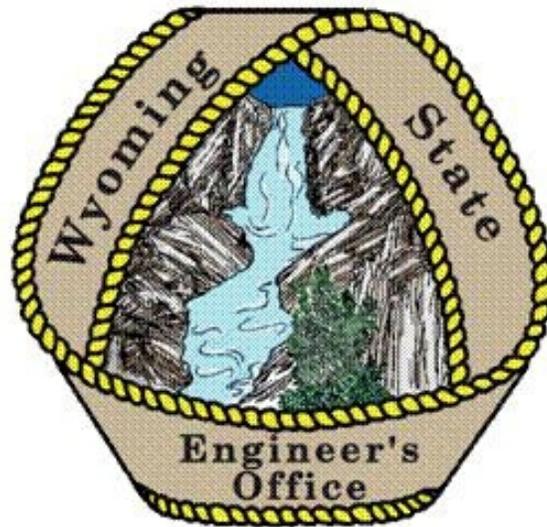


Wyoming State Engineer's Office



2016 Annual Report

Water Year 2016 (WY2016)

October 1, 2015 through September 30, 2016

STATE OF WYOMING

**WATER YEAR 2016
(WY2016)**

ANNUAL REPORT

OF THE

STATE ENGINEER

STATE BOARD OF CONTROL

BOARD OF PROFESSIONAL ENGINEERS AND
PROFESSIONAL LAND SURVEYORS

STATE BOARD OF EXAMINING WATER WELL DRILLING
CONTRACTORS AND WATER WELL PUMP INSTALLATION
CONTRACTORS

October 1, 2015 through September 30, 2016

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STATE ENGINEER

Patrick T Tyrrell, P.E.

WATER YEAR 2016

Water Year 2016 (WY2016) was a somewhat muted version of 2015. In both years, late spring snowpack was meager, and in both years spring rains and snows saved what otherwise might have been a troubling water supply for our constituents. But, whereas we had “miracle May” in 2015 which delivered prodigious (and in some locations, record-setting) moisture around the state that continued clear into mid-July, 2016 late spring precipitation was valuable if not as heavy. It did not last as long, and didn’t set records to speak of (in fact, the Black Hills received little rain during the summer of 2016, and saw a disaster declaration due to drought). But, in the North Platte basin, we saw Pathfinder Dam spill for the first time since 2011, and significant runoff in the Wind/Big Horn system filled reservoirs and created flooding concerns. From mid-summer on, the state saw rising temperatures and little relief in the way of rain, so storage was exercised and unirrigated pastures fared poorly in the later season. Could WY2016 have been worse? Certainly. Could it have been better? Well, yes, but we’ll take what we got.

THE 2016 BUDGET SESSION

Wyoming’s economy saw a dramatic decline in the prices of oil, natural gas, and coal, beginning in 2015. By the winter of 2015-16, revenue projections were stark, and as the legislature met, revenue shortfalls were projected to be severe. Even prior to the session, the Governor saw the problem, and sought voluntary “give-backs” from agencies that had resources they felt they could do without for the remainder of the biennium. About half the state agencies responded, and SEO offered up about \$262,000 in 200 and 900 series funds that we felt we could spare. By the time the session ended, additional cuts were made in two areas. These were called “austerity” and “penny plan” measures, and consisted of the following:

“*Austerity*” measures consisted of 2.5% cuts to our vehicle funding (MVMS), 5% to contract services (900 series), and 10% to travel funding (200 series). These cuts resulted in a \$146,200 reduction to the SEO budget.

“*Penny Plan*” cuts were 1% across the board cuts in 2017, and an additional 1% in 2018, for an overall reduction of 1.5%. These cuts for SEO amounted to \$413,000.

Because of the amount of attention paid to the budget, very little water legislation affecting our business was entertained, and none passed.

ADDITIONAL BUDGET REDUCTIONS

In late April, 2016, with the revenue picture further deteriorating, the Governor asked for an additional 8% cut across all agencies. These cuts were to be in place by the beginning of the 2017-18 biennium, or July 1, 2016. For SEO, this additional 8% amounted to \$2.288M, which included the forced the reduction of 12 FTEs (which we achieved through attrition). The reason

we were hit so heavily on the personnel side by the recent reductions is that previous budget cuts were accomplished largely through relinquishment of 200 and 900 series dollars. With those mostly tapped out (except for critical items) there was nothing left to reduce but our workforce. In other words, we are not an agency with funding streams or stand-alone programs that can easily come and go. Our work is largely one mission: the permitting, adjudicating, and regulating of water rights, accompanied by our defending those rights under interstate agreements (our compacts and decrees). Without defined programs to jettison, the only way we can adapt to revenue reductions is the simple reduction in services. Simply put, SEO will shrink.

As background, the SEO has been in budget-cutting mode since about 2009, when the national economic downturn finally hit Wyoming. Under former Governor Freudenthal, a 10% cut was applied to all general fund agencies, and unfilled positions were frozen (and many ultimately lost). In 2012, another economic relapse occurred, and Governor Mead sought reductions on the order of 4-8%. As an agency, we complied with all those requests, and began the belt-tightening that continues to this day. Only in a couple of ways were we able to get budget exceptions approved in these recent few years, and if you look at our standard and exception budget request and approval history since the late 2000s, you'll find a continued downward trend in exception items and staffing levels.

GROUNDWATER ORDERS

This was the third full year of operation under the Horse Creek (LaGrange Aquifer) Order issued in July of 2013. After receipt of pumping and water level data following the 2016 irrigation season, we will embark on a review of the three years of data collected to determine the future disposition of the LaGrange Aquifer Order. A hearing and decision on the Order is required by April 1, 2017, or the Order will simply remain in force as issued in 2013.

Like the Lagrange Order, at least three full years of metering and water level data will be compiled before the Laramie County Control Area's (LCCA's) Order's terms are revisited. This Order, reported on more fully last year when it was executed, includes other deadlines for meter installation and permit adjudication, which are ongoing (the meter installation deadline being October 1, 2016, or at a minimum meters must be in place before water use in Water Year 2017).

INTERSTATE STREAMS

While details of many interstate issues will be provided in that section, and in the Attorney General's section, I will hit a few high points here.

Notably in 2016, Sue Lowry, my long-time Interstate Streams (ISS) Administrator, retired effective June 2nd. Her tenure was marked by stellar service, and she was highly respected by our western counterparts. Sue will be missed. In July, Mr. Steve Wolff (of the ISS staff) was selected as her replacement. I'm proud to say that the transition from Sue to Steve has been as seamless as one could wish, due largely to Steve's previous experience in that work, and his leadership. While the ISS Division lost a position in the 2016 budget reduction effort, Steve has redoubled the efforts of that group and its work continues to meet our obligations as expected.

In Water Division I, Wyoming again became chair of the North Platte Decree Committee. This assignment revolves among the primary parties to the Modified Decree (WY, NE, and USBR). Assisting me for several years in all our North Platte dealings had been Mr. Matt Hoobler, our North Platte Coordinator. In July of 2016, Matt resigned his position to go to work for the Sweetwater Conservancy, and he is missed. Matt was energetic, and very capable in his work. He was replaced by Jeff Cowley from our Surface Water Division, another very capable and long-term employee, and I look forward to Jeff's growth in the position and to the many contributions he will make. Superintendent Brian Pugsley and the Torrington Staff have also helped Jeff get started in his position, and their work on assuring compliance with the Modified Decree has again been top notch.

In Water Division II, Superintendent Carmine LoGuidice retired and was replaced in April by David Schroeder. As in 2015, the spring snowpack was poor, and for the second year in a row, we received an interstate call from Montana to regulate our post-compacts rights for the benefit of Tongue River Reservoir. Given runoff forecasts, we determined the call was appropriate and it was honored. The call came on April 19th, just a little over a week after Mr. Schroeder started his job. David was up to the task, however, and Division II promptly measured storage in those our reservoirs with post-compact space. Additionally, post-compact direct flow diversions were tagged and not allowed to divert, and a public meeting was held to help inform our constituents of the ongoing regulation. Like 2015, spring snows and rains came to the rescue, and on May 2nd, Montana lifted its call under the assumption Tongue River Reservoir would fill (and it did). Sue Lowry's retirement left a brief vacancy for Wyoming on the Yellowstone River Commission, a position she'd held (along with the Bear River Commission, see below) since 2012, and I was appointed by Governor Mead to again represent Wyoming on this commission.

In Water Division III, I applaud the work of Loren Smith, even though his tributaries to the Yellowstone see none of the interstate attention that falls on the Tongue River. Still, Loren is our senior member of the Board of Control, and his leadership is critical. With two relatively new Superintendents in the last two years (David Schroeder in Division II and Kevin Payne in Division IV), Loren's role as mentor and sounding board for those men is critical to their growth, and he willingly obliges.

In Division IV, Bear River Compact operations continue under the steady hand of Kevin Payne. With Sue Lowry's retirement, I again was appointed Bear River Commissioner for Wyoming. Another long-serving commissioner, Mr. Gordon Thornock, retired from his post and his replacement, Mr. Tim Teichert, was named by Governor Mead. Tim is the son of John Teichert of Cokeville, who is a former Division IV Superintendent, and also a former commissioner.

Of course, Water Division IV also includes Wyoming's tributaries to the Colorado River (our Green and Little Snake Rivers). It was another busy year on the Colorado, including efforts on many fronts that I will list briefly below (covered in more detail in other parts of this annual report):

- LTEMP, or the Long Term Experimental Management Plan for Glen Canyon Dam, is seeing the near completion of its NEPA work, and a final EIS and ROD are expected by the end of calendar 2016. The basin states have been heavily involved in the EIS work to

make sure all our water interests are addressed appropriately, especially our compact apportionments, hydropower, and endangered fish recovery needs.

- Minute 319 to the Mexican Treat of 1944 is set to expire at the end of 2017. Work on this minute's successor (termed 32X) was intense during 2016, because of the interest in getting it executed prior to change of the US administration, and because of the important terms it contains (such as continuing Mexico's agreement to take voluntary shortage in proportion to the US' Lower Basin States' shortages). Because minutes take significant negotiation to complete, it is not known if 32X will be finished in the timeline described above.
- Drought Contingency Planning (DCP) continues in both the Upper and Lower Basins. The Lower Basin DCP lays out a procedure for those states taking additional shortages, up to a total of 1.1 MAF, to protect elevation 1020 at Lake Mead. The Upper Basin agrees and supports the protection of Lake Mead, and we are working closely with the Lower Basin to assure it is done in a way that meshes with the existing Law of the River.
- In November 2015, I committed to write a report for the Wyoming Water Development Commission (WWDC) and Select Water Committee which lays the history of and groundwork for the Law of the Colorado River, and Wyoming's place in it. That report was largely completed this year, and is anticipated to be given to the WWDC in November, 2016.

Other Colorado River topics are addressed in the ISS section of this report.

LITIGATION

With the exception of the MTvWY lawsuit, which will largely be covered in the Attorney General's section of this annual report, there was no other significant active litigation on which to report.

AGENCY NOTES

In WY2016, we again saw the retirement of some senior staff. As already mentioned, Sue Lowry and Carmine LoGuidice retired during the year. Water Year 2016 also saw the retirement of Allan Cunningham as Administrator of the Board of Control. Allan was replaced by Cheryl Timm (formerly Verplanke), and I look forward to Cheryl's contributions. Deputy State Engineer Philip Stuckert resigned in May, and because of budget reduction efforts underway at that time, his position was not refilled. Rick Deuell was put in a supervisory position over the SW, GW, and BOC Divisions, along with Support Services and HR, and reclassified to the deputy-level title of Assistant State Engineer. I very much appreciate Rick's steady hand and leadership in what has been, from a budget perspective certainly, a very difficult year.

Other new hires, and departures, are described in their respective sections of this report.

Once again I will recognize the steadfast, smart efforts of the people of the SEO. It's a privilege to work alongside them. As we engage in the business of assuring the beneficial use of Wyoming's water under our time-tested water law, the constituents of this state should be proud of the people shepherding that work.

ADMINISTRATION DIVISION

Submitted by:
Rick Deuell
Assistant State Engineer

GENERAL

The Administration Division is responsible for three separate functions in support of this agency. They include fiscal operations, human resources/personnel management, and support staff for the State Engineer. The Assistant State Engineer and Surface Water Administrator are responsible for preparing and publishing the Annual Performance Report, Strategic Plan, and Annual Report and other special projects.

FISCAL OPERATIONS

Fiscal Operations are supervised by Ms. Cricket Hoskins and is responsible for processing all fiscal transactions, budget preparation, and inventory control of the agency. This includes accounts payable and accounts receivable.

WY2016 coincided with the preparation of the supplemental 2017-2018 biennium budget to reduce the budget by 8% and benefit cost reductions. Fiscal was the lead in developing the budgetary documents.

Table 1 provides a summary of Agency's budget sent to the Governor's Office, the approved budget, and supplemental budget.

TABLE 1. TOTAL AGENCY REQUEST FOR 2017-2018 BIENNIUM BUDGET

Division	Agency Request	Approved Budget	Supplemental Budget
Administration	\$2,468,986	\$2,368,986	\$1,864,466
Ground Water	\$3,669,808	\$3,648,830	\$3,276,288
Surface Water and Engineering	\$3,159,270	\$3,157,270	\$2,615,068
Board of Control	\$13,534,280	\$13,358,515	\$12,428,785
Support Services	\$2,685,027	\$2,685,027	\$2,324,176
Board of Professional Engineers and Professional Land Surveyors	\$946,458	\$946,458	\$946,458
Interstate Streams	\$2,106,998	\$1,901,016	\$1,219,051
Special Projects	\$17,820	\$17,820	\$17,820
North Platte Settlement	\$1,489,050	\$1,489,050	\$1,371,640
Well Drillers Licensing Board	\$271,219	\$271,219	\$271,219
Total	\$30,348,916	\$29,844,191	\$26,344,971

The majority of this request, \$24,107,776 represents the costs associated with salaries and benefits. Personnel costs are 91.5 percent of the Agency’s budget for the upcoming biennium budget. The agency’s employment makeup is shown in Table 2.

TABLE 2. AGENCY PERSONNEL

Position Type	Number
Full Time Employees	127
Part Time Employees	10
Total	137

HUMAN RESOURCES

Ms. Loretta Green administers Human Resources for the State Engineer’s Office. Primary functions of the HR department include recruitment and selection activities; classification of positions; compensation analysis; benefit administration; payroll services; performance management and employee relations. HR also provides general counsel to employees, Division Administrators and Superintendents; conducts administrative actions as required; state and federal employment and labor law compliance, interpretation and advice; develops and implement policies, procedures, programs and practices with input from employees and management.

Last year, the number of employee turnovers within the agency totaled nearly ten percent of the workforce. A breakdown of each category is shown in Table 3.

TABLE 3. EMPLOYEE TURNOVER CATEGORIES

Category	No. of Employees
Retired	4
Transfer	1
Relocation	1
Compensation	0
Other	8

CAPITOL SQUARE PROJECT

As part of the Capitol Square Project, the Herschler Building is being renovated in phases. The first phase is renovation of the east wing. This necessitated a move for the SEO from the 4th floor west to the 1st floor east of the Herschler Building. The move occurred during the summer

of 2016. As a result of the move it was necessary to reduce the occupied floor area significantly. A reduction in office, work cubes, and storage sizes required that files be consolidated and moved to electronic format as much as practicable. This current location on Herschler 1st floor east is temporary; another temporary move to 2020 Carey Avenue is scheduled for January 2018.

HEALTH AND SAFETY MANUAL

The Agency Health and Safety Manual was updated again in 2016 and submitted Wyoming Workers' Safety and Compensation Division (Division). This is planned to be a dynamic plan. It is being added to and modified by the personnel most directly impacted. It has been given as PMI goal for several field personnel to update portions of the safety plan where they have in-depth expertise.

GROUND WATER DIVISION

This Water Year 2016 (WY2016) report covers the time period from October 1, 2015, to September 30, 2016, and provides a summary of the day-to-day accomplishments of the Ground Water Division (GW).

Submitted by:
Lisa Lindemann, P.G., Administrator
John Harju, Assistant Administrator
and the Ground Water Division Staff

PERMITTING AND MAINTENANCE OF WATER RIGHTS

Application Processing and Recording

During WY2016, 1,651 U.W. 5 Forms, or *Applications for Permit to Appropriate Ground Water*, were submitted to GW for review and approval. One thousand six hundred eighty (1,680) applications were approved to permit status, and 26 applications were rejected (Figure1). Sixty three (63) Forms R&D-1, or *Applications to Relocate &/or Deepen an Existing Domestic &/or Stock Well* were received, processed, and approved.

Permit Abandonment/Cancellation Program

During WY2016, 1,920 permits to appropriate groundwater were either abandoned or cancelled because the permittee either 1) failed to submit the required notices (i.e., Form U.W. 6, *Statement of Completion and Description of Well or Spring*, and/or U.W. 8 Form, *Proof of Appropriation and Beneficial Use of Ground Water*) within the statutory time limits, 2) the permittee requested cancellation of the permit, and/or 3) the well was abandoned. An abandoned well can be capped, filled or plugged so that it is rendered unproductive and prevents contamination of the groundwater.

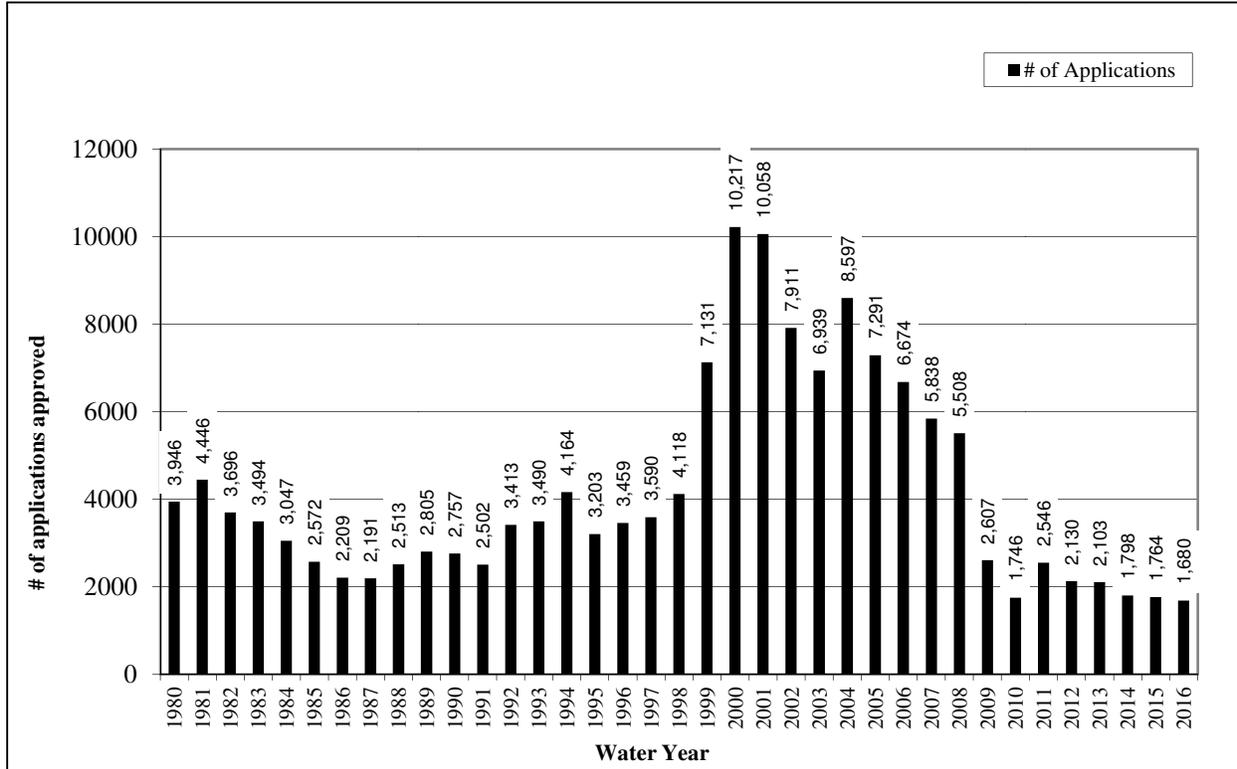
One thousand six hundred seventy (1,670) expiration letters were prepared and mailed in WY2016, notifying applicants that their groundwater permits were about to expire because complete U.W. 6 and/or U.W. 8 Forms had not been submitted.

Permit Maintenance Program

Five hundred (500) ownership assignment requests were received and processed during WY2016, resulting in the assignment of water rights to different owners.

Requests for 520 extensions of time to provide U.W. 6 and/or U.W. 8 Forms were received and processed. One thousand four hundred two (1,402) U.W. 6 Forms and 427 U.W. 8 Forms were received during WY2016. Four hundred twenty three (423) forms received were not acceptable for filing and were returned to the agent or applicant for additional information.

Figure 1. STATE ENGINEER'S OFFICE GROUND WATER PERMIT APPROVALS (ALL USES) PER WATER YEAR



Water Rights Search Requests

The availability of groundwater rights and well data through internet access has decreased the number of search requests received by GW. Approximately 10,000 to 15,000 requests for small searches (i.e., less than 10 water rights per search) are received annually. GW encourages those entities requesting water rights searches to utilize e-Permit, the SEO’s electronic water rights database.

ADJUDICATION OF WATER RIGHTS

One hundred and seventy (170) *Maps to Accompany Proof of Appropriation and Beneficial Use of Groundwater* (Beneficial Use or “BU” Maps) were received in WY2016, representing 198 water rights to be inspected by GW (maps may depict more than one well/water right). Of the 170 BU maps, 71 were drafts submitted for review prior to the licensed surveyor or engineer submitting a final acceptable BU Map, 77 were first submissions, 18 were first revisions, two were second revisions, and two were either third revisions or revisions made subsequent to an adjudication field inspection.

During WY2016, 206 water rights were inspected by GW who then prepared the associated proofs, collected fees and signatures from the applicable appropriators, and presented the proofs to the Board of Control (BOC) for adjudication. One hundred and eighteen (118) proofs were

presented at the November 2015 BOC meeting and 88 proofs were presented at the May 2016 BOC meeting, of which 86 were adjudicated (two proofs were pulled due to petition-related issues). Two hundred four (204) groundwater proofs were adjudicated in WY2016.

CONTROL AREAS

Laramie County Control Area (LCCA)

Election of Board Members

Election of the Laramie County Control Area (LCCA) Advisory Board members was held on July 13, 2016. Ty Anderson (District 1), Jay Burnett (District 2) and Casey Epler (District 3) were elected to serve on the Advisory Board through 2019. Three (3) LCCA Advisory Board meetings were held during WY2016. The Advisory Board met on October 20, 2015, April 28, 2016 and August 16, 2016. Three (3) applications were reviewed by the LCCA Advisory Board and approved to permit status during WY2016.

Review of Applications and Petitions

Three (3) applications were received in the Laramie County Control Area during WY2016:

Allan Ness: T.F. No. U.W. 44-7-099; Reese No. 2; this application is for a new 50-gpm well located in the SW $\frac{1}{4}$ NW $\frac{1}{4}$ Sec. 17, T14N, R65W to be used to supply 44 mobile homes, one office building, large scale lawn & landscape watering & fire suppression within the High Plains Mobile Homes Ranch service area. Water from this facility will commingle with water from the Reese No. 1 Well, Permit U.W. 24588, 1st Enl. Reese No. 1, Permit No. U.W. 74096, and 2nd Enl. Reese No. 1, Permit No. U.W. 205124. There will be a total volumetric quantity of water produced of 25 acre feet per year. The Laramie County Advisory Board recommended to the State Engineer to approve the Reese No. 2 well application.

Bonnie Bath-Epler & Casey F. Epler - T.F. No. U.W. 44-1-102; Enl. (U.W. 28074) Epler #3 Irrigation; this application is for an enlargement for additional yield, volumetric quantity, points of use and expanded use only. The U.W. 28074 Epler #3 Irrigation, Permit No. U.W. 200990 is located in the SW $\frac{1}{4}$ NE $\frac{1}{4}$ of Sec. 7, T15N, R63W and is permitted for 25 gallons per minute (gpm) to provide water to two stock tanks located in the SW $\frac{1}{4}$ NE $\frac{1}{4}$ of Sec. 7. This enlargement is to provide water for oil and gas exploration and development located in all of T15N, R63W; T16N, R63W; T15N, R64W. There will be an increase in the total volumetric quantity of water from 38.9 acre ft. to a total of 39.9 acre ft. per calendar year and an increase in the instantaneous rate of production of water from 25 gpm to 50 gpm. The well is completed in the High Plains Aquifer. The Laramie County Control Area Advisory Board recommended to the State Engineer to deny the Enl. Epler #3 application.

Lazy JR Land & Livestock - T.F. No. U.W. 44-6-119; 2nd Enlargement of J.R. #10 Well (U.W. 22432); this application is for an enlargement for additional volumetric quantity, points of use, and expanded use only. The J.R. No. 10 Well, under Permit U.W. 22432 and Permit No. U.W. 24534, Enlargement J.R. No. 10, are located in the NE $\frac{1}{4}$ SE $\frac{1}{4}$ of Sec. 26, T17N, R63W and are

adjudicated for a combined total of 1100 gpm to irrigate 221.1 acres located in Section 25 and 26. This enlargement is to provide water for oil and gas well drilling purposes, construction purposes, and dust abatement throughout Laramie County, Wyoming. The maximum volumetric quantity of water to be beneficially used per calendar year is 65 acre ft. The well is completed in the High Plains Aquifer. The Laramie County Control Area Advisory Board recommended to the State Engineer to approve the 2nd Enlargement of J.R. #10 Well application.

Two Petitions required review by the LCCA Advisory Board during WY2016:

Norman Sanders: Board of Control Petition Docket No. I-U-2016-2-4 for change of Use of the Sanders #2 Well, Permit No. U.W. 314, priority March 17, 1960. The well is located in the NE $\frac{1}{4}$ NE $\frac{1}{4}$ of Sec. 30, T14N, R60W, and is adjudicated for Industrial purposes (Gravel Washing) for 325 gpm. The reason for the requested change is the water from the well is currently being used to water trees in a windbreak and is no longer being used to wash gravel. There will be no increase in the amount of the volumetric quantity of water. The Laramie County Advisory Board recommended to the Board of Control to approve Petition Docket No. I-U-2016-2-4.

Winston Keith and Norma J. Lerwick: Board of Control Petition Docket No. I-U-2016-2-6 for amended land description, means of conveyance, and issuance of an amended certificate of appropriation of the Crossan No. 1 Well, Permit U.W. 31054, priority September 22, 1975. The Crossan No. 1 Well is located in the SW $\frac{1}{4}$ NW $\frac{1}{4}$ of Sec. 4, T16N, R64W, and is adjudicated for 900 gpm for 160 acres. The reason for the requested change is to replace an outdated center pivot sprinkler system with a new one upon lands with better production. There will be no increase in the instantaneous flow rate, total volumetric quantity of water used per calendar year, or number of acres irrigated. The Laramie County Advisory Board recommended to the Board of Control to approve Petition Docket No. I-U-2016-2-6.

Hydrogeologic Study of the Laramie County Control Area

Previous annual reports have detailed the LCCA Hydrogeologic study which commenced with *Temporary Order Adopting Well Spacing Requirements within the Laramie County Control Area* on April 11, 2012. On April 1, 2015, the State Engineer issued an order to guide groundwater development within the LCCA for the following five years.

On September 19, 2014, five appropriators within the LCCA submitted a petition to the BOC to expand the boundaries of the LCCA. On November 3, 2014, the City of Cheyenne filed a motion to dismiss the petition because "... it is not possible for a potentially impacted party to determine whether Petitioners are seeking to expand or contract the current control area and if so, in what manner." Furthermore "[g]iven the nature of the Petition and its lack of specificity, the City, or any other potentially affected party... is unable to determine whether it is a proper party [to the proceeding]."

The BOC considered an amended petition at its February 2015 meeting, requesting that the geographic boundaries of the LCCA extend to all of Laramie County. The BOC scheduled a hearing for September 29, 2015.

On September 24, 2015, Water Division I Superintendent and Hearing Officer Brian Pugsley received a letter from the Petitioners requesting continuance of the hearing. The request was approved and the Hearing Officer issued an Order for Continuance on September 24, 2015. The hearing was held on January 26, 2016 in Cheyenne and the Board of Control denied the petition.

Leading the Charge – Wyoming Water Wstrategy

Theme 1.3 of Governor Mead’s Water Strategy for Wyoming (Groundwater Analysis and Control Area Management Framework) includes a directive to provide information and support for a locally led pilot to develop a plan/agreement for groundwater use in the LCCA. This theme initiative directs the SEO to better develop information sharing and management tools for Ground Water Control Areas.

To accomplish this task, GW prepared an exception request for funding in the 2017-2018 biennium budget that allows:

1. Expansion and improvement of the existing monitoring well network in Laramie County to gather credible data which can be used to effectively manage the groundwater resource, and
2. An addition of one full time employee (fte) to the existing GW staff of 20, to facilitate information sharing and management of data - not only for ground water control areas but for all appropriators who are, and have been required to report their groundwater production and/or static water levels.

This exception request was not approved.

Web Application and Form Development Update

GW began lightweight testing of the *Online Water Use Reporting Web Application* internally in January 2016 and expanded the testing phase to a limited set of appropriators in March 2016. To date, GW received more than 350 monthly water use reports through the web application, which has significantly reduced the time effort it takes to get reports uploaded to e-Permit by eliminating the manual scanning process of reports.

The public testing phase identified some initial errors in the system that needed to be adjusted, but also gave way to some suggestions for improvements. Additional work will continue throughout WY2017 to identify any errors and performance issues within the web application and GW still needs to identify a data storage program where data will be retained and will easily be queried for data analysis purposes.

Platte County Control Area

Election of Board Members

Election of the Platte County Control Area Advisory Board members was held on July 14, 2016. Silvia Rutherford (District 1), Richard L. Johnson (District 2), and James Rietz (District 3) were elected to serve on the Advisory Board through 2020.

One (1) Platte County Control Area Advisory Board meeting was held during WY2016 (May 4, 2016).

Review of Applications and Petitions

Three (3) applications were received in the Platte County Control Area during WY2016:

Kenneth Jenkins: T.F. No. U.W. 43-10-347, Enl. Chaplin No. 2 well is an enlargement for additional acreage and volumetric quantity only. The Chaplin No. 2 well, Permit No. U.W. 181307, priority date of September 8, 2006, located in the NW¹/₄SW¹/₄ of Sec. 11, T24N, R68W is permitted for 800 gpm to irrigate a total of 75.4 acres located in the N¹/₂ of Section 11. This enlargement is for an additional volumetric quantity of 210 acre feet for a total of 485 acre feet per calendar year and for 73.4 additional acres located in the S¹/₂ of Section 11. These lands receive an Original Supply from Wheatland Irrigation District. Advertising started on August 3, 2016. Protest period ended on February 29, 2016. No protests received. The Platte County Control Area Advisory Board recommended to the State Engineer to approve the Enl. Chaplin No. 2 Well application.

Alexander Construction Co.: T.F. No. U.W. 44-10-120; DJH 1. Is a new 80-gpm well, to be located in the NW¹/₄NW¹/₄ of Sec. 30, T24N, R67W, and used in a concrete Redi Mix Plant for batching concrete, washing sand, equipment wash down, dust control and potable and sanitary supply. The total volumetric quantity of water used per year will be two acre-feet. Advertising started on March 30, 2016. Protest period ended on April 25, 2016. No protests received. The Platte County Control Area Advisory Board recommended to the State Engineer to approve the DJH 1 Well application.

Marty Shepard and Missy Shockley: T.F. No. U.W. 44-6-194, Enlargement Dry Hole No. 1 Well is an enlargement for additional volumetric quantity and acreage only. The Dry Hole No. 1 Well, Permit No. U.W. 34162, is located in the SW¹/₄SW¹/₄ of Sec. 6, T24N, R67W, and is adjudicated for 1225 gpm to irrigate a total of 144.76 acres. This enlargement is to provide water to an additional 105 acres located in the SE¹/₄ of Sec. 1 T24N, R68W. There will be no increase in the gpm from this well; however there will be an increase in the volumetric quantity of water, in the amount of 315 Acre-Feet, to be used per year. Advertising started on August 3, 2016. Protest period ended on August 29, 2016. No protests received. To date this application is awaiting review and a recommendation by the Platte County Control Area Advisory Board.

One (1) Petition was received in the Platte County Control Area during WY2016:

True Ranches LLC: Board of Control Petition Docket No. I-U-2015-4-2 for change in location of the True Feedlot No. 5 Well, Permit No. U.W. 67206, priority December 12, 1983. The well is located in the SE¼NE¼ of Sec. 17, T24N, R68W, and is adjudicated for 100 gpm for a feedlot. The reason for the requested change is the well has collapsed. There will be no increase in the amount of the appropriation. The Platte County Control Area Advisory Board recommended to the Board of Control to approve Petition Docket No. I-U-2015-4-2.

Prairie Center Control Area

No Prairie Center Advisory Board elections were held during WY2016 and no new applications were received in the Prairie Center Control Area, subsequently, no Advisory Board meetings were held during WY2016.

MONITORING WELL NETWORK

GW maintains a network of approximately 200 active monitoring wells throughout the state and a number of inactive monitoring wells. Seven GW staff are responsible for operation and maintenance of the monitoring well network, as well as data processing.

Subject to both staff and budget cuts, GW conducted an inventory of the agency's monitoring well network in WY2016 and identified wells that required 1) removal from the network, 2) rehabilitation, 3) secured installations (i.e., sanitary well caps, surface seals and locking steel protectors), and/or 3) plugging and abandonment. Remaining biennium funds were used to conduct these activities, in addition to acquisition and installation of new recording equipment (i.e., water level sensors/data loggers) which replaced aging equipment that could no longer be technologically supported. Each of these activities will continue in WY2017 pending availability of funds.

Reduction of the monitoring well network will facilitate GW's ability to more effectively manage those wells capable of providing credible and defensible data. Properly plugging and abandoning wells that are potential environmental and/or physical hazards is an activity that is also long overdue.

Data for the SEO's monitoring wells are available at the following web page <http://seoflow.wyo.gov/WDPortal/> under GW's Section.

Access Agreements

Historically, GW accessed monitoring wells located on privately held lands largely through "hand shake" agreements with the applicable landowners. Subsequent to the recent enactment of Wyoming Statutes § 6-3-414 (Trespassing to unlawfully collect resource data; unlawful collection of resource data), and § 40-26-101 (Trespassing to collect data-civil cause of action), that practice has ceased. These statutes prohibit trespassing to unlawfully collect resource data. Collecting resource data includes entering onto open land without an ownership interest or permission to collect information. In WY2016, GW aggressively secured access agreements

from those entities on which monitoring wells are located. If agreements could not be reached, the associated wells were dropped from the monitoring network.

Thermopolis

During WY2016, GW plugged and abandoned the GTW-No. 1 and GTW-No. 3 monitoring wells near Thermopolis, WY. Both wells were drilled in 1982 with Wyoming Water Development Commission (WWDC) funds at the request of the Town which was at the time, investigating the feasibility of using the geothermal resources of the area to heat homes within their municipality.

Since funding to either rehabilitate or replace the wells was unavailable, GW, with consent from the Wyoming Department of State Parks and Cultural Resources, proposed plugging and abandoning the wells. GW obtained consent from the Town of Thermopolis, Hot Springs County and the U.S. Department of the Interior – Bureau of Land Management (BLM) to plug and abandon the wells in compliance with the State Engineer’s Office Water Well Minimum Construction Standards, encumbered the necessary funds, and obtained an approved contract to accomplish that effort.

GTW-No. 1 Well

The GTW-No. 1 well was located in the NESW, Section 18, T43N, R95W, Hot Springs County, Wyoming on land owned by the U.S. Department of Interior – Bureau of Land Management (BLM) (Lat: 43° 41’35.06”, Long: -108° 18’ 35.75”). The well was approximately 354 feet deep with an original (1982) static water level of 252 feet below land surface (bls).

GW collected water level data from the GTW-No. 1 well since 1983. In 2006, the water level declined to below the bottom of the completed well. Declines in recorded water levels appeared to be correlated with localized seismic activity immediately prior to that time. A down-hole camera was utilized in 2010 to investigate the condition of the casing and encountered blockages above the level of historic water levels and possibly shifted casing. In 2013, GW unsuccessfully attempted to remove an obstruction from the well. The well was plugged to a point at, or above, the static water level. GW has not collected water level data from the well since 2013.

In September 2016, GW removed the well shelter, monitoring equipment, and concrete surface seal, and hand-excavated around the surface casing. Both the surface and production casings were cut off approximately 22 inches below land surface (bls). On September 19, 2016, the surface casing was filled with cement slurry to approximately 30 inches bls, and the production casing was filled with alternating sections of bentonite chips and cement slurry after tagging the bottom of the production casing at 251 feet bls. The excavation was backfilled with native soil and all waste materials were removed from the site.

Permit No. U.W. 60622 was issued to both the Town and the U.S. Dept. of the Interior – Bureau of Land Management (BLM) as co-applicants. GW requested and received approval from both entities to cancel the water right which allowed beneficial use of groundwater for Miscellaneous purposes (i.e., monitoring and testing).

GTW-No. 3 Well

The GTW-No. 3 well was located in the SESW, Section 25, T43N, R95W, Hot Springs County, Wyoming (Lat: 43° 39'32.18", Long: -108° 12' 37.29"). When drilled, the well was approximately 228 feet deep with an original static water level of 113 feet bls.

In 2013, GW unsuccessfully attempted to remove an obstruction from the well. The well was plugged to a point at, or above, the static water level. GW has not collected water level data from the well since 2013.

In September 2016, GW removed the well shelter, monitoring equipment, and concrete surface seal, and excavated soil to expose the upper surface casing. The bottom of the surface casing was tagged at 79 feet bls, and the production casing at 100 feet bls. Both the surface and production casings were cut off approximately 18 inches bls, and filled with bentonite chips. The excavation was then backfilled with native soil and all waste materials were removed from the site.

Permit No. U.W. 60621 was issued to the Town of Thermopolis. GW requested and received approval from the Town to cancel the water right which allowed beneficial use of groundwater for Miscellaneous purposes (i.e., monitoring and testing).

Albany County - Casper Formation

Two monitoring wells are located in the Laramie, WY area. These wells are completed and used to track water levels in the Casper Formation. Data from these wells continue to be used as support for groundwater development projects in the vicinity. Negotiations are ongoing regarding the operation of these locations. These wells are not owned by the State, however due to concerns in the area, the wells will continue to be maintained and operated by GW until terms are reached for return of the wells to the respective owners. Pressure transducers were purchased in WY2016 and GW anticipates installing these devices in WY2017.

Laramie County

Data from the Laramie County monitoring well program continues to be used for Control Area Advisory Board recommendations and State Engineer actions. These sites remain a valuable tool in the processing and review of applications submitted for all uses within and subject to the LCCA and the State Engineer Order for Corrective Controls.

The Elmer Glantz well (as reported on Statement of Claim No. U.W. 349), is located southwest of Pine Bluffs, WY and was constructed June 1, 1945. The Statement of Claim further reports that three boreholes were drilled at this location and that the boreholes were connected at depth. The well was maintained as a cooperative site with the U.S. Geological Survey between 1969 and 2012, at which time the cooperative agreement ended. Water levels have been measured by hand by GW staff since that time.

For several years, GW staff expressed concerns relative to environmental and physical hazards associated with the Elmer Glantz well, including surface subsidence and holes in the ground surface large enough to allow bodily entry – intentional or accidental.

Using end-of-the-biennium funds, GW coordinated and managed remedial work on the well, including removal of the dilapidated cement pad, plugging of neighboring open casings, and re-completion of the historically monitored borehole. The northernmost borehole was compromised approximately 30 feet bls. This borehole was plugged with bentonite chips to approximately two feet bls. The 18-inch casing was cut off approximately two feet bls. The southernmost borehole was open to approximately 80 feet bls. This borehole was filled to approximately 50 feet bls with washed pea gravel, and then to surface with bentonite chips. The casing of the southern borehole was cut off approximately two feet bls. The middle borehole, in which water levels have historically been collected, was measured as 85 feet deep. This borehole was recompleted as a monitoring well by installing 4-inch PVC casing to 77 feet bls with a 20-foot section of slotted casing from 57 to 77 feet. Washed pea gravel was then emplaced from 51 to 77 feet. The remaining annulus was filled with bentonite to approximately three feet bls.

Twelve old “float and weight” water level recorders were removed from Laramie County monitoring wells (the LC#2, LC#5, LC#6B, LC#8, LC#11, LC#15, LC#16, LC#17, LC#18, FIRESTATION #3, MX-NORTH-B-1, and MX-WEST-B-7 wells) - many of which were no longer reliable at recording and delivering data. An assessment of historical data collected from the 12 wells indicated continuously recorded water level data was not necessary to capture the long-term trends and minor seasonal fluctuations seen in each of the wells, except for LC#2, which was fitted with a new transducer. Therefore, GW will now measure water levels in the remaining 11 wells by hand.

GW purchased seven new pressure transducers in WY2016. Pressure transducers were installed in the SW Carpenter, SE Carpenter, CC Gross, Elmer Glantz, LC#1 and LC#2 wells. The Elmer Glantz and LC#1 wells were chosen as critical locations where continuous water level measurements had not previously been recorded but should be recorded. Existing and new well locations that would benefit from the installation of transducer locations will be evaluated on an ongoing basis.

Three wells were removed from the Laramie County monitoring well network in WY2016. WYDOT Horse Creek #1 well was discontinued as the screen is understood to commingle multiple different aquifers. The Pioneer Park #1 well, a 25-foot deep well located near Interstate 25, shows major influence from surface water runoff from the Interstate. The Rowley No. 1 well, located on an occupied domestic lot, is currently inaccessible due to a newly constructed fence, and is thought to be pumped for domestic supply.

Two additional monitoring wells were drilled in Laramie County as required by the conditions attached to a permit for industrial use (i.e., oil and gas water flood) for a well to be completed in the Fox Hills Sandstone (Permit No. U.W. 203409). One monitoring well is screened in the Fox Hills Sandstone, the other is completed at the base of the White River Formation. The purpose of the monitoring wells is to collect aquifer test data which will help define any interconnection

between aquifers, and changes in water levels in the immediate area of the production well – activities conducted by GW.

Platte County

Platte County Control Area Advisory Board recommendations and State Engineer actions rely on data from the Platte County monitoring well program. These data sites remain a valuable tool in the review and processing of groundwater applications submitted for all uses within and subject to the Platte County Control Area.

GW secured data collection access agreements from all landowners on which monitoring wells are located in Platte County by May 2016.

New pressure transducers with built-in barometric loggers were purchased for 12 of the 15 Platte County monitoring wells. The transducers will replace existing “float and weight” devices in an effort to modernize equipment currently measuring and recording groundwater levels. GW will install the transducers in WY2017.

One of the 15 Platte County monitoring wells was identified for plugging/abandoning which will occur in Spring of 2017.

La Grange Area

It was GW’s intent to collect water levels from monitoring wells in the La Grange area on a monthly basis. The data assist the Water Division 1 Superintendent and State Engineer in the management and regulation of groundwater usage, as well as implementation of the State Engineer’s Order relative to the Horse Creek Basin. However, WY2016 data collection was postponed until data collection access agreements could be secured. To date, GW has obtained access agreements for only six of the 20 monitoring wells that have been measured in the past. Three monitoring wells were removed from the La Grange area monitoring well network but remain in the care of the current respective land owner(s).

GW will continue efforts to secure access agreements to eight additional monitoring wells that ideally should remain part of the monitoring well network.

GW plugged and abandoned two monitoring wells in the La Grange area in WY2016. An additional monitoring well was recompleted with four-inch PVC casing. GW plans to properly plug and abandon the remaining inactive monitoring wells in WY2017.

GW plans to install four pressure transducers with built-in barometric loggers for continued data logging in WY2017.

In addition, the La Grange area still has three wells that have not been measured in a number of years that still require some form of action to be taken.

Prairie Center Control Area and Madison Monitoring Wells

The Prairie Center Control Area and Madison Monitoring Well network was comprised of 31 monitoring wells. Twenty (20) of the wells were equipped with float driven digital water-level recorders. Significant changes were made to the Prairie Center and Madison Monitoring networks during WY2016.

GW discontinued measuring ten Madison Network wells. Several of these wells are public water supply wells and potential liability concerns outweighed benefits of collecting information. Justification in other cases consists of locations destroyed by landowners and wells that are compromised above the air-water interface.

GW changed 12 of the monitoring wells from float-and-weight recorders to hand-measurement locations. In addition, several pressure transducers were purchased for installation. New equipment installation will occur in WY2017.

Gillette Area Monitoring and Subdivision Wells

The Gillette Area and Subdivision Monitoring wells provide information related to groundwater developments in Campbell County and in the vicinity of the City of Gillette. The G-Mon-7 well remains inactive and in need of rehabilitation, abandonment, and/or relocation.

Data from monitoring wells and active subdivision production wells in this area were used in WY2016 to support actions of the State Engineer on new and existing permits. These wells continue to be used for verification of reported water level declines in the Fort Union Formation. The water systems and water system operator covering the majority of public water systems continue to communicate with this office, including the reporting of water levels on a routine basis, allowing the systems to have better control of well head protection and for GW to maintain the acquisition of water levels that are representative of 24-hour shut-in values. This cooperative effort will continue in the future.

In WY2016, GW installed acquired updated recording equipment, conducted routine maintenance, and placed a locking monitoring well monument on one well to secure the wellhead. Recording equipment and sanitary well caps were purchased in WY2016 and will be installed in WY2017. Data access agreements are in place, or pending, for these wells.

Coal Bed Natural Gas

Coal bed natural gas (CBNG) fields in the Powder River Basin appear to have reached or are reaching the end of their productive life, with many fields formally abandoned. GW's series of CBNG monitoring wells provides data related to the long-term state of groundwater resources post-CBNG development. Data from these wells are provided to the Gillette Area Groundwater Monitoring Organization (GAGMO) for modeling efforts related to the surface coal mining activities in the Powder River Basin.

The CBNG monitoring wells are equipped with aging data acquisition equipment. New pressure transducers were purchased for two monitoring wells in WY2015 and updated data logging equipment purchased in WY2016. Due to staff changes during WY2016, the new equipment was not installed in WY2016. Rehabilitation work will be scheduled as new GW staff are trained in the operation of the equipment, location of wells, and the safety and equipment needs of working on wells that may have active CBNG pressure at the well head. GW anticipates the new equipment will be installed in WY2017. Data Access Agreements are in place or pending for these wells.

USGS Cooperative Data Program

As discussed in previous Annual Reports, the cooperative groundwater level data program between the SEO and U.S. Geological Survey ceased in WY2012 due to a lack of funding. Internet access to historic cooperative monitoring well data products is available at <http://waterdata.usgs.gov/nwis/gw>.

Continuing Efforts

As referenced in previous Annual Reports and previous sections in this report, the monitoring well network has several wells that are in need of rehabilitation. Wells requiring rehabilitation or abandonment are maintained as temporarily out-of-service until funding and resources are available. During WY2016 funds were allocated to better secure wellhead access and limit liability concerns with several locations. Funds were also allocated to plug several wells and to re-complete several locations. While much of this work was completed in WY2016, additional work will be completed in WY2017. Availability of these funds was dictated by remaining fiscal-year budget dollars as opposed to dollars earmarked for monitoring wells. Declining budgets for monitoring well installation and maintenance, combined with denied exception requests to support gubernatorial initiatives is a disappointing footnote on the State Engineer's Office (SEO) groundwater monitoring well network future.

GROUNDWATER INVESTIGATIONS/STUDIES

USGS/SEO Lance/Fox Hills Study

As part of the Cooperative Agreement with the USGS, the SEO authorized the USGS to conduct a study that would provide additional characterization of the High Plains aquifer system in eastern Laramie County, as well as characterization of underlying Upper Cretaceous aquifers (Lance Formation and Fox Hills Sandstone) which likely have some potential to be utilized as a supplemental or alternative water supply to the High Plains aquifer system.

The objectives of the study are to:

1. Improve understanding of the physical and chemical characteristics of the Tertiary High Plains aquifer system and underlying Upper Cretaceous aquifers (Lance Formation and Fox Hills Sandstone) in eastern Laramie County, Wyoming, and initially evaluate the relative hydraulic connection between the aquifer system and aquifers; and

2. Improve understanding of recharge to and apparent groundwater age of the High Plains aquifer system and Upper Cretaceous aquifers through the use of chemical tracers in the unsaturated and saturated zones.
3. A USGS Scientific Investigations Report (SIR) will be prepared describing the results of the study. The report will consist of text, tables, illustrations, and photographs of core and/or thin sections, as well as one or two plates—the plates will graphically show/describe the physical, chemical, and geophysical characteristics of the entire exploratory borehole at the drilling site. The results of this study will be placed in the context of all previous investigations in order to improve understanding of these critically important aquifers in southeast Wyoming and in the United States.

As part of this project, the USGS drilled and logged a stratigraphic test hole in November 2012 to approximately 960 feet below ground surface. The test hole drilling included continuous coring from ground surface through the Fox Hills Sandstone.

During WY2014, the USGS installed a clustered set of three groundwater monitoring wells. A Fox Hills Sandstone well was completed between 810 to 840 feet below ground. A basal White River Group (Chadron Fm.) well was installed between 467 and 482 feet below ground. Additionally, a Brule Formation well was installed between 117 and 128 feet below ground. The wells were developed and groundwater quality sampling was performed.

During WY2015, the wells were equipped with groundwater level recording instrumentation. Additionally, the USGS collected a water-quality sample from a Fox Hills Sandstone completion installed under Permit No. U.W. 202090 (Shatto 1-10 WSW). Furthermore, the USGS collected a water-quality sample from a Fox Hills Sandstone completion installed under Permit No. U.W. 203406 (FORNSTROM FRESH WATER SOURCE WELL). GW expects a report from the USGS in WY2017 which will compile all water-level and water-quality data from these efforts.

OIL AND GAS RELATED ACTIVITIES

Even with a suppressed energy market, GW granted 52 new permits for water supply supporting oil and gas exploration, drilling, and completion activities in WY2016. Each application must comply with existing stipulations (e.g. Control Area limitations, sage grouse review, N. Platte river review, etc.) and follows the same review process as any other groundwater application.

Water supply for oil and gas water hauls is a time-limited activity and does not receive a permanent water right. Permits are typically issued for 2-year periods with the option to request extension from GW. Some of these wells will revert to the underlying landowner for stock watering or reservoir supply, but most will continue on a temporary basis.

Appropriators are required to install a flow meter and report monthly production to GW. Forty-five (45) entities are currently reporting water production on 158 permits for oil and gas-related water uses. The point of use is limited to the area identified on the application for the specified flow rate and volumetric quantity. Any changes must be requested and approved by the State

Engineer and documented on the permit record. This year GW initiated electronic reporting to help streamline tracking efforts. Most operators embraced the new reporting process and are supportive of an online reporting system.

Due to control measures restricting new well development in the Laramie County Control Area (LCCA), most water sources are secured through Temporary Water Use Agreements from existing, permitted water rights on a temporary basis. These agreements are currently administered by the Surface Water Division (SW) regardless of whether the source of supply is surface water or groundwater. Appropriators seeking new water well permits must comply with the Order of the State Engineer for the Laramie County Control Area (April 1, 2015) by adhering to spacing requirements and targeting deeper sources such as the Lance or Fox Hills Formations.

Coal Bed Natural Gas

Coal Bed Natural Gas (CBNG) or Coal Bed Methane (CBM) production continues to decline in Wyoming resulting in fewer groundwater permits issued (Table 1). No new CBNG applications were received during WY2016:

Table 1. CBNG Groundwater Permits

Water Year	Total Applications	Number Companies
2016	0	*
2015	42	*
2014	76	*
2013	50	*
2012	180	*
2011	654	*
2010	747	*
2009	706	*
2008	2157	30
2007	3405	34
2006	3632	56
2005	4784	52
2004	4758	39
2003	3938	48
2002	5663	58
2001	6093	55
2000	5811	86
1999	2532	51

**This search is no longer available.*

The SEO continues to monitor industry activity in the Powder River Basin through annual reports submitted in compliance with permit conditions. In WY2016, one company reported 40 wells exceeded the required 10:1 water to gas ratio. Because the wells produced in excess of 10 barrels (bbl) of water per 1,000 cubic feet (mcf) of natural gas, the Appropriator submitted supporting information to “show cause” for future gas production and were able to maintain active water permits.

CBNG Well Conversions to Water Wells

Landowners continue to show interest in converting existing CBNG wells for water production using the process established by the Wyoming Oil & Gas Conservation Commission (WOGCC) and the SEO. Any application received by GW after January 21, 2014 requires a Landowner Release Form and a Sundry Notice filed with WOGCC indicating the well is appropriate for conversion from a CBNG well to a water well. During WY2016, GW granted 55 permits to convert CBNG wells for water production.

RULES AND REGULATIONS

Part I and II Rules and Regulations

Previous Annual Reports outline the need for, and chronology of events in promulgating, new Rules and Regulations under which GW operates.

During WY2015, under leadership from SW, GW assisted with drafting new rules and regulations for the entire SEO. The goal is to reduce the length of the current Water Well Minimum Construction Standards and merge the current Part II Rules with SW's Rules. Significant effort was also placed on removing any duplication of statute or lengthy explanations originally provided for an applicant's convenience. These revised rules were re-packaged as: Part I – Ground Water and Surface Water, Part II – Water Well Minimum Construction Standards, and Part III – Board of Control. These rules were not advertised nor promulgated during WY2016. If these rules are promulgated, GW expects that significant effort will be needed to develop instruction books to guide appropriators and agents through the permitting process – especially since the Rules are not expected to contain narratives describing any filing process in great detail.

MODIFIED NORTH PLATTE DECREE

Previous Annual Reports outline the chronology of events that led to the creation of the Modified North Platte Decree. The implementation of the Modified North Platte Decree continues to result in additional duties for GW.

Reporting

During WY2016, GW continued to report to the NPDC, on a monthly basis, applications received, and permits approved, for Irrigation use permits within the Wheatland Irrigation District, and for Industrial and Municipal use permits within the remainder of the Basin that is subject to the provisions of the Modified North Platte Decree. The following applications received and permits approved were reported during WY2016:

- One (1) application for an irrigation use permit within the Wheatland Irrigation District was reported,
- Ten applications for industrial use permits were reported, and

- Nine permits for industrial use were also reported as approved permits.

GW also reported the annual pumpage of groundwater under 71 irrigation use permits within the Wheatland Irrigation District to the NPDC during WY2016.

UNDERGROUND WATER DISTRICTS

Hot Springs Area of Concern

The Hot Springs County Commission remains concerned about potential impacts to the Big Spring and would like the SEO to establish a control area that would be protective of that feature. During the last several years, GW, the State Engineer, and the Water Division III Superintendent have spent a considerable amount of time trying to impress upon the Commission what a Control Area is designed to accomplish per statute, and why a Control Area is not a viable option to rely upon to protect the Big Spring. Staff has also educated the Commission on the responsibility of the appropriator to ensure their water right is in order and their responsibility to collect water level measurement data to effectively document the actual flows of the Big Spring.

The application review process established several years ago is still in place. This process allows the Hot Springs County Commission to review all groundwater applications in the Hot Springs Area of Concern, and to make a recommendation to the SEO concerning the approval and or denial of an application.

GW received five applications for wells proposed in the Hot Springs Area of Concern in WY2016 – all of which were approved to Permit status without objection by the Hot Springs County Commission.

CUMULATIVE HYDROLOGIC IMPACT ASSESSMENTS (CHIAS)

GW reviewed the following Cumulative Hydrologic Impact Assessments (CHIAS) in WY2016, at the request of the Wyoming Department of Environmental Quality – Land Quality Division (WDEQ-LQD):

- *Draft* Cumulative Hydrologic Impact Assessment (CHIA #37) of Coal Mining in the Central Powder River Basin, Wyoming, and
- *Draft* Cumulative Hydrologic Impact Assessment (CHIA #38) of Coal Mining in the Central Powder River Basin, Wyoming.

SUBDIVISION REVIEWS

The objective of this program is to identify and comment on water right issues associated with county subdivision permit applications that have been submitted by either the Wyoming Department of Environmental Quality (WDEQ) or the respective county for SEO review.

Occasionally, county zoning plans or conditional use permit applications are also submitted to the SEO for review under this process.

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 officials. Original SEO involvement under this statute began in 1980. Effective January 1, 2006, all in-depth reviews associated with this type of submittal were turned over to the BOC. The BOC continues to coordinate with GW on proposed subdivision water supply and waste water adequacy reviews compliant with the Agency's subdivision review obligation.

More recent SEO involvement under this statute, concerning a subdivision's Proposed Water Supply and waste water adequacy, first became effective in July of 1997. Previous Annual Reports discuss how this original legislation has been amended. Current State Engineer responsibilities in this new area are outlined in Wyoming Statute § 18-5-306 (c) (i). These review responsibilities remain with GW.

Wyoming Statute § 18-5-306 (c) (i) provides WDEQ with the ability to request assistance from the SEO to furnish information or recommendations within a specific time frame relative to water right issues. SEO provided 34 reviews during WY2016 (compared with 26 in WY2015, 28 in WY2014, and 15 in WY2013). From this total, 15 of the reviews were requested by WDEQ, 13 reviews were related to minor or simple subdivisions requested by county government, and the remaining six reviews were related to other county review/comment requests. Thirteen (13) reviews (seven WDEQ and six County) yielded water right issues that had not been properly addressed.

To determine what water right issues may be associated with the development of a proposed subdivision, a preliminary search of the SEO's records on lands in the area of the proposed subdivision is conducted and potential existing water right concerns, as well as concerns associated with the new subdivision's proposed water supply and waste water adequacy, are identified. Appropriate water right actions are then proposed which may involve coordinating appropriate SW, GW, and/or BOC input, as well as conveying this input to the County, the subdivider, WDEQ, appropriate SEO staff, and others.

Since the original enactment of this legislation in 1997, the SEO has provided WDEQ with review comments and follow-up reviews as requested. This obligation also requires staff time to be committed to participating in meetings, City/County outreach efforts, conferences, and associated activities. This program currently accepts review requests directly from, and directs SEO review comments to, the individual responsible WDEQ District Office.

With the implementation of the subdivision water supply and waste water adequacy legislation, compliance with county subdivision statutes appears to be improving. However, subdivisions appear to continue to be approved by county officials before water right issues have been reviewed and resolved. The role of the SEO in this process is advisory in nature.

A review of GW's tracking process for the last three years, associated with the Agency's existing water right review obligations, indicates that the number of BOC reviews associated with

subdivision activity has been leveling off. This may in turn have an effect on the timeliness of subdivision reviews in GWs workload. Correspondingly, GW's program workload associated with subdivision water supply and waste water adequacy responsibilities, for this same three-year period, has risen slightly and then leveled off. This may ultimately impose and sustain a negative impact on resources and priorities associated with other programs in GW.

SAGE GROUSE REVIEWS

On July 29, 2015, Governor Mead replaced his 2011-5 and 2013-3 Executive Order (Greater Sage-Grouse Core Area Protection) with Executive Order 2015-4, which required GW to revise our decision matrix, form letter, internal guidance, and permit review process, as well as how data is reported to Wyoming Game and Fish Department (WG&F) (i.e., through an excel worksheet instead of direct program entry).

During WY2016, GW reviewed 238 U.W. 5 Forms, or *Applications for Permit to Appropriate Ground Water*, and attached applicable conditions and limitations to approved water rights compliant with Governor Mead's Executive Order 2015-4, Greater Sage-Grouse Core Area Protection. When necessary, applicants were directed to the WG&F when a Density and Disturbance Calculation Tool (DDCT) process was required.

GW submitted reporting data directly into the Wyoming Sage Grouse Mitigation Database, and participated in an interagency effort to improve future reporting of de minimis actions and requests to conduct a DDCT. The vast majority of permit applications affected by the Executive Order propose de minimis activities.

GROUND WATER ADVISORY COMMITTEES

Wyoming Statute § 41-3-908 requires one Division Advisory Committee on underground water for each water division of the state. Each committee consists of three persons, appointed by the Governor, who represent the landowners and water users of the division, geographical areas of the division, and public interest. Committee members are appointed for 6-year terms.

Recruitment of active participants on the committees remains a challenge for GW.

CONTINUING EDUCATION AND OUTREACH

GW continually seeks out opportunities by which to remain current on new advances and technical information related to both the management of the state's groundwater resources and service to our groundwater appropriators.

During WY2016, GW attended the following educational offerings:

- Active Shooter Training (Cheyenne, WY , June 2, 2016),

- Introductory training for Environmental Simulations Incorporated’s “Groundwater Vistas”. Groundwater Vistas is a graphical user interface for modeling 3-d groundwater flow (Cheyenne, WY, 2016),
- Work Place Safety Training (Cheyenne, WY, May, 2016),
- Administrative Professionals Conference (Cheyenne, WY, April 5, 2016),
- National Ground Water Association (NGWA) Groundwater Summit 2016, (Denver, CO, April 25, 2016),
- Western South Dakota Hydrology Conference (Rapid City, SD, April 7, 2016),
- Critical conversations and management team training (January 7-8, 27-28, 2016), and
- Crucial Conversations Course (Cheyenne, WY, November 5, 2015).

GW staff participated in the following community-based activities:

- Former Atlas Missile D, Site 4 Restoration Advisory Board,
- Former Atlas Missile D, Site 4 TPP Membership,
- Former Atlas Missile D, Site 3 Public Meeting related to creation of Restoration Advisory Board for Site 3,
- Pavillion Working Group (well bore integrity and domestic water wells),
- Wyoming Licensing Board for Water Well Drilling Contractors and Water Well Pump Installation Contractors, and
- Wyoming Geological Survey Advisory Board.

GW staff also provided groundwater-related information to the public via several formats, including public presentations, hearings, and written correspondence. Staff coordinated with other state and federal regulatory agencies, reviewed water management and usage proposals, investigated groundwater supply problems, and fulfilled a broad variety of information requests, including:

- Wyoming Association of Realtors (Cody, September 14, 2016),
- Cheyenne Board of Public Utilities (Cheyenne, February 4, 2016), and
- Wyoming Water Well Association (Casper, January 21, 2016).

WATERFALL OF FAME

In WY2016, the SEO implemented an Employee Recognition Award. The award is presented to one SEO Cheyenne Office staff and one Field staff each six months. Outstanding employees are nominated for various qualities, including:

- A. Successful completion of a special project which required the individual to go above and beyond the normal scope of their position;
- B. Overall mastery of a subject so that the individual is recognized as an expert statewide, regionally, or nationally;
- C. Exemplary performance day after day – the kind of person you can rely on to get the work done on time, without complaint, and with excellent quality;
- D. An individual who handled a politically volatile situation with poise and success;
- E. Someone who developed and implemented an innovative approach to solving a problem or streamlining a task;
- F. Someone who has received recognition by individuals both within and outside the division or agency;
- G. Developing or implementing ideas that improve work processes.

Jeremy Manley, GW, received the first Employee Recognition Award presented to an SEO Cheyenne Office staff in WY2016. Congratulations, Jeremy!

STAFF CHANGES

Zach Keeney, Natural Resources Analyst (October 20, 2014 through September 30, 2016). Zach obtained his Professional Engineering (PE) license during WY2016 and returned to his former employer, Trihydro Corporation.

Evan Blumberg, Natural Resources Analyst (July 28, 2014 through September 5, 2016). Evan and his girlfriend left in pursuit of an adventure of a lifetime - riding motorcycles from Fort Collins, CO to Tierra del Fuego!

Brandon Reynolds, Natural Resources Analyst (May 27, 2015 through July 29, 2016). Brandon was accepted into the University of Wyoming – College of Law.

GW wishes Zach, Evan, and Brandon the very best on their new careers and/or adventures, and thanks them for their time spent with GW. We appreciate the work you did for us, the friendships that were formed, and future adventures to be shared.

One of the three Natural Resource Analyst positions listed above fell victim to the reductions in GW's 2017-2018 budget appropriation. The position was permanently lost to the agency in WY2016.

CAPITOL SQUARE PROJECT

In preparation for the impending move of the SEO from fourth floor east to first floor west of the Herschler Building, GW spent considerable time and effort in culling and organizing files (both GW and personal), our library, and other records to minimize the volume of materials that will have to be moved.

GW was the last of the SEO divisions to move to the first floor west. The end-of June, 2016-move was greatly facilitated by John Harju and George Moser, who spent many hours ensuring the continued functionality of both the Division, and the GW staff's work stations in our new location. A huge and heart-felt "thank you" to both John and George.

SURFACE WATER AND ENGINEERING DIVISION

Submitted by:
Rick Deuell, P.E., Asst. State Engineer

The Surface Water and Engineering Division report include surface water and weather modification permit activities, petitions submitted to the State Engineer, and dam safety activities. With the exception of the Dam Safety Program (whose numbers and comments are reported for calendar year 2016) the numbers and comments are for the period from October 1, 2015 through September 30, 2016, which is referred to as WY2016.

SURFACE WATER SECTION

Submitted by:
Lee Arrington, Asst. Administrator

OBJECTIVES

The objectives of the Surface Water Section (SW) are directed by Wyoming Statutes, the State Engineer's Rules and Regulations, and the State Engineer's Office (SEO) Core business functions. SW objectives include:

1. Timely review and processing of Applications for Permit to Appropriate Surface Water, Petitions to the State Engineer and temporary water use agreements in preparation for consideration by the State Engineer.
2. Maintaining and updating all unadjudicated water right records to accurately reflect current status of said records.
4. Providing technical advice and instruction to constituents regarding procedures for filing applications, petitions and temporary water use agreements.
5. Providing technical assistance to the State Engineer, other divisions and water administration field personnel in matters requiring interpretation of surface water rights.

ACCOMPLISHMENTS

Applications and Petitions

Improved work-flow processes implemented in October 2012 continue to provide efficiency in processing applications. Goals established for the "processing life" of applications and petitions (i.e. each step in the "processing life" of an instrument has a maximum time allowed for its completion), has been tightened over the last four years, resulting in improved constituent service. The attainment of all goals is monitored and reported on a monthly basis. SW also began utilizing the Agency's G.I.S. mapping software for electronic platting of water rights

(instead of hand drawing on paper plat maps). These changes have improved Division processing efficiency as well.

In WY2016, the backlog of applications with priority dates prior to October 1, 2015, was reduced from 113 to 45, while the petition backlog for the same time period decreased from 62 to 9. Additionally, new applications and petitions submitted to the Section during WY2016 included: a) applications for permits - 525; b) petitions and Authorization to Correct the Record (ACR) – 191.

Table 1 provides a comparison of applications and petitions filed with the State Engineer for the past years, beginning with WY2006 and continuing through WY2016.

TABLE 1. APPLICATIONS/PETITIONS RECEIVED, PROCESSED, BACKLOGGED

WY	APPLICATIONS			PETITIONS		
	No. Recd	Approve/Reject	EOY Backlog	No. Filed	Approve/Dismiss	EOY Backlog
06	1413	1610	1419	22	34	116
07	1003	1439	983	23	15	124
08	913	1042	854	22	25	121
09	798	953	699	62	25	158
10	657	502	854	25	10	173
11	432	520	766	15	7	181
12	593	742	617	36	25	192
13	460	871	206	282	411	63
14	546	584	168	305	307	61
15	454	509	113	274	273	62
16	525	587	45	191	170	9

Types of applications fall into several categories. The more complex types 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.

The first application for an instream flow permit was received by the SEO in WY1987. According to Wyoming Statute, only the state of Wyoming, by and through the Wyoming Water Development Commission, can file an application for instream flow permits. Wyoming Statute requires the State Engineer to conduct a public hearing before a application is advanced to permit status or rejected. The division did not receive any instream flow applications nor were there any public hearings held in WY2016.

Table 2 provides a breakdown of applications received for processing, by type, for WY2013-2016.

TABLE 2. APPLICATIONS RECEIVED

Category	WY2013	WY2014	WY2015	WY2016
Ditches/Pipelines	72	95	88	192
Enlargements	36	25	18	37
Reservoirs	128	149	135	116
Stock Reservoirs	121	148	115	180
Temporary Use	100	129	92	113
Instream Flow	3	0	6	0
Totals	460	546	454	525

Temporary Water Use Agreements (TWUAs)

A means of acquiring the right to use water for temporary purposes is provided by Wyoming Statutes §§ 41-3-110 through 41-3-112. These statutes authorize the temporary acquisition of an existing adjudicated water right or valid unadjudicated water right, not to exceed a two-year period of time, for temporary use. Persons interested in temporarily acquiring the ability to use an existing water right can enter into TWUAs with holders of valid water rights to obtain water for their temporary needs. Only that portion of a water right which has been consumptively used under historical practices may be acquired for temporary purposes.

TABLE 3. TEMPORARY WATER USE AGREEMENTS PROCESSED

Water Year	No. of TWUAs
2009	106
2010	114
2011	123
2012	144
2013	138
2014	122
2015	94
2016	85

TWUAs must be reviewed and approved by the SEO and a Order approved by the State Engineer that ratifies the agreement and approves the temporary change in use. TWUAs are quickly reviewed and approval Orders are normally issued within a few days of receipt. In the reporting period, a total of 85 TWUAs were received and approved. As of September 30, 2016, there existed 111 active TWUAs in the following use categories: Road Construction (56), Oil & Gas Development (18), Irrigation (2), and Other (or combined) Uses (55). The number of TWUAs received and processed in WY2016, compared with previous water years, is shown in Table 3.

Permit Endorsements

When an application is approved and the permit is issued, it is recorded in the SEO e-Permit database system and a digital image is made and uploaded. Subsequent activities related to the permit must be recorded in the form of endorsements (updates) to the permit. Such activities include the filing of notices of completion of construction and/or beneficial use, approved requests for extensions of time to complete construction and/or beneficial use, eliminations of points of use, reinstatements, cancellations, assignments, or changes made through the granting of a State Engineer petition. Such endorsements require the updating of the physical, paper copy of the permit and updates to the e-Permit database. A total of 1274 endorsements were completed in WY2016. Table 4 provides an overview of the number and type of permit endorsements executed in WY2016.

TABLE 4. WY2016 PERMIT ENDORSEMENTS

Endorsement Type	Number
90-day Notice of Cancellation	362
Extension Requests	152
Assignment Requests	288
Cancellations	308
Statements of Completion/Beneficial Use	164
Total Endorsements	1274

Other Activities

The Division continues to participate in the activities of the U.S. Board of Geographic Names. 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 Division maintains a complete file of all USGS maps covering the state of Wyoming for use by the State Engineer's office and field personnel.

COAL BED METHANE RESERVOIR IMPACTS

The Division is faced with the challenge of transfer of ownership (assignment) of CBM reservoir permits from CBM companies to landowners as the CBM industry vacates the Powder River Area. Such transfers can be potentially problematic if permit conditions were not met upon the completion of construction of the permitted facility and the landowners are not completely aware of the liability accepted with the transfer. The Wyoming Department of Environmental Quality communicates regularly with SW staff to ensure that the release of performance bonds to CBM companies does not occur unless State Engineer imposed permit requirements are met.

DATA VERIFICATION AND TECHNOLOGY USE

The e-Permit data base system continues to develop as the Division's primary tool for processing water right applications and maintaining permit records, and the Division has developed a reliance

on the system. Verification of data in e-Permit for water rights that existed “pre-e-Permit” began in earnest in WY2014. During that period, staff verified 6691 reservoir permits and 3810 stock reservoir permits. In WY2015, 5658 reservoir permits and 1460 stock reservoir permits were verified, completing the reservoir verification task. The task of verifying approximately 40,000 ditch and enlargement permits began in WY2016, resulting in 13,462 permits being verified. The project will likely continue at least through 2020 before being completed.

The Division made the move to electronic platting in June 2013. All paper plats were scanned and were made available to agency staff in WY2014. Discussions continue regarding whether or not the digital copies of paper plats should be made available to the public. Additionally, all current permits and maps are scanned and uploaded in the e-Permit database which is available to the public online.

STATE ENGINEER’S INSTRUCTIONS AND REGULATIONS

In WY2016, work continued on revamping the SEO rules and regulations, partly in answer to Governor Matt Mead’s desire to reduce rules, state-wide, in both number and volume. That work will continue in WY2017.

SAGE GROUSE PROTECTION

The SEO developed and implemented a process wherein all new applications, petitions and changes for water right permits where the proposed facilities are located in the following areas, are reviewed for compliance with Executive Order 2015-4, Greater Sage-Grouse Core Area Protection:

- a. Within a defined Greater Sage Grouse Core Population Area (SGCPA).
- b. Outside of a SGCPA but within two (2) miles of an active or occupied lek as defined by the Wyoming Game and Fish Department.
- c. Within Winter Concentration Areas.
- d. Within Connectivity Areas.

SEO involvement in implementation of Executive Order 2015-4 occurs primarily at the permitting stage and as such is focused on coordinating with other entities in Cheyenne. New development or land uses within SGCPAs are authorized or conducted only when it can be demonstrated that the activity will not cause declines in sage grouse populations. During the planning process, the SEO will put an application on hold if the proposed activity is in a sensitive sage grouse area, and will not move forward with processing the application until the applicant has submitted sufficient information to the WG&F to receive WG&F approval to proceed with the project.

The SEO has incorporated the requirements of Executive Order 2015-4 into otherwise routine permitting activities and partners with other agencies (such as DEQ and State Lands), that have

additional authority to direct reclamation activities. The SEO provides other services and expertise including mapping support.

In July 2014, WG&F asked all state agencies operating under the Executive Order to begin entering permitting data into their newly created Greater Sage Grouse Permit and Mitigation Reporting database. WG&F requested that historic data from permits issued in SGCPAs in calendar years 2013-14 be provided as well as data from any new permits issued on an ongoing basis. SW complied with WG&F's request by providing data on 38 Reservoir/Stock Reservoir permits and 20 Ditch/Enlargement permits that had been issued during the historic period, and continues to provide data as new permits are issued. In WY2015 and WY2016, 42 and 55 applications respectively were permitted that required reporting to the WG&F.

The SEO permits water sources that supply stock reservoirs and tanks. Often, stock tanks are pre-fabricated circular metal tanks with vertical sides. Greater Sage-Grouse may become trapped inside the tank. In partnership with the WG&F and others, the SEO has now incorporated information and requirements for Greater Sage-Grouse Escape Ramps into the permitting process for stock tanks.

Relative to enforcement of Attachment B to Executive Order 2015-4 stipulations, non-conformance with the conditions and limitations of a water right permit could jeopardize the permit and subject the permit to enforcement actions as provided in statute. That said, the SEO generally has a minor role in the planning of non-water related land use development such as roads, power lines, noise, etc. And, the SEO does not have statutory authority to extend regulation beyond the water right action. However, the SEO can impose timing and sequencing stipulations and conditions that deal with the construction of the permitted facility.

Additionally, as the coal bed methane activity recedes in the state, wells and reservoirs are either being reclaimed and/or transferred for other uses. The SEO is an active participant in the discussion and, if necessary, the permitting for conversion of wells and reservoirs to new uses, such as for stock and/or domestic use. Some reservoir transfers can benefit sage grouse as well. Likewise, if reservoirs are not transferred to other uses, the SEO coordinates with other agencies to close out and reclaim the sites. The SEO also partners with the WOGCC and DEQ for well transfers.

The SEO is part of the Greater Sage-Grouse initiative team and is involved in the discussions and solution formulation, and provides public presentations and answers other related questions and issues associated with the program when applicable and/or when asked.

The SEO has a good working relationship with the WG&F. This relationship helps ensure uniform application of the requirements under Executive Order 2015-4 and serves to minimize challenges with the uniform and consistent application of the Order with federal agencies. As a matter of course in water rights, water development, and use, the SEO has working relationships with nearly all active federal agencies in the state and these relationships help in coordinating the needs and requirements of the Greater Sage-Grouse Core Area Protection as well.

REGIONAL WATER SUPPLY PROJECT-GREEN RIVER PIPELINE (TF# 34 4/153)

On December 28, 2007, an application was received from the Million Conservation Resource Group (MCRG) proposing to divert water from the Green River and Flaming Gorge Reservoir for use in the state of Colorado. MCRG proposed to construct a 400 cfs pipeline that would convey water from the Colorado River Basin with points of diversion from the Green River (downstream of the City of Green River) and from the body of Flaming Gorge Reservoir, across southern Wyoming, to the Colorado Front Range through a facility that was named the Regional Water Supply Project-Green River Pipeline. The water was proposed to be utilized for municipal, industrial, irrigation, domestic, recreational, fish and wildlife, environmental, hydropower, aquifer storage and recovery and other purposes. The application was designated TF# 34 4/153.

Over the following years, several requests were made for additional information in accordance with Wyo. Stat. § 41-4-502 in order for the State Engineer to consider the application complete and to proceed to permit status. Ultimately, additional information was not forthcoming and on February 27, 2015, the State Engineer rejected the application.

On March 4, 2015, the MCRG again filed an application for the Regional Water Supply Project-Green River Pipeline. The application was essentially the same as the previously rejected application except that irrigation use was not requested. The applicant was notified by letter that the project would have to comply with Executive Order 2011-5, Greater Sage-Grouse Core Area Protection, before being approved. The application was placed on administrative hold until compliance with the Executive Order could be confirmed.

On May 4, 2015, MCRG filed an appeal of the state engineer's rejection action of TF# 34 4/153 with the Wyoming Board of Control (Docket No. IV-2015-2-4). After several months of legal communications with the state of Wyoming, the MCRG voluntarily withdrew its appeal.

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 weather modification program, experiment or activity.

Accomplishments

Three (3) permits were issued for weather modification (cloud-seeding) purposes during WY2016.

Permit Number 129 was issued to North American Weather Consultants for weather modification in the Uinta Range south of Lyman, Wyoming. This project is intended to increase flows in the streams flowing into Wyoming on the north side of the Uinta Mountain Range.

Permit Number 130 was issued to Idaho Power for two ground-based generators that were placed on hills near the Wyoming-Idaho border in the Star Valley to target the Salt and Wyoming Mountain Ranges. The objective of the activities of the project was to increase the water supply in the Salt and Wyoming ranges in Wyoming. The project was expected to provide positive benefits to the residents of the Salt River, the Greys River, and drainages on the eastern slope of the Wyoming Range in western Wyoming and was expected to provide additional spring and summer stream flow to this part of Wyoming.

Permit Number 131 was issued to Weather Modification, Inc. for cloud-seeding in the Wind River Mountains from northwest of Pinedale to the vicinity of Lander. This project is a fully operational spinoff of the 8-year long Wyoming Weather Modification Pilot Program, and was funded by the state of Wyoming as well as several downstream water user/interest groups, and is managed by the Wyoming Water Development Commission for the state of Wyoming.

STAFFING LEVEL/CHANGES

As of September 30, 2016, the Division is 87.5% staffed (one Natural Resources Program Manager, one Natural Resources Program Supervisor, one Natural Resources Program Principal, five Natural Resources Analysts, one Senior Office Support Specialist, two Office Support Specialist IIs, one Office Support Specialist I, and two Principal (Dam Safety) Engineers).

During WY2016, the following staffing changes occurred:

1. In October 2015, Natural Resources Analyst Devin Traff resigned to take employment with an engineering firm in the Midwest.
2. In April 2016, Tabetha Wolf joined our staff as a Natural Resources Analyst, transferring from the Wyoming Department of Transportation.
3. In July 2016, Natural Resources Program Principal Jeff Cowley transferred to the Interstate Streams Division of the State Engineer's Office to become the North Platte River Coordinator, a position held most recently by Matt Hoobler.
4. In August 2016, Natural Resources Analyst Jeff Geyer resigned his position to take a job with the Laramie County Conservation District as a Hydrologist.

SAFETY OF DAMS SECTION

Submitted by:
Michael Hand, PE
Nathan Graves, PE

In 1977, the Wyoming Legislature, recognizing the potential hazards to public safety due to waters impounded by dams throughout the state, and the economic benefits of well maintained and safely operated dams, enacted the Wyoming Safety of Dams Act (Act) (Wyoming Statutes §41-3-307 through §41-3-318). The Act was amended in 1992 to clarify inspection requirements, duties of the State Engineer and lien procedures.

While a permit from the State Engineer is required for all reservoirs, the Act pertains to dams greater than 20 feet high or which impound 50 acre-feet or more, and diversion systems with a capacity of 50 cubic feet per second or greater. However, the State Engineer may enforce any sections of the Act on any size facility, when necessary, to insure the public safety or the protection of property. Essentially, the Act requires applicable facilities be designed by a professional engineer and inspected every 10 years. Agency policy however, requires these dams to be inspected every five years.

OBJECTIVES

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

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

ACCOMPLISHMENTS

During calendar year 2016, ten Safety of Dams size projects were referred to the State Engineer's Office for review. Of this number, five were for new or enlarged reservoirs. The remaining applications were for removal, reclamation, or repairs to existing facilities. Because not all of the plans received were complete, and some were submitted later in the year, not all were approved for construction. Seven projects were approved for construction. Coincidentally, the same number (seven) Safety of Dams size projects were completed. The projects completed were not the same projects approved for construction.

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 Program; the Periodic Inspection Program. Wyoming Statute §41-3-311 states: "Any dam, subject to the terms of this [A]ct 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." Current office policy requires each dam to be inspected every five years.

Currently, 1549 dams meet the criteria of the Act. A total of 309 dams were inspected in calendar year 2016 and 308 are due for inspection in 2017.

Inspections are coordinated with private dam owners and local municipalities as well as other State and Federal agencies.

PROBLEM AREAS

Construction of new dams or modification of existing dams without proper engineering design or review has been a recurring problem in the state of Wyoming. The discovery new large dams constructed or enlarged without regard to downstream hazards or material science can pose a threat to persons or property downstream. Staff continues to work with these dam owners to bring these facilities into compliance as they are identified. Despite the stress these projects place on the resources of this office, they are not included in the numbers shown in Accomplishments above.

Another problem area is the aging of the dams in the inventory. Of the 1549 dams in the inventory, 860 or 56% were constructed before 1965 and are therefore over fifty years old.

OTHER ACTIVITIES

Work is ongoing updating the Wyoming portion of the National Inventory of Dams (NID). Periodically, all information regarding the 1542 Wyoming Dams included in the NID is submitted to the U. S. Army Corps of Engineers (USACE). The criteria for inclusion in the NID differ slightly from the State of Wyoming criteria. This accounts for the difference in the number of dams included.

Two dam incidents were reported this year. Coincidentally, both were in Washakie County and both involved unauthorized modifications to a dam with a full reservoir. Neither affected the safety of people or property downstream.

Considerable assistance to the dam safety program has been provided by Federal Emergency Management Agency (FEMA) grant funds.

Grant funds were used to conduct a workshop for private dam owners. This was held in Casper in February. The workshop was designed to give dam owners insight into common issues associated with dam ownership and suggest engineering solutions to these issues. The highpoint of the workshop was a presentation by the owner of a dam near Lusk, which was affected by the historic flood of 2015. The response to the workshop was overwhelmingly favorable.

During 2016, grant funds were also used to prepare and conduct a two-day workshop for engineers in Wyoming. This workshop focused on new technology for extending the life of dam outlet pipes. The response to this workshop was also overwhelmingly favorable.

SUMMARY

The Safety of Dams Section continues to work to minimize the number of dam failures and incidents through a combination of public outreach and enforcement action. State funds are used to accomplish these goals. Federal funds are used to improve and enhance the effectiveness these efforts.

BOARD OF CONTROL DIVISION

Cheryl Timm, Administrator
Jed Rockweiler, Assistant Administrator
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 promptly review within 30 days water distribution plans and/or authorizations for detachment of water for consideration by the State Engineer or the Board of Control.
3. To promptly process proofs of appropriation for new adjudications and to present these proofs for review and consideration by the Board of Control.
4. To maintain and update the status of all adjudicated water right records to accurately reflect their current status.
5. To continuously evaluate the productivity of staff efforts in addressing the current workload.
6. 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 petitions, plans, and authorizations for detachment with the Board of Control.
7. To provide technical and administrative support to the Board of Control members in matters concerning the evaluation of both surface water and groundwater rights and water administration.
8. To comply with statutory requirements and publish a tabulation of adjudicated water rights for the four (4) Water Divisions.

MAJOR ACCOMPLISHMENTS

Petitions

During the period of October 1, 2015 to September 30, 2016 (WY2016), the Board of Control Division received 148 petitions, an increase of 9 petitions or 6.5% received in the previous reporting period, throughout the State in addition to those already on the agenda. These new petitions are listed by division in Table 1.

TABLE 1. PETITIONS RECEIVED

Water Division	Surface Water	Ground Water	Total
I	31	13	44
II	29	2	31
III	33	13	48
IV	25	2	27
TOTAL	118	30	148

Final action was taken on 136 petitions, which were either granted, denied, dismissed or withdrawn, an increase of 4 petitions or 3% from the previous reporting period. 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.

Proofs

During WY2016, the Board of Control Division received 647 proofs. Two hundred and six (206) or 32% of these proofs were for groundwater rights (wells), and 441 or 68% were for surface water rights. In addition to these 647 proofs, 284 stock reservoirs were inspected and found to be constructed within the terms of the permit. Under current Board of Control policy, these stock reservoir permits will be finalized, and will create their own report in the water right tabulation books; but no certificate of construction will be issued. The total number of proofs received and stock reservoirs received to be endorsed by division are shown in Tables 2 and 3 respectively.

TABLE 2. PROOFS RECEIVED

Water Division	Surface Water	Ground Water	Total
I	64	70	134
II	130	60	190
III	108	21	129
IV	139	55	194
TOTAL	441	206	647

**TABLE 3. TOTAL STOCK RESERVOIRS
ENDORSED**

Water Division	Total
I	103
II	166
III	0
IV	15
TOTAL	284

E-Permit/ Tab Book Update

During WY2016, the Division IV Tab Book was published. It is available in e-Permit and can be printed from there, if necessary. To access the report in e-Permit, go to "Reports"; Board of Control; Tabulation of Adjudicated Water Rights Surface Water; Division 4; Official Published Version. The report "With Comments" provides the Tab Memo Comments. Ground Water and

Unadjudicated Stock Reservoir Reports are also available. An Excel version is also available for download.

In WY2016, the Board of Control staff continued the certificate “verification” process. All certificate records need to be verified in order for all four (4) water division Tab Books to be printed accurately. During WY2016, staff concentrated on Division I, continued with Division II.

The above “verification” process for Tab Books and missing certificates has allowed the Division to establish “Board of Control e-Permit data entry rules.” This has been instrumental in staff following the same rules for data entry which increases data integrity. The Board of Control Division continues to note improvements, defects, enhancements, etc. that can be made to e-Permit for improvements in functionality and consistency of records.

The Board of Control now has the ability to create and print certificate records from e-Permit. Although, a few “quirks” have been discovered, this process is a time saver. The entire process is now more streamlined and it eliminated the need for duplicate data entry into a separate program.

PROBLEM AREAS

There are still a few problematic issues with entering certain types of water rights into e-Permit. Most issues have been resolved. There is an issue with Division III Court Adjudicated water rights printing in the Division III Tab Book. This issue should be resolved during WY2017.

As stated in previous reports, the Board of Control’s focus has shifted from water administration to adjudication. To that end, the field staff in each division, as well as, the Ground Water Division, has worked diligently in decreasing the backlog of proofs. This resulted in a rather large increase in the number of proofs and the number of stock reservoirs inspected and found to be constructed within the terms of the permit submitted to the Board of Control.

RECOMMENDATIONS

For Tab Books: Tab Book verification has a high job priority in the Board of Control. However, so do petition and adjudication actions which affect the Tab Books. With only two (2) Board of Control technical staff assigned to work on Tab Books full-time, it has been difficult to meet the timelines established. All Board of Control staff aid in this effort as time allows and it still is not enough. An additional time-limited technical position or two (2) to help with data verification would greatly benefit our efforts to meet the statutory requirements of printing Tab Books in a timely manner. If additional temporary staff is not possible, a summer intern position or, possibly, offering overtime to those staff eligible may aid our efforts.

Once the existing data has been verified, it will not have to be done again. Only updates and maintenance would be required for which the two (2) technical staff members currently assigned would be sufficient. Once this effort has been completed, the production of Tab Books could occur at any interval as all data would be up-to-date.

For the proof backlog: As the field staff worked through their back log of pending proofs, the number of proofs submitted to the Board of Control for review and advertising has increased. In

WY2012, the Board of Control developed a plan to deal with the backlog of proofs that we received and refinements were made to the plan in WY2013. Although this plan has helped with the backlog, an additional staff member to help in this area would greatly benefit the process and allow the Board of Control to issue certificate records in a timelier manner.

During WY2016, the remaining e-Permit issues were addressed and this allowed Board of Control staff to use e-Permit as it was intended and address the backlog. The goal is to have all certificate records from one meeting finished before the next Board meeting begins.

INTERSTATE STREAMS DIVISION

Submitted by:
Steve Wolff
Division Administrator

and

Brenna Mefford,
River Basin
Coordinator

Beth Callaway,
River Basin
Coordinator

Jeff Cowley,
River Basin
Coordinator

Vacant,
River Basin
Coordinator

INTRODUCTION

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 Interstate Streams (ISS) Division provides technical and policy support for water allocation and administration issues associated with these governing compacts and decrees. The Water Planning activities of the agency are also coordinated in this Division. Two staff changes occurred in 2016. Sue Lowry, Division Administrator, retired in June and was replaced by Steve Wolff beginning July 1. Also, Matt Hoobler, River Basin Coordinator, resigned in July. Jeff Cowley transferred from the Surface Water Division to replace Matt in July.

Due to reduced budgets in 2016, the River Basin Coordinator position left vacant when Steve Wolff assumed the role of Division Administrator has been left vacant. With the loss of one position from a division with only five staff positions, duties for all personnel were reviewed and responsibilities were prioritized, and in some cases reassigned, to ensure the most important needs were still being addressed. With each staff member now responsible for multiple basins, all staff have been given the title of "River Basin Coordinator" to more accurately represent their duties.

INTERSTATE STREAMS ACTIVITIES

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

Missouri River Basin

The National Oceanic and Atmospheric Administration's (NOAA) National Integrated Drought Information System (NIDIS) program began the first Missouri River Basin Drought Early Warning System (DEWS) coordination efforts in 2014. The goal of this program is to focus on improving data and information for drought risk management at the state level in the greater

Missouri River Basin. The SEO joined the Missouri River Basin DEWS stakeholder group in Fall of 2016 and will be involved with the group's coordination and information sharing activities moving forward.

Missouri River Recovery Implementation Committee (MRRIC)

The 2003 Amendment to the U.S. Fish and Wildlife Service (FWS) Missouri River Biological Opinion outlined the need for a public stakeholder group to serve in an advisory capacity to the FWS and the Army Corps of Engineers (Corps) as they moved forward with the Biological Opinion projects. Accordingly, the Water Resources Development Act of 2007 defined and authorized Missouri River Recovery Implementation Committee (MRRIC) which now regularly meets in person on a quarterly basis throughout various locations in the Missouri River Basin. MRRIC consists of 70 stakeholders who represent a wide array of local, state, tribal and federal interests. Wyoming has actively participated in MRRIC since its inception.

To-date, MRRIC has provided substantive recommendations guiding the development of the Corps' Missouri River Recovery Management Plan Draft Environmental Impact Statement (EIS). The EIS will outline potential flow management and habitat construction activities in support of recovery for three ESA listed species: the interior least tern, piping plover, and pallid sturgeon. It also includes an Adaptive Management (AM) Plan designed to afford flexibility for future management actions that integrates improving science. The draft EIS is scheduled to be released for public review in December 2016. With the retirement of Sue Lowry, Beth Callaway assumed the primary role of Wyoming's representative to MRRIC. She will lead EIS review efforts on behalf of the SEO.

Due to reduced budgets and loss of personnel, Wyoming will only have minimal involvement in MRRIC in the future.

Platte River Basin

Modified North Platte Decree

The U.S. Supreme Court approved the Final Settlement Stipulation and entered the Modified North Platte Decree in *Nebraska v. Wyoming* on November 13, 2001. The goal of the settlement was protection of existing water rights while providing certainty about the extent of Wyoming's water use and future water development and management. In general, the settlement calls for an increase in monitoring, measurement, accounting, and reporting of water use, as well as future studies to be conducted by the North Platte Decree Committee (NPDC).

The NPDC consists of water officials from the Bureau of Reclamation, and the states of Wyoming, Nebraska and Colorado that meets in the fall and spring every year. Patrick Tyrrell, State Engineer, assumed the Chairmanship for 2016-17. After the October 2017 meeting the chairmanship will rotate to the State of Nebraska. The NPDC maintains several subcommittees to assist in fulfilling its duties under the Modified Decree: Ground Water Wells, Control Crest, Finance, Consumptive Use, Replacement Water, and Official Files.

Wyoming performs the following tasks to comply with the Modified North Platte Decree and Final Settlement Stipulation and as a cooperating member of the NPDC:

1. Wyoming is a member of the NPDC Consumptive Use Subcommittee (CUSC) which conducts consumptive use reporting in the basin upstream of Guernsey Reservoir as required under the Modified North Platte Decree. Four weather stations funded by the NPDC near Lingle, Douglas, Elk Mountain and Encampment are operational and are collecting data since the original installation. The High Plains Regional Climate Center (HPRCC) operated and maintained the weather stations from their inception until June, 2015, when the SEO assumed the responsibilities under the authorization of the NPDC. The SEO will operate and maintain the weather stations as a component of the SEO's Wyoming Agricultural Climate Network (WACNet). As of December 23, 2016 the HPRCC will no longer be hosting any Wyoming data. The Wyoming Resources Data System at the University of Wyoming will assume those duties, including data QA/QC, and maintaining a website for the public to access the data collected from those stations.
2. For the 2015 water year (October 1, 2015 through September 30, 2016), Wyoming reported in a March 1, 2016 letter to the NPDC, that the intentionally irrigated acreage for the North Platte River basin above Guernsey Reservoir, exclusive of the Kendrick Project, was 199,368 acres and in the Lower Laramie River basin, exclusive of the Wheatland Irrigation District (WID), was 30,460 acres. Of the 199,368 acres irrigated above Guernsey Reservoir, 147,714 acres were irrigated above Pathfinder Dam and 51,654 acres were irrigated between Pathfinder Dam and Guernsey Reservoir. In accordance with the Settlement Agreement, the intentionally irrigated acreage caps for these basin areas are 39,000 acres in the Lower Laramie Basin, excluding WID, and 226,000 acres above Guernsey Reservoir, of which the caps are 169,100 acres above Pathfinder Dam and 56,900 acres between Pathfinder Dam and Guernsey Reservoir.
3. For the 2015 water year, Wyoming reported in a May 13, 2016 letter to the NPDC that the ten-year calculated consumptive use of irrigation water in the North Platte basin upstream of Pathfinder Dam was 1,180,000 acre-feet for 2006 through 2015. In addition, Wyoming reported the ten-year calculated total was 830,000 acre-feet for the North Platte basin between Guernsey Reservoir and Pathfinder Dam.
4. During 2014, the SEO purchased four Xplore rugged tablets for use by the acreage inspectors. The use of rugged tablets by the inspectors replaces the paper mapping of intentionally irrigated acres with the in-field GIS digitization of the acres, thus eliminating the step of redrawing the acres following an inspection. This digital conversion also provides a safer back-up of the data throughout the irrigation season. The 2015 irrigation season was the first full season of use by the acreage inspectors, which resulted in the completion of mapping three months ahead of previous years. In order to improve the use of these tablets and maintain the time savings they provide in late 2016 these tablets were returned to the manufacturer to have hard drive storage upgraded. The "stock" hard drives they came with have been pushed to the limit and regular updates to the tablets are no longer working, which in turn reduces the

functionality of each tablet. Once the upgrade is complete, the tablets should be able to aid in the acreage inspection process for many years.

Seven (7) full-time field staff assigned to Division I, and one (1) Interstate Streams position in the Cheyenne office carry out the tracking and reporting requirements of the Settlement Agreement. Many existing staff positions continue to be faced with additional responsibilities to comply with the Settlement Agreement. By accurately tracking and reporting Wyoming's water use in the North Platte River Basin, the State of Wyoming is able to protect Wyoming's appropriation of this valuable water resource.

Platte River Recovery Implementation Program (PRRIP)

In 1997, the States of Colorado, Wyoming and Nebraska and the U.S. Department of the Interior (DOI) signed the Cooperative Agreement (Agreement) for Platte River Research and Other Efforts Relating to Endangered Species Habitat along the Platte River in Central Nebraska. The Agreement addressed recovery of four species: the whooping crane, piping plover, least tern, and pallid sturgeon.

The PRRIP agreement was signed by the Governors of Colorado, Nebraska, and Wyoming and the Secretary of Interior in late 2006. The PRRIP remains in effect for the first increment, 13 years. At a recent Governance Committee (GC) meeting the parties came to an agreement on a plan to extend the program for another 13 years. There are still several hurdles to get over in order to finalize that plan and put it into action. Steps are being taken to ensure the program moves forward as the first increment comes to an end in 2019. Mr. Harry LaBonde, Director, Wyoming Water Development Office (WWDO), represents Wyoming on the GC.

Current issues for the GC include the reregulation and construction of the proposed J-2 Reservoir in order to supply water for critical flows; management of the 10,000 acres of land to support critical habitat; and evaluation of the timing and intensity of flows through the critical habitat. At a GC meeting this year the J-2 Reservoir project was shelved due to difficulty in obtaining the land necessary to build the facility.

Wyoming's Coordinator of Wyoming's Depletions Plan within the State Engineer's Office is tasked with preparing annual reports to satisfy the requirements of the Depletions Plan and performing federal and state consultations on new water-related projects. The Depletions Plan requires Wyoming to extensively track and report municipal, industrial, rural domestic, agricultural water uses, and various new water uses implemented since July 1, 1997. On March 1, 2016, Wyoming reported for the 2015 water year that Wyoming's total water uses are less than the 1997 baselines, and those under-runs translated to the state line are 52,900.43 acre-feet for the irrigation season and 3,776.32 acre-feet for the non-irrigation season. In addition to the reporting of depletions, Wyoming remains responsible to evaluate every new or enlarged beneficial water use in the North Platte and every new or enlarged surface water facility in the South Platte Basins that may potentially create a new depletion for the state of Wyoming.

More information regarding the status of the PRRIP is available at the following website: <http://platteriverprogram.org>.

Laramie River Basin

After initial meetings in 2006 between Wyoming and Colorado to review the provisions of the *Laramie River Decree of 1922*, Colorado has continued to provide Wyoming with year-end delivery numbers for the Laramie River. In the 2015 water year 11,785 acre feet were diverted out of the Laramie River. The diversion amounts for the past few years are as follows; 2014 15,406 acre feet, 2013 20,898 acre feet, and 2012 19,746 acre feet. No meetings were held during this reporting period with Colorado.

Yellowstone River Basin

On January 31, 2007, Montana filed a Motion for Leave to File Bill of Complaint with the U.S. Supreme Court making the claim that Wyoming had violated the Yellowstone Compact by expanding water use in the Tongue and Powder River basins, by allowing groundwater pumping associated with coalbed methane development, and by constructing additional storage. More details on the activities regarding this lawsuit can be found in the Legal Activities section.

The Yellowstone River Compact Commission met on December 3, 2015 in Sheridan, Wyoming. The Technical Committee met April 12, 2016 in Billings, Montana. With Sue Lowry's retirement in June, Pat Tyrrell was appointed Commissioner for Wyoming. The Technical Committee commenced efforts to work with the Natural Resources Conservation Service (NRCS) and National Oceanic and Atmospheric Administration (NOAA) with the goal of improving confidence in forecasting state line flows of the Tongue River to assist administration of the Tongue River under the terms of the Yellowstone River Compact and Special Master's findings. The two groups continued discussions on the status of Wyoming and Montana water supply and water rights issues in the basin, as well as updates on Montana's adjudication efforts. Agendas and minutes from these meetings can be found on the Compact Commission's website: www.yrcc.usgs.gov/index.html.

The Bureau of Reclamation's Long-Term Issues group that was examining operations at Yellowtail Dam continues to meet twice a year. Reclamation has instituted updated operating criteria that balance the needs dependent upon reservoir elevation to those dependent upon downstream channel releases. Reclamation is conducting a reservoir sediment management study under its Science and Technology Program. Fiscal year 2016 focused on collecting data at Horseshoe Bend; fiscal year 2017 will evaluate options for controlling sediment. Additional analysis will evaluate long term sustainability of the reservoir for the purpose of delivering water and power.

Belle Fourche River Basin

The annual coordination meeting between Wyoming, South Dakota, Bureau of Reclamation, U.S. Geological Survey, irrigation districts and local water users was held on December 4, 2015, in Sundance, WY. This once-a-year meeting provides a good forum for the irrigators and the federal and state water administrators to discuss the previous year's deliveries and discuss operations for the following year. The Wyoming Water Development Commission approved the

funding of a watershed study for the Belle Fourche watershed in July 2013. This Belle Fourche River Watershed Study and Basin-wide Management Plan was finalized in March 2015.

In 2014, the U.S. Forest Service began the NEPA process for the Bear Lodge Project, which proposed to mine fifteen different Lanthanide Elements (plus scandium and yttrium) from the Bear Lodge Mountains north of Sundance, Wyoming. During this reporting period, the Interstate Streams Division participated in numerous cooperating agency meetings between the Forest Service and state agencies to assist with the development of alternatives for the draft Environmental Impact Statement. The Division also worked with the Forest Service and project applicant, Rare Element Resources, Inc., to provide feedback for SEO-required permits that would authorize the proposed sediment ponds, pit dewatering ponds, post-mining pit lake, and production water at the mine site. However, before the draft Environmental Impact Statement was released in 2016 the project was put on indefinite hold. If the project moves forward, continued coordination will be necessary with the State of South Dakota to address Belle Fourche River Compact storage capacity limitations for the post-mining pit lake.

Upper Niobrara River Basin

Nebraska and Wyoming held their annual Niobrara River Compact meeting on October 5, 2016 in Torrington. Nebraska reported that the WaterSMART study has been completed but the results have not been posted on the Bureau's website yet. There was minor discussion regarding the USGS report on the Lusk flood. There was some clarification on the USGS—UNL monitor well near the state line. It is one well not two, and the difference in data points is due to a shift in the reference point used by UNL and USGS.

The states technical group met via conference call on April 5, 2016. Nebraska provided an update on the flows at the state line and the need for repairs on the toe drains on Box Butte Reservoir. They also have added gages to many of the canals in the basin that will have satellite capabilities in the near future. Wyoming could not report with complete confidence, but there appeared to be significant groundwater recharge near the state line because of the Lusk flood.

Colorado River Basin (Green River and Little Snake River Basins)

WY2016 Hydrology Summary and Reservoir Status¹

Below to near average stream flows were observed throughout much of the Colorado River Basin during water year 2016. Unregulated² inflow to Lake Powell in water year 2016 was 9.62 maf, or 89 percent of the 30-year average³ which is 10.83 maf. Unregulated inflow to Flaming Gorge, Blue Mesa, and Navajo Reservoirs was 98, 92, and 80 percent of average, respectively. Precipitation in the Upper Colorado River Basin was just below average⁴ during water year 2016. On September 30, 2016, the cumulative precipitation received within the Upper Colorado River Basin for water year 2016 was 95 percent of average. Snowpack conditions trended near average⁵ across most of the Colorado River Basin throughout the snow accumulation season. The basin-wide snow water equivalent measured 97 percent of average on April 1, 2016. Total seasonal accumulation peaked at approximately 97 percent of average on April 3, 2016. On April 1, 2016, the snow water equivalents for the Green River, Upper Colorado River Headwaters, and San Juan River Basins were 107, 109, and 82 percent of average, respectively. During the 2016 spring runoff period, inflows to Lake Powell peaked on June 11, 2016 at approximately 58,900 cubic feet per second (cfs). The April through July unregulated inflow volume for Lake Powell was 6.61 maf which was 92 percent of average.

The Colorado River total system storage experienced a net decrease of 0.134 maf in water year 2016. Reservoir storage in Lake Powell increased during water year 2016 by 0.491 maf. Reservoir storage in Lake Mead decreased during water year 2016 by 0.235 maf. At the beginning of water year 2016 (October 1, 2015), Colorado River total system storage was 51 percent of capacity. As of September 30, 2016, total system storage was 50 percent of capacity.

Table 1 summarizes Colorado River basin hydrologic conditions over the past seventeen years.

Upper Colorado River Commission Activities

The 1948 Upper Colorado River Basin Compact divided the water apportioned to the Upper Basin states on an annual flow percentage, giving Colorado: 51.75 percent, New Mexico: 11.25 percent, Utah: 23 percent and Wyoming: 14 percent. The Compact created the Upper Colorado River Commission (UCRC); an administrative agency addressing all matters affecting the operation and administration of the Colorado River system in the Upper Basin.

¹ Taken from the Annual Operating Plan for the Colorado River Reservoirs 2017. U.S. Bureau of Reclamation. December, 2016.

² Unregulated inflow adjusts for the effects of operations at upstream reservoirs. It is computed by adding the change in storage and the evaporation losses from upstream reservoirs to the observed inflow. Unregulated inflow is used because it provides an inflow time series that is not biased by upstream reservoir operations.

³ Inflow statistics throughout this document will be compared to the mean of the 30-year period 1981-2010, unless otherwise noted.

⁴ Precipitation statistics throughout this document are provided by the National Weather Service's Colorado Basin River Forecast Center and are based on the mean for the 30-year period 1981-2010, unless otherwise noted.

⁵ Snowpack and snow water equivalent statistics throughout this document are provided by the Natural Resources Conservation Service and are based on the median for the 30-year period 1981-2010, unless otherwise noted.

TABLE 1. UPPER COLORADO RIVER BASIN INFLOW AND STORAGE

Water year	Unregulated Inflow into Lake Powell		End of Water Year Combined System Storage	
	MAF	% ¹	MAF	%
2000	7.3	67	62.4	83
2001	7.0	65	4603	76
2002	3.1	29	37.8	64
2003	6.4	59	34.0	57
2004	6.1	56	29.7	50
2005	12.7	117	34.8	59
2006	8.8	81	33.4	56
2007	8.2	76	32.0	54
2008	12.4	114	33.9	57
2009	10.6	98	34.1	58
2010	8.7	80	32.9	56
2011	16.8	155	38.6	65
2012	4.9	45	33.9	57
2013	5.1	47	29.8	50
2014	10.4	96	30.1	50
2015	10.2	94	30.3	51
2016	9.62	89	30.1	50

¹-% of average for the period of 1981-2010 (10.83 MAF)

During WY2016, the UCRC met several times. This included formal Commission meetings held December 16, 2015, in Las Vegas, NV, and June 2, 2016, in Midway, UT. The Commission also held work sessions on December 2, 2015, (Albuquerque) and June 1, 2016, (Midway).

During WY2016, several issues were worked on by all four states under purview of the Commission. These included:

- Drought Contingency Planning
 - Upper Basin Drought Plans
 - Lower Basin Drought Plans
 - Binational with Mexico
- System Conservation Pilot Program (SCPP)
- Agricultural Consumptive Use Studies
- Update to the Upper Basin Depletion Schedules
- Glen Canyon Dam LTEMP EIS

Drought Contingency Planning: Drought contingency planning efforts are on-going throughout the basin. These include efforts in the Upper Basin (Colorado, New Mexico, Utah and Wyoming), the Lower Basin (Arizona, California and Nevada) and bi-nationally between the

U.S. and Mexico. All efforts include both state and federal parties, as well as water contractors. Brief descriptions of each of these efforts are provided below.

- Upper Basin Drought Planning - The Upper Basin plan has three main components – weather modification, demand management and Colorado River Storage Project (CRSP) reservoir operations. The primary focus of current Upper Basin efforts has been on the development of a Memorandum of Agreement (MOA) on the operations of CRSP reservoirs to minimize the risk of Lake Powell falling below the minimum power pool elevation. This MOA is essentially complete and should be signed in early 2017. Signatories to this MOA include the four Upper Basin States through the Upper Colorado River Commission (UCRC) and the Department of Interior, and the Western Area Power Administration (WAPA). The MOA assures cooperation between Interior and the Upper Basin States related to the movement of water from higher federal reservoirs to Lake Powell. This plan outlines how Lake Powell (Arizona – Utah), Flaming Gorge Reservoir (Wyoming – Utah), the Aspinall Unit (Colorado) and Navajo Reservoir (New Mexico) could be operated to minimize the risk of Lake Powell falling below critical elevations. Weather modification activities are ongoing in WY, CO, and UT, with some funding being contributed by lower basin water contractors. The concept of demand management is still under development. The System Conservation Pilot Program discussed below could be considered a precursor to any larger demand management program.
- Lower Basin Drought Planning - The lower basin has been working on process documents to enable the conservation of additional water in Lake Mead. Ultimately, these efforts could conserve up to 1.2 million acre-feet of water in Lake Mead annually during times of drought and very low water levels, but would allow much of this water to be recovered once the system recovers. Although Wyoming is supportive of the intent to keep Lake Mead elevations higher, there are some policy/legal issues that must be addressed before Wyoming can fully support the Lower Basin's efforts. A final Lower Basin plan won't be finalized until the spring of 2017, but due to linkages between its plan and the new Minute with Mexico (see below), there is a sense of urgency to come to some sort of tentative agreement between the seven basin states and the Department of Interior by the end of 2016.
- Binational Negotiations with Mexico - Minute 319 to the Treaty between the United States and Mexico relative to utilization of the waters of the Colorado River was signed by representatives of the U.S. and Mexico in 2012 with a five-year term. Generally, the agreement outlined several actions to proactively manage the Colorado River system to obtain binational benefits and mitigate risks associated with variable water supplies and growing demands. Minute 319 is set to expire at the end of 2017 and there are ongoing efforts to develop a succeeding minute (termed Minute 32x) which would extend portions of Minute 319 as well as add some additional components. A few of the components of previous minutes that are under consideration for inclusion in Minute 32x include Mexico's participation in both shortage and surplus conditions on the river, Mexico's ability to create Intentionally Created Mexican Allocation (ICMA) by deciding to defer water deliveries as well as allowing some ICMA to be converted to Intentionally Created Surplus (ICS) for use within the U.S. There are also proposed terms which are directly

linked to the Lower Basin plan wherein Mexico would agree to take additional water reductions in proportion with the Lower Basin states.

There is a strong desire by the Department of Interior to complete the negotiations and have a newly signed minute by the end of the current administration. The Basin States are an active part of the negotiations, but are concerned that the schedule may not be achievable. Consistent with the commitment made by Reclamation and the U.S. Section of the International Boundary and Water Commission that they would not approve a Minute of this nature without the support and approval of the Basin States, Wyoming (via its Upper Colorado River Commissioner) may be asked to support a domestic agreement in connection with Minute 32x sometime early in 2017.

System Conservation Pilot Program: The System Conservation Pilot Program is a program funded (total of \$11 million) by the Bureau of Reclamation and four large municipal water providers. The purpose is to seek solutions to the long-term imbalance of supply and demand in the Colorado River system, by compensating willing water right holders to not use or reduce their water use for a one or two-year period. This is a pilot effort with funding available in 2015 and 2016. During the summer of 2016 Reclamation was able to contribute more money allowing for the pilot effort to extend into 2017. Officially this is a stand-alone program, but is very supportive to our efforts relative to Demand Management discussed above.

Although most of the efforts in this program will occur in the lower basin, \$2.75 million has been reserved for use in the Upper Basin states. The Upper Colorado River Commission has assumed the role of administering the program in the Upper Basin for the pilot. Although the program applies to any and all water users in the Colorado River basin, the most likely candidates are agricultural water users. The State Engineer has informally discussed the program with several agricultural and conservation groups. During 2015, Wyoming received 8 proposals for consideration under this program, five of which were ultimately funded and implemented. In 2016 Wyoming received 10 proposals for consideration. All ten projects were chosen to be funded, with one dropping out of the program. Thus, nine projects were ultimately implemented in 2016. All projects were verified by conducting monthly site visits. We issued a call for projects to be implemented in 2017, with a deadline for proposals to be received by November 30, 2016.

Consumptive Use Study: Wyoming has also spent significant time on the Commission-sponsored Agricultural Consumptive Use Study. This study is a project to review the consumptive use methodologies currently utilized by each state, and to evaluate the possibility of using remote sensing technologies to assess consumptive use across the entire Upper Colorado basin. Phase I of this study was completed in late WY2013. During WY2014, Phase II of the study was scoped and initiated. Phase II activities included analysis and funding for the siting of up to 29 weather stations and five eddy covariance towers sited across the upper basin. Once sites have been finalized for these instruments, they should be installed and operational for the WY2017 irrigation season. Remote sensing techniques will also be used to estimate actual ET using at least four different methods and compared to the eddy covariance tower data. A final report from Phase II was received in 2016. Phase III of the study was scoped and initiated at the end of 2016. Reclamation and Upper basin states are currently working on finding locations for

eddy covariance towers in each state. The results of all the phases of this project will give all upper basin states and the Bureau of Reclamation a better idea of which method is most accurate and feasible to use.

Update to the Upper Basin Depletion Schedules: The UCRC regularly updates a table showing each state's current and forecasted (~60 year) Colorado River depletions (depletion schedules). These were last completed in 2007 and work was begun in June 2015 to update the tables. Wyoming has taken the lead on this effort in that we have been coordinating the conference calls and compiling individual state data into a total Upper Basin summary table. We had hoped the new schedules would be completed by the summer of 2016. However, some issues relative to methodologies used between the four states developed and had to be worked out. We now hope the new depletion schedules will be finalized in early 2017.

Glen Canyon Dam Long-Term Experimental and Management Plan EIS: In 2011, the Department of the Interior announced the need to develop a Long-Term Experimental and Management Plan for the operation of Glen Canyon Dam. Since that time, Interior has been engaged in the NEPA process to identify and address environmental impacts associated with Glen Canyon Dam's operation's. Throughout the process, the seven basin states have been actively engaged in the EIS review process. In January 2016, a draft EIS was released. Wyoming provided comments as an individual state and as part of a 7-basin states process. The final EIS and Record of Decision are expected in the fall of 2016.

Colorado River Basin Salinity Control Program

Established by the Governors of the seven Colorado River Basin states in 1973, the Salinity Control Forum works jointly with federal agencies and the Congress to develop, fund and implement salinity reduction measures to meet national, international and state water quality objectives for the Colorado River system. The Salinity Program is a unique cooperative watershed effort resulting from EPA's interpretation that the 1972 amendments to the Clean Water Act required water quality standards, including beneficial use designations, numeric salinity criteria, and a plan of implementation for the Colorado River. Numeric criteria stations were subsequently established (below Hoover Dam, below Parker Dam and at Imperial Dam) by the Forum. To date, the Program has controlled more than a million tons of salt discharge annually and has reduced the salt concentration in the Lower Colorado River basin by approximately 130 milligrams per liter.

The Interstate Streams Division of the State Engineer's Office actively participates in the activities of the Colorado River Basin Salinity Control Forum, the Forum's Work Group and the Colorado River Basin Salinity Control Advisory Council (established as a Federal advisory committee by the 1974 Salinity Control Act). The Forum and Advisory Council met in Keystone, CO on June 8-9, 2016 and in Tucson, AZ on October 28-29, 2015. The Work Group met on several additional occasions during the year.

In 2014, Wyoming and Bureau of Reclamation worked together to form the Wyoming Basin States Program, in which Bureau of Reclamation awarded a sole source contract to Wyoming Water Development Office at the end of 2014. The contract is for five years, \$1.6 million for the

first year and \$300,000 for the four subsequent years for a total of \$2.7 million. In 2015 Reclamation and Wyoming awarded Eden Valley Irrigation and Drainage District with \$2.2 million from the Basin States Program to continue piping canals in the district. Currently the project is in the planning phases, and should go to construction in 2017.

Upper Colorado River Endangered Fish Recovery Program

This recovery program has been an essential component to allow water development activities in the basin since 1988. Despite some significant impacts by non-native fish species, three of the four species are on track for down-listing by 2019 and delisting by 2023. This program is a model on how ESA compliance can work. Under this program, water development activities have continued, the species are being recovered and there has been no litigation.

Wyoming has one seat on both the Management Committee and the Implementation Committee of the Program. When Philip Stuckert resigned from the State Engineer's Office, Steve Wolff was assigned to replace him on the Implementation Committee. Steve Wolff is also Wyoming's representative to the Management Committee. Pete Cavalli of the Wyoming Game and Fish Department is Wyoming's representative to the Biology Committee. Although Wyoming is allotted a seat on the Water Committee, we have no real role here. The Implementation Committee met twice in WY2016, once in person and once via webinar. No major issues came before the IC. The Management Committee met several times during WY2016, with the three major issues being capital construction activities, a required Report to Congress and prepping for necessary congressional action on funding authorization.

In addition, to the above committee activities, a group of program partners travel to Washington DC each year to brief staff members of all Senate & House members from each state, authorizing and appropriating committees and executive branch offices about the programs status. Steve Wolff and Pete Cavalli currently participate in these briefings for Wyoming. This year's partner trip was March 14 – 18, 2016. During the week, 39 appointments to both congressional and executive branch offices were attended. In 2017, the non-federal partners with the program will be seeking a Congressional date extension to the program authorization legislation. This date extension is only necessary to make the program authorization end-date match those already in place for the Cooperative Agreement and capital construction pieces of the program (December 2023).

Green River Basin Consumptive Use Program

The Green River Basin Consumptive Use Program (Program) continued to move forward during WY2016. The Program entails three main components; 1) basin instrumentation, 2) remote sensing and 3) consumptive use modeling. Basin instrumentation work has entailed the installation of approximately 150 stream, diversion and reservoir measuring and recording devices throughout the basin. This effort has been led by Division IV field staff, but the information gathered is critical to the Program. In addition, ten automated weather stations have been installed in the basin, with five of the ten being installed in the past year. The operation and maintenance of these stations are the responsibility of the Program. Collected weather data provides the baseline for the consumptive use work and is used in the estimating potential

evapotranspiration (ET), for calibrating remote sensing analysis and in the support of the modeling efforts.

Riverside Technology has been working on the remote sensing analysis portion of the Program. They finalized the results for actual ET estimates from irrigated lands for 2011 and 2015. These results provide the first accurate estimates of actual ET in the Green River Basin. Having two

Table 2. Summary of Average consumptive use in the Green River basin

Sector of Use	Type of Use	Water Year	Consumptive Use (Acre-Feet/Year)
Agricultural ¹	Actual Irrigation	2011	482,456
		2012	398,049
		2013	341,874
		2014	417,101
		2015	487,253
		2016	TBD
	Stock	Average	1,755
Municipal	Surface Water	Average	12,267
	Groundwater	Average	884
Domestic	Surface Water	Average	0
	Groundwater	Average	3,047
Industrial	Surface Water	Average	56,928
	Groundwater	Average	1,954
Exports	City of Cheyenne Diversions	2016	7,553
	Broadbent Supply	2016	TBD
Evaporation	Main Stem	Average	88,500
	In State	Average	32,800
TOTAL		2011	684,732
TOTAL		2012	603,344
TOTAL		2013	554,456
TOTAL		2014	624,469
TOTAL		2015	692,333
TOTAL		2016	TBD

¹ – Beginning in 2011, the ASCE Standardized Reference Evapotranspiration (2005) method has been used to support consumptive use estimates from irrigated lands in the Green River Basin. This has resulted in an increase in consumptive use estimates from previous years. This method has been shown to be more accurate than previous methods used.

years of actual ET data is a big step towards achieving the Programs goals of obtaining more accurate estimations of consumptive use.

In 2013, Wilson Water Group was hired to develop a consumptive use model for the Green River basin. The specific model being used is State CU. Work on the model will be completed by the end of 2016. Currently, the 2016 annual consumptive use report for the Green River Basin is being prepared

Municipal, domestic, and industrial water use in the Green River Basin has remained relatively constant over the past years. Agriculture use tends to change annually based on winter snowpack and summer Precipitation. There are only two major trans-basin exports, the Broadbent Supply and the City of Cheyenne Diversions. There are some other small diversions that export water out of the basin, but they are very small and considered almost negligible. Table 2 gives a summary of the average estimated consumptive use in the Green River Basin.

Bear River Basin

The Bear River Commission met November 17, 2015 and April 19, 2016. The Technical Advisory Committee (TAC) finalized its recommendations for a uniform approach of depletions accounting and presented these recommendations to the Commission at the April meeting. The recommendations were adopted as Commission-approved depletions methodologies. Agendas and minutes from these meetings can be found on the Compact Commission's website: <http://bearrivercommission.org>. Pat Tyrrell and Tim Teichert were appointed by the Governor to serve as Commissioners to replace Sue Lowry and Gordon Thornock who retired in the first half of 2016. Kevin Payne was appointed as an alternate Commissioner to replace Jade Henderson who retired in 2015.

Snake River Basin

The Wyoming State Engineer's Office, the Wyoming Game and Fish Department and the Bureau of Reclamation (BOR) have been meeting each fall and spring since Wyoming purchased 33,000 acre feet of storage in Palisades Reservoir in 1990. All of the contracted use out of both Jackson Lake and Palisades Reservoir is delivered to lands downstream of Palisades in Idaho, therefore the Bureau of Reclamation and the State of Idaho - Water District 01 allows Wyoming (through a paper transfer) to use the Palisades water right storage out of Jackson Lake.

The spring agency meeting was held May 19, 2016. At the time of that meeting, the Bureau of Reclamation's snowmelt forecast saw a large drop in early May due to fast, early melt therefore peak flows were expected to occur around late May. Winter releases for 2015-16 were 380 cfs. The fall agency meeting was held on September 20, 2016. Due to higher winter releases, less than average runoff during the snowmelt season, and less carryover storage, Jackson Lake did not fill in 2016. At the fall meeting, the agencies discussed preferred winter releases for 2016-17 which were set at 280 cfs. This is set at the minimum for Wyoming Game and Fish Department's preferred flow amount to support winter fishery requirements. The Bureau of Reclamation also announced at this meeting staffing changes: Mike Beus is retiring as the Water Operations Manager for the Bureau of Reclamation's Upper Snake Field Office in early 2017. His replacement was unnamed at the time of the fall meeting. Kathy Melander with Grand Teton

National Park also announced her retirement. Her replacement would take effect by the end of 2016.

Upper Snake Watershed Study: Representatives from the Wyoming Water Development Commission attended the fall agency meeting to provide an update on the finalization of the Upper Snake Watershed Study.

Wild and Scenic Rivers: The congressional action designating segments in the Snake River basin occurred in March 2009, and the Bridger-Teton Forest and the Grand Teton National Park personnel have now completed developing the Outstandingly Remarkable Values for each of the segments. Both agencies have completed the update of their comprehensive river management plans (CRMP) and are also continuing to gather flow data related to their segments. Bridger-Teton National Forest held a workshop in September 2016 to start the quantification process for federal reserved water rights. An update on the quantification model to be used for this process will be provided at the spring 2017 agency meeting.

WATER ORGANIZATIONS AND POLICY ISSUES

Water Forum

The State Engineer serves as the Chairman of the Wyoming State Water Forum. The Water Forum meets monthly beginning in September and ending in May and provides state, federal, and county agency personnel as well as those in private practice, a regular opportunity to share information and insight on water activities that are ongoing in their respective agencies and businesses. Each month, a special program is presented providing a more in-depth view of a particular water related issue or topic.

During the 2015-16 season, topics for Water Forum covered: the latest findings from the USGS Upper Missouri historic streamflow study, an historic overview of the near-failure of Fontenelle Dam, the University of Wyoming's research on bark beetle impacts to forest water yield, LiDAR snowpack estimates from NASA's Jet Propulsion Laboratory, ice formation on tail water fish habitat from Wyoming Game & Fish, a comparison between Wyoming and Colorado's water rights systems, Ogallala Aquifer groundwater management research, the spring and summer water outlook from the Bureau of Reclamation, and research updates from the USGS on predicting alpine headwater intermittency. The current schedule and past and current Water Forum presentations are kept on the State Engineer's Office website at: <http://seo.wyo.gov/interstate-streams/water-forum>.

Governor's Planning Office

The Interstate Streams Division is responsible for reviewing and responding to all National Environmental Policy Act (NEPA) and related notices received from the Governor's Planning Office or directly. The notices include, but are not limited to, proposed actions, scoping statements, environmental impact statements (draft and final), environmental assessments and resource management plans as well as other National Environmental Policy Act (NEPA) documents. Beth Callaway is the Division's lead contact for agency review of NEPA and Governor's Planning Office activities. During this last reporting period, 32 notices were received

from the Governor's Planning Office and/or federal agencies; six SEO comments were submitted.

The Interstate Streams Division is also responsible for attending any meetings that pertain to projects of special interest to the State Engineer's Office. These meetings often include tours of the affected area, open houses and public meetings. Meetings with other cooperators to help develop purpose and need statements and alternatives for projects are also attended by this division. Notable meetings that Interstate Streams participated in during this reporting period include cooperating agency meetings regarding Bureau of Land Management's proposed Planning Rule (informally entitled "BLM Planning 2.0") and the Federal Coal Program review (managed by the Bureau of Land Management Washington D.C. office).

The Governor's Planning Office regularly holds State and Federal Coordinating Committee (SFCC) meetings. These meetings convene on a monthly basis and provide an opportunity for state and federal agencies to discuss NEPA projects and other activities occurring around the state.

Interstate Council on Water Policy (ICWP)

The ICWP is a nation-wide water policy organization with membership made up of state water resource agencies and interstate water management entities. The ICWP continues to spearhead a work group made up of representatives from ICWP, Western State Water Council, National Water Resources Association and the Association of Floodplain Managers, to raise the awareness of the continuing funding erosion of the USGS's streamgaging programs, namely the Cooperative Program and the National Streamflow Information Program (NSIP).

Sue Lowry has been an active member of ICWP for numerous years. However, due to the recent budget cuts, the Wyoming State Engineer's Office has not renewed our membership with ICWP and will not be an active participant in the near-term.

Western States Water Council

State Engineer Tyrrell served as Chair of WSWC until the summer meeting. Agency personnel attended the following WSWC meetings during WY2016:

WSWC Fall 2016 (182nd) Council Meetings
St. George, Utah
September 28-30, 2016

Summer 2016 (181st) Council Meetings & Non-Tribal Federal Water Rights Workshop
Bismarck, North Dakota
July 13-15, 2016

Workshop on Improving Sub-seasonal to Seasonal (S2S) Precipitation Forecasting
San Diego, California (BC)
June 6-9, 2016

Spring (180th) Council Meetings and Washington, DC Roundtable
Washington, D.C.
March 21-25, 2016

Advancing Sub-Seasonal to Seasonal Precipitation Forecasting for Water Resources
Las Vegas, NV
December 15, 2015

Fall (179th) Council Meetings and Water Quantity Water Quality (WQ2) Nexus Workshop
Manhattan, Kansas
October 7-9, 2015

Upper Missouri Water Association

The Annual Meeting was held in Bismarck, North Dakota on December 9-10, 2015. Sue Lowry attended and presented Carmine LoGuidice an award to recognize his work in the Upper Missouri River Basin tributaries in Wyoming. Upon Sue's retirement, Beth Callaway was named as the SEO's representative and Board of Directors member on behalf of Wyoming.

Wyoming Inter-Agency Coordination Meetings

During this reporting period, the Division also served on the NRCS's State Technical Committee and coordinated the inter-agency meetings with Water Development Commission, Department of Environmental Quality, Game and Fish Department and Department of Agriculture.

Water Planning

There are seven planning areas within Wyoming: the Bear, Green/Little Snake, Powder/Tongue, Northeast Wyoming (Little Missouri, Belle Fourche, Cheyenne, and Niobrara), Snake/Salt, Wind/Bighorn, and Platte basins. The products created for each plan consist of a series of technical memorandum describing each topic outlined in the contract with the WWDC. An executive summary and final report, spreadsheet models of the basin's water supply and uses, and various mapping products are also part of the final product. Beth Callaway is the lead SEO representative assigned to technical review of WWDC planning products. The following is a list of key Water Year 2016 WWDC River Basin Planning activities:

Bear River Basin

The Bear River Plan update was completed in June 2012 and was conducted in-house by the water planning team consisting of the WWDO, WRDS, and the SEO. In June 2016 the WWDC commenced the Bear River Data Model Pilot Level 1 Study project. This project seeks to develop and organize the water resource data needed for the WWDC planning program and will establish standards that improve consistency and usability of Geographic Information System (GIS) data. A draft report will be forthcoming in 2017.

Powder/Tongue and Northeast River Basins

Two separate river basin plans were developed for the Powder/Tongue basin and Northeast river basin (Belle Fourche, Cheyenne, Little Missouri, and Niobrara rivers). The plans were completed concurrently in 2002. Currently, the plans are undergoing a comprehensive update. Separate groundwater studies led by the WSGS are also being developed. Final reports are expected in 2017. Information on the status of the basin plan updates can be found here:

<http://waterplan.state.wy.us/plan/powder/2017/2017Plan.html>.

Platte River Basin

The Platte River Basin plan was first conducted in 2006 by Tri-hydro Corporation. The final report can be found via the Water Development Commission's website link below, including the Platte River Basin Water Atlas, a web-based presentation tool that houses the data, mapping and modeling information from the plan:

<http://waterplan.state.wy.us/plan/platte/platte-plan.html>.

The separate Platte River Basin groundwater study led by the WSGS was completed in 2013 and can be found here:

http://waterplan.state.wy.us/plan/platte/2013/gw-finalrept/gw_toc.html.

The latest basin plan update was initiated in 2013 and is currently underway. A final report is expected in the first quarter of 2017 and status updates can be found here:

<http://waterplan.state.wy.us/plan/platte/2017platte-plan.html>.

Wyoming Water Updates (formerly known as Basin Advisory Groups)

Throughout the water planning process, the Basin Advisory Group (BAG) has played an important role. The BAG is made up of stakeholders from throughout each basin and provides an opportunity for community members at-large to learn about river basin planning and give feedback about local water concerns. Basin Advisory Group meetings have been renamed as Wyoming Water Updates which are held in all of the basins in the spring of each year. When basins start into the active planning process, public outreach meetings are conducted multiple times throughout the project period.

Environmental and Recreational Water Use

The Basin Planning Environmental and Recreational Water Use Study was completed in April 2012 by Harvey Economics. The purpose of this study was to refine the statewide water planning process to better address environmental and recreational water uses. In 2016, the WWDC approved funding to complete a second study that covers the entire state; this report will be completed by the end of 2017.

The 2012 report can be found in the link below. This report also includes a handbook to guide future planners in the methods.

[http://library.wrds.uwyo.edu/wwdcrept/Wyoming/Wyoming-Environmental and Recreational Water Use Study-Final Report-2012.html](http://library.wrds.uwyo.edu/wwdcrept/Wyoming/Wyoming-Environmental%20and%20Recreational%20Water%20Use%20Study-Final%20Report-2012.html).

SUPPORT SERVICES DIVISION

Submitted by:
Martin Zimmerman, Administrator

GENERAL

The Support Services division has a total of nine employees and is responsible for the following operations:

- Information Technology and Telecommunications
 - Agency Enterprise Systems - Hardware, Software, Backup, and Business Continuity of Agency Specific Applications.
 - Help Desk & Support – Agency Specific Applications.
- Application Programming and Databases
 - Programming - Application development and support.
 - Database – SQL programming, reports, and queries.
 - Database management.
- Geographic Information Systems
 - GIS – ArcServer, ArcGIS, and ArcSDE application support, and spatial data management.
 - GIS training.
- Microfilm & Imaging
 - Scan paper and microfilm records into electronic formats.
 - Manage documents systems and storage for scanned documents.
 - Maintain quality of scanned records and appropriate and safe archival.

INFORMATION TECHNOLOGY AND TELECOMMUNICATIONS

The group supported Agency users' for the Agency Specific Applications of e-Permit and Aquarius. Project related to the future Herschler remodel included serving as Move Coordinator for Agency, move to Herschler 1 West included floor plan mapping, inventory of Agency physical document storage, inventory of users' equipment, location, data port(s) and telephone. Relocation of Agency computer systems from Emerson Datacenter to Green House Datacenter was completed due to closing of Emerson Datacenter.

APPLICATION PROGRAMMING AND DATABASES

The group worked with Field and Ground Water Division staff to add additional sites to the Aquarius database to receive near real-time stream gage data and historic data to present the data on the Aquarius Web Data Portal. More than 800 sites are available on the portal. The group worked with the vendors to test and validate upgrades of the Aquarius software systems including Aquarius Server, Aquarius Workstation, Aquarius Database, Aquarius Web Portal, DCSTool, and LoggerNet to enhance the capabilities in support of the Agency. e-Permit was

upgraded to maintenance Version 6.1 that included migration to a new SQL based Document Management System.

GEOGRAPHIC INFORMATION SYSTEMS

Geographic Information Systems (GIS) continued to manage geospatial efforts including geospatial software and data inventory. Projects in GIS were completed to support the Laramie County Control Area (LCAA) included the mapping of newly issued and existing irrigation wells, domestic and stock wells, and monitoring wells. Other projects included expanded and updated GIS layers in Agency SDE database. These included Sage Grouse Leaks, BLM GCDB, statewide parcel data, groundwater well data, new and historic imagery, and update of the NHD stream layer and platting operations in GIS.

MICROFILM & IMAGING

Microfilm and Imaging group continued scanning the Agency's inventory of over 6,000,000 microfilm images along with millions of paper documents. The group supported other divisions in scanning daily incoming applications and correspondence for uploading into e-Permit. The group continues to make progress of scanning of historic documents including Interlocutory Books, Minute Record Books, Ground Water Permit Books, Surface Water Enlargement Books, Surface Water Small Ditch Books, and Surface Water Folded Maps. Over 3.03 million documents were available to the public via e-Permit at end of reporting period.

SUMMARY

This department continues to support, advance and enhance agency specific applications use of technology to accomplish the Agency's mission.

WATER DIVISION I

Submitted by:
Brian Pugsley, Superintendent
Torrington, Wyoming

INTRODUCTION

This report is a summary of water related activities and trends within Water Division I for the period October 1, 2015, to September 30, 2016, also known as Water Year 2016 (WY2016). Water Division One is comprised of the North Platte, South Platte, Niobrara, and Little Snake River drainages in southeast Wyoming. Water Division One consists of twenty water districts served by a staff of one division Superintendent, one Assistant-Superintendent, one division Secretary, twelve Hydrographer-Commissioners, one Assistant Hydrographer-Commissioner, one Field Investigator, three Acreage Inspectors, one Well Inspector and one Tributary Inspector.

GENERAL AND CLIMATIC CONDITIONS

WY2016 started off with excellent precipitation throughout the Division for the month of October. Fall rains ranged anywhere from .94 inches to 2.20 inches throughout the division and along with some good wet snow storms, helped to build good soil moisture profiles. While snow pack level were at average to just below average for the Upper and Lower North Platte Drainage, the Laramie Drainage saw average to above average percentages throughout the winter. March thru May was the most productive months for both snowfall and rainfall in Division I. Heavy rains in late April and early May along with the lower elevation snow pack caused some higher than normal stream flows and major flooding events along both the North Platte and Laramie River Drainages (Table 1).

TABLE 1. DIVISION I PEAK FLOWS FOR WY2016

Station	Date of Peak	Peak Amount (CFS)
North Platte River near Sinclair	June 11	9,130
Medicine Bow River near Hanna	June 15	1,856
Sweetwater River near Alcova	May 13	1,038
North Platte River near Orin Junction	May 8	11,294
North Platte River at WY-NE Stateline	May 28	8,021
Crow Creek at 19 th Street	May 10	572
Horse Creek at Go.-Lara. Co. Line	May 10	485
Laramie River Nr. Woods Landing	June 8	2,051
Laramie River Nr. Bosler	June 12	2,542
Little Laramie River Nr. Filmore	June 9 & 10	1,331
Laramie River above Grayrocks	May 9	6,466
Laramie River near Fort Laramie	May 13	4,892

NORTH PLATTE RIVER HIGHLIGHTS

Many of the North Platte Reservoirs in Division One had average to above average carryover from WY2015. This created problems for many areas below Gray Reef Reservoir. Pathfinder Reservoir was at a level that the Bureau of Reclamation (BOR) was forced to spill water from that facility from May 28th through June 28th. This, in turn, ricocheted down the river and caused major flooding through most of the municipalities along the North Platte. From May 7 thru July 12, 2016, Glendo Reservoir entered into the flood control space. During that period, the BOR, in close communication with the Army Corp of Engineer's, the State Engineer's Office (SEO), Wheatland Irrigation District (WID), and Missouri Basin Power, worked together in order to alleviate as much of the flooding downstream of Glendo Reservoir and Grayrocks Reservoir as possible. Unfortunately with the reservoirs at full capacity and above average stream flows, this task was difficult to manage. Many areas along the North Platte River and Laramie River suffered bank loss and several areas saw localized flooding in low lying areas. Due to the higher water levels in Glendo Reservoir, State Parks was forced to provide temporary camping facilities around much of the reservoir in order to accommodate outdoor enthusiasts.

The BOR's predicted runoff forecast from February through May showed that WY2016 would likely not be an allocation year. The BOR's forecasts showed 1,623,255 A.F. for February, 1,625,797 A.F. for March, 1,736,016 A.F. for April and 1,956,073 A.F. for May. All were well above the 1,100,000 A.F. threshold under the North Platte Decree. Therefore, regulation above Guernsey for the Federal Reservoirs was not warranted throughout WY2016.

All ownerships within the North Platte Project filled in WY2016. Guernsey ownership was the first to fill on March 25th, followed by the Inland Lakes Ownership on April 19. Pathfinder ownership filled all sub-account ownerships by May 12th, Glendo filled all sub-accounts by April 17 and Kendrick filled on May 19, 2016. Most other reservoirs within Division I either filled or accrued substantial water throughout the year (Table 2).

TABLE 2. DIVISION I RESERVOIR STORAGE

District 14 Bureau of Reclamation Ownerships		
Reservoir/Ownership	Content on Oct. 1, 2015	Content on Sept. 30, 2016
North Platte Project	611,049 A.F.	693,734 A.F.
Kendrick	1,105,086 A.F.	1,119,522 A.F.
Glendo Unit	152,721 A.F.	164,149 A.F.
District 2 Reservoirs		
Hawk Springs Reservoir	11,104 A.F.	8,511 A.F.
Goshen Hole Reservoir aka Springer	2,903 A.F.	1,609 A.F.
Goshen Reservoir aka Bump Sullivan	1,556 A.F.	776 A.F.
Districts 4 ABC Reservoirs		
Lake Hattie	76,200 A.F.	72,900 A.F.
Wheatland Res No. 3	70,300 A.F.	70,000 A.F.
Wheatland Res. No. 2	41,000 A.F.	33,000 A.F.
Grayrocks Reservoir	104,467 A.F.	104,825 A.F.

NORTH PLATTE DECREE HIGHLIGHTS

The North Platte Modified Decree, Exhibit 10, obligates Wyoming to replace 24.4 A.F. per active “Triangle” irrigation well the following water year. For WY2015 Wyoming determined there were 235 active irrigation wells within the “Triangle”. This resulted in 5,734 A.F. having to be replaced during WY2016. Along with the well replacement water, Wyoming is also obligated under Exhibit 11, to monitor surface water diversions from tributaries within the Whalen to Stateline reach and replace 50% of the out-of-priority diversions the following month. For diversions in September, replacement occurs the following irrigation season as a supplement to natural flow upon first release of storage water from the North Platte Project. Throughout all of WY2016, the natural flow availability in the North Platte River was so plentiful that all tributary diversions were in priority and Wyoming’s replacement obligation of those diversions was zero. Diversion amounts for the year are shown in Table 3 below. Wyoming Water Development Commission has secured replacement water for these obligations on a permanent basis through their long-term contract with the BOR for Wyoming’s portion of Glendo water and available water from the Wyoming Account of the Pathfinder Modification Project. This year, the State of Wyoming was obligated to replace a total of 5,795 A.F. for the WY2015 active triangle wells and WY2015 triangle tributary diversions. However, the BOR based on past experience, considered it prudent to try and reach an end of September carry-over of approximately 2,000,000 AF of total system storage. In order to accomplish this target, the releases from the system, taking into consideration existing system storage, expected inflows, deliveries, and evaporation, an additional 60,000 A.F. would need to be released in excess of demands. The proposal was one that was similar to what was done in both WY2010 and WY2011. North Platte Project Ownership and Kendrick Ownership were transferred to the Re-Regulation Account. Ownership evaporation was no longer being repaid and irrigation diversions continued to be released as natural flow as inflows were passed through the system and Re-Regulation water was released. Therefore, Wyoming was not obligated to supplement natural flow with replacement water in the Whalen Diversion Dam to State Line reach of the North Platte River. Natural flow was sufficient to meet all demands by both Wyoming and Nebraska irrigators in that reach.

TABLE 3. DIVISION I TRIBUTARY REPLACEMENT WATER

Month	Total Diversions (A.F.)	Natural Flow (A.F.)	Out Of Priority Diversion (A.F.)	Total Replacement (A.F.)
MAY	10.59	10.59	0.00	0.00
JUNE	400.11	400.11	0.00	0.00
JULY	694.10	694.10	0.00	0.00
AUGUST	555.46	555.46	0.00	0.00
SEPTEMBER	140.14	140.14	0.00	0.00
TOTAL	1800.40	1800.40	0.00	0.00

The State of Wyoming is also required to monitor and limit the pump diversions from Alcova Reservoir to Guernsey Reservoir during allocation years. Under Exhibit 5 of the Modified North Platte Decree, cumulative irrigation diversions of 6,600 acre-feet for each two-week period

cannot be exceeded during allocation years. Even with WY2016 not being an allocation year, Wyoming continues to monitor these diversions. This data was not reported to the North Platte Decree Committee for compliance purposes. Wyoming tracked these diversions throughout the irrigation season and they ranged from a maximum of 5,219 A.F. during August 6 to August 19, 2016 period to a minimum of 0 A.F. during the May 1st to May 13th.

Wyoming was also tasked with shepherding the Environmental Account (EA) water from Glendo Reservoir to the Wyoming-Nebraska Stateline. At this point Nebraska then conveys EA water to Lake McConaughy. The EA water is to be use for the North Platte Recovery and Implementation Plan. During August and September, the BOR transferred 32,729 A.F. from the Pathfinder Environmental Account along with 4,800 A.F. from the Pathfinder Wyoming Account to Glendo. This water, less the conveyance losses of 2,488 A.F., was then released from Glendo in mid September and transferred to Lake McConaughy.

NORTH PLATTE IRRIGATED ACRES AND STORAGE

WY2016 acreage and storage accrual numbers were below the Modified North Platte Decree limitations. As per Exhibit 4, Paragraph III D 1 and Exhibit 12, Paragraph III A. 6 of the North Platte Modified Decree, surface and stored irrigation water supplies continued to be tracked.

In WY2016, Acreage Inspectors reported 205,472 “intentionally irrigated” acres in the North Platte basin; well below the acreage cap of 226,000 acres. This was also true in the Lower Laramie River basin in that there were 31,243 “intentionally irrigated” acres reported (Table 4). Also well below the 39,000 acre Decree limit (Table 4).

For WY2016 a total of 14,399 A.F. of accrued storage was monitored and recorded by the Hydrographer/Commissioners. This was well above the 10 year average of 12,077 acre feet. Reservoir storage carry-over into WY2016 was 8,254 acre feet, which was above the 10 year average of 7,907 acre feet. Storage accruals for each reservoir were calculated by subtracting the WY2015 carry-over amount from the WY2016 highest recorded stage. WY2016 storage accruals were below the 18,000 acre-foot accrual cap set forth in Appendix A II (b) (3) of the North Platte Modified Decree.

Once again Acreage Inspectors utilized the Xplore tablet computers for mapping the WY2016 acres. A totally paperless system was implemented that allowed for real time digitization as fields were being inspected. These tablets also came in handy this year because the Acreage Inspectors were forced to not only inspect their normal areas but also had to inspect 100% of the lands associated with the North Platte River Recovery and Implementation Plan. Typically, only a 10% random sample of sections containing “Irrigated Cropland” is sampled. Due to the fact that a 95% confidence interval could not be reached with random selections, it was determined that a complete inspection of the non-decree acres would take place. Therefore, all lands had to be inspected and noted for irrigation. The additional sections took considerable time to process but will update the baseline to allow for better sampling of sections in the future. This year, the final irrigated acre report was completed and compiled by December 30, 2016 which is approximately two months ahead of the February 28, 2017 deadline for reporting to the North Platte Decree Committee.

TABLE 4. IRRIGATED ACRES

Stream Reach	Irrigated by Surface water diversions of Natural Flow (acres)	Irrigated solely from stored irrigation water (acres)	Irrigated solely from hydrologically connected groundwater (acres)	Equivalent acreage under transfers: (acres)	Total (acres) Decree limits
NPR above Pathfinder Dam	150,109	0	1,088	362	151,559 (169,100) limit
NPR bet. Pathfinder and Guernsey Excl. Kendrick	49,104	59	1,666	3,084	53,913 (56,900) limit
L. Laramie River basin Excl. W.I.D.	26,187	199	4,857	0	31,243 (39,000) limit
Totals	225,400	258	7,611	3,446	236,715 (265,000) limit

HORSE CREEK

The Horse Creek drainage saw another wet spring early but by mid to late June, precipitation was scarce for the most part. The only exceptions were an occasional isolated thunderstorm. Some of those isolated thunderstorms were somewhat destructive. Areas reported 5 inches of rain in less than two hours on the lower end of Bear Creek. Also, a storm produced up to tennis ball size hail in areas that reached from Lingle to Hawk Springs.

Snowpack conditions in the drainage were somewhat average to below average throughout the winter. Spring rains played a very important part in stream flows for the 2016 season as the available snowpack declined. Timely rains across the drainage throughout the spring kept creeks alive and also prolonged irrigation until mid June. Surprisingly, creeks within the district maintained decent flows until summer. Moderate reductions in stream flow during the summer months were recorded. Stream flows began to steadily rise once irrigation dwindled near the end of the season. These flows have continued into the early winter months and have been a great asset to replenishing the storage levels in the reservoirs on the Horse Creek drainage.

All reservoirs within the Horse Creek Drainage were able to achieve their one time fill and in some instances many reservoirs were able to stay at capacity for much of the spring. This allowed for a near average carryover going into WY2017.

This was the third year under State Engineer Tyrrell's Order that extensive monitoring and reporting of groundwater, surface water, and reservoir storage was required. The new

Hydrographer spent many hours learning not only the Order but also familiarizing himself with locations of the wells, irrigated lands, measuring devices, and head gates of this area. With 2016 being wet early in the spring, it again appears that only about half of the 12 acre inch limitation would be applied to irrigated lands under groundwater this season.

CROW CREEK DRAINAGE

Crow Creek drainage started the year off with below average snowpack and drier than normal soil moisture. By early spring things started to turnaround with persistent rains and spring snow storms. This helped fill area reservoirs and in some cases inundated irrigable lands and washed out several county roads. Lodgepole Creek continued to flow at an impressive rate where it crossed Interstate 25 and U.S. Highway 85 and continued to flow where it passed Pine Bluffs and entered Nebraska.

The Laramie County Control Area Order (Order) was issued in April of 2015 for all irrigation, municipal, industrial, and miscellaneous use wells located in the High Plains Aquifer and located in the Laramie County Control Area (LCCA). One of the requirements of the Order was that “All unadjudicated appropriations must be adjudicated by November 30, 2017. Wells that are not adjudicated by this date will be tagged, locked, and foreclosed from use until adjudication is completed“. Another requirement of the Order is that all high capacity wells drilled in the High Plains Aquifer are to be fitted with functional and accurate flow meters properly sized for the flow rate for the well pump. These meters were to be installed prior to use in water year 2017. Hydrographer Skadsen spent much of his time in 2016 checking these wells for compliance and meter installation requirements.

LARAMIE RIVER DRAINAGE

The Laramie River drainage once again experienced a very productive season this year. The first few months of WY2016 saw very little, if any, snowfall. Things finally started to pick up in March and April when the mountains received close to 48 inches of heavy wet snow and then were followed by some moderate snowfalls during the month of May. When February rolled around and the State Engineer’s Office Snow Survey crew began making their rounds to get the manual readings for the season snowpack water supply, the first readings for the Laramie Drainage came in at an average of 101% of normal. From February thru the month of May, snowpack seemed to gradually increase to an average of 134% of normal between the Laramie and Little Laramie Drainages.

All major reservoirs on the Laramie River Drainage filled this season with the exception of Lake Hattie. Although there was plenty of water to fill Hattie, owners decided to not take the reservoir to the full elevation due to legal issues associated with the adjacent land owners. Many irrigators were able to rely on natural flow throughout the spring months and did not rely so heavily on the reservoir supply. This would help finish WY2016 with an abundance of carryover storage in all of its major reservoirs (Table 1). Grayrocks Reservoir and Wheatland Reservoir No. 3 ended the season with well above 90% of its storage capacity as carryover. Both Wheatland Reservoir No. 2 and Lake Hattie ended the season with above normal carryover storage for this season and should be in excellent shape for the 2017 season.

UPPER NORTH PLATTE RIVER DRAINAGE

The Upper North Platte River Drainage started out with the promise of a plentiful water year. May 1st Snow Water Equivalent for the basin came in at 116% of historical median. Both the mountains and the low lands in the valley started with good moisture which allowed for a full and strong irrigation season. The snow pack was practically the only source of water in the area. Much of the region saw little to no rain from June 1st to September 1st. The lack of rain during late summer created ideal haying conditions but left uplands dry going into the winter.

While the Division received eight requests for regulation in WY2016 (Table 5), none were received in the Upper North Platte drainage. However, the local Hydrographer spent a majority of late summer administering reservoir water throughout the valley.

TABLE 5. DIVISION I CALLS FOR REGULATION

District	Stream	Calling Facility	Date Of Request	Action Taken
2	Box Elder Creek	Glomill Ditch & Garrelts Inlet Ditch	11/30/2015	Approved
2	Box Elder Creek	Enl. Glomill Ditch	12/10/2015	Approved
4C	Laramie River	Boughton	3/11/2016	Approved
4C	Laramie River	Grayrocks Res.	3/11/2016	Denied – Already had One fill
4C	Laramie River	Grayrocks Pipeline	3/11/2016	Approved
4C	Laramie River	Grayrocks Inundated	3/11/2016	Approved
11	Bates Creek	Bowie No. 1 Ditch	6/7/2016	Approved
11	Bates Creek	Bates Creek Ditch	6/28/2016	Approved

PERSONNEL

Division I has a new face in the Horse Creek Drainage. Cory Rinehart was hired in April of 2016 to replace Jack Gibson who retired after 19 years with the State Engineer’s Office. Cory comes to us from WYDOT where he was a Geologist. Cory grew up in the Horse Creek area and is very familiar with the area and knows a lot of the appropriators. Although he has a fairly steep learning curve, I believe that Cory will pick things up fairly quickly and he continues to gain a good understanding of Wyoming Water Law and the administration practices within District Two.

ACCOMPLISHMENTS

I prepared for and attended each of the four quarterly Board of Control meetings during the past year where 18 surface water petitions and 20 groundwater petitions were granted by actions of the Board. Staying up to speed on the various petitions, meeting preparation, hearings, field inspections of the proposals, and communication with the agents and engineers takes considerable time.

Division I staff continues to work very hard on completing proof field inspections. They are not only working on a backlog of stock reservoir proofs but also on new proofs that come out of Cheyenne that are requested by the appropriator or are in the final stages of the permitting process. During this year we have completed and adjudicated approximately 64 surface water rights and 72 groundwater rights. The Board has also recorded approximately 66 stock reservoirs that were inspected and found to be in good standing but the owners requested that they remain unadjudicated. Division I still has close to 400 proofs that have been field inspected but are being processed either by the Torrington staff or waiting on signatures by land owners. The process of getting signature seems to take the most time due to a large number of absentee landowners. There are still approximately 500 proof inspections to be completed throughout the Division and we are striving to complete this backlog of proofs in the next two years.

Proofs for instream flow permits began within Division I two years ago and the staff is finding these proofs more difficult than first thought. Field staff members are making stream flow measurements at 7 of the sites within the Snowy Range verifying that the permitted stream flows are available during the specific time frames of the permit. Many of these segments are located in very remote wilderness areas and in some cases take hours to hike into and make these measurements.

Division I sent one Hydrographer to the West Wide Snow training class in Bend, Oregon this year. This class is designed to teach and/or refresh personnel on snow survey back country survival techniques, and avalanche training.

I would like to express my sincere thanks and appreciation to State Engineer Tyrrell and the other members of the Board of Control for all the support and guidance they have given me throughout the year. I would also like to thank all of my staff for all their hard work and dedication that they have put in this year. I look forward to working with and alongside each and every one of them in the coming years.

WATER DIVISION II

Submitted by:
David Schroeder, Superintendent
Sheridan, Wyoming

The following annual report submitted for Water Division II is a summary of the water related activities and conditions which occurred within the division in the 2016 Water Year (WY2016). Division II is generally located in northeast Wyoming and contains 11 distinct water districts lying in the drainages of the Little Horn River, Tongue River, Powder River, Belle Fourche River, Little Missouri River, and the South Fork of the Cheyenne River. Division II contains a seasonal Water Commissioner in Kaycee, a seasonal Hydrographer/Commissioner in Casper, a full-time Hydrographer/Commissioner in Sundance, and 5 full-time Hydrographer/Commissioners and an Administrative Professional at the division headquarters located in Sheridan.

GENERAL CONDITIONS

WY2016 started off with a moderate reservoir capacity carryover in Division II with 38% carryover in the Tongue River Basin, 81% in the Powder River Basin including Lake DeSmet (46% excluding Lake DeSmet) and 77% of total storage at Keyhole Reservoir in the Belle Fourche River Basin. This was roughly 5% less than the previous water year over all basins (Tables 1, 2 and 3).

TABLE 1. DIVISION II RESERVOIR STORAGE POWDER RIVER BASIN

Reservoir Name	Pre-Compact Capacity (A.F.)	Post-Compact Capacity (A.F.)	Usable Capacity (A.F.)	Usable Contents on Sept. 30, 2016	Usable Contents on Sept. 30, 2015	Change in Contents
Cloud Peak	3,397	173	3,570	0	0	0
Dull Knife	0	4,345	4,345	546	1,433	-887
Healy	0	5,140	5,140	2,899	3,923	-1,024
Kearney	1,854	4,470	6,324	0	2,122	-2,122
Lake DeSmet	37,515	197,472	234,987	194,220	201,854	-7,634
Muddy Guard	0	2,336	2,336	855	1,167	-312
Tie Hack	1,647	788	2,435	2,255	2,331	-76
Willow Park	4,457	0	4,457	1,809	1,670	139
Posy No. 1	0	1,537	1,537	765	1,193	-428
Basin Wide (Total)	48,872	216,262	265,131	203,349	215,693	-12,344

TABLE 2. DIVISION II RESERVOIR STORAGE TONGUE RIVER BASIN

Reservoir Name	Pre-Compact Capacity (A.F.)	Post-Compact Capacity (A.F.)	Usable Capacity (A.F.)	Usable Contents on Sept. 30, 2016	Usable Contents on Sept. 30, 2015	Change in Contents
Big Horn	2,749	1,876	4,624	210	643	-433
Cross Creek	0	798	798	533	379	154
Dome	1,843	188	2,031	649	441	208
Granger	146	0	146	0	0	0
Last Chance	90	0	90	0	0	0
Martin	561	0	561	0	0	0
Park	7,347	3,015	10,362	3,468	4,385	-917
Sawmill	0	1,275	1,275	749	749	0
Twin Lakes	1,180	2,231	3,411	2,834	2,471	363
Weston	340	0	370	0	0	0
Willets	79	0	79	0	0	0
Basin Wide (Total)	14,365	9,382	23,747	8,443	9,068	-625

TABLE 3. DIVISION II RESERVOIR STORAGE BELLE FOURCHE RIVER BASIN

Reservoir Name	Pre-Compact Capacity (A.F.)	Post-Compact Capacity (A.F.)	Usable Capacity (A.F.)	Usable Contents on Sept. 30, 2016	Usable Contents on Sept. 30, 2015	Change in Contents
Keyhole	0	188,671	182,079	145,950	168,256	-22,306

Early winter precipitation was bleak throughout all basins, and approximately half of normal. The lower elevation Belle Fourche and Cheyenne River basins were slightly better as far as Snow Water Equivalent (SWE), but still well below normal (Table 4).

The months of January and February were mostly bereft of significant snowfall and SWE values were poor throughout Division II. As a consequence of the slow start, and despite near normal precipitation in March, the stream flow forecast was looking dismal by the beginning of April. The higher elevation Tongue and Powder River drainages were especially worrisome with snowpack SWE values hovering in the 50-60 percentiles. By the time that Wyoming and Montana met for the Yellowstone River Compact Commission Technical Meeting on April 12th, there was concern from both sides that Tongue River Reservoir would not fill. Experts from the Natural Resources Conservation Service (NRCS) and the National Weather Service gave

TABLE 4. SNOW WATER EQUIVALENT (SWE) AND PRECIPITATION BY DRAINAGE BASIN AS OF JANUARY 1, 2016

Drainage	SWE	Year To Date Precipitation
Powder River	56%	53%
Tongue River (Goose Creek)	47% (38%)	56% -
Belle Fourche River	73%	73%
Cheyenne River	72%	57%

presentations at the meeting that confirmed fears of a poor runoff forecast. While somewhat later than expected, Montana did make an official call for interstate regulation to fill Tongue River Reservoir on April 19th, which Wyoming subsequently honored. This marked the second consecutive year of an interstate call for regulation from Montana so Division II field staff were somewhat used to the drill and responded quickly. All large storage facilities with post-compact water rights in the Tongue River basin were measured and documented for storage existing at the time of the call, and all direct flow diversions with post-compact priority dates were prohibited from turning on (there were no active diversions with post-1950 rights observed). Under the terms of the call, Wyoming appropriators were able to continue to fill post-compact rights with the understanding that the water filled out of priority could be subject to a later release if Tongue River Reservoir did not ultimately fill. Stock rights are protected, but domestic uses for lawn & garden watering were told to reduce their watering to ½ acre or less, following the terms of the compact.

Following the call from Montana, heavy spring rains soon followed. The flows in area creeks rose significantly and Montana voluntarily lifted the call on May 2nd when it was all but a given that Tongue River Reservoir would fill, which did in fact occur on May 13th. However, while releasing the call to fill, Montana did reserve the right to make a call on direct-flow rights at a later date if conditions warranted. Ultimately, there was not a second call from Montana.

The late April rains brought about a rebound from the poor winter conditions, and by the 1st of May, all major basins in the division were near normal in SWE. The lower basins, which are more influenced by small changes in snowfall, showed either far above normal or were completely melted out. Other than the Belle Fourche drainage total precipitation was still below normal (Table 5).

Unfortunately, the spring rains were short-lived. The drought pattern re-emerged in May and continued through the majority of the summer. While the high mountain snowpack was near normal at the end of May, total precipitation was still below normal. With the early onset of warm weather, runoff came in early and much lower than normal. By June 1st, year-to-date precipitation in the Powder River drainage was 89%, Tongue River 90%, Belle Fourche 77%, and the Cheyenne River 68%. All major storage facilities filled by the time irrigators began

calling for water— with 2 exceptions. Lake DeSmet had a portion of their diversion out of Piney Creek regulated off on May 18th due to a call by a senior appropriator. However, higher flows

TABLE 5. SNOW WATER EQUIVALENT (SWE) AND PRECIPITATION BY DRAINAGE BASIN AS OF MAY 1, 2016

Drainage	SWE	Year To Date Precipitation
Powder River	104%	77%
Tongue River (Goose Creek)	93% (101%)	79%
Belle Fourche River	229%	102%
Cheyenne River	0%	83%

due to the runoff allowed them to fill all of their Piney Creek appropriations by May 31st. Big Horn Reservoir was under a storage restriction placed on them by the State Engineer due to a large transverse crack discovered near the crest of the dam in 2015. The storage restriction was reduced from 16 feet below spill to 7 feet on May 4, 2016, as the engineering consultant hired to study the dam presented a detailed monitoring plan and recommendation of reducing the storage restriction, which the State Engineer found acceptable.

In general, major tributaries in Division II went into regulation about 2 to 3 weeks earlier than normal because of the hotter than normal temperatures and lack of precipitation in May and early June. In fact, temperatures reached the mid-90's °F in early June after hitting mid-80's ° F in early May. In Sheridan, May brought 1.06 inches of precipitation (normal is 2.35"), and June saw 0.39" (normal is 2.12"). Consequently, most of the major tributaries of the Powder and Tongue River peaked on June 10-11, which was earlier than most years, and peak flows were considerably less than normal (Table 6).

In the Tongue River drainage, calls for regulation (Table 7) in late June initiated the first reservoir orders, and by the middle of July all active storage reservoirs in the basin were releasing water. Weston Reservoir did not release as its long-standing storage restriction remains in place until the dam/spillway is repaired. Because of the worsening drought and lower than normal baseline flows, storage facilities were taxed more heavily than in years past, and consequently most concluded WY2016 with low carryover amounts. Of note, Big Horn Reservoir was drained completely to allow for impending construction/rehabilitation of the dam embankment, which was scheduled for the fall of 2016, but was ultimately postponed to 2017 due to unforeseen project delays.

It was a familiar theme in the Powder River Drainage. Releases began in late June for Lake DeSmet and Muddy Guard No. 1 and 2 Reservoirs, and the rest of the storage facilities

TABLE 6. DATES OF REGULATION BY MAJOR DRAINAGE SYSTEM

POWDER RIVER			
Tributary	% Of Average Streamflow	Peak	Regulation
Clear Creek	46%	6/11/2016	6/24/2016
French Creek	n/a	6/10/2016	6/27/2016
Rock Creek	65%	6/7/2016	6/24/2016
Crazy Woman Creek	n/a	n/a	7/22/2016
Piney Creek	56%	6/10/2016	5/18/2016
TONGUE RIVER			
Entire Basin	% Of Average Streamflow	Peak	Regulation
Call from Montana	n/a	n/a	4/19/2016-5/2/2016
Tributary	% Of Average Streamflow	Peak	Regulation
Big Goose Creek	65%	6/11/2016	7/11/2016
Little Goose Creek	67%	6/10/2016	6/30/2016
Wolf Creek	55%	6/9/2016	7/7/2016
BELLE FOURCHE RIVER			
Tributary	% Of Average Streamflow	Peak	Regulation
Belle Fourche River Basin	67%	8/4/2016	6/20/2016

throughout the basin were releasing water by mid-July. Cloud Peak Reservoir was intentionally drained for the second consecutive year to work on the outlet gearbox. Releases began July 15th and the water was held up in the downstream Willow Park Reservoir to allow for orders of both reservoirs to be filled jointly out of Willow Park Reservoir. A scheduled inspection of the outlet pipe necessitated the draining of Kearney Lake Reservoir by mid-September. Because of high demand from shareholders in the Prairie Dog Creek drainage, all the water was accounted for. Releases continued in the Powder River Drainage until the end of the water year when storage for the WY2017 began, with considerably less carryover storage than the previous year.

South Dakota irrigators began ordering water out of Keyhole Reservoir on June 20th, which triggered regulation in the Belle Fourche Drainage on the Wyoming side. Unlike WY2015, Wyoming irrigators called for stored water in Keyhole Reservoir, and these releases began June 24th. The Belle Fourche drainage was the most affected by the drought conditions experienced in Division II, and there were several large forest and wildland fires burning by early summer. Things were so dire that the 2016 peak flow observed at the Belle Fourche River gage near Alva

occurred on August 4th due to a rain event. The flow was only 115 cfs, of which approximately 80 cfs was reservoir releases. Irrigation releases ceased in mid-August out of Keyhole Reservoir, which is typical of most years. Late August and September did bless the northeastern part of the state with some much needed rains, and pasture grasses and soil moisture benefitted significantly.

Division II saw a further slowdown in Coal Bed Methane (CBM) production in WY2016 due to low natural gas prices. There were no new CBM reservoir inspections completed in WY2016, although Division II personnel continue to work on clearing up lingering issues. Most of these efforts have been to ensure reclamation of reservoirs, along with assisting and completing the process of transitioning over CBM reservoirs and wells to the landowners once requirements of the Bureau of Land Management, Wyoming Department of Environmental Quality, Wyoming Oil and Gas Conservation Commission, and the Wyoming State Engineer's Office (SEO) are met. Many former CBM reservoirs were properly finalized on the landowner's behalf. The amount of groundwater wells absorbed by landowners is much smaller, mostly due to the prohibitive cost of re-perforating and completing the well in a higher zone once it has been plugged and abandoned in the past producing aquifer(s).

Division II Hydrographers inspected 189 Surface Water diversions. Of those, 96 were reservoirs and 63 were stock reservoirs. Pipelines, domestic pumps, and ditch diversions comprised the balance of the inspections (30).

The Safety of Dams program involves the inspection every 5 years for reservoirs that exceed 20 feet in height and 15 A.F. in capacity, or are greater than 50 A.F. in capacity. There are 756 dams that fall into this program in Division II and 132 were inspected in WY2016.

This past year, 95 Surface Water and 60 Ground Water Final Proofs of Appropriation were taken and submitted to the Board of Control for adjudication, along with the inspection of 166 stock reservoir for endorsement/not to be adjudicated. On-site inspections were performed and proof of ownership, signatures and fees were collected for proofs. During WY2016, 31 new petitions were filed in Division II. Of these, 29 were Surface Water and 2 were Ground Water petitions. Along with carryover petitions from previous years, 1 Ground Water and 23 Surface Water petitions were finalized by the Board of Control. In the case of petitions, sometimes it is necessary to hold a public hearing, typically due to the inability to garner all the required consents. There were 5 petitions that were referred to hearing, but none reached a formal hearing as no protestors appeared at the noticed pre-hearing scheduling conference calls and all were later granted at the next scheduled Board meeting.

As mentioned previously, Division II Hydrographer/Commissioners responded to a call for interstate regulation on the Tongue River and its tributaries from the State of Montana on April 19, 2016, provided under the terms of the Yellowstone River Compact. The major issue encountered was not regulating active stream diversions (because there were none found to be diverting); rather, accessing and documenting the current storage amounts in large reservoirs in the Bighorn Mountains with post-Compact storage rights proved difficult. For the second consecutive year, the lower elevation snow was largely melted out, making travel by

TABLE 7. DIVISION II CALLS FOR REGULATION

District	Stream	Requested By	Date of Request	Action Taken
4,5,11	Tongue River	State of Montana - Tim Davis	4/19/2016	Approved
9	Piney Creek	Pratt & Ferris No. 1	5/18/2016	Approved
5	Smith Creek	Water Commissioner's Discretion	6/14/2016	Approved
4	Little Goose Creek	Colorado Colony	6/23/2016	Approved
3	Rock Creek	Water Commissioner's Discretion	6/24/2016	Approved
2	Clear Creek	Water Commissioner's Discretion	6/24/2016	Approved
4	Big Goose Creek	Big Goose & Beaver Ditch	6/27/2016	Approved
3	French Creek	Water Commissioner's Discretion	6/27/2016	Approved
4	Little Goose Creek	Gerdel Ditch	6/30/2016	Approved
4	Big Goose Creek	Flume Ditch	7/11/2016	Approved
5	Wolf Creek	Water Commissioner's Discretion	7/14/2016	Approved
4	Rapid Creek	Water Commissioner's Discretion	7/15/2016	Approved
4	Big Goose Creek	Water Commissioner's Discretion	7/15/2016	Approved
4	Little Goose Creek	Colorado Colony	7/21/2016	Approved
2	Crazy Woman Creek	North Fork Ditch	7/21/2016	Approved
7	South Redwater Creek	Hindman Ditch, Thomas Ditch	8/1/2016	Approved

snowmobile impractical. Yet, the higher elevations still had considerable drifts and deep snow that prohibited anything other than tracked machines. It became clear that remote instrumentation would make Wyoming's administration and compliance obligations much simpler, not to mention safer. Funding was secured through the Governor's Water Strategy initiative under the credible climate, weather, and stream flow data provision. Five reservoir sites were identified, and the equipment was installed throughout the fall of 2016. All are operational and available on the SEO's stream gaging website, seoflow.wyo.gov, as of this writing. Available data is stage height, current pool elevation, current storage amount, temperature, and battery voltage. The sites are as follows:

- Sawmill Reservoir
- Dome Lake No. 1 Reservoir
- Cross Creek Reservoir
- Big Horn Reservoir
- Park Reservoir

In addition, Kearney Lake Land and Reservoir Company funded their own reservoir elevation gaging station at Kearney Lake Reservoir, located in the Powder River drainage. Division II personnel installed the equipment during the general time frame as the other gages, and I am happy to report that this site is up and running as well.

SUMMARY

WY2016 started poorly with low carryover storage amounts throughout the Powder and Tongue River Basins. The snowpack was far below normal from the beginning of winter, and the warmer and drier conditions persisted through spring. Peak flows and total runoff were far below normal in all drainages. Precipitation was far below normal from May through July. Only a reprieve of rain and snow in April kept things from being more dire. These storms were enough to fill all major storage facilities and allowed for area appropriators to have decent crop production despite the poor natural stream conditions. It was also a godsend for Yellowstone River Compact administration as Tongue River Reservoir filled and spilled, and water that was stored out of priority in Wyoming Reservoirs was not ultimately released to meet the interstate call for regulation. With 2016 marking the second consecutive year of a call for regulation to fill Tongue River Reservoir by the State of Montana, more familiarity with the concept and ramifications of the interstate call for regulation helped Wyoming respond quickly and decisively. Due to the difficulties experienced by Wyoming Hydrographer/Commissioners accessing the high mountain reservoirs during the call(s) for regulation in both years, remote instrumentation was installed on certain storage facilities with significant post-compact storage rights. Sawmill Reservoir, Dome Lake No. 1 Reservoir, Cross Creek Reservoir, Big Horn Reservoir, and Park Reservoir all had new reservoir elevation gaging stations installed in the fall of 2016 funded through the Governor's Water Strategy initiative. Kearney Lake Reservoir also had a similar gaging station installed, which was privately funded by the reservoir company.

The Belle Fourche and Cheyenne River Basins suffered from poor pasture grass and hay production, as the northeast portion of the state experienced drought conditions throughout the winter, spring, and summer seasons. However, a rebound of sorts came in the form of late

August and September rains, and soil moistures improved to begin WY2017. Keyhole Reservoir saw heavier than normal use this year, but carries forward a healthy 77% of full storage amount.

Division II saw only 1 major staffing change in 2016, and it was my appointment to replace Carmine LoGuidice as Superintendent in early April. It was certainly a whirlwind as I was quickly thrown into the fire with the call from Montana, as well as facing a poor water year. I was blessed to previously spend 9 years with the SEO until 2014, when I left to pursue an opportunity in private industry. However, water flows in my blood, and when the Superintendent position was offered to me after completing the rigorous application and interview process, it didn't take long for me to accept. I would like to thank Patrick Tyrrell and the hiring committee for their faith in me, and I look forward to serving the appropriators of Division II and the citizens of the State of Wyoming for many years to come. I also offer my congratulations to Mr. LoGuidice on his retirement and thank him for his years of service. I also am thankful to the dedicated and professional staff I inherited, which made my transition as easy as possible considering the eventful spring and summer that Division II experienced.

On-line reporting of data by the NRCS, United States Geological Survey, and the United States Department of Interior-Bureau of Reclamation was used in this report.

WATER DIVISION III

Submitted by:
Loren Smith, Superintendent
Riverton, Wyoming

This report will summarize WY2016 for the Wind River/Big Horn River system as well as that of the Clark's Fork River Drainage in North Central Wyoming. Water Division III is made up of thirteen water districts served by a staff of seven hydrographer-commissioners, one lead hydrographer, one assistant-superintendent and one division secretary.

GENERAL CONDITIONS

The beginning of WY2016 found Division III starting to exhibit signs of a drought. The previous year ended during an extended dry period which left reservoir storage levels, soil moisture profiles and stream flows all at quite low levels. These warm and dry trends stuck around well into November before we began to pick up some moisture. Snow pack was slow to build and the first of the year still found area water levels in a precarious position. Snow pack in the Wind River basin ranged only at 78% in January falling to 73% in February before beginning to rebound by April to slightly above normal at 108%. Storms began to become heavy and frequent through April and into May with Wind River basin snow pack levels coming in high at nearly 140% of normal by the June 1st report. The late season, warm weather accrual of this snowpack created tenuous runoff conditions especially in the harder hit drainages of the Popo Agie system which was sporting a >300% of normal snow pack on June 1. These conditions weren't consistent across the division though as the west side drainages had only climbed to about 90% of normal in the Shoshone basin and 100% of normal in the Greybull River basin. This is in stark contrast to the east side of the division where snowpack never did keep pace and most courses had melted out by June 1 evidenced by 0% remaining in the Nowood and Greybull drainages, 69% in the Shell Creek drainage and the Lower Big Horn River basin was only at 65% as a whole on June 1.

Minimal storage accrual during the fall was realized as low streamflow levels persisted into freeze up. The main saving grace was that during WY2015 the demand for reservoir storage releases was tempered by having adequate natural flow available in many of our drainages. A few localized bright spots were found in the Greybull River where the Greybull Valley Irrigation District was able to build a bit of storage in the fall as was the case early in the year for Midvale Irrigation District on the Bull Lake Creek drainage where October inflows were recorded at 129% of normal. Pilot Butte was allowed its customary fall fill from the Wind River as that reservoir went into freeze up with 28,219 AF in storage. Boysen Reservoir accrued storage at a slow but steady rate through the winter months in part due to the higher 825 Cubic Feet per Second (CFS) winter release rate. This rate would have been set at 850 CFS but through negotiations between the Bureau of Reclamation and the Wyoming Game and Fish 25 CFS of the release was held in the reservoir to make up the amount of water necessary for a spring flushing flow to be completed in late March. Buffalo Bill Reservoir contained nearly 431,000 AF going in the water year. This carryover level combined with the 2015 inflow calculation

produced a 200 CFS winter release from Buffalo Bill under the current operating agreement. Anchor Reservoir was nearly drained completely during WY2015 but achieved a nearly full pool by June 11 with 6,878 AF. Shell Reservoir filled and spilled while nearby Adelaide Reservoir didn't actually reach full pool before releases were needed to keep pace with irrigation demand. Once the spring moisture waned the reservoirs were called upon heavily across the entire division to make up for natural flow shortages. Table 1 provides information as to the depth that reservoirs in the division were relied upon to make up stream flow shortages across the division.

TABLE 1. DIVISION III RESERVOIR STORAGE TABULATION

Reservoir Name	Usable Contents (AF)	Usable Contents on Sept 30, 2015 (AF)	Usable Contents on Sept 30, 2016 (AF)	Change in Contents (AF)
(Lake) Adelaide Reservoir	4,770	428	675	-247
Anchor Reservoir	9,252	561	461	100
Bighorn Lake	1,116,000	942,138	969,502	-27,364
Boysen Reservoir	757,851	624,893	631,065	-6,172
Buffalo Bill Reservoir	644,540	421,289	430,804	-9,515
Bull Lake	151,951	38,288	63,684	-25,396
Christina Reservoir	3,860	260	55	205
Corral Reservoir	1,027	711	676	35
Diamond Creek Dike	18,378	237	388	-151
Enterprise Reservoir	1,698	28	12	16
Fairview Extension	1,411	1,410	1,200	210
Greybull Valley Reservoir	33,169	9,335	9,027	308
Harrington Reservoir	1,202	1200	800	400
Lake Cameahwait Reservoir	6,683	6,683	6,683	0
Lake Creek Reservoir	1,373	460	655	-195
Lower Sunshine Reservoir	58,748	35,700	36,715	-1,015
Newton Reservoir	4,525	556	305	251
Perkins and Kinney	1,202	704	1,043	-339
Pilot Butte Reservoir	34,600	3,593	15,392	-11,799
Sage Creek Reservoir	2,785	2,703	2,682	21
Shell Reservoir	1,949	269	112	157
Shoshone Lake Reservoir	9,740	0	0	0
Sunshine Reservoir	52,988	29,151	38,013	-8,862
Teapot Reservoir	1,578	0	0	0
Tensleep Reservoir	3,509	3,510	3,239	271
Wiley Reservoir	1,020	1,020	1,020	0
Worthen Meadow Reservoir	1,503	1,347	1,188	159

April through September stream flow averages as compared to the long term average at State of Wyoming stream gaging points reflect the existence or lack thereof of adequate snow pack. Table 2 reflects the preliminary stream flow percentages across this division compared to

average, of particular interest are the extremely low percentages of normal flow witnessed on the west slope of the Big Horn Mountain drainages.

TABLE 2. DIVISION III STREAM FLOW PERCENTAGES WY2016 (APR-SEPT)

Stream Source	% of Avg	Stream Source	% of Avg
Middle Popo River	154%	Nowood River near Manderson	40%
Little Popo River	165%	Nowood River at Tensleep	64%
Big Horn River near Boys School	127%	Tensleep Creek	52%
Wind River at Hwy 26 bridge	131%	Shell Creek near Shell, WY	71%
South Fork Owl Creek Above Anchor Res.	108%	Medicine Lodge Creek	45%
South Fork Owl Creek below Anchor Res.	94%	Paint Rock Creek	51%
North Fork Owl Creek	224%	Gooseberry Creek	132%
Owl Creek at Arapahoe Ranch	114%	Cottonwood Creek	172%
		Greybull River Meeteetsee	137%

Administrative regulation was called for on 8 separate drainages through 14 different calls. Pre-runoff regulation was only called for on Bennett Creek near Clark, WY and for the Greybull River. This is expected and once runoff levels reach a level that will fully satisfy the demand on each of those systems, regulation is then removed until stream flows cannot keep up with demand and we receive another call for our intervention. A new twist this season was the request for the delivery of water from Ten Sleep Reservoir stored supply (aka Meadowlark Lake Reservoir). Members of the Nowood Watershed Improvement District requested the water be delivered to lands on the lower Nowood River. This allowed a few district members with crops on junior priority lands to finish their season and to make a crop.

Crop yields in WY2016 were excellent. Last year in this report I made comment about how technology has continued to push production numbers higher every year. This trend continued again this year. For the most part spring planting was on schedule across the water division except for a few bean varieties that were a bit late being planted due to remaining soil moisture. Daily average temperatures were 4-8 degrees above normal during June followed by near normal temperatures during the remainder of the water year. Precipitation after the May rains was nearly non-existent and was only 5% of normal for July in some areas while August and September provided near normal amounts of precipitation. These factors allowed most folks to get their first cutting alfalfa without ever irrigating. Most hay was put up without precipitation problems or damage and barley fields looked excellent as long as they received enough water. Barley harvest varied some from South to North across the division but Miller/Coors claims some huge weights coming in as high as 162 bushels per acre! Early sugar beet production was averaging 28.9 tons to the acre with sugar content at about 17.5%. Talk amongst producers is that they really believe an overall average of 30+ tons per acre and 18% sugar is realistic in the near future due to the genetic developments being made. Early bean production is also varied

TABLE 3. DIVISION III CALLS FOR REGULATION WY2016

District	Date of Call	Stream System	Tributaries	Calling Party	Status
3	09-Aug-16	Red Creek trib. Wind River	Walton Claim 345 & 346	Pete Peralta	Approved
6	25-Jul-16	Nowood River	Shafer Ditch	M. King	Approved
6	28-Jul-16	Nowood River	Ten Sleep Res.	John Joyce	Approved
8	18-Apr-16	Greybull River	Bench Canal	Trevor Phelps	Approved
8	26-Jun-16	Greybull River	Wood & Burnett Ditch	Darrell Bullinger	Approved
10	13-Apr-16	Bennett Creek	Berry Ditch	Rose Cox	Approved
10	22-Aug-16	Bennett Creek	Berry Ditch	Jim Cox	Approved
12	02-Oct-16	Medicine Lodge Creek	George & Bayne Ditch	Martin Mercer	Approved
12	05-Oct-16	Paint Rock Creek	Go Ahead Ditch	Lois Shirran	Approved
12	30-Jun-16	Medicine Lodge Creek	George & Bayne Ditch	Asa Mercer	Approved
12	30-Jun-16	Paint Rock Creek	Anita Suppl. Ditch	Asa Mercer	Approved
13	01-Oct-15	Gooseberry Creek	Blake Denton Ditch	Steve Griensman	Approved
13	01-Jul-16	Gooseberry Creek	Blake Denton Ditch	Travis Griensman	Approved
14	13-Jul-16	Cottonwood Creek	Brassington Ditch	Jim Butterfield	Approved

with high levels of 40 bags/acre, averages in the 30 bags/acre range with the lowest production we have heard of being about 16 bags/acre. With the long extended fall that was prevalent this year, corn and bean production were both in excellent shape with little to no loss due to weather. We did receive a heavy rain storm across the division during the end of September which delayed the beet harvest some while farmers waited for their fields to dry enough to get the beets out.

ACCOMPLISHMENTS

Preparation for and attendance of the four quarterly Board of Control meetings during the past year is a primary duty and obligation of this position. The workload in front of the Board of Control rebounded somewhat over the last year. Numerous petitions have been coming in to address inconsistencies in permitting recognized during our review of proposed federally funded improvements. Other factors driving the number of petitions include mapping work done by the hydrographers each winter as well as their review and preparation for an upcoming draft version of a new Tabulation of Adjudicated Water Rights book for Division III. As errors in the records are found, the staff is spending time with their appropriators in an effort to have those errors corrected. This year the Board granted 23 surface water petitions and 10 ground water petitions

both of which were an increase of about 20% from the previous year. Fifty five surface water proofs of construction/appropriation were submitted for adjudication as were 5 ground water proofs. Two additional instream flow permits were adjudicated on Shell Creek as well. The current docket has 35 surface water and 7 ground water petitions remaining at some level of completeness which is an increase of approximately 30% from the previous year.

More time is spent in this position working with staff than any other duty. Growing a well trained confident staff who are exposed to more of the lesser known but important parts of the job are a primary goal of mine. Through PMI goals we have worked to get the division hydrographers familiar with the petition work going on in each of their areas and to have our intermediate supervisors spending large blocks of time observing and helping the staff with the everyday work they must complete. This time is spent talking about and teaching everything and anything which these hydrographers are encountering. Having a concentrated effort division wide, for succession planning, provides the hydrographers the tools necessary to move up the ladder when openings arise. No one is immune from the bread truck scenario and being prepared in the unlikely event it occurs only makes our staff stronger. This confidence in knowledge and ability is evident to the public as well, and when answers are given with this confidence the message is generally well received. With no appeals of any Hydrographer decisions coming in over the last couple years, I can only conclude that we are starting to reap the benefits of this effort.

The State's Performance Management Initiative (PMI) time demands continue to ebb and flow with each season. Extensive time demands are placed upon supervisors three times during each calendar year. Goal planning, mid-term review and annual evaluation stages all take time away from the jobs we were hired to do. Every year it seems that there is a new twist to the whole process and the amount of time necessary to properly address these new concepts or questionnaires or whatever it may be, each make this process more and more of a burden and not a beneficial use of time. A good supervisor doesn't need prodding to grow a quality staff; it should be a basic job duty.

The field staff of Division III continues to work diligently on staying current with periodic 5 year, dam safety inspections completing 39 such inspections this year. Two dams in the division currently have fill restrictions in place. The Ewen Reservoir in Big Horn County off of Beaver Creek began to leak extensively after an attempt was made to complete some maintenance work on the outlet gate. In the Nowood drainage, the Wyoming Game and Fish initiated plans to reconstruct the Renner Wildlife Reservoir and that facility has been breached and drained. We continue to await a set of plans for review of the proposed reconstruction.

The cooperative snow survey program has now been completely run out of the Division III office for the Wind River basin for 4 years. The surveys are completed on time and with professionalism now that a consistent and dedicated crew of 4 surveyors are doing all of the work. It is believed that the quality of the surveys continues to improve due to these efforts. The NRCS still provides good snow machines, safety items and other equipment to keep this cooperative program moving forward. It also appears that having a trained instructor in the field for the required CPR and first aid certification is paying dividends by allowing us to efficiently train all snow surveyors in a timely manner at a reduced cost to the State. This past summer a

large forest fire in the Dubois area impacted another snow course. The Sheridan Creek Ranger Station manual course was obliterated by a backfire. This is the fourth manual course or sno-tel site in the past few years to be affected by summer fires. The resultant changes in what is now the “norm” will be realized for many years to come.

The NRCS water rights verification forms continued streaming in for projects being proposed for funding through the NRCS programs. This year Division III completed 145 of these verifications. This is a 50% increase over the last year and with a stack of about 40 currently sitting on my desk for final review I don't expect there to be a decrease next year. The verifications are used to confirm that all lands under a federal cost share project being considered for funding are adequately covered with water rights so as to not leave or create conflicting water rights or unpermitted water use on project lands. These reviews each take a lot of staff time to research and complete, but they do serve well to advise appropriators where the deficiencies are so that they can be remedied prior to funding. It is estimated that 20-25% of the proposed projects require some amount of petition work or additional permitting prior to moving forward with funding. With the NRCS holding up their end of the deal by not funding anything that will create illegal water use, we have been able to help producers get their rights up to snuff so they don't create administrative problems for us down the road.

Work with the Big Horn River Long-term Issues Group led by the Bureau of Reclamation in Montana has slowed significantly over the last year. Most of the operational issue resolution for this group was accomplished in the first 6-7 years and now efforts are generally concentrated on some of the larger more global issues affecting the reservoir and its associated facilities. Issues such as trout gas bubble trauma, reservoir sedimentation studies, tribal settlements and new or expanded uses all continue to be monitored and keep the attention of the group.

AREA HIGHLIGHTS

With good carryover storage and a moderately good snowpack in the Wind River basin, WY2016 did not qualify as an accounting year by the Bureau of Reclamation in Mills. Our accounting system is run every year regardless, and it continues to be such an important tool for myself and my staff throughout the entire season. With the retirement of some key people with the Bureau of Reclamation, our accounting was the only system in place being kept current this past year. The importance of this system really became evident again as we were closing out WY2016 and Midvale Irrigation District was wanting to move most of their Bull Lake storage down to Pilot Butte and then at the conclusion of that process we needed to have accurate accounting to determine how much space was available to store some Boysen water in Pilot Butte for exchange to Bull Lake which would later be relocated to Boysen during the winter months to provide for a minimum winter flow in Bull Lake Creek while still allowing Midvale to store their entire appropriation. Without the accounting system, we would have been just guessing how much water was owned by each involved entity under each involved appropriation.

The Shoshone and Clark's Fork drainages had a good irrigation season with ample natural flow, storage and very good growing conditions. Landis Webber, the lead Hydrographer for this area, has worked diligently to reduce the proof backlog, keeping pace with new proof inspections being assigned to him while continually working with and growing his staff. The Heart

Mountain Irrigation District has received approval from the Bureau of Reclamation to file for an enlargement to their system. Once completed there will be no water service contracts left in place. This has been a 14 year battle to get these cleaned up and I anxiously await the removal of the last of these. A water service contract allows producers to irrigate with stored water on lands that don't have an underlying direct flow right. The problem created is that there are extensive periods of the year when there is no storage being released and yet these folk still expect to be watering. During June, Gary Anders, Hydrographer for the Shell Creek drainage for about 15 years, took his well deserved retirement and his absence will be felt for quite some time. Dan Laursen took over the primary Hydrographer duties in District 7 and has spent most of his time learning the diversions, appropriators and the nuances of this area. Shell Creek had one of our worst snow packs in the division and a lot of time was spent trying to assist Shell Canal Company with various problems as well as working with area appropriators to get proper petitions filed to clean up water rights inconsistencies. The reliance on their reservoir storage continues to prove to be more and more of dependence rather than a luxury. With the expectation of the Leavitt Reservoir enlargement continuing to be part of the Governor's Ten in Ten plan, it is hoped that this facility can ease some of the demands on the lower Shell Creek drainage.

Similar to the Shell Creek area, the Nowood River and Ten Sleep Creek areas had an abysmal snow pack and received a limited amount of the spring rains. Stream flows dropped off quickly after the short and low runoff. By mid-summer the flows of Medicine Lodge Creek and Paint Rock Creek were both down to lower base flows than we have typically witnessed. Regulation activities were the norm for all of the Nowood drainage keeping area Hydrographer Philip Beamer very busy. Regulation was requested nearly 3 weeks early than the previous year and 7 weeks earlier than in WY2014. The newly formed Watershed Improvement District is moving forward with the Alkali Reservoir project which is hoped to relieve some of these regulation pressures by supplying secondary water directly to lands below the reservoir and upstream by exchange. An interesting twist during regulation this season saw the US Forest Service contract with the district for the use of a portion of the storage in Tensleep Reservoir (aka. Meadowlark Lake Res.). The difficult part of this was that the storage would need to be shepherded about 50 miles to the north past numerous diversions while applying appropriate amount of conveyance loss to the water, all increasing the difficulty with already tough regulation. This additional supply was directed to those district members with junior direct flow rights allowing them to finish a crop.

The Owl Creek drainage in District 5 probably benefitted from the spring precipitation more than any other drainage in the division. Regulation was called early in the spring but lasted only one week before rains and runoff made it unnecessary. Anchor Reservoir again stored a large amount of the South Fork runoff reaching 6878 acre-feet on June 11, and judicious use of this stored water coordinated by Hydrographer Tim Hawkins and the dam tender provided adequate water for everyone to keep up with crop demands. Tim's experience continues to grow and it is clear that he continues to thrive as an integral part of the division team. Multiple cuttings of hay and establishment of new plantings were the norm on Owl Creek this year due to early conservation and the amazing sustained runoff this year.

The Greybull River drainage was nearly a repeat of the year prior. Good carryover storage and decent snow pack, enhanced by some late season heavy snows, contributed to a short lived but

adequate runoff. All reservoirs in the system filled during runoff and regulation was called for the remainder of the season on June 29. Regulation of this system is an annual event and we rely upon the leveling program to help keep regulation on an even keel. Lower Greybull River Hydrographer Heber Jensen reports that our efforts to fine tune the leveling process a couple years ago have made marked improvements in our efficiency and ability to stop any waste at the bottom end of the regulated segment. Mike Riley, upper end Hydrographer, indicates that the gaging station we relocated and reconfigured last fall, on the river in Meeteetsee, operated much better and more accurately than in previous years with the new radar sensor. Both hydrographers have worked on the last four instream flow permits needing proof work in the Greybull drainage. These segments are being gaged and it is hoped that next fall we will have the data needed to take these permits to proof.

The Lander area drainages of the Popo Agie and Little Wind River were the biggest beneficiaries of the heavy spring storms. Reports of up to 7" of rain causing lowland flooding especially in the Little Popo drainage have been verified by the National Weather Service. This storm brought back to back 24-30" wet heavy snow storms to the southern end of the Wind River Mountains during the end of April. This late snow never had a chance to mature and re-crystallize prior to melt out and it showed with a short lived but high runoff period. Once these stream flows dropped off to more normal levels the area, Hydrographer Ryan Mikesell was spending his time gathering and providing diversion and stream flow data to the Cemetery Ditch group who handle the self regulation on the Middle Fork Popo Agie River. These efforts work quite well and allow so much more flexibility in who is getting water at what rates and when, than what we can do under strict priority administration. Ryan continues to spend time working with the Nature Conservancy and the Popo Agie Conservation District who are continuing a grassroots effort to find creative ways to provide some level of enhanced streamflow through Lander during the peak irrigation season.

SUMMARY

WY2016 was another interesting year in the long list of seasons I have worked through. We were in fairly good condition going into the water year with ample carryover storage in the normal places, we had okay but declining soil moisture and good fall weather. Heavy spring rains and heavy mountain snows in the Wind River Mountains set those areas up for success while the west slope of the Big Horn Mountains continued to slip further into drought. The season was extremely busy, but having another year with a stable, qualified staff made it possible to cover everything necessary in a timely fashion, even without replacing the District 7 hydrographer due to budget cuts. I have often commented that it is the consistency with which we approach this job that makes it tolerable to the people we serve. No one likes to be denied the water they need but if it is done by someone they have built trust in, they can usually accept it easier. The Board of Control continues to evolve as Division 2 Superintendent Carmine Loguidice retired in March. David Schroeder was appointed as the newest member of the Board prior to the May meeting and he brings a whole new perspective to the Board. I can't express the importance of having well qualified Board members with a solid field understanding as they work through all of the issues and problems that come in front of them. I continue to enjoy the work of the Board and find it an odd position to be in now being the old guy on the Board with the added duties of that distinction adding significantly to the workload. I take it all on as I

believe it only makes the agency stronger while keeping folks grounded and understanding the history from where we came. This job can't be done without the continued support from everyone in the agency. The Cheyenne staff support is essential for the success of the field staff and vice versa. The dedicated staff of this water division continues to do more with less while doing everything necessary to accurately divide and administer the waters of the State of Wyoming. Thank you.

WATER DIVISION IV

Submitted by:
Kevin Payne, Superintendent
Cokeville, Wyoming

INTRODUCTION

This report summarizes Water Year 2016 (WY2016) for the Green, Bear and Snake River drainages located west of the Continental Divide that includes its westerly Great Divide Basin in Wyoming. Detailed accounts of respective local areas can be obtained from the individual summaries published in the Hydrographers' Annual Reports (The Little Snake drainage, although part of the Green [Colorado River] basin, is administered under Water Division I which includes the easterly Separation/Soldier/Dry Lakes portion of the Great Divide Basin).

GENERAL CONDITIONS

Snow conditions in April looked fairly promising with over 100% of median in all basins in the division. Reservoir storage was above average also in most of the division (Tables 1, 2 and 3). Rain in May led to lower snowpack conditions dropping, in most areas in the division, down to 80% of median. The only basin which increased was the Lower Green which increased to 114% of median. Spring runoff began earlier than normal, which increased the ability to fill and spill all the reservoirs in the division. After the early spring runoff ended, dry conditions followed throughout the division. Thirteen requests for regulation were received and five Record of Administration forms were all acted upon.

Spring rains and plentiful reservoir storage allowed for very good crops in most of the river basins. The abundance of hay dropped the average hay price by almost 50%. Cattle prices also dropped significantly from previous years.

GREEN RIVER

Conditions in the Green River basin varied greatly from the Upper Green to the Lower Green. Snowpack in the Upper Green was around 100% in the high elevations and less than 80% in the mid and lower elevations. In the Lower Green, conditions were well above 100% and also enjoyed the benefit of many additional spring rains that did not occur as often in the Upper Basin.

In early July, flows decreased enough to trigger regulation on North Piney, Fish and South Piney Creeks. Part of the year, Fish Creek was regulated independently of South Piney Creek. Several requests were made by users on Fish Creek for the Superintendent to verify water deliveries. A field visit was made and it was determined that regulation was properly being administrated, and most of the issues were related to the lack of maintenance of diversion dams. Most of the users on South Piney Creek were able to be satisfied with timely shutoffs of other users shutting their

headgates off to hay. This reduced the number of headgates required to be regulated by the Water Commissioner.

Requests for regulation on Cottonwood Creek and Middle Piney Creek were received; however, these requests were denied due to the abundance of water bypassing the calling headgates. East Fork was also short in supply, but they were able to split the water on their own without making a formal call for regulation.

Meeks Cabin Reservoir began spilling on May 17th. and storage deliveries were started on June 28th. A weekly call to set river flows for each week proceeded throughout the irrigation season. Several issues occurred between the inflow and outflow gages that was caused by lack of timely updates of shifts and also rain events. The difference in these gages caused a shortage in the amount of water that was actually stored in the reservoir. Mid week regulations along with additional measurements to correct the shifts on these gages are being looked at to correct this issue. The measuring device on Deeben-Heinze Ditch was relocated to provide better accuracy. This ditch is at the bottom of the system and can be affected by dropping river flows without a mid-week regulation.

Storage deliveries began on July 5th from Stateline Reservoir for users on Smith's Fork Creek. On August 22th, natural flows decreased far enough to trigger a call for the Lambs Supply water to be delivered to the Smith's Fork. Efforts were continued to find and shut off illegal ditches along with resetting and replacing measuring devices and headgates that were in un-usable conditions. Headgate GPS locations were obtained on most headgates on Smith's Fork during this season. Two separate storage delivery requests were made for China Lake storage that was delivered for 18 days the first time and an additional 27 days on the last one. After the two previous years of disputes on Sage and Cottonwood Creeks, the users were able to work out their differences and avoid regulation and further headgate and measuring device orders.

Users on the Ham's Fork River were once again able to work with PacifiCorp to use 6,000 acre foot of storage out of Viva Naughton Reservoir. This additional water helped alleviate the need for a natural flow call for regulation. After a very successful year and a half on the Ham's Fork, Reed Thomas was reappointed on June 27th as Water Commissioner of the Henry's Fork in District 14. This change was made to fulfill compact compliance after losing the vacant position on the Henry's Fork. Assistant Superintendent John Yarbrough filled in as the Hydrographer in this area for the remainder of the irrigation season. A regulation request was denied on June 27th on Corral Creek after the calling appropriator determined this call would affect some of his other rights. On June 29th another request for regulation was received by the same appropriator and this call was approved.

Kevin Buhunin resigned as District 14 Water Commissioner at the end of May. Tim Redmon filled in as the backup Water Commissioner until Reed Thomas' position was moved to this district with a new Governor appointment. High runoff resulted in several washed out headgates and measuring devices.

TABLE 1. GREEN RIVER RESERVOIR STORAGE

Reservoir Name	Usable Contents (AF)	Content on Sept 30, 2015 (AF)	Content on Sept 30, 2016 (AF)
Beaver Meadows	2,461	0	0
Big Sandy	39,700	17,468	14,292
Boulder Lake	22,280	0	3,342
Eden No. 1	18,489	1,479	3,512
Fontenelle	345,397	252,139	227,962
Fremont Lake	30,899	21,691	16,098
Hoop Lake	4,026	3,825	4,026
Island Lake	778	0	0
McNich #1	1,089	762	334
McNich #2	490	90	95
Meeks Cabin	33,571	6,378	6,043
Middle Piney	4201	1,050	1,134
New Fork Lake	20,340	13,221	5,735
67 Reservoir	5,211	3,647	2,344
Sphaeralcea	99	9	42
Stateline	14,020	5,201	4,921
Willow Lake	18,816	15,692	3,462

SNAKE RIVER

The Upper Snake River also experienced an early runoff period. The snow water equivalent dropped from 90% of median in early June to 20% of median by mid June. Summer flows released from Jackson Lake averaged between 3000 cfs and 4000 cfs. Snake River flows at Flagg Ranch reached record lows in September of 135 cfs. Below average flows on the Snake River and its tributaries triggered some inquires in regards to shortages; however, no official calls for regulation were received.

Teton Creek hit the trigger point of the Roxana Decree on July 14th, however, as with several previous years, no regulation was needed in Wyoming due to Wyoming always taking less than their apportioned amount during the irrigation season. With the addition of a new pipe flow meter, there were several measurements taken on pipelines. Besides these measurements helping to determine the diversion amounts, they were also valuable for determining leaks.

Conditions on the Salt River drainage were some of the driest in recent history. The snowpack started out the irrigation season at about 80% of median. As the summer progressed, very little precipitation was received and the weather continued with hot and dry conditions. Although there were many phone calls received in regard to shortages, there were no official calls for regulation. Several additional center pivots were installed during the irrigation season.

TABLE 2. SNAKE RIVER RESERVOIR STORAGE

Reservoir Name	Usable Contents (AF)	Content on Sept 30, 2015 (AF)	Content on Sept 30, 2016 (AF)
Grassy Lake	15,204	12,163	12,315
Jackson Lake	838,000	561,460	444,140

BEAR RIVER

Runoff in the Bear River drainage began earlier than normal with above average peak flows. Whitney, Sulphur Creek and Woodruff Narrows reservoirs all filled and spilled in early spring. Ben and Heber reservoirs filled throughout the winter months from both Green River import water and also with Bear River tributary water. Once runoff receded, regulation was called on July 11th in the Upper Bear River. Hot and dry conditions remained throughout the summer months placing a higher demand on storage water than most years. Early spring runoff along with reservoir water helped to produce good crops even though the rest of the summer was very dry.

Snowpack in the Smith's Fork of the Central Division was 83% of median. Spring rains along with return flows from Woodruff Narrows Reservoir helped delay regulation in the Central Division. The Central Division was placed into interstate regulation on August 1st; however, this call did not affect many users since most were already shutting off to hay. Storage water from Woodruff Narrows Reservoir was delivered into the Central Division to the Thornock Pump. This delivery had been contemplated by the Bear River Commission for several years as presented by Wyoming, but it had not been attempted until this year.

TABLE 3. BEAR RIVER RESERVOIR STORAGE

Reservoir Name	Usable Contents (AF)	Content on Sept 30, 2015 (AF)	Content on Sept 30, 2016 (AF)
Ben	303	168	200
Broadbent	893	261	261
Sulphur Creek	19,774	14,040	13,842
Whitney	4,664	1,866	295
Woodruff Narrows	57,300	37,245	42,258

PERSONNEL

Levi Walker filled the District 2 Hydrographer/Commissioner vacancy in October, 2015; this position is also a backup in districts 4, 8 and 12. Kevin Behunin resigned in late May in which his position was not refilled due to budget cuts.

SUMMARY

Average spring snowpack along with some timely spring rains produced average to above average crops in most areas of the division. Mid-summer and late summer dry conditions affected the amount of fall pasture available and also the amount of stock water available. Once hay crops were harvested the hydrographers' efforts were shifted to regulating for stock water.

Even with high numbers of requests for regulation that were received during WY2016, very few appropriators were affected by cuts.

During WY2016, 25 surface water petitions were finalized. There were 6 petitions referred to hearing, which took considerable time to work through the proper notices to hold these public hearings. All the petitions referred to hearing were able to be resolved with pre-hearing conferences without needing a formal hearing, once it was determined there were no protests.

There were 55 Ground Water proofs submitted to the Board of Control for adjudication. There were 133 Surface Water proofs completed along with several additional inspections completed. The total amount of Surface Water proofs to be completed in the division was only reduced by 64 due to receiving an additional 69 proofs to also be completed.

The new Division IV Tab Book was completed in February. This was a big undertaking by both Cheyenne and field staff and it has been very useful since its completion. This version replaces the last one published in 1999.

The knowledge and experience of the State Engineer and the other Board members are very important to our agency and I appreciate all their efforts, with the many changes budget reductions have created for our division. I would like to thank the Division IV staff for the positive attitudes and their willingness to step up and take on the new challenges. The daily efforts of the staff in Cheyenne are also very much appreciated.

BOARD OF PROFESSIONAL ENGINEERS AND PROFESSIONAL LAND SURVEYORS

Submitted by:
Shannon Stanfill
Executive Director

INTRODUCTION

The primary responsibility of the Board of Professional Engineers and Professional Land Surveyors (Board) is self-regulation of the engineering and land surveying professions. The Board's mission is to safeguard life, health and property of the public by assuring that those who practice the profession of engineering and land surveying are licensed and attain and maintain competence in those professions. The Board makes the final licensure decision for all professional engineers, professional land surveyors, engineers and land surveyors in training, and businesses that offer professional engineering and/or land surveying services. The Board develops and administers state specific land surveying exams, ethics exams and contracts with the National Council for Examiners of Engineering and Surveying (NCEES) to administer national exams for both engineers and land surveyors. The Board, staff and assigned representatives from the Attorney General's office work closely with Board members to ensure complaints are properly investigated and vetted. In addition, the Board directs continuing education audits and engages in statewide outreach. The Board is also active with NCEES at the regional and national level with several board members holding committee or elected roles. This involvement ensures Wyoming's input during critical conversations and development of model language that affects these professions. The information provided is for the period from October 1, 2015, through September 30, 2016.

ACCOMPLISHMENTS

The Board's outreach efforts continue to be a valuable opportunity to connect Board and staff with various stakeholders. Board representatives spoke at nine different conferences during the year reaching both licensees and entities that use professionals.

Two additional outreach efforts allowed youth the opportunity to learn about the professions. Engineers Week, held in February, matched 50 engineering practitioners with 70 3rd grade classrooms. The result was 1,200 Wyoming students participating in a hands-on engineering design project. This event was made possible through a partnership with the University of Wyoming and the Wyoming Engineering Society. Surveyors Week, held in March, launched a year-round effort to match land surveyors with youth organizations. This collaborative effort with the Professional Land Surveyors of Wyoming (PLSW) began with a Proclamation signing by Governor Mead. Professionals were then able to talk with seven different Boy Scout and Girl Scout troops in Wyoming.

The Board received public comment on Draft Rule through October 30, 2015. The final RULES were filed January 27, 2016. The Board also approved Practice Act language, which will be presented to the Joint Corporations Committee in preparation for the 2017 Legislative Session.

The SEO fiscal department continued to assist board staff to transition some accounting duties from the SEO office. This continued effort improves efficiencies within the accounting process and will provide the Board and staff better access to historical financial data. This will be ongoing during WY2017.

The Board terminated a contract in September 2016 with a licensing software company and issued a Request for Proposals to develop a licensing software system. The new system will replace the current system which has been in use since the 1980s. The preliminary timeline would replace the online renewal system before the October 2017 renewal season. Remaining components are scheduled in 2018.

The Board continues to provide exceptional leadership at the national level. Five of the nine Board members provide their service in areas such as fiscal guidance, assessing model law and rules, determining how to adapt to changing practices and technology, and developing national examinations. Several members serve as officers, committee chairs or committee members of the NCEES. 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. Eight of the Board members attended at least one of the industry meetings.

ENFORCEMENT ACTIVITY

The Board and staff work closely with the Attorney General's office to work through complaints and ensure due process for licensees. During WY2016, the Board worked on 27 different dockets. Of those dockets, 15 are resolved and 12 will be addressed during the next water year.

Every complaint concerning the practice of the licensees is investigated by the Board. All docketed cases are assigned to an Investigative Board Member who oversees and works with the prosecuting attorney on the investigation and presents recommendations to the entire Board for decision. When required a formal hearing is conducted. The BPEPLS has assistance from two investigators and hires subject matter experts on an as-needed basis. This has streamlined the process and resolution on most cases is accomplished without a formal hearing.

Where the Board is made aware of situations where individuals or business may have engaged in unlicensed practice, the board issues an inquiry letter to help determine if unlicensed practice has occurred. The Board issued 13 letters during WY2016. The BPEPLS continues to use the National Council of Examiners for Engineering and Surveying's (NCEES) national database for retrieving information on disciplinary matters, as well as providing information on Wyoming registrants who are disciplined.

LICENSING ACTIVITY

The BPEPLS makes the final licensure decision for all professional engineers, professional land surveyors, engineers and land surveyors in training, and businesses that offer professional engineers and/or land surveying services. Applications are vetted through Application Review Committees (ARC) and in specific conditions, application review has been delegated to the Executive Director. All recommendations are ratified by the full Board. See Table 1 for a listing of license counts as of the end of WY2016.

TABLE 1. PE/LS LICENSES

Summary of Licenses as of September 30, 2016				
		Resident	Non-Resident	Total
Professional Engineer	Individual	1170	5480	6650
	Corporation	98	792	890
	Total	1268	6272	7540
Professional Land Surveyor	Individual	123	171	294
	Corporation	19	23	42
	Total	142	194	336
Professional Engineer & Land Surveyor	Individual	47	24	71
	Corporation	39	45	84
	Total	86	69	155
Engineer-In-Training		1647	1026	2673
Land Surveyor-In-Training		78	17	95
Total		3221	7578	10,799

PROBLEMS AND RECOMMENDATIONS

The Board entered into a contract with a licensing software provider in May 2015. The contract was terminated in September 2016. No Board funds were lost during the contract period. The significant effort staff invested during development and testing netted valuable lessons learned which will be applied as a new provider is contracted.

Administering the land surveying State Specific Exam has become difficult. The Exam has not been updated in several years. Questions and graphics have been challenged. Connection issues within the computer based approach have resulted in some applicants not able to complete their exam. Staff will research then recommend consultants which can develop and deploy a defensible exam.

The length of time to complete a complaint investigation along with the process can be formidable. Staff and the Attorney General's office continue to adapt and improve the complaint process in terms of timing and consistency of actions.

The ongoing effort to transition licensees from paper renewals to on-line renewals showed positive results in the last two years. However, the on-line renewal system administered through Enterprise Technology Services will be discontinued January 1, 2017. This raises the priority for the new licensing system to, at minimum, provide a comparable system on or before October 1, 2017.

LEGAL ACTIVITIES

Christopher M. Brown
Senior Assistant Attorney General

Attorneys within the Water and Natural Resource Division of the Wyoming Attorney General's Office have the pleasure of advising and representing the Wyoming State Engineer's Office and the Wyoming Board of Control on water related issues. Like last year, the State did not see much activity with regard to formal litigation during Water Year 2016 (WY2016). Accordingly, the bulk of legal activities during the year, some of them described below, took the form of day-to-day advice and representation.

MONTANA V. WYOMING, UNITED STATES SUPREME COURT, NO. 137, ORIGINAL

The United States Supreme Court case of Montana v. Wyoming experienced its ninth year during WY2016. The States previously contested the trial to determine liability in WY2014, and the Special Master assigned to hear the case issued his Second Interim Report in WY2015. Also in WY2015, Montana and Wyoming each took one exception to the Special Master's Report. Summaries of those activities can be found in previous versions of this annual report. During WY2016, the Supreme Court did not explicitly rule on the states' exceptions, but instead issued an Order and Judgment adopting the Special Master's liability recommendations. After that ruling, the remedies phase of the case began.

U.S. Supreme Court Order and Judgment, March 21, 2016

The Supreme Court's March 21, 2016, Order and Judgment is relatively simple and straightforward. Its operative provisions state in their entirety as follows:

IT IS HEREBY ORDERED AND ADJUDGED AS FOLLOWS:

1. Wyoming's Motion for Partial Summary Judgment on the notice requirement for damages is granted for the years 1982, 1985, 1992, 1994, and 1998.
2. Wyoming also is not liable to Montana for the years 1981, 1987, 1988, 1989, 2000, 2001, 2002, and 2003.
3. Wyoming is liable to Montana for reducing the volume of water available in the Tongue River at the Stateline between Wyoming and Montana by 1,300 acre-feet in 2004.
4. Wyoming is liable to Montana for reducing the volume of water available in the Tongue River at the State line between Wyoming and Montana by 56 acre-feet in 2006.
5. The case is remanded to the Special Master for determination of damages and other appropriate relief.

The Order and Judgement effectively adopted the Special Master's liability recommendations as described in his Second Interim Report. Basically, the Court found Wyoming liable to Montana for a relatively small total amount of water, 1,356 acre-feet.

Remedies Phase

Earlier in the case proceedings, the Special Master bifurcated the case into two phases; a liability phase and a remedies phase. Matters pertaining to retrospective or prospective remedies were reserved for the latter phase. With the liability phase now complete, the states began to address remedies. At the outset, that took the form of summary judgment motions from each state.

For its summary judgment motion, Wyoming essentially reasserted the positions it took in its exception to the Special Master's Second Interim Report. Wyoming asserted that: 1) Montana's damages are limited to the cost of the readily available replacement water (Wyoming offered \$20,340 plus prejudgment interest); 2) injunctive relief is not appropriate because there is no cognizable danger of a recurrent violation by Wyoming; 3) the specific controversy Montana voluntarily brought to trial has been resolved and it is not entitled to further declaratory relief; and 4) the Court should not award costs to either state because each state prevailed on some issues.

Montana sought clarification of its pre-compact right to store water in Tongue River Reservoir. It asked for partial summary judgment "declaring that the Yellowstone River Compact protects Montana's water right in the Tongue River Reservoir to fill 72,500 acre-feet, less carryover storage, each year." This was the first time in the case Montana articulated its claim for storage in this way, and had previously claimed a larger storage right. Montana responded to Wyoming's motion for summary judgment by asserting that: 1) it needed time to conduct discovery regarding damages, including crop loss and disgorgement damages; 2) additional declaratory relief was needed to guide future Compact compliance and avoid future disputes; 3) the court should award injunctive relief against Wyoming because there is a cognizable danger of a future violation; and 4) Montana prevailed on significant issues in the proceeding and was therefore entitled to recover its costs.

The Special Master heard the states' summary judgment arguments in Denver on July 27, 2016. He did not make a decision regarding those motions during WY2016.

INTERSTATE LEGAL ACTIVITIES

The Wyoming Attorney General's Office provided advice and representation to the State Engineer's Office regarding various interstate legal matters during WY2016. Those matters related to almost all of Wyoming's interstate compacts and decrees. The bulk of that activity related to the Yellowstone River Compact, and the Colorado River.

Yellowstone River Compact

In addition to the Montana v. Wyoming litigation, various legal issues have arisen related to implementation of the decisions flowing from that case. Two such issues are Montana's call for

regulation of the Tongue River Basin in Wyoming, and potential options to lease storage water from the Northern Cheyenne Tribe in Montana.

As it did in WY2015, Montana called for regulation of the Tongue River for the benefit of Tongue River Reservoir on April 18, 2016. Montana's call was motivated by poor snowpack conditions and low reservoir inflow projections. The Wyoming State Engineer honored Montana's call due to the deficient conditions and the Attorney General's Office provided advice and representation with regard to the call and the resulting regulation of Wyoming post-1950 water rights. Further, together with the Water Division II Superintendent, the Office participated in a Sheridan public meeting on April 21, 2016, to update water users regarding the litigation and inform them about Montana's call and resulting regulation. Montana removed its call on May 2, 2016, due to improved conditions.

As a result of decisions made in the litigation, it is possible that some post-1950 direct flow or storage rights in Wyoming's Tongue River Basin could be curtailed in dry years due to a Montana call. As an option to address that issue, there is a potential to lease or otherwise exchange unused storage water held by the Northern Cheyenne Tribe in the Tongue River Reservoir. During WY2016, the Office began to explore this potential option and opened communication with Montana and the Tribe's legal counsel about the possibility.

Colorado River

The Attorney General's Office works closely with the State Engineer's Office Interstate Streams Division regarding Colorado River issues. Due to, in large part, the extended and historic drought within the Colorado River Basin, those issues were many and commanded much attention from the Attorney General's Office during WY2016. However, because they are likely described in the Interstate Streams Division portion of this report, some of those issues are only briefly mentioned here.

1. **Drought Contingency Planning.** To develop plans in response to the sustained historic drought, both the Upper and the Lower Basins have been actively engaged in drought contingency planning. In the Upper Basin, those efforts during WY2016 focused primarily on reaching agreement with federal agencies regarding specified drought operations of Colorado River Storage Project reservoirs. In the Lower Basin, those efforts concentrated on formulating additional plans by the Lower Basin States to voluntarily forego up to 1.1 MAF of deliveries from Lake Mead per year if water levels reach critically low elevations.
2. **Minute 32X of the 1944 Mexico water treaty.** Minute 319 of the 1944 Mexico water treaty expires at the end of 2017. Accordingly, the Basin States were actively involved with the Bureau of Reclamation and the International Boundary and Water Commission in efforts to extend certain provisions of Minute 319 as well as add additional components related to, among other things, voluntary reductions of water deliveries to Mexico.

3. **System Conservation Pilot Program.** In 2014, a consortium of mostly municipal interests and the Bureau of Reclamation funded a demand management pilot, the “System Conservation Pilot Program.” The program in the Upper Basin is currently administered by the Upper Colorado River Commission, and will inform the demand management portion of the Upper Basin’s drought contingency plan. In WY2015, five projects were awarded in Wyoming, three in Colorado, and none in Utah or New Mexico. For WY2016, nine projects were funded in Wyoming, eight in Colorado, two in New Mexico, and one in Utah. This Office closely reviewed and monitored the Wyoming projects and their individual contracts.

4. **Long-Term Experimental and Management Plan EIS (LTEMP).** During WY2016, the Bureau of Reclamation and the National Park Service were in the final stages of completing the LTEMP EIS for the operation of Glen Canyon Dam. The Plan fully evaluates the effects of dam operations on resources, and provides the basis for Glen Canyon Dam operations over the next 20 years. Wyoming’s principal focus regarding this process was to ensure that the primary intended purpose of Glen Canyon Dam – water storage and the management of flows from the Upper Basin to the Lower Basin to satisfy provisions of the 1922 Colorado River Compact – was preserved.

5. **Wyoming and the Colorado River, a Report.** The Wyoming Water Development Commission and members of the Select Water Committee of the Wyoming Legislature raised questions related to Wyoming’s rights and abilities regarding the Colorado River in late 2015. The State Engineer offered to create a report to describe the “Law of the River” and Wyoming’s role in the river’s management. This Office worked closely with the State Engineer’s Office developing that report during WY2016.

INTRASTATE LEGAL ACTIVITIES

During WY2014, five landowners within the Laramie County Control Area filed a petition to enlarge the Control Area boundaries. Hearing on the Petition was rescheduled until after WY2015, and the Board of Control ultimately heard the Petition on January 26, 2016. The public hearing, held pursuant to Wyoming Statute § 41-3-912(d), contemplated that the State Engineer supply information to the Board along with the parties and other interested people. This Office assisted the State Engineer’s Office in preparing exhibits and testimony for the hearing. The Board of Control decided not to enlarge the control area boundaries at its meeting held on February 24, 2016.

In WY2015, the State Engineer rejected a regional watershed supply pipeline application that proposed to divert water from the Green River and Flaming Gorge Reservoir in Wyoming and deliver that water to parts of eastern Wyoming and northeastern Colorado. The application proposed to divert water that would be ultimately charged to the State Of Colorado’s apportionment under the Upper Colorado River Basin Compact. The applicant appealed the rejection to the Board of Control. This Office represented the State Engineer in that appeal process. After engaging in discovery and preparing for hearing, the applicant terminated its appeal on November 6, 2015. However, the applicant filed a substantially similar application with the State Engineer’s Office that is still under review.

On May 3, 2016, an appropriator within the Laramie County Control Area initiated an appeal with the Board of Control challenging the State Engineer's cancellation of a groundwater permit. This Office represented the State Engineer in that appeal process and, after providing an opportunity for other potentially affected appropriators to participate, negotiated a stipulated resolution with the appropriator. The Board of Control adopted the terms of the parties' stipulation and the matter was resolved.

In January of 2015, Governor Mead issued a Water Strategy which identified creation of a Uniform Hydrographers Operations Manual as one of its initiatives. The Attorney General's Office worked closely with the State Engineer's Office to develop the manual, which was finalized in December of 2015.

STATE BOARD OF EXAMINING WATER WELL DRILLING CONTRACTORS AND WATER WELL PUMP INSTALLATION CONTRACTORS

Submitted by:
Lynn Ritter, Executive Director
Riverton, Wyoming

REPORT PERIOD

This report covers the period of October 1, 2015 through September 30, 2016 also known as Water Year 2016 (WY2016).

BASIC FACTS

The State Board of Examining Water Well Drilling Contractors and Water Well Pump Installation Contractors (Board) was created by legislation in the 2003 session. The Board consists of seven members and has been a functioning entity since June 2003.

MISSION

Since the 2008 Legislature passed HB0055, *Water Well Drilling And Pump Installation Licensure*, which requires mandatory licensing of water well drilling contractors and water well pump installation contractors, the Board's role is now one of administering a mandatory license program. The purpose of the licensing program is to protect the public from incompetent or unethical water well drilling and water well pump installation contractors, as well as to promote excellence in the practice of their area of expertise. The Board is authorized to suspend or revoke the license of water well contractors that fail to meet established standards of the profession. Additionally, licensing protects the groundwater resources of the state and promotes excellence in water well drilling and pump installation practices.

APPLICABLE STATUTES

The statutes governing the mandatory licensing program can be found in Title 33 – Professions and Occupations, Chapter 42 – Water Well Drilling Contractors and Water Well Pump Installation Contractors, W.S. §§ 33-42-101 through 117.

GOALS AND KEY INITIATIVES

The Board has established the following goals and key initiatives to guide the direction of Board activities.

Goal # 1: Make changes to Wyoming State Statutes applicable to the Board. W.S. §§ 33-42-101 through 117.

- Add Records Retention Requirement.
- Add the ability to require a probationary period and fine to the censure statute W.S. § 33-42-111.
- Require a license for wells, as defined in W.S. § 33-42-102(v), that require a permit through the Department of Environmental Quality.

Goal # 2: Make changes to Rules and Regulations.

- Add Records Retention Requirement.
- Add Requirement for Licensed Contractors to have written contracts with public members.

Goal # 3: Increase Budget and Board Revenue.

- Increase budget by requiring a license for wells permitted through the Department of Environmental Quality.
- Continue to enforce license laws and increase the number of licensed contractors.
- Send out license renewals and work closely with licensed contractors to support license renewal.

Goal # 4: Regulate compliance with State Statutes, Rules and Regulations and State Minimum Construction Standards.

- Work closely with the State Engineer's Office to establish forms required to be filled out and sent to state from water well drilling contractors.
- Work closely with the State Engineer's Office to establish forms required to be filled out and sent to state from water well pump installation contractors.
- Continue to educate licensed contractors on compliance with minimum construction standards.
- Meet with and establish a good working rapport with licensed contractors while attending continuing education classes.
- Meet with County and Municipal Officials throughout the state to increase awareness with current Rules and Regulations, Statutes, and Minimum Construction Standards.
- Help to educate the public about required rules and standards.

Goal # 5: Establish Public Support.

- Continue to perform well and pump inspections for the public.
- Review public complaints for license violations.
- Investigate public complaints.
- Work closely with Board Members and Prosecuting Attorney General on docketed public complaints.

Goal # 6: Create and Submit Annual Report.

- Review, evaluate, and update previous year's goals and initiatives, and create new ones for coming year.
- List Accomplishments.
- List on-going and new goals.

LICENSING

As of September 30, 2016, a total of 314 license holders exist as follows:

- 102 Well Drilling Contractors,
- 109 Pump Installation Contractors, and
- 103 with both a Well Drilling and Pump Installation Contractors license.

ACCOMPLISHMENTS

- Issued 22 new licenses.
- Renewed 18 licenses out of a possible 23 that were up for renewal.
- Drafted and submitted Annual Report for WY2015.
- Docketed 3 complaints; investigated 3, finalized and cleared 5.
- Documented 49 incident reports; noting non-verified public complaints.
- Performed approximately 28 public well inspections.
- Attended Wyoming Water Well Association Convention – met with licensed contractors, gave presentation, attended educational classes offered.
- Worked closely with Wyoming Water Well Association – attended 3 Board Meetings, helped establish and attended educational classes throughout the state.
- Worked closely with State Engineer's Office enforcing compliance with state minimum construction standards via sending 10 Advisory Letters to Contractors.
- Attended and gave presentation at the North Dakota & South Dakota Water Well Conventions.
- Attended and gave presentation at the Idaho Ground Water Association Conference.

BUDGET

According to statutory provision (W.S. § 9-1-904(b)), a portion of the fees collected by the State Engineer for processing applications for permits to appropriate ground water are deposited into an account created under W.S. § 33-42-116 to support the costs of operating the Board. Additional revenues for Board operations include new license fees, license renewal fees and miscellaneous fees. In WY2016, revenues from all sources totaled \$92,925 (Table 1).

TABLE 1. FEES COLLECTED IN WY2016

Type Fee	Amount (\$)
Groundwater Permits	\$80,425
License Renewals	\$12,500
Total	\$92,925

The State Board of Examining Water Well Drilling Contractors and Water Well Pump Installation Contractors currently struggles with having an adequate revenues that will support a two full time contract inspectors and reimbursement of expenses for travel to meetings, educational classes, and most importantly, public inspections. Likewise, changing W.S. § 33-42-102(v) to include permits granted through the Department of Environmental Quality would help to increase revenue to support current inadequacies with the hiring of two full time contract inspectors.

BOARD MEETINGS

In WY2016, the Board met three times as a quorum (Table 2). Additional meetings were needed to assist in development of the proposed State Statute and Rules and Regulation Changes.

Table 2. Board Meeting Dates and Locations

Date of Meeting	Location
January 20, 2016	Casper, Wyoming
April 14, 2016	Casper, Wyoming
September 7, 2016	Cheyenne, Wyoming

PERSONNEL LISTS

STATE ENGINEER'S OFFICE

(As of September 30, 2016)

ADMINISTRATION

NAME	TITLE
Tyrrell, Patrick T.	State Engineer
Deuell, Rick	Assistant State Engineer
Bales, Nancy	Human Resource Associate II
Green, Loretta	Human Resource Supervisor
Hoskins, Cricket.....	Senior Accounting Analyst
Jenkins, Susan.....	Senior Office Support Specialist
Wertz, Tina	Accountant

SURFACE WATER

NAME	TITLE
Deuell, Rick	Assistant State Engineer/Natural Resources Program Manager
Arrington, Lee	Natural Resources Program Supervisor
Blanks, Dana	Senior Office Support Specialist
Bratton, Leah.....	Natural Resources Analyst
Couch, Chris	Natural Resources Analyst
Engkvist, Claire.....	Office Support Specialist II
Feltner, Jason	Natural Resources Program Principal
Graves, Nathan.....	Principal Engineer
Hand, Mike	Principal Engineer
Lamblin, Cindy	Office Support Specialist II
LaRue, Adrienne.....	Natural Resources Analyst
Lorentz, Sandra.....	Office Support Specialist I
Wolf, Tabetha	Natural Resources Analyst
Wright, Cheryl	Natural Resources Analyst
Vacant	Natural Resources Program Principal
Vacant	Natural Resources Analyst

SUPPORT SERVICES

NAME	TITLE
Zimmerman, Martin	Computer Technology Program Manager II
Carpenter, Elva	Records & Data Management Clerk
Castle, Daniela	Records & Data Management Clerk
Merrill, Kimberly	Records & Data Management Clerk
Searls, Gregory	Records & Data Management Specialist I
Smith, Linus	Natural Resources Analyst
Vossler, Steve	Natural Resources Specialist
Wallace, Tony	Computer Technology Business Applications Analyst
Wickham, Brent	Computer Technology Supervisor

GROUND WATER

NAME	TITLE
Lindemann, Lisa	Administrator
Harju, John	Assistant Administrator
Blain, Liberty	Natural Resources Program Principal
Calhoun, Kelley	Office Support Specialist I
Carpenter, Terry	Office Support Specialist II
Culver, Sheri	Natural Resources Specialist
Ferrantelli, Charlie	Natural Resources Analyst
Lett, Sunny	Natural Resources Analyst
Linn, Cyndee	Office Support Specialist I
Malessa, Markus	Natural Resources Analyst
Manley, Jeremy	Natural Resources Program Principal
Miller, Linda	Office Support Specialist II
Miller, Sonia	Office Support Specialist II
Moser, George	Senior Project Geologist
Neely, James	Natural Resources Analyst
Peterson, Krissie	Office Support Specialist II
Tebben, Beth	Natural Resources Analyst

STATE BOARD OF CONTROL

NAME	TITLE
Timm, Cheryl	Natural Resources Program Manager
Rockweiler, Jedadiah	Natural Resources Program Supervisor
Bigelow, Christy	Office Support Specialist I
Duncan, Bonnie.....	Office Support Specialist I
Gibson, Katherine	Natural Resources Program Principal
Hallberg, Debra.....	Natural Resources Analyst
McCann, Nancy.....	Natural Resources Program Principal
Mumper, Karen.....	Natural Resources Analyst
Nichols, Trista.....	Office Support Specialist II
Pierce, Dixie.....	Natural Resources Specialist
Pino, Roxanne.....	Senior Office Support Specialist
Quist, Adam.....	Natural Resources Analyst
Trembath, Jessica.....	Office Support Specialist II
Tully, Karyl.....	Natural Resources Analyst
Pugsley, Brian	Superintendent
Water Division No.....	Torrington
Schroeder, David	Superintendent
Water Division No. II.....	Sheridan
Smith, Loren	Superintendent
Water Division No. III.....	Riverton
Kevin Payne	Superintendent
Water Division No. IV.....	Cokeville
Tyrrell, Patrick	State Engineer
State Engineer.....	Cheyenne

INTERSTATE STREAMS

NAME	TITLE
Wolff, Steve	Administrator
Mefford, Brenna	River Basin Coordinator
Callaway, Beth	River Basin Coordinator
Cowley, Jeff	River Basin Coordinator
Vacant	River Basin Coordinator

WATER ADMINISTRATION PERSONNEL

(As of September 30, 2014)

Key to Title Abbreviations:	NRA	=	Natural Resources Analyst
	NRS	=	Natural Resources Specialist
	AI	=	Acreage Inspector
	WI	=	Well Inspector
	PI	=	Pump Inspector
	LH	=	Lead Hydrographer
	HC	=	Hydrographer-Commissioner
	AHC	=	Asst.HydrographerCommissioner
	TI	=	Tributary Inspector

WATER DIVISION I

PERSONNEL AT LARGE

TITLE	NAME	ADDRESS
Superintendent	Brian Pugsley, brian.pugsley@wyo.gov	510 West 27th Torrington, Wyoming 82240
Assistant Superintendent and At Large	Doug Oliver, doug.oliver@wyo.gov	1560 B Johnston St. Wheatland, Wyoming 82201
Natural Resources Program Principal	Rob Foreman, rob.foreman@wyo.gov	510 West 27th Torrington, Wyoming 82240
Office Support Specialist II	Sharon L. Hackett, sharon.hackett@wyo.gov	510 West 27th Torrington, Wyoming 82240

WATER ADMINISTRATION PERSONNEL

DISTRICT	TITLE	NAME	ADDRESS
1, assist 4A, 4B and 4C	HC	Adam Skadsen, adam.skadsen@wyo.gov	Laramie Civic Center 710 Garfield, Room 114 Laramie, Wyoming 82070
2	HC	Cory Rinehart, cory.rinehart@wyo.gov	510 West 27th Torrington, Wyoming 82240
3,4C	HC	John Mumm, john.mumm@wyo.gov	1560 B Johnston St. Wheatland, Wyoming 82201
4A	HC	Trevor Hiegel, trevor.hiegel@wyo.gov	Laramie Civic Center 710 Garfield, Room 114 Laramie, Wyoming 82070
16,17	HC	Justin Stern, justin.stern@wyo.gov	PO Box 710 Saratoga, Wyoming 82331
4B	HC	Susan Kersey, sue.kersey@wyo.gov	Laramie Civic Center 710 Garfield, Room 114 Laramie, Wyoming 82070
6,7,18, assist 8	HC	Robin Blake, robin.blake@wyo.gov	PO Box 710 Saratoga, Wyoming 82331

WATER ADMINISTRATION PERSONNEL (cont'd)

DISTRICT	TITLE	NAME	ADDRESS
9	LH	Rod Oliver, rod.oliver@wyo.gov	277 Dutton Creek Road Laramie, Wyoming 82070
13, 15-5, 20	HC	Jack Clark jack.clark@wyo.gov	117 S. 2nd St., Ste. 2B Douglas, Wyoming 82633
10,11, 12, assist 14	HC	Forrest Kiezer, forrest.kiezer@wyo.gov	2020 Fairground Rd., Ste. 104 Casper, Wyoming 82604
14	HC	Kent Becker, kent.becker@wyo.gov	510 West 27th Torrington, Wyoming 82240
North Platte River	TI	Tracy Brown, tracy.brown@wyo.gov	510 West 27th Torrington, Wyoming 82240
North Platte River	AI	J. Scott Haskamp, scott.haskamp@wyo.gov	2020 Fairground Rd. Ste. 104 Casper, WY 82604
North Platte River	AI	Chad Pickett, chad.pickett@wyo.gov	PO Box 710 Saratoga, Wyoming 82331
North Platte River	WI	Kelly Mehling, kelly.mehling@wyo.gov	510 West 27th Torrington, Wyoming 82240
North Platte River, 14,19	PI AHC	Wray Lovitt, wray.lovitt@wyo.gov	117 S. 2nd Street, Ste. 2B Douglas, Wyoming 82633
8,Asst 6,7,16,17,18	HC	Amanda Drake, amanda.bredeweg@wyo.gov	PO Box 710 Saratoga, Wyoming 82331
North Platte River	AI	Connie Kersting, connie.kersting@wyo.gov	1560 B Johnston St., Wheatland, Wyoming 82201

WATER DIVISION II

PERSONNEL AT LARGE

TITLE	NAME	ADDRESS
Superintendent	David Schroeder, d.schroeder@wyo.gov	1833 South Sheridan Ave. Sheridan, Wyoming 82801
Assistant Superintendent	David Pelloux, dave.pelloux@wyo.gov	1833 South Sheridan Ave. Sheridan, Wyoming 82801
Office Support Specialist II	Deborah Reed, deb.reed@wyo.gov	1833 South Sheridan Ave. Sheridan, Wyoming 82801

WATER ADMINISTRATION PERSONNEL

DISTRICT	TITLE	NAME	ADDRESS
7,10 Assists 1	HC	Kody Steinbrecher, kody.steinbrecher@wyo.gov	113 S. 21st St. Sundance, Wyoming 82729
8	HC	Robert Furnival bob.furnival@wyo.gov	P.O. Box 3 Kaycee, Wyoming 82639
5,6 Assists 4	HC	Pat Boyd, pat.boyd@wyo.gov	1833 South Sheridan Ave. Sheridan, Wyoming 82801
1,8	HC	Karla Gallegos, karla.gallegos@wyo.gov	2020 Fairgrounds Rd., Ste. 104 Casper, Wyoming 82604
9,10, 11	HC	Gordon Sawyer, gordon.sawyer@wyo.gov	1833 South Sheridan Ave. Sheridan, Wyoming 82801
4	LH	Kim French kim.french@wyo.gov	1833 South Sheridan Ave. Sheridan, Wyoming 82801
11 Assists 9&10	HC	Jessica Winter jessica.winter@wyo.gov	1833 South Sheridan Ave. Sheridan, Wyoming 82801

WATER DIVISION III

PERSONNEL AT LARGE

TITLE	NAME	ADDRESS
Superintendent	Loren Smith, Loren.Smith@wyo.gov	715 East Roosevelt Riverton, Wyoming 82501
Assistant Superintendent At Large	David Deutz, Dave.Deutz@wyo.gov	2009 Big Horn Avenue, Ste 1 Worland, WY 82401
Office Support Specialist II	Janet Wempen, Janet.Wempen@wyo.gov	715 East Roosevelt Riverton, Wyoming 82501

DIVISION III: WATER ADMINISTRATION PERSONNEL

DISTRICT	TITLE	NAME	ADDRESS
1, 11	HC	Ryan Mikesell, Ryan.Mikesell@wyo.gov	715 East Roosevelt Riverton, Wyoming 82501
1,3	HC	Josh Fredrickson, Josh.Fredrickson@wyo.gov	715 East Roosevelt Riverton, Wyoming 82501
5, 14	HC	Timothee Hawkins, Tim.Hawkins1@wyo.gov	2009 Big Horn Ave., Ste 1 Worland, WY 82401
6,12	HC	Philip Beamer, Phil.Beamer@wyo.gov	2009 Big Horn Ave., Ste 1 Worland, WY 82401
7	HC	Vacant	
8	HC	Heber Jensen, Heber.Jensen@wyo.gov	1201 E. 7th Powell, WY 82435
9, 10, 15, & At Large	HC	Landis Webber, Landis.Webber@wyo.gov	1201 E. 7th Powell, WY 82435
13,16	HC	Mike Riley, Mike.Riley@wyo.gov	1201 E. 7th Powell, WY 82435
7,15	HC	Dan Laursen, Dan.Laursen@wyo.gov	1201 E. 7 th Powell, WY 82435

WATER DIVISION IV

PERSONNEL AT LARGE

TITLE	NAME	ADDRESS
Superintendent	Kevin Payne, kevin.payne@wyo.gov	PO Box 277 Cokeville, Wyoming 83114
Assistant Superintendent, 1, 3, 9, 14, 15, and At Large	John Yarbrough, john.yarbrough@wyo.gov	PO Box 1208 Lyman, Wyoming 82837
Office Support Specialist I	Carol Reed, carol.reed@wyo.gov	PO Box 277 Cokeville, Wyoming 83114

WATER ADMINISTRATION PERSONNEL

DISTRICT	TITLE	NAME	ADDRESS
2, 4, 8, 12	LHC	Mike Johnson, mike.johnson@wyo.gov	PO Box 277 Cokeville, WY 83114
2, assist 4, 8, 12	HC	Levi Walker levi.walker@wyo.gov	PO Box 277 Cokeville, WY 83114
3	HC	Zach Rasmussen, zach.rasmussen@wyo.gov	PO Box 464 Lyman, WY 82937
4	HC	Travis McInnis, travis.mcinnis@wyo.gov	217 Bodine St. Evanston, Wyoming 82930
5,6,7,10,11,13 ,16	LHC	Ed Boe, ed.boe@wyo.gov	PO Box 1080 Big Piney, Wyoming 83113
6, 10, 11, assist 7	HC	Courtney Skinner, courtney.skinner@wyo.gov	PO Box 61 Daniel, Wyoming 83115
7, 10, assist 11	HC	Jeff Davis, jeff.davis@wyo.gov	PO Box 1080 Big Pine, WY 83113
8, 12	HC	John Hunsaker john.hunsaker@wyo.gov	PO Box 134 Smoot, Wyoming 83126
13	HC	Jim Wilson, jim.wilson@wyo.gov	275 Yellow Rose Drive Alta, Wyoming 83414
14	HC	Reed Thomas, reed.thomas@wyo.gov	159 County Road 233 Lyman, Wyoming 82937
15, assist 3, 14	HC	Tim Redmon tim.redmon@wyo.gov	P.O. Box 1208 Lyman, Wyoming 82937
16, assist 11, 13	HC	Bodean Barney, bodean.barney@wyo.gov	PO Box 9575 Jackson, Wyoming 83002

**STATE BOARD OF PROFESSIONAL ENGINEERS AND PROFESSIONAL
LAND SURVEYORS**

BOARD MEMBERS

NAME	POSITION	E-MAIL	TERM EXPIRES
Thomas V. Anderson thomas.anderson@wyoboards.gov	President	1010 Sussex Casper, WY 82609 307-377-5561	3/31/2021
Corky Stetson, PE corky.stetson@wyoboards.gov	Vice-President	P.O. Box 12702 Jackson, WY 83002 307-733-5150	3/31/2021
Patrick T. Tyrrell, PE patrick.tyrrell@wyo.gov	Secretary- Treasurer	122 W. 25 th Street, 4E Cheyenne, WY 82002 307-777-6150	Indefinite
Paul A. Blough, LS paul.blough@wyoboards.gov	Member	1402 Stampede Ave. Cody, WY 82414 307-587-6282	3/31/2018
Jeffrey B. Jones, LS jeffrey.jones@wyoboards.gov	Member	6451 Big Sky Trail Cheyenne, WY 82009 307-634-7273	6/31/2017
Shelley R. Macy, PE shelley.macy@wyoboards.gov	Member	217 W. 18 th Street Cheyenne, WY 82001 307-631-4049	3/31/2019
Robert R. Norton, PELS robert.norton@wyoboards.gov	Member	P.O. box 1599 Jackson, WY 83001 307-733-2087	6/31/2017
Steven Barrett, PhD PE Steven.barrett@wyoboards.gov	Member	College of Engineering Department 3295 1000 E University Ave. Laramie, WY 82071 307-766-6181	3/31/2020
Skylar V. Wilson, LS skylark.wilson@wyoboards.gov	Member	P.O. Box 938 Pinedale, WY 82941 307-367-6417	3/31/2019

ATTORNEY GENERAL CONTACT

NAME	ADDRESS	PHONE	E-MAIL
Christopher Brown	2320 Capitol Ave. Cheyenne, WY 82002	307-777-3406	chris.brown@wyo.gov

**STATE BOARD OF PROFESSIONAL ENGINEERS AND PROFESSIONAL
LAND SURVEYORS**

BOARD STAFF

NAME	POSITION
Shannon Stanfill	Executive Director
Krista M. Wilson	Office Support Specialist
Troy A. Niesen	Office Support Specialist

**STATE BOARD OF EXAMINING WATER WELL DRILLING
CONTRACTORS AND WATER WELL PUMP INSTALLATION
CONTRACTORS**

Name	Representing	Term Expires
Jerry Hunt	At-large Water Well Drilling Contractors	3/31/19
John Midkiff	Water Well Drillers	3/31/17
Nick Bebout	Irrigation Well Contractors	3/31/18
Steven R. Barbour	Water Well Pump Installation Contractors	3/31/17
Van David	Public Who Owns an Active Well	3/31/17
Lisa Lindemann	State Engineer's Office Designee	3/31/17
James O'Connor	Department of Environmental Quality Designee	3/31/18

* All terms expire March 31st of the year indicated.

ATTORNEY GENERAL CONTACT

NAME	ADDRESS	PHONE	E-MAIL
Abigail Boudewyns	2320 Capitol Ave. Cheyenne, WY 82002	307-777-3442	abigail.boudewyns@wyo.gov

GROUND WATER ADVISORY COMMITTEES

WATER DIVISION	NAME	TERM EXPIRES
I	Shawn Hall	9/30/2017
	David Evans	9/30/2018
	Margo Harlan Sabec	9/30/2017
II	Floyd Canfield	9/30/2017
	Jerry Hunt	9/30/2017
	Sheridan Little	9/30/2018
III	Dan Wychgram	9/30/2018
	Jeanette Sekan	9/30/2017
	Doyle Ward	9/30/2020
IV	Nick Bettas	9/30/2017
	William Resor	9/30/2017
	Vacant	9/30/2017

CONTROL AREA ADVISORY BOARD MEMBERS

CONTROL AREA	NAME	CITY	TERM EXPIRES
Laramie County	Ty Anderson	Pine Bluffs	7/31/2020
	Jay Berry	Cheyenne	7/31/2019
	Jay Burnett	Carpenter	7/31/2020
	David Romsa	Albin	7/31/2019
	Casey Epler	Hillsdale	7/31/2020
Platte County	Brooke Brockman	Wheatland	7/31/2019
	Silvia Rutherford	Wheatland	7/31/2020
	Rex Johnson	Wheatland	7/31/2020
	Jennifer Reyes-Burr	Wheatland	7/31/2020
	VACANT		7/31/2020
Prairie Center	Kelly Francis	Torrington	7/31/2018
	Dennis Isakson	Van Tassel	7/31/2019
	Greg DesEnfants	Torrington	7/31/2019
	Chuck Berry	Torrington	7/31/2018
	Blake Ochsner	Torrington	7/31/2018

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

(As of September 30, 2016)

**BEAR RIVER COMMISSION
(Idaho, Utah and Wyoming)**

NAME, TITLE	POSITION
Patrick T. Tyrrell, Wyoming State Engineer	Commissioner
Tim Teichert, Citizen	Commissioner
Sam Lowham, Citizen	Commissioner
Erick Esterholdt, Citizen	Alternate Commissioner
David Waterstreet, Water Quality Division, Department of Environmental Quality (DEQ)	Member, Water Quality Committee
Kevin Payne, Superintendent Water Division IV	Alternate Commissioner; Member, Technical Advisory Committee
Beth Callaway, River Basin Coordinator, ISS	Member, Technical Advisory Committee

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

NAME, TITLE	POSITION
Patrick T. Tyrrell, State Engineer	Commissioner
Benjamin C. Bracken, Citizen	Alternate Commissioner
Keith Burron, Citizen	Alternate Commissioner
Randy Bolgiano, Citizen	Alternate Commissioner
Steve Wolff, Administrator, ISS	Member, Engineering Committee
Brenna Mefford, River Basin Coordinator, ISS	Member, Engineering Committee
Chris Brown, Senior Assistant Attorney General	Member, Legal Committee

COLORADO RIVER MANAGEMENT WORK GROUP

NAME, TITLE	POSITION
Steve Wolff, Administrator, ISS	Member
Brenna Mefford, River Basin Coordinator	Member

COLORADO RIVER BASIN SALINITY CONTROL ADVISORY COUNCIL

NAME, TITLE	POSITION
Patrick T. Tyrrell, State Engineer	Member
David Waterstreet, Water Quality Division, DEQ	Member
Chad Espenscheid, Citizen	Member
Steve Wolff, Administrator, ISS	Alternate
Lindsay Patterson, Water Quality Division, DEQ	Alternate

COLORADO RIVER BASIN SALINITY CONTROL FORUM

NAME, TITLE	POSITION
Patrick T. Tyrrell, State Engineer	Member
David Waterstreet, Water Quality Division, DEQ	Member
Chad Espenscheid, Citizen	Member
Steve Wolff, Administrator, ISS	Alternate
Lindsay Patterson, Water Quality Division, DEQ	Alternate
Brenna Mefford, River Basin Coordinator, ISS	Member, Work Group
Mike Thomas, Water Quality Division, DEQ	Member, Work Group
Keenan Hendon, Water Development Commission	Member, Work Group

GLEN CANYON ADAPTIVE MANAGEMENT PROGRAM

NAME, TITLE	POSITION
Steve Wolff, Administrator, ISS	Wyoming Representative, Adaptive Management Work Group; Member, Technical Work Group
Don A. Ostler, Executive Director, Upper Colorado River Commission	Alternate Member

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

NAME, TITLE	POSITION
Steve Wolff, Administrator, ISS	Wyoming Representative, Implementation Committee
Steve Wolff, Administrator, ISS	Wyoming Representative, Management Committee
Pete Cavalli, Wyoming Game and Fish Department	Member, Biology Committee (Chair – 2016)

MISSOURI RIVER RECOVERY IMPLEMENTATION COMMITTEE (MRRIC)

NAME, TITLE	POSITION
Beth Callaway, River Basin Coordinator, ISS	Member

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

NAME, TITLE	POSITION
Patrick T. Tyrrell, State Engineer	Commissioner
Beth Callaway, River Basin Coordinator, ISS	Advisor

YELLOWSTONE RIVER COMPACT COMMISSION
(Technical Committee)

NAME, TITLE	POSITION
Beth Callaway, River Basin Coordinator, ISS	Member
David Schroeder, Superintendent, Division II	Member
Loren Smith, Superintendent, Division III	Member

BELLE FOURCHE RIVER COMPACT
(South Dakota and Wyoming)

NAME, TITLE	POSITION
Patrick T. Tyrrell, State Engineer	Member
Steve Wolff, Administrator, ISS	Advisor
Brenna Mefford, River Basin Coordinator	Advisor

UPPER NIOBRARA RIVER COMPACT
(Nebraska and Wyoming)

NAME, TITLE	POSITION
Patrick T. Tyrrell, State Engineer	Member
Brian Pugsley, Superintendent, Division I	Advisor
Jeff Cowley, River Basin Coordinator, ISS	Advisor

PLATTE RIVER RECOVERY IMPLEMENTATION PROGRAM

NAME, TITLE	POSITION
Harry LaBonde, Administrator, Water Development Commission	Member, Governance Committee; Member, Finance Committee; Member, Land Advisory Committee
Bryan Clerkin, Water Development Commission	Alternate, Governance Committee; Alternate, Water Advisory Committee, Scoring Subcommittee
Jason Mead, Water Development Commission	Alternate, Governance Committee
Jeff Cowley, River Basin Coordinator, ISS	Alternate, Water Advisory Committee
Brian Pugsley, Superintendent	Member, Environmental Account Committee / Reservoir Coordinating Committee
Lee Arrington, Surface Water Division	Alternate, Land Advisory Committee
Andrea Odell, Water Development Commission	Alternate, Finance Committee
Barry Lawrence, Water Development Commission	Member, Technical Advisory Committee; Member, Adaptive Management Group
Jason Feltner, Surface Water Division	Alternate, Environmental Account Committee/Reservoir Coordinating Committee
<i>Vacant</i>	Alternate, Technical Advisory Committee; Member, Adaptive Management Group

NORTH PLATTE DECREE COMMITTEE

NAME, TITLE	POSITION
Patrick T. Tyrrell, State Engineer	Wyoming Representative
Brian Pugsley, Superintendent, Division I	Alternate, Wyoming Representative; Member, Crest Control Subcommittee
Jeff Cowley, River Basin Coordinator, ISS	Member, Finance Subcommittee; Member, Replacement Water Subcommittee; Member Official Files Subcommittee
George Moser, Ground Water Division	Chair, Groundwater Wells Subcommittee
Brenna Mefford, River Basin Coordinator, ISS	Member, Consumptive Use Subcommittee

SNAKE RIVER COMPACT
(Idaho and Wyoming)

NAME, TITLE	POSITION
Patrick T. Tyrrell, State Engineer	Member
Steve Wolff, Administrator, ISS	Advisor
Beth Callaway, River Basin Coordinator, ISS	Advisor

SNAKE RIVER COMMITTEE OF NINE

NAME, TITLE	POSITION
Patrick T. Tyrrell, State Engineer	Advisory Member
Steve Wolff, Administrator, ISS	Advisor

WESTERN STATES WATER COUNCIL

NAME, TITLE	POSITION
Matthew H. Mead, Governor	Governor Member
Patrick T. Tyrrell, State Engineer	Member
Chris Brown, Senior Assistant. Attorney General, Attorney General's Office	Member
Todd Parfitt, Administrator, Department of Environmental Quality	Member
Steve Wolff, Administrator, ISS	Alternate
Kevin Fredrick, Administrator, Water Quality Division, Department of Environmental Quality	Alternate
Harry LaBonde, Administrator, Water Development Commission	Alternate

AMERICAN WATER RESOURCES ASSOCIATION

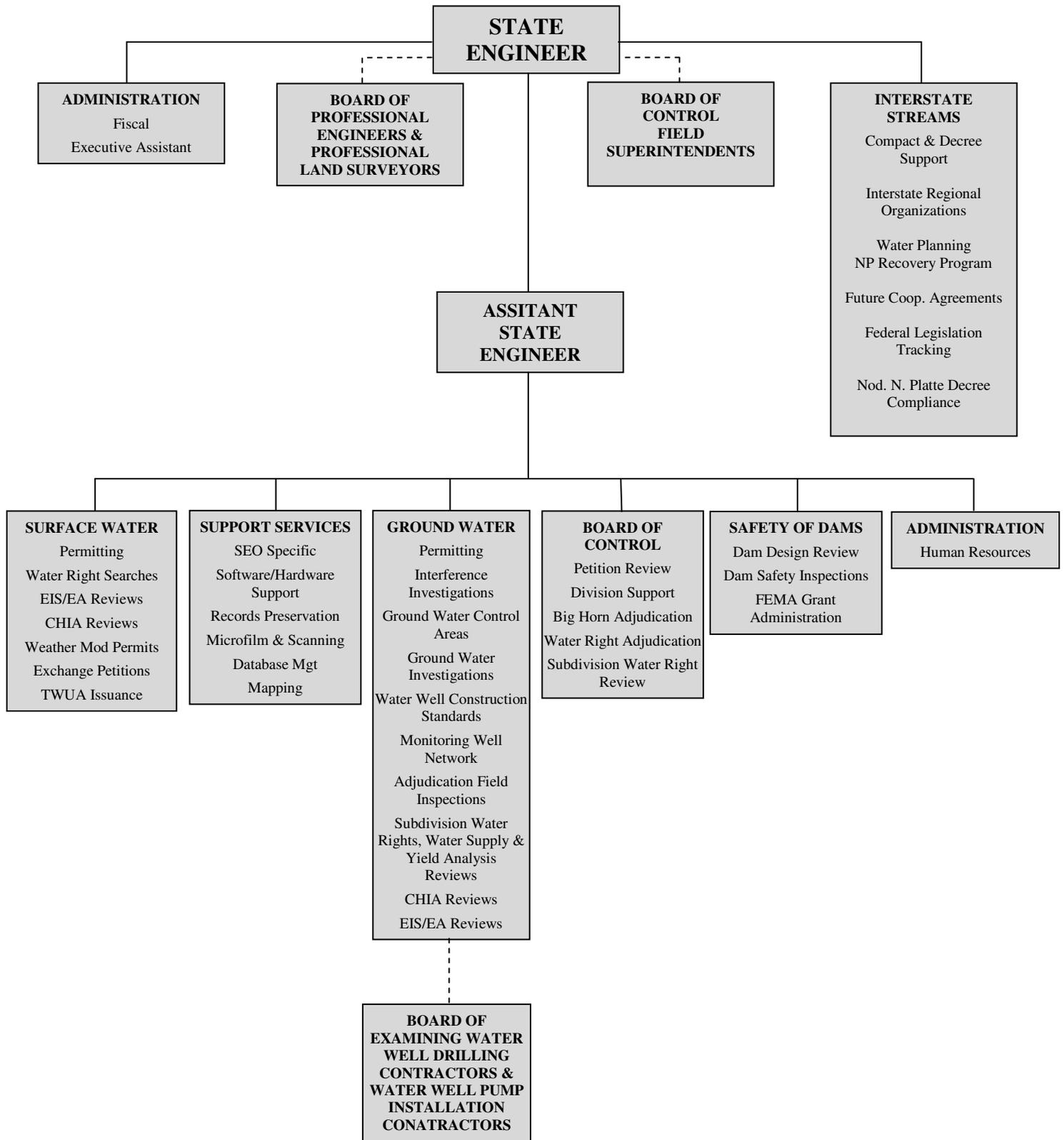
NAME, TITLE	POSITION
Steve Wolff Administrator, ISS	Member

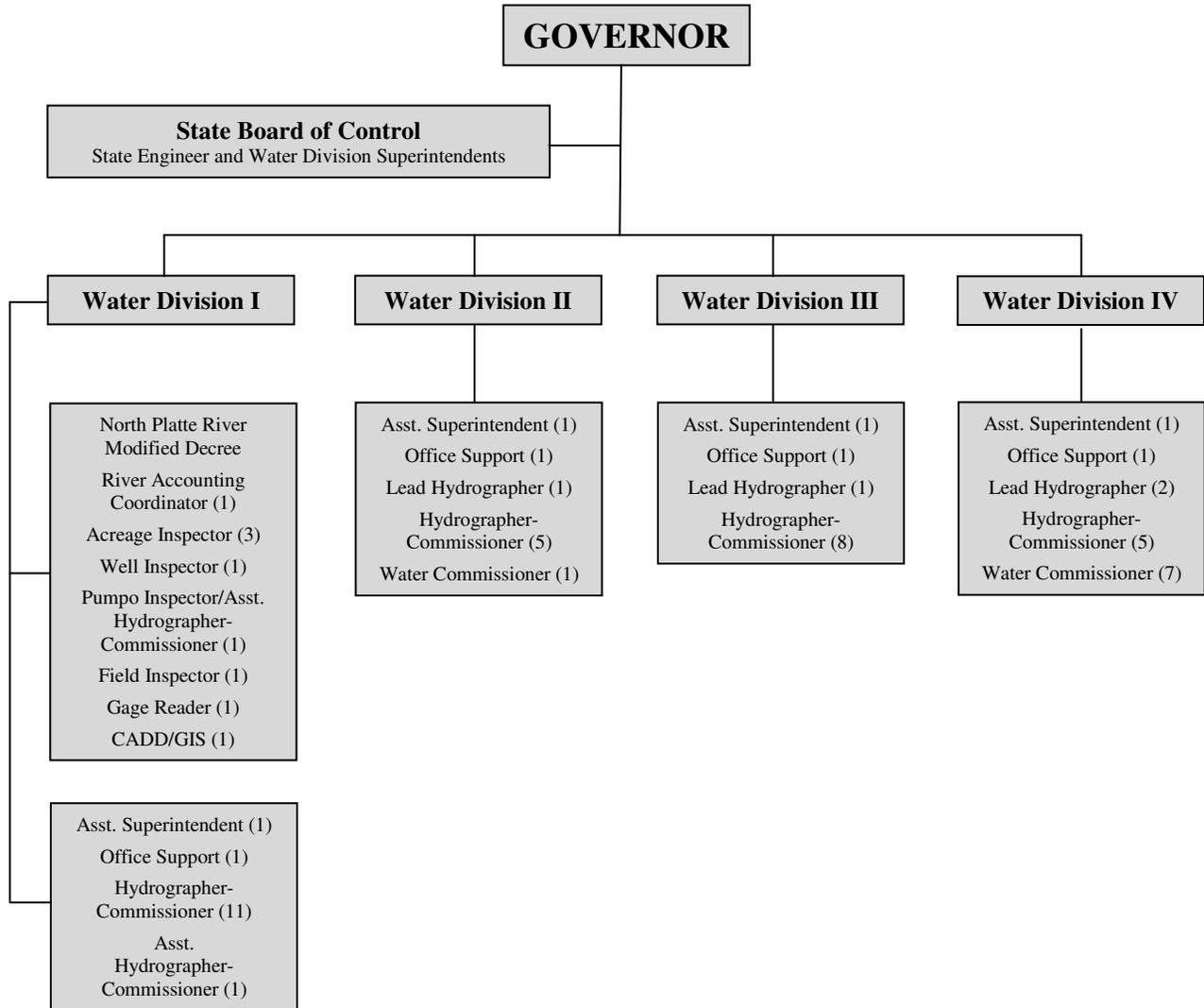
NATIONAL WATER RESOURCES ASSOCIATION

NAME, TITLE	POSITION
Steve Wolff, Administrator, ISS	Member

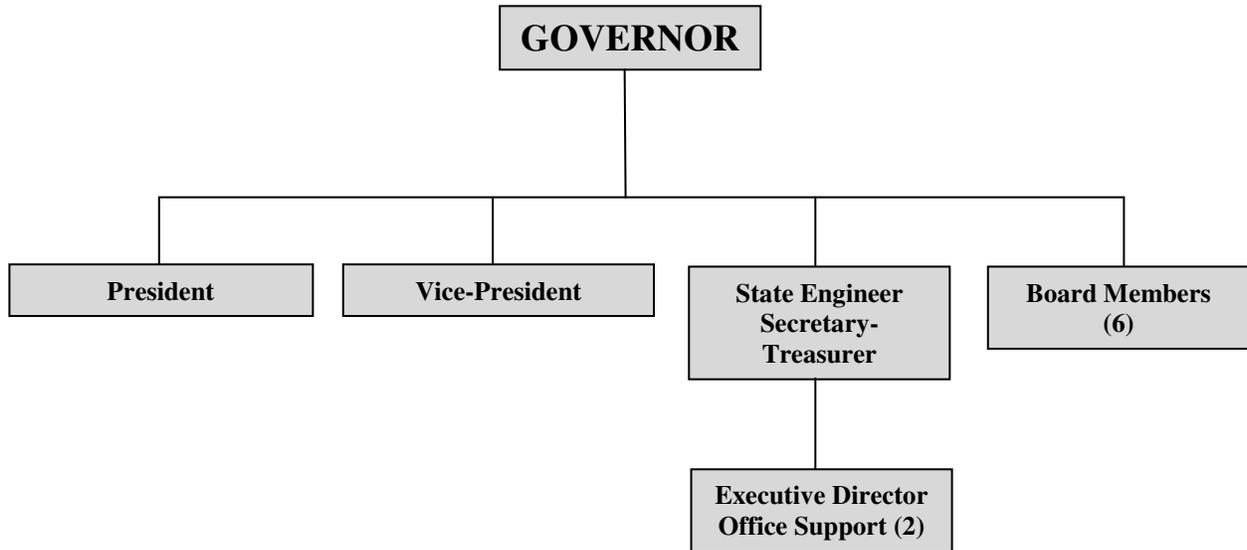
WYOMING STREAMBANK MITIGATION INTERAGENCY REVIEW TEAM

NAME, TITLE	POSITION
Jeff Cowley, Interstate Streams Division	Member





**STATE BOARD OF
PROFESSIONAL ENGINEERS AND PROFESSIONAL LAND
SURVEYORS
WY2016 ORGANIZATIONAL CHART**



**STATE BOARD OF
EXAMINING WATER WELL DRILLING CONTRACTORS AND WATER
WELL PUMP INSTALLATION CONTRACTORS
WY2016 ORGANIZATIONAL CHART**

