law (more than 20 feet high and/or impounding 50 acre-feet or more of water). To date, reports for 164 dams inspected in FY01 have been received from the field personnel with approximately 30 more expected. Four hundred twenty-four (424) dams are due for inspection in calendar year 2002. We have been attempting to spread the inspections out more evenly so that no more than approximately 300 inspections are due in any one year.

The quality of the safety inspections is steadily improving. This is due to the increased experience and training level of the state water administration personnel in dam inspections and the greater opportunity for the two Safety of Dams Engineers in Cheyenne to conduct routine periodic inspections of larger, high and significant hazard facilities. In addition, we also continue to coordinate safety inspections with federal agencies such as the Natural Resources Conservation Service, Bureau of Land Management, Bureau of Reclamation, Federal Energy Regulatory Commission and Forest Service to draw on the resources and experience of those agencies. Efforts to coordinate with the Mine Safety and

Health Administration have been unsuccessful due to apparent lack of interest on Mine Safety and Health Administration's part.

The public hearings on new Safety of Dams proposed rules and regulations planned for FY01 were not held. The hearings are now scheduled for early FY02 when new rules and regulations for the entire agency are to be proposed.

Problem Areas

One of the problem areas with the Safety of Dams Program is the lack of information about many of the existing dams in the state. Many reservoir permits were obtained more than 50 years ago from the State Engineer with very limited information and/or construction details about the dams. In many cases, the ownership of the reservoir has changed and unauthorized modifications to the original structure have taken place. Quite often we have difficulty determining the current owner of a facility or discover that the existing facility does not conform to the terms of the permit map or drawings on file.

Another problem area concerns dams located on the Wind River Indian Reservation. Because of disputes over jurisdiction, we continue to have problems obtaining timely information on the present conditions of dams (Washakie Dam in particular, a high hazard structure) on the reservation. Repairs to Washakie Dam were completed last year to address a serious foundation piping problem. Additional work on the drain system completed this year, appears to have addressed the abnormal seepage discovered during first filling last year.

Coal Bed Methane development is creating a significant increase in workload due to construction of new dams but is also affecting many existing structures. Large quantities of groundwater are being pumped and released into draws and streams that have historically seen only intermittent flows. New dams are being constructed to capture some of this water and many existing dams have to be modified because the continuous flow of water is eroding earth spillways.

In areas where groundwater quality is poor, much larger dams will probably have to be constructed, than is now common, to hold the large quantities of water being generated so that it can be permanently retained or treated prior to release. Many of these may be large enough to present a high or significant hazard to downstream development.

The final problem area concerns turnover and the lack of an adequate support staff for the Safety of Dams Program. Four of the last eight fiscal years, the program has been shorthanded for periods of two to six months due to turnover in the inspection position. Also, a significant amount of both of the Safety of Dams Engineers' time is spent performing technician or clerical level duties for the section. The addition of an engineering technician position to the Safety of Dams staff would significantly improve the efficiency and effectiveness of the

professional staff and the Program. Such a person would conduct office work and assist with periodic inspections of smaller dams in the state. This activity will become more important as water administration becomes increasingly complex and the local Water Commissioners become less able to contribute their time to complete periodic inspections. A consultant will be contracted to do dam safety inspections in the Gillette area late in 2000 because of the vacant local hydrographer's position. In addition to the inspection activities, the technician would work extensively in the dam inventory update and construction monitoring. Additional help may also be needed to monitor construction activities in Coal Bed Methane development areas.

Other Activities

Work is continuing on the National Inventory of Dams Project. We have been compiling information for each of the 1,366 dams in the Safety of Dams Program and preparing a computer inventory containing this information. In the past, part of the funding for this project has been provided by the Association of State Dam Safety Officials through a "pass-a-long" grant from the Federal Emergency Management Agency (FEMA) and the U.S. Army Corps of Engineers. One engineer and a hydrographer were trained in the new NID Submittal Software this year. Data from the state dam safety organizations is compiled by the Corps and published in CD-ROM format periodically. The Corps provided a small grant to the state three years ago to update this information and also add additional data fields but we were again unable to find and hire someone qualified to do this. Much of the information requested by the Corps is not readily available and considerable effort will be involved in gathering this essential data to complete our state database and keep it updated.

We are in the second year of a three-year work plan for which we received a grant to improve our program from the Federal Emergency Management Agency under the National Dam Safety Program Act. With these funds we were able to send office and field staff to training classes. Two engineers and one hydrographer attended a seminar on rodent and plant penetration in dams. Both safety of dams engineers attended seminars on Dam Failures, Floods and Spillway Adequacy and Slope Stability and Seepage Analysis. One headquarters engineer and one field engineer went to a seminar on Dam Safety Inspection and Evaluation. A CPS surveying system with software and a 4-wheeler with trailer were also purchased with these grant funds. In preparation of putting dam safety information, including photos, on the web, a mass storage device is to be purchased later this calendar year.

FEMA's Flood Insurance Administration implemented a Community Rating System in 1991, which gives flood insurance policyholders, in qualifying cities and counties, a discount on their premiums. Communities can get a further discount if the state has a qualifying Safety of Dams Program. We first applied for this credit

GROUND WATER DIVISION

The Ground Water Division report is comprised of two sections: the Ground Water Section and the Cooperative Programs Section. The Cooperative Programs Section manages the Surface and Ground Water Data Collection Program, the Snow Survey and Stream-flow Forecast Program and the Subdivision Water Right Program.

GROUND WATER SECTION

by

**RICHARD G. STOCKDALE,
DEPUTY STATE ENGINEER**

OBJECTIVES

1. To issue, record, maintain, and prepare permits for adjudication which grant the right to appropriate ground water within the State of Wyoming and maintain a database of approved permits, etc.
2. To resolve conflicts between ground water users.
3. To conduct Control Area Advisory Board meetings.
4. To coordinate ground water investigations involving the State Engineer's Office and other agencies.
5. To investigate water well construction and enforce the "Water Well Minimum Construction Standards."
6. To protect the State's ground water resources.
7. To investigate the occurrence of ground water resources.
8. To monitor ground water levels across the state.

ACCOMPLISHMENTS

APPLICATIONS PROCESSING AND RECORDING

During the reporting period of July 1, 2000 through June 30, 2001, the Ground Water Division of the State Engineer's Office received, processed, and recorded 9,563 applications for permits to appropriate ground water. This represents an decrease of 222 applications from the previous year. The Ground Water Division is receiving and processing more applications and associated paper work than it has since the mid-1980's, see Figure 1 (Ground Water Permit Approvals per Calendar Year). This increase can mainly be attributed to the coal bed methane activity occurring in the Powder River Basin. During this period, 9452 applications were approved to permit status and 22 applications were rejected. In addition to applications for new appropriations of ground water, 88 requests for relocations of existing wells were also received, processed and approved. This is an increase of 30 requests from the last reporting period.

CANCELLATION PROGRAM

During FY 2001, 1,541 permits to appropriate ground water were cancelled because the permittee either failed to submit the required notices (completion and beneficial use) within the statutory limits or the permittee requested cancellation of the permit. The number of cancellations is 1,239 more than in FY 2000. Abandoned wells for which the attendant water rights were cancelled amounted to 124. The figure for abandoned/cancelled permits is separate from the count for cancelled permits where the required notices were not filed. These wells were in use and were subsequently abandoned, generally for physical failure. The number of abandoned/cancelled permits was 174 less than in FY 2000.

Six thousand three hundred and ninety-nine (6,347) certified expiration letters were prepared and mailed to notify appropriators that their well permits were about to expire because the statement of completion of construction and the notice of completion of beneficial use of water had not been properly submitted to the State Engineer. This number is 2,206 more than in FY 2000.

PERMIT MAINTENANCE PROGRAM

The ownership of 1,499 permits to appropriate groundwater were assigned to different owners during FY 2001. Requests for 2,442 extensions of time to complete construction or put ground water to beneficial use were received, processed and approved. This number is 1,449 more than in FY 2000. Eleven (11) requests for additional points of use were received, processed and

approved. Seven thousand two hundred and ninety (7290) permits were updated with statements of completion or beneficial use forms. This number is 2,787 more than FY 2000. There were 1,175 miscellaneous updates received and processed.

WATER RIGHT SEARCH REQUESTS

Major ground water right searches numbering 543 were conducted for realtors, water resource consultants and various other interested parties during FY 2001. This number is 114 searches more than FY 2000. Other smaller ground water right searches called in by telephone or requested in person were estimated to be approximately 5,250. This number is 2,750 more than FY 2000.

TWO-YEAR REVIEW LETTERS

During FY 2001, 1,411 "Two-year Review Letters" were sent to permit holders. These letters are the results of conditions placed on observation and monitor well permits which require a two-year review to determine if the well still exists or if it has been "mined out", plugged and abandoned, etc. Due to other demands on staff time, no "Two-year Review Letters" were sent in FY 2000.

BOARD OF CONTROL ADJUDICATIONS

During FY 2001, a total of 68 ground water rights, which had been inspected by the Ground Water Division staff, were adjudicated by the Board of Control; 3 at the November 2000 meeting and 65 at the May 2001 meeting.

There were 68 Maps to Accompany Proof of Appropriation and Beneficial Use of Ground Water received during FY 2001. Many maps depict more than one well or enlargements of permits; the 68 maps represent a total of 147 water rights to be inspected for adjudication.

CONTROL AREA SUMMARIES

LARAMIE COUNTY CONTROL AREA

There was no need to hold an election during FY 2001 as no terms expired.

Noticeable declines in the water levels, some severe, were recorded in the wells in the observation well network in Laramie County due to extremely dry conditions. The water level declines affected the production capabilities of some wells, leading

some irrigators to inquire about possibilities of instituting a system of rotation of pumping, or some other method of ground water regulation, incorporating priority of appropriation, but expanding into a "neighborly" agreement. This did not proceed beyond a philosophical discussion of the concept; but the idea has surfaced. The control area statutes do give the State Engineer discretion to solve the problems within a control area, and one of the measures specifically permitted by the statute is rotation of pumping. Implementing such a procedure could be difficult.

Petitions for relocation of three existing wells were filed with the Board of Control by one appropriator, which may be indicative of declining water levels or simply that the existing wells are deteriorating with time. In this particular case, the new locations were approximately 3½ miles from the old wells; water would be piped from the new locations back to the irrigated lands. The Advisory Board voted to recommend that the petitions be denied because of the excessive distance of relocation. Final decision has not been made as of this writing.

A petition for the Town of Pine Bluffs to relocate their Number Five Well had been granted conditionally in November of 1998. Numerous attempts to find water at various locations were unsuccessful. The Town finally withdrew the petition in November 2000.

Permits were approved for two new wells to serve the Frontier Correctional Systems Facility about 8 miles east of Cheyenne. They were approved for 50 gpm each, with strict conditions and limitations regarding both construction and quantities of water allowed to be produced.

A permit was granted for an enlargement of a ground water appropriation for additional lands (which lands do have an original supply from another well, but the well is not always adequate). The significant factor about this permit is that the land on which the well is located is owned by someone other than the owner of the land on which the water will be used. All owners did sign the application and are in (written) agreement with the proposal.

PLATTE COUNTY CONTROL AREA

No election was required in the Platte County Control Area in FY 2001 as no terms expired.

Permits were granted for three (3) new irrigation wells. One appropriator in the Wendover area received permits for two new wells, one will provide Additional Supply for 50 acres under a half-circle pivot; the other will be the Original Supply for 140 acres under another circle. The third permit was issued for an Additional Supply for lands receiving Wheatland Irrigation District water.

Also, a permit was granted for one (1) new municipal well for the Town of Wheatland. And two permits were granted for enlargements of water rights at two of Wyoming Premium Farms, LLC swine facilities. These enlargements were for additional lands on which effluent from the sewage lagoons could be applied.

A petition for relocation of one of the Town of Guernsey's wells was granted during FY 2001. And two petitions were granted for partial voluntary abandonment of lands to accommodate the parceling of water rights when property was divided and sold to two different entities.

There are still unresolved issues dealing with applications for new wells, as well as applications for existing ground water developments, which new owners erroneously assumed were permitted.

PRAIRIE CENTER CONTROL AREA

No election was required during FY 2001 as no terms expired.

There was no water right activity in this control area during FY 2001.

SPECIAL PROJECTS UPDATE

COMPUTERIZATION OF GROUND WATER LOGBOOKS AND REDEFINITION OF STATUS CODES

As detailed in last year's Annual Report, the Ground Water Division automated the process for entering the applications into the database when they were received and printing the entry record book pages using a laser printer. This has turned out to be a valuable means in which to increase efficiency within the application recording process. With the success of this project, the Ground

Water Division began investigating other ways to take advantage of what the Access database has to offer.

Logbooks are an essential tool in the record tracking process of Ground Water. The Ground Water Division maintains a ledger-type logbook, which carries an entry line for every permit issued. Much of the initial data is the same as is entered into the database – expiration date, use, what notices are required. EVERY DAY, the mail; is logged in; each notice, each letter of request (extension, assignment, abandonment, cancellation, relocation, etc.) and is logged in on the appropriate permit line. This can be a very time consuming process. This allows anyone to go to the logbook and determine what the current status of the permit. In most cases, it takes several months after the date of receipt for the information to be entered into the database. Although the log book is an essential element of the record-keeping process, it has several obvious drawbacks:

1. It requires manual entry.
2. There is only one place where the data can be kept or found.
3. To obtain the data, one must leave his workstation and go to the logbook.

With all this in mind, it was decided to automate the logbook concept.

In November and December 2000, discussions were held with the staff of Technical Services to see about automating a portion of the "log-in" procedure. There were two areas that needed to be addressed in the procedure.

1. We needed a way to input, at least, the date of receipt and the type of form or request that was received earlier that it was being entered currently.
2. To be able to print the pages of the logbook instead of "logging-in" everything by hand or be able to phase out the hard copy log book concept

After several discussions, it was discovered that the Ground Water Division needed to address other issues in regards to the database before the logbook automation could occur. Those issues were: modifying status codes, adding temporary map numbers to the database and to automatically update the status code on certain permits.

Ground Water staff investigated revising the status codes used to describe the status of permits. The excessive use of the code "UNA" (unadjudicated) for permits that were never going to be adjudicated (in fact, for monitor and test permits which have no appropriation to adjudicate) was extremely misleading. It implies that the permit will be adjudicated at some point in the future and the permit (water right) is incomplete until some action is taken to resolve it. The actual status of a permit changes during its lifetime. It is desirable to use terminology, which truly reflects the status of the permit at any given time.

In order to account for all situations, the status codes were modified. With the status codes modified, Ground Water staff then began inputting Temporary Map Numbers into the database. This step helped differentiate which status the permit should carry in the database - Good Standing Map Required or Unadjudicated. The map number was not entered into the database in most cases until the permit was adjudicated.

The next step was to define the parameters for which an automatic update could be done to amend the status in the database. Upon investigation it was discovered that when a comparison of a current database search (using criteria for the blanket adjudication) was made to the Permit Number List, they did not match. Ground Water staff then compared the two (2) lists for Big Horn, Hot Springs, Washakie, Johnson, Park and Natrona Counties in FY 2001. The comparison of lists indicated that approximately 500 permits were found in the above listed counties that met the criteria for adjudication; however, were not adjudicated. Fremont County will be completed during FY 2002.

After all the previous issues had been resolved, the existing Ground Water data entry "form" in Access, along with some new "fields" was chosen. This allows the date of receipt to be entered into the database in a timelier manner and allow staff to use the database to see if a form or request had been received. This also helps with the mailing of the massive number of statutorily required expiration letters.

Since the logbooks still have to be maintained, it will take additional time to log the mail in the logbook and in the database. Initially, it will seem to be twice the work; however, in the long run it has great time saving capabilities. Due to the backlog of forms and requests, the revision and amending of the permit status codes and the inputting of temporary map numbers, we have not been able to institute this procedure as of yet. It is envisioned that this process will be in use by late 2002.

GROUND WATER FAIRS, OUTREACH PROGRAMS AND CONFERENCES

During FY 2001, ground water staff again attended fairs and conducted outreach programs around the State to provide assistance to the public. This assistance was in the form of giving informational speeches, setting up and managing information booths, helping the public determine if their wells were registered and answering general questions regarding water right filing procedures and agency policy. Staff also assisted the public in filing for water rights on existing wells.

As detailed in previous Annual Reports, the development of coal bed methane has created numerous concerns in the Powder River Basin. In order to address these concerns and help educate the public, staff of the Ground Water Division participated in two (2) Coal Bed Methane Fairs during FY 2001. Those fairs were held November 3-4, 2000 in Buffalo and June 1-2, 2001 in Gillette.

Ground Water staff and other division staff represented the State Engineer's Office at the 2001 Wyoming State Children's Water Festival held in Casper on May 23, 2001. This festival allows fourth and fifth graders a chance to learn about lakes, streams, ground water, soils and how they all interact with them in their environment.

Ground Water staff participated in a speaker series for the Environmental Monitoring Awareness Program (E-Map) sponsored by the Cheyenne/Laramie County Health Department, Division of Environmental Health. The purpose of the speaker series was to educate the public on water quality and quantity issues. The mission of E-Map is to allow citizens to check (via the Internet) quality and quantity of water in any given area of Laramie County. E-Map was funded through an EMPACT grant awarded by the U.S. Environmental Protection Agency. The dates that Ground Water participated were July 6, 2000 and May 3, 2001. On November 20, 2000 Ground Water staff spoke to the Laramie County Commissioners, City/County Development Office and the general public in regards to ground water conditions in Laramie County.

The Ground Water Division continued its participation on the Ground Water and Pesticides Strategy Committee. Ground Water staff participates on the Technical Review Committee. After pesticide detection in ground water has been verified, the Technical Review Committee meets, reviews ground water quality data and determines an appropriate response to the detection. Representatives from the Wyoming Department of Agriculture, Wyoming Department of Environmental

Quality, Water Quality Division, the Wyoming State Engineer's Office, the U.S. Geological Survey and the U.S. Environmental Protection Agency comprise the Technical Team. The Technical Team last met on April 3, 2001.

In addition, staff has also attended conferences for the Wyoming Association of Rural Water Systems – March 27-28, 2001 in Casper and the Wyoming Water Well Association – February 22-24, 2001 in Sheridan.

THERMOPOLIS AREA PROBLEMS

Last year's Annual Report described the chronology of events leading up to the application review process in the Thermopolis area. In August 2000 a letter was received from the Hot Springs County Commissioners that defined an "area of concern" surrounding the hot springs. This area was smaller than the originally proposed 20-mile radius around the hot springs. The County indicated that they still wished to review all well applications within the "area of concern". This smaller area helped to minimize the number of applications that would be reviewed in this fashion.

Approving water well applications in a timely manner is still a concern for the Ground Water Division; however, in FY 2001, four (4) well applications for Hot Springs County were received and approved with this review process. Further monitoring of the spring situation may require modifications to this process.

WEST BANK SNAKE RIVER PROJECT

Previous Annual Reports detail the chronology of events leading to the West Bank Snake River study located in Teton County, Wyoming, as well as activities leading to the development of the monitor well program now in place. Ground Water data collection continues as part of this study.

This network of monitoring wells continues to be maintained by staff of the Ground Water Division because of continued interest in the relationships of surface water and ground water in the West Bank of the Snake River area. This monitor well network continues to provide valuable information, which is being incorporated into the Jackson Hole Environmental Restoration Study. One facet of the Restoration Study is to determine the impact that man-made changes to the river channel within the Snake River levee system have on ground water levels outside of the levee system.

During FY 2001, routine maintenance was performed on the recording devices present in the monitoring wells and data was retrieved from each well twice. The desiccant packs within the recording devices, which remove moisture from the air around the electronics within the recording devices, were replaced during FY 2001.

PINEDALE ANTICLINE

During FY 2001, the United States Bureau of Land Management (BLM) released the Record of Decision (ROD) pertaining to the Environmental Impact Statement for the Pinedale Anticline Project. The ROD authorized up to 700 producing natural gas wells within the Pinedale Anticline Project Area (PAPA). The PAPA is located immediately south of the Town of Pinedale, WY and north of the productive Jonah natural gas fields that have been developed in the past few years. The Pinedale Anticline Project targets conventional natural gas resources at depths of 8,000 to 10,000 feet. During the scoping and comment periods for the Draft Pinedale Anticline Environmental Impact Statement, concerns were expressed relative to the degradation of several natural resources, including the ground water and surface water resources of the PAPA. In order to address these concerns, the BLM incorporated various monitoring requirements into the ROD as part of the Adaptive Environmental Management (AEM) portion of the ROD. Two of these requirements were that the operators involved in the natural gas development would monitor ground water levels and ground water quality in existing wells within the PAPA. As part of the AEM process, a water task group was formed with various members of industry, environmental groups, agricultural interests, and representatives of local, state, and federal regulatory agencies. The function of the water task group is to provide guidance to the operators regarding the methodology to be employed to satisfy the water-monitoring requirement of the ROD. Prior to the first meeting of the water task group, staff of the Ground Water Division measured water levels in approximately 10 water wells utilized by BLM grazing lessees in the PAPA in order to determine baseline water levels in those wells. Since the formation of the water task group in mid FY 2001, much ground water staff time has been spent attending meetings of the group and providing water resource data and support services to the group. Baseline water level and water quality data collection commenced during FY 2001 for water wells located within the PAPA, with the Sublette County Conservation District functioning as the primary data collection entity.

SARATOGA FISH HATCHERY

Previous Annual Reports describe the chronology of events leading to the development of this ongoing interference investigation.

Precipitation in the area of this investigation was once again below average during FY 2001, with below average snow pack levels and a dry spring. By late FY 2001, the output of Lake Creek Lake, as recorded by the USFWS data logger installed on the output of the Lake, was at its lowest level since the inception of this investigation, according to preliminary data provided by the USFWS. To further exacerbate the water supply problem being experienced by the Fish Hatchery, in early FY 2001, the pipeline supplying water from Lake Creek Lake to the Fish Hatchery became infested with tree roots, leading to the partial plugging of the pipeline. The pipeline was not cleared during FY 2001.

A change was made to the irrigation system on the Overland Trail Ranch and Cattle Co. property during late FY 2001. Water diverted from Lake Creek and pumped from adjacent irrigation wells in the past was conveyed by the Doc Eaton Ditch, the Tuttle Ditch #1, and the Tuttle Ditch #2 to the flood irrigated lands on the southern portion of the Overland Trail Ranch and Cattle Co. property. In an effort to minimize conveyance loss and increase irrigation efficiency, this water is now being conveyed by an enclosed pipeline with risers to which gated pipe is attached to flood irrigate the southern lands. Water resource data collection, including regular measurements of the flow of Lake Creek, production records for all of the ground water wells in the area, water levels within all of the wells in the area, and maintenance of the monitor well network continues in an effort to determine the source of this water supply problem. All data obtained during FY 2000 was disseminated to both parties in the dispute during FY 2001.

POWER PLANT SITING

By mid FY 2001, portions of the United States were experiencing chronic electrical power shortages and frequent blackouts. The electrical power shortage forced the price of electric power to rise throughout the nation. The rise in the cost of electric power revived the dormant North American Power Group, Two Elk Generation Plant Project. Two Elk is a coal-fired project to be located near the town of Wright, WY. A potential problem for the project is the difficulty in locating a viable water supply. During FY 2001, staff of the ground water division provided data, researched reports, and provided guidance to the various consulting firms involved with the construction of the Two Elk project. The rise in the cost of electric power also resulted in numerous generation companies searching for locations to site power plants statewide that would take advantage of Wyoming's coal and natural gas resources as the electric power generation power source. Considerable amounts of ground water staff time was spent in FY 2001 researching records and providing guidance to power generation companies and consultants searching for viable water sources for these potential electric power generation projects.

LODGEPOLE AQUIFER STORAGE AND RETRIEVAL PROJECT

Lodgepole Creek runs through Laramie County, WY, with its eastern terminus at the state line just north of the town of Pine Bluffs, WY. The Lodgepole Creek basin in eastern Laramie County is extensively irrigated by ground water obtained from wells located within the basin. By the early 1970's, the extensive irrigation led to declining water levels in wells in extreme eastern Laramie County. Concern over these declining water levels led, in part, to the creation of the Laramie County Control Area some time later. Below average precipitation the last two fiscal years has led to increased ground pumping to supply the irrigated lands in the area, which in turn has led ground water levels in the area to drop to near historic lows. During FY 2001, funding became available through the Wyoming Water Development Commission for the Lodgepole Creek Aquifer Storage and Retrieval Project, Level I Study. This study would ascertain the feasibility of storing water in the Brule Formation in the area, which could then be pumped out at a later date. Key questions to be addressed by the study are whether there is water available for storage from some source outside the area, the best method to transport the water to the area, and the most efficient method of placing the water in the formation. It is anticipated that this Study will be completed within early FY 2002.

WELL INVENTORY CD

Previous annual reports have outlined the Coal Bed Methane (CBM) activity in the Powder River Basin and the direction and pace of development. As the development moves into new areas, it has become necessary for the CBM operating companies to develop a database of pre-existing wells in a new area of development including baseline water levels and general well conditions. As a result, the Ground Water Division saw a significant increase in the number of search requests submitted by CBM operating companies and/or the consulting companies working for them during FY 2001. In an effort to fulfill the requests in a timelier manner and to alleviate a portion of the search request workload of the division, a compact disc listing selected information regarding each ground water permit issued by the State Engineer's Office developed in FY 2001. This CD has been made available for sale, and is being purchased by the CBM operators, consultants, realtors, appraisers, attorneys, etc. The tables on the CD can be queried to acquire information relative to selected permits. The tables on the CD are being created on a quarterly basis to include new ground water information, and as the new tables are created, a new CD is created. Considerable amounts of Ground Water Division staff time have been devoted to the creation of the CD and to the quarterly updates to the CD.

OBSERVATION WELLS

The Ground Water Division of the State Engineer's Office maintains and collects data on a total of approximately 273 wells. This number has changed somewhat from last year. The ECH-8 Well, 42-71-35aaa01, located within Campbell County, has been abandoned. This observation well started producing methane gas due to nearby CBM production activity. The WCH-3A Well, 46-72-36aab, located within Campbell County had to be abandoned. This observation well also started to produce methane gas. Lance Oil Company, the producer, installed a well tree on the casing, with the intentions to use it as part of their Coal Bed Methane field. The H-13 Well, 50-72-21aba01, located in Campbell County was also abandoned. This was a shallow Wasatch Formation well located just North of the old City of Gillette maintenance shops located on Warlow Drive. The City was reclaiming the old shop yards, so the recording equipment was removed.

A new lower Wasatch Formation Well, CCMOW-7, 46-72-36aab, was installed in Campbell County. This well is located near Wright, Wyoming and is completed to a depth of approximately 518 feet. There is CBM activity nearby that requires monitoring. A float and solid-state data logger is installed on the well.

The first series of observation wells were installed by the State Engineer's Office in the spring of 1977. The Fisher-Porter Model 1542 Automatic Digital Recorders were installed. This type of recorder has a paper tape, which is punched as the unit is activated by an hourly timer- converting the analog Ground Water level to a digital format on the paper tape. Fisher-Porter discontinued making ADR's in 1979. Some of our units are now twenty-five years old. The Fisher-Porter ADR was replaced by the Leupold-Stevens model 7001 ADR. As of September 1991, the model 7001 ADR was discontinued. This agency was the last entity to order this type of unit from Steven's.

As time progresses, parts and the paper tapes for the ADR's are becoming harder to find or get. Mechanical timers for the recorders are no longer available, and we are presently using the "Series III" electronic timer provided by the U.S. Geologic Survey as part of our Co-operative services program. It is only a matter of time before this timer will not be available. Due to the importance of the observation well network statewide and the age of recording equipment; the agency needs to start budgeting for replacement of the older mechanical ADR's with current state of the art loggers.

COAL BED METHANE PROJECTS

Previous Annual reports describe the chronology of events leading to the development of Coal Bed Methane (CBM) in all of the major basins of the state including the Powder River Basin in Campbell County, Wyoming.

With natural gas prices at near historic highs, interest in CBM remained strong in FY 2001, with industry targeting locations not only in the Powder River Basin, but also in Carbon, Converse, Sweetwater, Sublette, and Uinta counties. In FY 99, the State Engineer's Office received 2,532 coal bed methane applications from 51 companies. In FY 2000, the number of CBM applications received by the State Engineer's Office rose to 5,811, submitted by 86 Companies. In FY 2001, The State Engineer's Office received 6093 applications from 55 separate companies. Favorable natural gas prices and the nations demand for energy has kept the CBM drilling at a rapid pace in FY 2001, with over 100 drilling rigs operating in the Powder River Basin. Activity continued on the Powder River Basin Oil and Gas EIS, Atlantic Rim CBM Project EIS located in Carbon County, Wyoming and the Riley Ridge CBM Project located in Sweetwater County, Wyoming during FY 2001. Record of Decision (ROD) and Finding of No Significant Impact were released for the Seminoe Road CBM Project and Wyodak Drainage Coal Bed Methane Environmental Assessment during FY 2001.

The Decision Record for the Wyodak Drainage Coal Bed Methane Environmental Assessment was released in March of FY 2001. This Environmental Assessment (EA) allowed for the construction of 2,500 new Federal protective CBM wells to be drilled within the area considered under the Wyodak EIS. The Wyodak Drainage EA was done in response to concerns over drainage of Federal Mineral resources by wells drilled on State and Fee lands.

The Decision Record for the Seminoe Road Coal Bed Methane Project was released July 2001 for a pilot project of 18 coal bed methane wells and one pressure-monitoring well. Under the Decision Record, six CBM wells and associated facilities have been authorized.

Continued activity and interest in exploration and development of Powder River Basin CBM Resources has led to work on the Powder River Basin Oil and Gas EIS. The Reasonable Foreseeable Development submitted by the CBM industry is for 39,367 new wells drilled within the Powder River Basin by the year 2015. The total number of wells under this reasonable foreseeable development scenario is 39,367 new wells and 12,077 existing wells totaling 51,444 CBM wells within the area covered by the PRBO&G EIS. This EIS encompasses all of Campbell, Johnson, and Sheridan Counties and the northern portion of

Converse County. The Draft EIS scheduled for release in early 2002, Final EIS scheduled for release in October 2002, and Decision Record released in November FY 2002. The State Engineer's Office is a Formal Cooperating Agency and will receive copies of the Draft and Final EIS documents for comment.

Work began on the Atlantic Rim Coal Bed Methane Project EIS in FY 2001. The Scoping Statement and public scoping meetings have been held related to this proposed development. The full field development scenario submitted by industry looks at drilling a maximum of 3880 wells on 310,335 acres over 6-10 years with a life of project of 20-30 years.

A single CBM monitor well was installed and equipped with continuous water level recorder during FY 2001. Drilled by Barrett Resources, a CBM production company, and donated to the State Engineer's Office for monitoring purposes, this well was completed in the Wasatch Formation. This well is south and east of Wright, Wyoming near the intersection of Wyoming State Highways 59 and 450 in an area being developed for CBM production.

As the CBM development continues to move west and north away from the immediate vicinity of Gillette, Wyoming and the topography of the land changes, issues relating to the management of the produced CBM water continues to be a concern. A major issue continues to be the release of produced CBM water into normally dry creek channels and the potential loss of productive land due to excessive erosion of the creek channel, potential impacts from chemical constituents of the produced water, and the interference of reservoirs with the ability of downstream water rights to obtain their appropriation of water. During FY 2001, several studies were initiated by the University of Wyoming to quantify the effects of the release of produced water on soils, vegetation, and stream channel morphology at several sites in the Powder River Basin. Some of the University departments working on CBM related research are the Department of Civil Engineering, College of Renewable Resources, Department of Geology and Geophysics, and Water Resources Data System.

As the management and use of the water produced during the CBM process continues to be a concern, a vast array of water use options are being explored and employed. These options include storing the water for stock watering and wildlife use in existing or newly constructed stock watering reservoirs, irrigation of lands either by flood irrigation or sprinkler application, water supply for stock watering pipelines, etc. Several operating companies have initiated studies into design and testing of enhanced evaporation systems to help reduce the quantity of water released to natural stream channels.

During FY 2001, pilot projects are continuing to test the feasibility of reinjecting the produced CBM water into sand zones within the Fort Union Formation and the underlying Lance/Fox Hills Formation. This topic was discussed in detail in the SEO annual report for FY 2000.

There continues to be concern expressed by the residents of the area being developed for CBM that the production of water from the coal beds within the Fort Union Formation will have severe water supply implications for their water wells completed in the overlying Wasatch Formation. Nearly every ground water supply problem reported by appropriators in the area of CBM development and investigated by the Ground Water Division in FY 2000 was alleged by the appropriator to be related to a depletion of the ground water supply by CBM development. During FY 2001, water supply problems were investigated in several water wells at the behest of different ground water appropriators. In the vast majority of the cases investigated, the source of the problem was not related to the amount of ground water available to the appropriator in the well. Anecdotal accounts exist about water well failures attributable to CBM activities, however the CBM operators have mitigated those problems without involving the State Engineer's Office. FY 2001 saw an increase in the number of water quality related CBM related well problems. Water quality falls under the jurisdiction of Wyoming Department of Environmental Quality, Water Quality Division.

Water management plans for the produced water from CBM development on federally owned minerals are required by the Bureau of Land Management. Under the water management plan, the Bureau of Land Management requires the identification of water wells within a specified radius of the CBM development, which could be adversely effected. As in the past, this requirement has led to an increase in the number of demands for water well information from CBM production companies and the consultants working for them. To aid in filling these request the Ground Water Division is offering the Ground Water Rights Inventory Database on Compact Disk. The compact disk contains an Access database with a listing of ground water rights information from the SEO master water rights database updated quarterly. For more information on the Ground Water Rights Inventory CD contact the Ground Water Division.

An additional item related to CBM development and the ground water division is the permitting, drilling, and equipping of treated water sale load outs. The Wyoming oil and Gas conservation commission has placed stipulations of approval on Applications for Permit to Drill, APD, requiring treated water to be used for well stimulations, re-completions, and in some instances the drilling of a

new well. Inquiries and permitting of treated water load out facilities has required countless hours of staff time to assist applicants in the proper permitting procedure to follow for this type of facility. During FY 2001, more than twenty (20) inquiries were received with nearly that many applications for permit to appropriate ground water being filed.

The continued expansion of the CBM development has consumed countless hours of Ground Water staff time attending public meetings, making presentations, coordinating with other regulatory agencies, reviewing and providing comments on EIS and EA documents, reviewing water management and usage proposals, investigating ground water supply problems, installing and maintaining new monitoring wells, and fulfilling information requests. Exploration by industry and review of data by the Wyoming State Geological Survey shows CBM reserves to be present in all of the major coal basins within the state, with several of the basins having coal bed methane gas reserves at or above the amount reported for the Powder River Basin. If these reports are found to be true, a favorable natural gas market persists; the State of Wyoming can expect the development scenario to follow that experienced to date. This will result in greater resources required to keep up with the permitting activity and the installation of additional monitoring wells and investigations to address the potential impacts resulting from the development.

PROBLEM AREAS AND RECOMMENDATIONS

The staff resources of the State Engineer's Office continue to be inadequate to provide timely responses to water right permitting and recording activities. This is particularly true with respect to the addition of several thousand permit applications associated with Coal Bed Methane activities.

The observation well network provides information on the availability of the State's ground water resources. Much of the equipment utilized in this program to measure and record ground water levels is obsolete and parts for maintenance are no longer available. It is imperative that additional funding be provided to purchase up to date equipment for this activity.

It should also be noted that the compensation plan for the State employees continues to be a problem area. This is particularly true in the area of "fringe benefits", i.e., life insurance, medical insurance, longevity pay, etc. It continues to be difficult to recruit new employees under the State's current insurance program and longevity pay plan.

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COOPERATIVE PROGRAMS SECTION

by

MICHAEL R. EBSEN

COOPERATIVE PROGRAMS COORDINATOR

The Cooperative Programs Section coordinates three ongoing programs and provides technical support in other areas as assigned. Primary objectives by program are as follows:

OBJECTIVES

1. The objective of the **Surface and Ground Water Data Program** is to provide the State Engineer, other state, local and federal agencies, and all other water users with quality, legally acceptable, hydrologic information for use in crop and other water use planning. This includes regulation, compact administration and the technical analyses required in water related litigation. The program also aids in flood plain planning and flood warning, water quality monitoring and various other types of studies. Continued involvement in this investigation and surveillance activity allows the State Engineer to more effectively address current state priorities as well as gather baseline information as issues evolve.

2. The objective of the **Snow Survey and Stream Flow Forecast Program** is to provide information for the State Engineer and all water users, managers, and planners on seasonal snowpack and projected snowmelt stream flow runoff. This in turn helps insure that maximum utility can be realized from this limited water resource.

3. The objective of the **Subdivision Water Right Program** is to insure that water rights appurtenant to lands proposed for subdivision are addressed in compliance with statutory provisions prior to land development.

Expanded commitments resulting from recent legislation associated with the adequacy of proposed subdivision water supplies are also being addressed. This increased involvement is currently being handled in conjunction with the **Subdivision Water Right Program**. Therefore, activities associated with **Subdivision Water Supply Adequacy Review** commitments will be discussed in that portion of this report.

SURFACE AND GROUND WATER DATA PROGRAM

ACCOMPLISHMENTS

A significant portion of the funding for the Program is provided through cost share agreements between the State Engineer and other entities, including the United States Geological Survey (USGS), the United States Bureau of Reclamation (USBR), and the United States Bureau of Land Management (BLM). The State's contributions have been provided in part, in the form of direct assistance by State Engineer personnel in activities such as gaging streams, and in part through direct funding.

COOPERATIVE STREAM GAGING ACTIVITIES:

Accomplishments involving State Engineer personnel involved in the surface water data area include the day-to-day operation, maintenance and/or monitoring of the 55 surface water gaging stations currently being operated in the USGS cooperative network, as well as a myriad of other stations and sites. Activities include regular measurements at the various sites, and communicating essential information to the appropriate parties as each season progresses. Detailed records of stream flows and reservoir stages are gathered, analyzed, and computed. Reconnaissance, safety inspections, and other work are provided. Water use data is collected, assembled and transmitted for inclusion in the records. Worn equipment or instrumentation components are repaired or replaced. Maintenance around the state ranges from repairs resulting from the acts of vandals, to the acts of Mother Nature and father time. Shelters are painted and patched, walkways and cableways are tested and repaired, and riprap is placed around gage houses, stream banks and damaged artificial controls. Activities such as these have, in years past, been recognized as direct assistance or *in-kind service*. This is no longer the case.

As the result of the increased activity associated with the development of mineral resources in Northeastern Wyoming, the State Engineer and the BLM have also agreed to cooperate in the collection of baseline hydrologic data at several sites in the Powder River Basin. This cooperative effort will provide information necessary for State, Federal, and private entities to mitigate potential impacts and conflicts associated with the development of mineral resources (including coal bed methane) in the Powder River Basin.

STATEWIDE STREAMGAGE UPGRADE ACTIVITIES:

The State Engineer's Office and the Bureau of Reclamation continue to participate in the replacement, repair or rehabilitation of select stream gaging stations

throughout the state. These activities include the installation of new stream gaging sites, the construction of new or the rehabilitation of existing cableways, the addition of artificial control structures, and the upgrading of some sites with new and improved instrumentation. Some of the new instrumentation involves automating sites with electronic data loggers with remote data telemetry capabilities. By cooperating with the Bureau at sites of mutual interest the State Engineer has effectively doubled the resources available to upgrade these sites. This, coupled with the Bureau's recognition that work performed by State Engineer personnel as sites of mutual interest can be recognized as *in-kind service* will enhance the scope of these activities.

During the initial planning phase the most critical sites were prioritized, and were addressed in the first round of work. This initial work involved upgrades at 29 sites and concluded on September 30, 1998. Additional objectives were prioritized in the spring of 1999 and contain some work not perfected, due to various delays, from the initial list of projects. These new objectives involve work at 41 sites and also prioritize the replacement of environmentally sensitive instrumentation as part of the work to be accomplished on the current, expanded list of projects.

In an attempt to meet these work objectives, some of the necessary gage instrumentation from the expanded list of projects has been purchased and used in conducting training seminars for employees directly involved in gage rehabilitation activities, prior to actually being installed at the various field sites. These training sessions were held in the spring and early summer of 2000 and were conducted, free of charge to the State Engineer, by Sutron Corporation as part of their effort to provide continuing support to users. These seminars provided much needed hands-on experience and helped develop the programming and set-up skills necessary to install, operate, and maintain this new generation of instrumentation. Similar seminars will likely be needed and scheduled in the future, as necessary.

During the current fiscal year remarkably dry conditions persisted. This coupled with the extremely dry conditions that prevailed through the fall of 1999 and through out 2000, administrative demands on field personnel were also extreme. Therefore the amount of work accomplished in this activity was less than originally anticipated. As of the date of this report, several significant on site construction projects have yet to be completed. Additionally, much of the hydrologic equipment and instrumentation needed to complete the current set of objectives has yet to be delivered. However, this activity has and will continue to conserve water, more efficiently distribute the available supply, shorten response times, and provide safer working conditions for State Engineer field personnel.

YELLOWSTONE RIVER COMPACT GAGE ACTIVITIES:

The State Engineer continues to participate in the surveillance of the water resources of the Yellowstone River basin in the states of Montana and Wyoming as provided for in the Yellowstone River Compact. The state of Montana also participates at the same funding level as Wyoming for their portion of this activity, which is handled through the Montana District Office of the USGS. Compact activities other than those related to surface water data collection being contracted through cooperative agreements with the USGS are covered elsewhere in this report.

BELLE FOURCHE RIVER COMPACT GAGE ACTIVITIES:

The State Engineer continues to participate in the surveillance of the water resources of the Belle Fourche River basin as provided for in the Belle Fourche River Compact. The state of South Dakota also participates at the same funding level as Wyoming for their portion of this activity, which is handled through the South Dakota District Office of the USGS. Compact activities other than those related to surface water data collection being contracted through cooperative agreements with the USGS are covered elsewhere in this report.

BEAR RIVER COMPACT GAGE ACTIVITIES:

The State Engineer continues to participate in the surveillance of the water resources of the Bear River basin in the states of Utah, Idaho, and Wyoming through the Bear River Commission as provided for in the Bear River Compact. The states of Utah and Idaho also participate at the same funding level as Wyoming for their portion of this activity, which is handled through the Utah District Office of the USGS. Compact activities other than those related to surface water data collection being contracted through cooperative agreements with the USGS are covered elsewhere in this report.

MONITOR WELL MEASUREMENT ACTIVITIES:

Accomplishments involving State Engineer personnel in the ground water data area include the day-to-day operation, maintenance and/or monitoring of the 60 observation wells in the USGS cooperative network, as well as numerous other sites throughout the state. Activities include repairing or replacing worn equipment or instrumentation components. Most of these wells are equipped with float driven digital water-level recorders. However, some wells, including several artesian wells, are equipped with pressure-sensing transducers and electronic data recorders. The remaining wells are measured periodically by hand using a steel drop tape or airline systems.

OTHER DATA ACTIVITIES:

Other surveillance and investigation activities beyond the scope of the Federal/State cooperative activities outlined above are also conducted by State Engineer personnel. These efforts also provide compiled data on stream flow, reservoir storage and river diversions. One example of these compilations is the Hydrographers' Annual Report series. There is also a cooperative effort involving the University of Wyoming's Water Resources Data System (WRDS) and the Wyoming State Engineer's Office to produce a database to house and more efficiently analyze these data.

In addition, there are a substantial number of observation well sites, outside the Federal/State cooperative well level network outlined above, that are operated by State Engineer personnel. Well Data, a computer data base for well information has also been purchased and continues to be perfected and populated.

PROBLEM AREAS AND RECOMMENDATIONS

Information to support informed water resource planning decisions requires many years of records. Changes in the uses of water, as well as changes in water usage patterns; along with the resulting conflicts, have and will continue to occur. Those involved in resolving these complex issues request increasingly sophisticated information, often on a "real time" basis. As statewide water planning efforts proceed, the need for surface and ground water data continues to increase, as does the demand for water and its proper administration.

The information age has brought with it cutbacks in government spending at all levels. In this age of instant communication the need to provide data in a more timely manner; coupled with the aging condition of the mostly un-automated data collection sites in the various data networks poses data availability concerns as well as personnel safety concerns. One need only examine past reports to realize that programs are being downsized and activities are being restricted, often indiscriminately.

In order to maintain, upgrade and automate essential components in the existing data networks an ongoing commitment of resources (a comprehensive statewide program) will be required. This program should include provisions to critically review the need for each existing site as well as provisions to implement new sites in areas where data needs exist or are anticipated. It should also provide for additional personnel training in areas such as remote sensing, radio and satellite telemetry, and safety. It is hoped that the stream gage upgrade activity outlined above will evolve into such a program.

Operational costs associated with continuing to provide current levels of data availability through State Engineer involvement in the USGS - Federal/State

Cooperative Data Program continue in an upward spiral as well, and complicate the State Engineer's maintenance, upgrade and automation efforts just discussed. Although these increased USGS costs contain inflationary increases, they primarily reflect decreases in credit received for direct program services provided by State Engineer personnel (*in kind services*) that have formerly been recognized as State program contributions, in lieu of cash. These losses are in addition to recent losses in USGS federal matching funds for such necessities as data site maintenance. Further frustrating this scenario is the departure, on the part of the USGS, from offering 50/50 matching dollar cost share funding for cooperative studies and data collection activities. The current cost share ratio is 60/40 (State/Federal) on studies, and 51/49 (State/Federal) on data collection.

In the spring of 2000 the legislature appropriated additional funding to offset Federal cost increases. For the State Engineer is to continue to participate in the USGS Cooperative Data Program, either program products will needed to be cut, or additional funding reflecting the current cost share ratio, plus an inflation factor, will be needed. Given the trend toward increasing costs and decreasing benefits, the State is approaching a break-even point where all or part of the current cooperative data program could be operated cost effectively by the State. However, this will bring up a new series of issues difficult to evaluate and assess, including Federal/State relations, and data site ownership and liability concerns.

SNOW SURVEY AND STREAMFLOW FORECAST PROGRAM

ACCOMPLISHMENTS

The Natural Resources Conservation Service (NRCS), State Engineer personnel, and others participate in the Snow Survey Program. Snow surveys are conducted four (4) times each year, beginning February 1st and continuing until May 1st, at the 66 manually measured snow courses, and daily at the 79 automated SNOTEL sites in Wyoming. Snow survey personnel manually measure snow depth and density, as well as provide winter maintenance on SNOTEL sites throughout Wyoming on an as needed basis. The repair of SNOTEL sites and measurement of snowpack often require snow survey personnel to travel to remote locations under potentially adverse conditions. For these reasons participants are required to complete special training in snow survey and snow survival techniques, maintain current first aid and CPR certifications, and undergo annual physical exams.

SNOTEL sites are automated, radiotelemetered, snowpack data collection sites, and are generally located in remote, yet hydrologically significant areas throughout Wyoming. These sites provide equivalent water depth of the snowpack (SWE), as well as precipitation, air temperature, and in some cases soil moisture and temperature. The stations electronically relay data, at regular intervals, to a central collection point in Portland, Oregon. Data is then available to users via a modem or the INTERNET. A direct link to this data has also been provided from the

Wyoming State Engineer's INTERNET home page. Data can be collected at almost any interval, but is generally collected at four to six hour intervals. Data collected once each day is normally adequate for water supply forecasting, but avalanche forecasting and other recreational users may need the data on a more frequent basis. Each site has the capability of handling up to 64 sensors. As more sites are added, and the confidence level of data collected with SNOTEL sites improves, much of the labor-intensive manual snow survey measurements will be reduced.

Streamflow forecasts are an end result of these snow data collection efforts and provide a valuable tool for those involved in water management and planning. Streamflow forecasts are currently available at 65 locations in Wyoming. Flows at these sites are forecast six (6) times per year beginning the first of January and ending on the first of June. Virtually all of these streamflow prediction sites have been selected as the direct result of input from local water users. The sites require the presence of an active stream gage at the forecast site to calibrate and refine the prediction models. Complex planning issues involving all areas of the public and private sectors including the administration of interstate compacts and court decrees, flood forecasting, reservoir carryover storage, instream flow and power generation require information in advance of the runoff season to be properly addressed. Decisions in areas including agriculture, industry and municipal water supply are simplified through the availability of these forecasts. The State Engineer's Office contributed \$2,000 to this program and provided approximately 55 workdays of effort in the collection of snow survey data this past year.

PROBLEM AREAS AND RECOMMENDATIONS

Due to innate fluctuations in snowpack measurements, and the effects of weather patterns prior to and during the measurement and runoff periods snow surveying and streamflow forecasting remain inherently inexact. Even so, network and equipment refinements continue to evolve. Replacing manual snow courses with SNOTEL stations and adding additional equipment such as snow depth, soil moisture and evaporation loss sensors would provide improved and almost continuous forecasting capabilities. As funds become available snow depth sensors will be added to the system.

State Engineer personnel and others recognize and are focusing on how recent reductions in funding, personnel, and activities (i.e. stream gage discountenances) within other water data programs have and will continue to adversely impact related activities (such as streamflow predictions) in this and other programs. The State Engineer therefore carefully weighs potential impacts, including impacts on related programs, in the resource allocation process.

Periodic State Engineer personnel reassignments and/or retirements can impact snow survey activities. Additionally, certain instrumentation components at several SNOTEL sites continue to exhibit some degree of unreliability and may require

additional site visits to verify that these sites are operating optimally. Therefore, pre-season planning meetings are held every fall in an attempt to recognize and address these types of concerns prior to the onset of the snow season. Typically a nearby trained snow surveyor will 'stand by' and assist in areas where they normally may have no involvement, while a new snow surveyor obtains the required training and certifications.

SUBDIVISION WATER RIGHT PROGRAM

ACCOMPLISHMENTS

Wyoming Statute 18-5-306 (a) (xi) provides for the disposition of any water rights appurtenant to the lands involved in a proposed subdivision development prior to its approval by county zoning officials. Three basic options are available to the subdivider:

1. The subdivider may elect to discontinue the use of all or part of the water right(s) within the subdivision, in which case the use(s) of the water, as well as the records of the State Engineer, need to be altered to reflect this change.
2. The subdivider may elect to continue to use all or part of the right(s) outside of the subdivision, in which case the use(s) of the water, as well as the records of the State Engineer, need to be altered to reflect this change.
3. All or part of the right(s) may continue to be used within the subdivision, provided no conflicts are introduced or perpetuated in the records of the State Engineer under the proposed new usage pattern. A plan is required to specify which subdivision lots will retain any remaining right(s), or portions thereof, not addressed under 1 and 2 above, including how continued beneficial use without adverse effect is proposed to be accomplished after development.

If there are no subject water rights appurtenant to the subdivision lands, the developer should obtain a statement confirming this fact from the office of the State Engineer for submission to the county zoning officials.

During FY 2001, water rights on 82 parcels of land proposed to be subdivided were received and the appropriate recommendations, follow-ups, and approvals were provided. Of this number, 14 required no water right action, 5 required further action and have since been approved, and 63 are pending further action.

Since the enactment of this legislation in 1980, an average of 22 reviews per year were provided during the decade of the 80's, and an average of 42 reviews per

year have been provided during the decade of the 90's. Comparing this with the 68 reviews provided during the 2000 calendar year and the 69 reviews provided thus far this year; indicates an upward trend in the number of subdivision developments taking place throughout the state.

The State Engineer's Office continues to have an involved in the process of land division, including those transactions defined by statute to be subdivisions. Long term involvement under Title 18 Statutes, as discussed thus far, had been limited to water rights (property rights) that are appurtenant (legally attached) to lands at the time these lands are proposed to be subdivided. These existing water rights do need to continue to be recognized in the County planning process, and were the extent of the State Engineer's subdivision involvement, historically.

However, NEW SUBDIVISION LEGISLATION requiring expanded State Engineer involvement in the area of proposed subdivision water supply adequacy has been enacted. An early version of this legislation became effective July 1, 1997. During the 1998 Legislative Session this early version was further amended, and subsequently repealed by the Legislature; however the repeal was ultimately vetoed by the Governor. Once again, during the 1999 Legislative Session, this legislation was amended, and this version is to become effective on July 1 2000. This new State Engineer involvement is outlined under Wyoming Statute 18-5-306 (a) (vi).

This new legislation requires broadened State level involvement in the County subdivision processes and has empowered and directed the Department of Environmental Quality to become involved in the review of waste water and water supply systems proposed for new subdivision developments, as they relate to system adequacy and dependability. This directive requires a necessary and unavoidable interface in agency missions to consider issues relating to both water quality and water quantification. Thus, the statute specifically references the potential for expanded State Engineer involvement, to be provided at the request of the Department of Environmental Quality. The Department has requested assistance with such issues as the physical and legal availability of water for the subdivision water supplies as proposed by developers.

The new legislation also requires existing water rights on lands surrounding the lands proposed to be subdivided to be considered, as well as interrelationships including potential conflicts produced as the result of changes in current water use patterns and/or new water supply concerns resulting from the subdivision of the land. An integral part of this new planning process will be the filing of the necessary water right permit application, which recognizes the proposed subdivision water supply as a legitimate and beneficial use of the waters of the State.

Since the original enactment of the earlier version of this new legislation on July 1, 1997, the State Engineer has provided the Department of Environmental Quality

with review comments and follow-up reviews as requested. The Department requested assistance on 4 subdivisions during FY 1998, 22 during FY 1999, 33 during FY 2000, and 45 in FY 2001. These reviews were in addition to the water right reviews required under W. S. 18-5-306 (a) (xi) and also require staff time to be committed to participating in numerous meetings, teleconferences, and associated activities.

PROBLEM AREAS AND RECOMMENDATIONS

The mission and objective of this Agency, and program, include the directive to advance the fact that, a water right is a property right, and therefore warrants recognition and protection under the Constitution of the State of Wyoming and State Statute. The State Engineer's Office is currently in the process of revising and updating its Rules and Regulations documents, and revisions have not as yet been completed. To the extent possible, input received relevant to long term and expanded involvement in the subdivision process will also be included in this effort.

With the advent of coal bed methane development issues in the Powder River Basin, and elsewhere, the staff position provided with the passage of the new subdivision legislation, originally intended to help address this new workload, has been preempted. The full extent of the cumulative effect of this new legislation on the Cooperative Programs Section is unclear, however it is clear that more demands have been placed on already overburdened staff time.

The Subdivision Water Right Program has historically addresses only existing water rights, and the number of these subdivision review requests continues to rise. This, coupled with the increasing workload associated with new subdivision water supply adequacy responsibilities, and increased time commitments in other programs, contributes to the review back-logs, lengthens State Engineer response time, and has compromised program integrity. Records indicate program compliance has been and remains poor. With the advent of new subdivision legislation, compliance may ultimately improve, however subdivisions continue to be approved by County Planners and Commissioners before the water rights issues have been reviewed and resolved by the State Engineer's Office. A program review, which includes the option to allocate additional office and field resources, is overdue.

BOARD OF CONTROL DIVISION

The Board of Control is comprised of two (2) sections: the Board of Control Section and the Water Division No. III General Adjudication Section. The two (2) sections under this Division are incorporated within this Board of Control Division Report.

Major Accomplishments

BOARD OF CONTROL SECTION

By

ALLAN CUNNINGHAM, ADJUDICATION OFFICER
BOARD OF CONTROL DIVISION

Objectives

1. To promptly process petitions to amend adjudicated water rights and to present these petitions for review and consideration by the Board of Control.
2. To maintain and update the status of all adjudicated water right records to accurately reflect their current status.
3. To continuously evaluate the productivity of staff efforts in addressing the current workload.
4. To respond to inquiries by the public, as well as State and Federal agencies, regarding the current status of adjudicated water rights, and to give instructions and assist appropriators on the methods, procedures and format for filing a petition with the Board of Control.
5. To provide technical and administrative support to the Board of Control members in matters concerning the evaluation of both surface and ground water rights and water administration.
6. To prepare and forward proofs of appropriation for surface and ground water uses to the Division Superintendents for field processing and recommendation.
7. To comply with statutory requirements and publish a tabulation of adjudicated water rights for the four (4) Water Divisions.

Accomplishments

During this reporting period the Board received 148 petitions from throughout the State in addition to those already on the agenda. These new petitions are listed by division as follows:

	SURFACE	GROUND	TOTAL
DIVISION NO. 1	22	12	34
DIVISION NO. 2	30	3	33
DIVISION NO. 3	16	10	26
DIVISION NO. 4	<u>52</u>	<u>3</u>	<u>55</u>
TOTAL	120	28	148

Final action was taken on a total of 159 petitions, which were either granted, denied or dismissed. Some of the petitions were carried over from the previous reporting period to allow for the resolution of technical, engineering and legal problems, and in some cases for public hearings. The petitions dealt with by the Board of Control ranged from those with simple issues such as a change of point of diversion to those of a more complex nature such as change of use and declaration of abandonment.

A total of two hundred twenty-two (222) proofs of appropriation were considered by the Board of Control during this reporting period. Seventy-nine (79) of these proofs were for ground water rights (wells), and one hundred forty-three (143) were for surface water rights. In addition to these two hundred five (222) proofs, forty-six (46) stock reservoirs were inspected and found to be constructed within the terms of the permit. Under existing Board of Control policy, these permits will be finalized, and a notation made in the water rights tabulation books, but no certificate of construction issued.

This reporting period also saw the continuation of a major petition undertaking on Smith's Fork Creek and its tributaries. This effort will entail the amending of some 70 water rights to agree with the actual situation on the ground ranging from changes of point of diversion to complex changes of place of use.

Problem Areas

Wyoming Statute 41-4-208, 1977, requires that the Board of Control compile and edit revised tabulations of adjudicated water rights for all four (4) water divisions of the State. There is a constant demand for these tabulations from engineers, land surveyors, government agencies, and the public; however, inadequate funding has prevented the Board of Control from adequately publishing these tabulations for distribution.

Due to Judge Hartman's pending retirement in April 2003, the Tabulation of Adjudicated Water Rights for Division No. III must be published by April 2002. This April 2002 deadline will place additional work and additional time constraints on all State Board of Control staff within the Cheyenne Division. A committee of all interested divisions within the State Engineer's staff has been created and a schedule devised with the goal of a new Division III Tabulation of Adjudicated Water Rights to Judge Hartman by April 2002. The creation of the new Division III Tabulation of Adjudicated Water Rights will be done using a newly created database. This new database must be proofed for accuracy before the Tabulation can be printed. The majority of the task of proofing this database has been delegated to the Board's staff, which will hamper its effectiveness and productivity with normal Board tasks.

The technical staff continues to strive for a complete comprehensive review that each petition deserves. Computer technology has been a great asset in assisting the Board's staff in developing ways of doing more with less. Applications such as word processing and report keeping have made positive strides toward greater effectiveness and production due in large part to the utilization of the computer to its capacity. Although better and faster computers are making some procedures more efficient, ultimately the computer cannot replace the analysis and research capabilities performed by the technical staff.

SPECIAL PROJECTS DIVISION

By

NANCY D. MCCANN
ADMINISTRATOR

This Special Projects report is comprised of four main programs: the Big Horn General Adjudication lawsuit within Water Division No. 3; the Microfilm Department; the Wyoming Water Library and the GIS (Geographic Information Systems) Projects Team.

Big Horn General Adjudication

W.S. 1-37-106, General Adjudication Statute, gave authorization to initiate the process through a judicial determination of the rights to use water of all persons on any river system. Subsequently in 1977, the State filed suit for the determination of water rights in the Big Horn River system and all other sources.

"It is anticipated that this adjudication will be finally concluded, excepting appeals to appellate courts, by or before December 31, 1988. The parties should make every effort to meet this goal."

—Judge Alan B. Johnson, District Judge, Fifth Judicial District,
1985

It is not an affront to his intelligence that the Judge could not foresee the tremendous complexity and consumption of human effort required by this case. By 1992, it became painfully evident that all parties had grossly underestimated the demands of the adjudication. And now more than 10 years after Judge Johnson's predicted conclusion, although completion is within sight, we are still far away.

Judge Hartman has expressed more than once his desire to see the adjudication wrapped up by April 2003. Remaining legal issues and their attendant factual matters include appurtenancy of fee land reserved rights and final decision on Walton right claims as decided by the District Court. There are also numerous technical or administrative tasks that must be accomplished as each decision is handed down. Some of these are ordered by the court (e.g., cancellation of underlying state rights where reserved rights were awarded) while others are necessary functions to maintain proper records at the State Engineers Office (e.g., incorporating decreed rights in the Division 3 tabulation book). Lastly, there is a

desire to have a document that wraps up all phases of the adjudication — a final decree. In preparation of the next biennium and in keeping with the 2003 goal of the district court, the staff developed a comprehensive plan for the Big Horn General Adjudication. **Implementation of the plan began September 1999. The plan continues and is moving the project forward. Details of the plan are available and results are shown here in this report.**

General History, Past Accomplishments and Present Condition

The official birth date of the adjudication is January 24, 1977, when Wyoming filed its complaint in the District Court of the Fifth Judicial District. The case was filed two days after enactment of Wyoming's adjudication statute in an attempt to provide the state with further security and jurisdiction over potential federal claims for water. By far the most impressive claims and complex issues concerned the Wind River Tribes, who submitted federal reserved right claims for 739,000 acre-feet of water for numerous uses. The largest claim was for irrigation of 147,111 acres of historically irrigated and future projects lands, equaling a total diversion requirement of 708,058 acre-feet.

Trial for Tribal reserved rights (Phase I) was completed in December 1981, with the subsequent district court decisions ending in 1985. The Wyoming Supreme Court entered its first judgment and decree (*Big Horn I*) in 1988, awarding the Tribes nearly 500,000 acre-feet of water for irrigation uses only: 290,490 acre-feet for 54,216 acres of historically irrigated land and 209,372 acre-feet for 53,760 acres of future irrigation project lands. The United States Supreme Court affirmed the decision in 1989. A pending Consent Decree will establish appurtenancy to 28,137 acres and 157,668 acre-feet of 1868 rights, about 63 percent of the current in-use reserved right award.

In late 1988, the State Engineer's Office (SEO) began the court-ordered task of canceling all state rights that overlapped awarded federal reserved rights in Phase I. This effort required the dissection of the decree into 1,351 individual tracts of land, and development of databases. It also included the detailed analysis of over 800 adjudicated and unadjudicated water rights. Tabulation and mapping of each of these components was necessary to ensure accurate analysis and documentation of the reserved rights. This analysis ultimately required countless SEO staff hours to revise all affected state records, and notify hundreds of landowners whose water rights have changed. In conjunction with review by other parties and hearings before the court, this endeavor took seven years; there are still adjustments to be made due to interactions and conflicts with Phase III.

In the meantime, non-Tribal federal reserved rights (Phase II) were settled rather quickly, with a Partial Interlocutory Decree entered in early 1983. This document contains a potpourri of tables listing innumerable claims for stock ponds, instream flows, seeps, springs, wells and domestic uses that were never verified before entering the decree. The State and all other parties to the case were aware of this at settlement, and that substantiation of those claims was necessary before a final

decree could be completed. Proof of those claims has trickled in since 1994 and the Surface Water Division, in addition to their daily responsibilities, has processed some 700 claims. The previous backlog was caught up using existing staff resources working overtime. The staff still awaits more claims (approximately 800) from the Forest Service. At the time of this writing, no more claims have been received from the Forest Service.

Phase III involves the fate of existing state rights. Field inspections to determine whether state permitted lands should be adjudicated or eliminated were initiated in the late 1980s and is nearing completion. Of the nearly 4,000 permits examined, less than 15 remain to be investigated in the field. The Division 3 staff has reviewed and reported to the Court some 3,200 permits. Recent amendment to Phase III procedures has allowed the SEO to more efficiently handle review of large irrigation projects, but the process still requires on-the-ground verification. Aged reports—those that have a 5-year gap between fieldwork and reporting—are often sent back by the Court for reinvestigation due to ownership changes.

The portion of the adjudication concerning the so-called Walton rights (successor rights to Indian allottee federal reserved rights) includes claims dating back to 1982. Walton rights are actually a part of Phase I. As the "technical arm of the court," the SEO was required to investigate 423 claims. An affirmative decision on a Motion for Summary Judgment concerning claims that did not stem from an allotment, as well as withdrawal by several claimants, reduced the caseload to 256 claims. These remaining claims required field inspections and records research, providing the Court with a factual account on each claim. Since the Tribes contested every claim, the State was obliged to participate in settlement of claims and review all analyses performed by the Tribes' technical experts. The State also took the lead role in contesting Tribal Walton claims for additional 1868 water and administrative issues contradictory to the law of the case that threatened the State Engineer's current role as administrator of all water in Wyoming. The District Court's decision on the final group of claimants and administrative issues did not arrive until August 2000. Pending during this next biennium is the decision from the Wyoming Supreme Court on the "tacking" issue related to the lower court's Walton Decision.

Quantification of ground water uses by the Tribes and off-reservation is nearing completion, too. A list of Tribal wells and ground water uses was submitted to the district court and a decision is pending. Non-Indian ground water use is part of Phase III and was completed in 1996. Over 7,730 stock and domestic wells and 742 larger wells for irrigation, municipal and other uses were reported to the court. This effort required 543 field inspections, resulting in the issuance of over 500 Certificates of Record.

The judicial decisions have set off, and will continue to necessitate, an extraordinary amount of administrative and technical activities that the court required the state to undertake at its own expense.

What lies before us

Each phase of the adjudication is in a different stage of completion. An action plan has been used to assist in securing necessary budget and personnel, and to facilitate logistics. There are numerous activities already underway that need finalization, and new tasks that we anticipate beginning this year.

Current Accomplishments

Phase I - Walton Claims

From the 423 original Walton claims that were filed in 1992, 149 were disposed of by the Wyoming Supreme Court in *Big Horn V*, leaving 274 claims that were "Purist" claims derived from allotments. This year's efforts continued with settlement of the remaining Walton claims which included review and analysis of proposed prehearing memorandums, findings of fact and conclusions of law and the Special Master's Reports and Recommendations. In addition to settlement of the facts, extensive work was completed on mapping the location of the proposed settled award for each Walton claim.

Legal briefing on the global legal issues was completed in late 1998. These legal issues are: a) whether federal or state law control the perfected Walton right; b) ownership of the water if the Walton right is abandoned; c) the water duty of the perfected Walton right; d) whether the perfected Walton right is appurtenant to the land; and e) administration of a perfected Walton right. The District Court issued its decision on Walton. The Walton right award overlap of underlying state rights will need to be performed in the next biennium subsequent to the receipt of the Wyoming Supreme Court's decision on "tacking". Final workable databases and maps for SEO records and use need to be developed.

Phase I — Tribal reserved rights

Complementing the legal aspects of Walton is another legal effort driven by several appropriators seeking appurtenance of the tribal reserved rights. Tribal reserved rights have already been determined. The Consent Decree regarding appurtenance of 1868 rights for allotted and fee lands was issued by the district court. The results of this decree will require correction of state records, recording the "permanent rights" at county offices, and database modifications. Current data quality needs to be reviewed to assure products for office and field use are accurate and available. Final workable databases and maps for SEO records and use need to be developed. The final decision from the court is expected during the next reporting period.

Phase I - Tribe's Groundwater Quantification

On October 16, 1992, the District Court ordered the Tribes to identify and quantify their 1985 ground water uses awarded by the Supreme Court. The Tribes were required to submit a list to the Court by April 1994, but were granted several extensions. In February 1999, the District Court ordered the Tribes to submit to the State documentation and information necessary for the State to make their recommendations on the wells consistent with the 1992 Order. The tribes submitted their final identification of ground water wells in August 1999 and the State filed its recommendation in September 1999. In January 2000, the Tribes, the State and the United States executed a Settlement Stipulation relating globally to all the affected groundwater rights. Final personal notice and public notice was given in this biennium. It is anticipated that a final report will be submitted to the court by the end of this calendar year.

Phase II - Federal (non-Indian) Reserved Water Rights

Requests from the federal agencies to delete specific water rights from the decree continue to filter into the staff. A determination has been made by the parties as well as the Court, to submit a complete revision of the Phase II Interlocutory Decree. The staff responsibility will continue to increase during the analysis of the decree in order to provide the revised decree to the Court. Due to past turnover at the Forest Service and the lack of funding (federal) for staff resources, the submission of 800 recordation permits will be delayed. This submission will impact the Surface and Ground Water Sections, and the Big Horn Adjudication staff. At the time of this writing, no claims have been submitted by the Forest Service, but we are hopeful that these permits will be submitted during the next biennium.

Phase III - Surface Water

Using the May 19, 1997 amended Court procedures; the staff persists at a consistent pace with the comprehensive review of all unadjudicated State water rights in Water Division III.

The field staff and the Tribes continue to jointly inspect the State permits located within the exterior boundaries of the WRIR. This includes all unadjudicated permits located either on Tribal or non-Indian lands. The joint inspections are proceeding in a timely fashion. The field personnel obtained ownership information, then scheduled on the ground inspections with individual appropriators, then conducted and prepared a detailed inspection report for 12 permits including 1 reinspection.

The District Court increased the responsibility of the staff on July 26, 1993, due to the resignation of the Special Master. The staff continues reporting to the court and is responsible for all uncontested cases in place of the Special Master in order to alleviate the burden on the Court. In addition, the staff participated in pre-hearing conferences to provide clarification and assistance in resolving disputes.

These efforts, put forth by the staff, resolved the issues of concern and avoided the necessity for any hearings before the Court during this biennium. 160 surface water permits were reported to the District Court. Certificates of Appropriation issued from Court Orders totaled 32.

Phase III - Ground Water

During this period, the efforts of the staff continued by reporting 7 ground water permits to the District Court. The staff also prepared a total of 12 Certificates of Appropriation of Ground Water to be recorded in the county clerk's office.

Problem Areas

Continuous efforts are being made after the Court orders are issued to integrate the decreed rights into the State Engineer records. This integration process involves a lengthy, detailed update of the actual permit records, stream cards, township cards, certificates being issued, amended and canceled, updates of the computer water rights database, microfilm all records involved, and so on. This process has impacted the flow of work throughout the State Engineer's office.

Recommendations

The staff will continue their dedication, hard work and patience while dealing with the appropriators and all parties involved in this complex water case.

MICROFILM DEPARTMENT

Objectives

The objective of this department is to provide high quality, up-to-date microfilm services to the entire agency and to the general public upon request. The types of information stored on the State Engineer Office's microfilm include water use permits, certificates of appropriation, maps, correspondence, order records, petitions, stream index cards, and entry records books.

Accomplishments

The staff continued to keep up the current/update workload generated by each of the sections of the State Engineer's Office. There has been a significant increase in coal bed methane permits (1,000 per month) filed in the State Engineer's Office, resulting in the same increase occurring in the microfilming of the CBM permits.

The average production by the existing staff completed 319,537 film shots on 41,319 permits and 1,230 certificates. A fiche duplicate was made for every permit that received microfilming.

The process of upgrading the deteriorating and poor quality film/fiche began in the spring of 1996 with the existing staff. When funding was received for the upgrade, contract staff was hired to focus on the ditches, enlargements, reservoirs and stock reservoirs - all of which are complete. Ground Water upgrade began in July 2000 and will continue through June 30, 2002.

Other special projects completed by the Microfilm section include: the filming of surface water line and paper plat maps, all Interlocutory Decree books and the latest Minute and Order Records books for the Board of Control, and the 1997 and 1998 Operator Certificates.

Funding became available two bienniums ago to research preservation techniques and conduct a pilot project for State Engineer's Office and Board of Control's original records and maps. Additional funding for this biennium was appropriated by the legislature to continue preservation efforts. The preservation committee will continue to research and deal with the issues of records preservation. Over 400 high priority water right maps were encapsulated this reporting period for a total of 2,441 maps to date. Records and preservation management is being evaluated as a solution to the State Engineer's Office space issues.

Problem Areas

A disaster could eliminate the original records, microfilm and the fiche copies. The State Engineer's Office has no approved and final disaster recovery plan. In the event of a disaster, many years would be required to reconstruct the records using microfilm from thousands of rolls of film that are currently stored by Archives. The State Engineer's Office is quickly outgrowing its existing space due to the inflow of new permits and their associated maps. Additional space will need to be addressed in the coming biennium.

WYOMING WATER LIBRARY

Wyoming Statute 41-1-102 authorized the establishment of a library of water resources to be housed in the office of the State Engineer. There is no specific funding source for the library. One time funding for equipment was allocated to the State Engineer's Office from a Water Development Commission grant in accordance with the terms of the consortium memorandum of understanding. The State Engineer's Office is currently evaluating the rate of usage of the library and the amount of duplicate materials housed in the library. The mission of the Wyoming Water Library is to provide ready access to water-related materials and governmental planning documents related to natural resource management for government agencies and the general public. The Wyoming Water Library is a collection of materials related to water and environmental analysis housed in the Wyoming State Engineer's Office in the Herschler Building. It consists of materials from the State Engineer's Office, Water Development Commission, the defunct state government offices of the Economic Development and Stabilization Board

and Governor's Planning Office and special collections. Clienteles to be served include 1) members of the Wyoming Water Library Consortium and their institutions; 2) Wyoming governments and organizations; 3) Wyoming residents; and 4) all other individuals interested in water-related materials. All activity and responsibilities are carried out and specified under a memorandum of understanding signed by consortium members. The staff's activity during this past year comprised of a limited amount of time spent on identifying keywords and geographic location for data entry into the Wyoming Water Bibliography, assigning citation numbers and typing catalog cards and finally in the identification of duplicate materials in the library. The staff completed the organizing of the backlog of new library materials last reporting period, but the transfer of materials to offsite storage was completed during this reporting period.

GIS (GEOGRAPHIC INFORMATION SYSTEMS) PROJECTS

The use of GIS technology has been utilized for the identification of overlapping water rights or conflicts in water rights. In addition, GIS has been used on interstate river compact issues, primarily to aid in determining land use and the numbers of irrigated acres.

BURNT FORK PROJECT

Under Article XII Section (a) of the Upper Colorado River Basin Compact, it is stated "Waters diverted from Henry's Fork, Beaver Creek, Burnt Fork, Birch and their tributaries shall be administered without regard to the state line on the basis of an interstate priority schedule to be prepared by the states affected and approved by the Commission in conformity with the actual priority of right of use, the water requirements of land irrigated, and the acreage irrigated in connection therewith".

Over a period of the last five years, but most intensively during this last reporting period, the staff has been working with the Utah State Engineer's Office to develop a joint identification of the water rights within a basin, which will lead to the development of a water priority schedule.

During this process, it was determined that all lands and water rights involved should be mapped through the use of GIS. All Utah and Wyoming water rights have been mapped including the acreages, sources, ditches, and conflicts identified. Pending another field season and an annual meeting with the appropriators, a delivery (priority) schedule prepared and delivered to the Colorado River Commission for approval and use by both States' water administration officials.

WIND RIVER PROJECT

The staff continues to refine and upgrade this project in order to integrate "Walton claims". The Walton mapping project overlays the Wind River GIS project. The staff completed draft Walton award maps and began the process for overlap maps

identifying the conflicts with the Tribes' Reserved Right and State Permitted Rights for Walton.

WYOMING GEOGRAPHIC ADVISORY INFORMATION COUNCIL (WGIAC)

The staff continues to participate as a voting member of the WGIAC and also participates on many subcommittees of WGIAC. The staff participated in the annual GIS demo for the legislature and the public. The staff also coordinated the state's first remote sensing workshop – which brought counties, state agencies and federal agencies to the workshop.

The staff also assisted the Governor on statewide GIS policy and provided the Governor's Office with technical support on GIS.

WILLOW CREEK PROJECT

This project is located in Water Division Four and encompasses Willow Creek and its tributaries. This project was requested by the field staff to assist them in the determination of overlapping/conflicting water rights. The scope of the project (project boundary) has changed since the inception of the project resulting in the addition of 300 surface water rights. This project was forwarded to the field office for review of work completed and finalization by the field office. The completed project will be made available to the agency via the central mapping clearinghouse.

MISCELLANEOUS MAPPING PROJECTS

The staff assisted other state agencies - Department of Environmental Quality, Water Development Commission, Wyoming Highway Patrol and the Attorney General - analyze GIS information, gave technical support and data and/or prepare GIS maps for litigation.

Over the past year, the staff was also involved in obtaining GIS information from a variety of sources and providing SEO GIS data to several entities.

Based upon an office-wide (including the field offices) mapping survey completed in the last reporting period, the survey of mapping needs was used to develop an office-wide mapping plan. The survey results also provided for the identification of existing hardware/software and the need for standardization of the hardware/software needed to fill mapping needs. One complete mapping set-up has been made available for each of the four field offices. Training in the use of mapping software was given to Cheyenne office and field staff. In the next biennium, it is expected that mapping training will be made part of the annual technology training in the SEO.

LEGAL ACTIVITIES
By
The Attorney General's Office

NORTH PLATTE LITIGATION

A Brief overview of history of litigation:

Nebraska filed suit against Wyoming in 1986 seeking to enjoin the construction of Deer Creek Dam. Nebraska also complained of the operation of Grayrocks Reservoir on the Laramie River, and asserted that Wyoming was attempting to prevent the Bureau of Reclamation from diverting North Platte River waters for storage in the Inland Lakes in Nebraska.

Wyoming filed a counterclaim alleging that Nebraska was demanding natural flow water in excess of beneficial use requirements. Wyoming also asserted that Nebraska was violating the Decree by demanding natural flow and storage water from sources above Tri-State Dam and by-passing such flows for uses below Tri-State Dam. Wyoming's final counterclaim related to Nebraska's use of Glendo Reservoir water outside of the North Platte Basin and for other than irrigation purposes.

Wyoming, Nebraska, Colorado and the United States filed cross motions for summary judgment in 1991. The United States Supreme Court ruled on those motions in 1993. (*Nebraska v. Wyoming*, 507 U.S. 584 (1993)). Before deciding the motions for summary judgment, however, the Court analyzed Nebraska's claims to determine whether they involved application for *enforcement* of rights already recognized in the decree, or whether Nebraska sought to *modify* the decree. *Nebraska v. Wyoming*, 507 U.S. at 590.

Using the foregoing defined context, the Court concluded that, because Nebraska had no pre-existing right recognized by the Decree with regard to the Laramie River and the tributaries that enter the river below Pathfinder Reservoir (i.e., Deer Creek), Nebraska was seeking to modify the Decree. The Court then defined the burden of proof, and explained that the Decree would not be modified unless Nebraska could establish by clear and convincing evidence that it would suffer substantial injury as a result of Wyoming's Laramie River and tributary use.

The Court also concluded that, commensurate with the North Platte Project, the Inland Lakes enjoy a 1904 priority. Therefore, the Bureau may continue to rely upon the 1904 priority to release certain flows for Inland Lakes storage during the non-irrigation season.

Finally, the Court held that the parties' claims with regard to the below-Tri-State issues were too theoretical and insufficiently developed to be susceptible of

summary resolution. The Court did conclude that the Decree does not impose absolute ceilings on diversions by those canals that divert between Whalen Dam and Tri-State Dam, and granted Nebraska partial summary judgment on that issue.

Both Wyoming and Nebraska sought leave to amend their pleadings in 1994. The Court ruled upon those motions in *Nebraska v. Wyoming*, 515 U.S. 1 (1995). The Court accepted Nebraska's claims related to the Laramie River, Wyoming's development on the tributaries that enter the mainstem below Pathfinder Reservoir, Wyoming's groundwater development, and Wyoming's use of Horse Creek. The Court concluded that Nebraska could seek to modify the Decree to add injunctions against Wyoming related to those matters, but that it must meet the higher burden of proving substantial injury by clear and convincing evidence. The Court also held that there would be a full weighing of the equities before the Decree would be modified. The Court rejected Nebraska's call for a year-round apportionment.

The Court also accepted Wyoming's counterclaims and cross-claims as they related to the by-pass of flows below Tri-State Dam in circumvention of the Decree, conveyance loss calculations, Glendo Reservoir use, Warren Act compliance, and apportionment of flows during allocation years. The Court refused to accept Wyoming's request that a beneficial use limitation be imposed against Nebraska.

Because Nebraska's affirmative case disclosure departed dramatically from the modification case accepted by the Supreme Court, Wyoming filed motions to dismiss and for summary judgment (essentially in the alternative) in October, 1998. Those motions, which were supported by Colorado and the United States, requested the Special Master to confirm that Nebraska's remaining claims sought to modify, not enforce, the Decree. Wyoming also requested dismissal of Nebraska's purported enforcement claims. Wyoming's position was that the Supreme Court defined Nebraska's claims and related burden of proof in the 1993 and 1995 opinions. Nebraska alleged in response that its amended petition sought an order modifying the Decree to impose new injunctions designed to carry out the "predicate" of the apportionment, or "in aid of the apportionment," and that the Court did not determine the appropriate burden of proof for such a claim in either its 1993 or 1995 opinions.

On May 7, 1999, the Master issued the Eighteenth Memorandum denying Wyoming's motion on the technical ground that the enforcement claims that Wyoming sought to have dismissed were not pled in Nebraska's amended petition over which the Court accepted jurisdiction in the 1995 opinion, but rather constituted Nebraska's anticipated legal theory. However, the Master read Wyoming's motion to dismiss as, in part, "a cry for help" related to Nebraska's continuously changing theories. The Master responded by stating that, with the possible exception of Wyoming's groundwater pumping that withdrew irrigation water directly from the apportioned reach of the river (between Whalen Dam and Tri-State Dam), Nebraska's case would be tried as one for modification of the Decree. The Master characterized Nebraska's arguments regarding the difference between the

"predicate" of the apportionment and a claim for modification of the apportionment itself as a distinction without a difference. In either event, the Master held that because Nebraska sought to impose new injunctions, there must be a clear and convincing showing of substantial injury upon a weighing of the equities.

Affirmative Case Disclosures:

Nebraska initially filed its Affirmative Case Disclosure on May 30, 1997. That Disclosure included a list of the expert and lay witnesses Nebraska intended to call during trial, as well as 20 expert reports prepared to support Nebraska's claims against Wyoming. Nebraska's expert witnesses hailed from such fields as agricultural engineering, economics, hydrology, history, and the environmental community. After Wyoming had conducted numerous and extensive depositions of the Nebraska experts during the fall of 1997, Nebraska sought to amend most of its expert witness reports.

Wyoming also submitted an Affirmative Case Disclosure related to its counterclaims and cross-claims. That Disclosure was submitted on May 30, 1997 and included a list of those lay and expert witnesses Wyoming intended to call during trial. Wyoming identified five expert witnesses to support its affirmative case and submitted various reports related to their specific fields of expertise, including hydrology, computer modeling, economics, and agriculture engineering. Wyoming's affirmative case was much narrower in scope than that of Nebraska.

Affirmative Discovery:

Wyoming began depositions of Nebraska's expert and lay witnesses in August, 1997. Those depositions took place on an approximate weekly basis until mid-December. Discovery was then delayed for a period of time to allow Nebraska's experts to amend their reports. Wyoming completed its discovery of Nebraska's expert witnesses in April, 1998.

Nebraska's discovery of Wyoming's affirmative case proceeded concurrently with Wyoming's discovery of Nebraska's claims. Nebraska completed the depositions of Wyoming's witnesses in April, 1998.

Defensive Case Disclosures:

1. Wyoming's Filing (July 24, 1998)

Wyoming submitted its Defensive Case Disclosure on July 24, 1998. The purpose of that Disclosure was to provide a rebuttal to Nebraska's affirmative claims. Wyoming identified 23 expert witnesses, submitted 26 expert reports and identified those lay witnesses that it intended to call at trial.

2. Nebraska's Filing (July 24, 1998 and August 31, 1998)

On June 29, 1998, Nebraska filed a motion to strike several of Wyoming's affirmative case expert reports on the grounds that they did not support Wyoming's counterclaims as accepted by the Supreme Court. The Master subsequently denied Nebraska's motion, but allowed Nebraska until August 31, 1998 to submit a defensive disclosure in response to the subject reports. Consequently, Nebraska filed its Defensive Case Disclosure in two phases. Nebraska submitted four expert witness reports on July 24, 1998, and four on August 31, 1998. Nebraska identified a total of eight expert witnesses to oppose Wyoming's counterclaims.

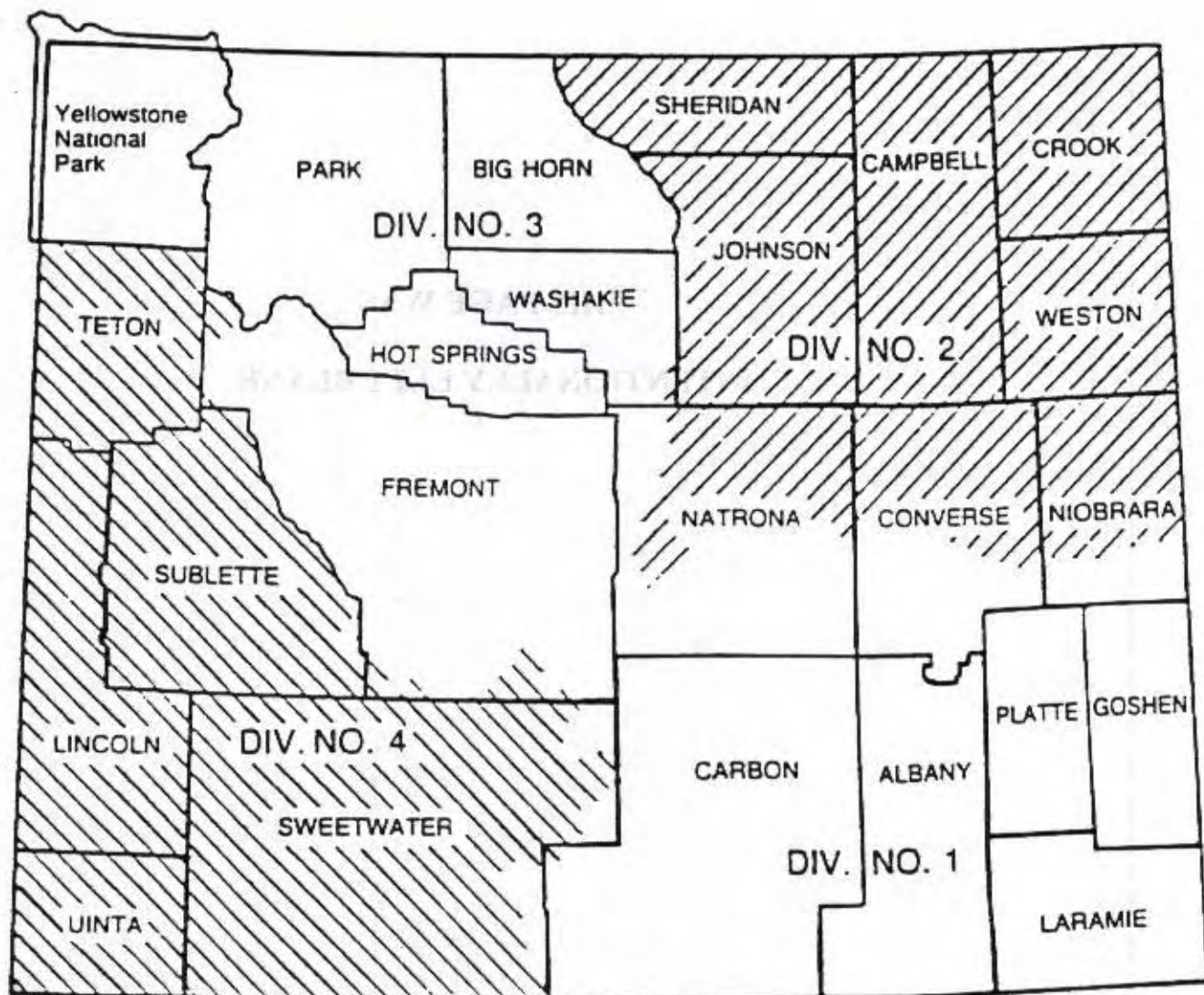
Nebraska's Defensive Discovery

According to the Fourth Pretrial Order, the time period for discovery of the parties' Defensive Case Disclosures began on July 24, 1998. Discovery was to be completed by January 12, 1999. However, on November 23, 1998, Nebraska filed a motion for extension requesting additional time to complete discovery of Wyoming's defensive case. By Order of January 6, 1999, the Special Master extended the defensive discovery period to June 11, 1999.

On January 13, 1999, Nebraska served 30 Requests for Production of Documents on Wyoming's expert witnesses. Beginning on February 17, 1999, Wyoming produced over 200 boxes of documents to Nebraska in a five week period at five separate locations.

Nebraska took the first deposition of Wyoming's expert witnesses on April 8, 1999. Depositions were scheduled for every week until the deadline of June 30, 1999 (The Master extended the deadline *sua sponte* by two weeks due to the briefing schedules of various motions.) However, on May 27, 1999, Nebraska filed a Motion for Extension of Time within which to complete discovery, to consider technical agreements on basic data and to facilitate discussion of a final negotiated settlement. In its motion, Nebraska requested to depose an additional 33 lay witnesses. Wyoming did not oppose a reasonable extension to complete the discovery of Wyoming's expert witnesses, but opposed Nebraska's request to depose the additional lay witnesses. The Special Master granted Nebraska's motion on June 3, 1999 and discovery was extended accordingly.

Among the additional depositions scheduled by Nebraska were of certain water users in the Hanna, Saratoga, and Lander areas. Nebraska also took the deposition of irrigation district managers in Wheatland and Goshen County. In addition, Nebraska deposed the University of Wyoming extension service agents from Albany, Carbon, and Platte Counties.



Wyoming Water Divisions

Wyoming's Defensive Discovery

Wyoming deposed approximately 20 irrigators in Western Nebraska on Feb. 2nd - 3rd, 16th - 18th, and 22nd of 1999. Wyoming requested the production of certain documents related to Nebraska's expert witnesses. A document production was held in Santa Fe, New Mexico on April 13, 1999. Wyoming also took the deposition of one of Nebraska's expert witnesses, Mr. Gene Franzoy, on April 29th and 30th of 1999 in Tempe, Arizona.

Pre-Trial Order Deadlines

A status conference was held in Pasadena, California on September 30, 1999 to develop a Final Pretrial Order. The Final Pretrial Order was issued by the Special Master with his Nineteenth Memorandum on November 1, 1999. The Order covers many topics, including jurisdiction and scope of the case, party status, *amici curiae*, a brief history of past deadlines, status conference dates, and the trial preparation that remained. The following dates were set out as deadlines to govern the parties' remaining trial preparation:

- | | |
|-------------------|--|
| December 3, 1999 | Basin Electric's additional discovery ends |
| January 20, 2000 | Joint Exhibits, Statement of Uncontested Facts, and Statement of Stipulated Data due |
| February 10, 2000 | Final Witness Lists and Final Expert Witness Reports due |
| March 10, 2000 | Phase I Materials Due |
| March 13, 2000 | Parties will Confer as to any Objections to Final Expert Reports |
| March 17, 2000 | Pretrial Statements due |
| March 20, 2000 | Notice of Objection to Final Expert Reports due |
| March 24, 2000 | Legal Memoranda
Any Objection by Wyoming to Nebraska's Deposition Designation |
| April 10, 2000 | Final Expert Reports filed under Seal with the Special Master |
| April 14, 2000 | Pretrial Motions due |
| April 19, 2000 | Final Pretrial Conference in Pasadena, California |

May 10, 2000

Trial Commences in Pasadena, California

In addition to the above dates, the Special Master identified the trial segments that would be used for presentation of Nebraska's affirmative case at trial:

- Phase 1 Physical/administrative system;
- Phase 2 Original litigation
- Phase 3 Post-Decree increases in consumptive use in Wyoming below Guernsey Reservoir
- Phase 4 Post-Decree increases in consumptive use in Wyoming above Guernsey Reservoir
- Phase 5 Depletion of natural flow and related hydrologic effects; and
- Phase 6 Impacts on Nebraska

The Final Pretrial Order required that exhibits be provided to the other parties sixty days in advance of each trial segment. Responsive exhibits to be used for cross-examination were required to be filed thirty days before each trial segment. The Final Pretrial Order also included provisions for resolving objections to another party's exhibits.

Negotiations and Settlement:

1. Stipulations

The parties filed four settlement stipulations with the Special Master in September, 1997. Briefly described, they are as follows:

a. Reservoir Storage Above Pathfinder: The parties have settled the issues related to Wyoming's accounting of water stored in the reservoirs above Pathfinder Reservoir (pursuant to Paragraph II(b) of the Decree). Recognizing the expense associated with installing continuous recording devices to measure storage in all of the reservoirs, the parties agreed that Wyoming will be required to install measuring devices on only the eight (8) largest reservoirs. Wyoming will continue to estimate the storage in those reservoirs that have a capacity in excess of 25 acre feet, but are not one of the eight (8) largest.

b. Glendo Reservoir Uses: The parties agreed to lift the geographic restrictions that were included in Paragraph XVII of the 1945 Decree, as Amended in 1953. They also agreed that Glendo Reservoir water may be

used for fish and wildlife purposes.

c. **Pathfinder Modification:** This stipulation relates to the Pathfinder Modification Project that will increase the capacity of the existing reservoir by approximately 54,000 acre feet to recapture storage space lost to sediment. Approximately 34,000 acre feet of the proposed 54,000 acre feet modification would be accounted for in an environmental account and operated for the benefit of endangered and threatened species and their habitat in Central Nebraska. Wyoming will have the right to use the remaining 20,000 acre feet of the modification capacity to provide municipal water to North Platte communities.

d. **River Carriage Loss Calculations:** The parties also settled the issues related to historical accounting of river carriage losses. The parties agreed to different values for the carriage losses to be used in the daily accounting.

After negotiations between the parties ended in the spring of 1997, Wyoming and the United States continued to discuss possible settlement of Wyoming's cross-claims. Through that process, they agreed to settle Wyoming's claims related to the Bureau of Reclamation's allocation-year procedures. They also entered into an agreement related to Wyoming's groundwater development and use. As a result, Wyoming agreed to dismiss its cross-claims against the Bureau.

The allocation and groundwater stipulations were provided to the other parties at the end of March, 1998. Colorado took no position on either stipulation, as they do not impact its apportionment. Nebraska agreed to join the allocation stipulation. Nebraska refused to become a signatory to the groundwater agreement. The Stipulation Among the State of Wyoming, the State of Nebraska, and the United States Relating to the Allocation of Water During Periods of Shortage was filed with the Special Master on December 23, 1998.

e. **Allocation Stipulation:** The parties have agreed to a manner of allocation during water-short years that is based upon a fixed percentage of water being apportioned to both Wyoming and Nebraska. Under this stipulation, the parties have identified what sources of the water that will be divided and agreed to combine natural flow and storage water in allocation years for purposes of dividing the water. The percentage division grants Wyoming 18.5% of the calculated flows, and grants 81.5% to Nebraska. This stipulation also allows for creation of limited carry-over accounts in an effort to encourage conservation.

f. **Groundwater Stipulation:** This stipulation confirmed the United State's position that the Decree does not enjoin Wyoming's groundwater development and that any relief can only be granted by modification of the

Decree. The stipulation relates to groundwater irrigation wells with priority dates after February 18, 1994 (which was when Nebraska first requested the Court to enjoin Wyoming's groundwater use). The wells included in this stipulation are those located in the area between 1,000 feet north of the Interstate Canal and 300 feet south of the Ft. Laramie Canal between Whalen Dam and the State Line. The wells would not be regulated until after the first release of storage from Guernsey or Glendo Reservoirs during the May 1 through September 30 irrigation season. Depletions to the North Platte River are assumed to equal 50% of the water pumped and the depletions are assumed to occur simultaneously with the pumpage. Wyoming is required to replace the calculated 50% depletion value.

2. Negotiations

Nebraska, Wyoming and the United States began another round of negotiations in July, 1999. A new approach was adopted for this round of settlement discussions. Nebraska, Wyoming and the United States each sent two negotiators to the meetings, with no lawyers present. The "Gang of 6" met on a regular basis throughout the period from July, 1999 forward.

Late on May 9, 2000, the parties reached an agreement in principle on the remaining litigation issues. Although opening statements had been scheduled for May 10, 2000, the parties actually used that day to inform the Special Master that a tentative agreement on the principles had been reached. The Special Master issued a stay of the proceedings until December 1, 2000 to allow the parties to prepare the final settlement documents.

The parties held numerous negotiations sessions and conference calls between July 1, 2000 and March, 2001 to finalize the details of the settlement agreement. On March 15, 2001 the parties presented Special Master Owen Olpin with the proposed Joint Settlement Agreement. That Agreement is made up of the following documents:

Final Settlement Stipulation

Appendix A:	Modified North Platte Decree
Appendix B:	Redline/Strikeout Version of the North Platte Decree (comparison of 1945 Decree [as modified on June 15, 1953], and the Modified Decree)
Appendix C:	Stipulation – Amendment of the 1953 Order to provide for Use of Glendo Storage Water
Appendix D:	Stipulation – Procedure for 1945 Decree Paragraph II(b) Storage Accounting (now Paragraph II(e) of the Modified Decree)
Appendix E:	Stipulation Among the State of Wyoming, the State of Nebraska, and the United States

Relating to the Allocation of Water During
Periods of Shortage

Appendix F: Amended Stipulation – Amendment of the 1953
Order to Provide for the Modification of
Pathfinder Reservoir

Appendix G: North Platte Decree Committee Charter

The North Platte Decree Committee (NPDC) "is established by the
States of Nebraska, Wyoming, and Colorado, and the United States
of America to assist in monitoring, administering, and implementing
the Modified North Platte Decree and the Final Settlement Stipulation
dated March 13, 2001." Charter at 1. Attached to the NPDC Charter
are the following documents and procedures:

- Exhibit 1: NPDC Representatives' Mailing Addresses
- Exhibit 2: North Platte River Ownership and Natural Flow
Accounting Procedures for Water Year 2000
- Exhibit 3: Water Administration of the Lower Laramie River
System Relating to Basin Electric Power
Cooperative's Water Rights
- Exhibit 4: Procedure for Administration Upstream of
Guernsey Reservoir Acreage Accounting
- Exhibit 5: Procedure for Administration Upstream of
Guernsey Reservoir During Allocation Years
- Exhibit 6: Procedure for Consumptive Use Accounting
- Exhibit 7: Procedure to Eliminate Negative Natural Flow
Upon Occurrence
- Exhibit 8: Procedure for Reservoir and Storage Right
Evaporation Losses
- Exhibit 9: Procedure for River Carriage (Conveyance)
Losses
- Exhibit 10: Procedure for Whalen Diversion Dam to the
State Line Reach Administration of Irrigation
Ground Water Rights
- Exhibit 11: Procedure for Whalen Diversion Dam to the
State Line Reach Administration of Surface
Water Rights from Tributaries and Drains
- Exhibit 12: Procedure for Lower Laramie River Basin
Acreage Accounting
- Exhibit 13: Procedure for Reporting Post-2000 Irrigation
Wells Within Wheatland Irrigation District
- Exhibit 14: Procedure for Reporting New Municipal,
Industrial, and Export Permits
- Exhibit 15: Procedure for Reporting Permits for New Dams,
Enlargements or Groundwater Recharge

Projects

A hearing to brief the Special Master on the settlement agreement was held in Las Vegas, Nevada on April 12th and 13th, 2001. The Special Master distributed a draft Final Report to the U.S. Supreme Court to the parties for their review in late June, 2001. A hearing to discuss the Special Master's draft Final Report is scheduled for July 16th, 2001 in Denver, Colorado.

BIG HORN RIVER GENERAL STREAM ADJUDICATION

Walton Right Litigation:

After the Court initially entered its Judgment and Decree pertaining to Walton rights on March 1, 2000, the United States moved to alter or amend the decree. In response, the Court entered an order on March 30, 2000, deleting the final certification, making the decree unappealable until such time as the certification was restored. The removal of the final certification gave the parties an opportunity to stipulate to some technical changes and amendments that were necessary to correct the factual record for all of the Walton claims.

On July 14, 2000, the major parties stipulated to a tabulation of all Walton rights. The tabulation identified all Walton claims raised in the adjudication and the disposition of each claim, including whether it was awarded, denied or dismissed. For all claims that were awarded, the tabulation identified the location of the award, the number of acres, the headgate location and the water duty awarded.

Following the parties' submission of the July 14, 2000 Stipulation, on August 30, 2000, the Court entered its Amended Judgment and Decree on Walton rights, which incorporated the parties' stipulation and recertified the decree as final and appealable. From this Judgment and Decree, several individual Walton claimants timely appealed the Court's ruling with respect to a narrow legal issue referred to by the parties as the "tacking" issue.

At issue in the appeal is the question of whether certain individual Walton claimants within the BIA irrigation projects may rely on the efforts of the United States in constructing the federal irrigation project to satisfy the "reasonable time" element of a Walton right. The appellants contend that they should be able to "tack" onto the efforts of the United States in constructing canals and laterals to serve their lands to show that their lands were irrigated within a reasonable time after leaving Indian allottee ownership. The District Court ruled that only the efforts of the individual landowners (the claimants or their predecessors in title) could be counted toward reasonable time, and that the claimants could not rely on the United States project development efforts.

The Appellants include 17 individuals, all represented by Sky Phifer. The Tribes,

the United States and the State are Appellees. The United States and the Tribes affirmatively oppose the claimants' efforts to obtain Walton rights. The State has taken the position that the District Court's analysis of the tacking issue was partially flawed, and that the Supreme Court should adopt a standard which requires a particularized inquiry into the facts of each claim to determine whether it is appropriate to allow the claimant to rely on the United States project development efforts to show reasonable time. However, consistent with its longstanding posture in the case, the State has not advocated for or against a Walton right award to any particular claimant.

Briefing before the Supreme Court is in progress. Oral argument before the Supreme Court should be set sometime in the fall of 2001.

Petition for Declaration of Appurtenancy of 1868 Reserved Water Rights:

This petition, filed in June of 1998 by twelve tribal members who own lands irrigated with reserved water rights, sought to have the Court declare their reserved water rights appurtenant to their lands. A stipulation reached in 1999 between the Petitioners, the Tribes, the State and the United States sought a Consent Decree resolving the issue of appurtenancy as to all individually-owned allotted lands on which reserved water rights were awarded. This included approximately 28,400 acres of land. Notice of the Proposed Consent Decree was provided to all affected landowners by certified mail and to the public through publication. Several objections to the proposed decree were filed.

The Court held a hearing on the objections to the Consent Decree on October 3, 2000. On December 11, 2000, the Court issued a letter decision overruling all of the objections and granting the requested Consent Decree. The Court directed the parties to reform the Proposed Consent Decree to reflect the outcome of the hearing and the Court's decision letter. The parties submitted a reformed Consent Decree on January 5, 2001 and the Court signed and entered the Consent Decree on January 22, 2000. No appeal from the consent decree was taken.

Phase III Proceedings:

a. General

Phase III involves the adjudication of all state-permitted and decreed water rights. The role of the Attorney General's Office in Phase III is to handle any objections to recommendations made by the State Engineer's staff concerning the adjudication of water rights in the General Adjudication. The State Engineer's staff submits a report and recommendation to the Court concerning all permits under review in the Adjudication. If the permittee disagrees with the recommendation and objects, the objection is set for hearing before the Special Master. During the past year, a few objections were filed, however, the Attorney General's Office was able to resolve the objections informally with the objectors, without the need to proceed to a

hearing.

b. Stutzman Verified Petition

In January, 2001, John Max and Roberta Lee Stutzman filed a "Verified Petition" in the Big Horn River litigation, seeking to have certain claims to water rights within the Shoshone Irrigation Project adjudicated to their lands. The Stutzmans own irrigated lands within the Shoshone Reclamation Project, a Bureau of Reclamation Irrigation Project involving direct flow water rights from the Shoshone River and storage rights from Buffalo Bill Reservoir. The Stutzman Petition seeks, in large part, to have the Court adjudicate secondary water rights to Buffalo Bill storage water to their lands as part of Phase III of the Big Horn litigation.

After the filing of the Verified Petition, the Court sent a letter to the parties requesting briefing on two issues related to the Stutzmans' petition: (1) whether the Court had jurisdiction over the petition; and (2) whether the petition was timely. Following receipt of the Court's letter, the State called a meeting with the parties and the four irrigation districts within the Shoshone Project to determine whether there were issues that needed to be resolved concerning allocation of water from Buffalo Bill Reservoir, whether the Stutzmans' concerns were shared by the irrigation district boards, and whether some sort of relief should be fashioned to address the concerns. A meeting was held on February 23, 2001 which included representatives of the four irrigation districts, the Stutzmans, the State Engineer and Attorney General's Office, the Bureau of Reclamation and the Secretary of Interior and the Department of Justice. At the conclusion of the meeting, the irrigation district representatives indicated they would report back to their respective Boards and determine whether they had an interest in pursuing any of the Stutzmans' issues further.

To allow for the irrigation districts to meet and discuss the issues, and to allow the parties to continue a dialogue, the parties requested a series of continuances to the briefing schedule. Continuances were granted through November 11, 2001. However, to date, settlement discussions have not been productive and the irrigation districts have not expressed any interest in participating in the Stutzmans' claims.

Pre-May 15, 1985 Tribal Groundwater Uses:

The parties' January 2000 stipulation and motion for consent decree related to pre-1985 Tribal groundwater uses was provided to all affected landowners by certified mail and by publication on December 15, 2000. Affected owners of allotted and trust lands were identified and served by certified mail using BIA and Tribal records to ascertain addresses. Those whose addresses could not be ascertained were notified by publication. There were no objections to the proposed consent decree during the time provided for objections. As of this date, the Court has not

signed the proposed consent decree, however, it is expected that the Court will act in the near future to approve the document, which will fully resolve this portion of the General Adjudication.

THE BOARD OF CONTROL

Sam J. and Mona R. Scott v. John McTiernan and Donna Dubrow and the Board of Control of the State of Wyoming:

In August, 1999, the Board of Control made additional findings of fact and conclusions and issued its second order in the declaration abandonment case, *Sam J. and Mona R. Scott v. John McTiernan and Donna Dubrow and the Board of Control of the State of Wyoming*, 974 P.2d 966 (1999), which was partially remanded to the Board by the Wyoming Supreme Court. The Board found that Scott had abandoned all but 14 acres of the disputed Shallcross lands and ordered Scott to identify the irrigated lands under the territorial appropriation from Smith Creek in Sheridan County. Scott filed a timely petition for review of the Board's order to the District Court of the Fourth Judicial District in Sheridan County, Wyoming, Docket No. 99-9-43. On June 22, 2000, the district court issued its order reversing and remanding the Board's second order. The court found that Scott had abandoned 9.2 acres and that 19.6 acres of the appropriation remained on the Shallcross lands and agreed that Scott must identify the irrigated lands under the appropriation.

On July 19, 2001, McTiernan filed a notice that they were appealing the district court's decision to the Wyoming Supreme Court. The Board did not participate as a party in the ensuing action before the Wyoming Supreme Court. The court heard arguments from Scott and McTiernan on March 15, 2001.

Adah Hayes Smith Wyoming Trust and Sutherland Dows Wyoming Trust v. Cross H Ranch, Inc., Wayne Nelson, and Janice Nelson:

This matter originally came before the Board of Control in 1996 when the Smith and Dow Trusts (Trusts) filed a Petition for Detachment and Voluntary Relinquishment and Abandonment of the Northern Wyoming Land Company Appropriation. In 1997, the Board of Control dismissed the petition without prejudice. While the Trusts' petition was still pending before the Board, the Trusts filed a Complaint in Quiet Title and for Declaratory and Injunctive Relief, *Adah Hayes Smith Wyoming Trust and Sutherland Dows Wyoming Trust v. Cross H Ranch, Inc., Wayne Nelson, and Janice Nelson*, Civil Action No. Ci-97-0016, in the District Court of the Fourth Judicial District in Johnson County, Wyoming. Cross H Ranch and Nelsons (Nelsons), filed a counterclaim. Both parties sought to have the ownership of a secondary water right permit and the right to use water stored in Cloud Peak Reservoir determined by the district court.

In 1998, pursuant to the doctrine of primary jurisdiction, the district court remanded the matter to the Board. The court directed the Board to determine all factual issues in dispute between the parties, enter comprehensive findings of fact and conclusions of law and determine any other issues necessary to fully dispose of the action. In December, 1999, the Board submitted its findings of fact, conclusions of law and a recommended order to the district court. The Board found that Permit No. 21703 was a valid secondary water right attached to lands owned by Nelsons that could not be detached from the lands without the consent of the landowner in a proper proceeding before the Board. On June 27, 2000, the district court issued an order granting Nelsons' motion for summary judgment and accepting, adopting and incorporating the Board's order into the court's order.

On July 25, 2000, the Trusts appealed the district court's order to the Wyoming Supreme Court. The Trusts filed a motion for an extension of time in which to file their brief on September 26, 2000. The Trusts' motion stated that the parties met and arrived at a full and complete settlement of the matter, but that the settlement was contingent upon the Board of Control granting a petition for amendment to the records pertaining to Permit No. 21703 that would clarify and conform to the agreements reached by the parties. The Board of Control granted such a petition at its quarterly meeting on February 7, 2001.

Buford Foundation, Inc. v. Raymond P. Hunold, et al. And K.M. Reeb v. Raymond P. Hunold et al.:

In 1998, the Board of Control granted a petition for abandonment filed by Raymond P. Hunold and others against an appropriation owned by the Buford Foundation, Inc. The Buford Foundation and K. M. Reeb filed petitions for review of the Board's action, *Buford Foundation, Inc. v. Raymond P. Hunold, et al. and K. M. Reeb v. Raymond P. Hunold, et al.*, Civil Nos. 10,182 and 10,183, in the District Court of the Third Judicial District in Lincoln County, Wyoming. In 1999, Reeb and Buford filed applications for leave to present evidence, which were opposed, by Hunold and the Board. The district court denied the applications in November of 1999.

Following briefing and oral arguments from all the parties on the petitions for review, the Court issued a decision letter on February 9, 2001, followed by an order granting the petition for review. The court reversed the Board's abandonment order finding that because Hunold had not yet put his permitted water right to beneficial use, he lacked standing to bring the abandonment action. The Board issued its order reversing its original order on May 10, 2001.

Town of Afton v. State Board of Control

On August 17, 2000, the Board of Control considered a petition from the Town of Afton to change the use of its hydropower generation to "other beneficial uses" including "groundwater recharge, recreation, aesthetics, enhancement of tourism, fisheries propagation, preservation of riparian habitat and aquatic biology in and

along Swift Creek, and preservation of wildlife." The petition stated that, "The place of use will be within the natural water course running parallel to the existing penstocks and in the existing reservoirs on Swift Creek." On October 16, 2000, the Board entered its order on the petition finding that "the uses as described in the amended petition...are instream flows. Since no person other than the State of Wyoming shall own any instream flow water right (Wyo. Stat. § 41-3-1002(e)), the State Board of Control voted to deny the petition."

The Town of Afton filed a petition for review in the First Judicial District Court on November 15, 2000. Upon its own review of the petition, the district court certified the case to the Wyoming Supreme Court. On November 2, 2000, the Town filed a motion to vacate the certification. That motion included a request that the district court judicial notice of prior Board of Control decisions. On November 15, 2000, the Town filed a supplemental request for judicial notice that asked the court to also take notice of several flow through water right permits issued by the State Engineer. On February 26, 2001, the Board of Control filed a response opposing the Town's motions. On April 23, 2001 the Town and the Board filed a joint stipulation for an indefinite continuance to allow the parties time to explore the possibilities of resolving this matter.

REPORT OF THE SUPERINTENDENT

WATER DIVISION NO. I

OCTOBER 1, 2000 through SEPTEMBER 30, 2001

By

RANDY TULLIS, TORRINGTON

This is a summary of water related activities and trends within Water Division I for the period October 1, 2000, to September 30, 2001. Water Division I is composed of the North Platte, South Platte, Niobrara, and Little Snake River drainages of south and eastern Wyoming.

- General and Climatic Conditions -

The fall and winter seasons of WY2001 were colder than the past several years, but actually near normal statistically. These cooler temperatures allowed the snowpack to steadily increase, albeit at a below normal pace. Heavy snowstorm events in October and November, particularly in the Little Medicine Bow drainage, started the snowpack off to a good start but by February was 80% of average basin wide. Snowpack conditions failed to improve the next several months and resulted with May 1 snow water equivalents ranging from 70 to 83% within the North Platte basin.

Carryover storage from WY2000 in mainstem reservoirs was about average, varying from 114% in Kendrick Project ownership to 93% in North Platte Project ownership. Below average runoff resulted in filling reservoir ownerships for Guernsey (March 8), Inland Lakes (April 20), and Glendo (April 28). North Platte Pathfinder ownership accrued to about 871,000 acre-feet by June 12 and Kendrick ownership accrued no storage for the second straight year.

Spring conditions were characterized by an earlier than normal, and reduced stage of the annual snowpack runoff. By early June much of the Division was under strict priority administration. For example, following an October 1 call for 1898 Wheatland #2 Reservoir storage, the priority for upper Laramie River water users quickly dropped to the Wheatland Irrigation District's 1883 direct flow right by early June. Ironically, lower end Little Laramie and Laramie mainstem appropriators senior to 1883 actually enjoyed consistent supplies through much of the summer and above average production due to upstream juniors being regulated for benefit of a user below their diversions.

This water year was the second year in a series of extremely dry years statewide and throughout the majority of the upper North Platte, Little Snake, and Laramie River basins. These below average conditions resulted in a

markedly shortened runoff period with little help from spring and summer natural precipitation. The majority of the Division experienced reduced quantity and quality of feed production.

Climatic conditions in much of the South Platte drainage were at or above average for monthly precipitation and streamflow amounts. Correspondingly, hay production and pasture conditions in this basin were probably one of the bright spots across the state this water year. Another area of comparable conditions were mainstem water users and storage contractors from Alcova Reservoir to the Wyoming-Nebraska Stateline. Due to slightly above average carryover from WY2000, the major North Platte reservoirs allowed full supplies for the majority of downstream storage users. Corn and beet production was reportedly average to slightly above average with edible beans being less successful due to above average temperatures. Dairy quality alfalfa in lower basin areas was reportedly at peak production with several storage water users reporting 5 cuttings this growing season.

The North Platte River above Seminoe Reservoir gaging station is a commonly used barometer for upper basin runoff conditions. Normally peaking in early June at about 7,700 cfs (60 year average), this water year the instantaneous peak was about 4,200 cfs on May 17. These early and reduced peak flows were experienced throughout the Division and contributed to reduced production and regulation administration not experienced in many years.

End of season carryover was well below average for many of the Division's major on and off channel reservoirs. Wheatland Irrigation District with storage facilities high on the Laramie Plains had enjoyed the benefits of above average carryover from WY1999. After delivering about 0.95 acre-feet per acre during WY2001 their carryover storage is negligible and they will anticipate a hopefully better runoff season next year.

North Platte Project ownership finished the season with carryover storage of approximately 196,000 acre-feet (42% of average) while Kendrick Project and Glendo Unit ownerships resulted in carryover of 992,000 acre-feet (100% of average) and 148,000 acre-feet (105% of average), respectively. Suffice it to say that a normal snowpack and spring runoff could quickly brighten the storage ownerships, as well as a below average runoff could result in even tighter administration and ownership allocation the next water year.

-Problem Areas-

Staff recruitment has been a challenging task for this administrator. Finding qualified individuals with even a hint of the water administration experience necessary for day-to-day conflicts and resolutions is difficult at best. The District 10, 11, and 12 Hydrographer position remained unfilled through the irrigation season of WY2001 with several calls for administration or assistance being

handled by the Douglas area Hydrographer or myself. I am considering trying to devote several days each year to participate in the several job fairs conducted by the University of Wyoming. Hopefully some exposure by our agency to undergraduates will get them interested in careers that can be rewarding and interesting.

Radio communication continues to be an important tool for timely contact with field staff. The Laramie Peak repeater again experienced considerable down time during the critical water diversion season. I strongly suggest that the State Engineer continue to investigate and initiate better means of timely communication for field staff safety and response time.

Last, but certainly not least, are the continual criticisms of administration enforcement on selected drainages. With the assistance of Cheyenne staff and the local Hydrographers, operating criteria plans are being developed for consistent and equitable administration that will not be under constant assault on these water short drainages. These operating plans will have their basis in statutory requirements and enforcement, but with the consideration of local operations and conditions. It is envisioned that these plans will allow for local considerations and yet be consistent with other statewide administration enforcement.

-Accomplishments-

Statutory required duties were completed in a timely manner by Division staff and myself. Priority administration was extensively administered throughout the Division in direct response to limited streamflows. The upper Laramie River drainage was administered the entire water year, beginning at a basin wide 1898 priority in October 2000 and ending at an 1876 stock watering right in September 2001 on the Little Laramie. Other drainages experienced comparable "depth" of priority administration. This administration was enforced with success in many areas, but not without considerable conflict in others. Conflicts were attempted to be resolved in a fair and equitable fashion, with the success or failure of these resolutions to be a learning tool for future administration.

Field inspection for numerous proofs of appropriation or construction, change in water right petitions, and general requests for assistance required considerable scheduling and staff time. The attractiveness of Wyoming property with associated water rights demanded continual public outreach for new landowners throughout the Division. These educational opportunities can often pay big dividends in the long run, as opposed to waiting for the "new owner" wreck to occur.

Streamflow and reservoir storage data continued to be collected, compiled, and reported in annual and other detailed publications. Gaging and data collection

continues to be upgraded with many of the major gage stations being telemetered for daily accounting and various web page presentations. Both appropriators and recreational water users have found this timely data to be important for planting, irrigation schedules, and recreational planning.

Other important duties completed included Safety of Dam inspections, snow survey data collection, water right application assistance, and general or specific explanations of existing or proposed rights of record.

Accomplishments of individual Hydrographers will be found in the Annual Hydrographers Report for Water Year 2001.

As detailed elsewhere in this annual report, progress continues to be made in formulating implementation criteria specifically related to the North Platte River Nebraska v. Wyoming Principles of Settlement document approved May 10, 2000. Considerable time was devoted to implementation scheduling and settlement compliance. An important aspect of the settlement will be the formation and review of compliance by the North Platte Decree Committee. This body should serve as an initial clearinghouse for ongoing questions, data collection, and settlement interpretations.

-Summary-

The 2001 Water Year was characterized by considerable variation across the Division, yet arguably in much better conditions than experienced in the three other Divisions. Overall, native grass and alfalfa production was well below average and yet some producers reported a record year due to favorable summertime climatic conditions. Row crop producers also experienced varied results with bean production below average and corn or beet production about average.

An "average" winter and spring is what most water users are hoping to experience in the next water year. It is anticipated that even an "average" winter and runoff season will overcome depleted soil moisture profiles and below average reservoir carryover storage, all to the advantage of direct flow users and other users alike.

REPORT OF THE SUPERINTENDENT

WATER DIVISION NO. II

OCTOBER 1, 2000 through SEPTEMBER 30, 2001

By

MICHAEL B. WHITAKER, SHERIDAN

The following annual report submitted for Water Division II is a summary of the individual water administrators within the Division.

General Conditions

The 2001 water year began with approximately 30 percent carry-over storage in the Tongue River drainage and 20 percent in the Powder River drainage. Keyhole Reservoir was 83 percent carry-over, down sufficiently that no additional release was necessary to create space for winter inflows.

This was the third mild winter in a row, which we have had. As of May 1, the snowpack for the Powder and Tongue River basins was 47 percent of normal with the Belle Fourche basin at 4 percent of normal. This compares to 66 percent and 16 percent, respectively, for the previous year.

The irrigation season started in early May and went into regulation and shuffling almost immediately as we were attempting to store water in the reservoirs at the same time. Peak flows occurred about mid-May and were hardly noticeable. The hydrographers were able to wade all measurements this season. By the latter part of May it became evident that the reservoirs located on the mountain would not fill and were ordered to cease storing and pass all of the inflow. The exceptions were Tie Hack (which has been full since construction) and Twin Lake (which barely filled). All others were at approximately 75 percent of capacity. Regulation and the release of reservoir water continued through the irrigation season. At one point Kearney Lake shut off release for a two-week period and advised shareholders to cut hay. They turned on for a couple of weeks for irrigation and then reduced the release to maintain stock water for the remainder of the season. Dull Knife set the release so everyone on the N. Fork of Powder River could irrigated and continued until the reservoir was empty with no regard to shares. Streamflows from the Big Horn Mountains were consistently 25 percent of average through the irrigation season and by fall the reservoirs were virtually empty.

The eastern half of the division faired as well as anywhere in the state with several large rainstorms hitting that area during the summer. One small release was made from Keyhole for the Bell River pumps in South Dakota. Keyhole

elevation going into the fall was 5 feet down or approximately 84 percent of capacity. Inflows to Keyhole were about 10 percent of average this water year.

Some of the old-timers say this summer was as dry as the 1930's. Some notable things that occurred this summer are:

- 1) Tongue River near Dayton recorded record low flows for each day almost all summer. I am sure the other streams would show the same thing if records were completed.
- 2) Tongue River was regulated for the first time since the 1930's.
- 3) The cities of Dayton and Sheridan were advised that they would be shut off if further calls for regulation were received. Both municipalities responded by imposing restrictions on water usage.
- 4) The City of Buffalo was required to release water from Tie Hack Reservoir.
- 5) Even the Superintendent was pressed into service to regulate headgates and deliver reservoir water.

This year I received several compliments from irrigators on how our field staff administered the drainages. I am well aware of the number of long days, including some weekends, our people put into getting the job done and I wish to take this opportunity to thank them all.

With conditions as dry as they were, we received a number of requests for us to measure the flow in ditches, to check the accuracy of the measuring devices, and also to determine conveyance losses. As a result of our investigations, a number of parshall flumes will have to be reset or replaced prior to next season. In addition, we received several requests to regulate "down ditch" within organized ditch companies. We denied these requests and advised the requesting parties that they needed to meet with their respective ditch companies and hire "ditch riders" to divide the water appropriately. We simply do not have the manpower to start regulating down ditches. Every ditch in the area would prefer that we provide the service and they (the owners) would not have to pay someone.

CBM activity is still growing and continues to take up quite a bit of our time. We are providing information and investigations to the CBM companies and filing well applications, reservoir applications, and researching permits for the landowners. This is more of a burden because of our inability to fill a vacant position in Gillette, resulting from housing shortage and low salary. We are continuing to re-advertise the position and plan to relocate the office to another town.

Our lone-time secretary, Kathy Nance, retired in July (right in the middle of the irrigation season). Fortunately, we hired Debbie Reed who stepped in and has

STATE OF WYOMING

2001

ANNUAL REPORT

OF THE

**STATE BOARD OF REGISTRATION
FOR PROFESSIONAL ENGINEERS**

AND

PROFESSIONAL LAND SURVEYORS

July 1, 2000 through June 30, 2001

done a very good job for us. She has since reorganized almost everything in the office – files, supplies, forms and bookcases. It should make for a interesting winter.

This year we lost an old friend. Bill Babione, the ditch rider for Piney-Cruse and Mead Coffeen ditches, was killed in a motorcycle accident in mid-summer. He had been the ditch rider for about 20 years and was very good to work with. He is missed by all who knew him.

This past year 79 "Final Proof of Appropriations" were taken and submitted to the Board of Control for adjudication of the water rights, along with the finalization of 18 stock reservoir inspections for inclusion in the Tab Book. Also this year, 32 petitions reflecting various changes of water rights were acted upon. Both petitions and proofs require on-site inspections as well as additional research and documentation.

The Safety of Dams program involves inspection every 5 years of reservoirs, which exceed 25' in fill height or 50 acre-feet in capacity. There are approximately 650 dams in Division II, which fall into this program, and we had 115 dams scheduled for this year. Most of the Division was completed except for portions of Districts 1, 7 and 10 where we have been unable to fill the hydrographer position.

Summary

To summarize this year, this has been the driest year anyone can remember and is reminiscent of the 1930's. Hopefully, we have turned the corner on the drought cycle and will start receiving moisture for next season. To those people who believe our water administration system is archaic and needs overhauled, you need only to look at this year to understand that our system (designed over 100 years ago) not only functions efficiently, it was designed to handle exactly the type of year we had. That cannot be said about too many things in today's world.

REPORT OF THE SUPERINTENDENT

WATER DIVISION NO. III

OCTOBER 1, 2000 through SEPTEMBER 30, 2001

By

CRAIG COOPER, RIVERTON

General Conditions

Although last year's annual report described conditions in Water Division III to have been extremely dry for water year 2000, it could not have been anticipated at that writing that the 2001 water year would eclipse 2000 for drought in nearly every statistic. The gradual accumulation of mountain snows, upon which this water division solely depends for its water supply, struggled to peak at a dismal 43% of normal by the time the water use season was to begin, and it was recognized at that time that a critical low flow year was in progress.

Irrigators contacted the water division office regularly during that period with questions about how long the water supply might last, whether or not to plant beans (or beets, or corn), whether or not to set less productive acres aside for the year, whether or not to invest in high-priced crop failure insurance, whether or not they could count on even livestock water being available late in the summer, etc. And, although advice given to those types of questions is always guarded, the only honest response that could be given this year was "We don't know – the records don't show conditions having been this severe before, so we have no history to draw on." Thus, one positive thing to come of these dry conditions is a new "setting of the bar" against which future conditions can be measured. For example, we now know that with Boysen, Bull Lake and Pilot Reservoirs slightly over 60% full at the beginning of the season, a 43% of normal snowpack, essentially no spring or summer rain, and mid-90 degree temperatures from mid-June to late September, limited but adequate irrigation water can be expected through about the fourth week of August in the Wind River basin under existing development scenarios. After that time, under those conditions, this year's records suggest that water for around 80% of 1906 priority water rights, or around 73,000 acres, will be curtailed.

Although early uncertainties about what the season might hold were rampant, agriculturists accumulated as much information as was available, made the hard decisions to the questions they were asking, and charged ahead. Some of those decisions were good, and some were bad, some were bad but turned out good, and some were good but turned out bad. Sugar beet growers on the Little Wind River drainage, for example, decided, after studying back and forth, to go ahead

and plant at the normal time. Absence of winter moisture and even slight amounts of normal spring moisture prohibited germination of most of the beet seeds, and much of the first planting died before even coming through the ground. Assuming that rain and irrigation water would have to come eventually, some growers replanted and, indeed, got enough moisture on the fields to bring the beets through the ground and start them on their way. But then an abnormally late May frost swept the valley and annihilated those seedling crops a second time. By then it was too late for, or federal insurance provision prohibited, replanting, and some of those fields would up a total loss for the year. As it turned out, the BIA's cessation of canal deliveries on July 31 would have doomed any beet crops that made it that far anyway.

Precipitation from rainfall was no help in the Wind River basin. For example, the average annual total precipitation as of September 1 for 82 years of record at Riverton is 6.36 inches. This year it was 3.33 inches. Rainfall for the month of May through the period of record is 1.77 inches on average; this year it was 0.31 inches, and conditions were similar over the entire water division for those two months which are historically expected to provide up to 40% of the annual water supply, but this year provided 1/3 of an inch of moisture. Such lack of rainfall, coupled with the poor snowpack and higher than normal temperatures, devastated streamflows in all parts of the water division. Gooseberry Creek, for example, a Division III drainage that is significant in terms of irrigated acreage and economic contribution to the counties it drains through, went totally dry at the SEO gage station 35 miles upstream from its mouth on July 27. The recorder chart for that gage shows a straight line at zero flow where the rocks weren't even damp for the remainder of the summer, a condition not encountered during the tenure of any present water administrators in Division III. Out of 30 ditches to be served on that creek, only the five small ditches with the earliest territorial rights got water this season. Only one of ten diversions out of Grass Creek was still able to get water by mid-August, and only two of twenty ditches on Cottonwood Creek.

Similarly, the 1919 annual report of the State Engineer is the last record showing the Greybull River going dry of natural flow at the town of Otto. Division III staff on that river report such an occurrence happened again this year beginning after September 3, 2001, with the natural flow receding several miles upstream toward the headwaters each day after that; that is, the river lost several miles of live flow each day from that time – water just couldn't make it down the river.

Enterprise Reservoir stores water up on the mountain from Roaring Fork of the big Popo Agie River for irrigation through the Enterprise ditch. At the beginning of the irrigation season the owners of that reservoir made the decision to use their stored water early, and then, when it was drawn down to the bottom of the outlet gate, to close the gate off tight and accumulate what more water they could for release late in the fall to fill stock reservoirs within their ditch system. When they went back in September to get that water, they found that the two months of

90+ degree temperatures had not only dried up their supply creek but had also evaporated their reservoir's dead pool to ten vertical feet below the outlet pipe, so that no useable storage had accumulated in the interim.

The entire Nowood River drainage, commissioner districts 6 and 12, was called into regulation on July 26 for the first time in the memory of old-timers in the area. Certain tributaries of that drainage have been regulated intermittently through the years, but not the entire watershed. Such regulation included administrative actions regarding TenSleep Reservoir (a.k.a. Meadowlark Lake), and a moderate rhubarb with the USFS, owners of that water right, ensured.

As a matter of record, Gooseberry Creek was called into regulation on March 27th, Bennett Creek, Little Rocky Creek and Grass Creek in mid-April, Cottonwood Creek on April 30, Middle Fork Popo Agie River on June 19, Greybull River and Trapper Creek on July 9, Shell Creek on July 14, Owl Creek on July 15, and the Little Popo Agie River and North Fork Popo Agie on July 30. It is unusual that none of these administrative regulations could be lifted until October.

One of the concepts of on-the-ground hydrology that water administrators have the most difficulty getting the lay public to understand or believe is the value of early season water application on upstream lands to the later-season availability of water in the downstream channel. Water years like 2001 make the case much more visibly than all the talking we can do. On the Shoshone River this year, for example, the conservation techniques of allocating bare minimum water deliveries instead of normal volumes to irrigators in the upstream Shoshone Project canals, while being beneficial to stretching the supply for those systems, left the downstream Shoshone River essentially dry below Mormon Dam for the first part of July on through the season. That section of the river routinely survives after mid-summer on the return flows and accretions from irrigation in those upper projects, but this year such flows were minimal for the most part. The same phenomenon was obvious on the Greybull River as described earlier in this report, on Cottonwood Creek, Gooseberry Creek, Owl Creek, Badwater Creek, the Big Popo Agie, Meeteetse Creek, Shell Creek, Grass Creek and others. One old anti-irrigation grouch in this water division perennially heckles state water administration for allowing operation of the surplus water law, complaining that such administration is injurious to riparian systems. Records of flows this year show the opposite – that lack of adequate early season amounts of water to be put to irrigation use on lands on the above-listed drainages had a direct affect on loss of flows in downstream segments of those streams after the middle of the season.

Last year's annual report chronicled that water year 2000 was a seriously dry year, but that water users in all sectors came through the season in reasonably fair condition. That was due in large part, in most drainages, to carryover storage in the water division's reservoirs, most of which were originally constructed to

provide a two-year supply for their users. As reported above, the snowpack that normally replenishes those reservoirs was minimal in 2001, and, as a result, this water use season continued to tax the storage supply left over from the year before. The bottom-line effect is that, except for Boysen and Buffalo Bill Reservoirs, the insurance policy is now gone. Upper and Lower Sunshine Reservoirs are dry; Roach Gulch Reservoir is dry; Adelaide Reservoir is dry; Anchor Reservoir is dry; Pilot Reservoir has only dead storage; Shell Reservoir has only dead storage; Bull Lake Reservoir has around 5% of its useable volume; Christina Lake Reservoir has only dead storage; Boysen Reservoir is at its lowest level in many years, being only 85,000 acre-feet into the active conservation pool or 16% of normal useable volume; and Buffalo Bill Reservoir will carry over 267,400 acre-feet or about 44% of its volume, but low inflows have triggered contractual conditions regarding winter releases. Only Worthen Meadows and TenSleep Reservoirs will carry over anywhere near average storage volumes.

Stock reservoirs in all parts of the water division are dry as well, and accordingly, use of grazing lands was severely limited through the summer. With rangelands in poor condition from the lack of snow and rain, wildlife populations are in as serious a situation as are other users of those lands.

With the limited storage carried over into this water year and the insufficient snowpack to refill those reservoirs, the irrigation season for all areas but the Shoshone Project below Buffalo Bill Reservoir and the Bighorn River canals below Boysen Reservoir was severely curtailed and crop injuries in all other areas were common. One year of drought in Water Division III can be tolerated, but two years in a row has a fairly broad economic effect and presently has livestock men, crop producers, fishermen, municipalities, the State Drought Task Force, and others wondering what to do if the coming winter is no better than the last two.

Accomplishments

With few exceptions, the delivery of the correct priority water to the correct users on all drainages in this record-dry year by SEO staff in this water division without shootings or more tattling to higher authority by unhappy water users should be recognized as a huge accomplishment. Very few people outside this agency have much of a clue as to the network of what goes in to a rigid water rights regulation year. The accounting of flows at hundreds of data points throughout the water division, the assimilation of hundreds of individual water right priorities into flow accounting, the daily advising of myriads of individual water right holders as to how much water they can take and how long they can have it, the attempts to find ways to accommodate all needs and requests for water, make for long days on a year like this. Most water administrators don't get, nor do they expect, weekends or holidays off, and we seldom hear them complain. Only when some water user who is unaware of all that is being done (that he doesn't

even know about) on his drainage by state administrators starts in with a petty accusation of some menial sort, do water administrators finally begin to get irritated and sometimes strike back. My appreciation goes out to all Water Division III administrators for a job well done this year, and for maintaining their professionalism when it sometimes wasn't easy to do. Citizen requests to the Governor and State Engineer to have those administrators replaced, as far as is known, were relatively few considering the type of season, and that is an accomplishment as well. The Division Office only had one call asking "where do you want me to send your water commissioner's body after I catch him at my headgate next time?"

Problem Areas

Certainly the preceding pages annotate the big picture problems in Water Division III for 2001. Unfortunately, certain smaller picture issues also demanded attention and should be mentioned.

1. Due to time constraints discussed elsewhere, the gage station rehabilitation program went mostly on hold this year. Additional instrumentation was finally made available for some stations, but has not yet been installed. A cableway anchor poured and installed less than two years ago at one of the new stations was undercut by an adjacent landowner's wastewater this year, with a resultant hillside slump and loss of the anchor.
2. Administration of the Little Wind River system was a problem for a number of irrigators this year. The multi-jurisdictional makeup of water regulation on that drainage still leaves water users often in a feeling of helplessness as they seek an authoritative party to provide the water they are entitled to, and the assistance they need to put it to use. A number of individuals, both Indian and White, due to lack of support in the present reservation administrative setup, have informally asked the state to step in and exert full jurisdiction over water administration. This is interesting in light of the fact that the federal government and tribes have litigated for over twenty years to try to keep the state out of that role.
3. Present-day domestic pump water right holders on Green Creek whose lawn pumps were regulated off in July to supply the downstream senior irrigation right have retained an attorney to pursue preferred use condemnation proceedings against the irrigation right. They called everyone who would listen, to voice their disbelief that anyone would defend a system of water allocation in which an early-1900s hayfield irrigation water right could call water away from 1900s vintage water rights for watering flowers and a lawn for a Bed-and-Breakfast. If pursued, this case may cause our agency to want to re-

think the "irrigation of one acre" clause in the definition of the term "domestic right," at least to the extent it is defined in the preferred use statute.

4. Conveyance loss and futile call considerations always resurface in years when creek channels are mostly dry. One problem this year concerned two water rights of exactly equal priority on the same stream, one headgate being $\frac{1}{4}$ of a mile upstream of the other. When the upstream diversion was taking its full appropriation and bypassing the appropriation for the lower diversion, the dry stream channel was consuming a large percentage of that water, so that the lower ditch was only receiving half of its appropriation at the headgate. The downstream user complained that, since the two appropriations were of exactly equal priority, they should be obligated to share the losses and both take a diminished supply. The then-newly appointed State Engineer, together with the rest of the Board of Control, upheld the Superintendent's determination that to follow the downstream user's logic would result in a waste of the state's water to all parties.
5. Other problem areas that required attention and time, and sometimes interfered with legitimate demands of the drought, had to do with the difference in federal (as opposed to state) government philosophies on how state water law operates, General Adjudication concerns, irrigation ditches or companies not handling their own problems, and internal office and agency demands. These seem to get worse every year.

Summary and Conclusion

If ever there is a "baptism by fire," it might be considered that this water year was one for a new State Engineer and any other new field employee of the agency. After the retirement of the former State Engineer last year, an interim was appointed, and then a new State Engineer. Both of these capable fellows stepped into the hornet's nest of a drought and, from the perspective of this water division, performed admirably and tirelessly. The learning curve for this agency is steep under the best of water conditions, and it has been a pleasure working through this drought cycle with the capable new SEO administration. The entire Cheyenne office support of the field operations of the agency is greatly appreciated.

Appreciation and best retirement wishes are also extended to Bob Dockery, water commissioner on the Owl Creek drainage for the past 10 years, who elected to give it up this September.

More somber appreciation and recognition is given to Chuck Obert and Kyle Johnson, both former staff of the Riverton Office, who passed away late this year. They were both extremely fine gentlemen and will be missed.

1. The water quality in the lower portion of the river has been a problem for many years. The water is often turbid and has a strong odor. This is due to the fact that the water is often stagnant and does not flow freely. The water is also often contaminated with various pollutants, including bacteria and viruses. This is a serious problem for the people who live in the area, as it can cause a variety of health problems. The water is also often contaminated with various pollutants, including bacteria and viruses. This is a serious problem for the people who live in the area, as it can cause a variety of health problems.

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Summary and Conclusions

It was found that the water quality in the lower portion of the river has been a problem for many years. The water is often turbid and has a strong odor. This is due to the fact that the water is often stagnant and does not flow freely. The water is also often contaminated with various pollutants, including bacteria and viruses. This is a serious problem for the people who live in the area, as it can cause a variety of health problems. The water is also often contaminated with various pollutants, including bacteria and viruses. This is a serious problem for the people who live in the area, as it can cause a variety of health problems.

Appreciation and best wishes are extended to Bob Doherty, who has been a great asset to the Riverton Office. He has been a great asset to the Riverton Office, and his contributions have been greatly appreciated. He has been a great asset to the Riverton Office, and his contributions have been greatly appreciated.

REPORT OF THE SUPERINTENDENT

WATER DIVISION NO. IV

OCTOBER 1, 2000 through SEPTEMBER 30, 2001

By

JADE HENDERSON, COKEVILLE

General Conditions

Water Year 2001 had record or near-record drought conditions west of Wyoming's Continental Divide, continuing for a second year the chronic combination of poor winter snowpack and little summer rain. Only the Evanston and Bridger Valley areas saw improvement over last summer with some growing-season precipitation on the north slope of the Uinta Mountains.

Formal stream regulation was requested on the Burnt Fork & Beaver Creek tributaries of Henry's Fork, the Black's & Smith's forks, Ham's Fork, LaBarge Creek, the 3 Piney creeks, Cottonwood Creek (tributary Green River), East Fork of New Fork River, Teton Creek, Crow Creek, Twin Creek, and both the central & upper Bear River. Anxious water users on numerous other streams & wells requested assistance or needed information without formal priority regulation. Junior non-Compact diversions in the Cokeville area were questioned by Compact-regulated seniors, but they declined calling them out once they understood that 57% would have then become part of Idaho's interstate allocation. Out-of-priority or unpermitted stock water diversion was a common request, and without consensus had to go unfulfilled. Ham's Fork regulation went from a "futile call" to a declaration for "instream stock water only" where it continues to date, still unable to reach Granger even with PacifiCorp's additional (unrequired) releases from Viva Naughton Reservoir.

We now enter wintertime recharge with streamflow and soil moisture at extreme lows. Reservoirs have been drafted heavily, some essentially depleted. Similarly over-taxed is the endurance of water officers targeted by a few desperate irrigators, ending the water year drained, in a very tiny way similar to the disadvantaged feelings experienced nationally on 9/11/2001.

Problems

For the most part, the large majority of water users are quick to recognize that shortages in arid Wyoming are not the fault of water law or water regulators. Many, however, will take unfair if not illegal advantage when they have the opportunity. When improved regulation tightens such loopholes, resistance

becomes louder during shortages. Such objections escalated to political officials from 2 areas this year.

Twin Creek regulation caused a local rancher to once again seek exemption from the senior call by attempting to invoke a futile call, claiming a preferred use. The appropriator was cited for illegal diversion, an action that resulted in our administration being upheld by the county court.

Smith's Fork Creek in Bridger Valley has been through several years of gradually-tightened administration. These discomforts by both water users and officers alike, a second-year of severe drought, an inherently-difficult drainage, and continued complications on this system all coalesced this year. These difficulties resulted in two meetings being held to air complaints and a commitment by our office to prepare an administration manual for the creek and work on improving administration with irrigators thereon. In addition, a lawsuit has been threatened by a space holder in Utah's China Lake Reservoir pressing for delivery of more Utah water to his Wyoming diversion than is physically stored.

Large unadjudicated & undiverted portions of old Black's Fork Canal permits remain on the books, tempting both landowners & analysts to try reinstatement. Even when the lands are irrigated, unadjudicated senior water has not been diverted during our annual priority regulation of this stream. So new 1903 adjudications for more senior diversion would obviously injure all existing junior appropriations on the River and clearly violate the doctrine of prior appropriation water law. Given the unmanageable workload of fruitless objections that would be generated by notifying extensive lists of present landowners for elimination of unadjudicated lands, we have instead established precedent for refusing any new 1903 diversion on each such proof individually submitted.

Difficulties continue on the Henry's Fork with Utah storage delivery problems, awkwardness for 2 different states' administration systems to uniformly maintain a single joint Water Commissioner, insufficient headgates on both sides of the state line, and continued delay in completing the overlap mapping and definition of Utah water rights.

For the first time in my 9 years, return flows from the Randolph Utah area would not adequately supply Woodruff Narrows Reservoir shareholders downstream in Wyoming. Even though the Reservoir had not filled completely, a sizable release of 1100cfs could not get past tight diversion dams in Utah nor saturate dry meadows there enough to kick-in some return flows until after 2 weeks' time, mostly too late and too little to overcome the withered hay growth. Senior Wyoming flood-diversion dams declined to call-out 6 to 10 cfs in junior Wyoming pumps when what they needed was another hundred cfs to get through Utah. Wyoming users are increasingly dissatisfied with this standard operation through the Lower Utah Section of the interstate Compact's Upper Division.

Bear River Compact problems in the Central Division continued from last year, with no answer from Idaho as to their 2 inconsistent versions of Y2000 accounting. (Wyoming had objected that summer to their call for deeper regulation without accounting for the water we were already sending down.) Significant unaccounted gains were confirmed this summer in just the upstream end of the Idaho reach by a USGS spot measurement 4 miles below the Border gage.

Understaffing and workload problems continue to result in excessive hours and still unfulfilled public expectations, so that awaited projects remain unfinished and my responsibilities on the Board of Control are sometimes barely satisfied.

Accomplishments

Despite ruffled feathers and tarnished images, we are as a staff still intact to date. Water Division IV prevailed in Wyoming v. Lewis, as well as in other less formal challenges. Some educational efforts to the general public were accomplished, even though the difficulties of the season disclosed the enormous need to seize more opportunities in correcting misunderstandings.

Joint operations with Idaho on Teton Creek under the interstate Roxanna Decree continue to prove very successful & smooth, despite the slowness of getting the users to secure Wyoming recognition of unprotected Points of Diversion there and on Leigh Creek.

The Fremont Lake Reservoir users association has been fairly successful in reaching general consensus regarding storage operations and unprotected releases for summertime flows in Pine Creek. The parties are also beginning to understand the process for attempting to secure a protectable instream flow Secondary.

The Bear River Commission sponsored an interstate tour of the Upper & Central divisions during the dry late-summer, but still without venturing into the Idaho portion.

Conclusion

If reduced sunspot activity brought on this drought, I'm hoping the 11-year solar maximum acknowledged last year by the State Climatologist will soon trigger another El Niño condition with generous rains for Wyoming. In the meantime, I guess prior appropriation should continue taking care of distributing the shortage, but not without immense pressure & pain on users & regulators alike. I have a good staff, and see throughout the Agency our commitment to continue improvement in proper water administration.

BOARD OF REGISTRATION FOR
PROFESSIONAL ENGINEERS AND
PROFESSIONAL LAND SURVEYORS

By

CHRISTINE TURK
EXECUTIVE DIRECTOR

Objectives

The primary responsibility of the Board is self-regulation of the engineering and land surveying professions for protection of the public in Wyoming. Careful processing of applications from individuals, corporations and partnerships registered in other states, and administration of examinations for new applicants in Wyoming occupy most of the Board's efforts. In addition, the Board investigates complaints against engineers, land surveyors, corporations and partnerships. The Board takes appropriate action against registrants who are found guilty of practice or ethical violations.

Major Accomplishments

The Board continues to be efficient in processing applications, being attentive to its registrants and keeping the public educated to the need of professional registration for protection of the public.

Law Enforcement Activity

The Board has vigorously pursued the requirement that persons offering professional engineering and land surveying services in Wyoming become licensed. Correspondence from the Board Office or the Attorney General's Office has usually been effective in obtaining compliance with the statute.

The Board has also investigated every complaint concerning the practice of our registrants. In most cases, a resolution has been accomplished without a formal hearing. Finally, the Board has provided exceptional leadership at the national level with several of its members serving as officers, committee chairs or committee members of the National Council of Examiners for Engineering and Surveying (NCEES).

Problems And Recommendations

Timeliness of complaint investigations and action by the Board continues to be a major concern. The Board continues to explore the alternatives for providing a swifter means of completing investigations and ultimately, resolution of complaints.

SUMMARY OF REGISTRANTS AS OF JULY 17, 2001				
		RESIDENT	NON-RESIDENT	TOTAL
PROFESSIONAL ENGINEER	INDIVIDUAL	865	2,895	3,760
	CORPORATION	68	216	284
	TOTAL	933	3,111	4,044
PROFESSIONAL LAND SURVEYOR	INDIVIDUAL	128	178	306
	CORPORATION	10	8	18
	TOTAL	138	186	324
PROFESSIONAL ENGINEER & LAND SURVEYOR	INDIVIDUAL	97	59	156
	CORPORATION	41	16	57
	TOTAL	138	75	213
ENGINEER-IN-TRAINING		786	309	1095
LAND SURVEYOR-IN-TRAINING		35	8	43
GRAND TOTAL		2,030	3,689	5,719

The purpose of the NCEES is to provide an organization through which state Boards may act and counsel together to better discharge their responsibilities of regulating the practice of engineering and land surveying as it relates to the welfare of the public in safeguarding life, health and property. Serving the NCEES at a national level has been very beneficial to the operations of the Board. While all Member Boards attempt to have uniformity in their requirements, without the involvement and exchange of information from state to state, achieving that uniformity would be essentially impossible.

PERSONNEL LISTS
STATE ENGINEER'S OFFICE

Tyrrell, Patrick T. State Engineer
Stockdale, Richard G. Deputy State Engineer

ADMINISTRATION

NAME	TITLE
Lowry, Sue	Director of Policy & Admin.
Watson, Laura L.	Executive Assistant
Williams Danna	Human Resources Spec. 3
Rath, Janice	Financial/Statistical Spec. 2
Connell, Ellen	Financial/Statistical Tech. 2
Shields, John W.	Interstate Streams Engineer
Tavelli, Chace	Water Planning Engineer

SURFACE WATER

NAME	TITLE
Barnes, John	Administrator, Surface Water
Benner, David	Safety of Dams Engineer
Bratton, Leah	Water Manager Spec. 1
Vacant	Natural Resources Tech 2
Geyer, Jeffrey	Water Management Spec. 2
Hopkins, Jodee	Water Management Spec. 1
Lucero, Linda	Water Management Spec. 3
Davis, Jeff	Water Management Spec. 2
Couch, Chris	Water Management Spec. 3
Richmond, Rita	Administrative Specialist 4
Scheer, Mary	Natural Resources Tech 1
Shiers, Linda	Administrative Specialist 4
Stockdale, Larry	Safety of Dams Engineer
Velez, Phillip A.	Water Manager 3

TECHNICAL SERVICES

NAME	TITLE
Mathisen, Rebecca	Administrator, Technical Services
Collins, Andrea	Info. Technology Spec. II
Rea, Steve	Info. Technology Spec. II

GROUND WATER

NAME	TITLE
Vacant	Administrator, Ground Water Division
McMaster, Kim	Administrative Spec. 4
Culver, Sheri	Natural Resources Tech 1
Ebsen, Mike	Cooperative Programs Coordinator
Elrod, Jenna	Natural Resources Tech 2
Harju, John	Water Management Spec. 1
Lacy, M. Carol	Water Management Spec. 1
Parkin, Darren	Water Manager Spec. 2
Vacant	Water Manager 3
Manley, Jeremy	Water Manager Spec. 1
Penz, Michael C.	Water Management Spec. 1
Pierce, Dixie	Natural Resources Tech 2
Porter, Larry G.	Water Manager Spec. 2
Kerbs, Pamela	Administrative Specialist 4
Verplancke Cheryl	Water Management Spec. 2
Toppenberg, Shirley	Natural Resources Tech 2
Adkison, Kelli	Natural Resources Tech 2

STATE BOARD OF CONTROL

NAME	TITLE
Cunningham, Allan D.	Administrator, Board of Control
O'Dell, Michael	Water Manager 4
Rando, Cynthia	Water Management Spec. 2
Hutchinson, Anna	Administrative Spec. 2
Engbretson, Arlene	Water Management Spec. 3
West, Susan	Natural Resources Tech 2
Lane, Monica	Administrative Specialist 4
Heuer, April	Administrative Specialist 4
Vanscoy, Eunice	Administrative Specialist 3
Tullis, Randy	Superintendent
Water Division No. I	Torrington
Whitaker, Michael B.	Superintendent
Water Division No. II	Sheridan
Cooper, Craig O.	Superintendent
Water Division No. III	Riverton
Henderson, Jade	Superintendent
Water Division No. IV	Cokeville

SPECIAL PROJECTS

NAME	TITLE
McCann, Nancy	Administrator, General Adjudication
Hallberg, Debbie	Water Management Spec. 1
Sitterle, William	Water Management Spec. 1
Cameron, Kathryn	Water Management Spec. 3
Bennett-Sutton, Kimberly	Water Management Spec. 3
Skoetsch, Connie	Administrative Specialist 3
Faigl, Brad	Water Management Spec. 3
Mumper, Karen	Water Management Spec. 3
Irwin, Kay	Administrative Specialist 4
Henning, Virginia	Administrative Specialist 5

10-20-80	10-20-80	10-20-80
10-20-80	10-20-80	10-20-80
10-20-80	10-20-80	10-20-80
10-20-80	10-20-80	10-20-80

DIVISION 2 WATER ADMINISTRATIVE PERSONNEL

NAME	TITLE	DATE
10-20-80	10-20-80	10-20-80
10-20-80	10-20-80	10-20-80
10-20-80	10-20-80	10-20-80
10-20-80	10-20-80	10-20-80
10-20-80	10-20-80	10-20-80
10-20-80	10-20-80	10-20-80
10-20-80	10-20-80	10-20-80
10-20-80	10-20-80	10-20-80
10-20-80	10-20-80	10-20-80

WATER ADMINISTRATIVE PERSONNEL

As of September 30, 2001

Key to Title Abbreviations: AS = Assistant Superintendent
HC = Hydrographer-Commissioner
GR = Gage Reader

DIVISION I: PERSONNEL AT LARGE

TITLE	NAME	ADDRESS
Superintendent	Randy Tullis	510 West 27th Torrington, Wyoming 82240
Assistant Superintendent	Al Prado	PO Box 1368 Douglas, Wyoming 82633
Field Investigator	Jeff Hansen	510 West 27th Torrington, Wyoming 82240
Administrative Spec. 2	Sharon L. Hackett	510 West 27th Torrington, Wyoming 82240

DIVISION I: WATER ADMINISTRATIVE PERSONNEL

DISTRICT	TITLE	NAME	ADDRESS
1	HC	Doug Elgin	1109 Milt Rose Drive Burns, Wyoming 82053
1,2	HC	Gary Mehling	510 West 27th Torrington, Wyoming 82240
3,4	HC	Douglas Oliver	302 B 16th Street Wheatland, Wyoming 82201
4	HC	Ty Nelson	Laramie Community Civic Center Room 240 710 Garfield Laramie, Wyoming 82070
4	HC	Daniel Sprangers	Laramie Community Civic Center Room 240 710 Garfield Laramie, Wyoming 82070
6,7,8,16, 17,18	HC	Jack Gibson	PO Box 710 Saratoga, Wyoming 82331
6,7,8,16,17,18, City of Cheyenne	HC	David Worthington	PO Box 710 Saratoga, Wyoming 82331

DIVISION I: WATER ADMINISTRATIVE PERSONNEL (cont'd)

DISTRICT	TITLE	NAME	ADDRESS
9,13	HC	Rod Oliver	277 Dutton Creek Road Laramie, Wyoming 82070
9,13, 15-5,20	HC	David Andrews	117 S. 2nd St., Rm. 3 Douglas, Wyoming 82633
10,11, 12,14	HC	Vacant	2020 Fairgrounds Road, Suite 103 Casper, Wyoming 82601
14	HC	Brian Pugsley	510 West 27 th Torrington, Wyoming 82240
17	HC	Ted Vyvey	PO Box 653 Encampment, Wyoming 82325
19	AS	Al Prado	PO Box 1368 Douglas, Wyoming 82633
Lower N. Platte River	GR	Tracy Brown	PO Box 414 Lingle, Wyoming 82223

DIVISION II: PERSONNEL AT LARGE

TITLE	NAME	ADDRESS
Superintendent	Mike Whitaker	PO Box 6103 Sheridan, Wyoming 82801
Assistant Superintendent	Carmine LoGuidice	PO Box 6103 Sheridan, Wyoming 82801
Administrative Spec. 3	Kathleen Nance	PO Box 6103 Sheridan, Wyoming 82801

DIVISION II: WATER ADMINISTRATIVE PERSONNEL

DISTRICT	TITLE	NAME	ADDRESS
1,7,10	HC	Vacant	1901 Energy Court, Suite 130 Gillette, Wyoming 82716
2,3,8, 9,11	AS	Carmine LoGuidice	PO Box 6103 Sheridan, Wyoming 82801
2,3	HC	David Pelloux	289 ½ North Carrington Bffalo, Wyoming 82834
4,5,6	HC	William Knapp	PO Box 6103 Sheridan, Wyoming 82801
8	HC	Sandy Dixon	PO Box 133 Kaycee, Wyoming 82639
11	HC	Warren Gilbert	PO Box 219 Story, Wyoming 82842
2	HC	Vacant	
5,6	HC	Pat Boyd	PO Box 340 Dayton, Wyoming 82836
1,8	HC	Roger Ralph	2020 Fairgrounds Road Ste 103 Casper, Wyoming 82601

DIVISION III: PERSONNEL AT LARGE

TITLE	NAME	ADDRESS
Superintendent	Craig Cooper	715 East Roosevelt Riverton, Wyoming 82501
Assistant Superintendent	Donald Englert	138 Nevada Avenue Lovell, Wyoming 82431
Administrative Spec. 2	Marie Maxwell	715 East Roosevelt Riverton, Wyoming 82501

DIVISION III: WATER ADMINISTRATIVE PERSONNEL

DISTRICT	TITLE	NAME	ADDRESS
1,11	HC	Myron Smalley	715 East Roosevelt Riverton, Wyoming 82501
At Large (15)	AS	Donald Englert	443 E. Main Lovell, Wyoming 82431
1,3	HC	David Deutz	715 East Roosevelt Riverton, Wyoming 82501
1,3,5, 11,13,14	HC	Vacant	
5	HC	Bob Dockery	Box 811 Thermopolis, Wyoming 82443
6,12	HC	Rod Delker	111 Road 9 Worland, Wyoming 82401
7	HC	Gary Anders	P. O. Box 263 Greybull, Wyoming 82426
8,16	HC	Heber Jensen	P. O. Box 222 Burlington, Wyoming 82411
9,10,15	HC	Landis Webber	443 E. Main Lovell, Wyoming 82431
13,14	HC	Dennis Ray	2295 Gregg Avenue Worland, Wyoming 82401
16	HC	Charles Raper	Box 411 Meeteetse, Wyoming 82433

WATER DIVISION III - GENERAL ADJUDICATION

RIVERTON OFFICE

NAME	TITLE
Maxwell, Randall	Water Management Spec. 2

DIVISION IV: PERSONNEL AT LARGE

TITLE	NAME	ADDRESS
Superintendent	Jade Henderson	PO Box 277 Cokeville, Wyoming 83114
Assistant Superintendent	Loren Smith	Box 7 Big Piney, Wyoming 83113
Administrative Spec. 4	Linda Ferguson	PO Box 277 Cokeville, Wyoming 83114

DIVISION IV: WATER ADMINISTRATIVE PERSONNEL

DISTRICT	TITLE	NAME	ADDRESS
3,9,14,15	LHC	John Yarbrough	PO Box 1208 Lyman, Wyoming 82937
2,4, 8,12	LHC	Kevin Wilde	Box 277 Cokeville, Wyoming 83114
3	HC	Diana K. Velazquez	P. O. Box 374 Lyman, WY 82937
4	HC	Don Shoemaker	343 Ninth Street Evanston, Wyoming 82930
1,5,6,7,101 1,13,16	AS	Loren Smith	Box 7 Big Piney, Wyoming 83113
7,11	HC	John Dahlke	PO Box 689 Pinedale, Wyoming 82941
2	HC	Kevin Payne	Box 277 Cokeville, Wyoming 83114
8,12	HC	Ed Bruce	142 Allred Rd., Route 1 Afton, Wyoming 83110
9	HC	Dave Hunzie	1120 6 th West Kemmerer, Wyoming 83101
5,6,10	HC	Ed Boe	Box 7 Big Piney, Wyoming 83113
13	HC	Jim Wilson	275 Yellow Rose Dr. Alta, Wyoming 83422
14	HC	Farren Johnson	PO Box 429 Mt. View, WY 82939
15	HC	Allen Jaggi	Box 326 Lyman, Wyoming 82937
16	AHC	Conan Beesley	Box 1727 Jackson, Wyoming 83001
16	HC	Don Barney	Box 1727 Jackson, Wyoming 83001

STATE BOARD OF REGISTRATION FOR PROFESSIONAL ENGINEERS

AND

PROFESSIONAL LAND SURVEYORS

Pedersen, Martin A.	President
Schultz, Debbie F.	Vice President
Tyrrell, Patrick T.	Secretary-Treasurer
Edwards, William J.	Public Member
Hutchison, Peter J.	Member
Abell, Stanton J., Jr.	Member
Whitman, David L.	Member

Long, Kaye A.	Occupational Licensing Officer
Siler, Ruth	Occupational Licensing Specialist
Turk, Christine	Executive Director

GROUND WATER ADVISORY COMMITTEES

WATER DIVISION	NAME	ADDRESS	TERM EXPIRES	PHONE NO.
DIV. I	Arthur Damrow	292 Camino Del Rey Torrington, WY 82240	9/30/04	532-5470
	K. James Fornstrom	PO Box 2032 Pine Bluffs, WY 82082	9/30/06	245-9320
	J. Kenneth Kennedy	PO Box 688 Wheatland, WY 82201	9/30/02	322-3100
	William L. Barlow	Barlow Route Gillette, WY 82716	9/30/04	682-9858
DIV. II	Timothy G. Barritt	P. O. Box 664 Upton, WY 82730	9/30/06	686-1125
	Robert E. Twing	12 Canal Road Buffalo, WY 82834	9/30/02	684-2314
DIV. III	Dick Steedley, Jr.	2236 Greever St. Cody, WY 82414	9/30/06	527-6712
	Jim Mayer	PO Box 175 Ten Sleep, WY 82442	9/30/04	366-2386
	Doyle Ward	PO Box 1841 Riverton, WY 82501	9/30/02	856-9014
DIV. IV	Robert T. Ablondi	Jorgensen Engineering PO Box 1142 Jackson, WY 83001	9/30/04	733-5150
	Marvin Bollschweiler	200 Cedar Evanston, WY 82930	9/30/02	789-3116
	Robert E. Johnson	1013 Oakway Rock Springs, WY 82901	9/30/06	362-6113

GROUND WATER CONTROL AREA ADVISORY BOARD MEMBERS				
CONTROL AREA	NAME	ADDRESS	TERM EXPIRE	DISTRICT NO.
LARAMIE COUNTY ESTAB. 9/2/81	Leonard Anderson	Box 665 Pine Bluffs, WY 82082	2003	DIST.5
	Greg Gross	407 Main Pine Bluffs, WY 82082	2004	DIST.1
	Audie Hoke	392 County Road 145 Carpenter, WY 82054	2004	DIST.2
	Don Berry	2436 Torrington Rd. Cheyenne, WY 82009	2003	DIST. 4
	Clarence Steege	1581 County Road 149 Burns, WY 82053	2004	DIST.3
PLATTE COUNTY ESTAB. 10/7/81	Lawrence Bacon	449 Bordeaux Road Wheatland, WY 82201	2003	DIST.5
	Doug Frederick	PO Box 35 Guernsey, WY 82214	2004	DIST.1
	Joe Johnson	29 West Johnson Road Wheatland, WY 82201	2004	DIST.2
	Gale Kittell	178 Kittell Road Wheatland, WY 82201	2004	DIST.3
	Keith Ockinga	604 Ayer Road Wheatland, WY 82201	2003	DIST.4
PRAIRIE CENTER ESTAB. 12/2/77	Blake Ochsner	HC 74, Torrington, WY 82240	2002	
	John Harris	HC 74, Box 260 Torrington, WY 82240	2002	
	Elden Baldwin	North Star Route Torrington, WY 82240	2002	
	Vacant			
	Chuck Berry	HC 74 Torrington, WY 82240	2003	

WYOMING MEMBERS OF INTERSTATE COMPACT COMMISSIONS AND REGIONAL AND INTERSTATE COMMITTEES RELATING TO WATER RESOURCES

BEAR RIVER COMMISSION (Idaho, Utah and Wyoming)

NAME, TITLE	POSITION
Richard G. Stockdale, Acting State Engineer (7/00 to 1/01)	Commissioner
Patrick T. Tyrrell, State Engineer (effective 1/16/01)	Commissioner
James Crompton, Citizen	Commissioner
John A. Teichert, Citizen	Commissioner
Gordon Thornock, Citizen	Alternate Commissioner
Jade Henderson, Superintendent Water Division IV	Alternate Commissioner, Technical Advisory Committee Member
Sue Lowry, Director of Policy	Alternate Commissioner, Technical Advisory Committee Member

UPPER COLORADO RIVER COMMISSION (Colorado, New Mexico, Utah and Wyoming)

NAME, TITLE	POSITION
Thomas J. Davidson, Deputy Attorney General	Commissioner
Patrick T. Tyrrell, State Engineer	Alternate Commissioner
Dan S. Budd, Interstate Stream Commissioner	Alternate Commissioner
Aaron H. McGinnis, Citizen (Until May 8, 2001, when he passed away)	Alternate Commissioner
John W. Shields, Interstate Stream Engineer	Engineering Committee Chairman

COLORADO RIVER MANAGEMENT WORK GROUP

NAME, TITLE	POSITION
John W. Shields, Interstate Streams Engineer	Member

COLORADO RIVER COMMITTEE OF FOURTEEN

NAME, TITLE	POSITION
Patrick T. Tyrrell, State Engineer	Member
John W. Shields, Interstate Streams Engineer	Member

COLORADO RIVER BASIN SALINITY CONTROL ADVISORY COUNCIL

NAME, TITLE	POSITION
Patrick T. Tyrrell, State Engineer (effective 1/16/01)	Member
Dan S. Budd, Interstate Stream Commissioner	Member
Gary Beach, Administrator Water Quality Division, Department of Environmental Quality	Member

COLORADO RIVER BASIN SALINITY CONTROL FORUM

NAME, TITLE	POSITION
Patrick T. Tyrrell, State Engineer (effective 1/16/01)	Member
Dan S. Budd, Interstate Stream Commissioner	Member
Gary Beach, Administrator Water Quality Division, Department of Environmental Quality	Member
John W. Shields, Interstate Streams Engineer	Work Group Member
Bill DiRienzo, Water Quality Div., Department of Environmental Quality	Work Group Member

GLEN CANYON ADAPTIVE MANAGEMENT PROGRAM

NAME, TITLE	POSITION
John W. Shields, Interstate Streams Engineer	Adaptive Management Work Group Member and Technical Work Group Member

RECOVERY IMPLEMENTATION PROGRAM FOR ENDANGERED FISH SPECIES IN THE UPPER COLORADO RIVER BASIN

NAME, TITLE	POSITION
Patrick T. Tyrrell, State Engineer (effective 1/16/01)	Recovery Implementation Committee Member
John W. Shields, Interstate Streams Engineer	Management Committee Member and Chairman
Paul Dey, Wyoming Game and Fish Department	Biology Committee Member and Chairman

COLORADO RIVER WATER USERS ASSOCIATION

NAME, TITLE	POSITION
John A. Zebre, Citizen	Immediate Past President, Board Member
Alan W. Harris, Citizen	Board Member
Benjamin C. Bracken, Citizen	Board Member and Public Affairs Committee Member
Merl Rissler, Citizen	Nominations Committee Member
Ann Strand, Citizen	Exhibits Committee Member
John W. Shields, Interstate Streams Engineer	Resolutions Committee Member and Membership Committee

MISSOURI RIVER BASIN ASSOCIATION

NAME, TITLE	POSITION
Sue Lowry, Director of Policy	Director & Vice-Chair

YELLOWSTONE RIVER COMPACT COMMISSION (Montana, North Dakota and Wyoming)

NAME, TITLE	POSITION
Richard G. Stockdale, Acting State Engineer (7/1/00 to 1/15/01)	
Patrick T. Tyrrell, State Engineer (effective 1/16/01)	Commissioner
Sue Lowry, Director of Policy	Advisor

BELLE FOURCHE RIVER COMPACT
(South Dakota and Wyoming)

NAME, TITLE	POSITION
Patrick T. Tyrrell, State Engineer	Member
Sue Lowry, Director of Policy	Advisor

UPPER NIOBRARA RIVER COMPACT
(Nebraska and Wyoming)

NAME, TITLE	POSITION
Patrick T. Tyrrell, State Engineer	Member
Sue Lowry, Director of Policy	Advisor
John W. Shields, Interstate Streams Engineer	Advisor

PLATTE RIVER COOPERATIVE AGREEMENT

NAME, TITLE	POSITION
Lawrence M. Besson, Administrator, Water Development Commission	Governance Committee Member
Patrick T. Tyrrell, State Engineer	Governance Committee Alternate
Norm DeMott, Goshen Irrigation District	Governance Committee Member
Rebecca L. Mathisen, Administrator, Technical Services Division	Water Management Committee Member, Outreach Committee Member
Dave Zelenka, Water Development Commission	Land Management Committee Member
Dave Zelenka, Water Development Commission	Technical Committee Member

NORTH PLATTE RIVER OWNERSHIP AND NATURAL FLOW COMMITTEE

NAME, TITLE	POSITION
Patrick T. Tyrrell, State Engineer	Member
Randy Tullis, Superintendent Water Division I	Alternate
John W. Shields, Interstate Streams Engineer	Advisor

COLUMBIA RIVER WATER MANAGEMENT GROUP

NAME, TITLE	POSITION
Patrick T. Tyrrell, State Engineer	Member

SNAKE RIVER COMPACT (Idaho and Wyoming)

NAME, TITLE	POSITION
Patrick T. Tyrrell, State Engineer	Member
Sue Lowry, Director of Policy	Advisor

SNAKE RIVER COMMITTEE OF NINE

NAME, TITLE	POSITION
Patrick T. Tyrrell, State Engineer	Advisory Member

WESTERN STATES WATER COUNCIL

NAME, TITLE	POSITION
Jim Geringer, Governor	Governor Member
Patrick T. Tyrrell, State Engineer	Member
Thomas J. Davidson, Deputy Attorney General, Attorney General's Office	Member
Dennis Hemmer, Administrator, Department of Environmental Quality	Member
Gary Beach, DEQ – Water Quality Division	Alternate
Lawrence M. Besson, Water Development Commission	Alternate
Sue Lowry, Director of Policy	Alternate

ASSOCIATION OF STATE DAM SAFETY OFFICIALS

NAME, TITLE	POSITION
David S. Benner, Safety of Dams Engineer	State Representative

INTERSTATE COUNCIL ON WATER POLICY

NAME, TITLE	POSITION
Sue Lowry, Director of Policy	Vice-President