

# **The 2017 20-Year Compact Review**



## **A Report of Bear River Commission**

**Adopted April 21, 2020**

## EXECUTIVE SUMMARY

Article IV of the Amended Bear River Compact provides that the Commission shall review the Compact at intervals not exceeding 20 years and determine whether or not there is a need to amend the Compact. The last 20-year review process was completed in November of 1997. At its April 18, 2017 meeting, after review and discussion, the Commission determined to again begin a 20-year review process to determine whether the Compact could meet the stated purposes or whether there was a need to amend the Compact.

As part of the Commission's initial efforts, it added a section to its website which provided a number of details concerning the Compact, the Commission and its operations, as well as links to a number of key documents. The Commission also determined to hold five public meetings around the basin and provided public notice of such, as well as notification to media outlets.

At the public meetings, participants were allowed to ask questions as well as provide oral comments. Also at the public meetings, the Commission solicited written comments which were received, reviewed and tabulated. In total, 67 written comments were received. Of the written comments 56 said no, do not change the Compact. Three specific recommendations for changing the Compact were received from six different entities, and six commenters provided comment to the Commission, but did not specify whether or not the Compact should be amended. The three comments which did recommend changing the Compact were:

- Change the Compact relative to the declaration of a water emergency in the Central Division and the distribution of waters therein.
- Have mandatory conservation measures kick in at higher elevations in Bear Lake.
- Reduce Lower Division depletion allocations to Idaho and Utah (comments were specific to impact to Great Salt Lake).

At its April 17, 2018 meeting the Commission reviewed and discussed these comments, after which it determined that the comments and the issues identified do not rise to the level of changing the Compact at this time. In so doing, however, it noted that the Compact can be amended at any time and need not wait 20 years to address changes, if needed. The Commission then instructed its Technical Advisory Committee to prepare this response report and include a discussion on all comments received during the 20-year review process.

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## INTRODUCTION

The Bear River Compact (Compact) was signed into law by President Dwight D. Eisenhower in 1958. It had been negotiated between the States of Idaho, Utah and Wyoming (States) for a number of years beforehand after acquiring the prerequisite permission from Congress. Article I of the Compact states:

*The major purposes of this Compact are to remove the causes of present and future controversy over the distribution and use of the waters of the Bear River; to provide for efficient use of water for multiple purposes; to permit additional development of the water resources of the Bear River; to promote interstate comity; and to accomplish an equitable apportionment of the waters of Bear River among the compacting States.*

In general, the Compact apportions the waters of the Bear River between the States, establishes the terms under which storage water is allocated and administered and creates the Bear River Commission (Commission) as an interstate organization to carry out the provisions of the Compact.

Article XIV of the Compact also provides:

*At intervals not exceeding twenty years, the Commission shall review the provisions hereof, and after notice and public hearing, may propose amendments to any such provision, provided, however, that the provisions contained herein shall remain in full force and effect until such proposed amendments have been ratified by the legislatures of the signatory States and consented to by Congress.*

In 1970 the States began negotiations which ended with amending the Compact in 1980. In 1997 pursuant to Article XIV, the States undertook a review of the Compact to determine if there was a need to further amend the Compact. As an outcome of the review, the Commission amended its bylaws and made other operative changes, but ultimately concluded at its November 1997 Regular Meeting that there was no need to amend the Compact at that time. As it was approaching 20 years since the prior Compact review effort had concluded, at its April 18, 2017 Annual Meeting, the Commission formally determined to enter into a Compact review process as required by Article XIV.

Compacts are formal agreements between states which are ratified or consented to by Congress. The amending of compacts requires at least the following steps:

- 1) Consent from Congress to enter into Compact negotiations
- 2) Negotiations between the compacting states
- 3) Agreement by all compacting states to proposed revisions (i.e. if one state does not agree with proposed changes, the compact remains unchanged)

- 4) A formal public hearing process
- 5) Passage of bills by the legislature of all compacting states authorizing the amending compact language
- 6) Signing into law the passed bills by the Governors of each compacting state
- 7) Passage of a bill by Congress consenting to the amending compact language, and
- 8) Signing of the Compact into law by the President of the United States

Going into this 20-year Bear River Compact review process, the states did not have any proposed changes or amendments, nor did it have any pre-conceived notions about whether or not the Compact should be amended. It did recognize that amending the Compact would be a significant undertaking and it did recognize that it has meaningful abilities to make adjustments in focus and operations under the umbrella and authorities of the existing Compact.

Though compacts are agreements between states, the States very much wanted to get input from water users and other interests within the Bear River Basin at the outset of the review effort. Therefore, it undertook a fairly extensive effort to seek public comment on whether or not the Compact should be amended, and if so how, and if not, if there were other concerns or recommendations relative to the operation of the Commission or the Bear River System which should be addressed by the Commission.

The purpose of this document is to provide a report of the review efforts, comments received and the Commission's response thereto. Appended to this document are copies of documents created in the public input effort as well as all 67 written comments which were received during the process.

After reviewing the public comments, and based on additional investigation and discussions by its committees and members, on April 17, 2018 the Commission formally voted to not amend the Compact at this time (it did recognize that it could amend the Compact at any future date should the need arise and that it would not need to wait 20 years to do so). It then directed its Technical Advisory Committee (TAC) to create this 20-year Compact review and response document. In the crafting of this document, the TAC sought specific input from the Commission and its Management Committee on specific items over a several-year period. At its April 21, 2020 meeting the Commission formally adopted this document and concluded its 20-year Compact review effort.

## **PUBLIC INVOLVEMENT**

At the outset of the 20-year Compact review effort, the Commission was anxious to reach out to the public and get input on how well the Compact was meeting its mission and authorities and whether or not there was a need to amend the Compact or consider other changes in the operations of the Commission or the Bear River. In evaluating the 20-year Compact review effort from 20 years ago, it was recognized that the process would be more focused and effective if it made meaningful efforts to educate water users and interested parties on the Compact, the Commission and the Bear River as part of the process. It, therefore, designed a public outreach effort which included adding a tab to the Commission's website, sending out press releases and legal notices, encouraging dissemination of information through the States and water user groups and the holding of public meetings.

### **Website**

A tool which was not available to the Commission 20 years ago is the Internet. The Commission already had a website which featured current and historic information. As the Commission entered into the 20-year Compact review effort, it added a specific tab which allowed the public an up-to-date opportunity to see the status of the review effort, including opportunities to provide public input, as well as information on the Compact, Bear River hydrology, major provisions of the Compact, and the Bear River Commission itself. In reviewing comments from the review effort in 1997, it became apparent that there was confusion over the nature and authorities of the Compact, as well as the makeup and authorities of the Commission. Therefore, these items were explained in detail on the website so as to aide people in making constructive, on-point comments. Also linked to webpage information were key documents, historic reports and other materials for those who wished to dig deeper into understanding operations of the Bear River and the Commission. As the effort progressed, press releases, summaries of the public meetings and copies of the written comments were also posted. Included herein as Appendix A is a copy of the additional tab added to the Commission's website for the 20-year Compact review effort.

### **Legal Notices and Public Meetings**

As indicated above, five public meetings were held around the basin. The meetings were spread out so as to be convenient to water users within the Basin and to reach out to various interest groups. The meetings were advertised in 13 papers of general circulation in the areas of the meetings, and 20 press releases were provided to media outlets (see Appendix B for a copy of the meeting notices and press releases). Three newspaper articles were written about the Compact during the process. Meetings were conducted by Commissioners from the state in which the meetings were held. The meetings included introductory comments on the 20-year Compact review process followed by a PowerPoint presentation which provided basic information on the Compact, the Commission and the

Bear River System, as well as information on the 20-year Compact review process (see Appendix C for a copy of the PowerPoint presented at each of the meetings).

<b>20-Year Compact Review - Schedule of Public Meetings</b>		
<b>Location</b>	<b>Date/Time</b>	<b>Address</b>
Evanston, Wyoming	Tuesday, October 3, 7:00 p.m.	Uinta County Library 701 Main Street Evanston, WY 82930
Logan, Utah	Tuesday, October 10, 7:00 p.m.	Cache County Administration Building 179 North Main Street Logan, UT 84321
Grace, Idaho	Wednesday, October 11, 7:00 p.m.	Grace American Legion Hall 105 North 1 <sup>st</sup> West Grace, ID 83241
Montpelier, Idaho	Thursday, October 12, 7:00 p.m.	Oregon/California Trail Center 320 North 4 <sup>th</sup> Street Montpelier, ID 83254
Salt Lake City, Utah	Thursday, November 2, 7:00 p.m.	Utah DNR Building 1594 W. North Temple Street Salt Lake City, UT 84116

Following the PowerPoint presentation, participants were given an opportunity to ask questions, after which the meetings were opened up for public oral comments. Each meeting seemed to take on its own personality, but clearly the overwhelming sentiment expressed by most participants was to leave the Compact alone and not reopen it for amendment. A summary of the oral comments received at each of the five public meetings is found in Appendix D. Participants who provided oral comments, as well as all participants at each meeting, were strongly encouraged to provide written comments. In total, the Commission felt that the public meetings were very successful with a total of more than 180 participants. All nine Commissioners were able to participate in at least one of the public meetings, thereby getting a sense of the public understanding and sentiment regarding potentially amending the Compact.

## PUBLIC COMMENTS

During the five public meetings most participants were simply there to learn about the Compact and the review process. However, 22 individuals took advantage of the meetings with the Commissioners to provide oral comments, the vast majority of whom spoke strongly recommending that the Compact not be opened up to amendment. Most indicated that the Compact was working well and feared that if opened up mischief would occur. A few were ambivalent on whether or not the Compact should be amended, but rather took the opportunity to talk about items that were important to them. Only one individual indicated that the Compact should be opened up but didn't know how it should be amended. He indicated that he would study the matter further and then submit a written comment, but none such was received from him.

At each public meeting and on the Commission's website people were strongly encouraged to provide written comments. The last public meeting was held on November 2, 2017 and then the record was open until December 4, 2017 for the submission of written comments. Comments were accepted via regular mail and email. As indicated above, a total of 67 written comments were received by the December 4 deadline. None were received after the deadline. Some of the written comments were signed by multiple individuals.

After receiving the comments, they were compiled by the Engineer-Manager who divided them into commenter groups based on commonalities of comments and subjects addressed. The below table provides a summary of whether or not the comments recommended that the Compact be amended.

A copy of each of the written public comments is found in Appendix E which is divided into the same five above categories for ease in seeing commonalities in comments. Also, at the front of Appendix E is a summary table of the comments and recommendations to either amend or not amend the Compact. The summary table includes other comments.

**20-Year Compact Review  
Tabulation of Comments  
“Should the Bear River Compact Be Amended?”**

<b>Commenter Group<sup>1</sup></b>	<b>Yes</b>	<b>No</b>	<b>Maybe</b>	<b>Didn't Specify</b>
Irrigators/Water Users		46		
Public Water Suppliers		2		
Bear Lake Interests	1	5		2
Great Salt Lake Interests	4			1
Conservation/Environmental		3	1	2
<b>Total</b>	<b>5</b>	<b>56</b>	<b>1</b>	<b>5</b>

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<sup>1</sup> Please note that the commenters did not indicate a group or category for their comments, but rather this grouping was simply done by the Engineer-Manager as a convenience in addressing comments with common themes or recommendations. No labeling of comments or commenters is intended hereby.

## RESPONSES TO COMMENTS

After tabulation and review of the written comments and discussion by the Commissioners, the Commission assigned its TAC to review in greater detail each comment and provide a proposed response. The comments were first divided between those who recommended that the Compact not be changed versus those that recommended that it be amended. It also reviewed and, as appropriate, provided responses to comments which did not recommend that the Compact be amended, but which provided other recommendations for review or changes within the structure of the existing Compact.

### Recommendations to Not Change the Compact

By far the vast majority of those who provided written comments during the 20-year Compact review process recommended that the Compact not be amended (56 out of 67, or 84% of the total comments received recommended that the Compact not be amended, only 6, or 9% recommended that it be amended, and 5 did not specify one way or another). It should be further noted that many of the written comments which expressed a desire that the Compact not be amended were signed by many individuals, yet in this count only counted as one comment. Thus, the number of people participating in the process who supported not changing the compact was much larger. Hence, though the public process was not a public vote or referendum (remember, the Compact is an agreement between the three States), the Commission did take note of the significant showing of support to not amend the Compact. Thus, one must remember that though most of the focus of the discussion during the Commission's review process and, in fact, even this report centers on the comments that recommend changing the Compact or instituting other changes in operations, it is very important to note and remember the majority of those who participated in the process and took the time to provide written comments to the Commission expressed that they did not want any changes to the Compact.

Most of the comments recommending that the Compact not be amended were received from water users who had operated for many years under the existing Compact, who understand how it works and who appreciate the certainty that the Compact brings. Certainly, they expressed an interest in making sure their rights remain protected as is. They also identified that water laws, rights, practices and procedures have been developed pursuant to the Compact and to undo such would undermine state management of water resources. Further, the existing Compact has led to much cooperation and collaboration on the River. Concerns about unforeseen consequences of opening the compact were also voiced.

Comments included statements such as "no change is necessary," the Compact "has worked very successfully and no changes are need[ed] or wanted at this time," or "the compact has met its stated purpose and "no change is needed or warranted." Other statements included "As a landowner and water user of Bear River water, it is my opinion that the Compact should not be opened or amended!"



Thus, it is important as one reviews the remainder of this document, which focuses on recommendations for potential changes, to remember that the majority of comments were simply: “don’t amend the Compact.”

## **Recommendations to Change the Compact**

Given the nature of the Compact review effort, the Commission was particularly focused on the three comments (received from six commenters) it received, which proposed amending the Compact. A summary of the three comments which did propose changing the Compact were:

- Change the Compact relative to the declaration of a water emergency in the Central Division and the distribution of waters therein.
- Have mandatory conservation measures kick in at higher elevations in Bear Lake.
- Reduce Lower Division depletion allocations to Idaho and Utah (comments were specific to impact to the Great Salt Lake).

Detailed responses to these three comments are provided below.

### Central Division Water Emergency Declaration

The original Bear River Compact provided for the declaration of a water emergency in the Central Division when the total divertible flow, as defined by the Compact, fell below 870 cfs or the flow at the USGS Border gage fell below 350 cfs. These values were unchanged in the Amended Bear River Compact (1980). Specifically, Article IV, Section A.2 of the Compact states:

*When either the divertible flow as hereinafter defined for the Central Division is less than 870 second-feet, or the flow of the Bear River at Border Gaging Station is less than 350 second-feet, whichever shall first occur, a water emergency shall be deemed to exist in the Central Division and the total of all diversions in Wyoming . . . shall be limited for the benefit of the State of Idaho, to not exceed forty-three (43) percent of the divertible flow. The remaining fifty-seven (57) percent of the divertible flow shall be available for use in Idaho in the Central Division, but if any portion of such allocation is not used therein it shall be available for use in Idaho in the Lower Division.*

The Compact goes on to define the divertible flow as consisting of the diversions in Wyoming, plus the diversions in Idaho, plus any flow leaving the Central Division.

During the 20-year compact review effort, the Lincoln Conservation District (Wyoming) submitted a comment requesting two specific amendments to the Compact that would



modify the declaration of water emergency procedures in the Central Division. The Lincoln Conservation District proposed the following changes:

*LCD board members reviewed Article IV, Section 2, Central Division, paragraph (a) concerning the declaration of a water emergency. In the middle of the first sentence it should read when the flow of the Bear River at the Border Gauging Station is less than 350 second feet a water emergency may (instead of shall) be deemed to exist in the Central Division etc.*

and

*The last sentence at the end of this paragraph states that if any portion of such allocation is not used therein it shall be available for use in Idaho in the Lower Division. This sentence should be stricken from the paragraph in its entirety. There should be no water allowed to go into the Lower Division from the Central Division if a water emergency exists in the Central Division.*

In reviewing the history of the Bear River Compact, the Commission notes that what constitutes a water emergency trigger in the Central Division, as well as whether or not Idaho's allocation was available for use in the Lower Division, were the subjects of much debate with many proposals and counterproposals over the 14 years during which the states negotiated the original Compact. The final resolution of these matters did not occur until the last meeting of the negotiating committee in 1955. Nonetheless, concerns over this matter have been raised over the years since the signing of the original Compact (see "History of the Bear River Compact," by Wallace N. Jibson, November 1991, page 14, for additional discussion on the history and criticisms).

The Commission notes that though the language relative to a water emergency in the Compact says, "shall be deemed to exist," it has often been the practice of the Commission and the Engineer-Manager not to declare a water emergency in the Central Division after the water emergency triggers have been reached without first coordinating with the Idaho watermaster in the Central Division to determine if there is a need for interstate regulation. For example, historically in most years, flows in the Central Division were below the water emergency trigger in the springtime before the runoff, yet interstate regulation was rarely imposed. Additionally, even in wet years, flows in the river often triggered water emergencies in July and August, yet there was no request for interstate regulation. For example, in 2017, an extremely wet year, the total divertible flow fell below 870 cfs on July 25<sup>th</sup>, and the flow at the Border gage fell below 350 cfs on August 3<sup>rd</sup>, yet there was no request for interstate regulation.

It has been the practice of the Commission over the past four or five years when the flow at the Border gage drops below 350 cfs to begin the weekly call-in of diversion data.<sup>2</sup> During this period, interstate regulation pursuant to the Compact did not commence until Idaho

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<sup>2</sup> The "call-in" of diversion data is the practice of water regulators in each state reporting diversions to the Engineer Manager on a weekly basis. The reporting of diversion data is necessary for the Engineer-Manager to determine the total divertible flow and accurately administer water in the Central Division.

requested regulation. For example, in 2018, a very dry year, the Border gage fell below 350 cfs on July 9<sup>th</sup> and the call-in of diversion data commenced on July 12<sup>th</sup>. At that time, the total divertible flow was 554 cfs, well below the 870 cfs water emergency trigger. Weekly call-in of diversion data continued until August 16<sup>th</sup> when the total divertible flow had dropped to 316 cfs, the Border gage had dropped to 116 cfs, and the inflow to the Rainbow Canal had dropped to 23 cfs. Whereupon, based on a request from Idaho, interstate regulation was imposed pursuant to the 43/57 percent split between Wyoming and Idaho, respectively. Interstate regulation remained in effect until September 20, 2018, when it was lifted, again pursuant to discussions with Idaho.<sup>3</sup>

Therefore, despite the use of the word “shall” in the first sentence of the Compact excerpt above, the practice in some years by the parties responsible for water administration has been to delay imposing interstate regulation until Idaho requested it.

The Lincoln Conservation District’s second proposed amendment represents Wyoming water users’ dissatisfaction with the current Compact language. The Commission has discussed this matter and finds that fundamentally, Wyoming users believe that it is unfair for them to be regulated, even under a water emergency, when all available water is not used in the Idaho Section of the Central Division, and water flows downstream to the Idaho Section of the Lower Division. Idaho, on the other hand, supports the current language of the Compact that allocates 57 percent of the total divertible flow for use in Idaho in the Central Division, including the Compact Article IV.A.2.a. that states in part: “but if any portion of such allocation is not used therein it shall be available for use in Idaho in the Lower Division.”

The Commission has met and reviewed the comments of the Lincoln Conservation District. After reviewing and discussing the concerns and positions of both Wyoming and Idaho, the Commission adopted a motion not to reopen the Compact on this matter. Nonetheless, Wyoming and Idaho officials agreed to continue dialogue on the administration of the Compact and explore, if possible, changes in Central Division regulation that could be supported by both states.

#### Bear Lake Levels

A comment was received from a Bear Lake homeowner (Wes Thompson) expressing concern that the Compact had failed to meet its stated purpose of removing the causes of present and future “controversy.” He divided his comments into three areas: namely, Bear Lake water levels, water quality and water conservation. Relative to water levels he had a specific recommendation to amend the Compact, which will be treated herein, whereas the other comments did not have a specific recommendation for amending the Compact and, as they have common concerns with other commenters, will be treated in the “Additional Recommendations” section.

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<sup>3</sup> According to the Compact, water emergencies automatically end on September 30<sup>th</sup> of each year unless specifically extended by the Commission.

Specifically, relative to amending the Compact, Mr. Thompson stated, “*The Compact should be modified so that conservation measures kick in at 5919.*” The comment did not specify what conservation measures were envisioned and, therefore, there were many discussions, including a several-hour meeting with the commenter, to further understand the concerns and the nature of the recommendation.

First, it should be noted that neither the Compact nor the Commission “manage” Bear Lake. Management of Bear Lake comes from the operation of a number of influences, including state water laws and water rights, federal court decrees, provisions found in the Bear River Compact, the Amended Bear Lake Settlement Agreement, two operating agreements between PacifiCorp and the states, contracts between PacifiCorp and irrigation entities, state court rulings, PacifiCorp operational procedures, an agreement with the Fish and Wildlife Service, and natural hydrology. These and other factors make up the “law of Bear Lake.” Each has its influence on how Bear Lake is operated and managed. The Compact has two provisions which specifically are used to keep the elevation of Bear Lake higher. The first is a restriction on the upstream storage allowed by the Amended Compact. Such storage is not allowed when the elevation of Bear Lake is below 5911. This provision seeks to thereby allow waters which otherwise would be stored upstream to flow down to Bear Lake. On the flip side, another provision restricts the release of water from Bear Lake when it is at an elevation of 5914.61 solely for power purposes. Historically the lake was drafted during the non-irrigation season for the sole purpose of generation of power. This led to low lake levels for many years. The irrigation reserve imposed by the Compact makes it such that when Bear Lake is below the irrigation reserve, water can only be released to meet irrigation demands.

The Commission disagrees with the inference that management of Bear Lake by the Commission is not meeting the Compact-stated purpose of removing causes of present and future controversy. The Commission believes strongly that operations under the Compact for the past six decades have been fairly smooth, with very little judicial and federal intervention, and that though issues and differences arise from time to time, overall the states and water users have been able to work things out with much less controversy than is found in many other interstate river systems.

In meeting with Mr. Thompson, it was learned that though he did not have a specific plan for “conservation measures,” in general, he favored something similar to the Bear Lake Settlement Agreement, which includes a sliding scale of irrigation storage allocation reductions as lake levels drop. However, the desire would be to have such restrictions kick in at a Bear Lake elevation of 5919, rather than 5914.7 as is found in the present schedule. In considering the matter, Mr. Thompson recognized that neither the Bear River Commission nor the Compact are party to the Amended and Restated Bear Lake Settlement Agreement and that imposing restrictions on storage releases would violate federal court decrees and state water rights. The Bear Lake Settlement Agreement, with its sliding scale restriction on storage releases, works because interested parties voluntarily agreed to such terms and limitations. The Commission finds that it hasn’t authority to involuntarily impose such restrictions on water right holders, nor would it be proper to seek to amend the Compact to mandate such. While holding Bear Lake elevations at a higher level is a

laudable goal, amendment to the Compact is not the appropriate mechanism for achieving such.

#### Lower Division Depletion Allocations (Great Salt Lake Concerns)

Five comments were received from entities or individuals who expressed concern over the future water supply to the Great Salt Lake and the potential impact of further development pursuant to the Compact. Four of these commenters specifically requested that the Commission amend the Compact to reduce Lower Division allocations.

Article V of the Amended Compact recognizes water rights which were applied to beneficial use prior to January 1, 1976. It then established allocations for future water usage according to the follow schedule:

- (1) Idaho has the first right to 125,000 acre-feet
- (2) Utah has the second right to 275,000 acre-feet
- (3) Idaho and Utah have an equal right to an additional 75,000 acre-feet
- (4) Any remaining water is to be allocated 30% to Idaho and 70% to Utah

These allocations represent depletion amounts. The first three priorities total 550,000 acre-feet of allocation. All the commenters focused on this amount of post-1976 allocation, expressed concern over the impact of such development on Great Salt Lake and its environs, and requested that the Commission reexamine and reduce such allocations.

Below is a summary of these five comments.

#### *Friends of Great Salt Lake / Lynn de Freitas, Executive Director*

- Friends of Great Salt Lake are asking the Commission to reexamine the Compact and the impact to the Great Salt Lake ecosystem that would result if the development of Bear River moves forward as outlined in the Compact. Should this entire additional 550,000 acre-feet of water be developed, the Utah Division of Water Resources estimates that the lake could be lowered by as much as approximately 10 feet, if that entire amount is depleted from the Bear River. A drop in the water level will dry up both Bear River Bay and Farmington Bay. Before this occurs, the increase in salinity in the dropping lake will exceed a level that will destroy both the brine shrimp and brine fly populations that sustain over 7.5 million birds each year. It will likely have an incalculable impact on the \$1.3 billion that the lake contributes to Utah's economy each year. Water trends have changed substantially in the last forty years without consideration of precipitation, climate change, and mega drought cycles. This was before we knew so much more about the lake and its importance ecologically and economically. Friends of Great Salt Lake urge amending the Compact to account for these changed circumstances and to the known impacts these depletions will have to Great Salt Lake.

*Great Salt Lake Brine Shrimp Cooperative Inc. / Don Leonard, Chairman and CEO*

- The Cooperative requests that the Compact be amended to recognize the significant economic and environmental values associated with the Great Salt Lake. Recent scientific and economic studies stress the importance of the lake to local and regional economies and the global environment.
- As the lake levels continue to drop, driven by climate change and diversions upstream, key issues will include the ecological value of the lake as a stopover for migratory birds, the lakes' ability to buffer local temperatures and reduce dust, the lake effect precipitation that waters homes and farms and helps cycle water through the Bear River Watershed. The loss of other saline lakes throughout the world highlight the potentially catastrophic impacts to the local economy around the GSL, the environment and human health if we fail to find effective ways to reverse that trend to the point that we ultimately lose the Great Salt Lake.

*Compass Minerals / Joseph Havasi, Director of Natural Resources*

- The review provides a timely opportunity to reconsider and reevaluate original assumptions and core elements of Bear River Compact in light of significant studies as well as droughts and record low GSL elevations that have occurred over the last 20 years. Having experienced record low lake levels from extended drought and the closure of all conveyances to the North Arm of the GSL along the Union Pacific Causeway, Compass Minerals believes the reevaluation of the feasibility and sustainability of the future development of an additional 550,000 acre feet of water that would otherwise flow into the GSL is needed. Considering that the average annual inflow of the Bear River to the GSL is 1.2 million acre-feet, the possible development of 550,000 acre-feet is a significant future impact.

*Wayne Wurtsbaugh / Emeritus Professor at Utah State*

- The current plan of the Bear River Compact allows for an additional 550,000 acre-feet of water to be depleted from the system, which will greatly decrease flows into Great Salt Lake. Bear River and Farmington Bay would be dry most of the year. The potential impact, if the entire 550,000 acre-feet of water is depleted, would be severe. Model results by the Utah Division of Water Resources on the entire depletion amount suggest that the lake could be lowered an approximate additional 10 ft. This could expose approximately 785,000 acres of lakebed, decreasing the volume to 20% of the natural value and increasing salinity to near saturation. The Bear River Compact needs to be modified to incorporate the current understanding of the value of the Great Salt Lake and its contributing hydrology. We now understand the critically important role of this water for industry, aquaculture, recreation, health, and bird populations of the Great Salt Lake ecosystem as well as providing abundant snowpack in the Wasatch Mountains. When water was diverted from Owens Lake in Southern California, it dried completely, exposing 70,000 acres of lakebed. Dust storms have affected the health of the community of Bishop, CA and even more distant cities. To mitigate these impacts, Los Angeles, CA will spend \$3.6 billion over 25 years to protect the health of residents. Consider what the impacts



could be on the 2.5 million residents of the Wasatch Front if the lakebed of Great Salt Lake is exposed. The ecology of the lake would be severely damaged. The dried areas would greatly reduce bird use. Brine shrimp populations, which are an important source of food for birds and the \$60 million-dollar aquaculture industry, would be decimated. It is fortunate that the Bear River Compact is under review now that we realize the major impacts that additional water development would have on the lake. Water conservation programs in the agricultural sector also need to be implemented and enforced. Modification of existing and outdated water laws in the tristate region could also allow significant transfers of water from the agricultural sector to provide for the expanding urban population and to protect Great Salt Lake and other natural systems.

*W. Bryan Dixon*

- The Bear River Compact has tried to provide water for a growing population but has failed to adequately provide for ecological resources around Great Salt Lake that are critical to people. The natural environment has suffered irreparable harm by humans, including loss of species, lost and degraded habitat and a weakening ecosystem. There is a need to amend the Compact to provide for greater inclusion of environmental consideration and to look at water banking to save unused water. We need to look at a watershed perspective. Previous allocations of Bear River water have failed to consider the integration of ground and surface water, especially the temporal and spatial storage capacity in geologic structures. The Compact should include consultation with science-based parties that understand the interaction of water and ecosystem. Water should be approached by a watershed perspective. Climate change is real. Policies and water allocations must recognize this fact and attempt to accommodate its effects on precipitation amounts and seasonal changes. Conservation practices need to be promoted to minimize our adverse effects on the ecological system.

In responding to these comments, it is believed that a broader understanding of the roles of the Compact is warranted. The main purpose of the Compact is to divide or allocate the waters of the Bear River Basin between the signatory states. No allocation is made to any other entity nor to any water body. While it is true that Bear Lake is specifically identified in the Compact, it is done so in the light of setting limits or restrictions on its usage as a storage reservoir and not to give an allocation to the natural lake as is being requested by the above comments.

Further, under the Compact, the “Bear River” is defined as “mean[ing] the Bear River and its tributaries from its source in the Uinta Mountains to its mouth in Great Salt Lake;” and, therefore, Great Salt Lake is outside the boundaries and the scope of the Compact. The States, in writing the Compact did not seek to include or manage Great Salt Lake as an interstate resource but rather left it to the control and management of the State of Utah where it fully resides.

In evaluating the five Great Salt Lake comments it is helpful to know that the Compact requires the States from time to time to review and estimate the amount of usage or

depletion which is occurring pursuant to the Compact allocations. Such depletion estimates are done pursuant to a Commission approved procedure. For the Lower Division, the last depletion estimate was completed and approved by the Commission in April 2014. The estimates are based on 2009 irrigation and water usage data. The effort included the mapping of all irrigated fields in the Lower Division and comparing their size and extent to the 1976 base maps. It also included a review and tabulation of all other uses. It was a meaningful effort. The findings are found in a report titled *2009 Depletions Update* which is available on the Commission’s website. The summary table from the report is below.

LOWER DIVISION

State	Allocation	Agricultural Depletions	M&I Depletions	Reservoir Evaporation	Total Depletions	Remaining Allocation
Idaho	125,000 <sup>2</sup>	8,667	300	11	8,978	116,022
Utah	275,000 <sup>3</sup>	-5,771	5,978	0	207	274,793

<sup>1</sup>Any reductions in pre-1976 depletions are reflected in the above numbers.

<sup>2</sup>First right under Compact. Compact grants additional rights.

<sup>3</sup>Second right under Compact. Compact grants additional rights.

One will note that from 1976 to 2009, the net increase in depletion in the Lower Division, when combining all of Idaho and Utah uses, is less than 10,000 acre-feet. During this same time period the Great Salt Lake levels have ranged from flood stage to near record lows. In studying the Great Salt Lake, the State of Utah has found that the long-term average inflow to Great Salt Lake is about 1,200,000 acre-feet, but the inflow during the past twenty years has been only 800,000 acre-feet, or a reduction of 400,000 acre-feet per year. One can take these facts and realize that there are factors much bigger at play which are affecting the levels of Great Salt Lake than usage pursuant to the Lower Division depletion allocations provided for in the Compact.

The State of Utah has been involved in efforts to understand and evaluate the inflows to and Great Salt Lake levels. The Utah Division of Water Resources (UDWRe) collaborated with several agencies, including Utah State University and Salt Lake Community College, on a white paper concerning the potential impacts of water development on Great Salt Lake and the Wasatch Front. The white paper indicated that man’s overall impact on Great Salt Lake since the arrival of 19<sup>th</sup> Century pioneers has decreased the lake’s level by about 11 feet. The white paper also indicated that full development of the 220,000 acre-feet, as outlined in the Bear River Development Act, could decrease the lake level by another 8.5 inches.

The State of Utah has also worked to develop the Great Salt Lake Integrated Model (GSLIM), to understand how changes in Great Salt Lake’s watershed might influence Great Salt Lake levels and its resources. The GSLIM integrates several river basin modules with the USGS Great Salt Lake (Fortran) Model. Each tributary river basin – Bear, Weber, and Jordan

Rivers – are separate river basin modules. Inflow from each river basin module is filtered through another module representing the wetland complexes that exist at the interface between each river basin and Great Salt Lake.

In wrestling with whether or not the Compact should be amended relative to legitimate concerns over recent Great Salt Lake levels, the Commission examined its and the Compact's role in such matters. It recognized that its role is truly to make allocations to the compacting States and then let them best decide how to allocate and manage their resources. Therefore, it concluded at its April 17, 2018 meeting to not re-open the Compact on this matter. However, in doing so it did recognize that it can review and amend the Compact at any time that facts and circumstances so warrant and is not limited to do so only every twenty years. More importantly, it further concluded that it would welcome greater involvement and dialogue with the above commenters and those involved in seeking solutions to Great Salt Lake concerns and that further, it expanded the roles and assignments of its Technical Advisory Committee to include involvement with and an understanding of environmental and watershed health matters, which would include Great Salt Lake.

### **Additional Recommendations**

In addition to the three categories of commenters which recommended changing the Compact (discussed above), there were a number of commenters which were either silent as to whether or not the Compact should be changed, or which specifically endorsed not changing the Compact, but which then provided recommendations which could be considered or made to the operations of the Bear River or the Commission within the context of the Compact as presently adopted. The Commission is a living organization which operates under the principles and regulations spelled out in the Compact, under its rules, by-laws and adopted procedures, and direction from its Commissioners and Management Committee. As such, within the principles of the Compact, it is regularly adjusting focus, direction and operations based on needs within a constantly changing hydrologic and hydro-political environment. Such adjustments can occur by amending the Commission's by-laws or officially adopted procedures, or through direction, focus or assignments made at Commission meetings or by its Management Committee. Hence, in compiling and reviewing the recommendations made during the 20-year Review process, the Commission emphasizes that changes can be made at any time and through a number of processes as needs are recognized. Of the 67 written comments, at least a dozen of those which either endorsed not changing the Compact or were silent on the matter, provided recommendations relative to changes to the operations of either the Commission or the Bear River. Most such recommendations fell into several categories. The below sections provide a compilation of and response to these recommendations.

#### Creation of an Environmental or Watershed Health Committee

Of those making recommendations to change the operations of the Commission, the single most common comment was in one form or another relative to the Commission being more open and involved in environmental or watershed health issues. The commenters stated that such issues were more pronounced than when the Compact was first adopted, could



interfere with historic operations thereunder, and that a process should be created through which such matters could be recognized by the Commission and play into operations of the Bear River. The recommended processes through which environmental and watershed health matters could become more prominent in the Commission's operations and focus varied, but included: 1) being open to new visions or water uses, 2) including others in advisory roles, 3) creating a new committee to focus on these matters, and 4) assigning watershed health and environmental matters to one of the Commission's existing committees.

In considering this group of recommendations, the Commission recognizes that environmental and watershed health issues are becoming much more prominent and pressing in today's societal mores and that application of such priorities can compete with more traditional water uses and operations. The Commission further recognizes that it is not advisable nor responsible to ignore such matters. It recognizes that education, dialogue and the sharing of information and values can go a long way "to remove the causes of present and future controversy over the distribution and use of waters of the Bear River" and "for multiple purposes" as encouraged by the Compact.

One of the major outcomes of the 20-year Compact review effort in 1997 was the creation of the Commission's Water Quality Committee. This committee was to create an interstate forum on water quality matters and to provide input and direction to the Commission on such matters. Somewhat appropriately and somewhat by default, many environmental and watershed health matters in the Basin had begun to become part of this committee's agendas. The Commission counseled with the Water Quality Committee on the volume and nature of subjects that fall outside the Committee's authorities and charge. The Commission and the Committee discussed expanding the Committee's responsibilities. The Commission also considered creating a new environmental and watershed health committee, but found that unlike the Water Quality Committee where there is a clear state lead on water quality matters to assign to the Committee, there is not a single or specific state agency with overall environmental and watershed health responsibilities and which could make up a new committee's leadership.

The States also discussed concerns that the creation of a new committee might incorrectly give the impression that such a committee would have authority to alter the affairs of water administration or States' water rights. The discussions recognized that environmental and watershed health discussions would best be had with those familiar with water rights and water resource administration heavily involved.

Lastly, the Commission recognized that twenty years ago it expanded the duties and responsibilities of its Records Committee to include public involvement, but that Committee's makeup probably wasn't the best fit for direct research and dialogue on environmental matters.

The Commission's Technical Advisory Committee (TAC) is made up of individuals assigned to it by each state who have broad technical background in water resource, water policy and water right matters. Generally, TAC members have direct reporting to members of the

Commission's Management Committee. The TAC was not a standing committee as are the other committees of the Commission, but rather an ad hoc committee to provide research and advise the Commission and its committees on various matters. Upon full discussion and examination of the recommendations for the Commission to become more involved in environmental and watershed health matters, the Commission decided to make the TAC a standing committee and give it the assignment to dialogue on, investigate and provide recommendations to the Commission on environmental and watershed health matters which may affect the administration of water in the Bear River System. Therefore, at its November 20, 2018 Commission Meeting, the Commission amended its bylaws formalizing the TAC as a standing committee and adding to its responsibilities the research and advising on environmental and watershed health matters. Pursuant to this direction, the TAC held a meeting in April, 2019 and, among other items, invited several of the commenters on this subject to come to the TAC and discuss their vision of discussions and interactions moving forward and to present some of the pressing needs as they see them. The discussions went well. Though there will be a learning curve on this subject matter and assignments may be altered with time, the Commission believes that it has been responsive to this recommendation and is moving forward in a constructive manner.

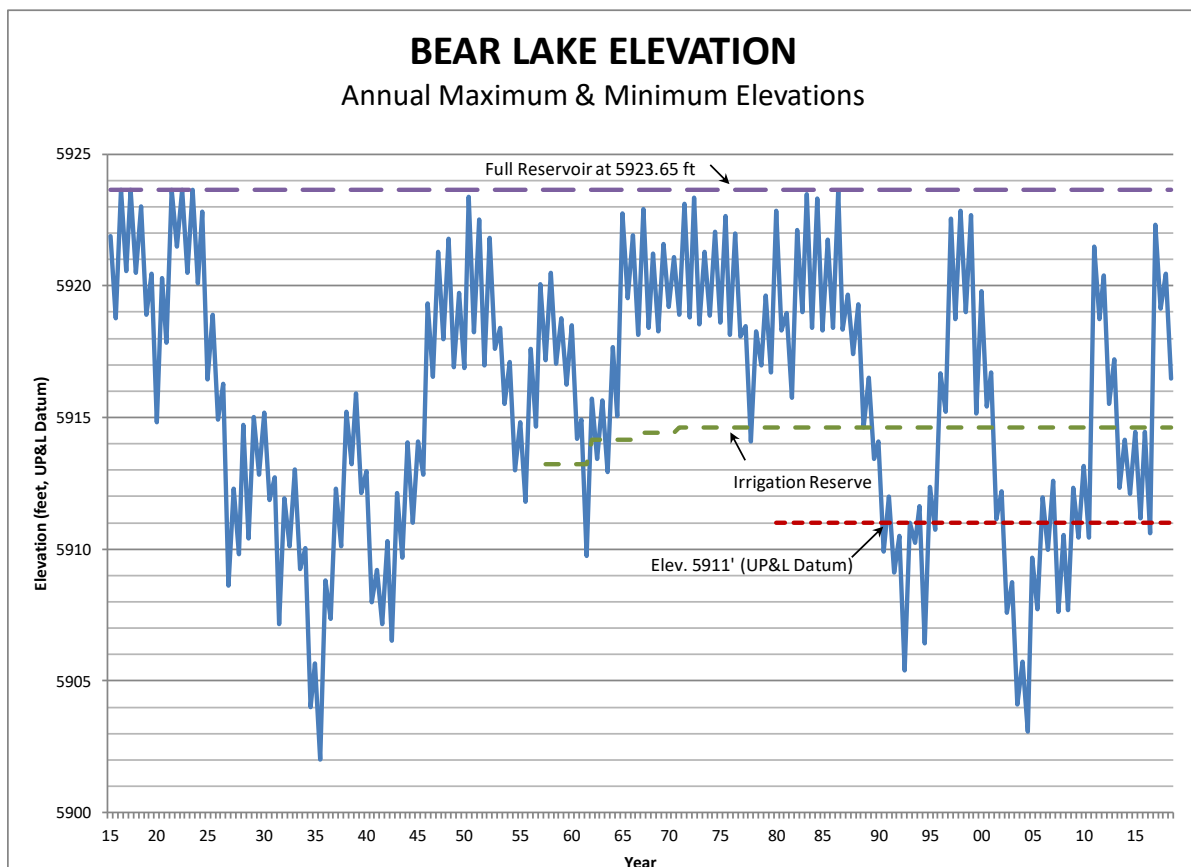
#### Bear Lake Levels, Water Quantity and Water Quality Concerns

Meaningful interest and participation in the 20-year Compact Review process was made by those interested in the protection and preservation of Bear Lake. Recommendations included preserving Bear Lake at higher levels, water supply for Bear Lake as well as water quality matters. They also included bigger picture recommendations to invite additional voices into Bear Lake discussions, the formation of an environmental or watershed health committee and looking to the future, including dealing with climate change.

One commenter stated that the Compact is a good foundation and that there is no clear reason to amend it but did suggest that the Commission take the opportunity to "broaden [its] view to the greater possibilities [it] could achieve." The comment focused on the purpose of the Compact to "provide for efficient use for multiple purposes," and suggested, "All that is lacking is a forum, a place to come together...to create a new culture...a Culture of Stewardship." The Commission recognizes that there are many more "voices" around Bear Lake which are concerned about its operations than there were 60 years ago when the Compact was signed. Twenty years ago, the Commission broadened the responsibilities of the Records Committee to include public involvement and outreach. Since that time the Commission has become more proactive in participating in or sponsoring meetings, symposiums and tours. Certainly, a significant turning point in the operations of Bear Lake occurred with the Bear Lake Settlement Agreement (and as amended and restated) wherein irrigators, Bear Lake interests and PacifiCorp voluntarily came together to implement a plan to preserve water in Bear Lake. In very simple terms the agreement provides for a sliding scale of reduced allocations of storage water for irrigation as the lake level drops. Since 1998, the storage release restrictions have applied in nine years for a total reduction in allocation of 541,000 acre-feet. Additionally, in all but a few years the irrigators have been able to use less than their allocation. If the annual usage below the allocation since 1998 is accumulated, it totals nearly 1.7 million acre-feet. It isn't possible to determine how much of this reduced usage would have occurred without the agreement,

but certainly the Bear Lake Settlement Agreement and the relationships forged thereunder are one seed to a culture of stewardship around Bear Lake which has continued to grow and bear fruit.

Separate from the efforts associated to preserve waters in Bear Lake by the Bear Lake Settlement Agreement, as was pointed out in an earlier section, the Compact has two provisions specifically aimed at preserving Bear Lake levels. The first is a restriction on the upstream storage allowed by the Amended Compact. Such storage is not allowed when the elevation of Bear Lake is below 5911. This provision seeks to thereby allow waters which otherwise would be stored upstream to flow down to Bear Lake. On the flip side, another provision restricts the release of water from Bear Lake when it is below a certain elevation known as the “irrigation reserve.” The irrigation reserve is tied to the amount of upstream storage constructed under the original Compact. It increases with increases in upstream storage. The irrigation reserve is currently at an elevation of 5914.61 feet. When the lake is below this level water cannot be released solely for power purposes. Historically, the lake was drafted during the non-irrigation season for the sole purpose of power generation. This led to low lake levels for many years. The irrigation reserve imposed by the Compact makes it such that when Bear Lake is below the irrigation reserve, water can only be released to meet irrigation demands. The below graph shows the historic annual maximum and minimum Bear Lake levels. Also shown is the irrigation reserve since its imposition under the original Compact, as well as the 5911-foot elevation. When the lake is below the 5911-foot elevation, upstream storage is restricted for the benefit of Bear Lake.



Some of the commenters praised the Commission for the establishment of the Water Quality Committee and efforts made by this committee over the years on water quality matters, and specifically the tri-state water quality monitoring efforts. Likewise, the Commission recognizes the efforts of the Water Quality Committee and significant improvement in coordination of efforts since its creation 20 years ago. Certainly, the water quality of the Bear River as it flows into Mud Lake and on to Bear Lake is a concern of this committee. Specifically, there is a current focus on sediment, which was a concern expressed during the review process. The Wyoming Water Quality Division has imposed a TMDL for sediment in the Bear River below Evanston, and Trout Unlimited and others are working on projects to reduce sediment in this reach. There was a comment that the Commission should sponsor a study on the water quality of Bear Lake with specific concern on sediment. Though such a study may not fit within the Commission's mandate, it is certainly something that the Water Quality Committee could participate in. The state agencies continue to dialogue on and study the role of Mud Lake in reducing sediment load to the lake. Specifically to the lake, the water quality agencies are participating with Bear Lake Watch, PacifiCorp and the USGS in the deployment of water quality platforms on Bear Lake, as well as increased sampling of tributary streams to better understand the quality of the lake and its source waters. As an additional item, the Commission, along with these same entities, has agreed to add a permanent, full-time USGS gage on Bear Lake. This will allow for the collection of high-quality Bear Lake level data which is now publicly accessible in real-time (see USGS gage 10055000).

Several commenters expressed concerns for the future of the lake including future demands and uses and the need to consider new visions, uses and involvement by additional and different kinds of users of Bear Lake. Several suggested a forum or a committee where concerns could be expressed and discussed. Others suggested studies on water usage, the impact of dramatic water level changes and water quality as discussed above. In response to the requests for a forum or an environmental committee, as has been previously discussed, the Bear River Commission has now amended its by-laws and directed its Technical Advisory Committee to reach out to the greater community and hear reports and studies and gather information and issues that may be brought to the attention of the Commission or one of its committees, by individuals and organizations. The Commission is committed to continuing to work with and participate with all interests associated with Bear Lake on its preservation and use for multiple purposes.

#### Water Banking

At least two of the commenters recommended that the Commission investigate and explore the potential implementation of some form of a market-based, interstate mechanism or water bank which would allow for the freer movement of water and water rights between Divisions and States. The general aim is to facilitate instream flows and other environmental benefits, recreational opportunities, and to provide greater flexibility in dealing with drought and climate change induced water shortages.

In considering these recommendations, the Commission's Technical Advisory Committee has discussed and explored the matter and has asked each state to report on its laws and policies relative to water banking. Below is a summary of such:

*Idaho:* In Idaho, water banking refers to the foregoing of water deliveries and water uses during certain periods of time, so that either the unexercised right to use of water, or the actual forgone water itself, can be “banked” (i.e. credited or leased) to a water management institution. The Idaho Water Supply Bank (WSB) is a water banking institution operated by the Idaho Water Resource Board (IWRB) in conjunction with the Idaho Department of Water Resources (IDWR) and state water districts. The WSB is operated in accordance with Idaho Code §§ 42-1761 through 42-1766 and the Water Supply Bank Rules (IDAPA 37.02.03).

The stated purpose of the Water Supply Bank is to encourage the highest beneficial use of water, provide a source of adequate water supplies to benefit new and supplemental water uses, and provide a source of funding for improving water user facilities and efficiencies. The WSB facilitates water banking by enabling the IWRB to lease from water users unexercised water use authorizations, including water rights and entitlements to storage water, which can then be credited to the Bank to form a supply of water from which new or supplemental water use authorizations can be rented.

Idaho's Water Supply Bank includes two categories: the IWRB's Water Supply Bank and local rental pools. The IWRB's Water Supply Bank allows for the banking of water rights and storage entitlements throughout Idaho, while local rental pools are regional and offer water source specific extensions of the Water Supply Bank. Rental pools are operated by IWRB-appointed local committees pursuant to WSB statutes, rules and local committee procedures.

*Utah:* In Utah, the 2020 Legislature passed SB26 establishing a 10-year pilot project to create voluntary, local water banks to be designed by local water right holders. The statute enables the creation of open and transparent banks for leasing water rights in the hope of reducing transaction costs, generating local income and increasing access to water. To ensure water banks are responsive to local needs and protective of user's water rights the statute pairs the enterprise of local water users with appropriate State oversight.

*Wyoming:* Water banking is a topic that Wyoming has discussed informally for several years. Discussions have been held internal to and between state agencies (primarily the State Engineer's Office, Water Development Office and Attorney General's Office), with relevant legislative committees and with water users. For the most part, these discussions have focused on the Colorado River basin of Wyoming (Green and Little Snake drainages).

In 2018, the Joint Agriculture Committee officially took up the topic during the interim period. To initiate the discussion, draft legislation relative to water banking across Wyoming was created and circulated for the purposes of discussion. Members of the Wyoming legislature, state agency personnel and the public discussed the concept of water banking and the draft legislation at two legislative committee meetings as well as during a special water bank work group meeting. On its face, the concept of water banking seems straight forward, but the devil is in the details relative to water law requirements, available storage facilities, costs, etc. The initial draft bill probably drew more questions than it



answered. A few general outcomes resulted from the discussions. First, most aspects of a water bank could be undertaken with no changes to existing Wyoming water law. Second, pilot studies to develop a water bank should be undertaken at the local level with support from agency personnel prior to introducing any legislation to change the water code. And finally, more robust discussions about the need for water banking were necessary.

Ultimately, no legislation on water banking was introduced in the 2019 session. Although water banking was not an identified interim topic for the legislature to discuss prior to the 2020 session, the topic will undoubtedly continue to receive attention.

Certainly, Idaho is ahead of the other two states in the implementation of water banking as a mechanism to facilitate the temporary transfer of water and water rights. However, Idaho's experience with water banking, as well as the concepts being discussed in Utah and Wyoming, go only as far as intrastate banking rather than the interstate banking recommended in the comments. Interstate banking opens up a whole host of legal questions which will require more review, study, and discussion before the Commission would be in a position to respond.

A subset of a basinwide water bank would be a water rental pool similar to that run by Idaho in the Upper Snake River Basin. An obvious place to consider a rental pool would be Bear Lake. However, in addition to the Compacting question raised above, allocation of storage use at Bear Lake is also controlled by the Bear Lake Settlement Agreement, contracts between PacifiCorp and the contract holders and a contract between PacifiCorp and the three States. Here again, the Commission believes that significant additional review, study and discussion will be required before a response on this recommendation can be made. For right now the Commission will ask its Management Committee to initially dialogue on the matter and then make assignments, as it deems appropriate, for additional review and study.

#### Reestablish Flows Below Stewart Dam

A comment was received during the review process that river flows should be reestablished in the old river channel below Stewart Dam just north of Bear Lake. For decades Stewart Dam has been a dry dam where all of the Bear River flows (and all sediment) are entirely diverted at Stewart Dam into the Rainbow Canal and on to Mud Lake where the water is stored, discharged to Bear Lake or bypassed on down the Bear River via the Outlet Canal. This operational method has worked well for PacifiCorp and water users for many years. However, it means that the twelve miles of the old Bear River channel downstream of Stewart Dam has not seen any flows other than leakage as the gates at Stewart Dam have not been opened since the high-water years of the early to mid-1980s. The comment indicated that restoring some water flow below the dam should be readily doable with some minor changes to operating procedures at the dam. The example was given that during spring runoff of the Bear River, all flows are diverted into the Rainbow Canal, but at times may be sent directly to the Outlet Canal without being stored in the Mud or Bear Lakes. Instead of diverting the water at Stewart Dam, this water could be sent downstream of the dam to the Bear River. This would provide some relative high flows to this section of the Bear River permitting channel reformation and maintenance. On the

other end of the Bear River hydrograph, maintaining some perennial minimum flows in the channel during low runoff times of year would help maintain habitat for fish and provide needed habitat connectivity throughout this section of the Bear River.

The comment further provided that the potential change in operating procedures at Stewart Dam would be a significant change for fishes in that section of the main stem Bear River. Though this stretch of the Bear River is fully within Idaho, it will likely be dependent upon the Commission's coordination of water use among the states to facilitate such water management change.

The Commission has considered this recommendation. It notes that the completion of construction of Stewart Dam in 1918 changed the hydraulics of the Bear River. Since that time, the Bear River has been diverted out of its natural channel into the Rainbow Canal, leaving the natural channel of the Bear River below Stewart Dam with average monthly flows of less than 10 cubic feet per second (cfs). The last time the natural channel received significant discharge was in 1983 when the average monthly flows were 717 cfs in June and 645 cfs in July.

Allowing a portion of the water in the Bear River to be released through Stewart Dam into the historic Bear River channel would not impact the Bear River Compact if the bypassed water would otherwise be passed through the Rainbow Canal and Mud Lake and then returned to the Bear River via the Outlet Canal. However, if water which otherwise would be stored in Bear Lake is bypassed at Stewart Dam, it would affect, in that year or potentially in subsequent years, the upstream Amended Compact storage allocations or Irrigation Reserve which are keyed to Bear Lake levels.

Separate from interfering with Compact allocations, the primary obstacle would be water availability to PacifiCorp and their contract holders. During the water storage season, from October 1<sup>st</sup> until early summer (generally May or June depending on the water year), all the water from the Bear River is stored in Bear Lake to satisfy water rights for irrigation and power held by PacifiCorp. Water is routed from the Rainbow Canal through Mud Lake and into Bear Lake. Other than years when flood control operations are occurring, there is no water available from the Bear River during this time of year to satisfy junior water rights, including an instream water right if one was established for the Bear River below Stewart Dam.

Flood control operations occur when there is insufficient space in Bear Lake to capture anticipated runoff from the snowpack. When they occur, flood releases from Bear Lake start October 1<sup>st</sup> and last until there is sufficient space in Bear Lake to accommodate anticipated spring flows. During flood control operations, water could potentially be released into the historic Bear River channel below Stewart Dam without affecting Compact operations or storage rights. However, significant flood control operations for Bear Lake have only occurred in three years since 1999 and have always ended prior to the start of irrigation deliveries.

Sometime in late spring to early summer each year, when downstream irrigation demand exceeds natural flow, PacifiCorp begins to bypass a portion of the Rainbow Inlet Canal flows into the Outlet Canal and back to Bear River approximately 10 river miles below Stewart Dam to satisfy water rights held by users downstream. During this time, water could potentially be released into the historic Bear River channel below Stewart Dam without impacting Bear Lake operations or storage rights. Some have also advocated that bypassing flows during the summer period would reduce the sediment load to Mud Lake.

Other items to be considered before increasing flows in the historical channel of the Bear River below Stewart Dam would include modifications to Stewart Dam and land ownership of the historic channel. The Rainbow Canal headgates are outfitted with two motor-driven slide gates to fine tune releases. The slide gates help maintain the water level to support the West Fork Irrigation Company's diversions. Stewart Dam only has manually operated radial gates, which are not able to adequately fine tune releases to simultaneously release water into the historical channel, provide water to West Fork Canal, and send water through the Rainbow Canal. The physical modification needed for Stewart Dam would increase operational and maintenance costs for PacifiCorp. The state of Idaho does not currently claim ownership of the bed of the Bear River in the reach of the Bear River from Stewart Dam down to the confluence with the Outlet Canal. For this reach, the historical Bear River channel is in private ownership and may currently be used for crop production. Some form of agreement may need to be reached with each landowner before significantly increasing flows in this reach of the river.

In considering this recommendation, the Commission notes that, though there are potentially some worthy benefits from reestablishing flows in the old channel, this is truly not a Commission nor Compact matter unless bypass of flows downstream of Stewart Dam affects the elevation of Bear Lake and the Compact allocations tied thereto. It further notes that availability of water to make such bypass flows is generally only from late spring/early summer until the commencement of storage in October.

#### Other Recommendations

Several additional recommendations were received during the public comment period and are noted herein. One dealt with Bear River bank erosion in the Gentile Valley, and others dealt with the subjects of a better understanding between surface water and groundwater in the basin, use of reliable third-party data and the development of a plan to deal with long-term drought and climate change. Again, while noted, the Commission doesn't feel that it is in a position to respond to these recommendations at this time but will assign the review of such to its Technical Advisory Committee.



## CONCLUSIONS

Compacts are agreements between states which are ratified by Congress. The Bear River Compact equitably divides the waters of the Bear River Basin between Idaho, Utah and Wyoming. It was established in 1958 and amended in 1980. One provision of the Compact is that it be reviewed at least once every twenty years to determine if there is a need to amend it. The last 20-year review effort was completed in 1997. Therefore, in 2017 the Commission commenced a new 20-year compact review effort. Though the Commission had no preconceived notions about amending the Compact, it very much wanted to reach out to stakeholders within the Basin to get their input. It reached out through its website, press releases, news articles and a series of public meetings. It solicited written comments which it received, tabulated and reviewed.

A total of 67 written comments were received. The vast majority of comments indicated that the Compact was working well and should not be amended. Six commenters indicated that the Compact should be amended. At its April 17, 2018 meeting the Commission reviewed and discussed these comments, after which it determined that the comments and the issues identified do not rise to the level of changing the Compact at this time. These comments and the Commission's responses can be summarized as follows:

- 1) Comment: Change the Compact relative to the declaration of a water emergency in the Central Division and the distribution of waters therein.

Response: This subject stems from a fundamental difference in opinion between Wyoming and Idaho water users on the fairness of regulating diversions in the Central Division when all of the water is not used in the Idaho portion of the Central Division. The Commission determined to follow the plain language of the Compact, but both States agreed to further explore and discuss regulation in the Central Division.

- 2) Comment: Have mandatory conservation measures kick in at higher elevations in Bear Lake.

Response: Though holding water levels in Bear Lake is a laudable goal, the Commission does not find that it has authority, nor would it be fair and right to mandate water restrictions on Bear Lake usage contrary to existing water rights, agreements and state water law. Rather, the Commission recognizes cooperative and voluntary actions by stakeholders which have improved lake levels in recent years.

- 3) Comment: Reduce Lower Division depletion allocations to Idaho and Utah (comments were specific to impact to Great Salt Lake).

Response: The Compact allocates water between the States and does not give allocations to any specific water body. Review of depletion estimates and hydrologic data indicate that the Compact depletion allocations are not the cause of present lake levels. Great Salt Lake is fully within Utah and as such, Utah, which is well aware of the issues surrounding Great Salt Lake, is the better entity to lead out on resolving the issues. The Commission and its Technical Advisory Committee should become more involved in understanding Great Salt Lake matters and participating in the dialogue.

Though the Commission did not find to initiate actions to amend the Compact on these three items at this time, it recognizes that Compact revision efforts can be initiated at any time that the States find such a need.

Outside of amending the Compact, the Commission received comments which made other recommendations on the administration of the Bear River and the Commission.

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## **APPENDIX A**

### Website Materials



## **THE 20-YEAR COMPACT REVIEW IS CURRENTLY UNDERWAY**

**CURRENT STATUS:** The Commission held public meetings in October and November and received written comments through December 4, 2017. The comments were tabulated and reviewed. At its annual meeting, April 17, 2018, upon review and discussion of the comments, particularly the three comments which recommended potential changes to the Compact, the Commission voted to not change the Compact at this time. In so doing, it noted that changes to the Compact can occur at any time and need not wait 20 years. It then directed its Technical Advisory Committee to prepare a response document, including discussion of the many comments which did not recommend changes to the Compact.

The Commission is most anxious to receive input from the public on whether or not the Compact should be amended. To this end it added a splash announcement to its website and added a page specifically dedicated to providing the public with information regarding the review effort. It sent out a notice to all on its meeting lists. It also provided notices in fourteen newspapers (see [summary of papers](#) wherein notices were published), provided [press releases](#) to twenty media outlets and held four public meetings within the Bear River Basin and one outside of the Basin (posted here is a pdf version of the meeting [presentation](#) and [meeting summaries](#), including the lists of meeting attendees). (Please note that the meeting summaries are not official Commission documents but were prepared by one of the Technical Advisory Committee members from the host state as a summary of the oral comments and are provided herein simply as a courtesy). Others provided notice of the effort by handing out meeting fliers, making phone calls, posting notices at meeting sites, sending out targeted emails and posting meeting notices and press releases on individual state websites.

Posted herewith are the [written comments](#) received by the Commission.

## **BACKGROUND INFORMATION**

The following is to provide some context to the 20-Year Compact Review process, some basic information on the Bear River Compact and the Bear River Commission, links to key documents and instructions for providing input during the review effort.

### **Jump to a Section:**

- [Compact Overview](#)
- [Bear River Hydrology](#)
- [Major Provisions of the Compact](#)
- [Bear River Commission](#)
- [20-Year Review/Public Comments \(2017\)](#)
- [Amending the Compact](#)

### **Compact Overview**

With Congressional consent, the United States Constitution allows for states to enter into binding interstate agreements or compacts. Article 1, Section 10 provides that "No State shall, without the Consent of Congress... enter into any Agreement or Compact with another State." Recognizing the need to equitably divide or apportion the waters of the Bear River (which crosses state lines five times in its circuitous course between its headwaters in the Uinta Mountains and its terminus at the Great Salt Lake), the three Bear River States of Idaho, Utah and Wyoming first began compact negotiations in the 1940s. After more than a decade of significant study and intense negotiations,

the states signed the Bear River Compact in 1955. Three years later, after consent from the three states' legislatures and Congress, President Eisenhower signed the Bear River Compact into law on March 17, 1958.

The Compact identifies its purposes as:

*The major purposes of this Compact are to remove the causes of present and future controversy over the distribution and use of the waters of the Bear River; to provide for efficient use of water for multiple purposes; to permit additional development of the water resources of Bear River; to promote interstate comity; and to accomplish an equitable apportionment of the waters of the Bear River among the compacting States.*

It is important to note that the division of water under the Compact is to and as between the compacting states. Actual appropriation and usage of water by individuals or entities is made under the direction of and regulated by each state. Hence, the Compact allocates water to the states and specifies how such waters will be measured and shared, but the states determine how the waters will be used and regulate such usage within their individual states. The Compact also created the Bear River Commission with specific authorities and responsibilities.

Article XIV of the Compact requires:

*At intervals not exceeding twenty years, the Commission shall review the provisions hereof, and after notice and public hearing, may propose amendments to any such provision, provided, however, that the provisions contained herein shall remain in full force and effect until such proposed amendments have been ratified by the legislatures of the signatory States and consented to by Congress.*

After administration under the Compact for a dozen or so years, the states began to recognize a need for refinements. In 1970 they formally began to discuss potential amendments to the Compact. These discussions spanned 17 meetings, mixed with additional studies, over a six-year period. By 1976 the states had agreed to provisions for an amended Compact. Public hearings were held on proposed amendments in 1976 and 1978 and ratified by the state legislatures in 1979. After hearings, Congressional approval was given in 1980 and the [Amended Bear River Compact](#) was signed into law by President Carter on February 8, 1980. An informal, but more detailed report on the [History of the Bear River Compact](#), including both the original and amended Compacts, was written by the Commission's first Engineer-Manager, Wallace Jibson.

In 1996, the Commission commenced a 20-year review of the Amended Compact. It held public meetings in Idaho, Utah and Wyoming and received verbal and written comments. After compiling and considering the public comment, at its Regular Commission Meeting in November 1997 the Commission found that:

- 1) there is no present need to amend the Compact,
- 2) the Commission shall create a Water Quality Committee, and
- 3) the Commission shall add public involvement to the functions of the Records

Committee.

A summary of the Commission's findings from its 1997 20-year review effort is found in [Findings Concerning the Need for Compact Revision, A Report of the Bear River Commission](#).

It has now been 20 years since the Commission last reviewed the Amended Compact to determine whether it still has the flexibility to accomplish the "equitable apportionment of the waters of the Bear River among the compacting States" and "provide for efficient use of water for multiple purposes" or

whether it is in need of amendment. At its annual meeting in April 2017, the Commission formally decided to begin a review of the Amended Compact. The Review will consist of an examination of operations and water distribution under the Amended Compact and input from water users, as well as receipt of public comment. The states will then determine whether or not there are needed changes and if so, whether or not such changes can be met within the boundaries of the Amended Compact (as was found in 1997) or whether amendments to the Compact are warranted.

### **Bear River Hydrology**

The Bear River drains an area of 6,900 square miles in southwestern Wyoming, northern Utah and southeastern Idaho. Its headwaters are but 90 miles from its mouth, yet it meanders 500 miles in a circuitous course in reaching the Great Salt Lake. In its travels, it makes five state line crossings in the three states. The [Bear River Basin map](#) shows the major features of the Bear River system.

The Bear River is not only the largest tributary to the Great Salt Lake, but is the largest river in the North American Continent that does not flow to an ocean. Prior to settlement and irrigation development, the annual discharge of the river into the Great Salt Lake averaged an estimated 1,750,000 acre-feet. Settlement of lands adjacent to the Bear River began in about 1860, and power development began in 1907. In 1911, Bear Lake was converted into a storage reservoir by constructing inlet and outlet canals connecting the lake and the river.

Approximately 500 irrigation organizations own and operate separate irrigation systems in the Basin, supplying irrigation water for half a million acres of land. Five hydroelectric plants are in operation on the main stem of the Bear River. Bear River water is used for municipal and industrial purposes and supports several wildlife refuges. Additionally, each year an average of approximately 850,000 acre-feet of Bear River water flows into the Great Salt Lake.

### **Major Provisions of the Compact**

The Bear River Compact is a document voluntarily negotiated and adopted by the states which establishes the rights and obligations of Idaho, Utah and Wyoming with respect to the waters of the Bear River. As used herein, Compact refers to provisions established in the Original (1958) and Amended (1980) Compacts. The Compact:

- Divides the Bear River into three main divisions: the Upper Division, the Central Division, and the Lower Division, with subdivisions or sections created in the Upper and Central Divisions. The Compact specifically identifies which river flows and canal diversions are to be assigned to each of the divisions.
- Apportions the direct flows of the Bear River and its tributaries between Utah and Wyoming in the Upper Division (upstream of Pixley Dam) and between Idaho and Wyoming in the Central Division (Pixley Dam to Stewart Dam). Allocations are made on a percentage of the “total divertible flow” basis.
- Does not specifically allocate the water in the Lower Division between the states of Idaho and Utah. The Compact does, however, provide a mechanism wherein a Utah water user may allege that because of diversions within Idaho, he is being deprived of water to which he is justly entitled and request distribution across the state line. If the Commission finds this to be the case, the Commission may declare a water emergency and establish a water delivery schedule in the Lower Division based upon priority of rights without regard to the state line.
- Specifies that in the Lower Division, Idaho is granted the first right to develop and deplete 125,000 acre-feet. Utah is granted the second right to develop and deplete 275,000 acre-feet. The next 150,000 acre-feet of water depletion will be divided equally between Utah and Idaho. All water in

excess of the above allocations will be divided between Utah and Idaho, with Idaho receiving 30 percent and Utah 70 percent. These allocations include groundwater tributary to the Bear River.

- Defines the pre-compact storage rights for each of the three states in reservoirs above Bear Lake and established additional rights to store 36,500 acre-feet of Bear River water above Stewart Dam in any water year. This 36,500 acre-feet of storage is referred to as "Original Compact Storage" and was allocated to each of the states as follows:

Utah	17,750 acre-feet
Wyoming	17,750 acre-feet
Idaho	1,000 acre-feet
- Grants additional storage above Bear Lake for 74,500 acre-feet, of which 4,500 acre-feet is granted to Idaho and 35,000 acre-feet is granted both to Utah and Wyoming. This storage, plus water appropriated (including ground water) and applied to beneficial use after January 1, 1976, is limited to an annual depletion of 28,000 acre-feet, of which Idaho is allocated 2,000 acre-feet and Utah and Wyoming are allocated 13,000 acre-feet each. This additional storage above Bear Lake will not be allowed when the elevation of Bear Lake is below 5911 feet (Utah Power and Light datum).
- Reserved a portion of the storage capacity in Bear Lake for irrigation uses downstream from Bear Lake. This compact-provided-for "irrigation reserve" establishes minimum Bear Lake levels which correspond to upstream storage development, below which Bear Lake cannot be drawn down solely for power generation or other beneficial uses.
- Provides that water not applied to beneficial use prior to January 1, 1976, including ground water tributary to the Bear River, is allocated on a depletion basis.
- Directed that the depletion associated with storage and post January 1, 1976, development shall be estimated through a Commission-approved procedure.

The provisions of the Compact are carried out by the Commission. Each week, when in regulation, apportionments of Bear River flows are made by the Commission's Engineer-Manager to each state, and then each state's respective watermaster or river commissioner divides the water to the users. The Commission biennially prepares a report of its activities and operations under the Compact. The [Eighteenth Biennial Report](#), covering the 2013 – 2014 water years, along with all prior reports, can be found on the [Commission's webpage](#). Each report has an Overview section followed by a chapter for each of the covered water years. The Nineteenth Biennial Report, covering water years 2015 – 2016, is in draft form and should be released soon.

### **Bear River Commission**

The Bear River Commission was created by the Bear River Compact. Article III provides:

*A. There is hereby created an interstate administrative agency to be known as the 'Bear River Commission' which is hereby constituted a legal entity and in such name shall exercise the powers hereinafter specified. The Commission shall be composed of nine Commissioners, three Commissioners representing each signatory State, and if appointed by the President, one additional Commissioner representing the United States of America who shall serve as chairman, without vote. Each Commissioner, except the chairman, shall have one vote. The State Commissioners shall be selected in accordance with State law. Six Commissioners who shall include two Commissioners from each State shall constitute a quorum. The vote of at least two-thirds of the Commissioners when a quorum is present shall be necessary for the action of the Commission.*

Pursuant to the Compact, the state Commissioners are "selected in accordance with State law." For each state the applicable laws are:



### *Wyoming*

The applicable Wyoming law is as follows:

*41-11-202. The Governor of Wyoming shall appoint and designate such commissioners as may be necessary to represent the State of Wyoming on all negotiated interstate compacts, unless the compacts by their terms otherwise provide. The Governor of Wyoming, at his option, may serve as a commissioner for Wyoming on any compact commission, if permitted under the terms of the compact. The Governor may remove any commissioner he appoints as provided in W.S. 9-1-202.*

Historically, the Governor of Wyoming has generally named at least one alternate Commissioner.

### *Utah*

The applicable Utah law is as follows:

*73-16-4. There shall be three members of the Bear River Compact Commission from the State of Utah. One member shall be the Interstate Stream Commissioner of Utah and he shall be chairman of the Utah delegation. The other two Commissioners from Utah shall be appointed by the State Water and Power Board, with the consent of the Governor, and they shall hold office at the pleasure of the Water and Power Board and until their successors shall have been appointed and qualified. Each member shall be a bona fide resident of the State of Utah and one shall be a landowner and irrigator actually residing on and operating a farm within the Lower Division as defined by the Compact, and one shall be a landowner and irrigator actually residing on and operating a farm within the Upper Division as defined by the Compact.*

*The Utah Water and Power Board may, with the consent of the Governor, appoint two alternate members of the Bear River Commission. One such alternate shall be a bona fide resident of the State of Utah and a landowner and irrigator actually residing on and operating a farm within the Lower Division as defined by the Compact and he shall be entitled to act at all regular and special meetings of the Bear River Commission whenever the regular member of the Commission from this same area is unable to serve and act. One such alternate shall be a bona fide resident of the State of Utah and shall be a landowner and irrigator actually residing on and operating a farm within the Upper Division as defined by the Compact and he shall be entitled to act at all regular and special meetings of the Bear River Commission whenever the regular member of the Commission from this same area is unable to serve and act. Each member of the Commission from Utah shall receive a per diem plus necessary expenses, as provided by law.*

### *Idaho*

The applicable Idaho law is as follows:

*42-3501. Bear River Compact commissioners — Appointment. The governor of the state of Idaho is hereby authorized and directed to appoint three (3) commissioners to represent the state of Idaho on a joint commission to be composed of three (3) commissioners from each of the states of Idaho, Utah, and Wyoming and one (1) commissioner that may be appointed to represent the United States of America, the said joint commission to be constituted for the purpose of administration of the Bear River Compact.*

*42-3502. Qualifications of commissioners of Bear River Compact. — Two (2) of the commissioners shall be electors of the state of Idaho who are residents within the watershed of the Bear River in Idaho. One (1) commissioner may be the director of the department of water resources of the state of Idaho.*

*42-3503. Terms of Bear River Compact commissioners — Filling vacancies. — The appointment of each commissioner shall be for a six (6) year term but may be terminated at the pleasure of the governor: Provided that the appointments of the commissioners first appointed shall terminate at two (2) year intervals beginning with the end of the first even numbered year after the Bear River Compact goes into effect. Vacancies shall be filled for the unexpired term in which the vacancy occurs.*

#### *Federal*

Pursuant to Article III of the Compact, the Federal Commissioner is appointed by the President.

As can be seen from the above, the Compact gives the Commission no authority to nominate or appoint its membership. The Commission is a creation of the three states and the federal government and these entities, pursuant to their laws, appoint their representatives.

Under the Compact, the Commission has adopted a set of [By-Laws](#). Much of the work of the Commission is carried out by the Engineer-Manager under the direction of the Commission. The Commission has a Chair (appointed by the President) and Vice Chair, Secretary and Treasurer, each elected or appointed by the Commission. The Commission has established four standing committees as follows:

Management Committee  
Operations Committee  
Records and Public Involvement Committee  
Water Quality Committee

It has also established a special Technical Advisory Committee. The committees have duties as assigned by the Commission. The Management Committee, Operations Committee and Records and Public Involvement Committee are composed of Commissioners. The Water Quality Committee is composed of state water quality agency leads, and the Technical Advisory Committee consists of technical professionals assigned by their respective states.

The Commission usually meets twice each year, generally the third Tuesday of April and the Tuesday preceding the week of Thanksgiving, and the committees often meet in conjunction with the Commission meetings. The Commission maintains an office and a website ([bearrivercommission.org](http://bearrivercommission.org)) where key documents relative to the Compact and its administration can be found.

#### **20-Year Review/Public Comments (2017)**

In its April 2017 meeting, the Commission formally initiated a review of the Amended Bear River Compact. As part of this process, the Commission is requesting comment from water users and the public. During the last review, though some cited concerns, the majority of commenters indicated that there was no need to amend the Compact. Some of the comments requesting change centered around recognizing water quality concerns as a priority, while others requested the inclusion of a broader audience in Commission activities. After consideration, the Commission determined that these two needs could be met through changes to the Commission's [By-Laws](#). The Commission also received comments which showed a lack of understanding of the authorities and roles of the Commission and the Compact.

As part of the review effort, the Commission held a series of public meetings around the Bear River Basin as follows:

<b>20-Year Compact Review - Schedule of Public Meetings</b>		
<b>Location</b>	<b>Date/Time</b>	<b>Address</b>
Evanston, Wyoming	Tuesday, October 3, 7:00 p.m.	Uinta County Library 701 Main Street Evanston, WY 82930
Logan, Utah	Tuesday, October 10, 7:00 p.m.	Cache County Administration Building 179 North Main Street Logan, UT 84321
Grace, Idaho	Wednesday, October 11, 7:00 p.m.	Grace American Legion Hall 105 North 1 <sup>st</sup> West (corner of 1st N and 1st W) Grace, ID 83241
Montpelier, Idaho	Thursday, October 12, 7:00 p.m.	Oregon/California Trail Center 320 North 4 <sup>th</sup> Street Montpelier, ID 83254
Salt Lake City, Utah	Thursday, November 2, 7:00 p.m.	Utah DNR Building 1594 W. North Temple Street Salt Lake City, UT 84116

The general format of the public meetings included an opening statement as to the purposes of the 20-year Compact review, a short presentation on the Commission and its roles, and the major provisions of the Compact. Opportunities were given for attendees to ask questions and to provide oral and written comment.

The Commission invites written comments to be submitted by any interested party. In order to be considered timely, all written comments must be received at the Commission's office by **5:00 p.m. on Monday, December 4, 2017**. Written comments should be addressed to:

Bear River Commission  
RE: 20-Year Compact Review  
106 West 500 South, Suite 101  
Bountiful, Utah 84010

Or via email to:

[review@bearrivercommission.org](mailto:review@bearrivercommission.org)

In this review process, the Commission requests that commenters become informed regarding the Commission and its roles and authorities, as well as the purposes and authorities of the Amended Bear River Compact. If one believes that the Compact should be amended, the Commission asks that the comments be as specific as possible regarding the need for change and the proposed amendments to the Compact.

Following the comment deadline, the Commission will compile the comments and they will be reviewed by the states. Depending on the substance of the comments and the findings of the states, the states will determine the next step(s) to be taken in the Review process. The Commission and the states are entering this process without any preconceived notion as to whether or not there is a need for changes and if there is, whether such changes can be met within the parameters of the

existing Compact or whether they will require amendments to the Compact. Therefore, at this juncture in time the Commission cannot forecast what step(s) in the Review process may be taken after receiving and reviewing the public comments. It is important to remember that the negotiating parties relative to any potential amendments to the Compact are the three signatory states, and the public comment process is being employed as a tool by the states to inform them of changes that may be needed.

Should you have any questions regarding this 20-Year Compact Review effort, please contact:

<b>Idaho</b>	<b>Utah</b>	<b>Wyoming</b>	<b>Commission</b>
Jeff Peppersack	Todd Adams	Beth Callaway	Don Barnett
208-287-4948	801-538-7272	307-777-7803	801-292-4662
jeff.peppersack@idwr.idaho.gov	toddadams@utah.gov	beth.callaway@wyo.gov	review@bearrivercommission.org

### **Amending the Compact**

As indicated above, there is no preconceived notion as to whether or not the Compact needs to be amended. However, if the signatory states to the Compact were to determine that it needs to be amended, among others, the following general steps would be required:

- The states would study potential amendments.
- If the potential amendments appear to have merit, the states would seek permission from Congress to enter into formal compact negotiations.
- The states would then negotiate potential amendments.
- Once amendments were agreed to, the Commission would hold public hearings on the proposed changes.
- Following the public hearings, if acceptable to all three states, state representatives would sign the proposed amendments.
- The amendments would then be sent to each of the three state legislatures, in the form of bills, for review and approval (there may be additional hearings).
- Once these bills have passed the respective legislatures, they would require the signature of the respective governors before becoming law.
- Once ratified by the three state legislatures and signed by the governors, the proposed amendments would be submitted to the U.S. Congress in the form of a bill. The House and/or Senate may elect to hold public hearings. Once approved by both houses, the consenting legislation would be sent to the President.
- Once the consenting legislation is signed by the President, the amendments would become effective.

As can be seen, amending a compact is a fairly involved and formal process. The Amended Bear River Compact required ten years from the initiation of negotiations to the signing of it into law by the President. Any amendments would require approval of all three states, ratification by their respective legislatures and approval by all three governors, as well as consent by Congress and approval by the President.



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**APPENDIX B**  
Legal Notices





Contact: Don Barnett  
Phone: (801) 292-4662

**BEAR RIVER  
COMMISSION**  
106 West 500 South, Suite 101  
Bountiful, UT 84010  
[www.bearrivercommission.org](http://www.bearrivercommission.org)



## FOR IMMEDIATE RELEASE

Bear River Commission Seeks Public Input for 20-Year Compact Review  
Public Meetings to be held in October and November.

**Bountiful, UT, September 19, 2017:** Today the Bear River Commission announced that it will hold a series of public meetings in conjunction with its 20-year review of the Bear River Compact. The Bear River Compact created the Bear River Commission and is the chief document which controls the allocation and distribution of waters of the Bear River between the States of Idaho, Utah and Wyoming. The following public meetings have been scheduled:

Oct 3, 7 pm	Evanston, WY	Uinta County Library	701 Main Street
Oct 10, 7 pm	Logan, UT	Cache County Admin. Bldg.	179 N. Main Street
Oct 11, 7 pm	Grace, ID	Grace American Legion Hall	105 N. 100 W.
Oct 12, 7 pm	Montpelier, ID	Oregon/California Trail Center	320 N. 4 <sup>th</sup> Street
Nov 2, 7 pm	Salt Lake City, UT	Utah DNR Building	1594 W. North Temple

(please see the Commission's website for additional details)

Written comments are due by Monday, December 4, 2017. Whether or not people participate in the public meetings, they are encouraged to provide written comments. Additional information regarding the Compact, the Commission and this 20-year compact review effort, as well as information regarding the public meetings and how to participate in the process and

provide input, can be found on the Commission's website:

[www.bearrivercommission.org](http://www.bearrivercommission.org).

The U.S. Constitution provides that states can enter into interstate agreements, or compacts, with Congressional consent. The Bear River States first entered into a compact on the Bear River in 1958. The Compact was amended in 1980. The Compact provides that at least every 20 years the states shall review its provisions to determine whether or not it should be amended. The Compact was last reviewed in 1997. At that time the states found that there was not a need to amend the Compact but, as a result of the public review, the Commission amended its by-laws to add a water quality committee and increase its public outreach and involvement efforts.

At its annual meeting in April 2017, the Commission officially entered into the Compact review process. The announced public meetings are part of that process.

"The public meetings will allow individuals to learn more about the roles and authorities of the Commission and the Compact and allow them to give input on whether or not the Compact needs to be amended," said Don Barnett, the Commission's Engineer-Manager. "It is hoped that not only those who believe that the Compact should be amended, but also those who believe that it should not be amended, will participate in the meetings and provide comments," Barnett noted.

Jody Williams, the federal representative on the Commission and the Commission's Chair, added:

"The public meetings and the written comment period will provide important information that will allow states' representatives to determine whether the

Compact needs to be amended at this time. The Commission is very interested in what the public has to tell us.”

The Bear River, which is the largest river in North America that does not flow to an ocean, arises in the Uinta Mountains in Utah, flows into Wyoming above Evanston, back into Utah near Randolph, then back into Wyoming above Cokeville before entering Idaho above Montpelier, thence west above Bear Lake before turning south and re-entering Utah between Preston, Idaho and Logan, Utah before discharging to the Great Salt Lake at the Bear River Migratory Bird Refuge. In its circuitous path it crosses state lines five times. In all, it flows nearly 500 miles yet ends up only 90 miles from where it started. The Bear River has an annual water supply of about 1.8 million acre-feet and provides water to cities, industries, hundreds of irrigation canals and four wildlife refuges, as well as water for hydropower, aesthetic and recreational uses. It is truly the lifeblood of the regions that it traverses.

# # #

NOTICE OF PUBLIC MEETINGS  
Evanston/Montpelier

The Bear River Commission will hold public meetings concerning its 20-year review of the Bear River Compact. The following public meetings have been scheduled in your area:

Oct 3, 2017; 7 p.m.  
Uinta County Library  
701 Main St.  
Evanston, WY 82930

Oct. 12, 2017; 7 p.m.  
Oregon/California Trail Center  
320 North 4th St.  
Montpelier, ID 83254

The public is encouraged to participate in the review process and provide comments relative to whether or not there is a need to amend the Bear River Compact. Written comments are due by December 4, 2017. Additional information regarding the Compact, the Bear River Commission and the compact review effort, the full public meeting schedule, as well as detail for submitting public comment can be found on the Commission's website: [www.bearrivercommission.org](http://www.bearrivercommission.org).

## Idaho

### NOTICE OF PUBLIC MEETING

The Bear River Commission will hold public meetings concerning its 20-year review of the Bear River Compact. As a result, the following public meetings have been scheduled in Idaho:

Oct 11, 2017; 7 p.m.

Grace American Legion Hall

105 North 1st West (corner of 1<sup>st</sup> North and 1<sup>st</sup> West)

Grace, ID 83241

Oct. 12, 2017; 7 p.m.

Oregon/California Trail Center

320 North 4th St.

Montpelier, ID 83254

The public is encouraged to participate in the review process and provide comments relative to whether or not there is a need to amend the Bear River Compact. Written comments are due by December 4, 2017. Additional information regarding the Compact, the Bear River Commission and the compact review effort, the full public meeting schedule, as well as detail for submitting public comment can be found on the Commission's website: [www.bearrivercommission.org](http://www.bearrivercommission.org).

## Idaho/Utah

### NOTICE OF PUBLIC MEETING

The Bear River Commission will hold public meetings concerning its 20-year review of the Bear River Compact. As a result, the following public meetings have been scheduled in your region:

Oct 11, 2017; 7 p.m.

Grace American Legion Hall

105 North 1st West (corner of 1<sup>st</sup> North and 1<sup>st</sup> West)

Grace, ID 83241

Oct 10, 2017; 7 p.m.

Cache County Administration Building

179 North Main Street

Logan, Utah 84321

The public is encouraged to participate in the review process and provide comments relative to whether or not there is a need to amend the Bear River Compact. Written comments are due by December 4, 2017. Additional information regarding the Compact, the Bear River Commission and the compact review effort, the full public meeting schedule, as well as detail for submitting public comment can be found on the Commission's website: [www.bearrivercommission.org](http://www.bearrivercommission.org).

## Utah

### NOTICE OF PUBLIC MEETING

The Bear River Commission will hold public meetings concerning its 20-year review of the Bear River Compact. As a result, the following public meetings have been scheduled in Utah:

Oct 10, 2017; 7 p.m.

Cache County Administration Building  
179 North Main Street  
Logan, Utah 84321

Nov. 2, 2017; 7 p.m.

Utah Dept. of Natural Resources Building  
1594 West North Temple  
Salt Lake City, Utah 84114

The public is encouraged to participate in the review process and provide comments relative to whether or not there is a need to amend the Bear River Compact. Written comments are due by December 4, 2017. Additional information regarding the Compact, the Bear River Commission and the compact review effort, the full public meeting schedule, as well as detail for submitting public comment can be found on the Commission's website: [www.bearrivercommission.org](http://www.bearrivercommission.org).



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**APPENDIX C**

Meeting PowerPoint



# ***Bear River Commission 20-Year Compact Review***

**Don Barnett, Engineer-Manager  
Bear River Commission**

Public Meetings  
October and November, 2017



**BEAR RIVER  
COMMISSION**

# Purposes

- Provide background information
- Answer questions
- Receive oral comments
- Encourage you to submit written comments





# BEAR RIVER COMMISSION

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## Welcome

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### Welcome to the Bear River Commission's Website

The Bear River Commission was created in 1958 pursuant to the Bear River Compact (as amended PL 96-189) between the states of Idaho, Utah and Wyoming. The Commission is composed of nine gubernatorial appointed Commissioners, three from each of the signatory states, as well as a Federal Commissioner appointed by the President, who serves as Chairman without vote. The responsibility of the Commission is to carry out the provisions of the Bear River Compact. The Compact defines its purposes as follows:

*“The Major purposes of this Compact are to remove the causes of present and future controversy over the distribution and use of the waters of the Bear River; to provide for efficient use of water for multiple purposes; to permit additional development of the water resources of Bear River; to promote interstate comity; and to accomplish an equitable apportionment of the waters of the Bear River among the compacting States.”*

The purposes of this web page are to provide information regarding the function and activities of the Bear River Commission, to serve as a repository for key documents and to provide links to the information and data used in the equitable distribution of the waters of the Bear River.

### Announcements and Items of Interest

**20-YEAR COMPACT REVIEW**

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## 20-Year Compact Review

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### THE 20-YEAR COMPACT REVIEW IS CURRENTLY UNDERWAY

**CURRENT STATUS:** The Commission has announced public meetings in October and November and will accept comments through December 4, 2017.

The following is to provide some context to the 20-Year Compact Review process, some basic information on the Bear River Compact and the Bear River Commission, links to key documents and instructions for providing input during the review effort.

#### **Jump to a Section:**

- [Compact Overview](#)
- [Bear River Hydrology](#)
- [Major Provisions of the Compact](#)
- [Bear River Commission](#)
- [20-Year Review/Public Comments \(2017\)](#)
- [Amending the Compact](#)

#### **Compact Overview**

With Congressional consent, the United States Constitution allows for states to enter into binding interstate agreements or compacts. Article 1, Section 10 provides that "No State shall, without the Consent of Congress... enter into any Agreement or Compact with another State." Recognizing the need to equitably divide or apportion the waters of the Bear River (which crosses state lines five times in its circuitous course between its headwaters in the Uinta Mountains and its terminus at the Great Salt Lake), the three Bear River States of Idaho, Utah and Wyoming first began compact negotiations in the 1940s. After more than a decade of significant study and intense negotiations, the states signed the Bear River Compact in 1955. Three years later, after consent from the three states' legislatures and Congress, President Eisenhower signed the Bear River Compact into law on March 17, 1958.

# Outline

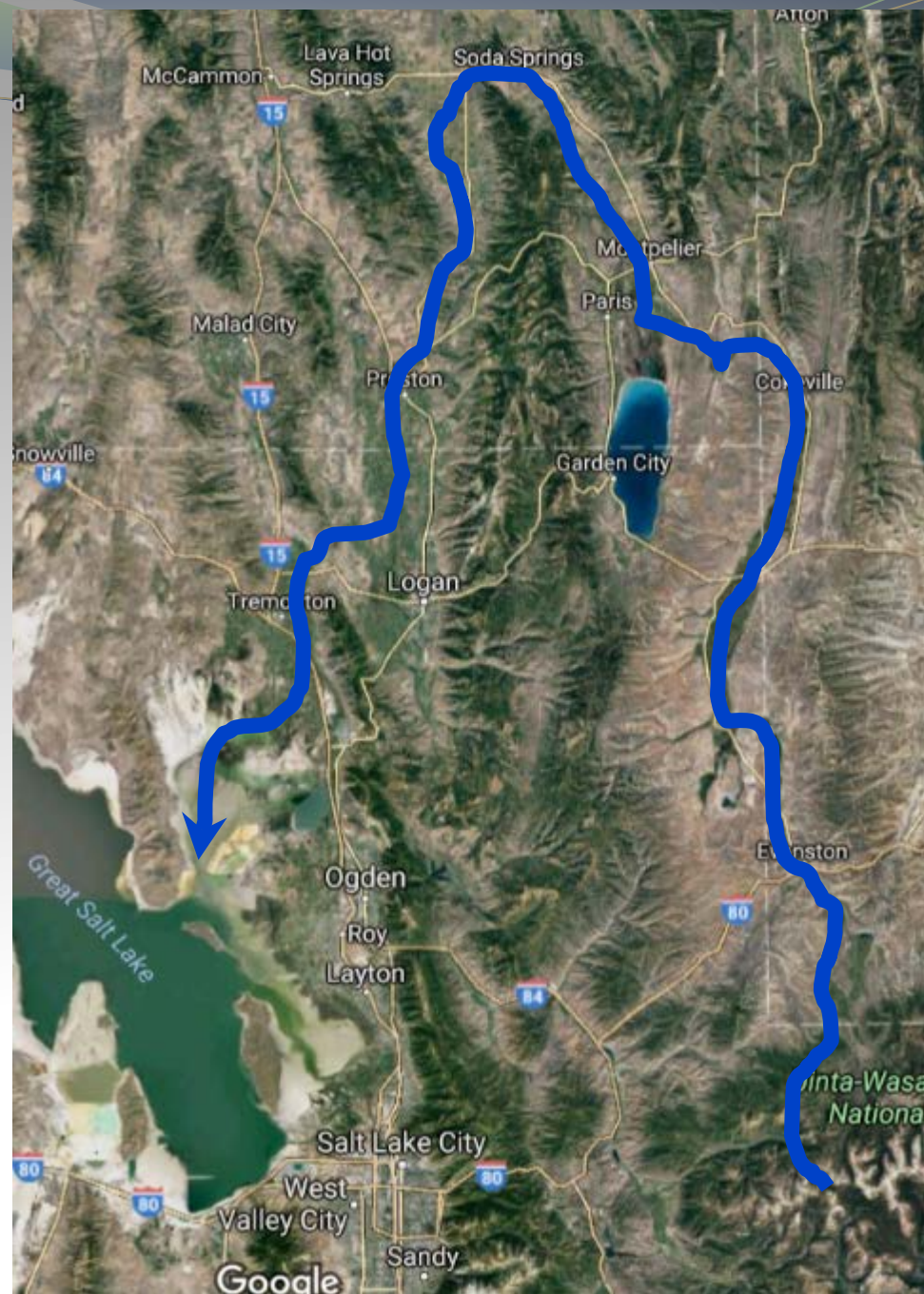
- Welcome/Introduction (info on [BearRiverCommission.org](http://BearRiverCommission.org))
- Bear River Compact Overview
- Major Provisions of the Compact
- Bear River Commission
- Bear River Hydrology
- 20-Year Compact Review/Public Comment (2017)
- Amending the Compact
- Questions





# Need for a Compact

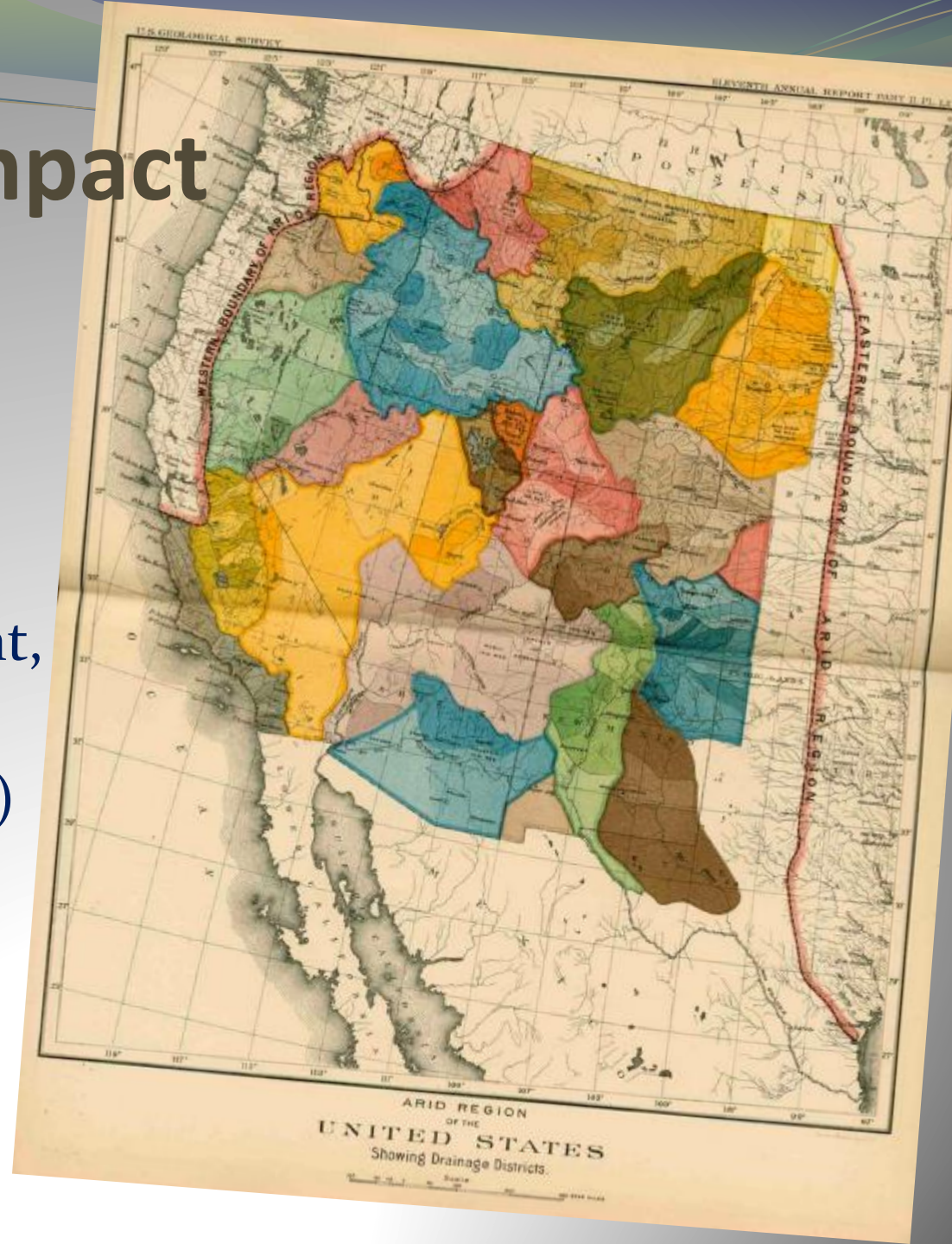
- Originates in high Uinta Mountains (Utah)
- Flows 500 miles, but ends 90 miles from where it started, having crossed state lines five times
- Largest river in North America that doesn't flow to an ocean





# Bear River Compact Overview

- John Wesley Powell
- Bear River – crosses 5 times
- Development, drought, conflict
- History (Wally Jibson)



BEAR RIVER  
COMMISSION  
COMMISSION



# Compacting



*“No State shall, without the Consent of Congress, lay any Duty of Tonnage, keep Troops, or Ships of War in time of Peace, enter into any Agreement or Compact with another State, or with a foreign Power, or engage in War, unless actually invaded, or in such imminent Danger as will not admit of delay.”*

ARTICLE I, SECTION 10, CLAUSE 3



**BEAR RIVER  
COMMISSION**

# Negotiations/ Studies



- Legal and Engineering Committees were formed
- Supported by USGS and Reclamation in studies
- Approved a rather comprehensive streamflow and data collection effort
- Prior Appropriations versus Equitable Apportionment? Based on acreage.
- Grant of additional storage above Bear Lake - not subject to UP&L storage rights in Bear Lake







Station Name	Station Number	Location	Notes
BEAR RIVER AT PESCADERO	1	Bennington	
STOUTTER CR. ABOVE DIVERSION	2	Bennington	
EMIGRATION CR. BEAR LIBERTY	3	Bennington	
NORTH CR. BELOW EMIG CR. NR. LIBERTY	4	Bennington	
MILL CR. NEAR LIBERTY	5	Bennington	
NORTH CR. AT LIBERTY BRIDGE	6	Bennington	
MONTPELIER	7	Montpelier	
MONTPELIER CR. BELOW DIV.	8	Montpelier	
BEAR RIVER AT STEWART DAM	9	Stewart Dam	
WARDBORO	10	Wardboro	
THOMAS F.K. NR. RAYMOND	11	Raymond	
BEAR RIVER AT HARER	12	Harer	
PARIS CR. NEAR PARIS	13	Paris	
PARIS POWER CANAL	14	Paris	
BLOOMINGTON CR. NR. BLOOMINGTON	15	Bloomington	
ST. CHARLES CR. ABOVE DIV.	16	St. Charles	
ST. CHARLES	17	St. Charles	
LITTLE CR. BELOW DIV.	18	St. Charles	
MUD LAKE AT LIFTON	19	Lifton	
BEAR LAKE AT LIFTON	20	Lifton	



**BEAR RIVER  
COMMISSION**  
COMMISSION

UNITED STATES GEOLOGICAL SURVEY  
WATER RESOURCES DIVISION  
BUREAU OF WATER RESOURCES  
BOULDER, COLORADO

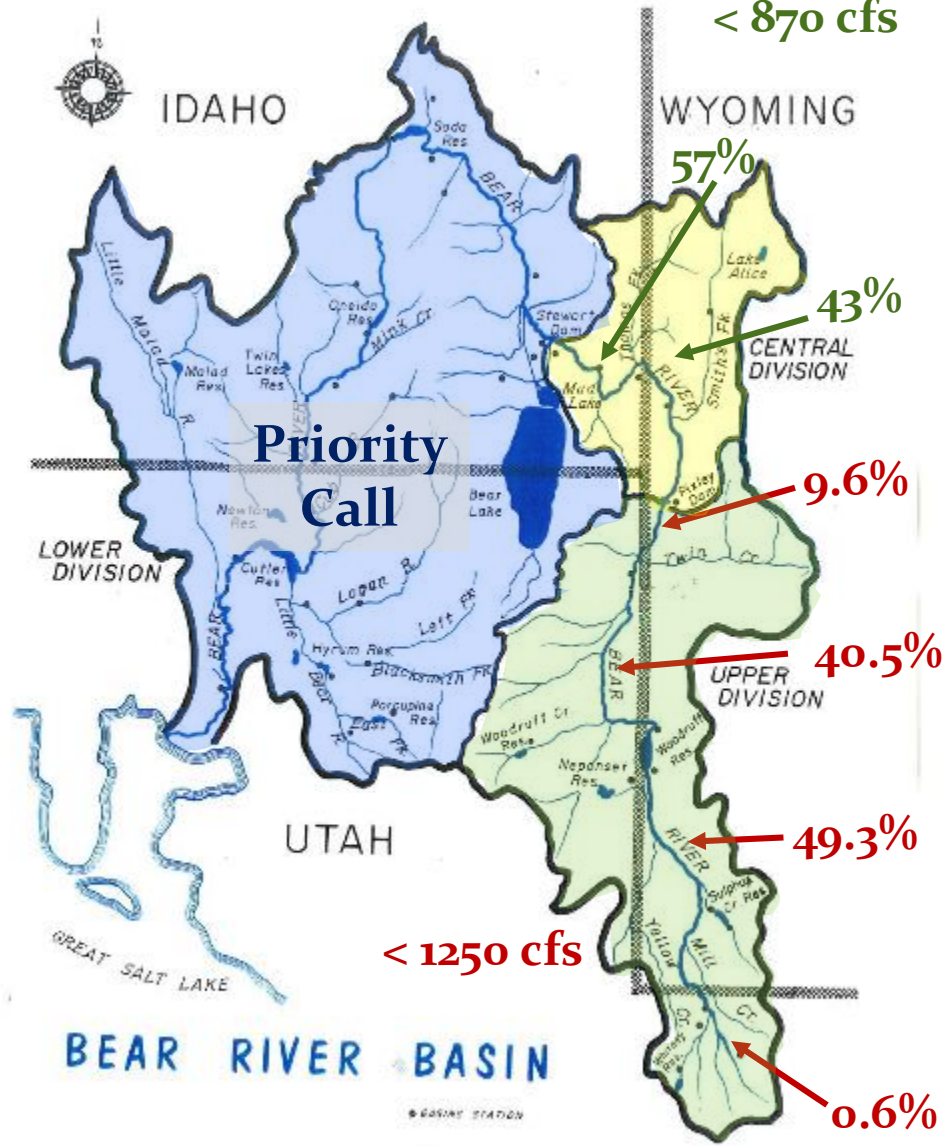


Canal	Appropriator	Adjudicated			Accum. c.f.s.	Planim. Acreage Served
		Priority	Acres	c.f.s.		
Bear	E. Barker, et al	8-24-04	4,177	59.56	59.56	
	C.E. Clark, et al	5-17-30	843	12.04	71.60	
	W. R. Lowham	11-14-30	40	.57	72.17	
	G. Barker	1-10-31	83.1	1.19	73.36	
	Totals		5,143.1			4,753
Tropic	J. W. Hatten	1889	150	2.14	2.14	
	S. F. Hatten	10-19-01	128	1.82	3.96	
	B. J. Atkinson	9-13-17	313.38	4.48	8.44	
	Totals		591.38			584
Danielson	C. G. Danielson	1-27-95	223	3.18	3.18	
	C. G. Danielson, Jr.	1-07	158	2.25	5.43	
	Totals		381			400
Pine Grove & Crown	R.M. Lewis, et al	10-5-90	680	9.69	9.69	
	R.M. Lewis, et al	10-13-90	1,023	14.61	24.30	
	C. A. Lannon	6-30-92	15	.21	24.51	
	J. L. Lewis	4-13-03	155	2.21	26.72	
	J. F. Spencer	1-6-08	401	5.73	32.45	
	Not adjudicated					85
Totals		2,274			2,235	
McGraw & Big Bend	J. A. McGraw	9-30-83	260	3.71	3.71	
	J. A. McGraw	7-12-97	315	4.50	8.21	
	A. McGraw	9-7-10	468	6.68	14.89	
	Totals		1,043			1,013
Homer	H. Homer	May 1886	65	.92	.92	107
Lewis	Myers L. & L.S. Co.	9-23-88	20	.28	.28	
	Crown L.S. Co.	10-4-88	360	5.14	5.42	
	T. F. Lewis	4-20-00	460	6.57	11.99	
	Not adjudicated					40
	Totals		840			822
Lewis & Blanchard	Crown L. & S. Co. & Rose Lewis	6-18-88	260	3.71	3.71	207
Myers #2	Myers L. & L.S. Co.	9-23-88	150	2.14	2.14	
	do	2-13-01	430	6.14	8.28	
	do	3-28-39	45	.64	8.92	
	Not adjudicated					58
	Totals		625			654



BEAR RIVER  
COMMISSION

< 350 cfs  
< 870 cfs



< 1250 cfs

### BEAR RIVER BASIN

● BASIN STATION



**BEAR RIVER  
COMMISSION**  
COMMISSION



Public Law 85-348

March 17, 1958  
(S. 1066)

Granting the consent of Congress to a Bear River Compact, and for related purposes.

AN ACT

Bear River Compact.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, The consent of Congress is hereby given to the Bear River Compact entered into by the States of Idaho, Utah, and Wyoming. The compact reads as follows:

“BEAR RIVER COMPACT

“The State of Idaho, the State of Utah, and the State of Wyoming, acting through their respective Commissioners after negotiations participated in by a representative of the United States of America appointed by the President, have agreed to a Bear River Compact as follows:

“ARTICLE I

“A. The major purposes of this Compact are to remove the causes of present and future controversy over the distribution and use of the waters of the Bear River; to provide for efficient use of water for multiple purposes; to permit additional development of the water resources of Bear River; and to promote interstate comity.  
“B. The physical and all other...

“ARTICLE I

“A. The major purposes of this Compact are to remove the causes of present and future controversy over the distribution and use of the waters of the Bear River; to provide for efficient use of water for multiple purposes; to permit additional development of the water resources of Bear River; and to promote interstate comity.

“6. ‘Upper Utah Section Diversions’ means the sum of all diversions in second-feet from the Bear River and the tributaries of the Bear River joining the Bear River upstream from the point where the Bear River crosses the Utah-Wyoming State line above Evanston, Wyoming; excluding the diversions by the Hilliard East Fork Canal, Lannon Canal, Lone Mountain Ditch, and Hilliard West Side Canal;  
“7. ‘Upper Wyoming Section Diversions’ means the sum of all diversions in second-feet from the Bear River main stem from the point where the Bear River crosses the Utah-Wyoming State line above Evanston, Wyoming, to the point where the Bear River crosses the Wyoming-Utah State line east of Woodruff, Utah, and including the diversions by the Hilliard East Fork Canal, Lannon Canal, Lone Mountain Ditch, and Hilliard West Side Canal;  
“8. ‘Lower Utah Section Diversions’ means the sum of all diversions in second-feet from the Bear River main stem from the point where



BEAR RIVER COMMISSION



# Original Compact (1958)

- Article I Purposes
- Article II Definitions
- Article III Creation of Bear River Commission
- Article IV Distribution of direct flow rights
- Article V Allocation of storage rights
- Articles VI - XVI



BEAR RIVER  
COMMISSION  
COMMISSION



# Bear River Commission

*“There is hereby created an interstate administrative agency to be known as the ‘Bear River Commission’ which...shall be composed of nine Commissioners, three Commissioners representing each signatory State, and if appointed by the President, one additional Commissioner representing the United States of America who shall serve as chairman, without vote. Each Commissioner, except the chairman, shall have one vote. The State Commissioners shall be selected in accordance with State law...”*

## *Article III*



BEAR RIVER  
COMMISSION  
COMMISSION



# Wyoming Commissioners



*“41-11-202. The Governor of Wyoming shall appoint and designate such commissioners as may be necessary to represent the State of Wyoming on all negotiated interstate compacts, unless the compacts by their terms otherwise provide. The Governor of Wyoming, at his option, may serve as a commissioner for Wyoming on any compact commission, if permitted under the terms of the compact. The Governor may remove any commissioner he appoints as provided in W.S. 9-1-202.”*



BEAR RIVER  
COMMISSION  
COMMISSION

# Utah Commissioners



*“73-16-4. There shall be three members of the Bear River Compact Commission from the State of Utah. One member shall be the Interstate Stream Commissioner of Utah and he shall be chairman of the Utah delegation. The other two Commissioners from Utah shall be appointed by the State Water and Power Board, with the consent of the Governor, and they shall hold office at the pleasure of the Water and Power Board and until their successors shall have been appointed and qualified. Each member shall be a bona fide resident of the State of Utah and one shall be a landowner and irrigator actually residing on and operating a farm within the Lower Division as defined by the Compact, and one shall be a landowner and irrigator actually residing on and operating a farm within the Upper Division as defined by the Compact.”*



**BEAR RIVER  
COMMISSION**

# Idaho Commissioners



- *“42-3501. Bear River Compact commissioners — Appointment. The governor of the state of Idaho is hereby authorized and directed to appoint three (3) commissioners to represent the state of Idaho on a joint commission to be composed of three (3) commissioners from each of the states of Idaho, Utah, and Wyoming and one (1) commissioner that may be appointed to represent the United States of America, the said joint commission to be constituted for the purpose of administration of the Bear River Compact.*
- 
- *42-3502. Qualifications of commissioners of Bear River Compact. — Two (2) of the commissioners shall be electors of the state of Idaho who are residents within the watershed of the Bear River in Idaho. One (1) commissioner may be the director of the department of water resources of the state of Idaho.*



# Commission Bylaws

- Standing Committees
  - Management Committee
  - Operations Committee
  - Records and Public Involvement Committee
  - Water Quality Committee
- It has also established a special Technical Advisory Committee
- Meetings





CENTRAL SMITH MARK SUPPLY

October

**BRC 1.4.1**  
DOC-REP-ANN-1  
1958 - Duplicate

**BRC 1.4.1**  
DOC-REP-ANN-2  
1959

**BRC 1.4.1**  
DOC-REP-ANN-3  
1960 - Duplicate

**BRC 1.4.1**  
DOC-REP-ANN-4  
1961 - Duplicate

**BRC 1.4.1**  
DOC-REP-ANN-5  
1962 - Duplicate

FIRST ANNUAL REPORT

SECOND ANNUAL REPORT

THIRD ANNUAL REPORT

FOURTH ANNUAL REPORT

FIFTH ANNUAL REPORT

BEAR RIVER COMMISSION

BEAR RIVER COMMISSION

BEAR RIVER COMMISSION

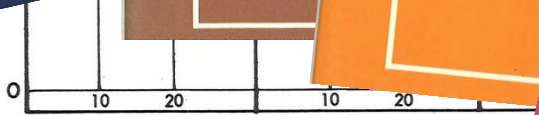
1962



For the Report-Year October 1, 1961 to  
September 30, 1962

LOGAN, UTAH

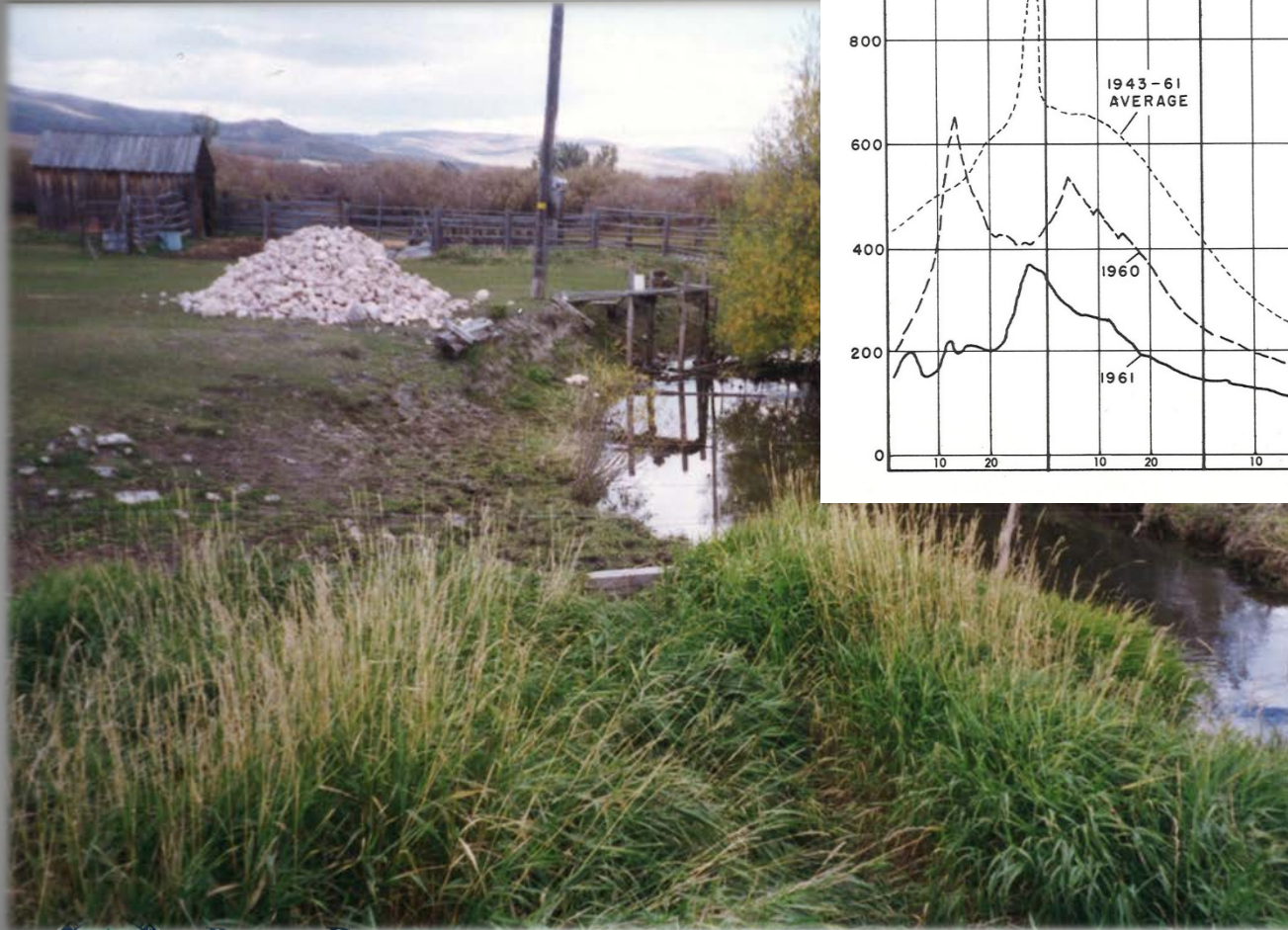
April 1, 1963



**BEAR RIVER COMMISSION**



# First Years



CENTRAL DIVISION - SMITHS FORK SUPPLY  
CUBIC FEET PER SECOND

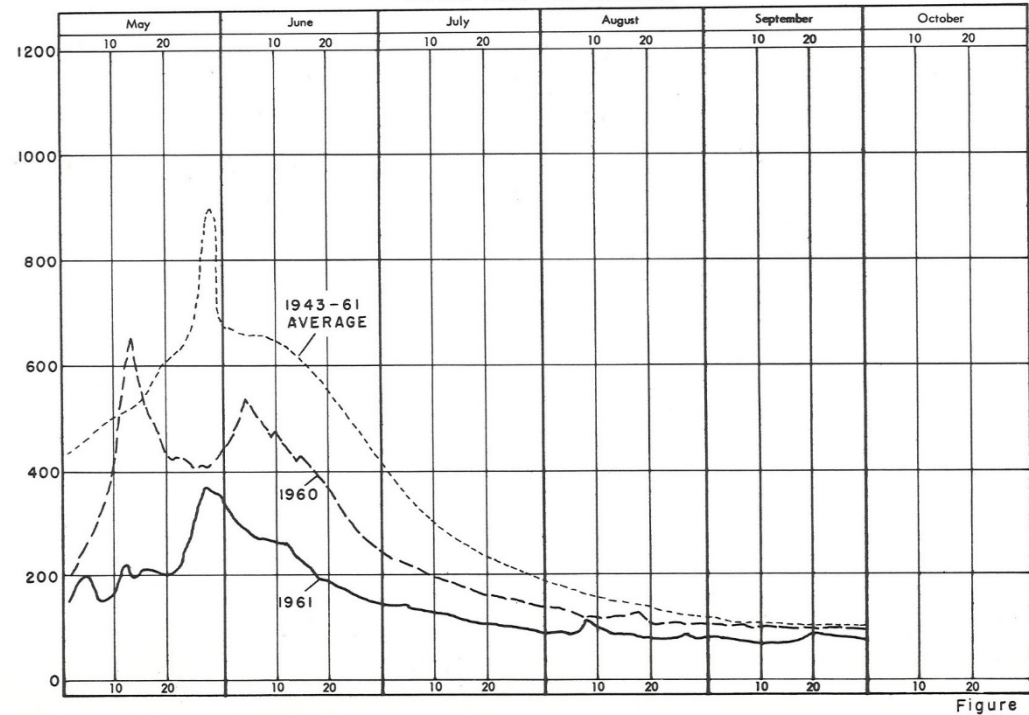


Figure 4



**BEAR RIVER  
COMMISSION**

# Amended Compact (1980)

- Race for Lower Division development?
  - Original Compact allocated too little additional storage above Bear Lake?
  - Unrestricted groundwater development?
  - Depletion limits?
- 
- Governors initiated discussions in 1967
  - Negotiations in earnest occurred b/ 1970-1976
  - Congress consented to the Amended Bear River Compact in 1980 – signed by President Carter



# Amended Compact (1980)

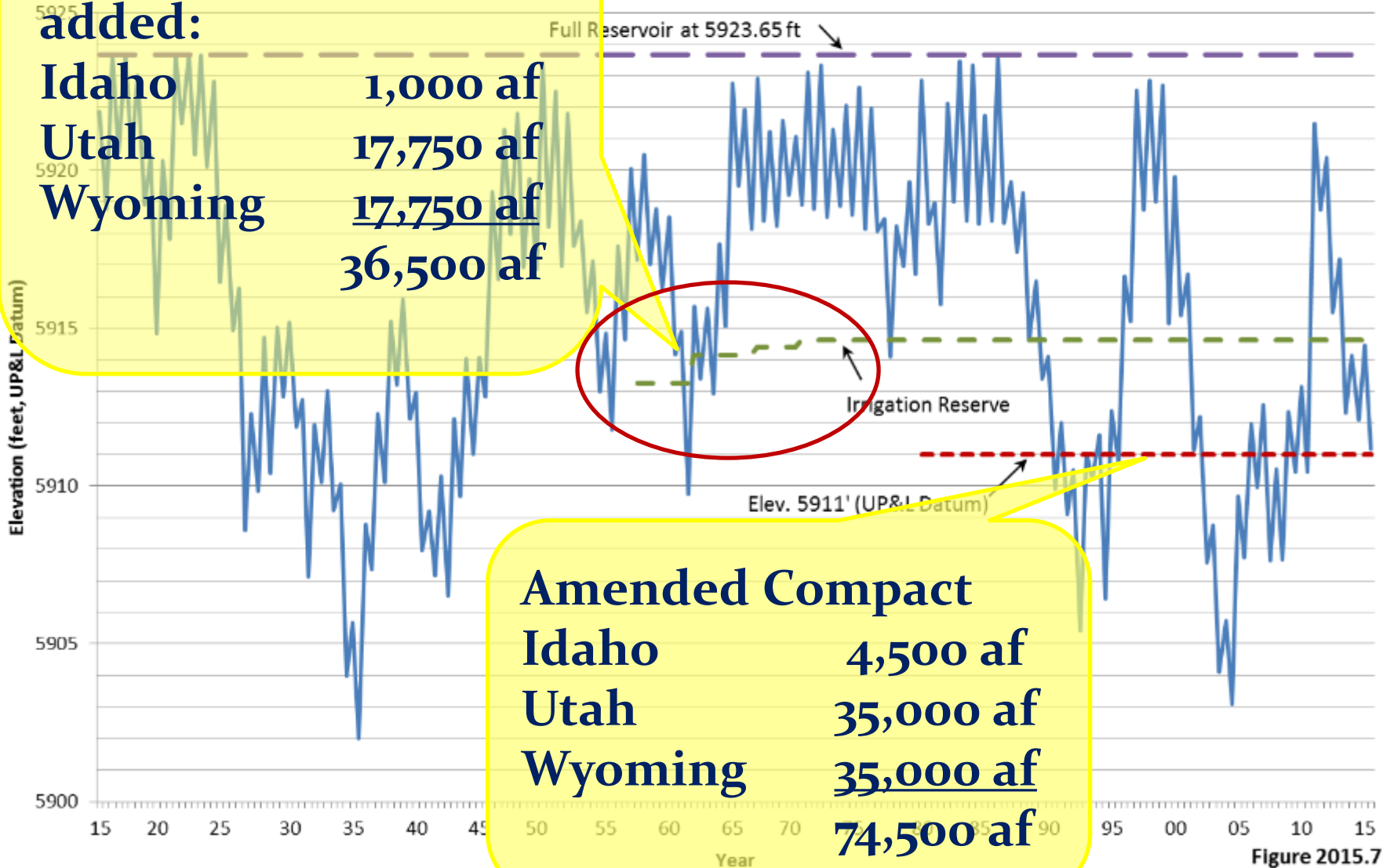
- Pre-1976 water development in Lower Division was recognized
- Additional rights to deplete were granted in the Lower Division:
  - Idaho – 125,000 af (first)
  - Utah – 275,000 af (second)
  - more
- Additional 74,500 af of storage above Bear Lake (5911 elevation limitation)
- This additional storage, plus groundwater development, was limited to an annual depletion of 28,000 af





# BEAR LAKE ELEVATION

Annual Maximum & Minimum Elevations



**Recognized existing,  
added:**

<b>Idaho</b>	<b>1,000 af</b>
<b>Utah</b>	<b>17,750 af</b>
<b>Wyoming</b>	<b><u>17,750 af</u></b>
	<b>36,500 af</b>

**Amended Compact**

<b>Idaho</b>	<b>4,500 af</b>
<b>Utah</b>	<b>35,000 af</b>
<b>Wyoming</b>	<b><u>35,000 af</u></b>
	<b>74,500 af</b>

Figure 2015.7

# Water Right Accounting Models

- Mid-1990s water shortages
- Idaho had a water right accounting model which distributed natural flow only to Idaho users
- Commission received a letter notifying it that a petition for interstate delivery might be sent
- Utah wanted to validate Idaho's model and extend it throughout the Lower Division, so they developed their own, but similar model
- Idaho extended its model to include Utah users





INTERSTATE - BEAR RIVER FLOW ACCOUNTING (VER 2.0.0) - Sep 1, 2016

20161007

REACH FLOWS IN CFS		ACTUAL DATE	NATURAL FLOW	ACTUAL FLOW	RMAINING NAT FLOW	POWER FLOW	STORED FLOW	RESRVOIR EVAP	NATURAL FLOW DIV	TOTAL RCH DIV	REACH GAIN	LAST RIGHT
1	2 BORDER TO HARER	* AUG 27	11.	0.	0.	0.	0.	0.	11.	11.	11.	18770407
2	3 HARER TO STEWART DAM	AUG 27	145.	2.	2.	0.	0.	0.	87.	87.	134.	18990912
3	14 DINGLE INLET	AUG 27	5.	5.	5.	0.	0.	0.	0.	0.	0.	18990912
4	13 RAINBOW INLET	AUG 27	40.	40.	40.	0.	0.	0.	0.	0.	0.	18990912
5	4 BEAR LAKE OUTLET	AUG 27	45.	1132.	45.	0.	1087.	0.	0.	0.	15.	18990912
6	5 STEWART DAM TO PESCADERO	* AUG 27	160.	1134.	62.	0.	1072.	0.	0.	0.	0.	18990912
7	6 PESCADERO TO SODA SPRNGS	AUG 28	393.	1360.	290.	0.	1071.	0.	6.	6.	233.	18990912
8	7 SODA TO ALEXANDER	AUG 28	396.	1368.	292.	0.	1076.	0.	0.	0.	3.	18990912
9	8 ALEXANDER TO GRACE	* AUG 28	411.	1063.	102.	0.	961.	0.	206.	305.	16.	18990912
10	9 GRACE TO COVE	* AUG 28	433.	1047.	87.	0.	960.	0.	37.	38.	22.	18990912
11	10 COVE TO ONEIDA	AUG 29	531.	1122.	185.	0.	937.	0.	0.	3.	98.	18990912
12	11 ONEIDA TO PRESTON	* AUG 30	517.	955.	100.	0.	856.	0.	71.	158.	-15.	18990912
13	12 PRESTON TO STATE LINE	AUG 30	495.	834.	78.	0.	756.	0.	0.	90.	-22.	18990912
14	16 STATE LINE TO COLLINSON	AUG 31	784.	40.	0.	0.	40.	0.	367.	1008.	289.	18990912
15	17 COLLINSON TO CORRINNE	SEP 1	907.	167.	123.	0.	45.	0.	0.	0.	123.	19920826

\* - INDICATES FLOW ESTIMATED, NOT MEASURED TOTALS 784. 1706. 907.

RESERVOIR	PREV CONT (AF)	CURR CONT (AF)	CHNG CONT (CFS)	ACCR STOR (CFS)	TOTL STOR (AF)	TOTL EV (AF)	PRIORITY	RESERVOIR	RIGHT (AF)	STORED (AF)
1 BEAR LAKE	598335.0	594428.0	-1969.8	0.0	1421000.0	0.0	1	BEAR LAKE	1421000.0	1421000.0
2 SODA	13409.0	13399.0	-5.0	0.0	0.0	0.0	2	SODA	0.0	0.0
3 ONEIDA	10496.0	10492.0	-2.0	0.0	0.0	0.0	3	ONEIDA	0.0	0.0
4 CUTLER	8773.5	8917.0	72.3	0.0	0.0	0.0	4	CUTLER	75000.0	0.0
TOTAL	631013.5	627236.0	-1904.5	0.0	1421000.0	0.0		TOTAL	1421000.0	1421000.0

TOTAL EARLY SEASON FILL - 0.0

CHANGE IN STORAGE CUTLER BEAR L HYDRO STORED CONTENT USED STORED STORED LOSSES

YEAR-TO-DATE AF -186260.8 120052.4 6820.8 0.0 4297.4 4926.1

DIVERSION	CFS DIVN	CFS STOR	AF USED	AF RMNG	DIVERSION	CFS DIVN	CFS STOR	AF USED	AF RMNG	DIVERSION	CFS DIVN	CFS STOR	AF USED	AF RMNG
1 MILLER	4	0	0	0	63 MUNK #1	0	0	180	-180	125 LEE REESE #2	0	0	0	0
2 RIGBY	0	0	3	-3	64 PAUL THAIN (6)	0	0	199	-199	126 TOM REESE	0	0	0	0
3 NUFFER	7	0	0	0	65 MUNK, TARBET, FISC	0	0	0	0	127 LEE REESE #3	0	0	52	-52
4 SORENSEN	0	0	0	0	66 REESE-BALLARD PU	0	0	99	-99	128 DARRELL KUNZLER	0	0	0	0
5 Ure North Hills	0	0	0	0	67 JOHN ALLEN	2	2	211	-211	129 GORDON RICKS #1	0	0	0	0
6 WILLIAMSON	0	0	0	0	68 BALLARD PUMP	0	0	0	0	130 HYER-JORGENSEN	0	0	46	-46
7 J SMITH	0	0	0	0	69 LANDELL BALLARD	0	0	0	0	131 WILLIAM HARRIS	0	0	0	0
8 DINGLE	22	0	0	0	70 BENSON-BEAR L IR	6	6	517	-517	132 SKIDMORE	1	1	90	-90
9 REAM-CROCKETT	2	0	5	-5	71 LEE JOHNSON	0	0	36	-36	133 H ANDERSON	0	0	84	-84
10 BLACK OTTER	13	0	0	0	72 W D JOHNSON	1	1	127	-127	134 GORDON WEBB	0	0	16	-16
11 PRESTON-MONTEPELI	45	0	0	0	73 JIM WATTERSON	1	1	78	-78	135 RUDY SERRANO	0	0	0	0
12 KEETCH (LAROCO-	0	0	0	0	74 SAM HILTON	0	0	10	-10	136 W D C I	1	1	12	-12
13 F KEETCH	0	0	0	0	75 KING IRR CO	0	0	371	-371	137 GEDDES #1	0	0	0	0
14 PUGMIRE	0	0	0	0	76 BUTTARS, ROCKBOTT	0	0	0	0	138 GEDDES #2	0	0	60	-60
15 WEST FORK	5	0	22	-22	77 SIMMONDS-CHAMBER	0	0	86	-86	139 PIERSON	0	0	0	0
16 D Stewart	0	0	0	0	78 LARRY PITCHER #1	0	0	13	-13	140 HOBBS	0	0	0	0
17 *HARDCASTLE	0	0	0	62	79 LARRY FALSEV #1	0	0	3	-3	141 GARY ALLEN	0	0	0	0
18 *L STEVENS	0	0	0	222	80 LARRY FALSEV #2	0	0	58	-58	142 RICKS PUMP	0	0	0	0
19 CHARLES KUNZ	0	0	0	0	81 RULON FALSEV	1	1	50	-50	143 GORDON RICKS #2	0	0	0	0
20 S & R KUNZ	0	0	14	-14	82 HILL IRRIG	1	1	106	-106	144 FERRY PUMP	0	0	28	-28
21 D KUNZ	0	0	0	0	83 SMTHPLD W BENCH	0	0	46	-46	145 LEE REESE #3	0	0	0	0
22 PAUL KUNZ #1	0	0	71	-71	84 MATHER	0	0	70	-70	146 PACIFICORP	0	0	0	0
23 PAUL KUNZ #2	0	0	94	-94	85 COE LARKIN	0	0	18	-18	147 BOYD LARSEN	0	0	0	0
24 ALLEMAN	0	0	0	0	86 MARCHANT	2	2	118	-118	148 GENE LARSEN	0	0	0	0

# "Law of the River"

U. S. GEOLOGICAL SURVEY  
P. O. BOX 1000  
LOGAN, UT 84301

9-13-28-1000

**CERTIFICATE**

APPLICATION NO. 10527

the State of Utah, that the appropriation of water by..... U. S. DEPARTMENT OF THE INTERIOR therefor, received in the office of the State Engineer of the record of applications to appropriate water in the State of Utah, under and by authority and direction of..... U. S. DEPARTMENT OF AGRICULTURE use of..... 1,000 c.f.s. of

The water is diverted from 35, T. 9 N., R. 4 W. (b) S. 54 of the SE cor. of Sec. 30, r. 9 N. equipped with steel radial gates aggregating 105000 ft. long, vclusive of each year to flood the Sec. 7, WSW 1/4 Sec. 16, Secs. 17 to Secs. 1 to 16 inclusive, r. 8 N. food and to provide physical cover to provide a refuge, feeding and by natural evaporation is returned

The date of priority of this right is.....

In Witness Whereof

Public Law 88-100  
March 17, 1968  
B. 1244

Granting the Commission

Re it enacted that the Congress is hereby the States of follows:

"The State acting through appointed in follows:

"A. The of present the waters multiple resources

"B. The River cor or proceed to be esta

"As in "1. B. source in "2. "1 source version North, "4. Pixley tion 34 Idaho "5. State tribut "6. in sec River River ming Lau "7. dive post abo the the Mo in

AMENDED BEAR LAKE SETTLEMENT AGREEMENT

THIS AMENDED AND RESTATED (the "Agreement") is made and entered into between LAST CHANCE CANAL COMPANY, WEST CACHE IRRIGATION COMPANY, BEAR RIVER WATER USERS AS "Company Irrigators"; and BEAR LAKE INTEREST TO JIM KIMBAL, EMERALD INTEREST TO collectively as the "Bear Lake Group" referred to herein individually as a "Party"

A. WHEREAS, PacifiCorp Idaho (Utah Power & Light Company No. 203, July 14, 1920) and the Kin Richmond Irrigation Company, et al., storage in the top 21.65 feet of Bear 1 manage and release the same for irrigation generation incidental to releases for irrigation and for other beneficial uses; and

B. WHEREAS, the Company diverting water from Bear River under the ("Small Irrigators") hold contract has historically been applied to be 157,000 acres in Idaho and Utah (the

C. WHEREAS, the Parties consist of property owners around Bear Lake for recreation, aesthetic and other purposes

D. WHEREAS, the Parties entitled "Bear Lake Settlement Agreement"; and

E. WHEREAS, the Parties unincorporated associations of Association" and the "Utah Pump Associations are referred to in this Agreement

F. WHEREAS, as set forth have pursued with the states of Idaho single interstate model and mode

**RECITALS**

A. PacifiCorp operates hydroelectric plants on the Bear River and holds water rights in the Bear River and Bear Lake (such hydroelectric plants and water rights referred to herein as "Bear River System"). PacifiCorp's water rights in the Bear River System are subject to the Amended Bear River Compact among the States of Idaho, Utah and Wyoming, as well as the laws of the three States, and other obligations.

B. PacifiCorp and ScottishPower are parties to a merger transaction that is currently the subject of approval proceedings before the public utility commissions in the States of Idaho, Utah and Wyoming.

C. The Parties recognize the need to assure the public utility commissions of the three States that PacifiCorp's merger with ScottishPower will not affect the operation of the Bear River System or PacifiCorp's ownership or exercise of its Bear River water rights.

D. By this Agreement, PacifiCorp and ScottishPower intend to assure the States of Idaho, Utah and Wyoming that PacifiCorp or ScottishPower will not make any separate agreement with any State individually regarding PacifiCorp's or ScottishPower's water rights in the Bear River System.

**NOW, THEREFORE, IT IS HEREBY AGREED BY THE PARTIES AS FOLLOWS:**

1. Both ScottishPower and PacifiCorp agree that:

a. PacifiCorp's water rights are constrained by the historic practice of not making a delivery call for hydropower generation; and

b. Bear Lake is operated, consistent with long-standing historic practice and applicable laws, primarily as a storage reservoir to satisfy

Page 1 of 5



**BEAR RIVER COMMISSION**



# Article XIV: 20-Year Review

*“At intervals not exceeding twenty years, the Commission shall review the provisions hereof, and after notice and public hearing, may propose amendments to any such provision, provided, however, that the provisions contained herein shall remain in full force and effect until such proposed amendments have been ratified by the legislatures of the signatory States and consented to by Congress.”*

*Article XIV*



BEAR RIVER  
COMMISSION  
COMMISSION



# 1997 Review

## Findings Concerning the Need for Compact Revision

### A Report of the Bear River Commission

This report is made as a part of the  
twenty-year review effort  
provided for by Article XIV  
of the  
Amended Bear River Compact

November 18, 1997



BEAR RIVER  
COMMISSION  
COMMISSION

# 1997 Review

## RESOLUTION OF THE BEAR RIVER COMMISSION

The Bear River Commission, on this 18th day of November, 1997, enters into this resolution concerning the required Compact twenty-year review as to the need for revision of the Bear River Compact as Amended. A year and a half ago, the Commission directed the review process, as required under Article XIV of the Compact, be commenced. Public hearings (4) were held, a special Commission committee reported its findings, the Management Committee reviewed comments received and the authorities identified within the Compact. The Management Committee gave guidance to the Engineer-Manager asking him to seek advice from the Technical Advisory Committee (TAC) and to prepare a draft report. The report findings are accepted by the Commission and the report is being finalized. The Commission hereby finds:

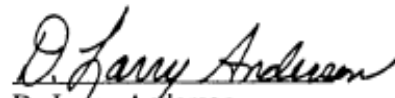
- 1) that there is no present need to amend the Compact
- 2) that the Commission shall create a Water Quality Committee, and
- 3) that the Commission shall add public involvement to the function of the Records Committee.

The Commission finds that it has appropriately conducted and completed the required Compact review.



Denise Wheeler  
Federal Chair

12-3-97  
Date



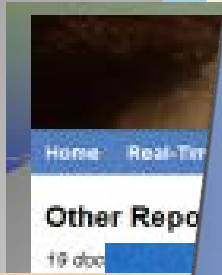
D. Larry Anderson  
BRC Secretary/Treasurer

12-15-97  
Date



BEAR RIVER  
COMMISSION  
COMMISSION

# Symposiums and Tours



16





# Water Quality Committee

The functions of the Water Quality Committee would be: 1) to coordinate priorities, activities, funding and standards; 2) to provide water quality input to the Commission; 3) to provide a forum for local water quality groups to interact with the Commission through the committee as an easy place to come and talk to all three states in one spot; and 4) to support coordinated local watershed management planning. The membership of the committee would include the three state DEQ leads. The committee would liberally invite other interested groups to participate on a routine basis with the committee. The Bear River Water Quality Task Force and other local watershed management groups are examples of groups to be invited on a routine basis. The chairmanship for the committee would be rotated. The committee would meet at least twice a year in conjunction with the Commission meetings but would meet at other times as necessary. Chair Wheeler asked who would be paying for the expenses of the committee. Ostler indicated that the committee would like a member of the Commission staff to attend the Water Quality Committee meetings and help with agendas and summaries of the meetings. Other expenses would be covered by the three individual states. Larry Anderson expressed the appreciation of the Commission for the willingness of the three state DEQ leads to serve on this committee.



# Water Quality Committee



**BEAR RIVER  
COMMISSION**

## Bear River Tri-State Water Quality Monitoring



### 2006-2011 Data Summary

Idaho Department of Environmental Quality  
Pocatello Regional Office  
444 Hospital Way #300  
Pocatello, ID 83201



# Real-Time Gage Data



**BEAR RIVER  
COMMISSION**

# Real-Time Gage D



## BEAR RIVER COMMISSION



Home Real-Time Data Documents Meeting Notices

### Welcome to the Bear River Commission's Website

The Bear River Commission was created in 1958 pursuant to the Compact between Idaho, Utah and Wyoming. The Commission is composed of nine commissioners, three from each state, as well as a Federal Commissioner appointed by the President. The Commission is to carry out the provisions of the Bear River Compact.

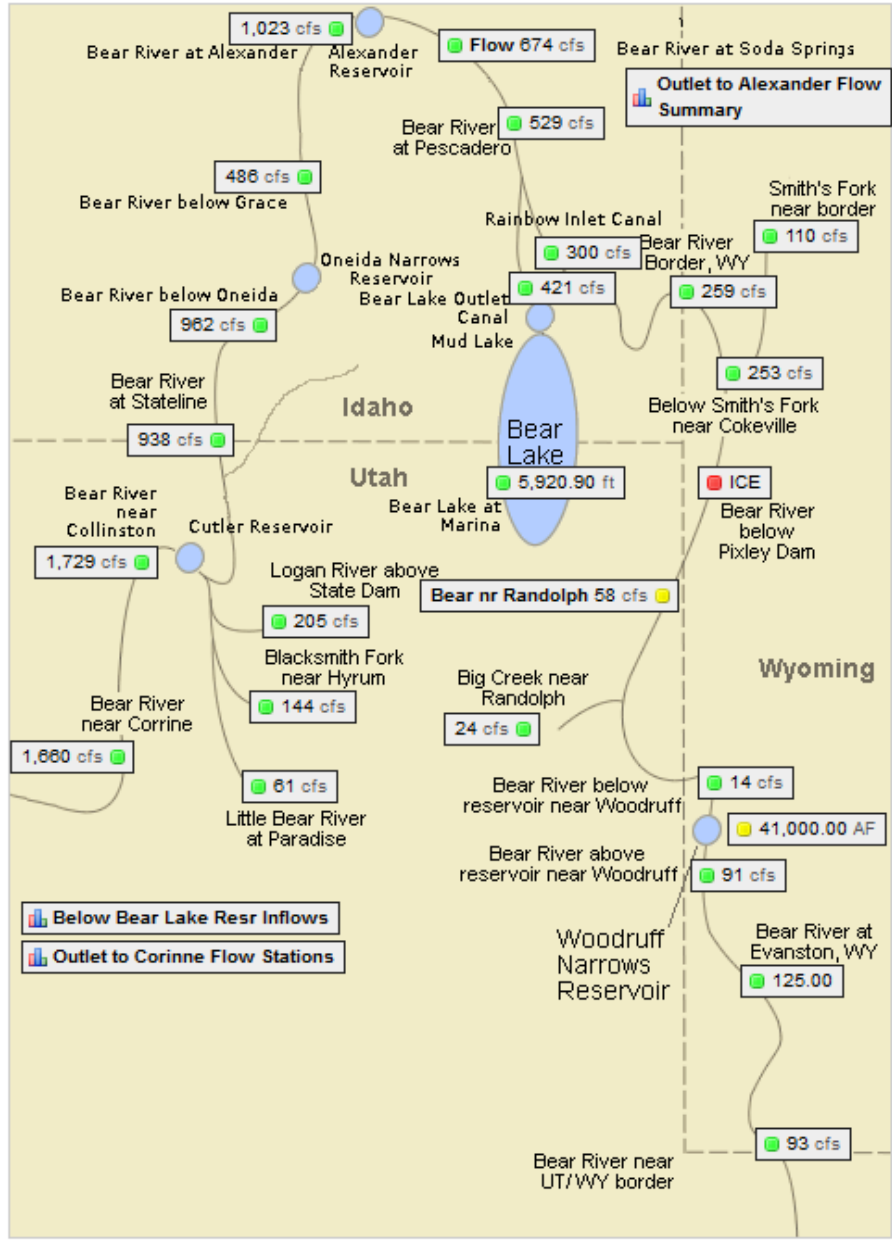
*“The Major purposes of this Compact are to remove the controversy over the distribution and use of the waters of the Bear River; to permit additional development of the waters of the Bear River; to promote interstate comity; and to accomplish the equitable distribution of the waters of the Bear River among the compacting States.”*

The purposes of this web page are to provide information regarding the river and to provide links to the information repository for key documents and to provide links to the information regarding the river.

### Announcements and Items of Interest

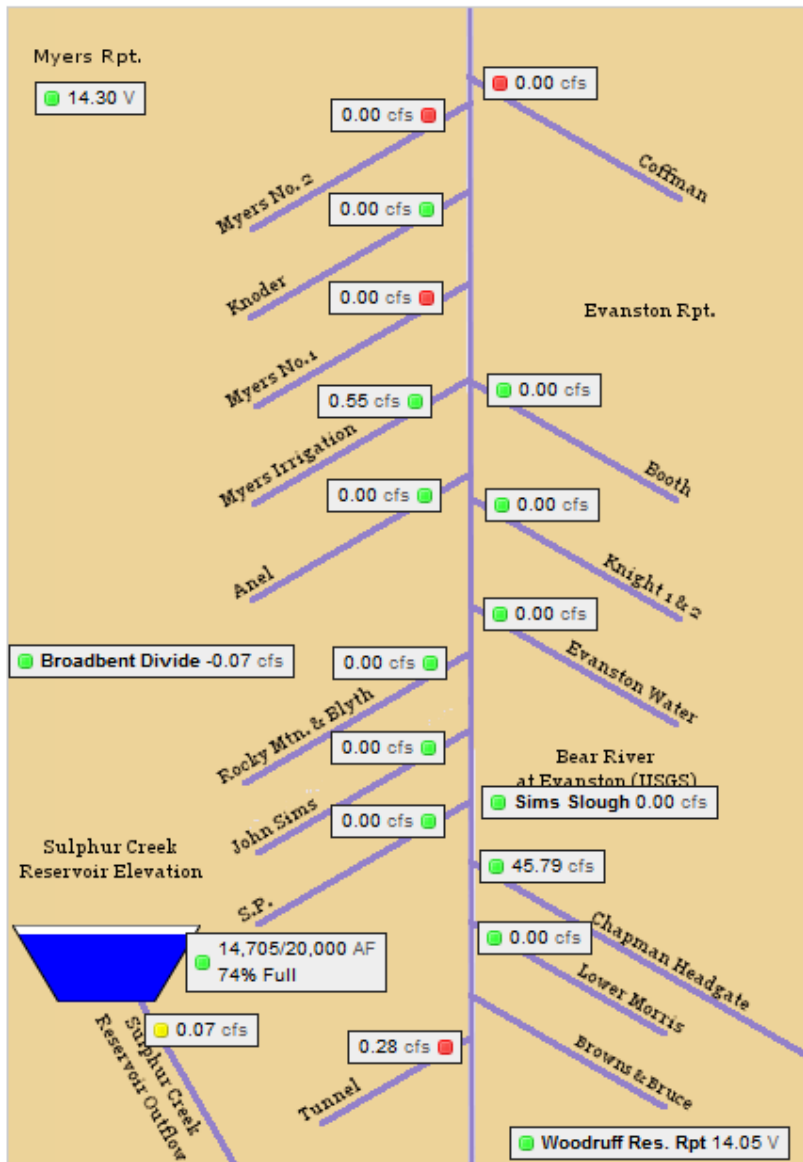


## Rivers



# Rivers

## Lower Evanston

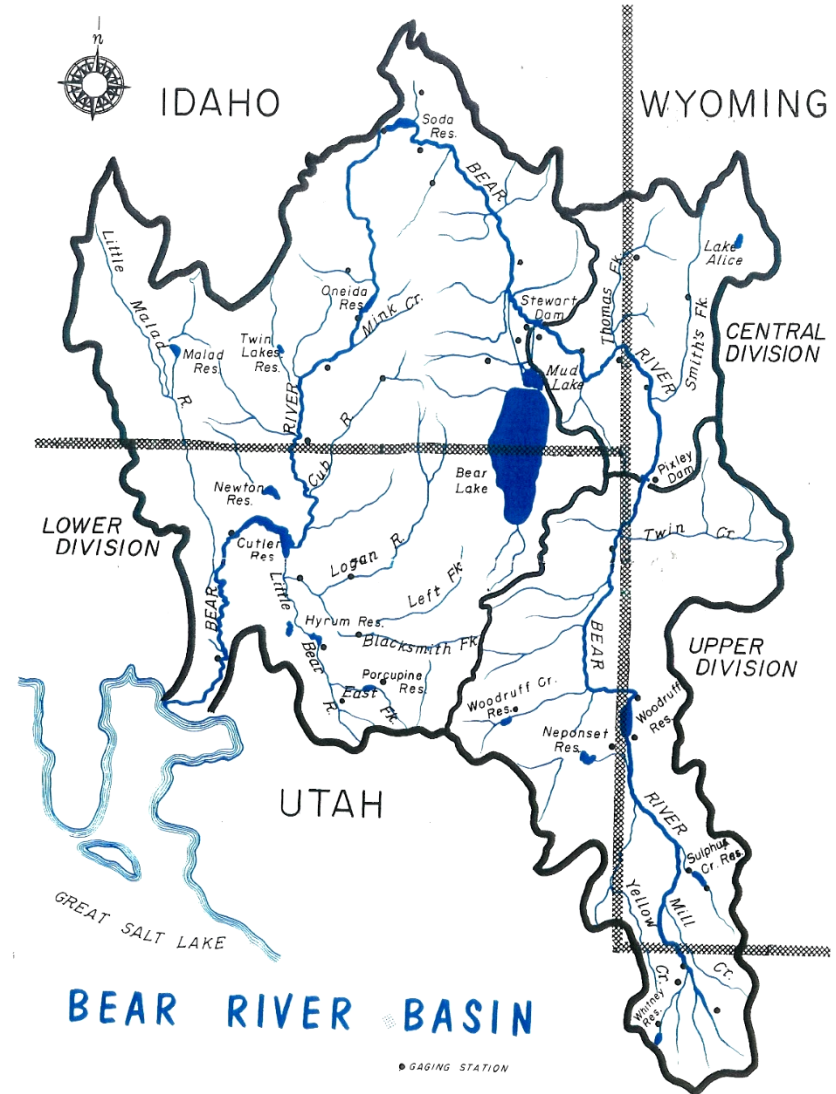


Sensor	Last 7 Days	Last Reading	Value
<a href="#">Sulphur Creek Outflow</a> Water Flow		11/02/2017 12:00PM MDT	0.07cfs
<a href="#">Coffman</a> Hourly Avg. Water Flow		10/08/2017 06:00PM MDT	0.00cfs
<a href="#">Myers 2</a> Water Flow		10/08/2017 06:00PM MDT	0.00cfs
<a href="#">Knoder</a> Water Flow		11/02/2017 03:00PM MDT	0.00cfs
<a href="#">Myers 1</a> Water Flow		10/25/2017 07:00PM MDT	0.00cfs
<a href="#">Myers Irr.</a> Water Flow		11/02/2017 03:00PM MDT	0.55cfs
<a href="#">Booth Evanston</a> Water Flow		11/02/2017 03:00PM MDT	0.00cfs
<a href="#">Anel</a> Water Flow		11/02/2017 03:00PM MDT	0.00cfs
<a href="#">Knight 1 and 2</a> Water Flow		11/02/2017 03:00PM MDT	0.00cfs
<a href="#">Evanston Water</a> Water Flow		11/02/2017 03:00PM MDT	0.00cfs
<a href="#">Rocky Mountain &amp; Blythe</a> Water Flow		11/02/2017 03:01PM MDT	0.00cfs
<a href="#">Sims Creek</a> Water Flow		11/02/2017 04:00PM MDT	0.00cfs
<a href="#">John Sims</a> Water Flow		11/02/2017 03:00PM MDT	0.00cfs
<a href="#">Ramsey SP</a> Water Flow		11/02/2017 03:00PM MDT	0.00cfs
<a href="#">Chapman Headgate</a> CFS		11/02/2017 03:00PM MDT	45.79cfs



# Bear River Hydrology

- 500 miles/90 miles
- Largest river in North America that does not flow to an ocean
- Annual supply of about 1.8M af
- About 850,000 af discharges to the Great Salt Lake

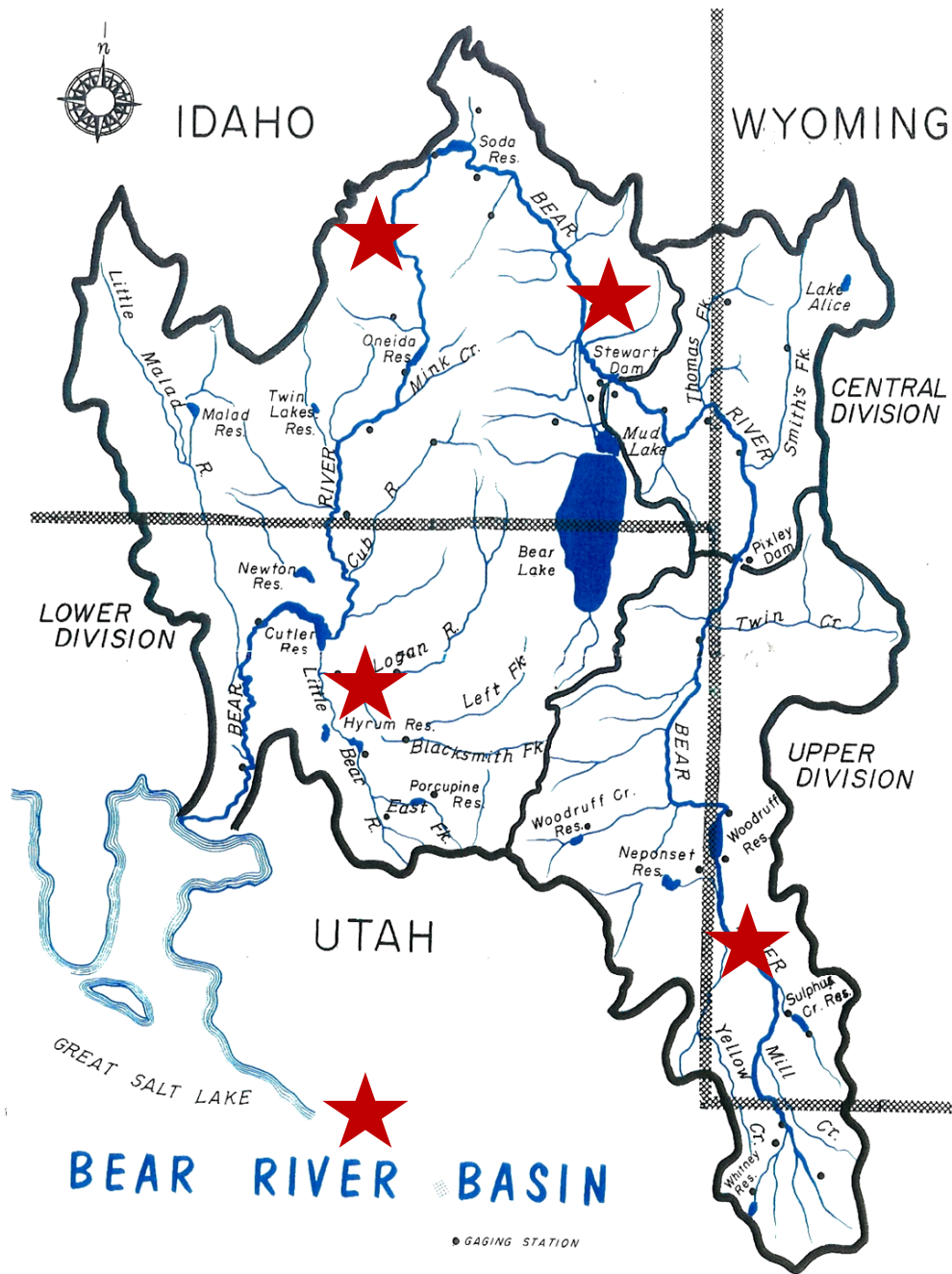


# Compact Review/ Amendment History

- March 17, 1958 – President Eisenhower signed the original Compact
- Early 1970s – The states began reviewing the Compact and negotiating proposed revisions
- Spring 1979 – State legislatures approved the Amended Compact
- February 8, 1980 – President Carter signed the congressional consent bill
- April 16, 1996 – The Commission formally determined to begin the 20-year review process
- November 18, 1997 – The Commission formally, by resolution, concluded its review of the Compact.
- April 18, 2017 – The Commission formally determined to begin a new 20-year review process



# Location of Public Meetings



**BEAR RIVER  
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COMMISSION

● GAGING STATION

# 20-Year Review Public Comments (2017)

## 20-Year Compact Review - Schedule of Public Meetings

Location	Date/Time	Address
Evanston, Wyoming	Tuesday, October 3, 7:00 p.m.	Uinta County Library 701 Main Street Evanston, WY 82930
Logan, Utah	Tuesday, October 10, 7:00 p.m.	Cache County Courthouse 199 North Main Street Logan, UT 84321
Grace, Idaho	Wednesday, October 11, 7:00 p.m.	Grace American Legion Hall 105 North 1 <sup>st</sup> West (corner of 1st N and 1st W) Grace, ID 83241
Montpelier, Idaho	Thursday, October 12, 7:00 p.m.	Oregon/California Trail Center 320 North 4 <sup>th</sup> Street Montpelier, ID 83254
Salt Lake City, Utah	Thursday, November 2, 7:00 p.m.	Utah DNR Building 1594 W. North Temple Street Salt Lake City, UT 84116



# Written Public Comments

In order to be considered timely, all written comments must be received at the Commission's office by **5:00 p.m. on Monday, December 4, 2017**. Written comments should be addressed to:

Bear River Commission  
RE: 20-Year Compact Review  
106 West 500 South, Suite 101  
Bountiful, Utah 84010

Or via email to:

[review@bearrivercommission.org](mailto:review@bearrivercommission.org)



BEAR RIVER  
COMMISSION



# Contacts

## Idaho

Jeff Peppersack

208-287-4948

jeff.peppersack@  
idwr.idaho.gov

## Utah

Todd Adams

801-538-7272

toddadams@  
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## Wyoming

Beth Callaway

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beth.callaway@  
wyo.gov

## Commission

Don Barnett

801-292-4662

review@bearriver  
commission.org



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# Amending the Compact

- Study
- Permission from Congress
- States formally negotiate
- Public hearings
- Signed by State negotiators
- Sent to three States' Legislatures
- Signed into law by three States' Governors
- Sent to US Congress/hearings/bill
- Sign by President



BEAR RIVER  
COMMISSION



Any  
questions?



BEAR RIVER  
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**APPENDIX D**

Summaries of Public Meetings





**Bear River Commission**  
**Bear River Compact 20-Year Review Public Meeting Notes**  
**Evanston, Wyoming**  
**October 3, 2017**

The Evanston 20-Year Compact Review meeting was called to order at 7:00 PM by Patrick Tyrrell, Wyoming Commissioner and Wyoming State Engineer. Mr. Tyrrell gave a brief overview of what to expect from the public meeting. He introduced Wyoming Commissioners Adrian Hunolt and Tim Teichert as well as Don Barnett, Engineer-Manager for the Bear River Commission. Introductions also included support staff from the Wyoming State Engineer's Office present to assist with the meeting: Kevin Payne, Mike Johnson, Beth Callaway, and Ethan Overton. Others present and introduced to the audience were Utah Commissioner Blair Francis, former Bear River Commission Federal Chair Denise Wheeler, and current Bear River Commission Federal Chair Jody Williams.

Mr. Tyrrell then turned the meeting over to Mr. Barnett who gave a PowerPoint presentation with information about the Compact, its creation and background, major provisions, the reason for Compact review, and the overall purpose for the public meeting. Several audience members asked clarifying questions at the end of the presentation. These questions covered the following topics: 1) how Wyoming's Central Division flow apportionment was calculated when considering interstate canals, 2) how Compact depletions account for downstream water use changes, such as changes from irrigation to municipal uses in Utah, and 3) clarification about Compact provisions relative to power plant water use and downstream irrigation.

Following the presentation, Mr. Tyrrell opened up the floor for public comment. Thirty-five people signed in for the meeting, however none indicated a request to formally provide oral comments. As a result, Mr. Tyrrell invited informal discussion from the audience to which several people responded and one written comment card was submitted.

Topics from the informal discussion are summarized below. Overall, the general response was that the Compact seems to function well in Wyoming as-is. Several audience members indicated that they would like to know what topics would be covered by others before speaking and therefore preferred not to provide oral comments at this time. They were encouraged to consider attending the public meetings in Utah and Idaho and/or provide written comments at a later time, if interested.

At the close of the discussion, Mr. Tyrrell reminded meeting attendees that written comments are still being accepted and should be submitted to the Commission by December 4, 2017 at 5:00 PM. With no further comments or questions, the meeting adjourned at 8:05 PM.

Summary of Informal Discussion Commentary

*Brent Barker, Bear Canal Ditch Company from Evanston*

After inquiring about opportunities to review other comments during the public comment period, Mr. Barker stated that he thinks the Compact works very well.

*Dan Lunsford from Evanston*

Mr. Lunsford inquired about whether there are likely to be any proposed changes to the Compact, to which Mr. Tyrrell responded that he was not aware of any at this time. Mr. Lunsford followed up to speculate if changes may occur to the Compact to accommodate an increase in recreational interests on the Bear River. Mr. Tyrrell responded that amending the Compact is possible but emphasized that doing so would be subject to the basic tenets of State of Wyoming and federal water law. Ms. Wheeler followed up to reiterate that all three states party to the Compact would need to agree to such changes.

## **Bear River Compact Review**

Charles Holmgren (a Bear River Commissioner from Utah) conducted the Bear River Compact Review meeting. He opened the meeting with an introduction of the representatives from the Bear River Commission who were present which included: Eric Millis, Charles Holmgren and Blair Francis, Bear River Commissioners from Utah, as well as Curtis Stoddard, a Commissioner from Idaho, and Jody Williams, the Federal Commissioner and the Commission's Chair. He then outlined the purpose for the meeting and the 20-year review of the Compact. He indicated that the Bear River Commission is seeking public comment on whether or not the Bear River Compact should be amended. Comments will be compiled and will be reviewed to determine if amendments are necessary. The meeting will be recorded and summarized and available online.

Following the introductions, time was turned over to Don Barnett, the Bear River Commission's Engineer-Manager. Mr. Barnett gave a PowerPoint presentation which provided detail on the Commission, the Compact, its creation and history, major provisions, the reason for the Compact review as well as what is involved in amending a compact. Following his presentation he answered questions from the attendees which included:

- Why was Pixley Dam chosen as the divide by the Upper and Central Divisions?
- Result of formation of water quality committee: Have any recommendations been made that should be addressed in this review?
- Is there a TMDL for Bear Lake? No.

After answering questions Mr. Barnett reiterated the request that people provide written comments to the Commission, including those who would provide oral comments this evening.

### Public Comments

After Mr. Barnett's presentation, Commissioner Holmgren requested that those who had indicated a desire to make oral comments come forward and address the group. He also invited any who had not signed up but who now desired to make oral comments to do likewise.

### Summary of Oral Comments:

**Name:** Wes Thompson

**City:** Smithfield, UT

**Affiliation:** Professional geologist, landowner near Bear Lake (Garden City) Vice President of Cottonwood Cove HOA, also Ad Hoc Bear Lake Shore Lane Commission, grass roots for property owners to share information about what's going on.

**Comments:** Mr. Thompson had some water quality specific questions including: What is the trend this year? How many locations are being monitored at the lake? What did the turbidity do to the water in the lake this year? What is the impact of that? Did it impact the fisheries? Suspended sediment: how is it being distributed and how is it affecting the lake?

Concerned about the lake trends. Showed trends in water levels and showed that they are going down.

He also asked why water is going out of the lake in October, indicating that 400 CFS is being released. He referred to a graph which showed the Bear Lake water level trend from 2012. He indicated that water was released at 700 CFS between Oct-Jan and that is water that could have been kept in the lake. Is there a way to modify the water flow?

He also showed a graph of Pixley West Canal indicating water starts coming out of the canal in March at 25 CFS and wondered if agricultural water needed in some areas during wet years or can the water be saved? He indicated that Woodruff Narrows Reservoir fills up almost every year and in 4 out of the last 5 years it has ended the year higher than it began. He noted that this is just opposite of the Bear Lake trend and wondered if that could be another storage place? He indicated that four endemic fish are in Bear Lake and if the lake lowers too much it could be hammered by endangered species issues.

**Name:** Carly Burton

**Affiliation:** Executive Director, Bear River Water Users Association.

**City:** West Jordan, UT

**Comments:** In behalf of the collection of Bear River water users, Mr. Burton indicated that the Compact and revised Compact have served the water users of the Bear River well. He indicated that the Bear River system, including the Commission, has made huge strides over the years. Data gathered has made the river operate incredibly well. The Bear River water users are against any amendments at this time which may create some issues that are not even known of now. "If it's not broke, don't fix it." He indicated that they will also submit written comments.

**Name:** Jim Waterson

**City:** Benson, UT

**Affiliation:** Lower Bear River Utah Water Commissioner and Utah Small Irrigators Association

**Comments:** Mr. Watterson indicated that since serving as the river commissioner he has found that the system works really well with really good results with water users up and down the river. He believes that no amendments should be made to the Compact at this time.

**Name:** Mark Matthews

**City:** Grace, ID

**Affiliation:** Last Chance Canal Company

**Comments:** Mr. Matthews seconded the comments of Mr. Burton. He believes that nothing should be changed at this time. They are constantly updating their irrigation systems to make their systems as efficient as possible to conserve water. They are opposed to opening the Compact for review.

**Name:** Darren Pugmire

**City:** Bear Lake/Garden City, UT

**Affiliation:** Garden City Town Council, Bear Lake property owner and business owner

**Comments:** Mr. Pugmire indicated that the Compact needs to be amended but was not yet in a position to indicate how. He will study it before submitting written comments. He raised an issue that Bear Lake is a natural lake, but it is treated like it is a reservoir and he is concerned about lake levels. He wondered about not diverting Bear River water into Bear Lake. He is concerned about how much Bear Lake has dropped. He indicated that Rocky Mountain Power gets to guesstimate how much water they will need, but it should not be guesstimated. He expressed that the lake should be at higher levels before PacificCorp can pull water out of the lake. Has a sporting goods store and the lake levels affect his business. Has seen too many fall outs (dramatic drops in lake levels) and believes that the Compact does need to be reviewed.

Commissioner Holmgren asked if there were any additional comments. Hearing none, he reminded attendees about the deadline for submitting written comments. He asked that comments be as specific as possible, especially if one is proposing amendments to the Compact. He then closed the meeting.



## 20-Year Bear River Compact Review

TO: Commission Members  
FROM: Michael Holliday  
SUBJECT: Grace Public Meeting Summary  
DATE: October 16, 2017

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The Grace 20-Year Compact Review meeting was called to order by Curtis Stoddard, Idaho Commissioner, on Wednesday, October 11th at 7:00 pm. Mr. Stoddard gave a brief overview of what to expect from the public meeting, explained the procedures for providing public comment, and introduced the State legislators in attendance: Senator Mark Harris, Representative Marc Gibbs, and Representative Tom Loertscher. He also introduced fellow Commissioner Gary Spackman, Commission Chairwoman Jody Williams, and Don Barnett, Engineer-Manager of the Bear River Commission.

After introductions, Mr. Barnett gave an informative presentation about the history of the Bear River Compact. He discussed the creation of the Compact, the 1980 amendments to the Compact, and the composition of the Commission. He also explained the purpose of the 20-year Compact review, the public comment period, and the procedures for amending the Compact. At the conclusion of the presentation Mr. Barnett fielded questions from the audience.

Mr. Stoddard then opened up the floor for public comment. Forty-four people signed in at the meeting. Of those in attendance, eight provided oral comments. Their comments are summarized below.

*Mark Mathews, Last Chance Canal Company and Bear River Water Users Association, from Grace*

Mr. Mathews commented that the Bear River is a great resource which enables top quality agricultural production in the valley. He said that the current Compact is working well and that it does not need to be amended.

*Alan Smith, Cub River Irrigation Company, from Lewiston, UT*

Mr. Smith talked about the Cub River Irrigation Company's irrigation system and their transition from ditch to sprinkler irrigation over the years for the purpose of conserving and making the best use of their water. He said that the Compact has worked well and he does not see any need for changes at this time.

*Marc Gibbs, State Representative for District 32, from Grace*

Representative Gibbs talked briefly about the technological advances that have led to better management of the water within the Bear River system and he encouraged continued investment in technology. He said that the legislature recently created an alternate Bear River Commissioner so that Idaho would be adequately represented at meetings if one of Idaho's commissioners could not attend. He said that the Compact is not broken and that it does not need to be fixed.

*Jeremy Jirak, U.S. Fish and Wildlife Service, from Montpelier*

Mr. Jirak was neither for nor against amending the Compact, but encouraged the Commission to think about potential environmental impacts to water users, such as an invasive species' ability to limit flows for future water use.

*Eric Simonson, Farmers Land and Irrigation Company, from Grace*

Mr. Simonson spoke of the original agreement, which was well thought out and has stood the test of time. He urged the Commission to be careful before opening the Compact up for revision and said the canal company did not want it to be opened.

*Beverly Smith, from Preston*

Ms. Smith said that the Compact needs to stay as is. She was concerned that changes to the Compact could lead to less use for agriculture and more use by the cities in Utah.

*Lori Anne Lau, Caribou County Farm Bureau, from Soda Springs*

Ms. Lau said that she did not want to see the Compact reopened and that it was working well for Farm Bureau members.

*Craig Wilker, Gentile Valley Irrigation Company, from Grace*

Mr. Wilker said he was very concerned about potential changes if the Compact were opened up. He was concerned about flooding and possibly having to change irrigation practices.

Mr. Stoddard reminded meeting attendees of the opportunity to submit written comments and wrapped up the meeting around 8:30 pm. Of those who provided oral comment, none were in favor of amending the Compact, while seven out of eight expressly opposed amendment of the Compact.

## 20-Year Bear River Compact Review

TO: Commission Members  
FROM: James Cefalo  
SUBJECT: Montpelier Public Meeting Summary  
DATE: October 17, 2017

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A public meeting was held in Montpelier on Thursday, October 12<sup>th</sup> to discuss whether the Bear River Compact should be amended. In attendance at the meeting were Jody Williams (Chair of the Bear River Commission), Don Barnett (Engineer-Manager for the Commission), Gary Spackman (Director of the Idaho Department of Water Resources and Commissioner from Idaho), Kerry Romrell (Commissioner from Idaho), Idaho State Representative Tom Loertscher and Idaho State Senator Mark Harris.

The meeting was called to order by Kerry Romrell at 7:00 pm. Mr. Romrell gave a brief overview of the meeting agenda and invited those in attendance to provide a statement during the public comment portion of the meeting.

Mr. Barnett presented information about the creation of the original Bear River Compact, the 1980 amendment to the Compact, and the composition of and duties of the Bear River Commission. He also explained the purpose of the 20-year Compact review, the public comment period, and the procedures for amending the Compact. At the conclusion of the presentation Mr. Barnett answered a few questions from the audience.

Mr. Romrell then opened the meeting for public comment. Approximately thirty people were present at the meeting. Of those in attendance, only two individuals offered a statement.

*James Willis, Cokeville, WY (BQ Ranch)*

Mr. Willis stated a concern that they have more to lose than to gain if the Compact were reopened. He also stated that the new measurement technology and excellent watermaster work has contributed to the current success of the Compact.

*Bob Hawks, Pegasus, ID*

Mr. Hawks stated a concern about additional storage being used from Bear Lake for power generation. He was also opposed to any instream flows being recognized on the Bear River.

Mr. Romrell reminded meeting attendees of the opportunity to submit written comments and encouraged those in attendance to provide written comments. The meeting ended around 8:00 pm.

## **Bear River Compact Review**

Eric Millis (a Bear River Commissioner from Utah) conducted the Bear River Compact Review meeting. He opened the meeting with an introduction of the representatives from the Bear River Commission who were present which included: Eric Millis and Charles Holmgren, Bear River Commissioners from Utah, as well as Gary Spackman, a Commissioner from Idaho, and Jody Williams, the Federal Commissioner and the Commission's Chair. He also introduced Todd Adams and Will Atkin, Utah members on the Commission's Technical Advisory Committee, and Don Barnett, the Commission's Engineer-Manager. He then outlined the purpose for the meeting and the 20-year review of the Compact. He indicated that the Bear River Commission is seeking public comment on whether or not the Bear River Compact should be amended. Comments will be compiled and will be reviewed to determine if amendments are necessary. The meeting will be recorded and summarized and available online. Attendees were encouraged to submit written comments to [review@bearrivercommission.org](mailto:review@bearrivercommission.org).

Following the introductions, time was turned over to Don Barnett. Mr. Barnett gave a PowerPoint presentation which provided detail on the Commission, the Compact, its creation and history, major provisions, the reason for the Compact review as well as what is involved in amending a compact. Following his presentation he answered questions from the attendees which included:

- How is water divided within the existing Compact?
- How do we allocate the water for Bear Lake?
- Has there been any effort for new storage facilities?
- What are the purposes of Stewart Dam?
- Are there any aspects of the Compact the Commission is interested in changing?
- If landowners (who are not irrigators) want more representation, what do they need to do?
- Give us more information about the Bear Lake settlement agreement?
- How is wildlife protected?
- How does the Commission estimate depletion, or efficiency of diversions?
- Any effort of conservation from water rights? Or is it use it or lose it?
- Under the Compact, is there a provision for water conservation?

After answering questions, Mr. Barnett reiterated the request that people provide written comments to the Commission, including those who would provide oral comments this evening.

### Public Comments

After Mr. Barnett's presentation, Commissioner Millis requested that those who had indicated a desire to make oral comments come forward and address the group.



**Name:** Cheryl Allen

**City:** North Salt Lake, UT

**Affiliation:** Member of Bear Lake Watch

**Comments:** Ms. Allen thanked all of the representatives for their public service. She indicated that looking back over the past 20 years there are two things which have changed: 1) there is more awareness of climate change and, 2) recreation at Bear Lake has bloomed. She has family members that watch the flow and enjoys recreating there. She believes the Commission has done a great job, but has the recommendation that recreation at Bear Lake should have a more active place and role in the committees of the Commission. She emphasized not changing the Compact itself but adding an emphasis on recreation because of the economic growth. Water conservation is a public concern and it continues to grow. She wished this would be brought up at conferences. As she addresses others she recognizes that the need for conservation is not just a Bear River problem, but that it is a problem all over the west. She encourages people to contact the legislatures to have them focus more on water conservation.

**Name:** Claudia Cottle

**City:** Fish Haven, ID

**Affiliation:** Executive Director of Bear Lake Watch

**Comments:** Ms. Cottle asked: Did anyone count how many times Mr. Barnett said "Bear Lake" in his presentation? It's a key to the whole operation. She indicated that she would like to keep Bear Lake levels up. They have appreciated being involved with the Commission. She appreciates that the Water Quality Committee has been added. She believes the Commission can do more - the Compact has given the Commission its authority (limited) but doesn't limit its importance and influence. She believes the influence holds a lot of weight and really appreciates the Compact which has given a safe place for progress to happen. She indicated that she thought processes have changed for the good and would like to see things continue to work more collaboratively. Does not want the Compact open, but to look at a way to push the idea of working as a whole. Would like to find out how much sediment comes in/out of Bear Lake and where does it go?

**Name:** Gary Larson

**City:** Sandy, UT

**Affiliation:** Property owner at Bear Lake

**Comments:** Mr. Larson indicated that he has one request. He was reading his great-grandfather's journal (he was a fisherman and ended up living on Utah Lake and wrote about his fishing). Utah Lake has become a scum lake. Bear Lakers believe that Bear Lake is the jewel of the intermountain west. Over the last four years the lake bed has been exposed and people have been out there driving on it, dirtied with trash and dust. Water came up to a high level this past year and a lot of time was spent shoveling up a lot of "muck" that was pushed up from the beach. "If it ever becomes a scum like Utah Lake, I'll have a heart attack and die."

**Name:** Ashley Kijowski

**City:** SLC, UT

**Affiliation:**

**Comments:** Ms. Kijowski seconded what Ms. Allen said. Water needs to end up in the Great Salt Lake and believes that if water levels go down in GSL there will be devastating effects. She believes there needs to be forward thinking in the water allocation, but would like to see more conservation efforts and hopes that we can be proactive in these efforts.

**Name:** Henry Wurts

**City:** SLC, UT

**Affiliation:** Owns shoreline property at Bear Lake

**Comments:** Mr. Wurts commended the Commission on how well this meeting was organized. He believes that there are companies extracting goods from Bear Lake and polluting Bear Lake. He was pleased the Commission wants to hear what the public has to say. The Compact was created in an environment and with the fright of water scarcity issues. Seems like now two of the stronger voices that may warrant attention are both water conservation and non-depletion of Bear Lake. There is a great economic need in that area and Bear Lake helps with that. Supports what Ms. Cottle said and the public good and how that can be affected by private enterprises.

Commissioner Millis then asked if there were any additional comments. Hearing none, he reminded attendees about the deadline for submitting written comments. He asked that comments be as specific as possible, especially if one is proposing amendments to the Compact. He then closed the meeting.

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**APPENDIX E**  
Public Comments



BEAR RIVER COMMISSION  
20-Year Compact Review

### Summary of Comments

<b>Irrigators/Water Users</b>			
<b>Date Received</b>	<b>Name/Organization</b>	<b>Change Compact?</b>	<b>Other Comments</b>
2017-12-04	Bear River Water Users Assoc.	No	Don't change the compact because: 1) there are no proposed comments to consider 2) would undermine other contract rights based on the Compact 3) it would undermine state management 4) Compact as is represents cooperation and collaboration
2017-10-19	Consolidated Irrigation Co.	No	Appreciate the service of the Commission, don't amend
2017-11-09	West Cache Irrigation Co.	No	Satisfied w/ Compact, do not feel it should be amended
2017-11-29	Bear River Canal Company	No	Compact is adequate for issues, do not amend
2017-12-01	Hilliard East Fork Canal Co.	No	Compact has worked very successfully, no changes needed (multiple signatures)
2017-12-03	Sulphur Creek Reservoir Co.	No	Support the current Compact and administration
2017-12-04	Hilliard West Side Ditch Co.	No	The Compact has met its stated purpose
2017-12-04	Upper Bear River and Mill Creek Water Users Assoc.	No	Compact has worked very successfully, no changes needed (multiple signatures)
2017-12-04	Bear Canal Ditch Co.	No	Compact has worked very successfully, no changes needed (multiple signatures)
2017-11-13	Bear River Small Irrigators	No	Common sense is it is working, no need to fix something which is not broken
2017-10-23	BQ Dam	No	Don't open, more harm could be done
2017-12-04	Havorka Ditch	No	No change is necessary
2017-12-04	Arrow Ranch Booth Ditch	No	Don't think there is a need to change
2017-12-01	Caribou County Farm Bureau	No	We are pleased with how it is serving the three states, ask not to amend
2017-12-04	Mark Brown	No	Compact has worked very successfully, no changes needed
2017-12-01	Keith Martin	No	Compact has worked very successfully, no changes needed
2017-12-01	Joe Martin	No	Compact has worked very successfully, no changes needed
2017-12-01	Ren Lester	No	Compact has worked very successfully, no changes needed
2017-12-01	Glade Lester	No	Compact has worked very successfully, no changes needed
2017-12-01	Lee Lester	No	Compact has worked very successfully, no changes needed
2017-12-01	Nadine Lester	No	Compact has worked very successfully, no changes needed



2017-12-01	Dan Lunsford	No	Compact has worked very successfully, no changes needed
2017-12-01	Dennis & Gayle Cornelison	No	Compact has worked very successfully, no changes needed
2017-11-28	Lynn Hutchison	No	Compact has met its stated purpose, no change warranted
2017-12-01	Marvin Hutchinson	No	Compact has worked very successfully, no changes needed
2017-12-01	Harvey Hutchinson	No	Compact has worked very successfully, no changes needed
2017-12-01	Sterlin Hutchinson	No	Compact has worked very successfully, no changes needed
2017-12-01	Ada H. Hutchinson	No	Compact has worked very successfully, no changes needed
2017-12-01	Roy Hawks	No	Opinion that the Compact should not be amended
2017-12-01	Robert Hawks	No	Opinion that the Compact should not be amended
2017-12-01	W. Robert Hawks	No	Opinion that the Compact should not be amended
2017-12-01	Greg Hawks	No	Opinion that the Compact should not be amended
2017-12-01	Joyce Hawks	No	Opinion that the Compact should not be amended
2017-11-28	Gilbert Olson	No	Worked well for past 20 years, no need to amend
2017-12-04	Scott Lucas	No	Compact is working well and should remain as is
2017-12-04	Joe Brown	No	Works great, needs no change
2017-12-04	J. Sam Lowham	No	Works well now, don't change
2017-12-04	Maria Lowham	No	Compact is working great
2017-12-04	Courtney Lowham	No	Compact is working great
2017-12-04	Kyle Lowham	No	Happy with the way things are now
2017-10-03	Deann Cornelison	No	Functions well, implement as written
2017-11-15	Pete Lym	No	Stay the same with no amendments
2017-11-15	Laurie Lym	No	Why fix something that works, leave without amending
2017-11-15	LaMar Lym	No	Compact is fair, needs to stay the same
2017-11-15	Erika Lym	No	Why fix something that works, leave without amending
2017-11-11	Sandra Allen	No	Compact benefits people of region, should not be opened

<b>Public Water Suppliers</b>			
<b>Date Received</b>	<b>Name/Organization</b>	<b>Change Compact?</b>	<b>Other Comments</b>
2017-12-04	Bear River Water Cons. Dist.	No	District commends the Commission, supports the Compact remaining as constituted
2017-12-04	Cache Water District	No	Compact based on cooperation, Compact will work without change

<b>Bear Lake Interests</b>			
<b>Date Received</b>	<b>Name/Organization</b>	<b>Change Compact?</b>	<b>Other Comments</b>
2017-12-03	Bear Lake Watch	No	Lots of ideas about new visions, uses and involvement by additional users
2017-12-01	Bear Lake Regional Commission	No	No need to change, if not broke, don't fix
2017-12-04	Wes Thompson	Yes	Charts, showing declining lake levels (starts in 1986), muck around lake when down, kick in BL release restrictions at 5919, study sediment issues at BL, enforce conservation including wasteful upstream irrigation and BL flood releases. If Commission doesn't manage future actions will dictate operations
2017-11-10	William Rusconi	No	Sponsor a study on dramatic BL water level changes, their impacts and resolution
2017-11-02	Margaret Sargent	No	Add something like the WQ committee to strive to keep BL full
2017-11-09	Nancy Holman	No	Establish an environmental committee to focus on the health of BL
2017-12-03	Dave Hollingsworth		Need to better track water usage (BL?) and conservation
2017-12-04	Henry C. Wurts		Need to consider how population and demands on BL will change over the next 20 years

<b>Great Salt Lake Interests</b>			
<b>Date Received</b>	<b>Name/Organization</b>	<b>Change Compact?</b>	<b>Other Comments</b>
2017-12-04	Friends of Great Salt Lake	Yes	Reexamine the additional Lower Division Compact allocations, understand the impacts which would occur if 550,000 af of additional Lower Division development were to occur
2017-12-04	GSL Brine Shrimp Cooperative	Yes	Recognize the significant economic and environmental values of GSL and the impact of Bear River allocations
2017-12-04	Compass Minerals		Re-evaluate the feasibility and sustainability of the future development of an additional 550,000 af
2017-12-03	Wayne Wurtsbaugh	Yes	Reexamine the 550,000 af of Lower Division Compact allocations, look at conservation, enforced on agriculture, modify outdated existing water laws
2017-12-04	W. Bryan Dixon	Yes	Include environmental considerations, look at water banking policies to save unused water, and look at a watershed perspective, conservation needs to minimize adverse impacts on ecological system

<b>Conservation/Environmental</b>			
<b>Date Received</b>	<b>Name/Organization</b>	<b>Change Compact?</b>	<b>Other Comments</b>
2017-11-22	Lincoln Conservation District	Maybe	1) change “shall” to “may” relative to a water emergency declaration at a 350 cfs Border Gage flow, and 2) strike the allowance of water to flow from the Central to Lower Division during a water emergency If these items can be fixed without opening the Compact it needs to be pursued otherwise correct in the Compact
2017-11-27	Franklin Soil & Water Cons. Dist.	No	Concerned about stream bank erosion in Gentile Valley
2017-12-01	U.S. Fish & Wildlife Service		Two issues: evolve Water Quality Committee into Environmental Committee or create a new one to look at river health and secondly look critically at PacifiCorp’s proposal to store more water in Bear Lake and its negative impacts
2017-12-04	Audubon/The Nature Conservancy	No	1) create a watershed health committee 2) refine policy on groundwater/surface in procedures 3) use third-party environmental data 4) develop a drought contingency plan 5) investigate an interstate water bank Concerned if we don’t incorporate environmental issues they could be thrust upon us
2017-12-04	Utah Audubon Council		Same as above. Also recognize Bear River relationship with GSL
2017-12-04	Trout Unlimited		1) develop a market-based water transaction method for the watershed, and 2) restore water flows downstream of Stewart Dam

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**APPENDIX E-1**  
Irrigators/Water Users





Randall C. Budge  
Thomas J. Budge  
RACINE, OLSON, NYE & BUDGE, CHARTERED  
P.O. Box 1391; 201 E. Center  
Pocatello, Idaho 83204-1391  
Telephone: (208) 232-6101  
Fax: (208) 232-6109  
[rcb@racinelaw.net](mailto:rcb@racinelaw.net)  
[tjb@racinelaw.net](mailto:tjb@racinelaw.net)

D. Brent Rose  
CLYDE SNOW & SESSIONS P.C.  
One Utah Center, Suite 1300  
Salt Lake City, Utah 84111-2216  
Telephone: (801) 322-2516  
[dbr@clydesnow.com](mailto:dbr@clydesnow.com)

*Attorneys for Bear River Water Users Association*

**BEFORE THE BEAR RIVER COMMISSION**

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**IN THE MATTER OF THE  
20-YEAR REVIEW OF THE BEAR  
RIVER COMPACT**

**COMMENTS OF BEAR RIVER  
WATER USERS ASSOCIATION**

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Bear River Water Users Association, Inc. (“Association”), through counsel, submits these comments in support of maintaining the existing Bear River Compact without amendment. These comments are submitted in connection with the Bear River Commission’s 20-year review of the Compact, and in response to the Commission’s request for public input on whether there is a need to amend the Compact.

**INTRODUCTION**

The Association is a non-profit corporation organized in 1992 to represent Bear River Basin water users for the purpose of, among other things, monitoring, protecting and defending their common interests in the natural flow of the Bear River and its tributaries and in irrigation water stored in Bear Lake. The Association’s members include, in Idaho: Last Chance Canal Company, Cub River Irrigation Company, West Cache Canal Company, Idaho Small Irrigation Pumpers Association; and in Utah: Bear River Canal

Company and Utah Small Irrigators Association. Collectively, Association members represent approximately 3,000 family farms having a combined irrigated acreage of approximately 155,000 acres in Utah and Idaho. Association members own natural flow water rights in the Bear River with priority dating to the late 1800s and storage rights in Bear Lake under contracts with Utah Power & Light Company, the predecessor and now subsidiary of PacifiCorp, dating back to 1912.

### **BEAR RIVER COMPACT**

The states of Idaho, Utah and Wyoming first began compact negotiations in the 1940s, eventually leading to a signed Bear River Compact in 1955. The original Compact was signed into law by President Eisenhower on March 17, 1958, following consent from the three states' legislatures.

Following a subsequent period of negotiating to further refine the Compact, the three states agreed to an amended Bear River Compact in 1979. Congressional approval was given in 1980 and the amended Bear River Compact was signed into law by President Carter on February 8, 1980.<sup>1</sup>

The Compact's stated purpose is as follows:

The major purposes of this Compact are to remove the causes of present and future controversy over the distribution and use of waters of the Bear River; to provide for efficient use of water for multiple purposes; to permit additional development of the water resources of Bear River; to promote interstate commodities; and to accomplish an equitable apportionment of the waters of the Bear River among the compacting states.<sup>2</sup>

The Compact is fundamental and is the chief cornerstone to the present and future administration, delivery and use of the waters of Bear River and Bear Lake. It creates the "Bear River Commission" as an interstate administrative agency with authority and responsibility under federal law to enforce the Compact.<sup>3</sup> It provides that the right to direct the flow of water shall be administered by each signatory state under state law, except

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1 Bear River Compact as Amended, Public Law 96-189, February 8, 1980.

2 Bear River Compact as Amended, Public Law 96-189, February 8, 1980, Article I.A.

3 Bear River Compact as Amended, Public Law 96-189, February 8, 1980, Article III.

when the Commission declares a water emergency.<sup>4</sup> It also equitably apportions water supplies for existing uses and future development between the states.<sup>5</sup>

### COMPACT REVIEW

Article XIV of the Compact mandates the Commission review the Compact periodically:

At intervals not exceeding 20 years, the Commission shall review the provisions hereof, and after notice and public hearing, may propose amendments to any such provision, provided, however, that the provisions contained herein shall remain in full force and effect until such proposed amendments have been ratified by the legislators of the signatory States and consented to by Congress.

### COMMENTS

The Association strongly supports the existing Compact and opposes any amendment at this time. Important reasons for maintaining the Compact as presently written include the following:

**1. No Compact amendment has been proposed.**

Article XIV of the Compact does not prescribe a detailed process for proposing or considering amendments to the Compact, but it does require that any proposed amendment be subject to notice and public hearings. The Association has not been given notice of any proposed amendments to the Compact, and neither the Commission's website nor the public notices disseminated concerning the Compact review and the public hearings held in Evanston, Montpelier, Grace, Logan and Salt Lake, presented proposed amendments for consideration. Therefore, there is no legal authority to support any amendments to the Compact at this time.

**2. Amendments to the Compact could undermine important contract rights established in reliance on the Compact.**

The Compact is the chief cornerstone upon which important contractual agreements have been entered into to resolve significant legal disputes and other

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<sup>4</sup> Bear River Compact as Amended, Public Law 96-189, February 8, 1980, Article IV.

<sup>5</sup> Bear River Compact as Amended, Public Law 96-189, February 8, 1980, Articles IV, V, VI.

disagreements concerning the operation and management of the Bear River system. These contracts include the following:

(1) First is the Bear Lake Settlement Agreement, entered into April 10, 1995, between the Association's members, the Bear Lake Group and PacifiCorp, together with the Amended and Restated Bear Lake Settlement Agreement entered into July 2, 2004 (collectively "Bear Lake Settlement Agreement"). The Bear Lake Settlement Agreement provides for the allocation of Bear Lake storage water by and among the Association's members, and facilitates the preservation and recovery of lake levels during periods of drought. Besides preserving storage water in Bear Lake for the benefit of both the Association's members and recreational interests, the Bear Lake Settlement Agreement precludes any new storage deliveries or encumbrances, stating, in pertinent part as follows:

PacifiCorp will not deliver storage water from Bear Lake to new contracts, or otherwise additionally encumber its Bear Lake storage water over and above the water allocated to the BRWUA on behalf of the company irrigators and the small irrigators for their existing Contract.<sup>6</sup>

(2) The next key Agreement Regarding the Bear River System was entered into October 5, 1999, between PacifiCorp, Scottish Power and the three states as a part of the PacifiCorp and Scottish Power merger transaction that was a subject of approval procedures before the Public Utility Commissions in the states of Idaho, Utah and Wyoming. This agreement provides assurance to the public utilities commissions, public officials and water users of the three states that the merger would not adversely affect the operation of the Bear River system. Among other things, this agreement provides as follows:

Bear Lake is operated, consistent with long standing historic practice and applicable laws, primarily as a storage reservoir to satisfy contracts for existing irrigation uses and flood control needs in the three states, with the use of water for hydro power generation begin incidental to the other purposes for which the water is being released.<sup>7</sup>

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<sup>6</sup> 2004 Amended and Restated Bear Lake Settlement Agreement, Paragraph 5.d., Exhibit A.

<sup>7</sup> Agreement Regarding the Bear River System dated October 5, 1999, Paragraph 1.b.

(3) Additionally, the 2000 Operations Agreement for PacifiCorp's Bear River System provides in paragraph 2.A. that the operation of Bear Lake is primarily to provide irrigation storage and flood control, with power production an incidental use:

PacifiCorp agrees to continue to operate Bear Lake primarily for Bear Lake storage water delivery under its contracts, or for flood control, depending on the level of Bear Lake, the forecasted runoff, general water supply conditions, constraints of its contracts, its assessment of the hydrology and other conditions in the Bear River Basin. Hydropower generation at its downstream hydroelectric plants shall continue to be an incidental use of Bear Lake storage water released primarily for contract deliveries or flood control.

The agreements described above all were all negotiated and entered into to resolve disagreements and provide certainty with respect to the relative rights of the parties, the operation and management of Bear Lake, and the administration and delivery of water rights in Bear River and Bear Lake. These agreements have become integral components of the "Law of the River" upon which the Associations members, the Bear Lake Group, PacifiCorp and the three states have come to rely. Any amendment to the Compact could unnecessarily undermine the delicate balance struck by these agreements to the detriment of the Association's members and other parties thereto.

### **3. Amendment may undermine state management plans.**

The states of Idaho and Utah have developed and implemented comprehensive management plans which have, in part, relied upon the certainty of the existing Compact. For example, the Idaho Department of Water Resources designated the Bear River Ground Water Management Area on August 12, 2001. This resulted in the development of a Ground Water Management Plan for the Bear River Basin in Idaho to provide for managing ground water withdrawals and mitigating depletions to the Bear River.

Likewise, the Utah Division of Water Rights, acting through the State Engineer, has implemented and is enforcing the Cache Valley Groundwater Management Plan which expressly recognizes the direct interconnectivity of the Cache Valley groundwater basin and the surface flows of the Bear River. And, the Utah Department of Forestry and State Lands has recently issued its record of decision and final Bear River Comprehensive Management Plan in Utah for public review.



These management plans and policies recognize the importance of agriculture and the need to properly administer and deliver the waters of Bear Lake and its tributaries to protect this vital water supply which is the lifeblood of agriculture in the Bear River Basin. Any amendment to the Compact could disrupt and undermine these significant and comprehensive management plans and policies.

**4. The Compact has led to cooperation and collaboration.**

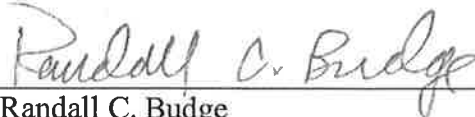
Irrigation water diverted and delivered under water rights in the Bear River, supplemented by storage in Bear Lake under contract rights with PacifiCorp is the lifeblood of agriculture and supports a robust agricultural economy in the high arid land of the Bear River Basin. Unlike almost every other major interstate river basin, where controversy and litigation are the norm, stakeholders in the Bear River Basin have proven the desire and ability to effectively communicate and resolve disagreements among themselves within the framework provided by the Compact, as evidenced by the agreements referenced herein. The Compact and these other agreements that have been woven together during the past few decades are not only unique, but a tribute to the decency and integrity of the irrigators and stakeholders in the three Bear River Basin states who have worked and sacrificed to cooperate rather than litigate. The Compact and these agreements will be even more important in the future as competing interests grow and new use demands are made upon these precious but limited water resources.

The fact that no amendments have been proposed to the Compact underscores how well it has been working. Given its success, the old adage should surely apply: “If it ain’t broken, don’t fix it!” Amendment should be considered only to resolve major, intractable problems that stakeholders have been unable to resolve cooperatively despite extensive effort. Any proposed amendment to the Compact at this juncture is unnecessary, would be a search for solutions to major problems that simply do not exist, and would be fraught with the unacceptable risk of upsetting the delicate balance that has been struck in what is now the Law of the River.

Based on the foregoing, the Association respectfully requests that the Commission maintain the Compact as is.

**RESPECTFULLY SUBMITTED** this 4<sup>th</sup> day of December, 2017.

**RACINE, OLSON, NYE & BUDGE,  
CHARTERED**

By:   
Randall C. Budge

**CLYDE, SNOW & SESSIONS, P.C.**

By:   
D. Brent Rose

## CERTIFICATE OF MAILING

I hereby certify that on this 4<sup>th</sup> day of December, 2017, I served a true and correct copy of the following persons by the method indicated:

*Randall C. Bridge*

Bear River Commission Re: 20 Year Compact Review 106 West 500 S., Suite 101 Bountiful, Utah 84010 <a href="mailto:reveiw@bearrivercommission.org">reveiw@bearrivercommission.org</a>	<input checked="" type="checkbox"/> U.S. Mail <input type="checkbox"/> Facsimile <input type="checkbox"/> Overnight Mail <input type="checkbox"/> Hand Delivery <input checked="" type="checkbox"/> Email
Carly Burton, Executive Director Bear River Water Users Association <a href="mailto:carlybarbaraburton@gmail.com">carlybarbaraburton@gmail.com</a>	<input type="checkbox"/> U.S. Mail <input type="checkbox"/> Facsimile <input type="checkbox"/> Overnight Mail <input type="checkbox"/> Hand Delivery <input checked="" type="checkbox"/> Email
Cub River Irrigation Company Don Baldwin, Chairman <a href="mailto:taskcows@gmail.com">taskcows@gmail.com</a>	<input type="checkbox"/> U.S. Mail <input type="checkbox"/> Facsimile <input type="checkbox"/> Overnight Mail <input type="checkbox"/> Hand Delivery <input checked="" type="checkbox"/> Email
Last Chance Canal Company Mark Mathews, President <a href="mailto:Mathews6@live.com">Mathews6@live.com</a>	<input type="checkbox"/> U.S. Mail <input type="checkbox"/> Facsimile <input type="checkbox"/> Overnight Mail <input type="checkbox"/> Hand Delivery <input checked="" type="checkbox"/> Email
Utah Small Irrigators Jerry Waterson, President <a href="mailto:muddyroad@teamwifi.net">muddyroad@teamwifi.net</a>	<input type="checkbox"/> U.S. Mail <input type="checkbox"/> Facsimile <input type="checkbox"/> Overnight Mail <input type="checkbox"/> Hand Delivery <input checked="" type="checkbox"/> Email
Bear River Canal Company Curtis L. Marble, President <a href="mailto:CImarblefarms@gmail.com">CImarblefarms@gmail.com</a>	<input type="checkbox"/> U.S. Mail <input type="checkbox"/> Facsimile <input type="checkbox"/> Overnight Mail <input type="checkbox"/> Hand Delivery <input checked="" type="checkbox"/> Email

<p>Bear River Small Irrigators  Steve Meek, President  <a href="mailto:smeek@dcdi.net">smeek@dcdi.net</a></p>	<input type="checkbox"/> U.S. Mail <input type="checkbox"/> Facsimile <input type="checkbox"/> Overnight Mail <input type="checkbox"/> Hand Delivery <input checked="" type="checkbox"/> Email
<p>West Cache Canal Company  Ryan Merrill  Mike Spackman  <a href="mailto:merrillmasonry1@yahoo.com">merrillmasonry1@yahoo.com</a>  <a href="mailto:lazyson@gmail.com">lazyson@gmail.com</a></p>	<input type="checkbox"/> U.S. Mail <input type="checkbox"/> Facsimile <input type="checkbox"/> Overnight Mail <input type="checkbox"/> Hand Delivery <input checked="" type="checkbox"/> Email

**CONSOLIDATED IRRIGATION COMPANY**

**P.O. Box 311**

**Preston, Idaho 83263**

19 October 2017

**Kent Egley, *President*, 208-339-0336**  
**Brian Jensen, *Vice President*, 208-339-1516**  
**Maxine Waddoups, *Secretary*, 208-852-2364**  
**Thane Winward, *Treasurer*, 208-852-1120**  
**Lyle Porter, *Manager*, 208-339-1864**  
**Kirk Iverson, *Watermaster*, 208-851-0263**

*Directors*  
**Lyle Porter, 208-339-1864**  
**Jay Ransbottom, 208-852-2863**  
**Larry Johnson, 208-852-2196**  
**David Bosen, 208-221-8690**  
**Robert Swainston, 208-339-0900**

Bear River Commission  
106 West 500 South, Suite 101  
Bountiful, Utah 84010

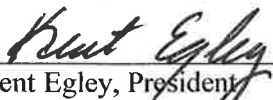
To whom it may concern:

The Consolidated Irrigation Company is a mutual irrigation company organized under the laws of the State of Idaho, and serves its shareholders in Franklin County, located in the Bear River Basin. The company diverts water for irrigation and domestic use from Cub River and Mink Creek, both tributaries of Bear River, and from Worm Creek, a tributary of Cub River. Waters diverted from the Cub River and Worm Creek are also stored in four reservoirs; the Glendale, Lamont, Foster, and Johnson reservoirs. The company serves approximately 15,000 acres located in and around Preston, between the Bear River and the foothills of the mountains to the east.

As the 20-Year Compact Review is now being considered by the Bear River Commission, on behalf of our shareholders, we wish to respectfully inform the Commission that it is our opinion and recommendation that the Bear River Compact not be amended in any substantive way at this time. This recommendation is made pursuant to a resolution discussed and passed by the Board of Directors of the Company in a regular meeting of said Board.

We appreciate the service of the Commission members, staff, and all others associated with you in your work to administer the Compact and in the management of the waters of the Bear River Basin. Thank you.

Yours truly,

  
\_\_\_\_\_  
Kent Egley, President  
Consolidated Irrigation Company

**WEST CACHE IRRIGATION COMPANY**  
**Trenton, Utah 84338**

Glade T.  
Griffin  
President

Michael  
Spackman  
V. President

**Directors**

Larry Pitcher

Sid Munk

Ryan Merrill

Bear River Commission,

We are writing to express our understanding of the Bear River Commission and its roles and authorities, as well as the purposes and authorities of the Bear River Compact.

During its almost 60 years of existence, the users of West Cache Irrigation have been satisfied with the Bear River Compact. We do not feel any amendments or changes need to be made to the current compact.

Thank You,

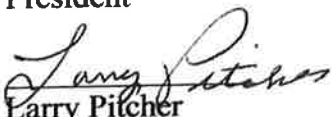
West Cache Irrigation Company



Glade T. Griffin  
President



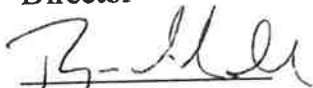
Michael Spackman  
V. President



Larry Pitcher  
Director



Sid Munk  
Director



Ryan Merrill  
Director





November 27, 2017

Bear River Commission  
106 West 500 South, Suite 101  
Bountiful, UT 84010

RE: 20-Year Compact Review

To whom it may concern:

Bear River Canal Company would like to comment on the 20-Year Review of the Bear River Compact that we believe that the Bear River Compact is adequate to handle the issues on the Bear River and asked that the compact **not** be amended.

Curtis L. Marble, President  
Jeff A. Hardy, Vice President  
Bob Roche, Secretary  
Jay Capener, Member  
Bernie Nelson, Member  
Blake Norman, Member  
Charles Holmgren, Member



# Bear River Compact Feedback Form

Written comments are due by 5:00 p.m. on Monday, December 4, 2017, and can also be submitted to the following addresses:

Via Mail

Bear River Commission  
Re: 20-Year Compact Review  
106 West 500 South, Suite 101  
Bountiful, Utah 84010

Via Email

review@bearrivercommission.org

Name Hilliard East Fork Canal Co.

Address 12826 Hwy 150 City Evanston Wy, 82930

“The major purposes of this Compact are to remove the causes of present and future controversy over the distribution and use of the waters of the Bear River; to provide for efficient use of water for multiple purposes”. As members of the upper Bear River District and as adjudicated water users, we feel the Bear River Compact has worked very successfully and no changes are need or wanted at this time.

Signatures:

L. Wagsstaff Pres.  
Don Martin

Ren Lester  
Nadene Lester

Lee R Lester  
Patricia Lester

Stacia Hutchinson  
Harvey E. Hutchinson

Marvin A. Hutchinson  
Keith Martin

Stacia Hutchinson  
Gayle Cornelison

Larry Wagsstaff  
Don Martin

Ren Lester  
Nadene Lester

Lee R Lester  
Patricia Lester

Stacia Hutchinson  
Harvey E. Hutchinson

Marvin A. Hutchinson  
Keith Martin

ADH HUTCHINSON  
Dennis Cornelison



# Bear River Compact Feedback Form

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Via Mail

Bear River Commission  
Re: 20-Year Compact Review  
106 West 500 South, Suite 101  
Bountiful, Utah 84010

Via Email

[review@bearrivercommission.org](mailto:review@bearrivercommission.org)

Name Hilliard East Fork Canal Co.

Address 12826 Hwy 150 City Evanston Wy, 82930

“The major purposes of this Compact are to remove the causes of present and future controversy over the distribution and use of the waters of the Bear River; to provide for efficient use of water for multiple purposes”. As members of the upper Bear River District and as adjudicated water users, we feel the Bear River Compact has worked very successfully and no changes are need or wanted at this time.

Signatures:

Joe Martin  
Don  
Tim Richins

Joe Martin  
Dan Lunsford  
Tim Richins

**Donna Keeler**

---

**From:** Jerri Crompton <jcrompton54@gmail.com>  
**Sent:** Sunday, December 03, 2017 4:29 PM  
**To:** review@bearrivercommission.org  
**Subject:** Bear River Compact

December 3, 2017

To Whom it may concern;

The members of the the Sulphur Creek Reservoir Company would like to express our support of the Bear River Compact.

We Support and approve of the current administration, procedures and adjudication processes.

Electronically signed by all of our board members as listed.

Dennis Cornelison

Ranold Phillips

Marc Crompton

Respectfully submitted; Jerri Crompton- Sulphur Creek Reservoir Company Secretary



# Bear River Compact Feedback Form

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Via Mail

Via Email

Bear River Commission  
Re: 20-Year Compact Review  
106 West 500 South, Suite 101  
Bountiful, Utah 84010

[review@bearrivercommission.org](mailto:review@bearrivercommission.org)

Name Hilliard West Side Ditch Co. LLC

Address 2240 County Rd 173 City Evanston Wy, 82930

“The major purposes of this Compact are to remove the causes of present and future controversy over the distribution and use of the waters of the Bear River; to provide for efficient use of water for multiple purposes”. As members of the upper Bear River District and as adjudicated water users, we feel the Bear River Compact has worked very successfully and no changes are need or wanted at this time.

Signatures:

<u>Zakou U. Tapp</u>	_____
<u>Spaul B...</u>	_____
<u>Don Martin</u>	_____
<u>Jeffrey H. Johnson</u>	_____
<u>Tim ...</u>	_____
<u>[Signature]</u>	_____
<u>Brent J. Barber</u>	_____
<u>Greg ...</u>	_____
<u>Joe ...</u>	_____
<u>[Signature]</u>	_____
<u>Nancy Barber</u>	_____









# Bear River Compact Feedback Form

Written comments are due by 5:00 p.m. on Monday, December 4, 2017, and can also be submitted to the following addresses:

Via Mail

Via Email

Bear River Commission  
Re: 20-Year Compact Review  
106 West 500 South, Suite 101  
Bountiful, Utah 84010

review@bearrivercommission.org

Name Janet M. Wheeler / Bear River Small Irrigators

Address 336 River Road City Grace, Id 83241

Phone 208-427-6646 Email JANET.BROWNIE330@gmail.com

Having read the Bear River Compact as amended,  
and Commission by-laws, common sense should  
dictate that the Compact is working as organized  
and amended. Therefore there is no need to fix  
something that is not broken. The Compact  
should stand as is.



# Bear River Compact Feedback Form

Written comments are due by 5:00 p.m. on Monday, December 4, 2017, and can also be submitted to the following addresses:

Via Mail

Via Email

Bear River Commission

Re: 20-Year Compact Review

review@bearrivercommission.org

106 West 500 South, Suite 101

Bountiful, Utah 84010

Name James Willis (BQ Dam upper Division)

Address P.O. Box 192 City Cokeville WY 83114

Phone 307 270 7308 Email \_\_\_\_\_

The members of the B.Q. Dam are in  
agreement to not open the compact. We  
believe as ranchers that more harm to our  
water could be done by opening this  
compact at this time.

Thanks You

Sincerely

James Willis



DEC 4 2017



# Bear River Compact Feedback Form

Written comments are due by 5:00 p.m. on Monday, December 4, 2017, and can also be submitted to the following addresses:

Via Mail

Via Email

Bear River Commission  
Re: 20-Year Compact Review  
106 West 500 South, Suite 101  
Bountiful, Utah 84010

review@bearrivercommission.org

Name Arrow Ranch Bath Ditch

Address 6075 Hwy 150 City EVANSTON WY. 82930

Phone 307-679-0750 Email \_\_\_\_\_

Michelle Loh

I think we don't need to change anything  
on the compact.

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## Donna Keeler

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**From:** Tracy Lakey <dtlakey654@gmail.com>  
**Sent:** Friday, December 01, 2017 2:03 PM  
**To:** review@bearrivercommission.org  
**Subject:** 20-year review of the Bear River Compact

Dear Commissioners;

Thank you for hosting the public meetings for the 20-year review of the Bear River Compact. We appreciate the opportunity to attend meetings at a close proximity to where we reside.

We, as the Caribou County Farm Bureau, voiced our opinion regarding the compact during the meeting at Grace, Idaho. I would like to reiterate our opinion via written comment.

We are pleased with how the compact is serving the three states involved and ask that the compact not be amended.

Thank you for the opportunity to provide input,

Caribou County Farm Bureau  
Tracy Lakey, secretary



Virus-free. [www.avg.com](http://www.avg.com)





# Bear River Compact Feedback Form

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Via Mail

Via Email

Bear River Commission  
Re: 20-Year Compact Review  
106 West 500 South, Suite 101  
Bountiful, Utah 84010

[review@bearrivercommission.org](mailto:review@bearrivercommission.org)

Name Mark B...

“The major purposes of this Compact are to remove the causes of present and future controversy over the distribution and use of the waters of the Bear River; to provide for efficient use of water for multiple purposes”. As members of the upper Bear River District and as adjudicated water users, we feel the Bear River Compact has worked very successfully and no changes are need or wanted at this time.

Signatures:

<u>Mark B...</u>	_____
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# Bear River Compact Feedback Form

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Via Mail

Via Email

Bear River Commission  
Re: 20-Year Compact Review  
106 West 500 South, Suite 101  
Bountiful, Utah 84010

[review@bearrivercommission.org](mailto:review@bearrivercommission.org)

Name Joe Martin

Address \_\_\_\_\_ City Evanston

“The major purposes of this Compact are to remove the causes of present and future controversy over the distribution and use of the waters of the Bear River; to provide for efficient use of water for multiple purposes”. As members of the upper Bear River District and as adjudicated water users, we feel the Bear River Compact has worked very successfully and no changes are need or wanted at this time.

Signatures:

Joe Martin

Joe Martin

Multiple horizontal lines for additional signatures or comments.



# Bear River Compact Feedback Form

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Via Mail

Via Email

Bear River Commission  
Re: 20-Year Compact Review  
106 West 500 South, Suite 101  
Bountiful, Utah 84010

review@bearrivercommission.org

Name Ren Lester

Address 2240 COUNTY Rd City 173 EVANSTON 82930

“The major purposes of this Compact are to remove the causes of present and future controversy over the distribution and use of the waters of the Bear River; to provide for efficient use of water for multiple purposes”. As members of the upper Bear River District and as adjudicated water users, we feel the Bear River Compact has worked very successfully and no changes are need or wanted at this time.

Signatures:

Ren Lester

Ren Lester

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Via Mail

Via Email

Bear River Commission  
Re: 20-Year Compact Review  
106 West 500 South, Suite 101  
Bountiful, Utah 84010

[review@bearrivercommission.org](mailto:review@bearrivercommission.org)

Name Glade Lester

Address \_\_\_\_\_ City Evansville

“The major purposes of this Compact are to remove the causes of present and future controversy over the distribution and use of the waters of the Bear River; to provide for efficient use of water for multiple purposes”. As members of the upper Bear River District and as adjudicated water users, we feel the Bear River Compact has worked very successfully and no changes are need or wanted at this time.

Signatures:

Glade Lester

Glade Lester

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Via Mail

Via Email

Bear River Commission  
Re: 20-Year Compact Review  
106 West 500 South, Suite 101  
Bountiful, Utah 84010

[review@bearrivercommission.org](mailto:review@bearrivercommission.org)

Name Lee Lester

Address 1462 County Rd #173 City Evanston, WY

“The major purposes of this Compact are to remove the causes of present and future controversy over the distribution and use of the waters of the Bear River; to provide for efficient use of water for multiple purposes”. As members of the upper Bear River District and as adjudicated water users, we feel the Bear River Compact has worked very successfully and no changes are need or wanted at this time.

Signatures:

[Signature]

Lee R Lester

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Via Mail

Via Email

Bear River Commission  
Re: 20-Year Compact Review  
106 West 500 South, Suite 101  
Bountiful, Utah 84010

[review@bearrivercommission.org](mailto:review@bearrivercommission.org)

Name \_\_\_\_\_

Address \_\_\_\_\_ City \_\_\_\_\_

“The major purposes of this Compact are to remove the causes of present and future controversy over the distribution and use of the waters of the Bear River; to provide for efficient use of water for multiple purposes”. As members of the upper Bear River District and as adjudicated water users, we feel the Bear River Compact has worked very successfully and no changes are need or wanted at this time.

Signatures:

*Nadene Lester*

*Nadene Lester*

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Via Mail

Via Email

Bear River Commission  
Re: 20-Year Compact Review  
106 West 500 South, Suite 101  
Bountiful, Utah 84010

[review@bearrivercommission.org](mailto:review@bearrivercommission.org)

Name \_\_\_\_\_

Address \_\_\_\_\_ City \_\_\_\_\_

“The major purposes of this Compact are to remove the causes of present and future controversy over the distribution and use of the waters of the Bear River; to provide for efficient use of water for multiple purposes”. As members of the upper Bear River District and as adjudicated water users, we feel the Bear River Compact has worked very successfully and no changes are need or wanted at this time.

Signatures:

*Dan* \_\_\_\_\_  
*Amundson*

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Via Mail

Via Email

Bear River Commission  
Re: 20-Year Compact Review  
106 West 500 South, Suite 101  
Bountiful, Utah 84010

review@bearrivercommission.org

Name Dennis Cornelison

Address 956 county road 159 City Emmavon, Wyo 82930

“The major purposes of this Compact are to remove the causes of present and future controversy over the distribution and use of the waters of the Bear River; to provide for efficient use of water for multiple purposes”. As members of the upper Bear River District and as adjudicated water users, we feel the Bear River Compact has worked very successfully and no changes are need or wanted at this time.

Signatures:

Dennis Cornelison  
Gayle Cornelison

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## Donna Keeler

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**From:** L Hut <lhutchin@yahoo.com>  
**Sent:** Tuesday, November 28, 2017 3:26 PM  
**To:** Review@bearrivercommission.org  
**Subject:** Subject: 20 year review of Bear River Compact

Gentlemen;

ARTICLE I. of the 1980 Compact states:

A. The major purposes of this Compact are to remove the causes of present and future controversy over the distribution and use of the waters of the Bear River; to provide for efficient use of water for multiple purposes; to permit additional development of the water resources of Bear River; to promote interstate comity; and to accomplish an equitable apportionment of the waters of the Bear River among the compacting States.

As a user of the Bear River water in the Upper Basin, I feel that the compact has met it's stated purpose and that no change is needed or warranted. The Compact is and has been working to meet the needs of water users.

Sincerely  
Lynn A Hutchinson  
14372 HWY 150 S  
Evanston Wyoming 82930  
[Lhutchin@Yahoo.com](mailto:Lhutchin@Yahoo.com)

Vice President "Hilliard West Side Ditch Company"  
Member of "Bear Canal Company"  
Former President of "The Upper Bear River & Millcreek Water Users Association"



# Bear River Compact Feedback Form

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Via Mail

Via Email

Bear River Commission  
Re: 20-Year Compact Review  
106 West 500 South, Suite 101  
Bountiful, Utah 84010

[review@bearrivercommission.org](mailto:review@bearrivercommission.org)

Name Marvin H. Hutchings

Address P.O. Box 1 City Evansville, Wyo

“The major purposes of this Compact are to remove the causes of present and future controversy over the distribution and use of the waters of the Bear River; to provide for efficient use of water for multiple purposes”. As members of the upper Bear River District and as adjudicated water users, we feel the Bear River Compact has worked very successfully and no changes are need or wanted at this time.

Signatures:

Marvin H. Hutchings

Marvin Hutchings

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# Bear River Compact Feedback Form

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Via Mail

Via Email

Bear River Commission  
Re: 20-Year Compact Review  
106 West 500 South, Suite 101  
Bountiful, Utah 84010

review@bearrivercommission.org

Name Harvey E. Hutchinson

Address 14129 Hwy 150 City E Vanston

“The major purposes of this Compact are to remove the causes of present and future controversy over the distribution and use of the waters of the Bear River; to provide for efficient use of water for multiple purposes”. As members of the upper Bear River District and as adjudicated water users, we feel the Bear River Compact has worked very successfully and no changes are need or wanted at this time.

Signatures:

Harvey E. Hutchinson

Harvey E. Hutchinson

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# Bear River Compact Feedback Form

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Via Mail

Via Email

Bear River Commission  
Re: 20-Year Compact Review  
106 West 500 South, Suite 101  
Bountiful, Utah 84010

[review@bearrivercommission.org](mailto:review@bearrivercommission.org)

Name Sterlin Hutchinson

Address \_\_\_\_\_ City Logan

“The major purposes of this Compact are to remove the causes of present and future controversy over the distribution and use of the waters of the Bear River; to provide for efficient use of water for multiple purposes”. As members of the upper Bear River District and as adjudicated water users, we feel the Bear River Compact has worked very successfully and no changes are need or wanted at this time.

Signatures:

Sterlin Hutchinson

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Via Mail

Via Email

Bear River Commission  
Re: 20-Year Compact Review  
106 West 500 South, Suite 101  
Bountiful, Utah 84010

review@bearrivercommission.org

Name Ada H. Hutchinson

Address \_\_\_\_\_ City Evansville

“The major purposes of this Compact are to remove the causes of present and future controversy over the distribution and use of the waters of the Bear River; to provide for efficient use of water for multiple purposes”. As members of the upper Bear River District and as adjudicated water users, we feel the Bear River Compact has worked very successfully and no changes are need or wanted at this time.

Signatures:

Ada H. Hutchinson

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Via Mail

Via Email

Bear River Commission  
Re: 20-Year Compact Review  
106 West 500 South, Suite 101  
Bountiful, Utah 84010

review@bearrivercommission.org

Name Roy Hawks

Address 10655 Pegram Rd City Montpelier ID 83254

Phone 208-847-0729 Email \_\_\_\_\_

As a land owners and water users  
of Bear River, it is ~~my~~ <sup>our</sup> opinion that  
the Compact should not be opened or  
amended.

Roy Hawks



# Bear River Compact Feedback Form

Written comments are due by 5:00 p.m. on Monday, December 4, 2017, and can also be submitted to the following addresses:

Via Mail

Via Email

Bear River Commission  
Re: 20-Year Compact Review  
106 West 500 South, Suite 101  
Bountiful, Utah 84010

review@bearrivercommission.org

Name Robert Hawks

Address 8366 Pegram Rd, City Montpelier, Id. 83254

Phone 208-847-3579 Email \_\_\_\_\_

As a landowner, and water user of  
Bear River water it is my opinion that  
the compact should not be opened  
or amended.

Signed  
Robert Hawks

Bear River Commission

RE: 20 yr. Compact Review

106 West 500 South, Suite 101

Bountiful Utah, 84010

Name: Hawks & Son

Address: 8366 Pegram Rd, Montpelier Id 83254

Phone: 208-847-3579

As a land owner + water user of  
Bear River Water it is my opinion that  
the compact should not be opened  
or amended!

Signed  
W. Robert Hawks

Bear River Commission  
RE: 20 yr Compact review  
106 West 500 South, Suite 101  
Brentiful, Utah 84010

Name: Greg Hawks

Address: 8157 Peqam Rd, Montpelier, Id 83254

Phone: 208-847-3217

As a landowner and water user of  
Bear River Water. it is my opinion that  
the Compact should not be opened or  
amended!

Signed

Greg Hawks



Bear River Commission

RE: 20 yr. Compact Review

106 West 500 South, Suite 101

Bountiful, Utah, 84010

Name: Jayce Hawks

Address: 8366 Pegram Rd, Montpelier, Id 83254

Phone: 208-847-3579

As a land owner and water user of Bear Riverwater it is my opinion that the Compact should not be opened or amended!

Signed

Jayce Hawks



## Donna Keeler

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**From:** Gilbert & Becky Olson <gilbeck@gmail.com>  
**Sent:** Tuesday, November 28, 2017 1:33 PM  
**To:** Don Barnett  
**Subject:** Re: Update to Bear River Commission's 20-Year Compact Review Webpage

Please include my comments to the Commission's website, that I strongly support the Bear River Compact remaining the same as it now exists. It has worked well for the past 20 years and has equally protected the interests of each state. I see no need to amend it in any way at this review.

I am a landowner along the Bear River, North of Evanston.

Thanks

Gilbert Olson  
1531 County Rd. 103  
Evanston, WY 82930

Phone 307-708-1111

On Tue, Nov 28, 2017 at 1:09 PM, Don Barnett <[dbarnett@barnettwater.com](mailto:dbarnett@barnettwater.com)> wrote:

We greatly appreciate your participation in the Bear River Commission's 20-year Compact Review effort. Pursuant to requests and discussions at the recent Bear River Commission's regular meeting, we have updated the 20-year Compact Review webpage to include:

- A Summary of newspapers to which we provided public meeting notices
- Copy of Press Release provided to media outlets
- Copy of the PowerPoint presentation given at the public meetings
- Summaries of the five public meetings, including lists of attendees

Please remember that the deadline for submitting written comments on the 20-year Compact Review effort is next Monday, December 4, 2017. Shortly after that date we will scan all written comments received and post them to the Commission's website for your information.

**BEAR RIVER**  
**COMMISSION**



# Bear River Compact Feedback Form

Written comments are due by 5:00 p.m. on Monday, December 4, 2017, and can also be submitted to the following addresses:

Via Mail

Via Email

Bear River Commission  
Re: 20-Year Compact Review  
106 West 500 South, Suite 101  
Bountiful, Utah 84010

review@bearrivercommission.org

Name SCOTT LUCE

Address 18905 Hwy 150 S City EVANSTON

Phone 307 789 3860 Email SLEDGE Row@MSW.com

Bear River Compact is working well and  
should remain as is.

Scott Luce



# Bear River Compact Feedback Form

Written comments are due by 5:00 p.m. on Monday, December 4, 2017, and can also be submitted to the following addresses:

Via Mail

Via Email

Bear River Commission  
Re: 20-Year Compact Review  
106 West 500 South, Suite 101  
Bountiful, Utah 84010

[review@bearrivercommission.org](mailto:review@bearrivercommission.org)

Name Joe Brown

Address 668 Co Rd 160 City Evanston

Phone 307-679-5008 Email jozzyj@attlewy@yaho

works great  
needs no changes



# Bear River Compact Feedback Form

Written comments are due by 5:00 p.m. on Monday, December 4, 2017, and can also be submitted to the following addresses:

Via Mail

Via Email

Bear River Commission  
Re: 20-Year Compact Review  
106 West 500 South, Suite 101  
Bountiful, Utah 84010

[review@bearrivercommission.org](mailto:review@bearrivercommission.org)

Name J. Sam Lockman

Address 1216 Cold 169 City Evansville WY

Phone (307) 789-2259 Email \_\_\_\_\_

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*Working well now -  
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*J. Sam Lockman*

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# Bear River Compact Feedback Form

NOV 15 2017

Written comments are due by 5:00 p.m. on Monday, December 4, 2017, and can also be submitted to the following addresses:

Via Mail

Via Email

Bear River Commission  
Re: 20-Year Compact Review  
106 West 500 South, Suite 101  
Bountiful, Utah 84010

[review@bearrivercommission.org](mailto:review@bearrivercommission.org)

Name Laurie Lym

Address 16590 State Hwy 150 South City Evanston

Phone 1-307-679-5579 Email laurielym@gmail.com

Why Change something that has worked for several  
years. IT meets everyones need. leave as is with  
No amendment

Please use reverse side if more room is needed



# Bear River Compact Feedback Form

Written comments are due by 5:00 p.m. on Monday, December 4, 2017, and can also be submitted to the following addresses:

Via Mail

Via Email

Bear River Commission  
Re: 20-Year Compact Review  
106 West 500 South, Suite 101  
Bountiful, Utah 84010

review@bearrivercommission.org

Name Lamar Lym

Address 16590 HY150 South City Evansford, Wyo.

Phone 1-307-679-4658 Email \_\_\_\_\_

I Feel The Bear River Compact is Fair to all party's  
That are invalved, I think it needs To stay the same.  
With no amendments



# Bear River Compact Feedback Form

Written comments are due by 5:00 p.m. on Monday, December 4, 2017, and can also be submitted to the following addresses:

Via Mail

Via Email

Bear River Commission  
Re: 20-Year Compact Review  
106 West 500 South, Suite 101  
Bountiful, Utah 84010

[review@bearrivercommission.org](mailto:review@bearrivercommission.org)

Name Erika Lynn

Address 10590 Hwy. 150 South City Evanston

Phone 307-679-3103 Email lynranch@gmail.com

Why Change something that is working for  
everyone involved. It needs to stay with no  
amendments.

**From:** Sandra Allen <sallen620@aol.com>

**To:** review <review@bearrivercommission.org>

**Subject:** Comments on Bear River Compact

**Date:** Sat, Nov 11, 2017 10:17 am

---

To whom it may concern:

I have carefully considered the comments pro and con about opening the Bear River Compact. After careful thought, I register my opposition.

The Compact has existed to the benefit of the people in the region. At its development, all contingencies were carefully vetted. The Compact was drafted, recognizing the good of the people. Those considerations are no less relevant today.

Opening the Compact exposes it to manipulation by vested business interests that have demonstrated by their actions disregard for the people of the region. This is dangerous to the commonweal and must be avoided.

You may wonder why I am voicing my opinion. Though I now live in Chicago, my grandfather Francis Allen was one of the founders of the Last Chance Canal. As such, I grew up in Soda Springs, and still consider this country seat my "home". So, my roots run deep in Caribou County and a fair number of its residents and voters are my relatives. These honest, hardworking ranchers and farmers depend on the elected politicians to safeguard their livelihood and their future.

Therefore, I hereby state that the Compact should not be opened, should not be changed, and should continue as it presently exists.

Sincerely



Sandra Allen  
405 North Canal Street  
Chicago, IL 60654





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**APPENDIX E-2**

Public Water Suppliers





December 1, 2017

Bear River Commission  
 Re: 20-Year Compact Review  
 106 West 500 South, Suite 101  
 Bountiful, Utah 84010

Dear Commission Members,

Thank you for the opportunity to comment regarding the 20 year review of the Bear River Compact. The public notice was extensive and the opportunity to attend public meetings throughout the region was helpful in giving interested parties the opportunity to gain valuable information regarding the history of the Bear River Compact, the organization of the Bear River Commission, and function of the Water Quality Committee, Operations Committee, Technical Advisory Committee and the Records and Public Involvement Committee. Through these committees the purposes of the compact are very well met. The addition of the Public Involvement Committee to the Records Committee has welcomed interested persons to come and be involved.

The Bear River Water Conservancy District ("District") commends the Bear River Commission for effectively and appropriately managing and distributing the water of the Bear River as outlined in the Bear River Compact, promoting co-operation between Utah, Idaho, and Wyoming, protecting the rights and interest of the water users, Pacific Corp and Bear Lake. The District supports the Bear River Compact remaining as presently constituted.

Best Regards,

Bear River Water Conservancy District Board of Trustees

A handwritten signature in blue ink, appearing to read "Roger Fridal", is written over a horizontal line. Below the line, the name "Roger Fridal, Chairman" is printed in a black, sans-serif font.

Roger Fridal, Chairman

Roger G. Fridal  
 Chairman

David Forsgren  
 Vice Chairman

Charles W. Holmgren  
 Treasurer

Tyler Vincent

Jeffrey D. Scott

Neil C. Capener

Jay H. Carter

Russell D. Howe

Richard E. Day

Mark S. Larson

Jay A. Capener

Voneene J. Jorgensen  
 General Manager

## Donna Keeler

---

**From:** Jeannie Simmonds <jfsimmonds@comcast.net>  
**Sent:** Monday, December 04, 2017 3:12 PM  
**To:** review@bearrivercommission.org  
**Subject:** Public comment 20 year review

The history of the Bear River Compact is a history that emphasizes cooperation. It is cooperation among the three states, it is cooperation between what was Utah Power and Light and is now PacifiCorp and the water users. It is a compact that utilizes the flow of an extremely valuable resource to the benefit of a host of users. I believe that fundamentally, the compact works well for all parties. I do have a concern, however that we not allow one party to have precedence over another. While I have a rudimentary understanding of the ranking of water rights on the Bear, I believe that the states and the agricultural users would not benefit from a change in use or priority to PacifiCorp. While each user "makes money" from the flow of the Bear River, PacifiCorp, because of its management right to Bear Lake, can, if allowed to do so, make money generating power as currently allowed and make even more money on the backs of downstream users. Each state is managing their portion of the flow of the river. Because Utah is "at the end" of the flow our development of the developable flow should benefit those who are entitled to it by state law.

In a very round about way, I believe the compact will continue to work without change for the next 20 years.

This is my own opinion, not necessarily that of the Water District.

Jeannie Simmonds  
Chair, Cache Water District=

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**APPENDIX E-3**

Bear Lake Interests





December 3, 2017

Dear Madam Chair and Commissioners,

With this 20-year review of the Bear River Compact, we can either take a very narrow view, looking only at the apportionment of the waters - by the numbers and the percentages - because that is all that we are required to do. Or, we can take the opportunity to broaden our view to the greater possibilities we could achieve.

Recognizing that the Compact and the Commission are not charged with the responsibility for all things related to the stewardship of the waterway, we are still part of it and the uses provided for in the compact do have a substantial effect upon the whole.

While nothing is perfect, the Compact is a good foundation. Bear Lake Watch sees no clear reason to open the Compact.

It appears that:

- ✓ the states are fairly satisfied with "Equitable Apportionment"
- ✓ there are prospects of "Additional Development" and
- ✓ there is no "Controversy over Distribution".

With these three purposes checked off, we could turn our attention to the *other* purpose (perhaps the least quoted or underlined) - that is; "providing *efficient use for multiple purposes*". This might/may mean something a bit different today than envisioned in the 1950's.

Our current era of fast-paced technologies has presented new opportunities for water management and strategies; accurate measurement, real-time data, sat-photos, high speed computers and instant communications. This group has already taken the lead in incorporating many of these into our systems, making us better at our work... more efficient. This "efficiency" itself opens-up additional time and attention available to take on more tasks and broaden our scope.

New technologies will continue to proliferate, not only allowing us to do more, but also allowing water to do more and to go farther... be more efficient.

That leads us to "Multiple Use" which has also taken on a broader meaning, both legally and socially. In this era, our society places a higher value on our natural surroundings and more scrutiny for the ways that we use them. We have changed from being - just a few people with seemingly unlimited resources - to a society of unlimited people with seemingly few resources. We have seen these changes play out through new laws of the land, new community standards, even changed corporate mindsets.

We will be wise to incorporate these thought processes into what we do along our waterways, in our states, within our companies and upon our lands and to continue down that broader path, as we did in the 1990s.

Bear Lake Watch asks that you consider some of the points and thoughts in the following comments. We use the term *WE* broadly - as the family of the Bear River and Bear Lake system. *WE* are all in this together.

Respectfully,

*David Cottle*  
*Claudia Cottle*

Claudia & David Cottle

*Executive Directors*  
*Bear Lake Watch*

Jody Burnet  
*President*

Phil Olsen  
*Vice President*

David Cottle  
Claudia Cottle  
*Executive Directors*

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bearlakewatch@aol.com  
www.bearlakewatch.com

*IRS Non-Profit*  
*501(c)(3)*  
*87-0531204*



## ***Problems of a Physical Nature***

As Pioneers, our forefathers must have been awed at the vast complexity of the natural and wild system surrounding them. In efforts to improve their productivity and livability in this new land, they endeavored to tame these resources, dividing and regulating piece-by-piece according to the priorities of their lives and livelihoods. As we come full circle of a century, it may be time to bring these pieces back together again. It's a time to realize that we cannot, should not, segregate the water quantity (aka apportionment) from its other forms, forces and functions as part of the system.

We have already recognized that water quality is important to its other functions. Facing this problem, we have attempted to tie quantity and quality back together in the collection and disbursement of our waters. Our states have developed data and criteria in order to improve management strategies for water quality.

But there are other factors that we have ignored or disregarded as unimportant or low priority. There are very significant factors of using Bear Lake as a reservoir...

- *Just being there...* the timing and magnitude of the physical forces that are required to maintain the shape and essential qualities and characteristics of the shoreline.
- *What it brings and what it takes...* Water moves land one grain in the time, either cleaning a shoreline by sorting sands, gravels and rocks or bury it by depositing sediment and debris. It can build land or it can carve it away.
- *What lives and dies...* Fluctuating water levels change habitats - tough on creatures that depend on it.
- *What it connects and disconnects...* Streams that normally connect to the lake are disconnected when the water is low. Hard on fish trying to make it up stream.
- *What value it gives or takes...* when we give water to one *use* or *user* we often take value from another *use* or *user*.

Many of these problems and imbalances are fixable. We've defined high goals and made great plans for the development, diversion and consumption of water, but not so for the impacts of those uses. Many could be alleviated or mitigated if we do the same; address them, define goals and make plans.

## *Problems of a Cultural Nature*

Sometimes it seems that social and cultural problems are bigger obstacles than the physical ones, but they too are fixable with the right strategies applied.

Many cultures care about water:

- People in *Agri-Culture* are generally very in tune with the natural systems, but each has only a small piece of land and no way to affect big changes in the system.
- People in our agency's or the *Bureau-Culture* want good things to happen but are limited by what they are directed to do.
- People in the *Enviro-Culture* want good things to coexist but don't often have in-roads to effect changes.
- Then there's the *Politi-Culture*, where one might want to see change, but it might be politically inexpedient (shall we say).
- And then there's the *Business-Culture*, where there is a striving for balance of good works and the bottom line.

All of the *Cultures* have something to bring to the table. They see problems from different perspectives. Collectively, we can envision solutions. Most can see that any use creates impacts to other users and uses and would like to help bring balance.

All that is lacking is a forum, a place to come together ...

to create a new culture...

a *Culture of Stewardship*.

## ***Our Culture on the Bear River:***

Culture defined:

# culture

noun cul·ture \ 'kəl-çər \

1. a: the manifest of human intellectual achievement, regarded collectively, *often* referring to the higher forms such as music and art.  
b: the sum of attitudes, customs, behaviors.
2. a: set of beliefs that distinguish one group from another.
3. a: what has been learned, valued, preserved, passed down; a way of life.  
b: combination of language, institutions, values, transmitted to new generations

On the Bear River:

By collecting and combining all of our intellectual achievements, we can bring about higher forms of behaviors and attitudes.

By bringing people together we can use our language, institutions and shared values to foster a new culture - seeking higher standards, keener technologies, and balanced multi-use solutions.

By identifying our challenges, we can begin to tackle them. They say the first step to recovery is to say it out loud, call it by name.

The Bear River Culture has already distinguished itself as a one of amiably solving problems. We can continue to lead if we are brave and bold enough to acknowledge the glitches in our system and face the fact that there are always ways to make a better mousetrap.

## *The Commission*

The big question: Is the Bear River Commission the correct and proper body to take on these issues?

In review...

The commission is an “interstate administrative agency”

It has the power to...

- Create bylaws, rules, regulations
- Hold property, employ, contract
- Sue and be sued
- Cooperate with state and federal agencies for water pollution
- Function as required - all necessary, proper and convenient duties
- Act independently or in cooperation with agencies, federal and state

It Shall...

- Enforce the Compact by suit or other means
- Report both the work and the financial status.

Its bylaws allow...

- Employment of personnel deemed appropriate by the commission
- Each state accredited three advisors to the commission
- Create standing committees
- Create special committees with assigned tasks

So, it seems that the Commission, through its bylaws, has the flexibility needed to explore associated issues and take on additional tasks. It does represent the three states of the Bear River.

*It's important to note that the Compact and law may limit the Commission's authority, but they do not limit its influence.*

***Why the Bear River Commission may want to take on this task***

*Because WE can*

We've become very good at what we do. What was once an almost overwhelming task of seeing to it that the waters were divided as agreed to and in making the record of it... At keeping the peace!

*Because it fits*

We are the three states, who are the water users and also those responsible for the stewardship of the whole of the natural resource and social economy systems.... Who could do it better?

*Because we should*

Those who benefit almost exclusively from the use of the waters of the state, have had great privilege. With that comes responsibility... Make a mess - clean it up!

*Because we need to*

If we want to continue the use, we must do it by a higher standard required by today's society.

We live in a country with *Big Laws* → ESA, CWA

..... of *Big Interests* → lawsuits and courts

We must be in the lead of *Big Stewardship*.

### ***Possibilities for the Commission***

By amending bylaws they could:

- ✓ Increase the number advisors appointed by each state
- ✓ Create a new standing committee

Under current bylaws they could:

- ✓ Employ an environmental engineer or advisor
- ✓ Contract with environmental professionals
- ✓ Create a special committee – such as
  - Different type of Advisory Committee.
  - Environmental Coordinating Committee
  - Ecological Study Group
  - Research and Technical Developments
  - ...others
- ✓ Assign specific tasks such as:
  - Inventories and reports
  - Investigations of impacts
  - Explore integrated uses and impacts
  - Methods and systems for balance
  - Appoint or open membership
  - Identify Specialists
  - Create learning opportunities
  - ...others

## *Additional Possibilities for the Commission*

### *The Review Principle*

Expand on the Review Principle... “Not exceeding 20 years” may be sufficient for the details of apportionment aspects of the compact...

But with rapid growth of populations economies in technology perhaps we should set some closer waypoints

To check and refine our course – some thoughts

- 5 Year Review or evaluation of progress
- On-going “Think-Tank” of just bouncing ideas and *what ifs*
- Visioning - Look ahead ... contemplate situation and options

Consider: It's not good to hold a bearing if you are on collision course. It is wise to look for obstacles.

Possible Course Changers:

- Society's desire to consider the environment as a whole
- The view of water users and development as thoughtless “takers”
- Possibility of federal level actions... ESA or CWA
- Possibilities of Big Enviro actions or challenges
- Substantial and long-term changes in “atmospheric” supply (a changing climate)
- Natural Disaster
- ....?





## Bear Lake Regional Commission

69 N. Paradise Parkway, P.O. Box 472, Garden City UT 84028 • (435) 946-2198 • Fax (435) 946-2205



Friday, December 1, 2017

To whom it may concern:

The Bear Lake Regional Commission discussed the 20-year review of the Bear River Compact at the regularly scheduled meeting held on Wednesday, November 29, 2017. During the meeting the compact was discussed as well as other efforts resulting from the implementation of the compact.

The Bear River Commission has done a fine job with administering the provisions of the Bear River Compact. This is a complicated document that requires great attention to detail in its administration. Dealing with water is often a contentious issue in the mountain west and the commission has shown professionalism in meeting those challenges associated with human nature.

Discussion was also had on the Water Quality Committee of the Bear River Commission and the cooperative efforts that have developed as a result of the formation of that committee. The tri-state water quality monitoring effort has provided valuable information to the three states Departments of Environmental Quality as they grapple with the most effective means of implementing water quality rules.

In summary, the board appreciated the meticulous effort the commission has made in seeking public input on a document that has help to manage a finite resource. However, they identified no immediate need to make changes to the compact. As Ken Brown declared when speaking of the compact "if its not broke, don't try to fix it".

Sincerely,

*Vaughn N Rasmussen*

Vaughn Rasmussen, Chairman

*Norman A. Weston*

Norman A. Weston-Vice Chairman

December 4, 2017

Bear River Commission  
106 West 500 South, Suite 101  
Bountiful, Utah 84010

***Subject: Comments on 20 Year Annual Review of Bear River Compact***

Dear Bear River Commission:

Thank you for having public meetings and allowing for written comments. My comments reflect the interest of someone who is concerned about the natural resources of Bear Lake, including the recreation resources. I am a professional geologist in the states of Utah and Wyoming, a property owner near the lake, the Vice President of the Cottonwood Cove Home owners Association and the Ad hoc leader of the Bear Lake Shoreline Council.

The current management of water resources by the Bear River Commission (Commission) is not meeting its purpose (as stated below) and needs to be changed.

*"The Major purposes of this Compact are to remove the causes of present and future controversy over the distribution and use of the waters of the Bear River; to provide for efficient use of water for multiple purposes; to permit additional development of the water resources of Bear River; to promote interstate comity; and to accomplish an equitable apportionment of the waters of the Bear River among the compacting States."*

The Bear River Commission has failed in removing causes of present and future controversy related to the distribution and use of the waters of the Bear River. Current and future elements on controversy that will be discussed in this comment letter are 1) Water Levels in Bear Lake, 2) Water Quality in Bear Lake, 3) Water Conservation. I expect the controversy to intensify in the future as the public becomes more educated on the adverse effects on Bear Lake from the current management practices.

**Bear Lake Water Levels**

Current water levels in Bear Lake show a 31 year trend of declining lake levels. This trend is alarming. The last time the lake reached full pool was in 1986, 31 years ago! Bear Lake was near full pool in 1997-1999 and perhaps did not reach full pool because of the 6 inch buffer below full pool instituted by Pacific Corp, but that was the last time the lake was even close to its natural full pool level. The attached Figure 1 graphic shows how Bear Lake Levels have declined in the last 31 years. The 1997 report on Compact Revision (Bear River Commission, 1997) stated: *"Additional stabilization of lake levels is expected because of an agreement between downstream water users, citizen groups around Bear Lake, and Pacific Corp."* Figure 1 clearly shows this has not been the case. The lake was more stable and at higher average level between 1946 and 1988 than it has been since the 1997 report prediction.

Reductions in irrigation allocations do not start until the lake elevation is at 5,914 and are not significant until 5,910. The Figure 1 graph shows the trend of the lake is near 5,914 and falling. The average lake level is at the point where current conservation allocations kick in. Do the

citizens of Utah, Idaho and Wyoming want a lake that is managed for and elevation of 5,914 and falling? I do not think so. Is an average lake level of 5,914 without controversy and meeting the purpose of the compact? Based on the public meeting I attended, the answer would be no. What will the average level of the lake be in another 10 years? The five year average Bear Lake elevation from November 2012 to November 2017 (the maximum interval downloadable from the Commission's website) is 5,914.14. This reflects true daily or typical average as the lake maintains its annual maximum elevation for less than a week and typically stays near the annual low for several months.

You requested specific recommendations on how the compact should be modified. Here is my recommendation. **The compact should be modified so that conservation measures kick in at 5,919.** Most typical years have snowmelt that put four feet of runoff water into the lake. This will keep the average level of the lake at 5,919, with a 4.5 foot buffer for typical spring runoff.

The 1997 report (Commission 1997) also stated: *"The commission finds there has not been identified, at this time, a need to consider Compact revisions with respect to Bear Lake levels or future storage allocations that are now allowed to the three states by the Compact."* At this time, with another 20 years of data showing a long term trend of declining Bear Lake Levels and an average Bear Lake level 9 feet below the natural lake level, I suggest that "at this time" the need for revisions would be clearly apparent.

As a property owner near the lake and Vice President of the Cottonwood Cove Home Owners Association, the lake levels have a big impact on the recreational use of the lake and our property values. At a lake elevation of 5,914, the edge of the water is 330 yards from the natural water level. In 1992 the edge of the water was 510 yards. Instead of a beautiful sandy shore, when the lake is down, we are forced to march through ankle to knee deep muck to get to the water. The sand on the shoreline of the lake is a very very valuable resource. The loss of the sand causes an adverse economic impact to the businesses and property owners around the lake.

As a geologist, I have watched with a professional eye for over 30 years the shoreline process and sediment movement processes at Bear Lake, as well as reading papers about similar processes at similar and larger scales. On the north, south and east side of the lake, where the shore does not drop off sharply, shoreline processes mimic coastal barrier island processes, with longshore currents moving the sand sideways and up and down the beach. Unfortunately, the sand supply at Bear Lake is limited as there are no new inputs of sand into the lake. The shoreline is an inclined plane and as the water levels drop each year, the net movement of sand by the longshore currents is downhill under the force of gravity into deeper water. Winter water levels are more constant and winter storms are able to create a winter berm that becomes a barrier island as water levels increase. As water levels go higher in early summer the barrier island is drowned as water levels raise faster than the sand forming the island is able to move.

In late summer and fall, the receding water and runoff channels carry some of the sand of the barrier island into deeper water below the wave zone where it is permanently lost to the beach. After 100 years of repeated cycles of annual drawdown and falling lake levels, much of the beautiful sand from the beaches of Bear Lake are now out at a depth of 5,900 to 5,905. This sand in deeper water is a lost recreation resource. Higher on the shoreline in the former location

of the sand is a clayey/silty substrate originally deposited in a deeper water environment (10-20 feet) when the lake was at natural levels. The only way to get this sand trapped in deeper water back into circulation around the shoreline would be a dredging operation with beach replenishment/nourishment like is done on the coast.

The frequent and long term drawdowns of the lake create bare areas that are colonized by both native and noxious species of plants. The native reeds and wiregrass form a dense turf that additionally prevent the sand from moving, causing a further loss of this resource as long as the stalks and roots of those plants are present and immobilizing the sand. Noxious weeds that have invaded the bare shoreline include phragmites, dyers woad, Canada thistle, purple loosestrife, Russian olive, and tamarisk. Weed control efforts on the exposed shoreline by Utah Forestry Fire and State Lands requires a significant budget and manpower commitment. None of the income produced by electrical generation assists with the noxious weed control efforts or mitigation of other impacts caused by drawdowns.

### **Water Quality**

I have many questions about water quality as neither the Utah Department of Environmental Quality or other entities associated with Bear Lake have sufficient data to answer the questions. The water naturally entering the lake from the north used to be free of sediment and filtered as it flowed through the Dingle Marsh and Mud Lake. Now, only the coarsest sediment is filtered out and during high runoff years, an unfiltered torrent of over 3,500 cubic feet per second (cfs) blasts through Dingle Marsh and Mud Lake, bringing a huge load of fine sediment and organic debris into the lake. Based on my visual observations this spring at Stewart dam and at the north causeway inlet, the water quality was not significantly different at those two points. Little water quality data was collected in 2017 to document the inflow water quality. This year and in 2011, the turbidity of the lake increased all summer and the aqua color of the lake changed to brown and green for much of the summer. Will that become an annual occurrence? During 2011, a thick layer of clay and organic muck was deposited around the shoreline of the lake from the high flows. I anticipate the same type of deposit to occur this winter. What is the impact of this muck on the ecosystem of the lake? Does it coat the spawning substrate? Does it increase the potential for eutrophication of the lake? Does it impact the biochemical oxygen demand (BOD) levels of the lake? The Commission should know the answers to these questions.

Each year Bear Lake exchanges clean sediment-free water that is pumped out at Lifton for dirty sediment laden water that flows in from the causeway. Has the commission modeled the long term effects of this process on water quality? What is the assimilative capacity of the lake? When will a TMDL be implemented for the lake? Will the TMDL restrict inflows and outflows? What are the effects of this dirty water for clean water exchange on the endemic fishes that live in the lake? The water quality monitoring that has been done on the Lake as well as the inflow and outfall monitoring is minimal for tracking either short term or long term impacts and trends. Nothing prevents the Commission from collecting additional samples to track the water quality parameters on Bear Lake and presenting the answers to questions like "How much dissolved and suspended sediment is coming in versus going out?" How much sand is being removed every year by the pumps? Someday in the future, these impacts will likely need to be quantified and mitigated. Taking proactive steps now to protect water quantity and quality in the Lake appears to be required as part of the purpose of the Commission.

### **Water Conservation**

The Commission's website with real time tracking is a wealth of information. However, I am very perplexed when I see water flowing into canals during March and April. The Wyoming segments of the Bear River seem most prone to this. The Commission should make sure that headgates and diversion works are in the proper place in the fall to prevent precious water from being wasted by being put onto the fields before it is needed. This is water that could be stored in the reservoirs for a more critical time for irrigation.

While I understand that there are many court rulings and laws that the Commission has to follow, it seems insane to me to draw down a natural lake/reservoir (Bear Lake) in the fall because of anticipated spring flows in the Bear River that must be kept below 1500 cfs. This ruling or commitment was likely made near the early 1900's when our society's understanding of the science of river systems was very limited. At that time it was thought that it was a good thing to stop a river from ever extending beyond the banks (flooding) and no expense should be spared to prevent a totally natural phenomenon (spring flooding) from occurring. Until three days ago, Bear Lake was being drained to make room for a typical spring runoff. Approximately 1 foot of water has been drained off the lake since the end of the irrigation season. Pacific Corp reaps a healthy income from the power produced by this action. Meanwhile, almost all the other reservoirs on the system were being filled, while Bear Lake was being emptied. Where is the logic in this action? This operational procedure appears to ensure that Bear Lake will never be at a level over 5,920 come December of every year, no matter how good of a water year it is. This also ensures that the natural processes of the lake related to winter storms and ice will never again occur on the shoreline above 5,920 feet, forever changing that strip of the Bear Lake ecosystem.

My understanding is that flows in the Bear River near Thatcher, Idaho must be limited to 1,500 cfs year round to prevent property damage if natural flooding were permitted to occur above those flows. I reviewed aerial photography of the Thatcher area to see what would be damaged. What I saw was a restriction in the river where it had cut through a lava flow in prehistoric time and it appears that some farm fields would be naturally flooded at higher flows. While flooding would certainly limit agricultural production on these areas, the land is on a river's floodplain, a location where a prudent man would not build a structure or plan on farming without periodic flooding. I reviewed the water flows at the Bear River Near Border, Wyo (USGS) gauging station from 2007 to 2016 (Figure 2). Five times during that period the flows at that point exceeded 1,500 cfs. Those flows included water being diverted to fill the upstream reservoirs. Additional tributaries would add water to this flow if no water was diverted into Bear Lake and much more than 1,500 cfs would be the natural flow near Thatcher, Idaho. My conclusion is that considering a flow over 1,500 cfs to be unnatural "flooding" is setting the flow way too low.

In order to protect a few acres of farmland adjacent to the river from a natural process, thousands of acre feet of water are being dumped out of the lake. The flooding threshold flow number appears to be based on poor science or maybe an arbitrary number that only benefits a few people. This flow limit needs to be raised to a scientifically based number so that water can be maintained in the lake during the winter. Hundreds of thousands of visitors to Bear Lake pay the price of lower water levels to protect this farmland. The irrigators on the system also pay the

price by having less winter storage capacity and having Bear Lake water dumped downstream into the Great Salt Lake to protect this farmland from flooding. If changing this flow number is beyond the Commission's authority, I suggest changing the river channel near Thatcher to accommodate a higher flow without flooding, purchasing the farmland subject to flooding, or having Pacific Corp use the income generated by releasing this water to create a fund to lease the land or make payments to the farmers to offset their damages in years where higher flows occur. Or I suggest the Utah and Idaho Legislatures add an additional fee to the users of Bear Lake and create a fund to purchase this land so the flow limitations can be removed in the future.

The 1997 report remarked that many comments related to environmental concerns and water quality matters. Water quality, water levels and environmental concerns are all interrelated. Unless the Commission finds ways to be better stewards of the natural and recreational resources of Bear Lake, environmental concerns raised by the public or by special interest groups under the Clean Water Act or the Endangered Species Act will eventually, through court acts, change how the Commission is managing the waters of the Bear River. The power of environmental concerns in 1997 is nothing like the power they now wield or will wield in the future. If the Commission can find a way to stabilize Bear Lake levels at an elevation closer to a natural lake level, they may be able to head off current and future controversy.

While the Bear River Compact is working well for the irrigators that use the water and Pacific Corp for generating power, the other resources used by the public and the natural resources of Bear Lake have suffered. Perhaps if the Commission can find a way to change the management of the water resources without revising the Compact, that is a simpler solution. Management should take into account a drought plan, potential impacts of climate change, mitigation of past and ongoing impacts, ensure water is not wasted and all water withdrawn from the system is put to beneficial use.

Thank you again for the opportunity to provide input on the Bear River Compact.

Sincerely,



Wes Thompson P.G.

Vice President Cottonwood Cove HOA

Ad Hoc Leader of Bear Lake Shoreline Commission

Attachments: Figure 1 and Figure 2

email: [geomanrocks@hotmail.com](mailto:geomanrocks@hotmail.com)

Figure 1

### Bear Lake Elevation - Last 31 years

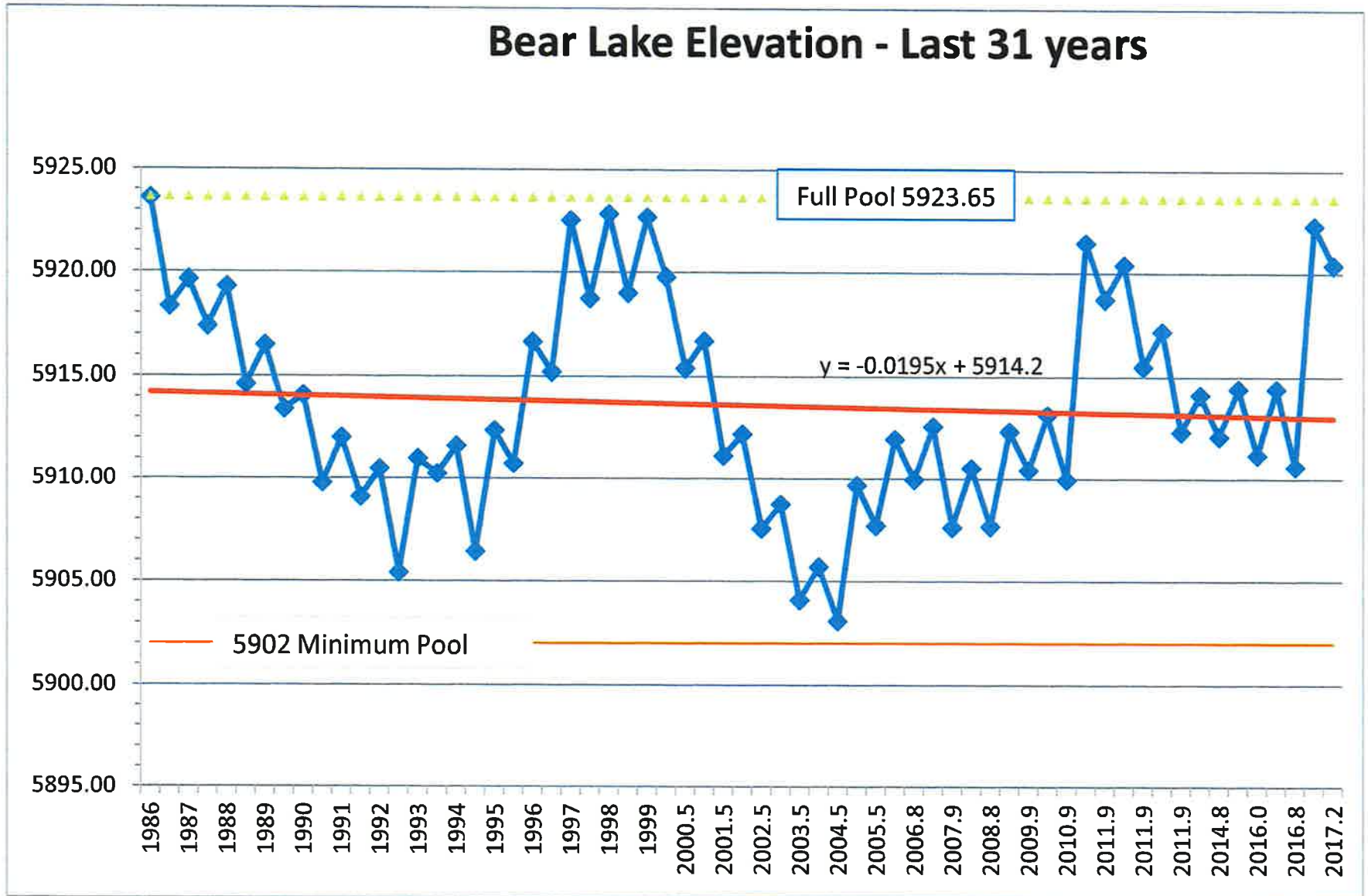
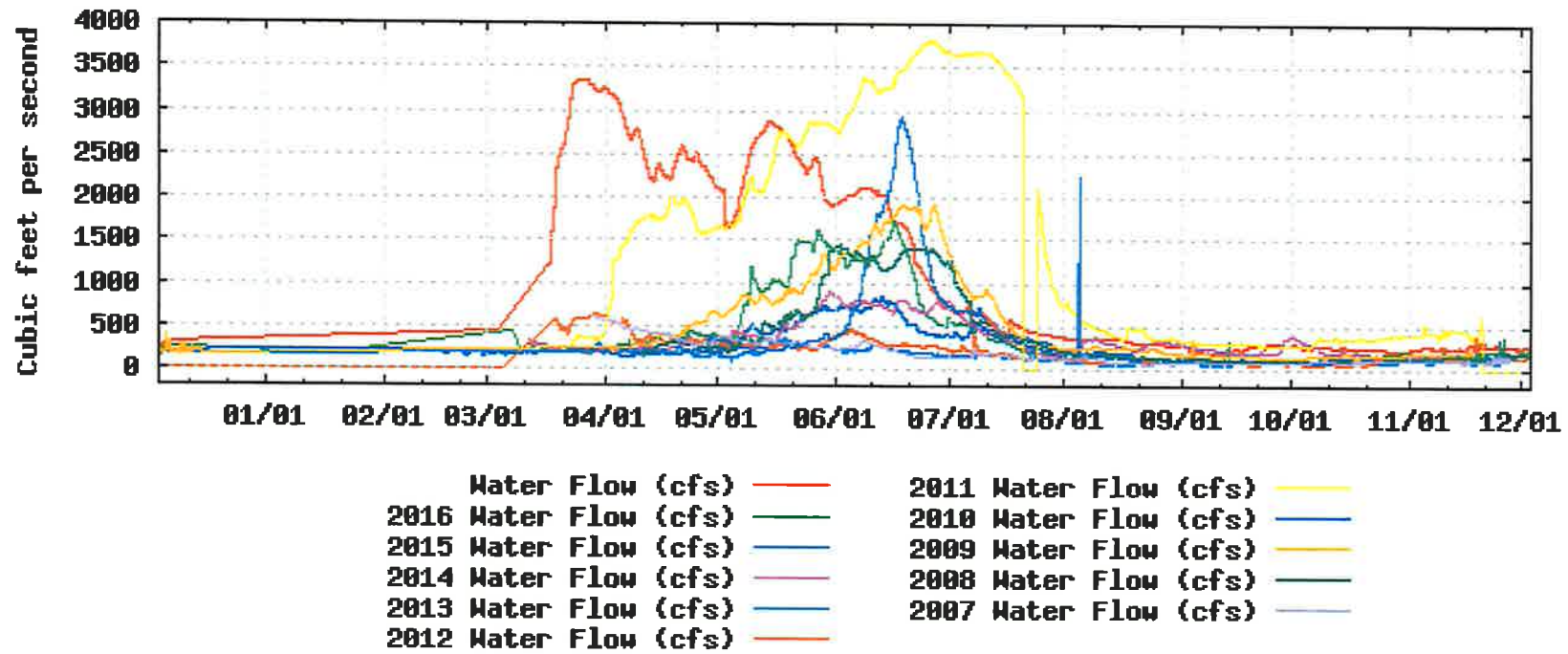




Figure 2



Bear River Near Border, Wyo. (USGS)

## Donna Keeler

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**From:** William Rusconi <billrusconi@gmail.com>  
**Sent:** Friday, November 10, 2017 5:07 PM  
**To:** review@bearrivercommission.org  
**Subject:** Comment regarding the 20-Year compact Review

Bear River Commission  
Re: 20-Year Compact Review  
106 West 500 South, Suite 101  
Bountiful, Utah, 84010

Dear Commissioners,

I am writing to provide comment for the review of the Bear River Compact.

I attended the recent meeting in Salt Lake City and had the opportunity to be educated about the scope and role of the Bear River Commission. While I don't believe that the Compact itself requires revision, I would like the Commission to consider a project to study the effects on the System of wide water level variations and sediment flows at Bear Lake.

**Water levels** – When water levels are allowed to drop for several years in a row, water hungry vegetation takes over the exposed shoreline, increases water depletion and, when not controlled, creates additional nutrient load and increased sediment when the water rises again and the vegetation dies. This bulk of decaying organic material also serves to reduce water quality and storage capacity of Bear Lake and the reservoirs along the system (not to mention, reducing the enjoyment of the rapidly growing number of recreational users).

Much of this water level fluctuation is unnecessary and, as I understand it, is the result of Rocky Mountain Power's need to dump water in the Fall to prevent liability due to downstream flooding in a high-runoff year. I encourage the Commission to explore ways to keep the water levels and seasonal fluctuations as consistent as possible in Bear Lake so that vegetation is not allowed to gain a foothold.

I also encourage the Commission to recommend effective means for control (mowing, disking, chemical control, etc. ) of vegetation in low water years to include policy proposals to government bodies (Utah Sovereign Lands, Army Corps of Engineers, etc.) regulating access and activity on the exposed public lands where that vegetation is growing. Namely, how can adjacent property owners help to manage the vegetation without making the problem worse or breaking the law?

**Sediment** – I also learned at the meeting that diversion into Bear Lake is bringing in more sediment as Mud Lake and its Bird Refuge is influencing the flow, (more directly into Bear Lake) for its own benefit. While most of the sediment sinks to the bottom of the lake, much of it seems to be building up in the form of sandbars in the storage elevations, subsequently (albeit theoretically) reducing storage capacity. In addition, the sediments have been observed to cloud and dampen the famous clear Caribbean blue color of the lake, Bear Lake's most treasured form of water quality. This is particularly apparent when storms stir up the sediment and decaying vegetation in the shallower water.

Managing a more consistent water level and reducing the frequency of inflow/outflow as proposed above could help to reduce the amount of sediment entering the lake and help to maintain its famous clear blue water quality.

**Conclusion** – I ask that the Commission consider the following:

- Sponsor a study of the effects of frequent and dramatic intra- and inter-annual water fluctuations at Bear Lake and the other reservoirs on water depletion, storage capacity, vegetation, sediment and water quality

- Make recommendations for techniques and public policy to 1) reduce the need for and frequency of the fluctuation 2) manage the subsequent deleterious effects of the fluctuations (sediment, vegetation, etc.)
- Continue to communicate with all stakeholders (including residential and recreational ) about progress, setbacks, challenges and strategies in achieving the above.

Thank you for your consideration, time and dedication to our precious resource,

Sincerely,

William E. Rusconi  
1739 Walker Court  
Park City, Utah 84098  
(also 1455 N Cisco Rd, Laketown, UT)

435-658-0302  
[billrusconi@gmail.com](mailto:billrusconi@gmail.com)

Board Member  
Bear Lake Watch  
[www.bearlakewatch.com](http://www.bearlakewatch.com)

Sent from [Mail](#) for Windows 10



# Bear River Compact Feedback Form

Written comments are due by 5:00 p.m. on Monday, December 4, 2017, and can also be submitted to the following addresses:

Via Mail

Via Email

Bear River Commission

Re: 20-Year Compact Review

review@bearrivercommission.org

106 West 500 South, Suite 101

Bountiful, Utah 84010

Name

Margaret Sargent

Address

1835 E Honey Creek Lane  
City SLC

Phone

801-560-7650

Email

mpsargent@comcast.net

I don't see a need to re-open the compact. I would like to see something added (like water quality was) regarding conservation of the water and striving to keep Bear Lake full

- 1- can clean itself
2. store water
- 3- economic value
4. esthetic value

— it is a jewel of the West !!!

## Donna Keeler

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**From:** Nancy Holman <melvin8525@gmail.com>  
**Sent:** Thursday, November 09, 2017 2:45 PM  
**To:** review@bearrivercommission.org  
**Subject:** Bear River Compact

To who It may concern,

I recently attended the public meeting in Salt Lake on November 2nd. I want to thank Don for doing an incredible job with his presentation and thank the Commissioners for all the great work they have done.

I do not feel at this time that the compact should be reopened. I would like to see an addition made.

I would like to see some sort of environmental committee established and their focus to be on the health of Bear Lake and the Bear River. To see what the impact is on the water when the level is fluctuating, sediments, lakebed... how healthy are these two water gems.

Thank you again

Nancy Holman  
2285 S Lakeline Drive  
Salt Lake City, Utah 84109

## Donna Keeler

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**From:** Dave Hollingsworth <KHolli@msn.com>  
**Sent:** Sunday, December 03, 2017 8:18 AM  
**To:** review@bearrivercommission.org  
**Cc:** Carolyn Nebeker; dhrd409@aol.com  
**Subject:** 20 Year review

I attended the meeting in SLC on 11/2/2017 and spent a lot of time before and after reviewing all that I could find about what you do.

I must say the Commission is doing an excellent job of tracking all the water coming in and where it goes. It seems to me that what is needed is the other half. Who is using it and what for, also how can it be conserved.

Thank you for all you do.  
Dave Hollingsworth  
Sent from [Outlook](#)

Henry C. Wurts  
3969 Parkview Dr.  
Salt Lake City, UT 84124

Bear River Commission  
RE: 20-Year Compact Review  
106 West 500 South, Suite 101  
Bountiful, UT 84010

4 December 2017

Honorable Commissioners:

My family and extended family are tax paying property owners in both Fish Haven, ID, and Salt Lake City, UT. And have been enjoying Bear Lake for months each year, for over a century. Indeed, some extended family members live at Bear Lake year-round.

Please consider the following points, as you contemplate the need for a change, or not, in the current Compact as amended.

1. I commend the Commission for the work being done, for requesting comments, and for taking the position of "no preconceived notion" of "needs to be amended."

One of the last times I submitted written comments for a Bear Lake concern was when a private company was trying to use Bear Lake as a pump storage electric utility facility, and we were put on the defensive to prevent them from damaging the lake for their personal gain. So, I appreciate the opportunity to share comments while on the offensive, as we look toward the next two decades of Bear Lake's use.

2. Bear Lake is a classic "public good" in the economic sense.

As such, it can suffer from a well-documented general concern referred to as "the tragedy of the commons." As is understood, public goods can be diminished as a common good, when no one takes responsibility to maintain, preserve, and grow the economic entity (i.e., the lake). As an analogy, the biomass of a public fishery can be collectively over-fished to the point where the biomass begins shrinking, and cannot restore itself until all parties agree to cut-back use; sometimes, such fisheries diminish to the point where they cannot be restored, or take centuries to restore. While the lake itself is different that a cod, or tuna, or lobster biomass, each of which has experienced over-fishing, the lake does share the concern that all parties need to be cognizant of their use, that no parties should have overarching use that diminishes the value for others, and that each party should pay appropriately for its use. As homeowners and taxpayers, we do pay taxes for some use of the lake. Whether our tax payments or the payments for irrigation rights are of equal value would be answered only by a thorough economic analysis.

3. The original compact was created during a different period of use.

It was created after World War II, during a period when the general U.S. economy was predicted to be shrinking. As the war was ending, many economists were predicting that the U.S. economy would enter another recession, as the economy had done upon conclusion of prior wars. In that environment, individuals may have been inclined to preserve wealth and property rights, for fear of losing either. As it turned out, pent up demand for goods, and pent up savings, led to a general U.S.-wide economic boom



that continued for almost two decades, with only a few hiccups. But at the time, the compact was created to serve perhaps the dominant constituency of the lake and its water resources; specifically, farmers using the Bear River and its tributaries for irrigation purposes, and utilizing Bear Lake as it had been converted from just a natural lake to being augmented to also be a reservoir.

4. Farmers and other 1950's users do have water rights.

I have no desire to diminish their rights. With the decline in the number of family farms, I have no desire to make a family farm even more risky by jeopardizing their water rights, for which their livelihood may depend. Nor do I necessarily want to diminish the rights of larger agricultural businesses. The U.S. and our region need agriculture.

5. However, a growing body of non-depletion water users may deserve a growing right that may not have been as active when the compact was created.

For example, water recreationist, including those who use the water for swimming, boating, fishing, etc., as well as the thousands of added homeowners and tourist who may use or admire the lake on only a seasonal basis. Such users can benefit from the lake being preserved at a higher level during the summer, which may simply require more directed water level management, as spring run-off is preserved a little longer, and winter levels aren't depleted as quickly.

6. While the inside of a 20-year drought may alone focus more attention on water conservation and management, a growing population would also, naturally.

While the Bear River still flows to the Great Salt Lake; some rivers, like the Colorado, fail to reach the Pacific Ocean, partly due to miscalibration of original water rights. We are fortunate that the compact originators had more foresight than the Colorado crowd. As this current set of hearings paves the way for the next two decades, we do need to consider how the population will grow during that time, and how the demands on the river's and lake's resources might change. If greater overall economic gain can accrue to the three states by preserving higher Bear Lake levels during the summer months, without significantly diminishing the irrigation needs, both upstream and downstream, then that is something the Commission can assist with. While conservation may not be needed this year, this year could still likely benefit from positive management to preserve higher water levels for next summer. In 20 years, however, a greater need for conservation may be more urgent.

I'd be glad to elaborate on these points, if it would be helpful for the Commission.

Thank you for your considerations.

Best regards,

Henry C. Wurts, Ph.D.



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**APPENDIX E-4**

Great Salt Lake Interests





## FRIENDS of GREAT SALT LAKE

P.O. Box 2655 • Salt Lake City, UT 84110-2655 • (801) 583-5593 • Fax (801) 581-9003 • www.fogsl.org

December 4, 2017

Re: 20-Year Compact Review

Members of the Bear River Commission

On behalf of FRIENDS of Great Salt Lake (FRIENDS), thank you for this opportunity to comment on the need to amend the Bear River Compact. FRIENDS is a 501(c)(3) non-profit membership organization. Our mission is to increase public awareness and appreciation of the Lake and to preserve and protect the Great Salt Lake Ecosystem for future generations through education, research, advocacy, and the arts. Because Great Salt Lake is a terminal lake that is located at the bottom of a 22,000-square mile hydrologic drainage basin, the Lake depends on precipitation and water inflows from the watershed to sustain its important ecosystem services. These ecosystem services include critical habitats and food resources for millions of migratory birds that stage, rest and nest at the Lake, as well as important economic resources that include the brine shrimp industry, mineral extraction, recreation and tourism, and extraordinary archeological resources that are symbolic of this unique place in the Great Basin. On behalf of its members, FRIENDS participates in processes to protect and improve Great Salt Lake health and sustainability. We do this by helping to forge sustainable policy development and encourage management and regulatory measures that represent responsible stewardship practices.

For the purposes of these comments, I would like to encourage the Commission to reexamine the Compact in light of the devastating impact to the Great Salt Lake ecosystem that will result should development of the Bear River go forward as outlined in the Compact. Specifically, Article V of the Compact refers to further development of the remaining water in the Lower Division and specifies that: (1) Idaho shall have the first right to deplete 125,000 acre-feet of Bear River water; (2) Utah shall have the second right to deplete 275,000 acre-feet; and, (3) that both Idaho and Utah shall each have an additional right to deplete 75,000 acre-feet.

Should this additional 550,000 acre-feet of water be developed, the Utah Division of Water Resources estimates that the Lake could be lowered by as much as 12.3 feet. While such a drop in water level will essentially dry up both Bear River Bay and Farmington Bay, long before this occurs the increase in salinity in the dropping Lake will exceed a level that will destroy both the brine shrimp and brine fly populations that sustain over 7.5 million birds each year. Additionally, the likely impact on the \$1.3 billion that the Lake contributes to Utah's economy each year is incalculable.

Recognizing that the provisions of the Compact were agreed to in light of precipitation and water trends that have changed substantially in the last forty years, without regard to the “what if’s” of climate change and mega drought cycles, and at a time when we knew much less than we know now about the Lake, and its importance both ecologically and economically, I urge you to amend the Compact to account for these changed circumstances and to the known impacts these depletions will have to Great Salt Lake.

Thank you for your consideration of these comments and for the opportunity to submit them as a part of the 20-Year Compact Review.

In saline and sustainability,

A handwritten signature in cursive script that reads "Lynn de Freitas". The signature is written in black ink and is centered on the page.

Lynn de Freitas, Executive Director  
FRIENDS of Great Salt Lake



GREAT SALT LAKE  
BRINE SHRIMP  
COOPERATIVE, INC

4 December 2017

*By email: [review@bearrivercommission.org](mailto:review@bearrivercommission.org)*

Bear River Commission  
106 West 500 South, Suite 101  
Bountiful, Utah 84010

**RE: 20-Year Compact Review**

Dear Bear River Commission:

We write to request that the Bear River Compact ("Compact") be amended to recognize the significant economic and environmental values associated with the Great Salt Lake—considerations that did not factor in the original or amended Compact.

Despite its large size and historic significance, the value of the Great Salt Lake has been, for many decades, underappreciated. In the eyes of many, any water that reached the lake was considered "wasted," in the sense that it could no longer be diverted for beneficial uses upstream. Consistent with that view, the Compact does not mention the Great Salt Lake, let alone account for its protection in allocation decisions between the three Compact member states.

Perceptions of the Great Salt Lake have changed, however, and recent scientific and economic studies underscore the importance of the lake to local and regional economies as well as local, regional, and even the global environment. For example, a 2012 economic study commissioned by the Great Salt Lake Advisory Council estimated total economic output associated with the lake at \$1.323 billion annually.<sup>1</sup> Even those estimates, however, do not take into account significant additional values that include (1) the ecological value of the lake as a stopover for migratory birds,<sup>2</sup> (2) the lake's ability to buffer local temperatures and reduce dust; and (3) what reduction or loss of

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<sup>1</sup> Bioeconomics, Inc. "Economic Significance of the Great Salt Lake to the State of Utah," January 26, 2012, at 6, available at <https://documents.deq.utah.gov/water-quality/standards-technical-services/great-salt-lake-advisory-council/Activities/DWQ-2012-006864.pdf>.

<sup>2</sup> As the Great Salt Lake Ecosystem Program observes, "Great Salt Lake is recognized regionally, nationally, and around the world for its extensive wetlands and its tremendous and often unparalleled values to migratory birds," including, for example, the largest staging concentration of Wilson's Phalarope in the world. Utah Department of Natural Resources 2017, <https://wildlife.utah.gov/gsl/birds/index.php>.





the lake could mean for lake effect precipitation that waters homes and farms, supports a valuable ski industry, and helps cycle water through the entire Bear River watershed.

Those values are threatened as lake levels continue to drop, driven principally by diversions upstream. A February 2016 study by Wayne Wurtsbaugh and others estimated that human diversions have contributed to a decline in lake elevations of 11 feet (or 48% of volume) over what we would expect to see absent upstream diversions.<sup>3</sup>

The loss of other terminal, saline lakes around the world highlight the potentially catastrophic impacts to the local economy, the environment, and human health if we fail to find effective ways to reverse that trend to the point that we ultimately lose the Great Salt Lake. The rapid decline of the Aral Sea in central Asia represents one of the world's greatest manmade environmental disasters, with the collapse of what was a vibrant fishing industry, extensive loss of habitat for fish and birds, more extreme temperatures, and the generation of toxic, windblown dust that poisoned neighboring agricultural land and contributed to some of the highest rates of respiratory and other illnesses in the world.<sup>4</sup> Lake Urmia in Iran—a lake of roughly the same size as the Great Salt Lake—is on a similar trajectory.<sup>5</sup>

Closer to home, the City of Los Angeles diverted water from Owens Valley starting around 1920, a step that fueled economic development in Los Angeles but devastated the local economy and led the Owens dry lake bed to become the single largest source of PM-10 dust pollution in the United States.<sup>6</sup> By mid-2018 the Los Angeles Department of Water and Power will have invested over \$2.1 billion dollars in an effort to reduce

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<sup>3</sup> Wurtsbaugh et al., "Impacts of Water Development on Great Salt Lake and the Wasatch Front," February 24, 2016, available at: [https://qcnr.usu.edu/pdfs/publications/Great%20Salt%20Lake%20Water%20Level\\_Feb%2024%202016.pdf](https://qcnr.usu.edu/pdfs/publications/Great%20Salt%20Lake%20Water%20Level_Feb%2024%202016.pdf).

<sup>4</sup> Ataniyazova, Oral A., "Health and Ecological Consequences of the Aral Sea Crisis," March 18, 2003, available at: [http://www.cae.utexas.edu/prof/mckinney/ce385d/papers/atanizaova\\_wwf3.pdf](http://www.cae.utexas.edu/prof/mckinney/ce385d/papers/atanizaova_wwf3.pdf).

<sup>5</sup> Garousi et al., "Environmental Crisis in Lake Urmia, Iran: A Systematic Review of Causes, Negative Consequences and Possible Solutions," May 22, 2017, available at: [https://www.researchgate.net/publication/280717655\\_Environmental\\_crisis\\_in\\_Lake\\_Urmia\\_Iran\\_a\\_systematic\\_review\\_of\\_causes\\_negative\\_consequences\\_and\\_possible\\_solutions](https://www.researchgate.net/publication/280717655_Environmental_crisis_in_Lake_Urmia_Iran_a_systematic_review_of_causes_negative_consequences_and_possible_solutions).

<sup>6</sup> Great Basin Air Pollution Control District, "Dust Control Update—May 2013," available at: <http://www.gbuapcd.org/owenslake/OwensLakeDustControlUpdate-May2013.pdf>.



GREAT SALT LAKE  
BRINE SHRIMP  
COOPERATIVE, INC

windblown dust from the Owens Valley.<sup>7</sup> Simply sustaining those efforts (which have not eliminated the problem) will cost ratepayers an estimated \$75 million/year.<sup>8</sup>

We recognize that the Compact was negotiated in a different time and based on a different set of expectations. Nevertheless, for the Compact to continue to serve its purposes “to remove the causes of present and future controversy over the distribution and use of the waters of the Bear River; to provide for efficient use of water for multiple purposes; to permit additional development of the water resources of Bear River; to promote interstate comity; and to accomplish an equitable apportionment of the waters of the Bear River among the compacting States” it must begin to take into account the effects that allocation decisions made pursuant to the Compact can and will have on the Great Salt Lake and the many interests that rely on it to survive and thrive.

Thank you for your time and consideration.

Respectfully submitted,

Don Leonard  
Chairman and CEO  
Great Salt Lake Brine Shrimp Cooperative, Inc.

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<sup>7</sup> Email correspondence with Phillip Kiddo, Air Pollution Control Officer at Great Basin Unified Air Pollution Control District, on September 28, 2017, which states that “The anticipated expenditures include cost of completing the Owens Lake Dust Mitigation Program – Phase 7a Project from July 1, 2015 through December 31, 2015 as well as the Owens Lake Dust Mitigation Program – Phase 9/10 Project from December 2, 2015 through December 31, 2017. The total anticipated expenditures by June 30, 2018 should exceed \$2.1 billion.”

<sup>8</sup> Larsen, Leia, “Why worry about Great Salt Lake drying up? Owens Valley Story Gives Insight,” Ogden Standard Examiner, October 29, 2017, available at: <http://visuals.standard.net/2017/10/29/great-salt-lake-drying-up-owens-valley-saline-lake-foreshadowing-pollution/>.



**Compass Minerals**  
765 N 10500 W  
Ogden, Utah 84404  
www.compassminerals.com  
801-732-3200

December 4, 2017

Bear River Commission  
Attention: Don Barnett  
106 West 500 South, Suite 101  
Bountiful, Utah 84010

Re: 20-Year Compact Review of the Bear River Compact

Dear Mr. Barnett:

Compass Minerals Ogden, Inc. appreciates the opportunity to provide comment on the 20-Year Compact Review (Review) of the Bear River Compact. We believe the Review provides a timely opportunity to re-consider and re-evaluate original assumptions and core elements of Bear River Compact in light of significant studies, as well as droughts and record low lake elevations on the Great Salt lake (GSL) that have occurred over the intervening 20 years.

Having experienced record low lake levels from extended drought and the closure of all conveyances to the North Arm of the GSL along the Union Pacific Causeway prior to December 1, 2016, Compass Minerals believes the re-evaluation of the feasibility and sustainability of the future development of an additional 550,000 acre feet of water that would otherwise flow in the GSL via Bear River Bay is prudent and appropriate. Considering that the average annual inflow of the Bear River to the GSL is 1.2 million acre feet, the possible development 550,000 acre feet is significant.

Thank you for your consideration of these comments and for the opportunity to submit them as a part of the 20-Year Compact Review of the Bear River Compact. Please feel free to call me at 801-793-8601 with any questions, or to discuss further.

Sincerely,

A handwritten signature in black ink, appearing to read "J Havasi".

Joseph Havasi  
Director, Natural Resources

The Bear River Compact needs to be modified to incorporate the current understanding of the value and of the hydrology of Great Salt Lake. When the Compact was formed, the public assumed that any water that reached the lake was wasted. However, we now understand the critically important role of this water for industry, aquaculture, recreation, health, climate control and bird populations of the Great Salt Lake ecosystem. The dollar value of the lake is currently assessed at \$1.3 billion (Bioeconomics 2012), but that value does not include intrinsic cultural or ecological values, nor the value of the lake for protecting human health and providing an abundant snowpack in the Wasatch Mountains.

To date, water use for agriculture, urban and other uses has lowered the lake 11 ft. from its natural level (Wurtsbaugh et al. 2017; Wurtsbaugh et al. 2016), and exposed 590,000 acres (54%) of the lakebed. The shallow and critically important Bear River Bay and Farmington Bay estuaries have 75%-85% of their areas dried during the summer, limiting habitat for water birds. The exposed lakebed allows dust storms to impact the Wasatch Front cities, creating respiratory problems (Griffin and Kellogg 2004) for the population. Water development of the Bear River has already compromised the Great Salt Lake ecosystem.

The current plan of the Bear River Compact allows for an additional 550,000 acre-feet of water to be depleted from the system, which will greatly decrease flows into Great Salt Lake. The *median estimate* of the impact of this flow reduction would be to lower the lake an additional 4.5 ft. from current conditions, expose a total of 680,000 acres of lakebed, decrease the volume to 30% of natural, and increase salinities in the south arm of the lake (Gilbert Bay) to ~220 g/L. Bear River and Farmington Bays would be dry during most of the year. Note, however, that the potential impact of the 550,000 acre-feet of water depletion is even more severe, and *maximum estimates* of this by the Utah Division of Water Resources suggest that the lake could be lowered an additional 10 ft., exposing approximately 785,000 acres of lakebed, decreasing the volume to 20% of the natural value and increasing salinity to near saturation. Given the range of predictions from the median to the maximum impacts, it is obvious that more work on the hydrology of the watershed is needed, but both scenarios indicate that flow reductions would have profound impacts on the environment and human health.

To put these impacts in perspective, managers need to consider the desiccation of Owens Lake in southern California. When water was diverted from the lake it dried completely, exposing 70,000 acres of lakebed. Dust storms have impacted the health of the small community of Bishop and even more distant cities. To mitigate these impacts, the Los Angeles will spend \$3.6 billion over 25 years to protect the health of residents (Ramboll Environ US Corporation 2016). Consider what the impacts could be on the 2.5 million residents of the Wasatch Front if 685,000-785,000 acres of the lakebed of Great Salt Lake are exposed! Additionally, the ecology of the lake would be severely damaged. The dried estuary areas would greatly reduce bird use. Brine shrimp populations, which are important source of food for birds and the \$60 million dollar aquaculture industry, would be decimated. If salinities increased to 220 g/L, brine shrimp production would be reduced to less than 10% of that at natural lake levels (Barnes and Wurtsbaugh 2015), and if salinities increased to near saturation, brine shrimp and all invertebrate food production in the lake would disappear--we would have another "Dead Sea". It is fortunate that the

Bear River Compact is under review, given that we now realize the major impacts that additional water development would have on the lake.

Major water depletions of fresh water from the Bear River and other tributaries of the lake are not warranted until we maximize conservation of this precious resource. The future growth of the Wasatch Front is sometimes cited as a need for water development in Utah. However, given that Utah currently has among the highest per capita water use in the country, and that people in cities such as Tucson use only 50% of what Salt Lake City residents use, it is clear that we have tremendous potential to conserve water. Water conservation programs in the agricultural sector also need to be implemented and enforced. Modification of existing, and outdated water laws in the tristate region could also allow significant transfers of water from the agricultural sector to provide for the expanding urban population and to protect Great Salt Lake and other natural systems (Clyde 2016).

Thank you for considering my input, and please do not hesitate to contact me if you have questions.  
Wayne Wurtsbaugh, Emeritus Professor, Utah State University (wayne.wurtsbaugh@usu.edu).

#### REFERENCES

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## Donna Keeler

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**From:** Bryan Dixon <bdixon@xmission.com>  
**Sent:** Monday, December 04, 2017 7:21 AM  
**To:** review@bearrivercommission.org  
**Subject:** Bear River Compact comments  
**Attachments:** Attachment information..txt; hts\_1.PNG; Attachment information..txt; BearRiverCommission20171204.docx

W. Bryan Dixon  
10 Heritage Cove  
Logan, UT 84321-3300  
C: 435-760-0691  
[bdixon@xmission.com](mailto:bdixon@xmission.com)

December 4, 2017

Bear River Commission  
RE: 20-Year Compact Review  
106 West 500 South, Suite 101  
Bountiful, Utah 84010  
[review@bearrivercommission.org](mailto:review@bearrivercommission.org)

To the Commission:

Thank you for the opportunity to comment on a 20 year review of the Bear River Compact and the Bear River Commission's responsibilities to the public trust.

Since its inception, the Bear River Compact has striven to provide water for a growing population of people, but has generally failed to adequately provide for ecological resources, such as those around GSL, that are important, even critical, to people; and not specific to one state. Left to their own, states have historically also failed to provide for ecological values, deferring to anthropocentric definitions and interpretations of "beneficial use." These constraints have led to a narrow definition under the law of the purposes for which water may be diverted and used.

The natural environment has already suffered irreparable harm by humans, including loss of species, lost and degraded habitat, and a weakening of myriad ecosystem services (e.g., erosion and flood control). Despite the efforts by the current Republican Congress and administration to gut any and all environmental protections to further the interests of corporations and the wealthy, the existence of legislation passed by bipartisan Congresses in the past is proof of the seriousness of the problem. The continued worsening of global warming and climate change brought about by humans' reliance on fossil fuels only illustrates the extent to which our current political systems have failed to take into account the impacts of environmental degradation to future peoples.

Previous allocations of Bear River water have also failed to adequately consider the integration of ground and surface water; especially regarding the temporal and spatial storage capacity in geologic structures. Nor have they recognized the value of providing water in wetland systems, which have been seriously degraded since settlement in the mid-19th century. This had led to incised river channels, lowered water tables in flood plains that dries up wetlands, and consequently reduced flood abatement, biological productivity, water purification, water storage in soils, vegetation, and geologic structures, reduced erosion and sedimentation, recreation and solace, and carbon sequestration. We struggle to provide some of these benefits with concrete and steel, but the costs are high and efficacy low.

There is a pressing need to amend the Compact to provide for greater inclusion of environmental considerations. The Commission should formally include consultation with science-based parties which understand the interaction of water

and ecosystem. Water banking policies and programs should be able to save water unused—at its original appropriation dates. Water should be approached from a watershed perspective. Its effects and interplays with the natural world cannot be limited by state borders. Climate change is real and already upon us. Policies and water allocations must recognize this fact and attempt to accommodate its inevitable effects on precipitation amounts and seasonal changes, vegetation, evapotranspiration, agricultural production, etc. Humans seem unlikely to be able to control their own population growth any time in the foreseeable future, so provisions such as conservation practices need to be promoted to minimize our adverse effects on the rest of the ecological systems.

Sincerely,

A handwritten signature in black ink that reads "W. Bryan Dixon". The signature is written in a cursive, slightly slanted style.

W. Bryan Dixon

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Bryan Dixon  
10 Heritage Cove  
Logan, UT 84321  
435-760-0691  
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**APPENDIX E-5**

Conservation/Environmental



# Bear River Compact Feedback

To: Bear River Commission  
Re: 20 – Year Compact Review  
106 West 500 south, Suite 101  
Bountiful, Utah 84010

From: Lincoln Conservation District (LCD)  
Board Members: Erick Esterholdt, Kenny Petersen, Robert Peternal, Paula Bowling, & Paul Clark  
Address: P.O. Box 98 (110 Pine Street)  
City: Cokeville, Wyoming  
Phone: (307) 279 3256  
Email: [jeesterholdt@gmail.com](mailto:jeesterholdt@gmail.com) (Erick Esterholdt, LCD Chairman) and  
[brenda.lazcanotegui@wy.nacdnet.net](mailto:brenda.lazcanotegui@wy.nacdnet.net) (District Clerk)

The Lincoln Conservation District (LCD) board members and partners discussed the Bear River Commission's 20 year Bear River Compact review that is currently being undertaken at a board meeting last month. Since the LCD board members are elected individuals and under Wyoming Conservation District Law, W.S. 11-16-101 are responsible to provide leadership for the conservation of Wyoming's soil and water, protect the agriculture resource base, and promote and protect the quality and quantity of Wyoming's water etc. We would like to voice some concerns the way the Bear River Compact is written and administered. The LCD board members represent a broad base of constituents within southern Lincoln County, Wyoming, plus three board members have water rights within the Bear River Compact system.

LCD board members reviewed Article IV, Section 2, Central Division, paragraph (a) concerning the declaration of a water emergency. In the middle of the first sentence it should read when the flow of the Bear River at the Border Gauging Station is less than 350 second feet a water emergency **may (instead of shall)** be deemed to exist in the Central Division etc.

The last sentence at the end of this paragraph it states that if any portion of such allocation is not used therein it shall be available for use in Idaho in the Lower Division. This sentence should be stricken from the paragraph in its entirety. There should be no water allowed to go into the Lower Division from the Central Division if a water emergency exist in the Central Division.

It is very upsetting to water users in the Cokeville area (Bear and Smiths Fork River) when water is flowing into the Lower Division and a water emergency has been declared in the Central Division. Its seems like an oxymoron to be calling for a water emergency when there is enough water in the system that it is spilling into the Lower Division.

The LCD board members feel that if the situation can be remediated without opening up the Bear River Compact it needs to be pursued otherwise, action needs to be taken to correct the problem this go around. Your thoughts on this issue would be appreciated. Feel free to contact the LCD Field Office so arrangements can be made for you to attend a board meeting, if so desired, to discuss the issue with all LCD board members. Thanks for your help on this matter.

**LCD Board Members: Erick Esterholdt, Kenneth Petersen, Robert Peternal, Paula Bowling, & Paul Clark**

NOV 27 2017



**Franklin Soil & Water Conservation District**

98 East 800 North Suite #5

Preston ID 83263

(208) 852-0562 Ext. 5 email: fswcd@earthlink.net

November 7, 2017

Bear River Commission  
Re: 20-Year Compact Review  
106 West 500 South, Suite 101  
Bountiful, Utah 84010

Bear River Commissioners,

Distribution and use of waters of the Bear River in Franklin County, Idaho benefits a great number of agriculture, energy, and recreational interests. The equitable apportionment of water between three states is a challenging task varying on perspective of many stakeholders. It is from our perspective that the Bear River Compact stands the tests of time and continues to fulfill its stated purpose. Franklin Soil & Water Conservation District submits this letter of comment to voice that the Bear River Compact is in good order and requires **no amendment**.

Our district would also like to take this opportunity to voice concern regarding stream bank erosion escalated by the fluctuating extremes of the river's management. These impacts are most noticeable in the Thatcher area between Alexander and Oneida dams where many water quality and habitat restoration projects have been implemented with public and private funds. We would like to see future development and management strive towards alleviating such fluctuations and reduce stress/damage on vulnerable stream banks. .

Thank you for accepting our comments regarding this 20-Year Compact Review.

Sincerely,

A handwritten signature in black ink, appearing to read "Ivan Jensen". The signature is written in a cursive, flowing style.

Ivan Jensen, Chairman



United States Department of the Interior  
FISH AND WILDLIFE SERVICE



Bear Lake National Wildlife Refuge  
P.O. Box 9 / 322 N. Fourth St.  
Montpelier, ID 83254  
Office Phone: 208-847-1757

Bear River Migratory Bird Refuge  
2155 West Forest Street  
Brigham City, UT 84302  
Office Phone: 435-734-6451

December 1, 2017

Bear River Commission  
Re: 20-Year Compact Review  
106 West 500 South, Suite 101  
Bountiful, Utah 84010

Dear Bear River Commission Chair, Manager, and Commissioners:

The U.S. Fish and Wildlife Service (Service) would like to provide comments on the 20-year review of the Bear River Compact. There are two issues we ask the Commission to consider in their review. The first being the health of the Bear River, and the second is the storage of water in Bear Lake and associated management of the river. While we recognize the purpose of the Compact is to allocate water among three states for the benefit of its water users and PacifiCorp, we ask that the Commission hear our comments and consider our proposals.

The mission of the Service is: working with others to conserve, protect and enhance fish, wildlife, plants and their habitats for the continuing benefit of the American people. The Bear River is important to the Service because it is the lifeblood of three National Wildlife Refuges (NWR). The first refuge is Cokeville Meadows NWR, located in upper reach of the Bear River in Wyoming; in Idaho, the Bear River is diverted into and out of Bear Lake through the Bear Lake NWR; finally, in Utah, the River enters the Great Salt Lake as it flows through the Bear River Migratory Bird Refuge (MBR). These NWRs were established under authority of the Migratory Bird Treaty Act for the purposes of protecting and managing habitat for migratory birds. This cannot be accomplished without clean healthy water delivered in a consistent manner at the appropriate time.

The Service recognizes the Bear River Compact was designed to allocate water among the three States for the benefit of its water users and PacifiCorp. However, the impacts to water quality and river ecosystem health cannot be ignored. Having clean and abundant water benefits the water users, PacifiCorp, the Service and the general public. We understand this is why the Water Quality Committee was established and would like to see the Commission build on this idea of maintaining and improving river health. The Service has begun to lay the foundation for improved river health via the Bear River Watershed Conservation Area that was established in 2013. The Commission could greatly improve this effort through long-term water resources planning for environmental concerns.

It is our recommendation that the Water Quality Committee evolve into an Environmental Committee, or that a separate committee is formed to address river health issues such as: invasive species, erosion and sedimentation, fish passage and entrainment, fish and wildlife habitat, and nutrient loading. We envision an exciting opportunity to build on the proactive and joint efforts among the Bear River Commission, Federal and State entities, local governing bodies, and conservation minded non-governmental organizations (NGOs) to coordinate efforts and partner on a broad range of river health concerns.

One of our primary concerns is the impacts of invasive species on the Bear River system. We already see the negative effects of Phragmites (*Phragmites australis*) on the Bear Lake shoreline, the wetlands of Bear Lake NWR, and the marshes of the Bear River MBR. The loss of recreational opportunities, the degradation of wildlife habitat, and the time and money spent to control this species is troubling. With the threat of other serious invasive species such as quagga mussel (*Dreissena bugensis*) and Eurasian watermilfoil (*Myriophyllum spicatum*) on the horizon, now is the time to take proactive measures to protect river health. If we don't, it is likely that the water users and PacifiCorp will see a more direct impact on water delivery if the aforementioned species or other invasive species are allowed to get a foot hold in the Bear River ecosystem.

An additional reason for the Bear River Commission should concern its governing body with river health is that the Bear River Ecosystem provides important habitat for fish and wildlife species. Specifically, maintaining the health of migratory bird and fish habitat is will help minimize the need for future intervention in the management of the river. Given that there are four endemic fish species in Bear Lake and that the Bonneville Cutthroat trout calls the Bear River watershed its home, coordinating efforts with water users and PacifiCorp to facilitate voluntary projects such as fish passage or fish screening would be smart, proactive measures that ultimately could save time and money. Funding for such projects could be possible from government or NGO cost-share programs. The collaboration of such partners with the water users, PacifiCorp, and the Commission could go a long ways in protecting species and the economic benefit of the Bear River Compact.

As with the Water Quality Committee, the Bear River Commission should take the lead in coordinating the efforts of water users, PacifiCorp, Federal and State entities, local governing bodies, and NGOs to help monitor and address these resource concerns. This can assure that those benefiting from the compact are protected through a healthy river system long into the future. Whether it be for water quality, invasive species, or fish and wildlife habitat, it is much easier and less expensive to be proactive in conserving resources, rather than fixing systemic problems later.

The second issue we would like the Commission to address in its 20-year review of the Bear River Compact is storage of water in Bear Lake and management of the river. Recently, PacifiCorp has proposed a change in Bear Lake winter/spring storage level from the current target of elevation 5918.5 ft to 5920.5 ft (UP&L datum) due to a potential increased discharge capacity downstream of Alexander Reservoir. With this proposal there are potential benefits that include increased irrigation water diversions for agriculture and additional hydropower generations for PacifiCorp. However, changes in lake levels and changing the timing of river

flows could negatively impact Bear Lake NWR, Bear River MBR, and increase flooding on private lands.

Management of Bear Lake NWR is directly influenced by PacifiCorp's management of Bear Lake. Water levels at the Refuge are closely tied with water diverted into Bear Lake via Rainbow Canal, and water leaving Bear Lake via the Outlet Canal. All of the water going in and out of Bear Lake passes through a 7,400 acre wetland known as Mud Lake. We are concerned that increasing the winter/spring water level in Bear Lake could damage the water management infrastructure and degrade the habitat quality on Bear Lake NWR.

Over the past 50 years the Service has constructed 23 miles of dike and installed dozens of water-control structures to control carp populations and manage water levels that promote high-quality wetland habitat. The agreement we currently have with PacifiCorp calls for a summer elevation target elevation of  $5920.5 \pm 0.5$  ft (UP&L datum). This generally works well for nesting waterbirds and production of submerged aquatic vegetation for waterbird food (plants, seeds, invertebrates). However when water levels trend above 5921.00 ft (UP&L datum) habitat quality in Mud Lake decreases. Waterbird nests are flooded and the increased water depth and turbidity shade out the sunlight needed for submerged aquatic vegetation (SAV), which is a main food source for many of the species that nest on the Refuge or utilize the Refuge during migration. Such was the case in 2017 when lake levels reached 5922.7 ft (UP&L datum); Mud Lake was devoid of SAV and provided very poor habitat for fall migrants. While we expect this to occur occasionally due to natural events, our concern is that the PacifiCorp Bear Lake management proposal would make this situation more common.

At the Bear River MBR, our concerns regarding proposed management of Bear Lake stem from the changes in discharge patterns of the Bear River. The changes in discharge capacity from Bear Lake could shift the Bear River hydrograph such that more water is present during the spring and less water is available during the fall and winter. This shifting of the hydrograph would make more water available during the irrigation diversion season and less water available outside of the irrigation season. The net result from this shift in the hydrograph would be greater consumptive uses from the Bear River and less water that reaches the Great Salt Lake and the Bear River MBR.

The Bear River MBR and the Great Salt Lake are critical stop-over locations for millions of migrating birds, and continued reductions in inputs to the lake and delta will have negative consequences on species dependent on the Great Salt Lake ecosystem. Not only is the quantity important, but the timing of that water is also crucial. Having water availability consistent with the temporal patterns of migrating waterbirds, and the production of food bases (plants, seeds, invertebrates, etc.) that they consume is crucial for successful migration. This is an issue that the Service would like to see addressed by the Commission regarding preservation of water needed to maintain the Great Salt Lake ecosystem for the benefit of wildlife, the Utah economy, and the people of the State of Utah. The Bear River Commission is in a unique position to secure water for the Great Salt Lake before all Bear River water is completely appropriated within each state.

The changes proposed for operations at Bear Lake will likely change the magnitude of flows that the Bear River MBR experiences. Though the Bear River MBR would support the return to a

more natural flow regime, the infrastructure in place at the Refuge has been designed to accommodate historic flows largely controlled by man-made upstream diversions and storage. If the magnitude of these flows significantly increases, then the Refuge's infrastructure will be inadequate and will need to change. This was highlighted in the spring of 2017, when several of the Bear River MBR's water controls structures were overtopped or damaged due to unusual high flows. This also resulted in much of the private property adjacent to the Refuge being inundated for an extended period of time. The Bear River MBR tries to divert as much water as possible during high flows to ease flooding concerns from adjacent neighbors. However, with controlled releases above historic norms, more regular flooding of land adjacent to the Refuge is likely without significant investment in improving Refuge water control structures.

While the Service is not directly opposed to holding more water in the lake to benefit water users and PacifiCorp, we do believe that this issue should be studied more closely and that the Commission should perform a detailed review of the proposed changes and involve all parties in the decision-making process. PacifiCorp has already provided us with some excellent information regarding the proposed change in lake level management and we are currently reviewing this information. We ask that the Commission take a very close look at this proposal. The U.S. Fish and Wildlife Service has enjoyed great working relationships with the Bear River Commission, Bear River water users, and PacifiCorp, and we look forward to maintaining these long into the future.

Sincerely,



Tracy Casselman  
Project Leader  
SE Idaho National Wildlife Refuge Complex



Bob Barret  
Project Leader  
Bear River Migratory Bird Refuge Complex





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James DeRito  
Bear River Project Manager  
email: [jderito@tu.org](mailto:jderito@tu.org)

47 North 300 East  
Providence, UT 84332  
phone: 208-360-6165

December 4, 2017

Bear River Commission  
106 West 500 South, Suite 101  
Bountiful, Utah 84010

Re: 20-Year Compact Review

To the Bear River Commission:

Thank you for the opportunity to comment on the Bear River Compact and its 20-year review. I appreciate the information that you've provided on your website and the public forums you have held on the Compact review process. I attended the Compact review public meetings in Evanston (WY), Grace (ID), and Logan (UT). I also regularly attend meetings and tours of the Bear River Commission, its committees, and the Bear River Water Quality Task Force. Trout Unlimited would like to suggest two items for the Commission's consideration: 1) the development of market-based water transaction methods for the watershed; and 2) the restoration of water flows to the Bear River downstream of Stewart Dam.

Trout Unlimited has an active presence in the Bear River Watershed. Two chapters of Trout Unlimited are based in the Bear River Watershed: the Cache Anglers Chapter in Logan, Utah, and the Upper Bear River Chapter in Evanston, Wyoming. In addition, the Southeast Idaho Chapter in Pocatello, Idaho and Jackson Hole Chapter in Jackson, Wyoming are active in parts of the Bear River Watershed. There are over 500 Trout Unlimited members in these four chapters and over 4,500 members in TU chapters across the three states. Members from these Trout Unlimited chapters are committed to the conservation of the trout fisheries present within the Bear River Watershed.

Trout Unlimited has had a professional staff presence in the watershed in the form of the Bear River Project Manager since 2004. This position has focused on the conservation of native fishes, specifically the Bear River Cutthroat Trout (aka Bonneville Cutthroat Trout). Completed and ongoing conservation work to benefit Cutthroat Trout has focused on fish passage at 53 irrigation diversions (see attached map). Work has included rebuilding diversion structures, replacing headgates, and installing pipes, measurement flumes, and fish screens in canals. This work improves water management and delivery for water users while allowing fish to move passed diversions and not become captured in irrigation canals. In addition, Trout Unlimited has worked with water users on the consolidation of canals and the conversion from flood irrigation to sprinkler irrigation to improve crop production and instream flows. Currently, Trout Unlimited is working with the Natural Resources Conservation Service and other partners on a multi-million-dollar effort titled the Upper Bear River Stream Restoration and Irrigation Efficiency Project. This project focuses grant

funding and conservation work on the Bear River and its headwaters upstream of Woodruff Narrows Reservoir in Wyoming and Utah.

#### 1) The development of market-based water transaction methods for the watershed.

It has become apparent during Trout Unlimited's work in the Bear River that there are currently no watershed-wide mechanisms to provide water rights flexibility that enhances flows in streams or benefits water users. However, some of the individual states have such means. In Idaho, a water bank is available that allows water rights to be placed in the bank and then other water users may use those rights elsewhere. Uses of the banked water can range from irrigation use to instream flows. Water rights holders in the Bear River Watershed in Idaho have been able to use the bank. In Utah, market-based transaction tools are more limited. Current state legislation allows fishing groups to lease water rights for up to ten years to benefit Cutthroat Trout and its habitat (Utah code 73-3-30). Trout Unlimited has used this method to complete a first-of-its kind project in the Weber River Watershed and currently is pursuing leases in the Bear River Watershed (see Map). In Wyoming and Utah within the Colorado River Basin, the System Conservation Pilot Program (SCPP) has allowed water users to be compensated for keeping flows instream during all or parts of the irrigation season (<http://www.ucrcommission.com/RepDoc/SCPilotP.html>). The implementation and demand for the SCPP has proven so successful that water rights holders and Trout Unlimited are pursuing a renewal and permanent mechanism for this project in the Colorado River Basin.

The Bear River Compact is a framework that would be ideally suited to having a means of watershed-wide water transactions. The Compact and the Bear River Commission have provided the means for equitably delivering water among the three states of the Bear River watershed since 1958. The current system of measuring, management, and reporting has worked well to provide for the efficient distribution of water among the states with little controversy.

Trout Unlimited desires to further our work with water users in the Bear River Watershed to benefit water rights holders and fishes. Our interest in flow transactions is focused in the tributary streams to the Bear River and Bear Lake where we've worked with water users and would like to expand our options of doing so in cooperation with them. We suggest that a voluntary, market-based, non-regulatory means for water rights transactions among the three states would be a logical development for the consideration of the Bear River Commission. We suggest water transaction tools such as an inter-state water bank, water leases, or an SCPP-style effort be evaluated by the Commission for applicability and implementation in the Bear River Watershed. Perhaps an ad hoc Committee composed of members of the Commission's Technical Advisory Committee and local stakeholders could evaluate and recommend measures specific for the Bear River Watershed? If so, Trout Unlimited readily offers our participation in such an effort.

#### 2) The restoration of water flows to the Bear River downstream of Stewart Dam.

The Bear River water flows (and all sediment) are entirely diverted at Stewart Dam by means of the Rainbow Canal into Mud Lake and then Bear Lake. This diversion of water has worked well for water users to store water in Bear Lake and then have it delivered to downstream water users by means of the Outlet Canal from the lake. However, the 12 miles of the Bear River downstream of Stewart Dam has not seen the gates opened to release water below the dam since the high-water

years of the early 1980s. Restoring some water flow below the dam should be readily doable with some relatively minor changes to operating procedures at the dam. For example, during spring runoff of the Bear River, all flows are diverted into the Rainbow Canal, but at times may be sent directly to the Outlet Canal without being stored in the Mud or Bear lakes. Instead of diverting the water at Stewart Dam, then this water could be sent downstream of the dam to the Bear River. This would provide some relative high flows to this section of the Bear River permitting channel reformation and maintenance. On the other end of the Bear River hydrograph, maintaining some perennial minimum flows in the channel during low runoff times of year would help maintain habitat for fish and provide needed habitat connectivity throughout this section of the Bear River.

The potential change in operating procedures at Stewart Dam would be a significant change for fishes in that section of the mainstem Bear River. Though this stretch of the Bear River is fully within Idaho, it will likely be dependent upon the Commission's coordination of water use among the states to facilitate such water management change.

Thank you once again for the opportunity to comment on the 20-year review of the Compact. Please contact me if you would like additional information on the suggestions contained herein. Trout Unlimited looks forward to the next twenty years of working in the Bear River Watershed.

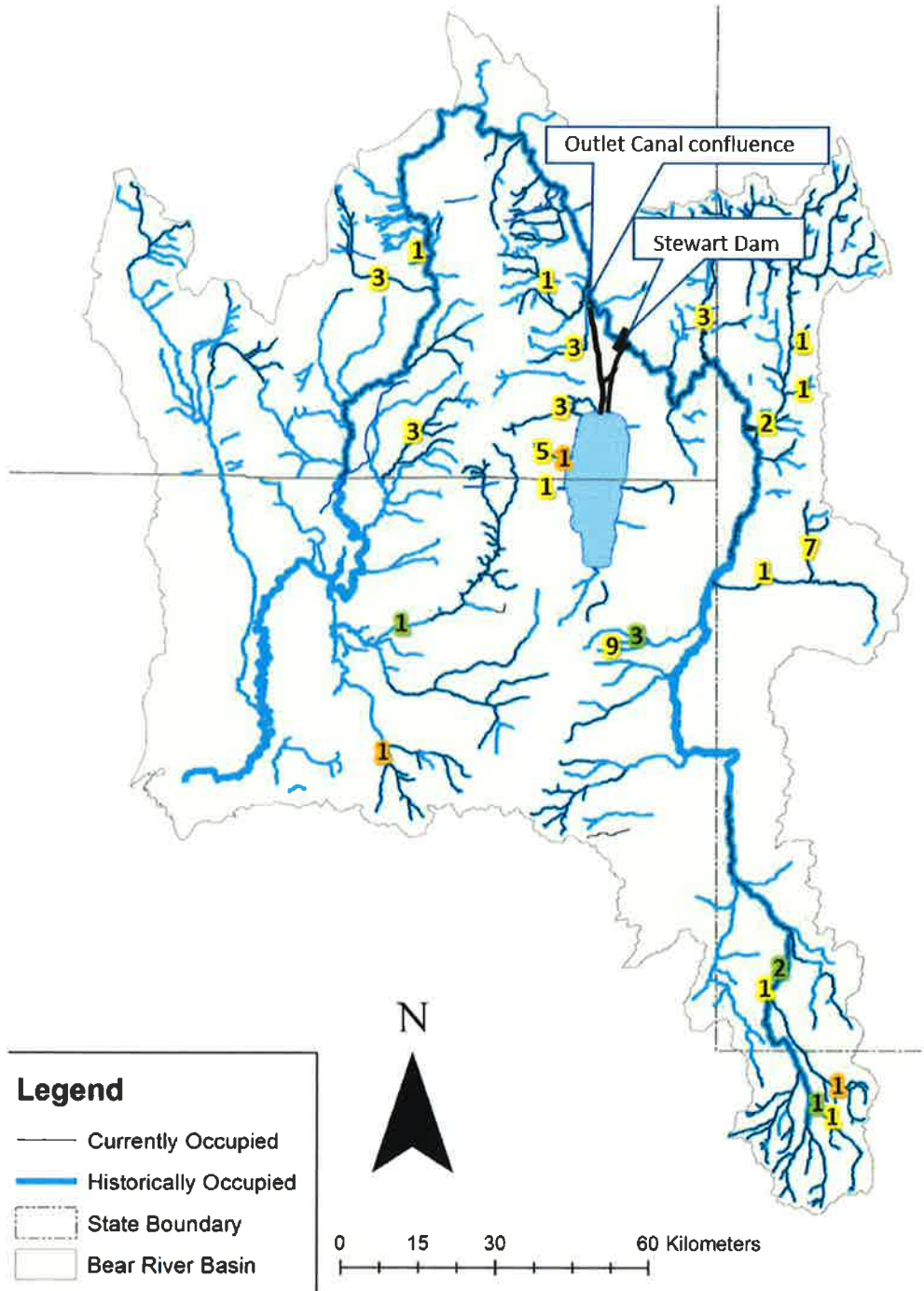
Sincerely,

A handwritten signature in black ink that reads "James DeRito". The signature is written in a cursive style with a large, sweeping initial "J".

James DeRito

Cc:

Paul Burnett, Trout Unlimited, Utah Water and Habitat Program Lead  
Cory Toyne, Trout Unlimited, Wyoming Water and Habitat Program Director  
Kira Finkler, Trout Unlimited, Director - Idaho Water Project



Map of the Bear River Watershed showing completed (yellow highlighted numbers = 46) and ongoing (green highlighted numbers = 7) irrigation diversion projects by stream that Trout Unlimited has participated. Orange highlighted numbers (n = 3) indicate where TU is pursuing water leases in Utah and ongoing flow monitoring of a water mitigation agreement in Idaho (Fish Haven Creek). Also depicted on the map is the dewatered stretch of the Bear River between Stewart Dam and the Bear Lake Outlet Canal. The watershed stream layer shows historic and current distribution of Bear River Cutthroat Trout as of a 2012 range-wide database update.

**UTAH AUDUBON COUNCIL**  
**A Coalition of Local Utah Audubon Chapters**

December 4, 2017

Bear River Commission  
106 West 500 South, Suite 101  
Bountiful, UT 84010

***Via Email (review@bearrivercommission.org)***

***Re: Comments on the 20-Year Review of the Bear River Compact***

Dear Bear River Commissioners:

On behalf of the Utah Audubon Council, the coalition of four local Audubon Chapters based in Utah, we appreciate the opportunity to submit comments on the 20-year review of the Amended Bear River Compact ("Compact"). The local Audubon Chapters represented by the Utah Audubon Council include:

- Great Salt Lake Audubon, Salt Lake City, UT
- Wasatch Audubon Society, Ogden, UT
- Bridgerland Audubon Society, Logan, UT
- Red Cliffs Audubon Society, St. George, UT

The riparian and wetlands habitats along the Bear River and its tributaries, and at Bear River Bay at Great Salt Lake (fed by the Bear River), provide important habitat for millions of birds. In the Bear River Basin, Audubon organizations have worked with landowners to designate *Important Bird Areas*, sites of international significance for biodiversity and birds in the Basin, including Cutler Marsh – Amalga Barrens, Bear River Bay (including Bear River Migratory Bird Refuge), and the Bear Lake National Wildlife Refuge. Additionally, Bridgerland Audubon Society owns and manages the 156.4-acre Amalga-Barrens Bird Sanctuary that provides important wetlands habitat for migratory bird species.

Our organizations greatly appreciate the efforts undertaken by the Bear River Commission (Commission) to reach out to the public on this important milestone.

We support and concur in the recommendations on the 20-year review, submitted to the Bear River Commission by National Audubon Society and The Nature Conservancy in Utah. The recommendations include measures the Commission can take within the existing Compact framework, without the need for amendments.

In summary, we ask the Commission to consider the following recommendations:

1. Establish a stakeholder task force or a new committee to share scientific, technical and policy expertise and inform the Commission on needs to ensure the long-term health of the Bear River Basin watershed.
2. Continue developing and refining procedures that address the relationship between groundwater and surface water flow in the basin; and as needed update depletion methodologies to account for changing circumstances, such as changes in evaporation rates.
3. Develop procedures or guidance for facilitating the use of credible third-party data to supplement water quality, quantity and other types of environmental data.
4. Work with other experts and agencies to improve the Commission's and the public's understanding of the implications of systemic drought, extreme precipitation events and effects of climate change for the Bear River Basin, and how such contingencies can be managed to ensure continued flows in the river system.
5. Develop guidance, with public input, for the provisions of Article IX of the Compact concerning water exchanges; and investigate other publicly acceptable approaches for sharing water within the basin.

We believe these recommendations can further benefit all who rely on the waters of the Bear River system. Furthermore, while Great Salt Lake may not be within the specific purview of the terms of the Bear River Compact, these recommendations also can help support the quality and quantity of Bear River water that is so critical to maintaining the global, hemispheric and regional benefits provided by Great Salt Lake for birds and habitats, as well as for human health and economies that rely on the Lake.

Thank you.

Sincerely,

*John Bellmon*

John Bellmon  
President  
Utah Audubon Council

A coalition of local chapters:  
*Great Salt Lake Audubon, Salt Lake City, UT*  
*Wasatch Audubon Society, Ogden, UT*  
*Bridgerland Audubon Society, Logan, UT*  
*Red Cliffs Audubon Society, St. George, UT*



December 4, 2017

Bear River Commission  
106 West 500 South, Suite 101  
Bountiful, UT 84010

*Via email (review@bearrivercommission.org)*

***Re: Joint Comments and Recommendations for 20-Year Bear River Compact Review***

Dear Bear River Commission:

Thank you for the opportunity to comment on the Amended Bear River Compact's ("Compact") 20-year review. We are submitting the enclosed comments and recommendations on behalf of the National Audubon Society and The Nature Conservancy.

**I. OVERVIEW OF NATIONAL AUDUBON SOCIETY AND THE NATURE CONSERVANCY**

The National Audubon Society ("NAS" or "Audubon") is dedicated to protecting birds, other wildlife, and the habitat and water resources that support them. The riparian habitats along rivers, including the Bear River, and western saline lakes and their associated wetlands, including the Great Salt Lake, (fed in part by the Bear River), provide important habitat for millions of birds. Audubon has worked in Utah and the West for many years, and seeks opportunities to work with a range of partners to advance balanced solutions to water use to ensure birds, ecosystems, and people can thrive. In the Bear River Basin, Audubon has worked with landowners to designate *Important Bird Areas* - sites of international significance for biodiversity and birds in the Basin, including Cutler Marsh-Amalga Barrens, Bear River Bay (including the Bear River Migratory Bird Refuge), and the Bear Lake National Wildlife Refuge.

The Nature Conservancy ("TNC") is a global conservation organization whose mission is to conserve the lands and waters on which all life depends. TNC has been working in the Bear River Watershed for many years and has been instrumental in forging partnerships with agencies, conservation organizations and landowners to assess the health of the watershed, as well as collaboratively developing science-based strategies and undertaking conservation action planning to improve watershed conditions.

Both NAS and TNC believe continued and proactive collaboration among the Bear River Commission (“**Commission**”), the compact states of Utah, Idaho and Wyoming (the “**Compact States**”), irrigators, municipalities, recreation groups, environmental interests, and other stakeholders in the Bear River Basin will be essential in ensuring the continued good stewardship of the Basin. The enclosed comments and recommendations are intended to further this goal and to support the use and development of science-based information needed to underpin sound policy and management.

## **II. SUMMARY OF COMMENTS AND RECOMMENDATIONS**

As explained more fully in the enclosed comments, NAS and TNC appreciate the Commission’s efforts to fulfill its responsibilities under the Compact. As the Commission is well aware, the Compact’s “major purposes” are to:

*[R]emove the causes of present and future controversy over the distribution and use of the waters of the Bear River; to provide for efficient use of water for multiple purposes; to permit additional development of the water resources of Bear River; to promote interstate comity; and to accomplish an equitable apportionment of the waters of the Bear River among the compact states.<sup>1</sup>*

NAS and TNC believe the Commission has succeeded in fulfilling this mission by taking proactive and collaborative steps to avoid or resolve controversies among the Compact States and to promote interstate comity, particularly with respect to water quantity and quality issues. We further believe that much of this success is a result of the Commission’s outreach and collaboration with the various stakeholders in the Bear River Basin, including agricultural, recreation, municipal, environmental, and other interests. As a result, NAS and TNC believe that amendments to the Compact are not needed at this time.

Nevertheless, NAS and TNC recommend that the Commission take additional steps within the framework of the Compact to protect and improve the overall watershed health within the Bear River Basin in ways that help achieve the overall goals of the Compact. Concerns about watershed health were expressed during the last 20-year Compact review and in the recent public meetings, where members of the public expressed support for efforts to address environmental, recreation, and conservation needs. Put simply, issues affecting watershed health in the Bear River Basin are one of, if not the most likely source of present and future controversies. Left unresolved, they could result in court decisions or Endangered Species Act listings that could potentially disrupt or hinder the distribution of water for approved uses within the Bear River System. More importantly, however, a healthy watershed benefits all interests in the Basin by conserving water, providing security by sustaining the streamflows needed for continued water allocations, and supporting healthy soils for crops and livestock, among other benefits.

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<sup>1</sup> Amended Bear River Compact, Art. I(A), 94 Stat. 4 (emphasis added).



**NAS and TNC Comment Letter to Bear River Commission**

**December 4, 2017**

**Page 3 of 4**

We recognize that the Commission has historically and largely deferred to the individual laws of each of the Compact States for most issues involving the management and allocation of their respective Compact allocations. The Commission, however, is uniquely positioned to support Basin-wide collaboration and to exercise appropriate influence with respect to these issues within the Basin.

To this end, NAS and TNC recommend five overarching actions the Commission can take to address environmental needs and concerns within the Basin, and hopefully prevent or mitigate the potential for future conflict. These actions are intended to be an extension of the Commission's ongoing efforts to foster collaboration between its member states and interested shareholders. We have enclosed detailed explanations of these actions, but in short NAS and TNC recommend that the Commission undertake the following to support healthy watersheds in the Bear River Basin.

1. **Create a Stakeholder Task Force or a New Committee to Foster Collaboration on Watershed Health.** Create a stakeholder task force to interface with the Records and Public Involvement Committee and provide technical and policy expertise to the Commission on issues that affect watershed health in the Bear River Basin, including healthy river flows, watershed management, sedimentation, channelization, the Endangered Species Act, and other such issues. While the Commission would determine membership in the task force, we recommend that membership include wildlife resource agencies and other state agencies with jurisdiction over matters affecting watershed health in the Basin. The group should also include a representative mix of stakeholders with environmental, business, recreation, agriculture, municipal, and other perspectives in the Basin. In the alternative, the Commission could create a stand-alone committee consisting of applicable state agency representatives, similar to its Water Quality Committee, to interface with stakeholders on watershed health issues.
2. **Continue Developing and Refining Policies That Address the Interplay Between Groundwater and Surface Water.** Continue the Commission's efforts to standardize the method for calculating depletions associated with supplemental and additional rights, particularly groundwater rights and withdrawals that are supplemental to pre-existing 1976 surface rights. Given the likelihood of future changes in water use, we also suggest that the Commission adopt a detailed plan or schedule to update and incorporate its depletion estimations. Lastly, we request that the Commission provide further guidance on the types of acceptable documentation needed for Compact States to show that groundwater is not tributary to the Bear River and therefore exempt from the depletion estimate reporting requirements under the Commission 2016 Procedures for Depletion Estimates.
3. **Utilize and Consider Environmental Data and Facilitate the Use of Credible Third-Party Data.** We support existing state efforts to collect environmental data and request that the Commission and the Compact States take additional steps to utilize this data in fulfilling their Compact obligations and water management responsibilities. The new task force proposed in Recommendation 1 above could also coordinate efforts to

improve the consistency and centralization of existing environmental data, including data collected by the states' wildlife resource agencies. At the same time, the use of credible third-party data could help augment ongoing collection efforts for water quantity, quality, and environmental data. The Commission can develop protocols or guidance to govern the collection, submission, and acceptance of credible third-party data. Third-party data could also allow for the collection and submission of data that the Commission and the Compact States may otherwise lack the resources to develop, particularly environmental data. Although such protocols will need to be tailored to the specific needs of the Commission and the data type, the Utah Division of Water Quality's Section 303(d) Credible Data Requirements System, which the agency uses to fulfill its responsibilities under the Clean Water Act, provides an example of such protocols.

4. **Develop and Implement Contingency Planning to Address Drought and the Effects of a Changing Climate.** We ask the Commission to engage the existing Technical Advisory Committee (TAC), or other applicable committee(s), to develop and implement a contingency planning program to respond to the impacts of systemic drought and a changing climate, which have the potential to fundamentally alter the way water is allocated and managed in the Bear River Basin. Potential components of such a program include: (i) assessing the ability of the water emergency provisions in Article IV of the Compact to address systemic drought and climate change; (ii) creating an inventory of existing information and resources regarding the possible impacts of drought and climate change as specifically applied to the Bear River Basin; (iii) collaborating with other experts and stakeholders to improve and expand upon the scientific understanding of how drought and climate change will impact the Bear River Basin; (iv) assessing the risks and implications of a changing climate, drought, and precipitation changes to support effective and adaptive management in the Bear River Basin; and (v) developing and implementing adaptation and mitigation strategies to address the impacts of systemic drought and climate change to meet current and future water demands. The Colorado River Water Supply and Demand Study provides an example of how to carry out these tasks, many of which could be conducted through the U.S. Bureau of Reclamation's Basin Studies Program.
  
5. **Investigate the Feasibility of an Interstate Water Bank and Other Mutually Acceptable Ways of Sharing Water Within the Basin, Including Developing Guidance Regarding Water Exchanges Under Article IX of the Compact.** We recommend that the Commission investigate the feasibility of an interstate water bank or other ways to share water within the Bear River Basin. As part of this effort, the Commission will need to consider Article IX of the Compact, which authorizes interstate water exchanges. We suggest that the Commission also formalize and augment its guidance and policies regarding the implementation and administration of water exchanges under Article IX, including but not limited to the process governing

the approval of such exchanges, how exchanges could be used for contingency planning purposes, and how exchanges could be used to support healthy river flows.

NAS and TNC stand ready to assist the Commission in implementing these recommendations. We also look forward to collaborating with the Commission, the Compact States, and other stakeholders to ensure the continued good stewardship of the Bear River Basin.

Thank you for considering our comments.

Sincerely,

Marcelle Shoop  
Marcelle Shoop (Dec 4, 2017)

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Enclosure

**JOINT COMMENTS BY  
THE NATIONAL AUDUBON SOCIETY  
AND  
THE NATURE CONSERVANCY  
ON THE  
20-YEAR BEAR RIVER COMPACT REVIEW**

**December 4, 2017**

**INTRODUCTION**

The National Audubon Society (“NAS”) and The Nature Conservancy (“TNC”) submit the following joint comments as part of the Bear River Commission’s (“**Commission**”) 20-year review of the Bear River Compact (“**Compact**”). As noted in the accompanying cover letter, we do not believe amendments to the Compact are needed at this time. There are additional opportunities available under the Compact’s existing framework, however, that the Commission and the Compact States can pursue to address growing environmental concerns regarding watershed health in the Bear River Basin.

NAS and TNC respectfully request that the Commission consider and implement the following comments and recommendations that are intended to facilitate constructive and collaborative dialog and cooperation among the Commission, the Compact States, and stakeholders on issues affecting watershed health within the Bear River Basin. Strengthening collaborative processes can help the Commission proactively remove the causes of present and future controversy, ensure the continued and future health of the Basin, and fulfill its responsibilities under Article II(A) and other provisions of the Compact, including water allocations.

More importantly, using collaborative processes to develop mutually acceptable ways of ensuring a healthy and sustainable watershed will benefit all water users and interests in the Basin. By providing water that is suitable in both quantity and quality, a healthy watershed delivers a number of benefits, including but not limited to:

1. Safe drinking water, which can reduce treatment and infrastructure costs;
2. Increased adaptability to the impacts of systemic drought and a changing climate;
3. Healthy soil for crops and livestock;
4. Habitat for wildlife and plants, including specially designated management areas such as Bear River Migratory Bird Refuge, Bear Lake National Wildlife Refuge, fish passages, and more; and

5. Reliable water supplies for agriculture, power generation, recreation, and the many other vital economic and human interests that rely on the Bear River.<sup>1</sup>

Lastly, while the Compact's jurisdiction extends only to the mouth of the Great Salt Lake, these recommendations can also benefit the quality and quantity of the Bear River water that supports the needs of the Great Salt Lake, a globally, hemispherically, regionally, and economically important resource.

### **BASIN-WIDE COLLABORATION IS NEEDED TO PROTECT AND IMPROVE WATERSHED HEALTH IN THE BEAR RIVER BASIN**

Concerns about watershed health and the adequacy of flows in the Bear River Basin represent the most likely source of present and future controversies. The report the Commission prepared for the last 20-year review noted a substantial increase in public concern about watershed health in the Bear River Basin, finding that “[a]ll of the comments related to a broadening of the Commission’s agenda concerning environmental issues.”<sup>2</sup>

These concerns still exist and have become more pronounced in the intervening years, particularly in light of the potential for systemic drought and a changing climate, which could fundamentally alter Compact operations and water management in the Basin. For instance, TNC recently assessed Utah’s Little Bear River in partnership with landowners, the Utah Divisions of Water Quality and Wildlife Resources, and others.<sup>3</sup> The assessment, enclosed as **Addendum A**, found that portions of the River have “very good” or “fair” environmental conditions, but others like the Middle Little Bear and Lower Little Bear have “poor” conditions. Notwithstanding the Commission’s good stewardship of the Basin to-date, drought, intense precipitation events, and other impacts from a changing climate could lead to fluctuating and more severe weather patterns, decreased water availability, declining groundwater supplies, and reduced snowpack. All of these developments could lead to increased competition and conflict over water resources in the Basin, as well as increased adverse impacts to water users throughout the Basin, including but not limited to agriculture, municipal, recreation, and environmental interests.<sup>4</sup>

Going forward, it is important for the Commission to take a more active role in environmental and other matters that impact watershed health and water availability for the many users and interests that rely on the Bear River. The Commission can do this by supporting and facilitating a collaborative watershed-based strategy within the Basin to ensure a sustainable river system for future generations. Such a strategy will require the Commission to forge partnerships at both the policy and technical levels among the Compact States and a range of stakeholders.

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<sup>1</sup> U.S. Envntl. Protection Agency, Healthy Watersheds Protection: Benefits of Healthy Watersheds, <https://www.epa.gov/hwp/benefits-healthy-watersheds>.

<sup>2</sup> Findings Concerning the Need for Compact Revision: A Report of the Bear River Commission, pgs. 20–21 (Nov. 18, 1997) [hereinafter “1997 Report”], available at <http://bearrivercommission.org/docs/20%20Year%20Review%20of%20the%20Bear%20River%20Compact.pdf>

<sup>3</sup> The Nature Conservancy, Cache Valley’s Little Bear River: Sustaining the River that Sustains Us (Oct. 2017).

<sup>4</sup> See generally, Governor’s Water Strategy Advisory Team, Recommended State Water Strategy, 7.1 (July 2017) [hereinafter, “Utah Water Strategy”] (discussing the impacts of a changing climate on Utah’s water resources), available at <http://www.envisionutah.org/news-and-events/item/425-2017-utah-water-strategy-recommendations>.

One illustration of the need for this type of collaboration can be found in a system-wide assessment of the Bear River Basin that TNC completed in 2009, attached as **Addendum B**.<sup>5</sup> TNC carried out the assessment in partnership with multiple state agencies, companies, landowners, and other stakeholders, using a science-based approach to identify the most pressing conservation priorities in the watershed. This collaborative effort resulted in a Conservation Action Plan (“CAP”), which set forth a blueprint for a healthier river system. Among other things, the CAP identified thirteen general objectives and strategies to address current and future threats to the Basin’s environmental health. All of these strategies, however, require some form of collaboration among the Compact States and stakeholders.

The U.S. Fish and Wildlife Service’s 2013 Land Protection Plan for the Bear River Watershed Conservation Area also illustrates the need for Basin-wide collaboration on environmental issues. The plan is aimed at working with landowners to establish up to 920,000 acres of voluntary conservation easements to protect water quality and quantity, preserve wildlife and habitat, and increase the watershed’s resiliency in the face of climate and land use changes, among other goals. These objectives, however, require Basin-wide coordination with numerous partners, including the Compact States, federal agencies, environmental organizations, land owners, and a host of other stakeholders.<sup>6</sup>

Importantly, both plans acknowledge the important role that the rural and agricultural nature of the Bear River system plays in supporting watershed health. For instance, the U.S. Fish and Wildlife Service’s Land Protection Plan relies exclusively on voluntary easements with landowners that include existing agricultural practices.<sup>7</sup>

While some reaches of the Bear River are in fair condition, the Commission could facilitate and support sustained and proactive collaboration to prevent future deterioration and improve those areas that are currently in poor condition. Timely efforts to address such issues can help avoid Endangered Species Act listings, other federal intervention, or possible court decisions, all of which could lessen the autonomy of the Commission and the Compact States in allocating water and making water management decisions in the watershed.

## **RECOMMENDATION #1**

### **CREATE A NEW STAKEHOLDER TASK FORCE OR NEW COMMITTEE TO FOSTER COLLABORATION ON WATERSHED HEALTH**

The Commission has a proven track record of taking proactive steps to encourage and facilitate collaboration among the Compact States and stakeholders on difficult challenges. Most notably, in response to concerns expressed during the prior 20-year review about water quality,

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<sup>5</sup> The Nature Conservancy, *The Bear River: A Conservation Priority* (Feb. 2010).

<sup>6</sup> U.S. Fish and Wildlife Service, *Land Protection Plan: Bear River Watershed Conservation Area*, vii (Feb. 2013), available at [https://www.fws.gov/mountain-prairie/refuges/lpp\\_PDFs/brw\\_lpp\\_final\\_contents\\_summary.pdf](https://www.fws.gov/mountain-prairie/refuges/lpp_PDFs/brw_lpp_final_contents_summary.pdf).

<sup>7</sup> *Id.*

the Commission created its Water Quality Committee to interface with the Bear River Basin Water Quality Task Force.<sup>8</sup> By all accounts, the Water Quality Committee has been a success and has improved collaboration among the Compact States and stakeholders, particularly in developing strong data points, providing important coordination among the Compact States on water quality issues, coordinating the development of Total Maximum Daily Load limits, and supporting efforts to maintain good water quality in the Bear River.

A similar collaborative effort, using the Water Quality Committee as a model, is needed now to address current and future environmental threats to the watershed's health.

**A. Organizing a New Task Force or Committee**

We pose two methods for implementing this recommendation.

Under one approach, the Commission could create a task force to provide technical and policy expertise to the Commission on issues that impact watershed health. To ensure that the Compact States' responsibilities and authorities are supported and recognized, the task force could report to the Commission's Records and Public Involvement Committee or another committee. The task force could also include representatives from applicable agencies from the Compact States with jurisdiction over matters that affect watershed health, including but not limited to state wildlife resource agencies. For the task force to be truly effective, however, the Commission would need to ensure that its membership includes a representative mix of stakeholders with agriculture, environmental, business, recreation, municipal, refuge managers, and other perspectives in the Bear River Basin.

An alternative approach would be to create a new, stand-alone committee similar to the Water Quality Committee consisting of state officials from state wildlife and other relevant agencies to provide technical and policy expertise on issues that impact watershed health. Such a committee would also serve as the Commission's point of contact for stakeholders. Ideally, a task force or other coalition of interested stakeholders, similar to the Bear River Basin Water Quality Task Force, would also be created to interact with the committee.

NAS and TNC believe that either of these structures, or a variation of these concepts, would help provide the forum for collaboration needed to address present and future controversies regarding watershed health in the Basin. NAS and TNC would also be willing to serve as members of any task force or other organization created to assist the Commission on this issue.

**B. Scope of the New Task Force or Committee**

The Commission and the Compact States would be responsible for defining the scope of a new task force or committee. NAS and TNC, however, recommend that the task force or committee work to sustain overall watershed health in the Basin on a system-wide basis. To this end, we recommend that the task force or committee undertake the following tasks:

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<sup>8</sup> 1997 Report, *supra* note 2, at 21–22.

1. Conduct a science-based, system-wide assessment of the Bear River Basin, such as TNC's CAP effort in the Little Bear River, to: (i) identify and examine areas within the basin where current flow levels may be sub-optimal to fully functioning watershed health; (ii) analyze the relationship between flows and watershed health; and (iii) develop related policies and procedures where appropriate;
2. Using the information generated from the system-wide assessment, investigate and report to the Commission on ways it can support or otherwise facilitate protection of the Bear River's native ecosystem in accordance with the Compact's goals and requirements;
3. Using the information generated from the system-wide assessment, coordinate efforts, including evaluation, concerning: (i) threats to specific species of fish or other wildlife, including avian species, or the Columbian Sharp-Tailed Grouse, Northern Leatherside Chub, and Bonneville Cutthroat Trout, in an effort to ensure such species do not reach critical levels requiring listing or federal intervention; and (ii) controlling invasive aquatic or plant species that could impact water resources;
4. Support and facilitate the collection, sharing, interpretation, and evaluation of environmental data, including data relating to healthy hydrologic functions, channelization, sediment loading, and the incorporation of natural infrastructure to withstand extreme precipitation events;
5. Assess findings, data, and lessons learned from other public agencies or interested parties, such as TNC's CAP effort; and
6. Assess and make recommendations regarding the impacts that land use practices could have on surface and tributary groundwater resources in the watershed.

NAS and TNC recognize that many of these issues fall under the Compact States' individual jurisdictions. Nevertheless, given the Commission's unique role and influence, the Commission is best suited to facilitate the types of watershed-level dialog and collaboration needed to convene and support multi-state or Basin-wide action. In addition, although these suggestions are focused primarily on environmental issues, NAS and TNC note that many are related to and impact recreation and the economies of the Compact States, which the proposed task force or committee could also address.

#### **C. The Compact Supports the Creation of a Task Force or Committee to Address Environmental Threats to the Watershed**

The Compact includes two articles that support the creation of a task force or committee to address watershed health in the Basin. First, Article I(A) states that the "major purposes" of the Compact include providing for the "efficient use of water for *multiple purposes*."<sup>9</sup> Moreover, Article I(A) further identifies "remov[ing] the causes of present and future controversy over the distribution and use of the water in the Bear River" and "promot[ing] interstate comity" as major purposes of the Compact.

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<sup>9</sup> Amended Bear River Compact, Art. I(A), 94 Stat. 4 (emphasis added).



Second, Article III(C)(6) authorizes the Commission to, among other things, engage in cooperative efforts with agencies within the Compact States:

The Commission shall have the power to: . . . Perform all functions required of it by this Compact and do all things necessary, proper or convenient in the performance of its duties hereunder, *independently or in co-operation with others*, including State and Federal agencies (emphasis added).

Like the Water Quality Committee, the objective of the proposed task force or committee fits squarely within the “conflict resolution” and “cooperation” aspects of the Compact. Namely, the Commission would be cooperating with the wildlife resources and other applicable agencies of each of the Compact States, and other interested parties, to coordinate on environmental issues that impact watershed health in the Basin. Further, like the Water Quality Committee, this new task force or committee would be a state-driven endeavor.

Finally, the Commission established a precedent for establishing an effective and specialized committee when it created the Water Quality Committee. The success of the Water Quality Committee cannot be overstated, but it is not designed to address the broad array of environmental issues that affect watershed health in the Basin. Asking the Water Quality Committee to address these environmental issues could also dilute or detract from its water quality efforts. In contrast, the new task force or committee would be specifically constituted to address issues typically beyond water quality, but could still coordinate with the Water Quality Committee as needed.

## **RECOMMENDATION #2**

### **CONTINUE DEVELOPING AND REFINING POLICIES THAT ADDRESS THE INTERPLAY BETWEEN GROUNDWATER AND SURFACE WATER.**

NAS and TNC support the Commission’s efforts to ensure consistency in its depletion calculations for groundwater. Continued development in the Basin, particularly in the Lower Division, will likely withdraw increasingly large amounts of groundwater. For example, the U.S Geological Survey reports that 24 new wells were constructed in Utah’s Cache Valley in 2016 and that wells in the area withdrew a total of 31,000 acre-feet that year.<sup>10</sup>

As groundwater withdrawals in the Basin increase, so too will the potential for confusion and conflict over the methods used to calculate groundwater depletions for the purposes of Compact administration, as illustrated by recent litigation over groundwater depletion calculations in the Republican River Compact.<sup>11</sup> Ensuring that the relationship between surface water and

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<sup>10</sup> U.S. Geological Survey, Groundwater Conditions in Utah, 5 (Spring 2016), available at <https://ut.water.usgs.gov/publications/GW2017.pdf>.

<sup>11</sup> E.g., *Kansas v. Nebraska*, No. 126, *Motion for Leave to File Bill of Complaint, and Brief in Support of Motion for Leave to File a Bill of Complaint* (S. Ct. 1997) (beginning the process of the litigation over groundwater

groundwater resources is well understood and accounted for will continue to be important for the long-term management of the Basin and will be essential in preventing conflict - particularly, as changing climate conditions and land use changes affect the hydrologic balance. Wyoming, for instance, recognized this concern in its 2014 Bear River Basin Water Plan Update, noting that the “interconnection between groundwater and surface water...could become a point of contention in the future as the basin’s population grows.”<sup>12</sup>

Fortunately, the Commission and the Compact States have made significant strides to address the connection between surface water and groundwater, working together to achieve consistency in the approaches used to calculate depletions in the three states.<sup>13</sup> NAS and TNC strongly support these continued efforts, such as the Commission’s 2009 depletion study and related technical memoranda on depletion, as well as its continued efforts to update its procedures to account for changing conditions and new technology. Because public perception or misperception can often fuel disputes, we also recommend that the Commission ensure that its depletion methodology is made available to the public in a manner that is understandable to the general population.

One aspect still to be resolved is how to measure and calculate depletions associated with supplemental and additional rights, particularly groundwater withdrawals. (i.e., groundwater rights/withdrawals supplemental to pre-existing 1976 surface rights). We encourage the Commission to continue its efforts to standardize the depletion calculation methodology for these supplemental rights and incorporate the methodology into its depletion procedure. We also recognize that additional work may be needed at the state level to determine or adjudicate supplemental rights and encourage the Compact States in maintaining the priority of such efforts.

We further note that a number of methodologies and underlying measurements were updated for the depletion procedure, such as crop mix and evapo-transpiration (ET) rates and municipal depletions. In view of the likelihood for future changes to these ET rates, NAS and TNC recommend that the Commission adopt a more detailed plan or schedule for future ET and crop mix assessments to ensure updates are incorporated in a timely fashion to depletion estimates.

Finally, with respect to a different but related issue, the Commission’s 2016 Procedures for Depletion Estimates provide that depletions for both surface water and groundwater sources are to be reported. The policy provides, however, that non-tributary groundwater depletions are exempt from this requirement if the state in question provides “documentation acceptable to the Commission to show the source of water for the depletions is not tributary to the Bear River.”<sup>14</sup> The procedures, however, do not explain what constitutes “acceptable documentation.” Further guidance on the type of documentation that will be acceptable in this instance would reduce the

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appropriation within the Republican River Compact); *Kansas v. Nebraska*, 123 S. Ct. 1898 (2003) (approving settlement agreement between the Compact States of the Republican River Compact); *Kansas v. Nebraska*, 135 S. Ct. 1042 (2015) (showing how the United States Supreme Court decided that the State of Nebraska had breached the settlement agreement it entered into with the State of Kansas regarding, among other things, groundwater depletion).

<sup>12</sup> Wyoming State Geological Survey, Bear River Basin Water Plan Update Groundwater Study Level 1 (2010-2014), 8-180 (2014), available at <http://waterplan.state.wy.us/plan/bear/2011/gw-finalrept/gw-finalrept.html>.

<sup>13</sup> See, e.g., Bear River Compact Commission, Procedures for Depletion Estimates, 2 (April 19, 2016), available at <http://bearrivercommission.org/docs/Procedures%20for%20Depletion%20Estimates%202.pdf>.

<sup>14</sup> *Id.*

potential for conflict and misunderstanding, and would also provide guidance on when groundwater is or is not tributary to the Bear River.

### RECOMMENDATION #3

#### UTILIZE AND CONSIDER ENVIRONMENTAL DATA AND FACILITATE THE USE OF CREDIBLE THIRD-PARTY DATA

The Commission and the Compact States have been effective in collecting water quantity and quality data. As the Idaho State Water Plan notes, “[r]esearch and data gathering are essential to the state’s efforts to meet future water challenges in a sustainable way.”<sup>15</sup>

##### **A. Increase the Use of Environmental Data in Compact Administration and Water Management in the Bear River Basin**

To date, the Commission and the Compact States have focused mostly on water quantity and quality data in their administration of the Compact and in fulfilling their water management responsibilities in the Basin. NAS and TNC encourage the Commission and the Compact States to take additional steps to consider environmental data in carrying out these responsibilities.

Without such data, the Commission and the Compact States may not be aware of current and future environmental issues in the Bear River Basin, or the type of data needed to effectively address those issues before conflicts arise. For this reason, NAS and TNC respectfully request that Commission and the Compact States work through the task force or committee suggested in Recommendation #1 to support and facilitate the collection, sharing, interpretation, and evaluation of environmental data in the Bear River Basin.

We also note that the Compact States’ (and federal) wildlife resource agencies already collect environmental data that the Commission and the Compact States could use in fulfilling their Compact administration and water management responsibilities.

##### **B. Create Protocols that Allow Third-Parties to Submit Credible Data**

NAS and TNC understand that the Water Quality Committee has discussed the possible use of third-party data and that some of its member agencies are considering ways to utilize such

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<sup>15</sup> Idaho Water Resources Board, Idaho State Water Plan, at 36 (Nov. 2012), *available at* <https://idwr.idaho.gov/files/iwrb/2012/2012-State-Water-Plan.pdf>. *See also*, Governor Mathew H. Mead, Leading the Change, Wyoming Water Strategy, at 35 (stating, “Wyoming depends on reliable, credible, and verifiable scientific information on weather and climate,” and such data “is important—for agencies and individuals responsible for forecasting water and regulating river systems, and also for sound long-term planning and decision making.”) *available at* <http://waterplan.state.wy.us/plan/statewide/govstrategy/20150115-GovWaterStrategy.pdf>; Utah Water Strategy, *supra* note 4, at 15 (stating, “[w]ater resources planning and management depend upon accurate accounting for all water use and supply through data that meets acceptable standards.”).

data.<sup>16</sup> We strongly support these efforts and encourage the Commission to develop protocols and appropriate quality standards to govern the submission of applicable third party data for use in Compact administration and water management in the Basin, including but not limited to water quality, quantity, and environmental data.

Notwithstanding the need for environmental data, NAS and TNC recognize the significant costs required to support water quantity and quality data collection efforts of the Commission and the Compact States. We also recognize that financial constraints may limit the ability of the Commission and the Compact States to collect environmental or other data on wildlife, habitat, and other aspects of the Bear River Basin.

Creating protocols to govern the submission of third-party data could help offset these costs. Many entities and volunteers already collect data along the Bear River that the Commission and the Compact States could use with minimal or no public investment. For instance, as part of the Utah Water Watch, certified volunteers collect and enter water quality data they have recorded from their monitoring observations in the Bear River Basin and other parts of the state.<sup>17</sup> Creating guidance or protocols that allow for the submission of “credible” third-party data to the Commission and the Compact States may also incentivize other stakeholders to begin or increase data collection efforts in ways that could benefit Compact administration. Accordingly, facilitating the submission and use of third-party data could augment the Compact States’ ongoing water quality, quantity, and environmental data collection efforts, while also providing new sources of data that the Commission and the Compact States may otherwise lack the resources to collect.

NAS and TNC also understand the potential for bias or unreliability in third-party data. We note, however, that there are other state programs that allow for the submission of third-party data and control for these concerns.<sup>18</sup> Utah, for example, has developed comprehensive protocols to govern the submission of third-party data as part of its Sections 303(d) and 305(b) programs under the Clean Water Act. These include “credible data requirements” to sift out non-credible or biased data.<sup>19</sup> Although Utah’s program is tailored to its reporting obligations under the Clean Water Act, its reporting requirements for third-party data provide a useful model that the Commission could use as a starting point to create a similar program that is specific to the environmental issues in the Bear River Basin.

To create the required procedures and protocols, the Commission could task its applicable Committees with creating the appropriate criteria to govern the submission of the types of data that fall within their area of expertise. The Water Quality Committee, for instance, could create

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<sup>16</sup> Bear River Commission, November 22, 2016 Commission Meeting Minutes, 5 (stating that Wyoming is “working on data that comes from third parties, especially NGOs, and how to handle, how to manage and how to use that data in their regulatory decisions.”), *available at*

<http://bearrivercommission.org/docs/Minutes%20129%20Nov%202016%20-%20complete.pdf>.

<sup>17</sup> Utah Water Watch, Welcome to the Utah Water Watch Database, *available at* <https://uww.usu.edu/pages/home/>.

<sup>18</sup> See, Bear River Commission, November 17, 2015 Meeting Minutes, 5 (discussing challenges Wyoming has experienced with third-party data, but noting that “Utah has not struggled with this problem [because it has] a very strict quality control regime which only allows certain entities to submit data.”), *available at* <http://bearrivercommission.org/docs/Meeting%20Minutes%20-%20November%2017,%202015.pdf>.

<sup>19</sup>The “credible data” requirements are available at

<https://deq.utah.gov/ProgramsServices/programs/water/monitoring-reporting/assessment/callfordata.htm>.

criteria to govern the submission of water quality data. Similarly, the task force or committee suggested in Recommendation #1 above could develop protocols and procedures regarding the collection and submission of other types of third-party environmental data.

#### RECOMMENDATION #4

##### DEVELOP AND IMPLEMENT CONTINGENCY PLANNING TO ADDRESS SYSTEMIC DROUGHT AND THE EFFECTS OF A CHANGING CLIMATE

It is important for the Commission to improve its understanding of potential effects on the Bear River Basin from systemic drought, extreme precipitation events, and changing climatic conditions. Improved understanding can, in turn, support contingency planning efforts to account for the potential impacts of systemic drought and a changing climate. Although Article IV of the Compact governs the distribution of water during “water emergencies,” these provisions are largely focused on temporary water shortages, as evidenced by the fact that such emergencies “shall terminate on September 20 of each year unless terminated sooner or extended by the Commission.”<sup>20</sup> There is, therefore, a question as to how the Commission will address systemic drought or other effects brought upon by a changing climate that permanently alter or significantly influence the hydrology of the Bear River Basin.

For instance, all three Compact States have experienced increased temperatures over the last century, ranging from one to three degrees.<sup>21</sup> A changing climate could have profound effects on the Bear River Basin, its tributaries, groundwater sources within the Basin, as well as the health of the overall watershed. The variability in drought and wet cycles and the intensity of weather events also is expected to increase.<sup>22</sup>

Snowpack is a critical source of water for the Bear River Basin that climate change could impact. Even if the amount of precipitation does not change significantly, it is anticipated that more precipitation in the region could come in the form of rain rather than snow, particularly at lower elevations. Precipitation events may also become more intense, which likely increasing flooding risks. At the same time, snowpack in higher elevations could melt earlier in the season.

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<sup>20</sup> See Amended Bear River Compact, Art. IV(E), 94 Stat. 4.

<sup>21</sup> Temperature variations by state: ID: 1-2°; UT: ~2°; and WY: 1-3. See generally, U.S. Env'tl. Protection Agency, *What Climate Change Means for Idaho*, EPA 430-F-16-014 (Aug. 2016), available at <https://www.epa.gov/sites/production/files/2016-09/documents/climate-change-id.pdf>; U.S. Env'tl. Protection Agency, *What Climate Change Means for Utah*, EPA 430-F-16-046 (Aug. 2016), available at <https://www.epa.gov/sites/production/files/2016-09/documents/climate-change-ut.pdf>; U.S. Env'tl. Protection Agency, *What Climate Change Means for Wyoming*, EPA 430-F-16-052 (Aug. 2016), available at <https://19january2017snapshot.epa.gov/sites/production/files/2016-09/documents/climate-change-wy.pdf> [collectively, “EPA Climate Reports”].

<sup>22</sup> See generally, EPA Climate Reports, *supra* note 21; Bear River Climate Change Adaptation Workshop Summary, 9, 66 (Nov. 2, 2010) [hereinafter “TNC Adaptation Report”] (describing the proceedings and findings of a workshop that TNC and other partners held on climate adaptation in the Bear River on May 26 – 27 in Salt Lake City, Utah), available at <http://nmconservation.org/dl/SWCCI-BearRiver-Climate-Adaptation-Wkshp-FINAL-Report-Nov-2010.pdf>.

Warming temperatures will also increase the amount of water required by plants through higher transpiration rates and increase evaporation rates in soils and reservoirs.<sup>23</sup>

Members of the public, as well as water managers within the Compact States, are already calling for proactive measures to plan for the effects of drought and climate change. In July 2017, for instance, Utah Governor Gary Herbert's Water Strategy Advisory Team released a recommended State Water Strategy. Section 7, attached as **Addendum C**, focuses on the potential climate impacts on the state's water resources, and makes a number of recommendations.<sup>24</sup>

Improving the understanding of how systemic drought, intense storm events, and other effects of climate change will impact the Bear River Basin and undertaking resiliency or contingency planning to address such changes can help the Commission continue its successful track record of taking proactive measures to resolve potential and future controversies and promote interstate comity.

We encourage the Commission to continue its proactive problem-solving efforts by engaging its existing Technical Advisory Committee or another appropriate committee(s) to develop a program that addresses the risks and implications of systemic drought and a changing climate in the Bear River Basin.

Potential components of such a contingency planning program could include:

1. Examining how systemic changes in the quantity and timing of runoff in the Bear River Basin might impact the existing triggers for water emergencies in the compact (Article IV of the Compact).
2. Establishing a technical or scientific advisory stakeholder group, similar to (or a part of) the task force suggested in Recommendation #1 of our comments. Such a group could provide guidance and recommendations on climate-related issues and could coordinate closely with the task force or committee referenced in Recommendation #1 to ensure that the broad range of environmental issues and needs for a healthy watershed are considered.
3. Working with other governmental, academic and non-governmental groups to inventory the information and resources that are already available regarding the potential impacts of climate change and systemic drought on the Bear River Basin. Possible starting points for such an inventory could include the National Drought Resilience Partnership, the Regional Climate Centers, and the National Integrated Drought Information System ("NIDIS").<sup>25</sup> Such an inventory can provide a better understanding of available data and information, as well as the gaps that need to be

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<sup>23</sup> See generally, Utah Water Strategy, *supra* note 4, at 70 – 77; Gillies RR, Wang SY, Booth MR, *Observational and Synoptic Analyses of the Winter Precipitation Regime Change over Utah*. J. CLIM., 25, 4679-4698 (2012), (describing the impacts of climate change on water resources and water management in Utah), available at <http://journals.ametsoc.org/doi/abs/10.1175/JCLI-D-11-00084.1>.

<sup>24</sup> Utah Water Strategy, *supra* note 4, at 71.

<sup>25</sup> More information on NIDIS is available at: <https://www.drought.gov/drought/>.

addressed to develop a more complete understanding of the possible impacts of climate change and drought as applied to the Bear River Basin specifically.

4. Supporting scientific efforts to develop a more specific understanding of the impacts of drought and a changing climate on the Bear River Basin, its watersheds, and infrastructure, as well as possible responses. Such efforts could include: (i) refining climate, drought and precipitation projections at the scale of the Bear River Basin to project future water supplies, demands, and imbalances in the Basin; (ii) analyzing how the Basin's existing operations and infrastructure will perform under changing hydrologic conditions; (iii) increasing the reliability of temperature and precipitation forecasting relevant for the Bear River Basin; and (iv) continuing efforts to refine projections of evapotranspiration and evaporation rates.
5. Using the information developed from the foregoing efforts to engage the public in developing and implementing adaptation and mitigation strategies.<sup>26</sup>

In carrying out these tasks, we suggest that the Commission consider other models such as the Colorado River Water Supply and Demand Study, conducted by the U.S. Bureau of Reclamation and the seven Colorado River Basin States, as a possible guide.<sup>27</sup> We also encourage the Commission and the Compact States to investigate the possibility of securing federal funding to carry out many of the above tasks through the Bureau of Reclamation's WaterSMART Basin Study program.<sup>28</sup>

## **RECOMMENDATION #5**

### **INVESTIGATE THE FEASIBILITY OF AN INTERSTATE WATER BANK AND OTHER MUTUALLY ACCEPTABLE WAYS OF SHARING WATER WITHIN THE BASIN, INCLUDING DEVELOPING GUIDANCE REGARDING THE EXCHANGE PROVISIONS IN ARTICLE IX OF THE COMPACT**

Water banking and exchanges will be increasingly important tools for water management. For example, Idaho already operates a water bank<sup>29</sup> and Utah's recommended State Water Strategy supports further consideration of water banking in a number of contexts, such as instream flows and facilitating of temporary water transfers, among others.<sup>30</sup> Although the Compact States' individual laws and regulations will govern water banking within their borders, the Commission

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<sup>26</sup> See Adaptation Report, *supra* note 22, at iv (explaining the results of a workshop TNC along with other partners and stakeholders held to identify "management strategies [to] help native plants, animals and ecosystems adapt to a changing climate."). **Addendum D** is a brochure summarizing the adaptation workshop outcomes, entitled *Managing for Change in the Bear River Basin*.

<sup>27</sup> See generally, U.S. Bureau of Reclamation, Colorado River Basin Water Supply and Demand Study (Dec. 2012), available at

[https://www.usbr.gov/lc/region/programs/crbstudy/finalreport/Study%20Report/CRBS\\_Study\\_Report\\_FINAL.pdf](https://www.usbr.gov/lc/region/programs/crbstudy/finalreport/Study%20Report/CRBS_Study_Report_FINAL.pdf).

<sup>28</sup> U.S. Bureau of Reclamation, WaterSMART Basin Studies Program (Sept. 7, 2017),

<https://www.usbr.gov/watersmart/bsp/>.

<sup>29</sup> Idaho Code §§ 42-1761, 1765.

<sup>30</sup> Utah State Water Strategy, *supra* note 4, at 4.2, 4.3, 9.5.

should investigate the feasibility of developing an interstate water bank or other mutually acceptable ways to share water within the Bear River Basin.

In particular, we believe the interstate “water exchanges” provisions of Article IX of the Compact could provide an important planning tool that the Commission and the Compact States could potentially use to mitigate the impacts of drought and climate change and possibly provide flows to support environmental, recreational, or other needs.

Article IX provides:

Stored water or water from another watershed may be turned into the channel of the Bear River in one State and a like quantity, with allowance for loss by evaporation, transpiration, and seepage, may be taken out of the Bear River in another State either above or below the point where the water is turned into the channel . . . .<sup>31</sup>

Article IX further provides that exchanges are subject to the following requirements:

1. “[T]he replacement water shall not be inferior in quality for the purpose used or diminished in quantity;” and
2. “Exchanges shall not be permitted if the effect thereof is to impair vested rights or to cause damage for which no compensation is paid.”<sup>32</sup>

Other than some Green River basin water that is imported into the Upper Wyoming Section above Evanston, it is our understanding that the types of water exchanges authorized under Article IX are not regularly used. It also does not appear that the Commission has formalized procedures regarding this provision.

In light of increasing pressures on the Basin, NAS and TNC believe that it will become increasingly important to facilitate increased opportunities for voluntary, market-based water-sharing arrangements and transactions among users within and across the Compact States. Without further guidance and clarity from the Commission, however, it is likely that water sharing in general and the exchange provisions of Article IX in particular may lead to confusion or conflict.

Accordingly, we respectfully request that the Commission investigate the feasibility of creating an interstate water banking program or other means of mutually sharing water within the Bear River Basin. As part of this effort, we request that the Commission review Article IX and formalize or develop guidance and policy to govern the process the Commission will use to implement the water exchanges authorized under this provision. Key issues to address in development such guidance or policy might include how:

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<sup>31</sup> Amended Bear River Compact, Art. IX, 94 Stat. 4 (emphasis added).

<sup>32</sup> *Id.*



1. The Commission will process, review, and approve or deny an exchange request when the imported water is derived from one state, but used in another state;
2. The Commission will determine whether the replacement water is not inferior in quality or diminished in quantity when the imported water is derived from one state, but used in a second;
3. The Commission will determine whether an exchange will impair vested rights or cause damage for which no compensation is paid when the imported water is derived from one state, but used in a second;
4. How the Commission will shepherd exchange water to its destination;
5. How the exchange provisions of Article IX could be used for interstate banking, other water transaction purposes, and for contingency planning to address drought and a changing climate; and
6. How the use of exchanges could be used to support river flows needed to sustain a healthy watershed or offset depletions.

## CONCLUSION

NAS and TNC appreciate the opportunity to comment on the Bear River Compact's 20-year review. We also applaud the Commission's efforts in administering the Compact and for its proactive and longstanding focus on collaboration and stakeholder outreach to develop consensus-based solutions for the challenges facing the Bear River Basin. As the public continues to focus more on environmental demands, we believe our comments and recommendations provide important and relevant tools the Commission can use in its continued efforts to "remove causes of present and future controversy over the distribution and use of the waters of the Bear River" and promote "interstate comity" among the Compact States.<sup>33</sup>

NAS and TNC welcome the opportunity to assist the Commission in implementing these recommendations or providing any other assistance the Commission may require. Thank you for considering these comments and recommendations.

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<sup>33</sup> *Id.* at Art. II(A).

# **ADDENDUM A**

# Cache Valley's Little Bear River

Sustaining the River that Sustains Us



Bonneville cutthroat trout © Corey Kruitbosch; Fisherman © Fred Summers

## Meet the Little Bear River

The 53 mile-long Little Bear River, located at the south end of Cache Valley, has long supported both people and nature. Besides providing municipal and agricultural water, it supports healthy populations of both native Bonneville cutthroat trout and brown trout. But with historic and increasing human pressures, it will take human intervention for the river to sustain these benefits.

As a first step toward protecting the natural values of the Little Bear, a group of agencies, conservation organizations and landowners came together to assess the river's current health (see side bar). The effort was catalyzed by a recommendation in the Cache County Water Master Plan to better understand the environmental water needs of the County - in addition to those needed by people. We used a transparent and science based framework to assess the current environmental condition of the Little Bear, the desired condition, and what it would take to bridge the gap between current and desired (see sidebar for "conservation action planning" framework).



More information on this planning framework can be found at [www.conservationgateway.org](http://www.conservationgateway.org)

## PARTNERS

Cache County, Utah State University, Trout Unlimited, Utah Divisions of Water Quality and Wildlife Resources, Landowners

## CONSERVATION ACTION PLANNING (CAP)

Using the CAP process, indicators and thresholds were identified to evaluate river health. For example, fish were identified as an indicator and evaluated in each reach using defined "thresholds" from POOR to VERY GOOD.

Because the kind of fish desired changes by reach, the thresholds were different for each reach.

For example, for the South Fork, Bonneville cutthroat trout are the desired species; but, for the Lower East Fork, the priority is brown trout so the threshold definitions and ranking reflect those priorities.

## Current River Health

The river changes character a number of times, as it travels west to its confluence with the Bear River. Six distinct reaches were identified and evaluated. Here is what we found:

**Upper East Fork** This reach was defined as the headwaters to Porcupine Dam. This reach drains about 60 square miles of mountainous, relatively undeveloped land that is primarily managed by the Wasatch-Cache National Forest. It was evaluated for fish populations, floodplain health, environmental flows, riparian health and water quality. In all categories, it was determined to be in GOOD or VERY GOOD condition with an overall score of **VERY GOOD**.

**Lower East Fork** This reach was defined as the stretch from Porcupine Dam to the confluence with the South Fork. At this point, the river transitions from a confined canyon setting to a less confined valley setting. For this stretch, while brown trout densities, riparian condition and water quality are GOOD, other measures including floodplain health, presence of barriers to fish passage and summer base flows are FAIR and the spring peak flows are POOR. The overall score for this section is **FAIR**.

**South Fork** This reach was defined as the entirety of the South Fork. It is in **GOOD** condition for all indicators (fish assemblage, floodplain function, absence of barriers, riparian vegetation and flows). However, a concerning trend is the increase in brown trout at the expense of Bonneville cutthroat trout (BCT). The South Fork is managed as a BCT metapopulation<sup>1</sup> and its maintenance as a BCT refuge is important to sustain BCT in the larger Bear River system.

**Upper Little Bear** The Upper Little Bear is defined as the section of river that extends from the East Fork/South Fork confluence to Hyrum Reservoir. The current condition for fish assemblage is VERY GOOD, which for this stretch is to maintain a cold water fishery with a native fish component. All other indicators are in GOOD condition except the presence of barriers and summer base flow which are FAIR. The overall score for this section is **GOOD**.

**Middle Little Bear** The Middle Little Bear, defined as being below Hyrum Reservoir to the Wellsville waste water ponds, ranks lower in river health than other sections of the river. It is ranked as POOR for fish, floodplain function, presence of barriers, summer base flow; and, FAIR for spring and winter flow, riparian condition and water quality standards, with an overall score of **POOR**.

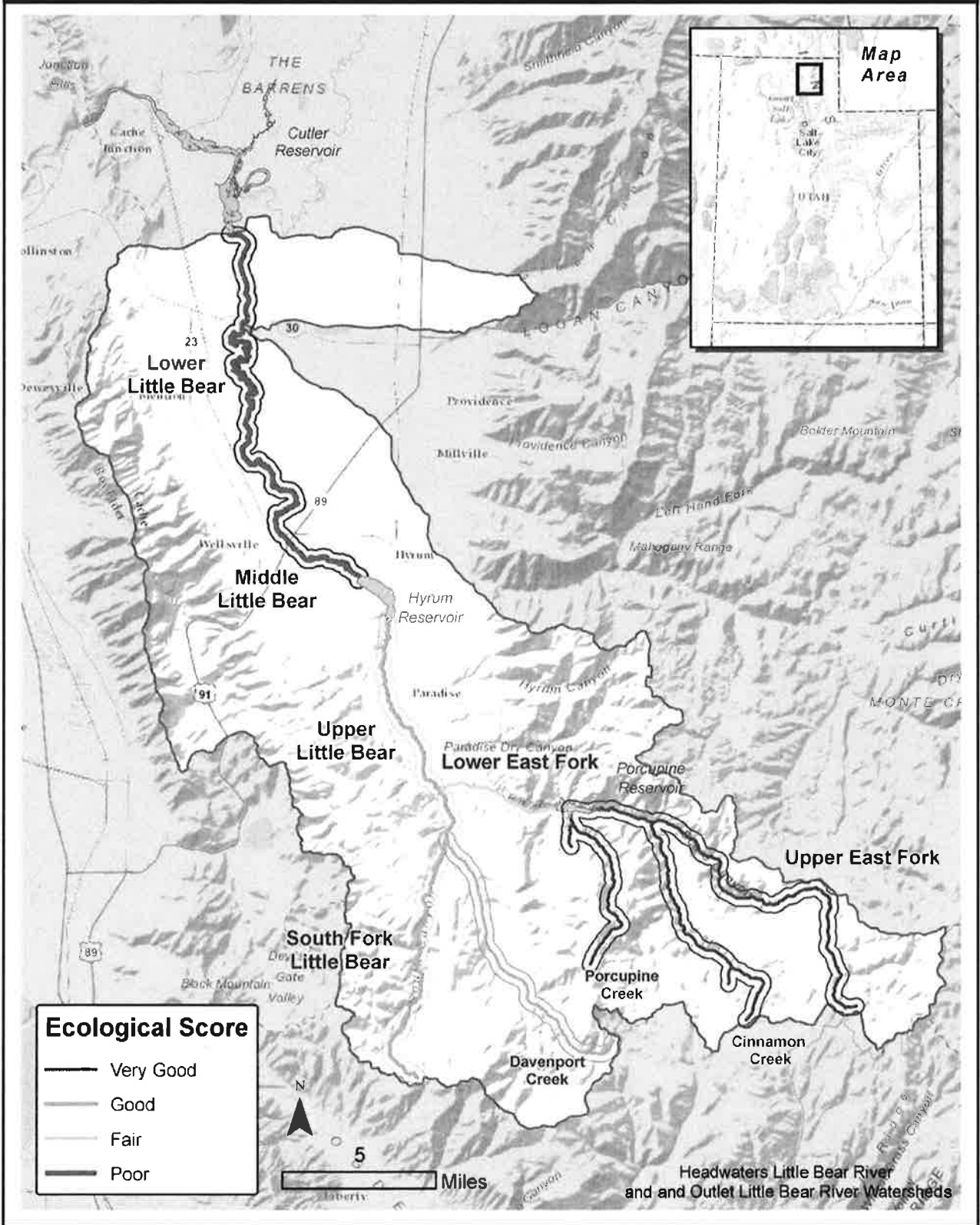
**Lower Little Bear** The Lower Little Bear extends from the Wellsville waste water ponds to Cutler Reservoir. This reach exhibits a range of environmental conditions: its fish assemblage and riparian vegetative condition is POOR; floodplain function and summer flows are GOOD, spring flows and water quality are FAIR; connectivity is VERY GOOD; but with an overall score of **POOR**.



© TNC (Joan Degiorgio)

<sup>1</sup>The South Fork has two connected tributaries. If an event occurred that eliminated BCT from one tributary - they could re-populate with fish from the other connected tributary. This "metapopulation" makes the South Fork particularly important to maintenance of BCT.

# Little Bear River Ecological Scorecard



## Improving River Health

Utahans love their rivers, from fishing to bird watching to just enjoying the sounds of mountain waters. But in order to sustain these values into the future – our rivers, and the Little Bear in particular, will need our help. As presented above, the partners have pin-pointed places where help is needed and have also identified goals and actions to address the needs.

The goals for each reach are presented below, please contact the partners to learn about specific action that have been identified to achieve the goals:

**Upper East Fork** Maintain current good to very good condition for all indicators in the Upper East Fork.

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**Lower East Fork**

- 1) Improve the spring peak flow from poor to fair – so that the flow regime is only moderately altered to improve conditions for fish and enhance floodplain function from fair to good.
- 2) Improve connectivity from fair to good by reducing barriers to fish passage.

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**South Fork**

- 1) Reverse the increasing trend of brown trout numbers and replace with a stable BCT population in the South Fork.

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**Upper Little Bear**

- 1) Improve connectivity from fair to good by reducing barriers to fish passage.
- 2) Improve summer base flow from fair to good to support a cold water fishery and connect most aquatic habitats.

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**Middle Little Bear**

- 1) Improve connectivity from poor to fair by reducing barriers to fish passage.
- 2) Improve summer and winter base flows in order to support a cold water fishery and improve floodplain function.
- 3) Improve water quality and riparian vegetation condition.

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**Lower Little Bear** 1) Improve water quality and riparian vegetation condition.

Bear River © Harold E. Malde



FOR MORE INFORMATION  
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Regional Director

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The Nature  
Conservancy 

# **ADDENDUM B**

The Nature  
Conservancy



Protecting nature. Preserving life.

# THE BEAR RIVER

## *A Conservation Priority*

**O**n its 500-mile journey through Wyoming, Idaho and Utah, the nature of the Bear River changes with the landscape through which it flows. It begins as a tiny stream at the dramatic crest of the High Uintas. Then it winds and loops on its journey through high elevation rangeland and pastoral farm land, creating wetlands and riparian woodlands along its floodplain. Finally, it flows through a thick marsh oasis to its destination at the Great Salt Lake.

Vital to both human and natural communities, the Bear River provides critical wildlife habitat, and serves as the largest water source feeding globally important habitats at the Great Salt Lake. The quantity and quality of water in the Bear River is crucial to the health of the Lake ecosystem, which supports millions of migratory shorebirds and waterfowl each year.

The Bear River provides a home for numerous species of nesting and migratory diving and dabbling ducks, colonies of snowy egret, white-faced ibis and great blue heron and many shorebirds, including long-billed curlew and migratory and nesting greater sandhill crane. The Bear River system also supports the at-risk Columbian sharp-tailed grouse, Bonneville cutthroat trout and northern leatherside chub.



## The Need for Concerted Action

A number of entities have recognized the conservation value of the Bear River and have taken action to protect it-- there are three National Wildlife Refuges on the Bear-- but these efforts have historically focused on smaller-scale planning and projects to tackle localized problems. The development of a river-wide vision and conservation strategy is needed now to address the growing threats to the Bear's flows and habitats, to coordinate and prioritize conservation efforts, and to ensure a sustainable river system for future generations.

## Going Big on the Bear

In 2009, many organizations and stakeholders interested in conserving the Bear River's waters and habitat came together to create a blueprint for a healthier river system (see participants list on page 8). They chose to use The Nature Conservancy's science-based planning framework to create a system-wide assessment and plan to address the most important conservation priorities (see sidebar). This brochure describes the findings and recommendations of the resulting Conservation Action Plan (CAP).

## Conservation Action Planning

Over the past 15 years, the Conservancy has developed an integrated, science-based approach to planning, called the Conservation Action Planning (CAP) Process. CAP has been used successfully for more than 1,000 conservation projects worldwide. The CAP is a biologically driven process that guides project teams to identify effective conservation strategies. This innovative system helps conservation practitioners focus on the most important protection needs, and allows them to identify the most cost effective and inclusive strategies for lasting success. The CAP also provides an objective, consistent and transparent accounting of all information developed through the process.

For more information, please visit [conservationgateway.org](http://conservationgateway.org).



Photos: Great blue heron © Gary Crandall;  
(Front Page) Bear River © Steve Mulligan

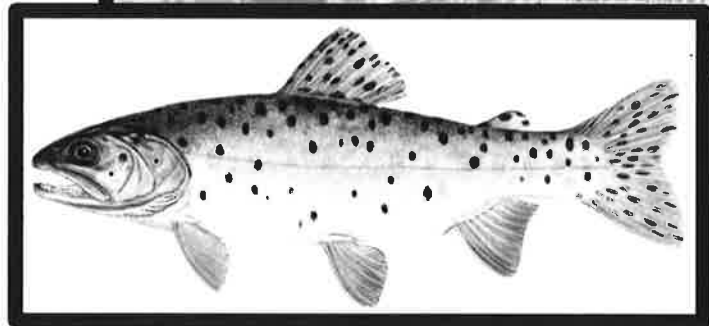
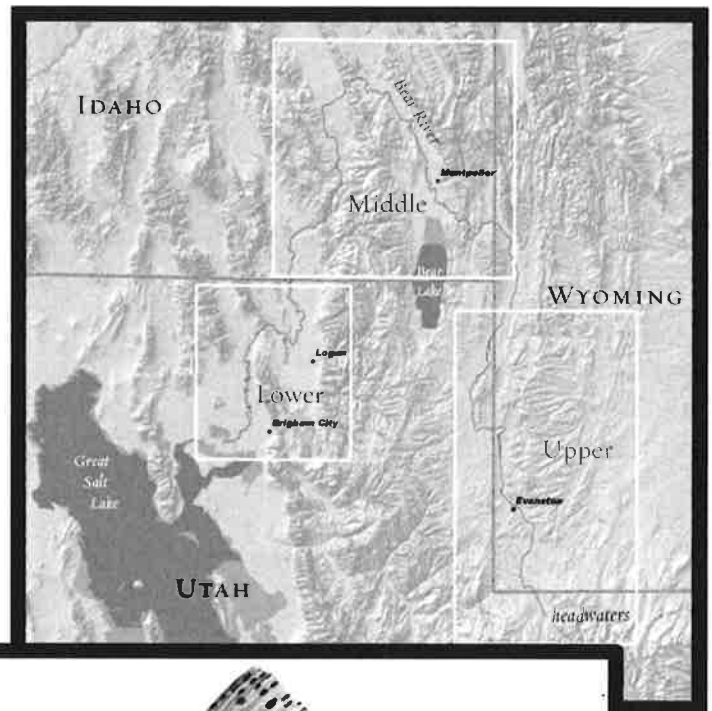
# Bear River Conservation Action Plan (CAP)

The Bear River CAP effort provided a forum for systematically identifying and understanding the key species and ecological systems most in need of conservation, the suite of factors that either sustain or degrade them, and the strategies needed to effectively protect them. Key components of the CAP process are described briefly in the following paragraphs.

## *Step 1. Conservation Targets: Focal Elements for Conservation*

The Bear River CAP process began by selecting a series of focal targets – the species and ecosystems that represent and encompass the biodiversity of the Bear River. Targets form the backbone of the full CAP by serving as the central elements upon which viability and threats analyses are built and to which conservation strategies are tied. Four main focal conservation targets – riparian, wetland, aquatic and grassland systems – were selected to represent and encompass the biodiversity of the Bear River system<sup>1</sup>. The CAP team has determined that conservation of these targets will secure an ecologically functional system for all biodiversity dependent on the river.

These four key systems are some of the most limited in the West. For example, in Utah, riparian areas cover less than 0.2% of the landscape, aquatic systems 0.1%, grasslands 3.5% and wetlands 0.2%, and a substantial portion of these wetlands occur within the Bear River drainage. Each of these systems provides essential habitat for the many bird and fish species listed above. They are four of the ten most at-risk habitats identified in Utah's Wildlife Action Plan.



<sup>1</sup> Although an important component of biodiversity within the Bear River Watershed, sagebrush habitats have had much attention and conservation action by government agencies, local working groups, universities and conservation groups. Therefore the sagebrush steppe systems were not included with this CAP. The CAP team has determined that conservation of these targets will secure an ecologically functional system for all biodiversity dependent on the river.

## Step 2. Viability Assessment: Determining Target Health

In the second phase of CAP planning, expert teams defined a set of Key Ecological Attributes (KEAs) and associated indicators for each target. These attributes are features of a target's biology or ecology that are critical to the survival of the target for the next 100 years.

For example, KEAs for the lower Bear River mainstem riparian target included riparian vegetation presence and composition. Teams rated the current condition of each KEA as very good, good, fair, or poor. Below is an example of these key ecological attributes for the riparian target and definitions:



Key Attribute	Poor	Fair	Good	Very Good	Current Rating	Desired Rating
<b>Riparian vegetation presence</b>	0-25% of available floodplain (potential riparian habitat) occupied by riparian vegetation	25-50% of available floodplain (potential riparian habitat) occupied by riparian vegetation	50-75% of available floodplain (potential riparian habitat) occupied by riparian vegetation	75-100% of available floodplain (potential riparian habitat) occupied by riparian vegetation	Fair	Good
<b>Vegetation composition</b>	0-50% native	50-75% native	75-90% native	90-100% native	Poor	Good

**Very Good:** Functioning at its ecologically desirable status. Requires little human intervention.

**Good:** Functioning within its range of acceptable variation. May require human intervention to maintain this status.

**Fair:** Outside its range of acceptable variation. Requires human intervention. Vulnerable to serious degradation if left unchecked.

**Poor:** If condition remains for extended period, restoration or prevention of extirpation will be practically impossible.

Photo: Bear River near Battle Creek © Scott T. Smith

KEA current condition scores for each target were then averaged to arrive at an overall viability rank for the target. The following table summarizes the viability analysis:

	<b>Conservation Targets</b>	<i>Viability Rank</i>
	<i>Current Rating</i>	
1	Upper Bear Wetlands	Fair
2	Upper Bear Riparian Main Stem (historic floodplain from Evanston to Thomas Fork)	Poor
3	Upper Bear Riparian Tributaries (downstream from Evanston)	Fair
4	Upper Bear Aquatic (tributaries and main stem below Evanston)	Fair
5	Middle Bear Wetlands	Fair
6	Middle Bear Riparian Main Stem	Fair
7	Middle Bear Riparian Tributaries	Fair
8	Middle Bear Aquatic Main Stem	Fair
9	Middle Bear Aquatic Tributaries	Fair
10	Lower Bear Wetlands	Fair
11	Lower Bear Riparian Main Stem (includes tributaries to Bonneville bench and Malad)	Poor
12	Lower Bear Riparian Tributaries (from benches to headwaters)	Very Good
13	Lower Bear Aquatic Main Stem	Fair
14	Lower Bear Aquatic Tributaries (from main stem to Bonneville Bench)	Fair
15	Lower Bear Grasslands	Fair
	<b>Project Biodiversity Health Rank</b>	<b>Fair</b>

#### Key Finding

CAP findings indicate the river's systems are generally in fair condition, but identified important areas for restoration and improvement, especially in the upper and lower Bear riparian areas. The Bear River through Cache Valley still retains very good size and connectivity characteristics. Much of the Bear River, however, is privately owned and development pressures from urban sprawl and commercial expansion are increasing, so conservation action is needed now before conditions further deteriorate.

**Step 3. Threats: Identifying Factors Affecting Targets**

The next phase of the CAP was the identification of critical threats. Experts identified the top threats to each target and then rated each threat as low, medium, high or very high in terms of its relative “contribution” to the effect on the target and the degree to which the threat was irreversible. To complete the threats assessment, all threats across all targets were compiled into a “threats scorecard” and an overall threat rank was calculated for each threat. The table below shows the threat scorecard for the highest ranked overall threats on the Bear River.

	<b>Threats Across Targets</b>	<b>Overall Threat Rank</b>
	<i>Project-specific threats</i>	
1	Residential development	Very High
2	Water allocation policies	Very High
3	Invasive species	Very High
4	Inappropriate grazing and agricultural practices	Very High
5	Dams and diversions	High
6	Mining and energy	High
7	Commercial development	High
8	Credit Reserve Program is not extended or adequately funded	High
9	Rip-rap/other stream bank stabilization	High
10	Storm water	High
11	Waste water	High
	<b>Threat Status for Targets and Project</b>	Very High

**Key Finding:**

Residential and commercial development are some of the highest ranked threats. These are primarily concerns in Idaho and Utah (Cache County is expected to double its population by 2035). Water allocation policies, how water is stored and used for power and agriculture, also can negatively impact the natural system.

**High:** Threat is likely to seriously degrade the ecological system over much of the area.

**Very High:** Threat is likely to destroy the ecological system over much of the area.

#### **Step 4. Strategies: Critical Conservation Actions**

After carefully reviewing and examining the targets' viability and threats and the priority conservation needs rising from these analyses, the partners recommended a broad array of 13 objectives and numerous strategies designed to achieve the objectives. The objectives are listed below:

#### **Objectives**

- 1 A multi-state team is in place to implement CAP strategies.
- 2 The most problematic invasive species are identified, mapped, and action taken to stop their spread. Educated landowners are active participants in these efforts.
- 3 Grazing and other agricultural practices are not negatively affecting conservation targets in priority areas.
- 4 Residential and commercial development has been guided away from high priority conservation sites.
- 5 The main stem riparian target improves from poor to fair condition.
- 6 Tributaries provide good aquatic conditions that support native species.
- 7 Wetlands, riparian and aquatic targets have adequate water to maintain the system in good to fair condition.
- 8 Wetland, riparian and aquatic targets have been enhanced by achieving water quality goals.
- 9 Impacts are minimized from recreational use/development.
- 10 Impacts are minimized from mining and energy as the result of science-driven locations.
- 11 The Conservation Reserve Program (CRP) is extended, adequately funded, and implemented to benefit grasslands.
- 12 New analysis has been conducted to understand the impact that climate variability has on the conservation targets.
- 13 The loss of shrub-steppe habitat due to fires has been minimized.

#### **Key Finding:**

Because of the size of the Bear River system, our initial efforts will target priority areas in which to secure easements, provide adequate water, work with landowners to promote better grazing systems and address invasive species. A first priority action is to work cooperatively to map areas that are most intact, exist adjacent to already protected areas, and meet other key criteria.

## Next Steps: Building Toward the Future

Over the next ten years, the original CAP team intends to build on this foundation by working with partners to refine our plan through implementation. We will share the CAP process and its products, building a broader, deeper network of collaborators who are working toward the vision of a Bear River that can sustain its ecological systems and support wonderful and diverse wildlife.

Our basin-wide approach will provide a template for the protection of working rivers throughout the West, particularly with growing demands on water and increasingly arid conditions. Our action plan will help bring partners together to synchronize their conservation work in a way that will sustain the natural environment while providing water for people.

Because adaptive management is, by its nature, never finished, this CAP framework is by no means complete. This is a *working* CAP that will be continually refined as our knowledge of the river system expands and our conservation strategies are implemented and tested.

We invite you to share in our efforts to put this framework into action. Please contact Joan Degiorgio ([jdegorgio@tnc.org](mailto:jdegorgio@tnc.org)) at The Nature Conservancy for more information.



## Planning Process Participants

*Thanks to the following groups for their guidance and participation in this effort:*

PacifiCorp

U.S. Fish and Wildlife Service

Utah Division of Wildlife Resources

Utah Division of Environmental Quality

Idaho Department of Environmental Quality

Trout Unlimited

Bridgerland Audubon Society

Wild Utah Project

Ducks Unlimited

Institute for Watershed Science

Sagebrush Steppe Regional Land Trust

USDA Forest Service

# **ADDENDUM C**





# Recommended State Water Strategy

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July 2017

# **Recommended State Water Strategy**

**July 2017**

**Compiled by the Governor's Water Strategy Advisory Team**

**Invited by**

**The Honorable Gary R. Herbert**

**Governor, State of Utah**

**Facilitated by Envision Utah**

# Executive Summary

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Utah faces a daunting challenge. We have the distinction of being both one of the driest states in the nation and one of the fastest growing. At the convergence of those two realities is the challenge of providing water for a population that is projected to nearly double by 2060 while maintaining strong farms and industries and healthy rivers, lakes, wetlands, and aquifers. This challenge is magnified by climate projections from the State Climatologist that show a significant decrease in Utah's snowpack, which presently provides more annual water storage capacity than all of Utah's human-made reservoirs combined.

In 2013, Governor Gary R. Herbert invited a group of stakeholders with extensive backgrounds in various aspects of water and with a diverse set of perspectives to form the State Water Strategy Advisory Team.<sup>1</sup> He tasked them to (1) solicit and evaluate potential water management strategies; (2) frame various water management options and the implications of those options for public feedback; and, (3) based on broad input, develop a set of recommended strategies and ideas to be considered as part of a 50-year water plan.

Despite the often-contentious nature of water policy debate, the Team engaged in earnest discussion and reached agreement on the set of critical issues and strategy recommendations contained in this document, that if studied and advanced will help ensure a vibrant and sustainable water future. This document represents the culmination of a collaborative four-year effort that solicited input from thousands of Utahns through public meetings, written comments, an online survey, and a random-sample poll. The result of these efforts, as published here, lays the foundation for much needed water policy dialogue and collaborative decision-making.

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<sup>1</sup> The Team members are listed in Appendix A.

The recommendations that follow do not constitute a prescriptive plan for providing water supplies over the next 50 years; the information and data to definitively create such a plan do not currently exist. Instead, these recommendations provide strategic direction and represent common ground upon which the needed information can be gathered and future decisions can be made. In the Utah tradition of working together to solve difficult problems, the Team has volunteered countless hours to define, plan for, and ultimately achieve a shared, long-term vision. Though additional planning and implementation will be required of stakeholders and the public in years to come, the team has elevated water analysis and discourse to a new level and produced this water strategy with what is likely the broadest and most inclusive body of water expertise that has come together in the history of our state.

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## *VISION*

Our vision sees Utahns working together to solve what may be one of the most daunting problems we have ever faced: how to stretch limited water supplies to meet the needs of the estimated 6 million people expected to call Utah home by the year 2060<sup>2</sup> and to do so in a way that provides enough clean and affordable water to sustain thriving communities and businesses, robust agriculture, ample recreation, and a healthy and resilient natural environment—all in the face of wide variations in precipitation and uncertain climatic patterns. To do so, we envision using science, technology, education, public deliberation, innovative policies, and well-designed incentives to find the best ways to use water in our homes, businesses, and farms, while also protecting our natural environment. We foresee working within the prior appropriation system to refine transparent, cost-effective, and fair processes to resolve conflicts and allocate water. We anticipate new levels of cooperative effort to collect data and conduct research necessary to ensure balanced and informed decisions consistent with this vision.

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## *SUMMARY OF RECOMMENDATIONS*

A summary of key strategies follows—organized by eleven key policy questions and recommended strategies to address each question. The Advisory Team offers these recommendations with the hope that elected officials and other policymakers, water planners, state and federal agencies, nongovernmental organizations, water user groups, and the public at large will seriously study these recommendations and take concrete steps to implement them. Actively engaging the broad range of water issues and taking proactive steps based on sound science and constructive policy deliberations will secure a promising water future for ourselves and those who come after us—our children, grandchildren, and future generations.

### **1. What is the role of water conservation and efficiency in Utah?**

- 1.1. Prioritize the efficient and sustainable use of water as a critical strategy for meeting Utah’s water needs.
- 1.2. Establish and utilize clear standards for water use measurement, tracking, and reporting.

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<sup>2</sup>Of course, Utah’s population will not cease to grow after 2060. Nevertheless, the Advisory Team had to select a timeframe in which to analyze these issues. Based on current estimates, 2060 represents the year in which the current population will approximately double.

- 1.3. Establish water efficiency standards to benchmark water use and identify conservation potential.
  - 1.4. Support research on water conservation constraints and ways to overcome them.
  - 1.5. Identify intended and unintended consequences of water efficiency and conservation to ensure appropriate choice and implementation of particular strategies.
  - 1.6. Provide leadership and commitment for ongoing implementation of water conservation and efficiency strategies.
  - 1.7. Provide adequate funding and investments for effective water efficiency and conservation.
  - 1.8. Promote local, regional, and statewide water conservation planning, implementation, and evaluation.
  - 1.9. Integrate water planning and land use planning to achieve long-term water use efficiencies in urban areas.
  - 1.10. Determine and quantify the contributions that increasing water use efficiencies and conservation can make to future water supplies.
- 2. How will diverted water supplies be developed to meet competing and ever increasing demands?**
- 2.1. Utilize water conservation and improved efficiencies to optimize water supplies.
  - 2.2. Manage and restore watersheds to decrease transpiration, increase runoff, and protect water quality.
  - 2.3. Develop and beneficially use Utah's allocated share of interstate rivers.
  - 2.4. Develop other regional water supply projects for beneficial use.
  - 2.5. Increase aquifer storage and recovery.
  - 2.6. Implement water reuse.
  - 2.7. Increase capacity of existing reservoirs.
  - 2.8. Consider costs and benefits of water development.
- 3. How does Utah provide water for agricultural lands and food production in the face of competing water demands?**
- 3.1. Mandate and fund a broad stakeholder engagement process to identify, sustain, and advance the multiple values associated with agricultural water use.
  - 3.2. Combine the knowledge and cooperative foundation of mutual water companies with state agency planning to assure ongoing agricultural water management.
  - 3.3. Continue and expand efforts to preserve the productive capacity of Utah agricultural lands and water through the Legislative Water Development Commission or Executive Water Task Force.
  - 3.4. Establish basin-level councils to create benefits for farmers who help optimize regional water supplies, conserve in-stream flows, or enhance water quality.
  - 3.5. Create mechanisms that help agricultural water users contribute to improving water quantity and quality management.
  - 3.6. Enact or amend local land use regulations to enable costs to irrigation systems created by urbanization to be carried by those benefiting from the new development.
  - 3.7. Support agriculture's infrastructure, water use measurement, data, and reporting needs.
  - 3.8. Monitor the USU Extension Water Initiative and evaluate whether to modify or expand the program.
  - 3.9. Create a clearinghouse to collect, compile, and publish real-time stream gauging, snowpack, soil moisture, and reservoir monitoring and to preserve a historical database.

- 3.10. Establish an education center dedicated to providing information on agriculture, water, and food production.
- 4. What should we do to preserve natural systems in the face of increasing water demands?**
  - 4.1. Improve science and conservation planning and funding.
  - 4.2. Expand tools to protect instream flows.
  - 4.3. Facilitate creation of a state water trust to acquire rights for instream flows.
  - 4.4. Study opportunities and risks of more efficient water delivery.
  - 4.5. Facilitate development of environmental water markets.
- 5. How do we protect and sustain the quality of Utah's water?**
  - 5.1. Implement nutrient controls where excess nutrients pose a problem.
  - 5.2. Maintain sufficient stream flows and lake levels to sustain water quality and healthy ecosystems.
  - 5.3. Incentivize agricultural practices that improve water quality.
  - 5.4. Collaborate on salinity controls.
  - 5.5. Recognize the connectivity between surface water and groundwater and manage those resources accordingly.
  - 5.6. Control invasive species.
  - 5.7. Adequately fund needed drinking water and water quality infrastructure.
  - 5.8. Upgrade wastewater treatment plants and improve stormwater systems.
  - 5.9. Regulate water quality in ways that protect the Great Salt Lake and its ecosystem.
  - 5.10. Improve monitoring and mitigation strategies for nonpoint sources associated with mining, oil, and gas industries.
  - 5.11. Improve drinking water source protection plans.
  - 5.12. Embrace a holistic watershed planning approach.
- 6. How will Utah plan for, adequately fund, and use innovative solutions to maintain, replace, and redesign existing water infrastructure and build new water infrastructure over the next 40-50 years?**
  - 6.1. Plan for infrastructure to support a growing population and economy and make investments consistent with best scientific, engineering, management, and accounting practices.
  - 6.2. Increase returns on investments for water infrastructure through designing and funding optimization strategies that integrate across the different domains of water infrastructure.
  - 6.3. Ensure that water users and uses with less financial capacity, such as rural areas, less wealthy communities, and the environment, also receive necessary infrastructure investments to secure their water futures.
  - 6.4. Ensure safety, reliability, and continuing service of existing water infrastructure by financing timely rehabilitation, expansion, and redesign.
  - 6.5. Utilize judicious prioritization and sequencing in approving and funding new infrastructure.
  - 6.6. Implement cybersecurity and physical security measures for water infrastructure.
  - 6.7. Develop a state water infrastructure financing plan to account for changing levels of federal financing and competing water needs.
  - 6.8. Water providers should pursue grants, loans, bonds, public-private partnerships, and other creative funding opportunities when and where appropriate to fund new infrastructure and appropriately allocate costs to beneficiaries.

- 6.9. Implement ongoing assessments of infrastructure investment portfolios to ensure financial accountability, adaptability, and minimization of long-term financial risks.
  - 6.10. Incorporate energy consumption and provision considerations into planning and financing to achieve energy efficiency in water infrastructure.
- 7. In what ways will weather and a changing climate impact future water supply and demand?**
- 7.1. Increase coordination among the state, water districts, local governments, and climate researchers.
  - 7.2. Assess vulnerabilities and develop risk management strategies developed through studies to plan for climate change impacts.
  - 7.3. Identify and develop adaptation strategies.
  - 7.4. Identify and plan mitigation strategies.
  - 7.5. Build on scientific knowledge base of climate research through increased resources and funding to enhance planning processes.
- 8. How do we optimize our water resources to sustain the economy and quality of life for Utah residents?**
- 8.1. Maintain and provide sustainable water supplies for existing and future economic activity.
  - 8.2. Structure water-related revenues to balance social, economic, and environmental values.
  - 8.3. Promote stewardship of water to support our quality of life, recreation, and preservation of the natural environment.
  - 8.4. Recognize and support agriculture's role in Utah's economy.
- 9. What is the framework for Utah water law and policy, and how will stakeholders modernize it?**
- 9.1. Give the State Engineer more direction on "public welfare."
  - 9.2. Expedite and fund water rights adjudications of water basins.
  - 9.3. Clarify and strengthen the State Engineer's authority in administering change applications to avoid depletion enlargement.
  - 9.4. Allow the State Engineer to define water duties.
  - 9.5. Facilitate temporary transfers of water.
  - 9.6. Allow water right holders to subordinate water rights.
  - 9.7. Review constitutional requirements that preclude cities from selling surplus water.
  - 9.8. Provide regular and robust forums for stakeholder involvement in modernizing Utah water law and policy.
  - 9.9. Provide increased ongoing funding and resources for Division of Water Rights activities.
- 10. What is the role of policymakers, both elected and appointed, at all levels of government?**
- 10.1. Create ongoing learning opportunities for policymakers and residents, relying on input from a broad range of water experts and professionals, to help them design and implement effective water policies.
  - 10.2. Establish mechanisms to engage the public in decision-making processes with policymakers before decisions are made.
  - 10.3. Support and fund research, science, and technology to enhance understanding of and education about water issues to facilitate decision-making on the various elements of this water strategy.

- 10.4. Encourage cooperative interagency water decision making within and between Utah's Departments of Natural Resources, Environmental Quality, and Agriculture and Food, and with states that share watersheds with Utah.
- 10.5. Accelerate funding for adjudication of water rights in order to provide greater certainty and marketability of rights.
- 10.6. Provide adequate ongoing funding and staff for technical work and intergovernmental cooperation needed to quantify and settle Federal Reserved Water Rights claims.
- 10.7. Enhance legislative and public support for ongoing funding to meet Utah's water-related needs.

**11. What roles will science, technology, and innovation play in addressing Utah's future water needs?**

- 11.1. Conduct and assess new water conservation programs and initiatives.
- 11.2. Pilot test and demonstrate water treatment technologies and processes.
- 11.3. Explore technology's effect on agricultural water usage.
- 11.4. Improve working relationships between regulatory agencies and water providers.
- 11.5. Explore green infrastructure and greywater projects.
- 11.6. Innovate wastewater treatment and reuse projects.
- 11.7. Increase integrated water management across all sectors.
- 11.8. Improve the quality of water data collected and reported.
- 11.9. Make water data more accessible to the public.
- 11.10. Optimize water operations with automation.
- 11.11. Minimize water distribution system losses.
- 11.12. Invest financial resources in science, technology, and education.
- 11.13. Improve understanding of the geology and quantity of water in Utah.

We understand that all these recommendations cannot be implemented overnight, and we recognize that some water-related problems lie beyond the scope of this document. Even so, we believe that with focused resolve, collaboration, and careful planning, Utahns can come together to ensure we wisely manage our water resources to support thriving communities and businesses, robust local agriculture, a healthy environment, and world-class outdoor recreation.



## 7. In what ways will weather and a changing climate impact future water supply and demand?

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*A warming climate poses serious challenges for Utah's water future and our ability to plan and prepare for that future. This section attempts to grapple with those challenges and encourages Utahns to find common ground in our efforts to adapt to changes in climate so as to ensure a sufficient water supply to meet all of the State's needs.*

### ***Issues***

1. Potential climate impacts on Utah's water resources
2. Changes in snowpack hydrology
3. Need for coordination and planning
4. Absence of risk management strategies
5. Need for flexible water adaptation policies
6. Complex climate change projections complicate planning scenarios
7. Water demand changes due to rising temperatures

### ***Recommendations***

1. Increase coordination among the state, water districts, local governments, and climate researchers.
2. Assess vulnerabilities and develop risk management strategies developed through studies to plan for climate change impacts.
3. Identify and develop adaptation strategies.
4. Identify and plan mitigation strategies.
5. Build on scientific knowledge base of climate research through increased resources and funding to enhance planning processes.

## Issues

### 7.1. Potential climate impacts on Utah's water resources

Our climate is changing because the Earth is warming and Utah is transitioning to a very different hydrological regime.<sup>15</sup> As a result, our water supply will be impacted. Utah's climate has already changed and has warmed by about two degrees Fahrenheit—and in many parts of Utah by much more—in the last century.<sup>16</sup> In general, Utah's climate has warmed at a rate of two to four times that of the global climate as evidenced by the long-term trend of observational temperature records throughout Utah.<sup>17</sup>

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<sup>15</sup> See Appendix D for additional resources and reference list associated with Key Policy Question 7.

<sup>16</sup> EPA What Climate change means for Utah. <https://www.epa.gov/sites/production/files/2016-09/documents/climate-change-ut.pdf>

<sup>17</sup> Robert R. Gillies 2017, Director of Utah Climate Center, and state Climatologist for the state of Utah; National Climate Assessment (Southwest climate assessment) 2013 (<http://www.globalchange.gov/what-we-do/assessment>)

Increasing temperatures and associated changes in precipitation patterns will likely have an adverse effect on watershed health. Increased temperatures will drive more evaporation and evapotranspiration (ET), which is the coupled process by which water is transferred from the land to the atmosphere by evaporation from the soil and other surfaces and by transpiration from plants. Increasing air temperatures result in increasing stream temperatures, which often exacerbate water pollutant concentrations and reduce water quality. Increased temperatures may also reduce the wetlands that purify our water. In addition, higher temperatures increase evaporation from streams and reservoirs with resultant water quality issues, depletion of soil moisture, and increased irrigation requirements for crops and plants. Impacts due to climate warming include:

#### *Fluctuating Weather Patterns*

Utah experiences significant shifts in the amount of precipitation from year to year. Precipitation and the resulting water supply in one particular year rarely match the average but rather can fluctuate in the extreme from wet periods to dry periods. These weather fluctuations could increase, become more extreme, and continue to impact short- and long-term trends of water supply and demand patterns.

Projections of climate change are complex in the Intermountain West, making it difficult to develop viable planning scenarios for specific regions of the state. Climate change will alter the amount of precipitation and likely the timing of that precipitation. Earth System Models predict that some regions will experience an increase in precipitation while in others a decrease. Nonetheless, both observational<sup>18</sup> and modeling studies<sup>19</sup> predict that less snow will fall on the land with greater variability in terms of intensity, timing, and length. Moreover, the hydrology and water supply will be driven more by precipitation in the form of rain.

Any such shift will create ongoing and substantial challenges for water providers to plan for the operation, maintenance, and management of Utah's public water supply and associated infrastructure. Early planning now could mitigate some of these problems.

#### *Water Availability*

The changing climate is likely to not only increase the need for water but also reduce the supply. For example, drier soils require more water for agriculture, but less water is likely to be available—even in areas that see a modest increase in precipitation—on account of increased evaporative loss and greater evapotranspiration (ET) rates. This evaporative demand change will reduce Utah's water supply in the absence of significant increases in annual precipitation.

#### *Declining Groundwater Supplies*

Water providers are already concerned about declining trends in groundwater levels due, in part, to increasing withdrawals for a growing population. It is stressing groundwater supplies because of its hydrological connection with a water supply that is generated overwhelmingly through snowpack accumulation and melt-off. Moreover, declining groundwater supplies are complicated by Utah's natural climate variability, which affects both the amount and form of precipitation. In areas experiencing a loss

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<sup>18</sup> Observational and synoptic analyses of the winter precipitation regime change over Utah. *Journal of Climate*, Gillies, R. R., S.-Y. Wang, and M. R. Booth, 2012: 25, 4670-4698

<sup>19</sup> Climate change impact on the roles of temperature and precipitation in western U.S. snowpack variability. *Geophysical Research*, Scalzitti, Jason, Strong, Courtenay, Kochanski, Adam, 2016: 43, 10

of snowpack or declining precipitation, water demand may shift further to already diminishing groundwater supplies.

## **7.2. Changes in snowpack hydrology**

Utah relies heavily on mountain snowpack for its water supply. Traditionally, snowpack accumulates in mountainous regions during the winter months. Water stored in the snowpack is then released to aquifers, streams, lakes, and reservoirs as it melts primarily during spring; this fundamental snowpack hydrology will be impacted by climate change.

As the climate warms, Utah's precipitation will fall more as rain than snow especially in low- and mid-elevation mountain regions.<sup>20</sup> Run-off due to snowmelt will occur earlier in the year with higher intensities and shorter durations. As a result, late summer river flows are projected to diminish, impacting water users who rely on natural river flows during this time of year. Furthermore, water rights providing diversions from Utah's waterways may be diminished or may need to be altered due to these changes in snowpack, timing of runoff, and streamflow hydrology.

## **7.3. Need for coordination and planning**

Currently, there is very little planning for the impact of climate change on water resources in state or local water planning reports. The capricious nature of climate change will make planning complex. Coping with increasing complexity will require a new approach to planning. Every new option for addressing climate change will be subject to considerable study and analysis. The limited coordination that has taken place between water planners on the state and local level and the scientific community is not sufficient to address the uncertainty that climate change brings to the future.

Finally, both funding and personnel remain limited for state and local agencies to plan for climate change and the collection of data and climate science research.

## **7.4. Absence of risk management strategies**

The seriousness of the risks posed by a warming climate necessitates effective strategies for responding to worst-case scenarios. For example, researchers fear that, if greenhouse gases continue to rise, atmospheric carbon concentrations could get so high that they present essentially unadaptable climate conditions, including megadroughts towards the end of the century.<sup>21</sup> Mitigation measures provide meaningful strategies to help address those risks. Presently, however, Utah does not have statewide risk management strategies that address the potential impacts of climate change.

## **7.5. Need for flexible water adaptation policies**

The potential implications of climate change could severely impact water providers' ability to provide long-term confidence to their customers. Efficient water supply and infrastructure decision-making requires reliable and understandable information. To this end, water providers need flexible adaptive

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<sup>20</sup> National Climate Assessment (Southwest climate assessment) 2013 (<http://www.globalchange.gov/what-we-do/assessment>); Observational and synoptic analyses of the winter precipitation regime change over Utah. *Journal of Climate*, Gillies, R. R., S.-Y. Wang, And M. R. Booth, 2012: 25, 4670-4698

<sup>21</sup>Relative impacts of mitigation, temperature, and precipitation on 21st-century megadrought risk in the American southwest. *Science Advances*, Toby R. Ault, Justin S. Mankin, Benjamin I. Cook, Jason E. Smerdon, 05 OCT 2016 : E1500873; Unprecedented 21st century drought risk in the American Southwest and Central Plains, *Science Advances*, Benjamin I. Cook, Toby R. Ault, Jason E. Smerdon, 12 FEB 2015 : E1400082

strategies to guide the incorporation of uncertainty in precipitation projections (and the associated risks) into water planning.

## **7.6. Complex climate change projections complicate planning scenarios**

The fundamental tension between climate variations and the need for long-term water supply planning is further complicated by at least two factors. First, there is a need for much finer resolution in climate projections (*e.g.*, at the watershed and sub-watershed levels), particularly given the complex climatology of the Intermountain West.

Second, there is a current and future need to produce more reliable sub-seasonal to seasonal forecasts of temperature and precipitation. Currently, National Weather Service (NWS) meteorological forecasting ability is limited to 7-10 days at most. While the Climate Prediction Center of the National Oceanic and Atmospheric Administration (NOAA) provides 3-month outlooks,<sup>22</sup> the guidance remains somewhat arbitrary.

## **7.7. Water demand changes due to rising temperatures**

Outdoor irrigation accounts for the majority of Utah's municipal water use. As temperature increases in Utah's changing climate regime, there will be an increase in evapotranspiration along with an extended growing season. These factors will increase water demand unless there are significant changes to landscaping practices and how water is used in Utah. In addition, warming temperatures will increase indoor water demand, as more water will be required to cool homes and other structures.

# Recommendations

## **7.1. Increase coordination among the state, water districts, local governments, and climate researchers.**

State and local water providers should increase coordination in their climate change planning efforts and strategies. It is important to increase information sharing and partnerships with policymakers, existing institutions, universities, state climatologists, regional climate centers and hubs, water users, agricultural extension services, and resource management agencies. Bringing together resources can help policymakers and stakeholders appreciate and comprehend the latest climate science projections as well as learn about new tools that are in development. This would enable state agencies and others to anticipate and mitigate the impacts of climate change.

Possible approaches to increase coordination include the following: a) encourage water providers to do comprehensive water resource planning, taking into consideration climate change impacts; b) encourage more public participation in water planning activities; c) support water sharing agreements where feasible and cost-effective; d) explore options to reuse municipal water consistent with data-driven cost benefit analysis including potential adverse impacts to other water users and natural systems such as the Great Salt Lake; e) encourage opportunities for reservoir enlargement (where feasible and cost-effective and where benefits would outweigh potential downstream impacts) that could be used for municipal, agricultural, recreational and environmental purposes (see Recommendation 2.7 for further discussion); f) encourage partnerships and resource-sharing with

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<sup>22</sup> [http://www.cpc.ncep.noaa.gov/products/predictions/long\\_range/seasonal.php?lead=2](http://www.cpc.ncep.noaa.gov/products/predictions/long_range/seasonal.php?lead=2)

federal agencies; and g) work with the legislature, utilities, and federal agencies to identify and address regulatory barriers to climate preparedness and adaptation.

## **7.2. Assess vulnerabilities and develop risk management strategies developed through studies to plan for climate change impacts.**

As water providers grapple with preparing for the large range of possible climate change impacts, many are searching for new planning techniques to help better prepare for a different, more uncertain water future. The first steps for water providers could be to a) better understand the climate science and climate predictions; b) conduct a vulnerability assessment; c) develop a plan that includes prioritized risk management strategies to address the impacts of climate change; and d) implement strategies as deemed appropriate.

Each water system has a unique combination of surface and groundwater sources. Water providers are encouraged to study and assess the vulnerabilities of their water sources that may be impacted by a changing climate. Water providers should then develop a risk management plan that identifies specific priority actions they could take to begin addressing its vulnerabilities and mainstreaming climate change strategies into their activities. In order to develop these, water providers may choose to include scenarios-based planning approach by studying the impacts of climate change on water supply and demand based upon predictions of global climate and down-scaled model projections. A risk management plan could include the following:

- i. Reduce the demand for water through improved water use efficiency to help offset the potential risks and impacts associated with climate change. Water conservation and upgrading efficiency programs continue to be critical elements in providing a sustainable water supply as Utah's population continues to grow. See Key Policy Question 1 for a detailed discussion of demand reduction strategies.
- ii. Fortify and improve management of existing water supplies.
- iii. Consider climate change and projected sustainable water resources in land use planning decisions and land development entitlements.
- iv. Adapt infrastructure for extreme weather events, plan for changes in rainfall patterns beyond design capacity, and consider upgrades in storm sewer and culvert capacity.
- v. Take steps to prevent damage from flooding due to increased intensity of storms and early exaggerated melt/run-off that could overwhelm infrastructure.
- vi. Adopt an "all hazards" approach to planning for emergencies and extreme weather events, including consideration of impacts predicted by climate change.
- vii. Consider changes to reservoir operations which may involve flood-control releases due to more extreme flood events.
- viii. Encourage, where appropriate, community support and expansion of drought and flood preparedness and response.

- ix. Consider the advice of experts. For example, Federal Emergency Management Area (FEMA) Region VIII Preparedness and Mitigation<sup>23</sup> experts have several recommendations to help cities plan for extreme weather events.

### 7.3. Identify and develop adaptation strategies.

Adaptation to climate change means anticipating the adverse effects and taking appropriate action to prevent or minimize the potential damage associated with those impacts. It also means changing how the public uses water resources. It has been shown that well-planned, early adaptation action both increases resiliency and saves money.

Water policymakers and water management agencies could evaluate and revise the legal framework for water management policies to the extent allowable to ensure that sufficient flexibility exists to anticipate and respond to climate change. For example, the Division of Water Resources is currently updating its 2001 State Water Plan. This update should help cities and water systems develop water adaptive management to responding to a changing climate. Examples of adaptation measures include:

#### *Water Conservation for Outdoor Water Use*

Warming temperatures resulting from climate change may increase demand for water while reducing available supply. As a result, water conservation and improved water use efficiency will be key adaptation and risk management strategies to address the impacts of climate change. While the greatest reduction in Utah's municipal water use can be achieved by changes in landscaping and outdoor watering practices, indoor water use efficiency will remain important as water managers strive to provide a sustainable water supply.

However, as water conservation goals are met across the state, water conservation as an adaptive strategy to combat the impacts of climate change may become increasingly challenging and introduce other issues, such as increases in heat island effect and increased energy demands associated with increases in demand for cooling. As use is reduced, in times of drought, further reductions may reflect curtailment of what may be essential water use. Water systems, as part of the planning for climate change impacts and drought contingency plans need to determine thresholds and implementation strategies for curtailment under this scenario.

#### *Improve Watershed Health and Function*

Healthy watersheds, with their ability to capture and retain more water, play a vital role in buffering the effects of climate change. Our forests are in very poor health. Overgrowth and beetle kill, at a minimum, have put our watersheds and water supply in jeopardy. The risk of large fires is high, which would decimate the watershed. The overgrowth has caused increase water consumption and therefore decreased runoff. By far the majority of the water supply for the state originates on these poorly managed forests. If managed properly, a healthy forest and meadow system can reduce evapotranspiration losses, improving both water supply and water quality. Natural systems, such as meadows, riparian areas, floodplains, and wetlands, effectively store water during times of high flows and slowly release it back to surface water. Streams and floodplains in a healthy watershed are able to accommodate flood flows without destructive flooding and erosion. Healthy watersheds provide resilience to climate change at the basin scale, as improved flows not only allow fish and wildlife a better chance of surviving dry hydrologic conditions but also provide more reliable water delivery and

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<sup>23</sup> State Hazard Mitigation Plan Climate Change Committee 2019 Update, March 1, 2017

improved water quality for municipal and agricultural use. Integrating natural storage into Utah's water management, as well as promoting the protection and restoration of natural systems, including control of non-native plant species, will increase Utah's preparedness for climate change and mitigate the destructive effects of floods.

*Protect and Improve Water Quality in Source Water*

Surface water and groundwater supplies will continue to play a vital role in providing for Utah's water needs. We must continue efforts to protect, maintain, and in many cases improve the quality of our surface water and groundwater sources by identifying protection zones. As discussed in Key Policy Question 5, water quality issues threaten Utah's surface water and groundwater supplies. In many cases, warming temperatures will only exacerbate this issue, especially during times of drought when nutrient concentrations are generally higher in our surface water sources.

*Develop opportunities to store surface water underground*

Aquifer Storage and Recovery (ASR) systems offer another way to diversify supply so as to adapt to a changing climate, albeit one limited by existing water tables, the porousness of the bedrock, and other factors. Even so, ASR offers another potential way to hedge against the risk of reduced supply due to climate change, particularly as such storage avoids loss from evaporation and evapotranspiration.

#### **7.4. Identify and plan mitigation strategies.**

The development of a risk management plan by a water provider should also include a range of prioritized mitigation strategies and actions. Water providers can use a scenarios planning approach to develop mitigation actions based on predictions from Earth System Models for the most likely carbon emissions pathways moving forward. Examples of some key mitigation strategies include:

*Diversify Water Supply*

One of the best strategies to mitigate the risks and impacts of climate change is to develop a diverse portfolio of water supply resources. This can be done by increasing local supplies through several methods, such as (a) developing water supplies from a variety of hydrologically separated river basins within Utah, (b) where feasible developing groundwater, (c) wastewater recycling, (d) modifying infrastructure to maintain efficient capture of supply, and (e) improving the efficiency of existing water supplies. Smart diversification employs a full range of water supply sources collectively to serve as a buffer against the deficiency of any one source.

*Explore the Need for More Storage*

Warming temperatures and reduced water supply predicted by Earth System Models may require additional storage to continue providing a reliable supply. This may involve construction of additional surface water storage and further practice of underground storage by construction of aquifer storage and recovery (ASR) systems. ASR additional storage may be needed to store more water during wet years or cycles as a carryover supply for future years during dry cycles.

*Reduce Emissions*

Consider taking steps to reduce emissions that contribute to climate change through planning and operations and as a part of needed new capital infrastructure.

**7.5. Build on scientific knowledge base of climate research through increased resources and funding to enhance planning processes.**

Utah should increase ongoing funding to improve state and local planning for climate change and fund climate science research. The State should fund climate science research towards improving the predictive capabilities for climate change and assessing and mitigating its impacts. Supplemental funding would allow for activities necessary for monitoring, assessing, and predicting future water supplies necessary to keep Utah's economy strong.



# **ADDENDUM D**

# Managing for Change in the Bear River Basin

## Building Resilience in a Key Watershed

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Climate change is well underway in the western U.S. Warmer temperatures are already affecting native plants, animals and habitats in ways we can see and measure.

Any action we take now to build ecosystem resilience to rapid climate change will help us protect our natural areas and the clean water, clean air, and wildlife habitat they provide in the decades to come. The Nature Conservancy has joined with the Climate Assessment for the Southwest, the Wildlife Conservation Society, USDA Forest Service, the National Center for Atmospheric Research, the Western Water Assessment, and the University of Washington to form the Southwest Climate Change Initiative (SWCCI), whose aim is to provide climate adaptation information and tools to conservation practitioners in vulnerable landscapes of Arizona, Colorado, New Mexico and Utah.

That expertise was applied in the Bear River Basin to develop strategies for reducing the impact of climate change. Read on to find out what we learned.

### The Bear River Basin: A Remarkable Landscape At Risk

The Bear River Basin of northern Utah has warmed on average 2° Fahrenheit since 1971. This warming and rate of change is concerning, and led to Bear River being one

of four vulnerable landscapes in the Southwest selected by the SWCCI to develop and test ways to help natural areas cope with climate change.

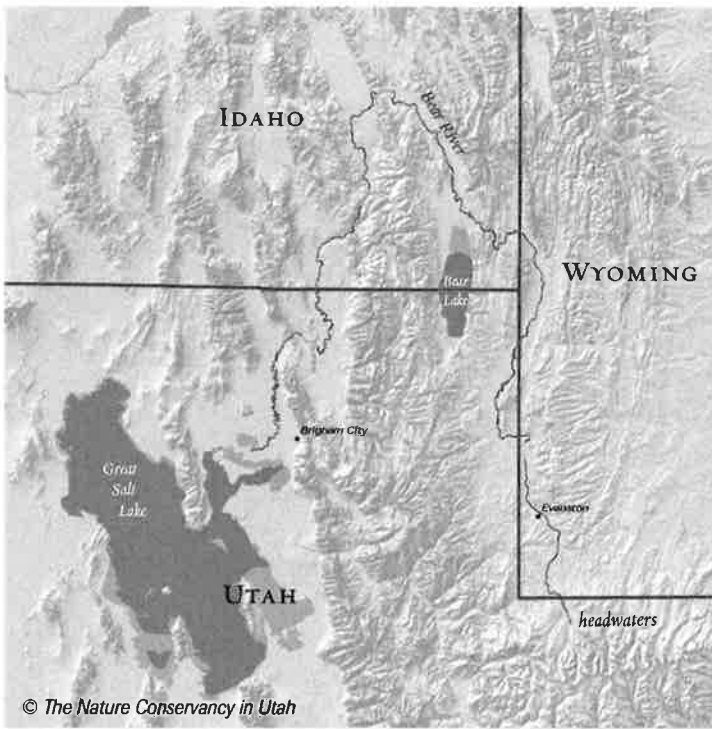


Great blue herons rely on the Bear River for nesting and feeding their young.

### Five Hundred Miles of Life-Supporting River

Vital to both human and natural communities, the Bear River provides critical wildlife habitat, and serves as the largest water source feeding globally important habitats at the Great Salt Lake (see Bear River map on following page). The quantity and quality of water in the Bear River is crucial to the health of the Lake ecosystem, which supports millions of migratory shorebirds and waterfowl each year.

The Bear River itself provides a home for numerous species of nesting and migratory diving and dabbling ducks, colonies of snowy egret, white-faced ibis, gulls, terns and great blue herons and many shorebirds, including long-billed curlew and migratory and nesting greater sandhill crane. The Bear River system also supports the at-risk Columbian sharp-tailed grouse, Bonneville cutthroat trout and northern leatherside chub.



Tri-state Bear River Basin.

## A Changing Climate - an Additional Stress to the Bear River Basin

Many existing stresses compromise the natural function of the Bear River, including residential development, improper grazing and agricultural practices, invasive species and practices that alter natural water flows. Adding the stress of a hotter climate with less water could tip the balance for many species toward unsustainability. The challenge to the conservation community is to avoid the most adverse impacts of climate change through building resilience in the system today.

## Creating Practical Climate Adaptation Strategies

In May 2010, the Conservancy and our partners brought together scientists and managers to share information about the known and projected local impacts of climate change in the Bear River Basin – and to start developing practical strategies to reduce its adverse effects. Thirty-nine individuals representing 20 public agencies, private organizations, and academic institutions participated. The focus of the workshop was on floodplain wetlands of the Bear River and Bonneville cutthroat trout.

Participants reviewed two likely climate change scenarios for the Bear River Basin landscape given the current rate

of greenhouse gas emissions. These scenarios project that by 2040-2060:

- 1) The climate could be 5-6° Fahrenheit warmer.
- 2) There could be a five to 13 percent decrease in annual run-off.
- 3) There could be 10-15 percent lower peak accumulation of snowpack.
- 4) There could be an earlier spring melt by two to four weeks.
- 5) There could be an increasing fraction of winter precipitation coming as rain.

Managers and scientists also identified potential effects of combined past and projected climate change on the wetlands and Bonneville cutthroat trout. These impacts include:

- Increased air temperatures and decreased snowpack and run-off lead to lower base flows in summer with drying out of the riparian zone. Bonneville cutthroat trout are affected by less stream shading, warmer water temperatures and lower stream habitat complexity.
- Decreased summer base flow leads to expansion of reaches that are uninhabitable for Bonneville cutthroat trout due to declines in water quality, decreased aquatic habitat, increased water temperatures and decreased connectivity of stream reaches.
- Increased air temperatures and decreased snow pack lead to more water diversions, which may block Bonneville cutthroat trout movement.
- Increased air temperatures lead to increased water temperatures, which leads to an increase in the range of non-native fish and increased predation and competition with Bonneville cutthroat trout by non-natives.
- Rising temperatures and higher evaporation lead to lower river levels, which leads to decreased delivery of water to floodplain wetlands as irrigation efficiency and urbanization decrease groundwater recharge.
- Rising temperatures lead to wetlands drying, which leads to risk of land development (conversion from agriculture to urban).

After agreeing upon likely impacts to wetlands and Bonneville cutthroat trout, workshop participants identified strategies to help this system and species remain viable in a changing world. Examples of impacts and strategies to address them are shown in the table at right.

*(continued on back)*

“Managers must recognize that changes are occurring and anticipate future changes. As Wayne Gretzky put it, we need to ‘skate to where the puck is going to be.’”

**CRAIG ALLEN**  
*U.S. Geological Survey*

### TREND IN ANNUAL AVERAGE TEMPERATURE (1971-2011) IN THE BEAR RIVER BASIN

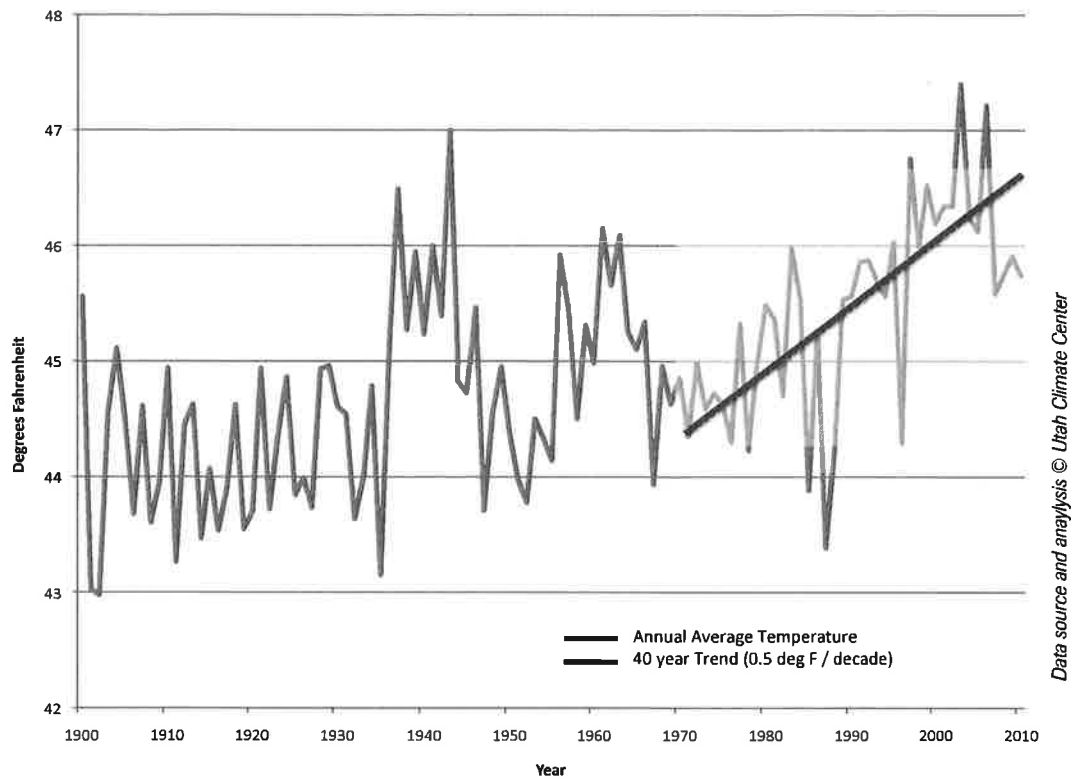


Table 1. the Bear River Basin temperature trend over the past 110 years (gray line), with a linear trend line for the past 40 years (red line). The trend of 0.5 degrees Fahrenheit per decade during the last 40 years is 1.5 times greater than the trend for global average over the same time period.

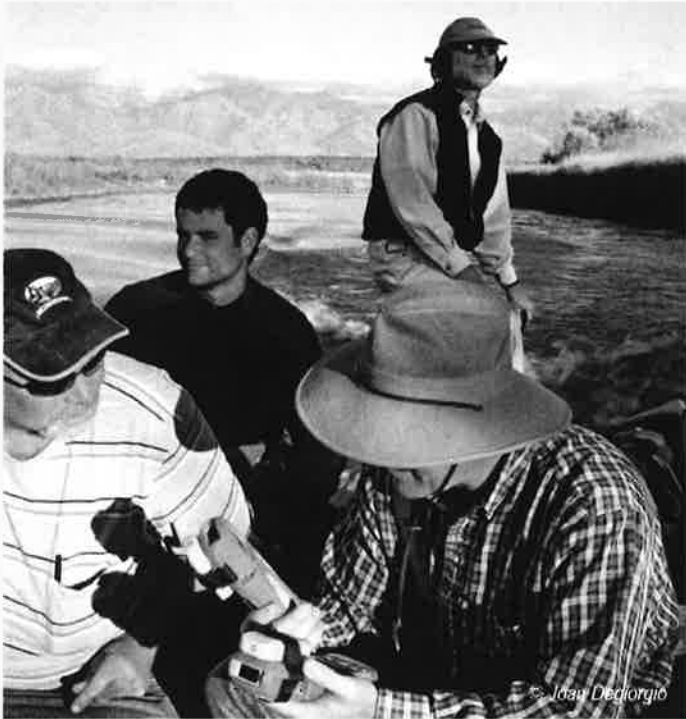
#### THOUGHTS ON ADAPTATION PLANNING

**Todd Ringler**  
*Los Alamos National Laboratory*

- This is a century-long exercise.
- Think 10 by 10: Adaption plans with 10-year milestones, revisited 10 times.
- Manage toward the high-end estimate of change: +5C, -25% precipitation, +episodic drought.
- Look for win-win scenarios, i.e. climate adaption practices that meet additional objectives.
- Our understanding of climate change will evolve, build flexible adaptation plans.
- Monitor, monitor, monitor...

#### WHAT MIGHT HAPPEN ON THE BEAR RIVER AND WHAT WE CAN DO ABOUT IT

CLIMATE CHANGE IMPACT	ADAPTATION STRATEGY
More water diversions due to lower river levels.	Identify cool water reaches for Bonneville cutthroat trout and remove barriers to fish accessing these areas.
Increased drying of riparian zone due to lower base flows in summer.	Improve grazing management to protect and restore key riparian areas.
Conversion to urban uses with drier wetlands.	Prioritize key wetlands for conservation and preserve through purchase, easement or planning tools.



Regularly monitoring invasive weeds and stream and fish community health are two additional practical adaptation strategies.

## Taking Action to Build Resilience

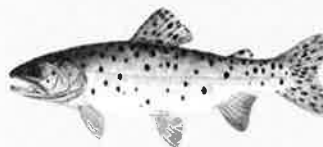
The remaining refugia for native fish will require active protection as water temperatures rise and yearly streamflows become more variable. Assuring that native fish can access these areas is also key. Conserving remaining wetland resources from development and assuring an adequate water supply will be important measures to hedge against the added stress of climate change.

The good news to emerge from the workshop is that many of the restoration strategies already being planned or implemented in the Bear River Basin can be used to prepare for climate change. For example, we are working with landowners to improve irrigation efficiency and putting the saved water back into the stream for Bonneville cutthroat trout. But we don't have all the answers. What we do know is that we must accelerate and expand work that improves the health of streams and wetlands -in order to make them more resilient to rising temperatures and deeper droughts.

## Lessons from SWCCI Landscape Workshops

Our climate adaptation workshops at four landscapes in the Southwest have yielded valuable lessons that can be applied to other important natural areas:

- **We know enough about climate change to take local action:** Though the pace of climate change is uncertain, we have enough information to act now to reduce the most likely adverse impacts.
- Conservation organizations are already doing a lot to restore and maintain ecosystems—but climate change means we must **do more and do it smarter**.
- **“Climate-smart conservation”** means adjusting the pace, scope and sequencing of management activities, and coordinating our work regionally, across multiple ownerships.
- Some management objectives may become unattainable; **we must be agile and adjust our sights**, perhaps aiming to conserve processes (such as stream flow) and functions (such as water supply) as much as species and habitats.
- More than ever, conservation success will require that **monitoring be tightly integrated into planning and management** as landscapes are transformed by climate change.
- Workshops, while productive, represent only the beginning of a long-term process for understanding and responding to the challenge of climate adaptation for species, habitats and ecosystems. **Building resilience requires on-the-ground action.**



Bonneville Cutthroat Trout, *Courtesy Utah Division of Wildlife Resources*

**For more information about the Southwest Climate Change Initiative and its work in the Bear River Basin:**

Visit [http://nmconservation.org/projects/new\\_mexico\\_](http://nmconservation.org/projects/new_mexico_)

[climate\\_change](http://nmconservation.org/projects/new_mexico_climate_change) or contact project director Joan Degiorgio at (801) 238-2327 or [jdegiorgio@tnc.org](mailto:jdegiorgio@tnc.org).

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