CACHE WATER DISTRICT BOARD OF TRUSTEES
MEETING MINUTES
October 3, 2022

The Cache Water District Board of Trustees convened for a regular meeting on October 3, 2022, at 5:30 p.m. in the Cache County Historic Courthouse Council Chambers,199 North Main Street, Logan, Utah.

MEMBERS OF THE BOARD IN ATTENDANCE:

Scott Clark - Logan #2 Council District
Shaun Dustin – Southeast Council District
Jonathan Hardman – South Council District
Kirt Lindley – At-Large Position
Bret Randall – Northeast Council District
Brett Roper – At Large Position
Jeannie Simmonds – Logan #1 Council District
Regan Wheeler – Agricultural Representative

MEMBERS OF THE BOARD EXCUSED:

Jared Clawson – At-Large Position
Max Pierce – North Council District
Herm Olsen – Logan #3 Council District

OTHERS IN ATTENDANCE:

Nathan Daugs, Ann Neville, Jaimi Butler, Mike Wilson, Beth Neilson, Chad Brown, Wayne Wurtsbaugh, Steven Wood, Debbie Zilles

CALL TO ORDER

Chairman Hardman called the meeting to order at 5:38 p.m. Consideration for minutes from August 1, 2022, and the current agenda were approved as submitted.

> **ACTION: Motion by Mr. Randall to approve the agenda and the minutes as submitted. Seconded by Mr. Lindley. The motion was approved unanimously (7-0).**
>
> **Yea:** Clark, Hardman, Lindley, Randall, Roper, Simmonds, Wheeler
> **Nay:**
> **Absent:** Clawson, Dustin, Pierce, Olsen

PUBLIC COMMENT

Ann Neville asked that packet information be sent out before the meeting so the public has adequate time to review items on the agenda to make public comments.

Wayne Wurtsbaugh sent in a response regarding the Bear River Development Resolution (**Attachment 1**). He said the Great Salt Lake (GSL) drop, calculated at 8.5", is in the State Water Plan. The Bear River Development Plan indicates that of the appropriated 220,000 ac-ft. only ~60,000 act-ft. will be depleted. This is based on urban industrial water, which has a much higher return flow than ag water, which leads to the perceived assumption that no water will be used for ag use. 8.5" is an underestimate of what the drop in the GSL will be. Some water treatment districts are considering selling water. Mr. Randall said the state needs to come up with funding to purchase water that is for sale. Mr. Daugs said the District recognizes that there are some assumptions made in the numbers within the study. Mr. Wurtsbaugh said the biggest issue for the District to consider is that there are no plans for the water to be used for ag use. Mr. Roper pointed out the Bear River report 11.6 it states "…*benefits of a reservoir include: M&UU water supply to meet growing needs, irrigation water supply, water quality improvement, flood control projection, fish and wildlife enhancement downstream of reservoirs due to minimum flows, watershed health, hydroelectric power generation, and recreation*". Mr. Wurtsbaugh said it might be helpful to clarify that CWD's history of involvement is due to when the District was established.

FINANCIAL REPORT

See Attachment 2

CALENDAR EVENTS

- Oct. 12 – Water Task Force @ 1:30 p.m.
- Oct. 13 – Great Salt Lake Summit (Ogden Eccles Conference Center)
- Oct. 14 – Ag Water Optimization @ 10:00 a.m.
- Oct. 18 – Utah Water Summit @ Davis County Event Center (Layton)
- TBD   – Northern Utah Fall Water Mtg.
- Nov. 7 – Public Budget Hearing at the next Board meeting

MANAGER'S REPORT

PL-566 PROJECT UPDATES
Logan River Watershed has been approved by NRCS to move from the Environmental Analysis (EA) to the EIS (Environmental Impact Study) phase. This will likely increase the timeline of the project. The anticipated goal is to send a draft to NRCS in Fall 2023 with review and comments in Spring 2024.

Wellsville-Mendon project has also been approved for an EIS with a similar timeline to the Logan River Watershed.

The Porcupine PL566 has been submitted to NRCS, have not heard back from them. The Blacksmith Fork project is in draft form.

BENEFITS OF BEAR RIVER UPDATE

The goal for funding is $150,000 for this update. DWR has committed $50,000 (match). GSL Advisory will discuss possible $15,000 funding at their November meeting. Bear River Conservancy has committed $10,000. Mr. Daugs will be meeting with the Northern Utah Soil Conservation District next week. BRAG is helping apply for an economic development grant for $30,000. After funding, the next step will be to send out an RFP to select a company to complete the update.

APO REPORTS

No meetings in September. There will be no meetings in October.

BEAR RIVER DEVELOPMENT RESOLUTION 2022-02

See Attachment 3

Mr. Daugs recommended deleting the last paragraph of paragraph 5 "*Discussions by the state and other water districts that may affect the water level of the Great Salt Lake and therefore the use of the Bear River have not included the Cache Water District.".* He does not want any agencies to take offense to this statement. Mr. Clark noted that some people do not realize prior to 2016 the CWD did not exist and therefore were not involved in any discussions. Mr. Roper pointed out that there have been some meetings regarding the Great Salt Lake that the District has not been a part of. The concern is that the solution should be broader than just the Bear River. Mr. Randall noted that the GSL discussions should also include Idaho and Wyoming because they are part of the Bear River. Mr. Wheeler liked Mr. Wurtsbaugh's suggestion of changing the wording to "…therefore the use of the Bear River should include the Cache Water District.". Mr. Daugs said that is already stated in the resolution. Ms. Simmonds said "…*therefore the use of the Bear River…*" is an odd statement and a little confusing.

ACTION: Motion by Mr. Randall to strike the last sentence in paragraph 5 "*Discussions by the state and other water districts that may affect the water level of the Great Salt Lake and therefore the use of the Bear River have not included the Cache Water District.*" as discussed. Seconded by Mr. Lindley. The motion was approved (5-2).

Yea: Clark, Hardman, Lindley, Randall, Wheeler
Nay: Roper, Simmonds
Absent: Clawson, Dustin, Pierce, Olsen

Mr. Roper suggested changing paragraph 9 to read "*RESOLVED, the state of Utah shall seek the opinion of Cache Valley's residents as expressed through the Cache Water District before altering **the Bear River Development Act,** its allocation of water from the Bear River, or developing a strategy to deliver this water to Cache Valley. This includes discussions concerning the level of the Great Salt Lake as the outcome of those discussions could have an indirect effect on the water available from the Bear River.*"

> **ACTION: Motion by Mr. Randall to add the wording "…the Bear River Development Act…" to the last paragraph of the resolution as discussed. Seconded by Mr. Roper. The motion was approved (7-0).**
>
> **Yea:** Clark, Hardman, Lindley, Randall, Roper, Simmonds, Wheeler
> **Nay:**
> **Absent:** Clawson, Dustin, Pierce, Olsen

> **ACTION: Motion by Mr. Wheeler to approve Resolution 2022-02 with the changes as discussed. Seconded by Mr. Lindley. The motion was approved (7-0).**
>
> **Yea:** Clark, Hardman, Lindley, Randall, Roper, Simmonds, Wheeler
> **Nay:**
> **Absent:** Clawson, Dustin, Pierce, Olsen

The Board thanked Mr. Roper for his tireless efforts in putting this resolution together.

WATER COMPARISON STUDY

See Attachment 4

Mr. Daugs provided a summary and reviewed the recommendations.

Ms. Simmonds asked that JUB provide a presentation at the next meeting.

6:38 p.m. Shaun Dustin arrived.

Mr. Clark pointed out the misconception that ag does not always have a full supply of water. Even if the need in Cache Valley is lower than in other areas, it does not mean that there is not a need. Chairman Hardman agreed and said the snowpack affects the need each year.

Mr. Daugs clarified for Ms. Simmonds that the recommendations will be added to the 5-year plan.

Mr. Randall said that water bills are currently being written. It is important to get this information and the resolution out. Ms. Simmonds agreed and said the local legislators should receive it soon.

Action Item: Put together a 1-page summary that can be distributed.

OTHER

Mr. Randall has talked with the manager of a water company in North Logan about the secondary metering program. She has applied for grant funding but has found the process to be difficult and the costs very high. He would like to add time to the next meeting agenda to discuss this issue.

ADJOURN

The meeting adjourned at 7:05 p.m.

Next Meeting: November 7, 2022

Bridgerland
Audubon
Society

P.O. Box 3501
Logan, Utah
84323-3501

Bridgerland Audubon Society's comments on
CACHE WATER DISTRICT RESOLUTION 2022-02
(Allocation of water through the Bear River
Development Act) and the Cache Water District
Master Plan Addendum (2022)

October 1, 2022

Board Member
Cache Water District (CWD)
Logan, UT

Dear Board Members;

Bridgerland Audubon Society would like to comment on the CWD's draft resolution concerning the allocation of water through the Bear River Development Act. We applaud much of the resolution in that it will reinforce the appropriate participation of the CWD in future water development and conservation related to the proposed Bear River development—the board deserves its place at the table. We do, however, have some concerns about some content in the resolution.

First, it is not realistic for either the State Water Department or the CWD to assume that 220,000 ac-ft overall, or 60,000 ac-ft of water for Cache Valley will be available for development. When the Bear River Compact was signed in 1978 flows of the Bear River in the 20 years prior to the signing were 62% higher than the discharges in the past 20 years (1,274,000 vs 786,000 ac-ft/year at Corinne). Half of the flows in the past 10 years have been below 550,000 ac-ft/year. The recent 20 years of low flow are extreme, but not totally inconsistent with climate change predictions of a 11-20% decline in flows in the Bear River (Bardsley et al. 2013). The State Water Plan's assumption of "only" a 11% reduction in flows due to climate change may be overly-optimistic.

Second, the deficit in projected water needs in Cache Valley are relatively minor, and this needs to be acknowledged. Under conservation goal projections for Municipal and Industrial, Cache Valley will have a deficit of 2,500 ac-ft/year by 2050, most of this driven by a 1,900 ac-ft deficit for the city of Hyrum. Additional water conservation or transfers from the agricultural sector, which uses the majority of water in the District, could easily provide this needed water, although we realize there may be specific municipalities that could still be impacted.

Third, we believe that Addendum to the CWD Master Plan is not realistic in suggesting that the Bear River Development Act will supply additional water for agricultural irrigation in Cache Valley. The State Water Plan implicitly states that all of the water for the Bear River Water Development Plan will be used for municipal and industrial demands. The high costs of dams and pumping preclude realistic use of new water for agriculture.

Forth, we agree that CWD should be involved in issues related to restoring Great Salt Lake. However, Bridgerland Audubon supports supplying more water to the lake, and this will likely require considerable reductions in Bear River water development, both for Cache Valley and for the Wasatch Front.

We agree that the final recommendations given in the Cache Water District Master Plan Addendum (2022; J-U-B Engineers 2022) are sound:

1. Encourage individual water systems in Cache County to monitor their own demands to make sure that they can either reduce demands or increase their supplies well before their annual demands are projected to exceed their supplies.
2. Continue to coordinate Bear River Development planning and studies with DWRe.
3. Do an in-depth study on smaller reservoir sites within Cache County, both in and off-stream and evaluate raising Hyrum Dam as possible ways to develop the Cache County Bear River Development allocation.

We look forward to discussing these issues with the Board in the future.

Sincerely,

Wayne Wurtsbaugh
Water Quality Coordinator
Bridgerland Audubon Society

Reference

Bardsley, T. and others 2013. Planning for an uncertain future: Climate change sensitivity assessment toward adaptation planning for public water supply. Earth Interactions 17. DOI: 10.1175/2012EI000501.1

Cache Water District
Profit & Loss Budget vs. Actual
July through December 2022

	Jul - Dec 22	Budget	% of Budget
Ordinary Income/Expense			
Income			
Cache County Property Taxes	22,654.75	137,499.98	16.5%
PL-566 Watershed Grant	100,000.00	200,000.02	50.0%
Wellsville Mendon Study	170,039.61	300,000.00	56.7%
Total Income	292,694.36	637,500.00	45.9%
Gross Profit	292,694.36	637,500.00	45.9%
Expense			
Office			
Insurance and Bonding	0.00	2,500.04	0.0%
Office Supplies	16.03	1,000.04	1.6%
Publications	0.00	2,250.00	0.0%
Rent	0.00	2,750.02	0.0%
Technology			
Cell Phone	51.08		
Technology - Other	0.00	1,500.00	0.0%
Total Technology	51.08	1,500.00	3.4%
Vehicle			
Fuel	0.00	1,200.00	0.0%
Vehicle - Other	0.00	25,004.00	0.0%
Total Vehicle	0.00	26,204.00	0.0%
Total Office	67.11	36,204.10	0.2%
Outreach			
Conservation	0.00	12,000.00	0.0%
Dues	0.00	1,200.00	0.0%
Sponsorships	275.00	1,600.00	17.2%
Training	1,178.33	3,000.00	39.3%
Website	0.00	1,100.00	0.0%
Total Outreach	1,453.33	18,900.00	7.7%
Personnel			
Salary and benefits	27,241.05	67,500.00	40.4%
Travel and Mileage	0.00	2,480.00	0.0%
Workers Compensation	54.03		
Total Personnel	27,295.08	69,980.00	39.0%
Professional Fees			
Administrative	0.00	750.00	0.0%
Attorney Services	147.50	15,000.00	1.0%
Audit	0.00	3,502.00	0.0%
Financial Services	21.00	5,200.00	0.4%
Total Professional Fees	168.50	24,452.00	0.7%
Project funding			
Bear River Development	4,292.50		
Cloud Seeding	0.00	26,000.00	0.0%
Water Acquisition	0.00	15,250.00	0.0%

Cache Water District
Profit & Loss Budget vs. Actual
July through December 2022

	Jul - Dec 22	Budget	% of Budget
Water Studies			
PL566 Logan River	25,000.00	200,200.00	12.5%
Wellsville/Mendon Irrigation	78,688.00	300,000.00	26.2%
Water Studies - Other	0.00	75,000.00	0.0%
Total Water Studies	103,688.00	575,200.00	18.0%
Total Project funding	107,980.50	616,450.00	17.5%
Total Expense	136,964.52	765,986.10	17.9%
Net Ordinary Income	155,729.84	-128,486.10	-121.2%
Net Income	155,729.84	-128,486.10	-121.2%

-Attachment 3-

CACHE WATER DISTRICT RESOLUTION 2022-02

SUBJECT: Allocation of water through the Bear River Development Act

WHEREAS, the Cache Water District is the only elected water district in the state whose members represent a wide variety of interests across the county it serves.

WHEREAS, the Cache Water District was formed to plan for and facilitate the long-term conservation, development, protection, distribution, and management of water resources for domestic, irrigation, power, manufacturing, municipal, recreation and other beneficial uses at a reasonable cost for Cache County, Utah.

WHEREAS, there are farmlands in the county where the irrigation season has been shortened, there are streams that run dry affecting recreationist and property owners, there are reservoirs that lack water to store and sufficient depth to launch boats, and there are cities where development has been delayed due to limited water supplies.

WHEREAS, the state of Utah was authorized through the Bear River Development Act (73-26-202-1) to develop 220,000 acre-feet of water from the Bear River; the Cache Water District and Bear River Water Conservancy District may each receive no more than 60,000 acre-feet a year while the Jordan Valley Water Conservancy District and Weber Basin Water Conservancy District may each receive no more than 50,000 acre-feet a year.

WHEREAS, the Bear River flows through the area of Cache Water District and Bear River Water Conservancy District, this water can be more efficiently and cheaply utilized by these Districts rather than the other districts. ~~Discussions by the state and other water districts that may affect the water level of the Great Salt Lake and therefore the use of the Bear River have not included the Cache Water District.~~ (Motion approved to change).

WHEREAS, the Bear River Development Report (2019, Volume 1, Table 5-1) concludes the county has no current water needs, and our needs will remain low (< 5,000 acre-feet) until 2050. This is an inaccurate estimate given Cache Valley's increasing population and consumptive uses and its failure to consider non-consumptive water values.

WHEREAS, the Cache Water District believes estimates of future demands of Cache Valley developed as part of the Bear River Development Plan was not thoroughly evaluated or accurately determined and needs additional input from the Cache Water District.

RESOLVED, the Cache Water District rejects the notion there is sufficient water available to address the current water needs of the voters we represent.

RESOLVED, actions taken by the state must protect the 60,000 acre-feet (or the comparable percentage, 27% of the final allocation among districts) from the Bear River to the Cache Water District and store this water in a manner that minimizes economic burdens associated with conveying water to Cache Valley water users. We reject the selection of the White's Valley Dam and Reservoir site as the only feasible option for storage under the Bear River Development Plan until the state can demonstrate how this location benefits the citizens of Cache County.

RESOLVED, the state of Utah shall seek the opinion of Cache Valley's residents as expressed through the Cache Water District before altering *the Bear River Development Act,* its allocation of water from the Bear River, or developing a strategy to deliver this water to Cache Valley. This includes discussions concerning the level of the Great Salt Lake as this the outcome of those discussion could have an indirect effect on the water available from the Bear River. (Motion approved to change).

Signed Members of the Cache Water District

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INTRODUCTION

Background

The Cache Water District (CWD, the District) updated its master plan in the spring of 2019. As part of that update the District utilized M&I supply and demand projections that were prepared by Utah Division of Water Resources (DWRe) to assist in planning for future water needs in Cache County.

DWRe later completed a "Water Resources Plan" In December of 2021 that is a large-scale planning document that projects water supplies and demands decades into the future and has been years in the making. The introduction to the plan states "This plan is not a 'drought response plan.' Rather it provides a comprehensive look at Utah's current water use and supply conditions and future demand scenarios. It focuses on three water management principles: reliable data, supply security, and healthy environment. It also prioritizes actions the Division of Water Resources plans to undertake in the coming years."

The District contracted with J-U-B Engineers to create this addendum to the 2019 master plan to assist CWD as it continues to work with DWRe and others in planning for future water supplies in Cache County and estimating the timeframes for development of future supplies.

Tasks

The main tasks to create the addendum included:

1. Review and compare the 2019 master plan supply and demand projection data with the Water Resources Plan data.
2. Meet with CWD to review projected demands. Brainstorm additional demands that need to be met and the estimated potential timing of those demands.
3. Prepare the written addendum.

FUTURE SUPPLY AND DEMAND PROJECTIONS

Overview

J-U-B completed a comparison of the water supply and demand data that DWRe supplied for the 2019 Cache Water District Master plan compared with the data used in the DWRe 2021 "Water Resources Plan." The data used for both of these reports is the same. The major difference is that the 2021 Water Resources Plan provides supply and demand statistics only at a river basin level and does not provide a breakdown to the individual water system level.

Reliable Water Supply Estimation

The data is based on an entire year supply compared to the demands for the same entire year. The supplies are based on what DWRe refers to as "reliable water supply." Reliable water supply is estimated based on taking the summation of multiple water supply sources based on the lesser value produced due to constraints as illustrated in Figure 1.

Figure 1 Reliable Water Supply Determination
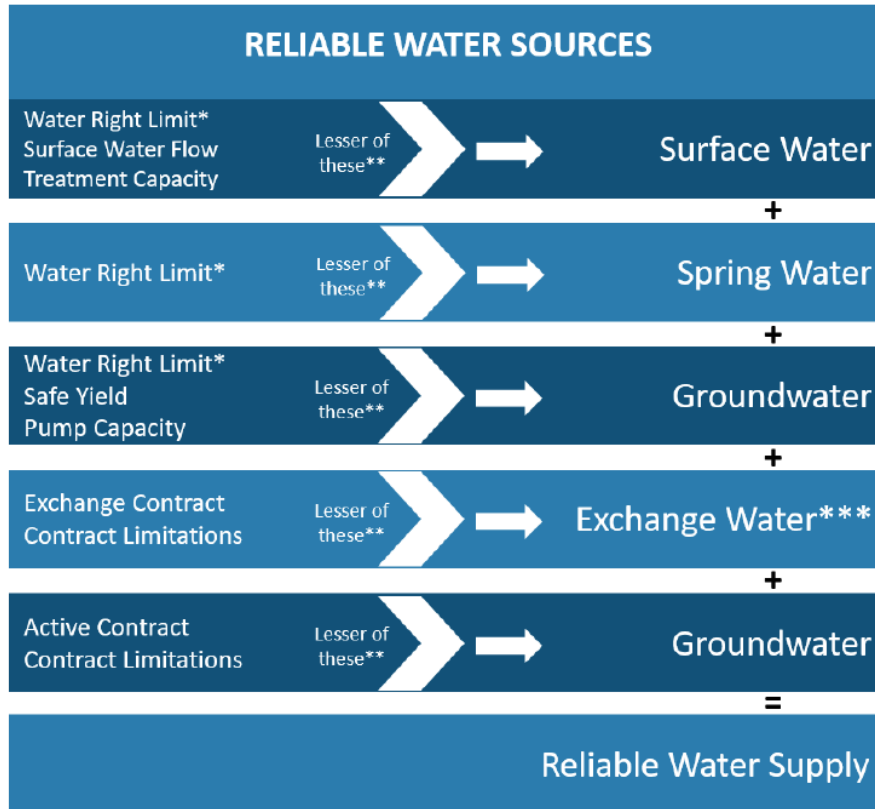
Future Demand Scenarios

The 2021 DWRe Water Resources Plan includes a tabulation of the future projected annual potable water demands for each major basin in the state of Utah for the following three demand scenarios:

No Change Scenario

- Expected growth rates
- Baseline (2015) rates of use
- No climate change considered

Baseline Scenario

- Expected growth rates
- Current (2019) conservation practices and trends in place
- Partial conversion to higher efficiency household appliances and landscapes
- Climate change of 11% ETNet by 2070

Regional Conservation Goal (RCG) Scenario

- Expected growth rates
- Meet regional conservation goals through additional conservation practices
- Climate change of 11% ETNet by 2070

The regional M&I water conservation goal for Cache County is 18% reduction in water use per residential unit between years 2015 and 2030.

Projected Annual Demands by River Basin

The projected annual demands for each major river basin in the state are tabulated for each of the three demand scenarios and compared to the annual reliable water supply for each basin in Table 1. The Bear River Basin includes Rich, Cache, and Box Elder Counties.

Basin Name * 2015 use (Acre-Feet) RS 2015 reliable supply	Model	2020	2030	2040	2050	2060	2070
Bear River ** * 56,300 Ac-Ft RS 154,800 Ac-Ft	No Change	65,100	79,100	93,300	105,100	118,000	130,600
	Baseline	61,400	66,600	73,500	80,500	87,900	95,300
	RCG	57,400	59,100	63,500	68,400	73,300	78,500
Cedar/Beaver * 15,900 Ac-Ft RS 29,200 Ac-Ft	No Change	17,700	21,100	24,200	26,900	30000	33,500
	Baseline	16,900	18,500	20,200	22,000	24,100	26,600
	RCG	16,600	17,300	18,300	19,800	21,400	23,300
Jordan River * 257,300 Ac-Ft RS 315,500 Ac-Ft	No Change	284,400	324,600	361,600	396,100	429,900	459,600
	Baseline	274,100	285,200	297,900	314,000	329,400	340,700
	RCG	267,300	272,400	282,500	298,300	315,000	324,900
Kanab/Virgin ** * 53,800 Ac-Ft RS 79,100 Ac-Ft	No Change	71,900	98,100	125,600	154,200	187,200	219,800
	Baseline	64,100	78,500	94,500	113,000	133,500	153,500
	RCG	61,900	75,100	89,900	107,700	127,100	146,000
S.E. Colorado * 5,570 Ac-Ft RS 14,300 Ac-Ft	No Change	6,300	7,500	8,500	9,500	10,400	11,400
	Baseline	5,900	6,400	6,900	7,500	8,100	8,700
	RCG	5,700	6,100	6,600	7,200	7,800	8,500
Sevier River * 26,800 Ac-Ft RS 55,500 Ac-Ft	No Change	27,600	32,500	36,500	39,700	43,700	48,200
	Baseline	27,000	29,200	31,200	33,300	36,100	39,100
	RCG	27,300	27,100	28,400	30,500	33,500	36,800
Uintah * 16,900 Ac-Ft RS 56,700 Ac-Ft	No Change	17,700	20,800	23,600	26,200	28,400	30,500
	Baseline	17,600	19,100	20,600	22,400	24,100	25,500
	RCG	17,100	16,800	17,900	19,600	21,100	22,500
Utah Lake * 152,700 Ac-Ft RS 320,200 Ac-Ft	No Change	178,500	232,800	296,100	362,500	428,400	500,000
	Baseline	165,800	192,600	226,200	264,800	302,200	341,900
	RCG	165,100	181,800	206,400	241,500	273,800	308,000
W. Colorado * 15,100 Ac-Ft RS 34,800 Ac-Ft	No Change	16,500	18,900	20,800	22,500	24,300	26,400
	Baseline	16,200	17,300	18,200	19,300	20,500	21,700
	RCG	14,900	14,400	14,900	15,900	17,100	18,200
Weber River * 174,500 Ac-Ft RS 288,300 Ac-Ft	No Change	200,800	238,400	273,200	301,700	326,200	351,100
	Baseline	187,700	197,800	211,100	226,300	238,700	251,100
	RCG	177,700	172,400	174,200	186,300	194,500	203,100
West Desert * 15,400 Ac-Ft RS 31,700 Ac-Ft	No Change	18,300	24,100	29,400	33400	36,800	39,700
	Baseline	17,000	20,200	23,300	25,900	28,200	30,200
	RCG	16,900	19,600	21,900	23,800	25,300	26,600

State Totals * 790,100 Ac-Ft RS 1,380,000 Ac-Ft	No Change	904,800	1,097,800	1,292,900	1,477,600	1,663,400	1,850,700
	Baseline	853,800	931,200	1,023,700	1,129,100	1,232,900	1,334,300
	RCG	827,900	862,200	924,600	1,019,200	1,109,800	1,196,300

The Bear River Basin supplies are adequate to meet the projected demands on a basin-wide level and based on an entire year of supply compared to the entire demand for a given year. The evaluation does not include an analysis of each individual water system or of the peak month or peak week demands on each of those systems throughout a year.

Projected Cache County Annual Supplies and Demands

The existing annual reliable Municipal and Industrial (M&I) supply based on the DWRe data for Cache County as a whole is given in Table 2.

Table 1: Cache County Annual Reliable Supply

Supply		
Cache Reliable Annual Potable Supply	71,704.6	Acre Feet
Cache Secondary Supply (Assumed the same as used)	10,046.6	Acre Feet
Cache Total Reliable Annual Supply	**81,751.2**	**Acre Feet**

The existing Cache County annual M&I demands (Water use) are given in Table 3.

Table 2: Cache County Annual Demands

Water use		
Cache Potable Annual Use	26,808.4	Acre Feet
Cache Annual Secondary Use	10,046.6	Acre Feet
Cache Total Annual Use	**36,855.0**	**Acre Feet**

Currently, the developed reliable water supply is adequate on a County-wide annual basis with approximately 44,900 acre-feet of surplus water. But there may be times during the year when individual systems have peak demands that exceed the reliable water supply.

Tables 4, 5, and 6 show the water supply surplus or deficit projected for each water system in the County based the three demand scenarios (No Change, Baseline, Regional Conservation Goal). The values shown in red indicate demand projections that are greater than the supply.

	Supply			No-Change Scenario Demands from 27-14-2020 DWRe Table									
	2015 Reliable Potable Sources	Secondary Water	Reliable Supply	2030 Demand	Suplus/ Deficit	2040 Demand	Suplus/ Deficit	2050 Demand	Suplus/ Deficit	2060 Demand	Suplus/ Deficit	2070 Demand	Suplus/ Deficit
Amalga Town Culinary Water	1,252.6	76.9	1,329.5	624	705.2	668	661.9	990	340.0	1,134	195.8	1,261	68.8
Benson Water Culinary District	695.2	134.1	829.3	829	0.3	1,929	(1,099.5)	2,598	(1,769.1)	3,137	(2,307.3)	3,507	(2,677.5)
Clarkston Town Culinary Water	1,049.2	82.5	1,131.7	639	492.8	784	348.0	894	237.4	1,035	96.5	1,157	(25.2)
Cornish Town Water System	228.8	105.9	334.7	255	80.0	282	52.4	330	5.1	380	(45.0)	423	(88.5)
Cove Waterworks	35.2	65.6	100.8	63	37.4	69	31.7	71	29.7	75	26.1	83	17.7
Goaslind Spring Water Works C	80.7	11.7	92.4	32	60.2	35	57.0	37	55.8	39	53.6	43	49.0
High Creek Water Co.	132.0	3.8	135.8	68	68.2	76	60.0	78	57.4	84	52.0	94	42.0
Hyde Park City Water System	2,429.2	692.6	3,121.8	2,406	715.3	3,047	75.1	3,274	(152.2)	3,639	(517.3)	4,069	(946.7)
Hyrum City	7,725.0	1,411.4	9,136.4	9,874	(737.9)	11,839	(2,702.5)	14,120	(4,983.7)	16,439	(7,303.0)	18,260	(9,123.3)
Lewiston City	1,633.4	288.5	1,921.9	1,596	325.9	1,950	(27.8)	2,567	(644.6)	2,762	(839.8)	3,078	(1,156.2)
Logan City Water System	22,176.5	2,081.7	24,258.2	14,283	9,974.9	16,102	8,156.1	17,427	6,831.2	18,497	5,761.3	20,591	3,667.5
Mendon City	1,195.0	519.8	1,714.8	1,226	488.5	1,466	248.4	1,551	164.3	1,799	(83.7)	2,013	(298.2)
Millville City Water	1,010.4	83.2	1,093.6	940	153.1	1,125	(31.5)	1,408	(314.2)	1,691	(597.8)	1,892	(798.2)
Newton Town Water System	492.3	443.0	935.3	513	422.4	630	305.7	719	215.9	835	99.9	935	0.3
Nibley City Water	3,610.2	568.6	4,178.8	3,836	342.8	4,482	(302.7)	5,130	(951.5)	5,953	(1,774.7)	6,657	(2,477.8)
North Logan City	8,028.4	893.6	8,922.0	4,782	4,139.6	5,610	3,312.1	6,040	2,882.1	6,939	1,983.1	7,745	1,177.3
Paradise Town	524.6	615.9	1,140.5	950	190.7	1,162	(21.4)	1,361	(221.0)	1,599	(458.7)	1,790	(649.2)
Providence City Water System	5,831.5	162.8	5,994.3	3,144	2,849.8	3,831	2,163.8	4,370	1,623.9	5,050	944.4	5,643	350.8
Richmond City Water System	1,501.1	191.8	1,692.9	1,616	77.1	1,866	(172.9)	2,253	(560.1)	2,739	(1,045.9)	3,054	(1,361.2)
River Heights City	2,231.5	109.9	2,341.4	669	1,672.6	765	1,576.4	855	1,486.2	992	1,349.3	1,108	1,233.3
Smithfield City	5,488.4	1,371.9	6,860.3	4,922	1,938.0	6,077	782.9	6,323	537.5	6,765	95.1	7,549	(688.4)
Trenton Town Water System	448.4	110.2	558.6	379	179.7	463	96.0	528	30.5	609	(50.9)	680	(121.7)
Wellsville City Corp.	3,905.1	22.0	3,927.1	2,159	1,768.5	2,620	1,307.5	3,079	848.2	3,607	320.5	4,034	(106.9)
TOTALS	71,704.7	10,047.4	81,752.1	55,807.0	25,945.1	66,875.5	14,876.6	76,003.2	5,748.9	85,798.7	(4,046.6)	95,664.5	(13,912.4)
*All values listed in the table are Acre-feet/year					(737.9)		(4,358.3)		(9,596.4)		(15,024.2)		(20,519.1)

	Supply			No-Change Scenario Demands from 27-14-2020 DWRe Table									
	2015 Reliable Potable Sources	Secondary Water	Reliable Supply	2030 Demand	Suplus/ Deficit	2040 Demand	Suplus/ Deficit	2050 Demand	Suplus/ Deficit	2060 Demand	Suplus/ Deficit	2070 Demand	Suplus/ Deficit
Amalga Town Culinary Water	1,252.6	76.9	1,329.5	624	705.2	668	661.9	990	340.0	1,134	195.8	1,261	68.8
Benson Water Culinary District	695.2	134.1	829.3	829	0.3	1,929	(1,099.5)	2,598	(1,769.1)	3,137	(2,307.3)	3,507	(2,677.5)
Clarkston Town Culinary Water	1,049.2	82.5	1,131.7	639	492.8	784	348.0	894	237.4	1,035	96.5	1,157	(25.2)
Cornish Town Water System	228.8	105.9	334.7	255	80.0	282	52.4	330	5.1	380	(45.0)	423	(88.5)
Cove Waterworks	35.2	65.6	100.8	63	37.4	69	31.7	71	29.7	75	26.1	83	17.7
Goaslind Spring Water Works C	80.7	11.7	92.4	32	60.2	35	57.0	37	55.8	39	53.6	43	49.0
High Creek Water Co.	132.0	3.8	135.8	68	68.2	76	60.0	78	57.4	84	52.0	94	42.0
Hyde Park City Water System	2,429.2	692.6	3,121.8	2,406	715.3	3,047	75.1	3,274	(152.2)	3,639	(517.3)	4,069	(946.7)
Hyrum City	7,725.0	1,411.4	9,136.4	9,874	(737.9)	11,839	(2,702.5)	14,120	(4,983.7)	16,439	(7,303.0)	18,260	(9,123.3)
Lewiston City	1,633.4	288.5	1,921.9	1,596	325.9	1,950	(27.8)	2,567	(644.6)	2,762	(839.8)	3,078	(1,156.2)
Logan City Water System	22,176.5	2,081.7	24,258.2	14,283	9,974.9	16,102	8,156.1	17,427	6,831.2	18,497	5,761.3	20,591	3,667.5
Mendon City	1,195.0	519.8	1,714.8	1,226	488.5	1,466	248.4	1,551	164.3	1,799	(83.7)	2,013	(298.2)
Millville City Water	1,010.4	83.2	1,093.6	940	153.1	1,125	(31.5)	1,408	(314.2)	1,691	(597.8)	1,892	(798.2)
Newton Town Water System	492.3	443.0	935.3	513	422.4	630	305.7	719	215.9	835	99.9	935	0.3
Nibley City Water	3,610.2	568.6	4,178.8	3,836	342.8	4,482	(302.7)	5,130	(951.5)	5,953	(1,774.7)	6,657	(2,477.8)
North Logan City	8,028.4	893.6	8,922.0	4,782	4,139.6	5,610	3,312.1	6,040	2,882.1	6,939	1,983.1	7,745	1,177.3
Paradise Town	524.6	615.9	1,140.5	950	190.7	1,162	(21.4)	1,361	(221.0)	1,599	(458.7)	1,790	(649.2)
Providence City Water System	5,831.5	162.8	5,994.3	3,144	2,849.8	3,831	2,163.8	4,370	1,623.9	5,050	944.4	5,643	350.8
Richmond City Water System	1,501.1	191.8	1,692.9	1,616	77.1	1,866	(172.9)	2,253	(560.1)	2,739	(1,045.9)	3,054	(1,361.2)
River Heights City	2,231.5	109.9	2,341.4	669	1,672.6	765	1,576.4	855	1,486.2	992	1,349.3	1,108	1,233.3
Smithfield City	5,488.4	1,371.9	6,860.3	4,922	1,938.0	6,077	782.9	6,323	537.5	6,765	95.1	7,549	(688.4)
Trenton Town Water System	448.4	110.2	558.6	379	179.7	463	96.0	528	30.5	609	(50.9)	680	(121.7)
Wellsville City Corp.	3,905.1	22.0	3,927.1	2,159	1,768.5	2,620	1,307.5	3,079	848.2	3,607	320.5	4,034	(106.9)
TOTALS	71,704.7	10,047.4	81,752.1	55,807.0	25,945.1	66,875.5	14,876.6	76,003.2	5,748.9	85,798.7	(4,046.6)	95,664.5	(13,912.4)
*All values listed in the table are Acre-feet/year					(737.9)		(4,358.3)		(9,596.4)		(15,024.2)		(20,519.1)

	Supply		Total	RCG Scenario Demands from 27-14-2020 DWRe Table									
	2015 Reliable Potable Sources	Secondary Water	Reliable Supply	2030 Demand	Suplus/ Deficit	2040 Demand	Suplus/ Deficit	2050 Demand	Suplus/ Deficit	2060 Demand	Suplus/ Deficit	2070 Demand	Suplus/ Deficit
Amalga Town Culinary Water	1,252.6	76.9	1,329.5	548	781.2	567	762.7	814	515.0	913	416.2	1,003	326.2
Benson Water Culinary District	695.2	134.1	829.3	541	288.0	1,104	(274.5)	1,407	(577.3)	1,611	(781.3)	1,748	(918.2)
Clarkston Town Culinary Water	1,049.2	82.5	1,131.7	453	678.8	504	627.4	547	585.0	600	531.5	650	481.5
Cornish Town Water System	228.8	105.9	334.7	192	143.0	201	134.1	227	108.2	252	82.5	276	59.2
Cove Waterworks	35.2	65.6	100.8	44	56.5	46	55.2	46	55.1	47	54.1	51	49.9
Goaslind Spring Water Works C	80.7	11.7	92.4	23	69.3	23	69.5	23	69.8	23	69.7	24	68.1
High Creek Water Co.	132.0	3.8	135.8	47	89.2	47	89.0	46	89.8	46	89.4	50	86.2
Hyde Park City Water System	2,429.2	692.6	3,121.8	1,605	1,517.0	1,801	1,320.6	1,834	1,287.7	1,923	1,198.4	2,068	1,053.7
Hyrum City	7,725.0	1,411.4	9,136.4	8,386	750.7	9,522	(385.8)	11,064	(1,927.8)	12,553	(3,416.9)	13,695	(4,558.3)
Lewiston City	1,633.4	288.5	1,921.9	1,239	682.7	1,401	521.0	1,760	161.6	1,827	94.8	1,986	(64.3)
Logan City Water System	22,176.5	2,081.7	24,258.2	11,225	13,032.8	11,610	12,648.0	12,056	12,202.4	12,328	11,930.0	13,199	11,059.1
Mendon City	1,195.0	519.8	1,714.8	832	882.9	887	827.8	887	828.2	964	751.3	1,037	677.7
Millville City Water	1,010.4	83.2	1,093.6	628	465.3	667	426.6	771	322.5	864	230.1	928	165.5
Newton Town Water System	492.3	443.0	935.3	354	581.0	385	550.1	412	523.0	448	487.4	482	453.7
Nibley City Water	3,610.2	568.6	4,178.8	2,463	1,715.5	2,575	1,604.0	2,765	1,413.6	3,009	1,170.0	3,235	944.3
North Logan City	8,028.4	893.6	8,922.0	3,318	5,604.1	3,528	5,394.0	3,626	5,295.8	3,941	4,980.7	4,246	4,676.5
Paradise Town	524.6	615.9	1,140.5	642	498.2	703	437.7	774	366.4	855	285.8	923	217.8
Providence City Water System	5,831.5	162.8	5,994.3	2,145	3,849.0	2,312	3,682.7	2,470	3,523.8	2,673	3,321.8	2,865	3,129.7
Richmond City Water System	1,501.1	191.8	1,692.9	1,209	483.7	1,291	401.5	1,484	208.4	1,719	(25.7)	1,866	(172.8)
River Heights City	2,231.5	109.9	2,341.4	462	1,879.9	472	1,869.2	495	1,846.2	536	1,805.9	572	1,769.5
Smithfield City	5,488.4	1,371.9	6,860.3	3,374	3,486.1	3,746	3,114.6	3,743	3,117.4	3,828	3,032.6	4,118	2,742.2
Trenton Town Water System	448.4	110.2	558.6	278	280.7	309	250.1	335	223.2	368	190.5	398	160.4
Wellsville City Corp.	3,905.1	22.0	3,927.1	1,490	2,437.0	1,609	2,318.1	1,770	2,157.2	1,943	1,984.4	2,090	1,837.2
TOTALS	71,704.7	10,047.4	81,752.1	41,499.5	40,252.6	45,308.6	36,443.5	49,356.9	32,395.2	53,269.2	28,482.9	57,507.4	24,244.7
*All values listed in the table are Acre-feet/year					(660.3)		(2,505.1)		(4,223.9)		(5,713.7)

The results of these three scenarios illustrate how conservation efforts to reduce our future demands per capita can greatly improve the water supply outlook in Cache County. However, the systems here are not interconnected there are some individual systems that currently experience peak water demand days during the late summer when their demands are very close to the available supply.

For example, some water systems may have spring sources that produce more water than the demands for many months of the year, but the spring flows may decline during late summer months such that the peak

demands in the summer exceed the available supply. An evaluation to estimate the peak day supply of each individual system has not been completed as part of this plan. Each individual water system should continually monitor its supply to ensure that the peak season demands can be met. Future changes in the climate could also potentially cause flows from municipal springs to decline.

Coordination with DWRE

CWD met with DWRE on May 26, 2022 to discuss the future water supplies and demands of Cache County. The discussion was very valuable and included a few ideas and concepts.

CWD verified that the DWRe water supply and demand projections are utilized for large regional planning and are based on year to year basin-wide yearly demands without seasonal demand peaks for individual water systems.

There is a need for water storage to serve Cache County to meet M&I, agricultural, and environmental water demands during the dry months. There is very little seasonal water storage in Cache County so Agricultural water demands are hard to meet in the late parts of the season. Added storage could be achieved through the development of multiple small reservoirs in Cache County that would include one or two thousand acre-feet of water that would pass down through streams below in late summer or fall to meet environmental water needs.

Small reservoirs located within Cache County will be easier for Cache County water users to use due to proximity and reduced development costs. The costs for Cache County water users to develop, pump back, and utilize water from a large reservoir in Box Elder County will be very large. Small reservoir sites for development could be looked as well as evaluating the possibility of raising Hyrum Reservoir

Needs for Bear River Water Allocation

The Bear River allocation is important because it can meet many existing and future water needs including the following:

- Agricultural
  - Supplement annual water supplies for the 90,000 acres that are currently being irrigated.
  - Preserve prime agricultural areas by providing another source of water for future M&I demands.

- Environmental
  - Increase late summer flows in streams to help maintain riparian areas.

- Municipal
  - Provide a source to meet long-term future M&I needs.
  - Provide for water exchange agreements to be executed, which allow stored water to go down the rivers to keep downstream water users whole and allow for more M&I groundwater withdrawals.

RECOMMENDATIONS

- Encourage individual water systems in Cache County to monitor their own demands to make sure that they can either reduce demands or increase their supplies well before their annual demands are projected to exceed their supplies. This is needed because the systems peak day demands will exceed the supply well before the annual demands do and it takes time to plan, fund, and develop a project.

- Continue to coordinate Bear River Development planning and studies with DWRe. Additional storage can help meet increasing demands during peak times of the year, including enhanced late summer flows in streams for environmental needs.

- Do an in-depth study on smaller reservoir sites within Cache County, both in and off-stream and evaluate raising Hyrum Dam as possible ways to develop the Cache County Bear River Development allocation. Coordinate the study of Hyrum Reservoir with Bureau of Reclamation. Work with DWRe to coordinate with other Bear River development planning.