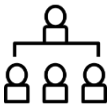
Water and Sewer Board

Regular Meeting
City Council Chambers – City Center South
1001 11th Avenue – Greeley, Colorado
September 21, 2022 at 2:00 p.m.



Regular meetings of the Water and Sewer Board are held **in person** on the 3rd Wednesday of each month in the City Council Chambers, 1001 11th Avenue, Greeley, Colorado.

Members of the public may attend and provide comment during public hearings.

Written comments may be submitted by US mail or dropped off at the Water and Sewer office located at 1001 11th Avenue, 2nd Floor, Greeley, CO 80631 or emailed to wsadmin@greeleygov.com. All written comments must be received by 10:00 a.m. on the date of the meeting.

Meeting agendas and minutes are available on the City's meeting portal at Greeley-co.municodemeetings.com/

IMPORTANT – PLEASE NOTE

This meeting is scheduled as an **in-person session only**. If COVID, weather, or other conditions beyond the control of the City dictate, the meeting will be conducted virtually and notice will be posted on the City's MuniCode meeting portal by 10:00 a.m. on the date of the meeting (https://greeley-co.municodemeetings.com/).

In the event it becomes necessary for a meeting to be held virtually, use the link below to join the meeting. Virtual meetings are also livestreamed on YouTube at https://www.youtube.com/CityofGreeley.

For more information about this meeting or to request reasonable accommodations, contact the administrative team at 970-350-9801 or by email at wsadmin@greeleygov.com

Water & Sewer Board Meeting

September 21, 2022 at 2:00 PM
1001 11th Avenue, City Center South, Greeley, CO 80631

Agenda

1. Roll Call:

_____ Chairman Harold Evans	_____ Vice Chairman Mick Todd
_____ Ms. Cheri Witt-Brown	_____ Mr. Fred Otis
_____ Mr. Joe Murphy	_____ Mr. Tony Miller
_____ Mr. Manuel Sisneros	_____ Mayor John Gates
_____ Mr. Raymond Lee	_____ Mr. John Karner

2. Approval of Minutes
3. Approval of the Agenda
4. Welcome New Employees and Promotions
5. 2nd Tri-Annaul Water Court Update
6. IWRP - Demand Scenarios
7. Legal Report
8. Director's Report
9. Such Other Business That May Be Brought Before the Board Added to This Agenda by Motion of the Board.
10. Adjournment

If, to effectively and fully participate in this meeting, you require an auxiliary aid or other assistance related to a disability, please contact the Water and Sewer Department administrative staff at 970-350-9801 or wsadmin@greeleygov.com

City of Greeley
Water and Sewer Board
Minutes of August 17, 2022
Regular Board Meeting

Chairman Harold Evans called the Water and Sewer Board meeting to order at 2:02 p.m. on Wednesday, August 17, 2022.

1. Roll Call

The Clerk called the roll and those present included:

Board Members:

Chairman Harold Evans, Vice Chairman Mick Todd, Cheri Witt-Brown, Fred Otis, Tony Miller, Manuel Sisneros, Joseph Murphy, Lindsey Kuntz on behalf of City Manager Raymond Lee, and Finance Director John Karner

Water and Sewer Department staff:

Director Sean Chambers, Utility Finance Manager Erik Dial, Chief Engineer Adam Prior, Deputy Director Water and Wastewater Operations Nina Cudahy, Water Resources Administrator II Alex Tennant, Senior Administrative Assistant Crystal Sanchez, Interim Office Manager Gigi Allen, Water Resource Administrator I Megan Kramer, Water Resource Operations Manager Leah Hubbard and Water Resource Planning Manager Kelen Dowdy

Legal Counsel:

Senior Environmental and Water Resources Attorney Jerrae Swanson, Environmental and Water Resources Attorney II Dan Biwer, Counsel to Water & Sewer Board Attorney Carolyn Burr

Guests:

Emeritus Robert Ruyle, Neil Stewart with Stantec joined via Zoom

2. Approval of Minutes

Mr. Miller made a motion, seconded by Mr. Otis to approve the July 20, 2022 Water and Sewer Board meeting minutes. The motion carried 7-0.

3. Approval of Agenda

There were no changes to the agenda.

4. Welcome New Employees and Promotions

Sean Chambers provided an introduction of new Water and Sewer Department employees starting this month.

5. Bi-annual CIP Report

Adam Prior provided an update on the different CIP's completed and in progress.

6. Water Supply update

Alex Tennant presented the current water supply, weather forecast, drought forecast, and agricultural rental summary.

7. IWRP Update Hydrology

Neil Stewart with Stantec was let into the meeting via Zoom at 2:25 pm.

Kelen Dowdy and Neil Stewart from Stantec discussed that the current Greeley Water Supply Master Plan is more than 17 years old and since the creation of the last master plan in 2003, Greeley's strategies to continue to provide a robust, resilient water supply have evolved and the water market has transformed. Likewise, widely accepted strategies used to plan for water development have progressed. Consequently, the Water Resources team has been developing a new water master plan, through a process termed Integrated Water Resource Planning (IWRP). The IWRP process will evaluate Greeley's long-term water supply sustainability, develop a road map to buildout and identify near-term CIP components. As part of the process, the IWRP evaluates a suit of possible future conditions called "planning scenarios". These scenarios define key components of future conditions such as the state of Greeley's water supply system, demands, climate and other system risks. Consequently, the IWRP team has developed a new data set of climate-influenced hydrology to support robust and resilient water supply planning. In the past, planning centered around an 86-year hydrology data set containing a 1-in-50-year Critical Drought. The new climate-influenced hydrology captures wider variability in climate resulting in droughts of greater intensity, duration and frequency.

Neil Stewart left the meeting at 3:13 pm.

8. Review and Approve Water Lease & Trade Agreement with Platte River Power Authority (PRPA)

Sean Chambers discussed how the Water & Sewer Department has been a collaborator and partner with PRPA in regional water planning and projects such

as the Windy Gap Firming Project. To best manage its water demands at the Rawhide facility prior to the full utilization of the Chimney Hollow Reservoir project, PRPA needs to secure by multi-year lease of water that can be used to firm its supplies between now and the completion of the Windy Gap Firming project. Once the Chimney Hollow Reservoir project is complete and operational, Platte River will have a firm water supply and the value of its Poudre River rights would likely diminish over time from disuse. Greeley, however, has the ability to make ongoing beneficial use of the PRCA junior rights to meet various municipal demands.

To further the long-term goals of both Greeley and PRPA, the parties propose an agreement to trade leased C-BT water from Greeley to PRPA in exchange for the transfer of the Rawhide Pipeline Water Right from PRPA to Greeley, with a short-term lease back to PRPA.

The City's water resources staff have reviewed the proposed terms and find the following:

1. The proposed lease of 400 AF /yr. of Greeley C-BT units to PRPA is within the portfolio's available excess supply and such a rental would not have a material impact on the City's resources needed to meet customer demands.
2. The proposed water lease in exchange for Poudre River water rights is in the best interest of the water utility, and if not leased to PRPA, the C-BT water would most likely be leased for agricultural uses at a minimal rate.
3. The PRPA Rawhide Pipeline water right would create value for the city and its customers in future years as the city grows and its potable and non-potable demands grow.

Preliminary analysis of the PRPA Cache la Poudre Rawhide Pipeline Rights confirmed an annual historical average yield more than 800 AF / yr. Greeley expects PRPA will continue to utilize these rights during the lease back period, and thereafter the City will integrate them into the City's water portfolio.

Based upon yield, value, legal and engineering analysis, the Staff recommend approval of the agreement.

Vice Chairman Todd moved to approve Purchase and Sale Agreement, Agreement for Lease of Colorado-Big Thompson Water, and Water Rights Leaseback Agreement with Platte River Power Authority and to delegate authority to the Director of Water and Sewer to approve minor revisions to the agreements before their execution, provided that the material substance of the agreements remains unchanged. Mr. Miller seconded the motion. Motion carried 7 to 0.

9. Legal Report

Ms. Carolyn F. Burr, Esq. with Welborn Sullivan Meck & Tooley, P.C. provided the legal report this month which covers the following case:

Case Number: 22CW3084: Town of Windsor application for diligence and to make a portion of the Kyger Reservoir storage right absolute. Kyger Reservoir is decreed for 1,256.7 AF. 609.8 AF were decreed absolute 2014. Windsor is claiming an additional 513 AF as absolute. Staff and counsel recommended that Greeley file a statement of opposition to ensure that water was legally and physically available in the claimed amount of 513 AF.

Vice Chairman Todd moved that the Board authorize the filing of a statement of opposition in Case No. 22CW3084, and for staff and legal counsel to seek resolution of issues raised by this case consistent with Water and Sewer Board Resolution No. 3, 2015. Mr. Murphy seconded the motion. The motion carried 7 to 0.

10. Director's Report

Sean Chambers provided an overview of several items of Board interest:

1. Wrap-up on the Water Utilities July and August Water & Sewer Infrastructure tours
   a. Board feedback
   b. Planning for next year

2. Colorado River
   - Department of Interior announces actions to protect Colorado River System amid systemic droughts
   - Tier 2 declaration under '07 guidelines
   - 40M people supported; and need to cut 25% of use for 2023

3. Deputy Director of Water Resources position recruitment update

4. Colorado Water Plan 2023 Update draft released
   a. Available at: https://cwcb.colorado.gov/colorado-water-plan
   b. Draft version is out for a 90-day public comment period
   c. Staff preparing comments for submittal prior to Sept. 30, 2022.

11. Such Other Business That May Be Brought Before the Board Added to This Agenda by Motion of the Board.

There were no additional items brought before the Board and added to the agenda.

12. Adjournment

Chairman Evans adjourned the meeting at 3:50 p.m.

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_____
Harold Evans, Chairman

_____
Raymond Lee, Board Secretary

Water & Sewer Agenda Summary

September 21, 2022

Key Staff Contact: Sean Chambers, Water & Sewer Director

Title: Welcome New Water & Sewer Employees and Recognize Department Promotions

Summary:

Retired: Ted Vogel – Plant Operator – 47 years of service

New Hires:
Alicia Blandin – Laborer
Keri Fishlock – Civil Engineer I
Martin Jones – Operator A
Jordan Ellis – Water Equipment Operator II
Brandon Reitz - Maintenance Technician
Luis Ortiz – Maintenance Technician
Roman Rhea - Maintenance Technician
Ty Bereskie – Deputy Director of Water Resources

Promotions:
Tony Braun – Wastewater Collection Manager
Cody Pryke – Wastewater Collection Supervisor
Jason Brunner – Lift Station Technician

Recommended Action: Information only

Attachments: None

Water & Sewer Agenda Summary

Date: September 21, 2022

Key Staff Contact: Leah Hubbard, Water Resources Operations Manager

Title: 2022 2nd Tri-Annual Water Court Update

Summary: The City of Greeley Water and Sewer Department is active in numerous Water Court matters to develop additional water supply and to protect existing water rights. In the 2nd trimester of 2022, Greeley was active in a total of 31 Water Court cases, 29 of which were in the role of opposition. Expenses in Trimester 1 and 2 totaled $368,774 as of September 14, 2022. The attached memorandum and presentation summarize significant activities over the past trimester.

Recommended Action: Informational Only

Recommended Motion: Informational Only

Attachments: 2nd Tri-Annual Water Court Update Memo

Water & Sewer Department
MEMORANDUM

TO: Greeley Water & Sewer Board

FROM: Leah Hubbard, Water Resources Operations Manager

DATE: September 21st, 2022

RE: 2022 2nd Trimester Water Court Cases Update

This memorandum is a review of the Water and Sewer Department's legal activities from May through August of 2022. The review includes an update on Greeley's current Water Court cases and a summary of the Water Resources Division's legal expenses.

STATEMENTS OF OPPOSITION

Since the last update in May, Greeley has filed three statements of opposition and stipulated in four cases. Therefore, the current number of pending Water Court cases in which Greeley is an opposer is 29.

Statements of Opposition filed:

Case	Applicant
22CW3039	ACCWA Gilcrest Reservoir
22CW3055	Fort Collins Halligan Diligence
22CW3084	Town of Windsor – Kyger Reservoir

Stipulations filed:

Case	Applicant
18CW3228	Front Range Oil & Gas
18CW3193	City of Loveland – LIRF's
18CW3042	Town of Windsor
19CW3246	Fort Morgan Farms

GREELEY AS APPLICANT

A summary of pending Water Court cases and cases that were resolved since the last update in which Greeley is the applicant is as follows:

21CW3056 (City of Greeley, et al., Poudre River Instream Flows Augmentation Plan)
On April 29, 2021, the City of Greeley filed a joint application with the Colorado Water Conservation Board, Colorado Water Trust, City of Fort Collins, City of Thornton, Northern Water, and the Cache la Poudre Water Users Association for approval of a plan of augmentation for instream flows in the Cache la Poudre River. The purpose of the augmentation plan is to preserve and improve the natural environment to a reasonable degree at various locations in the Poudre River from the Cache la Poudre at Canyon Mouth near Fort Collins gage to the confluence of the South Platte River. Greeley has proposed to include certain of its changed Greeley Irrigation Company shares in the plan. Twenty statements of opposition have been filed. The applicants received a second round of comments from opposers in August and are developing responses to those comments. We are also scheduling meetings with certain opposers to discuss resolution of their concerns. The next status conference is scheduled for September 20th.

22CW3042 (City of Greeley Chance of WSSC)
On March 31, 2022, the City of Greeley filed its application for the change of 23.917 shares in the Water Supply and Storage Company ("WSSC"). Greeley is changing the shares from irrigation to municipal, augmentation, and other uses. Greeley also seeks a plan for augmentation and water exchange project for the replacement of return flows from the native portion of the Subject Shares and an appropriation of such return flows. Greeley also seeks a conditional direct flow water right for replacement of return flows. Twenty-four statements of opposition have been filed. Greeley will circulate proposed decree and engineering by October 14th and Opposer's comments are due by January 13th, 2023.

LEGAL & ENGINEERING EXPENSES:

The Water Resource Division's outside legal and engineering expenses from January through April 2022 totaled $202,778, which is 31.5% of the total $643,149 spent in 2021.

2022 Water Resources Legal and Engineering Costs

1st trimester	
Legal	$125,915
Engineering	$76,863.17
Total	$202,778
2nd trimester	
Legal	$85,259.50
Engineering	$80,736.25
Total	$165,995.75
3rd trimester	
Legal	
Engineering	
Total	
Annual Totals	
Legal	$211,175
Engineering	$157,599.42
Total	$368,774

Water & Sewer Agenda Summary

Date: September 21, 2022

Key Staff Contact: Kelen Dowdy, kelen.dowdy@greeleygov.com (970)350-9845

Title: Integrated Water Resources Plan update: Demands

Summary: The current Greeley Water Supply Master Plan is more than 17 years old. Since the creation of the last master plan in 2003, Greeley's strategies to continue to provide a robust, resilient water supply have evolved and the water market has transformed. Likewise, widely accepted strategies used to plan for water development have progressed. Consequently, the Water Resources team has been developing a new water master plan, through a process termed Integrated Water Resource Planning (IWRP). The IWRP process will evaluate Greeley's long-term water supply sustainability, develop a road map to buildout and identify near-term CIP components. As part of the process, the IWRP evaluate a suit of future conditions to plan for called "planning scenarios". These scenarios define key components of future conditions such as the state of Greeley's water supply system, demands, climates and other system risks. In order to define multiple future demand conditions the IWRP updated Greeley's existing demand forecasting model to incorporate new information and generate new demand forecasts based off of the recommended scenarios. These demand forecasts and underlying assumptions will be presented.

Recommended Action: Information only

Attachments: Demand primer "Board_DemandForecast_Primer"

IWRP Board Demand Projections for Scenarios

Presentation Summary: The IWRP updated Greeley's existing demand forecasting model to incorporate new information and generate new demand forecasts. These demand forecasts and their underlying assumptions will be presented.

What is the Greeley water demand model: The demand forecasting model was developed to support the Milton Seaman permitting, then subsequently refined during the Revised Alternative Screening process in 2019. This model forecasts Greeley's annual water use by customer class and how important drivers could change that demand.

What are the key drivers in the future demands projected for the IWRP scenarios? There are three key drivers the IWRP used to develop different demand scenarios, which are:

1. Future population growth – Three forecasts of how much population Greeley's future water system will serve (low, medium and high forecasts)
2. The cost of water to customers in the future – Alternative increases in water pricing, which capture Greeley's water conservation efforts.
3. The extent to which hotter conditions increase irrigation needs – A warmer climate could increase outdoor irrigation requirements by 12% to 37% per square foot.

What population forecasts are used in the model? The chart below compares the three population forecasts, which is the biggest driver in future demands. Current Greeley population is about 110,000 people. The forecasts range from 1% to 2% annual growth through 2070 and is based on the most recent data from the Colorado State Demographer.

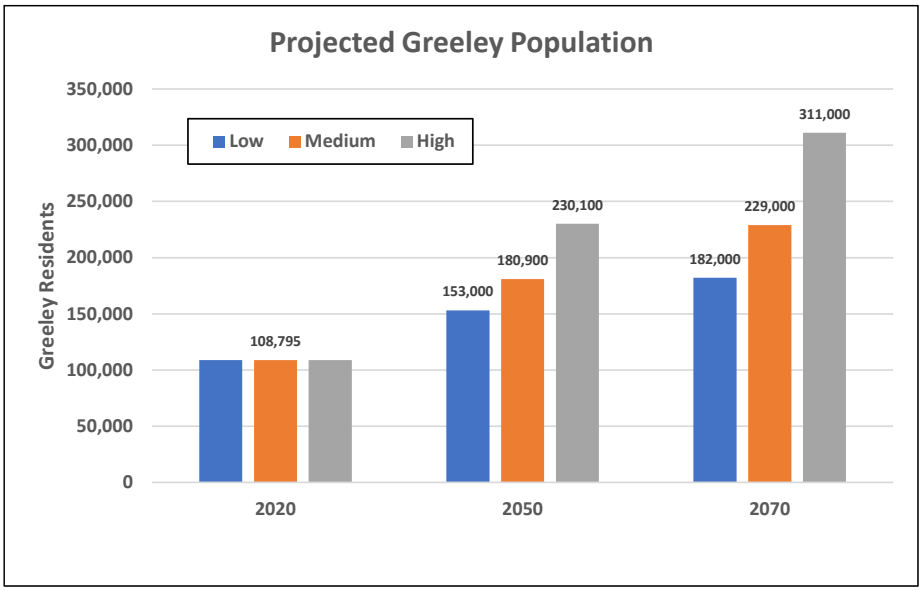


Figure 1. Projections of Greely Population Used to Generate Demands for the IWRP

How will these demands be used in the IWRP? The IWRP is evaluating three Planning Horizons: a 10-year horizon, the timing of Terry Ranch, and buildout. Demand projections at 2030 and buildout will be used to develop future portfolios of projects. Projected demands from 2030 to 2070 will be compared to the maximum demand Greeley's water supply can meet without Terry Ranch to estimate when the infrastructure associated with Terry Ranch will need to be completed.

Integrated Water Resource Plan

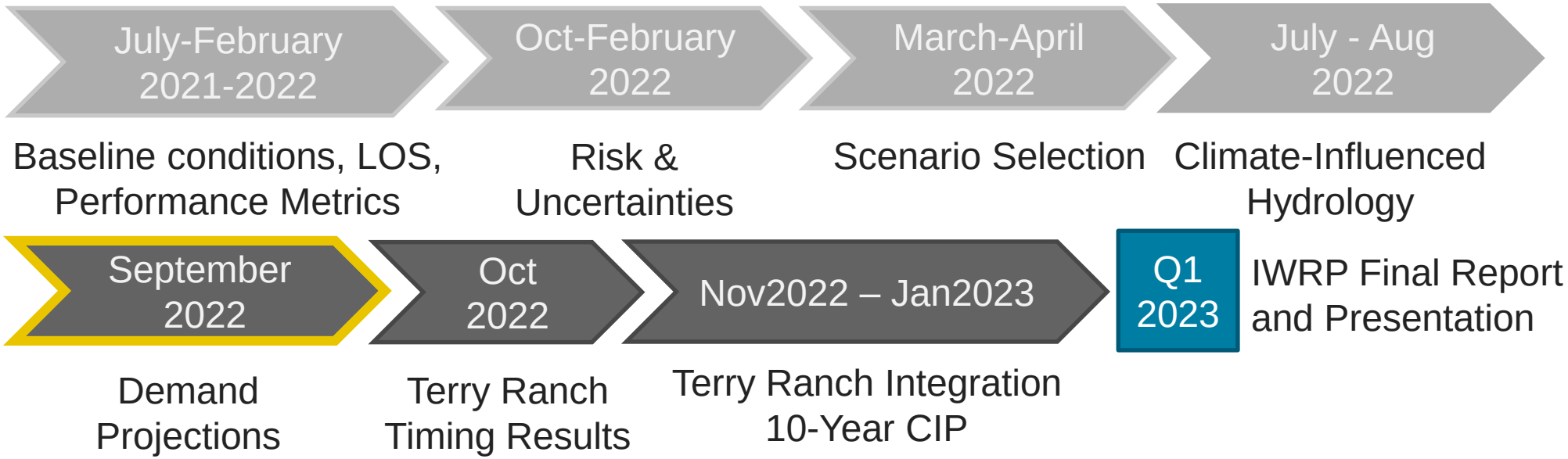
Water and Sewer Board Update

September 21, 2022

IWRP Vision Statement

"An actionable and adaptive master plan for Greeley's water resources that uses modern, defensible methods to develop a roadmap ensuring a reliable water supply for our community through an uncertain future."

IWRP Timeline



Planning Scenario Drivers

Water Rights Competition and Administration

- Yields could be reduced due to competition and changes in administration/regulation

Water Demands

- Growth rate and per capita water use uncertain

Future Climate Conditions

- Variety of long-term changes in average temperature and precipitation possible

System Risks

- Colorado River Basin yields could be impacted several ways
- Other water providers could see water supply failures

Initial Planning Scenarios

Planning Scenario Name	Water Supply System	Climate	Demands	Risks
High Bookend	Reduced Yields	Hot and Dry	Increased growth rate, Conservation II	CO Basin Reductions Increased Wildfires Increased Evaporation Regional water issues
Median	Reduced Yields	Warm	Planned growth rate, Conservation I	CO Basin Reductions Increased Wildfires Increased Evaporation
Low Bookend	Expected Yields	Warm and Wet	Reduced growth rate, Conservation III	CO Basin Reductions
No Climate Change	Expected Yields	No Change	Planned growth rate, Conservation II	CO Basin Reductions
Mix and Match	Reduced Yields	Hot and Wet	Planned Growth rate, Conservation III	CO Basin Reductions Increased Wildfires Regional water issues

Initial Planning Scenarios

Planning Scenario Name	Water Supply System	Climate	Demands	Risks
High Bookend	Reduced Yields	Hot and Dry	Increased growth rate, Conservation II	CO Basin Reductions Increased Wildfires Increased Evaporation Regional water issues
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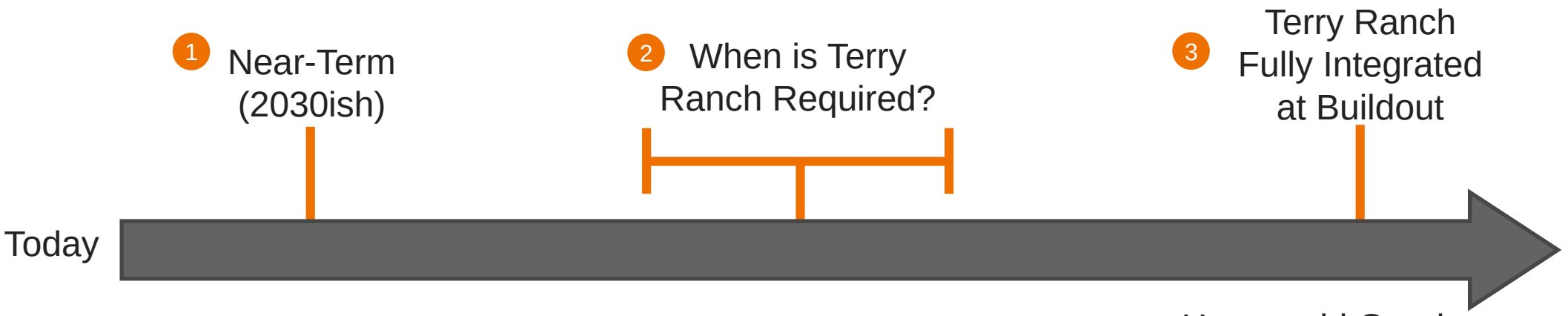
No Climate Change	Expected Yields	No Change	Planned growth rate, Conservation II	CO Basin Reductions
Mix and Match	Reduced Yields	Hot and Wet	Planned Growth rate, Conservation III	CO Basin Reductions Increased Wildfires Regional water issues

Demand Scenarios

Demand Scenario	Included Planning Scenarios	Demand Driver Settings
High Bookend	High Bookend, No Climate Change	High population growth, Conservation II
Median	Median	Medium population growth, Conservation I
Low Bookend	Low Bookend, Mix and Match	Low population growth, Conservation III

Planning Horizons



- Water resources projects for the next 10-20 years

How is the timing of Terry Ranch affected by:

- Demand growth
- Climate change
- Water rights portfolio
- Other Risks

- How could Greeley use Terry Ranch?
- What is a sustainable use of Terry Ranch?

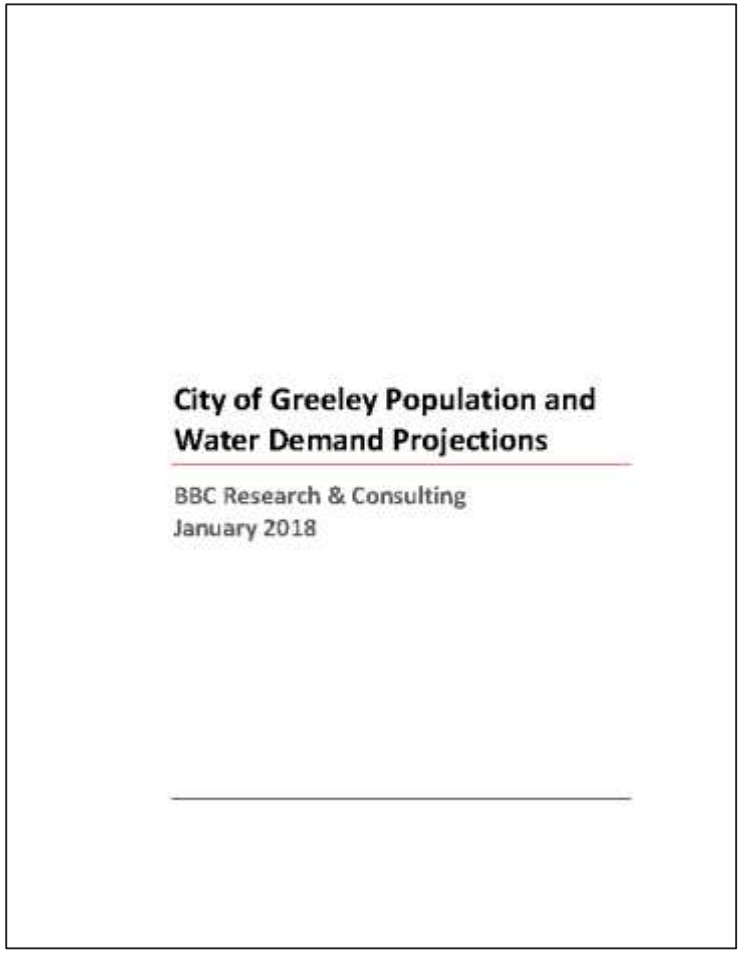
Demand Forecasts for IWRP

BBC Research & Consulting

Doug Jeavons

- Milton Seaman EIS Purpose and Need 2014-2017
- Greeley Cash-in-Lieu of Water Dedication 2015
- Greeley Water Requirements for Commercial Uses 2018
- Greeley Revised Alternative Screening Process 2019
- Greeley Drought Plan 2019-2020
- Fort Collins Cash-in-Lieu Update 2016-2017
- Denver Water Demand Projections various years
- Aurora Water Demand Projections 2014-2015
- Colorado Springs Utilities Demand Forecasts 2022

Greeley water demand model


City of Greeley Population and Water Demand Projections

BBC Research & Consulting
January 2018

History:

- Originally developed in 2014-17
- Used for Milton Seaman permitting
- Enhanced and updated for 2019 Revised Alternative Screening (RAS) analysis
- Projects annual indoor and outdoor water use by customer class

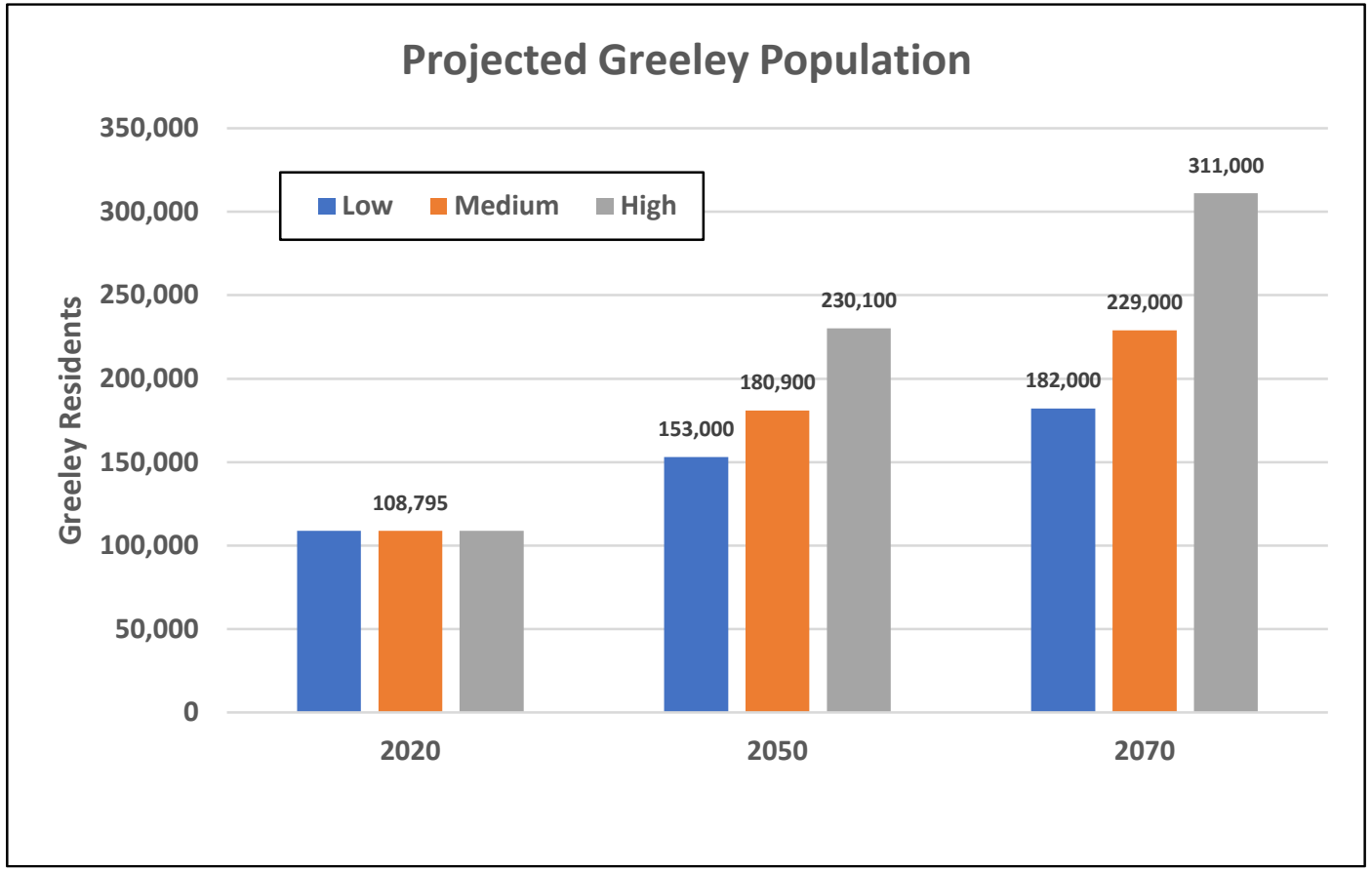
Key inputs for Master Plan:

- Population
- Climate/irrigation rate
- Water price/conservation

Updated Greeley Population Projections

Key components:

- Updated Weld County forecasts from State Demographer (SDO)
- Low and high county growth scenarios from the Water Plan (76% to 140% of SDO growth)
- Greeley's share of future Weld County growth
  20% -- Low
  25% -- Medium
  30% -- High



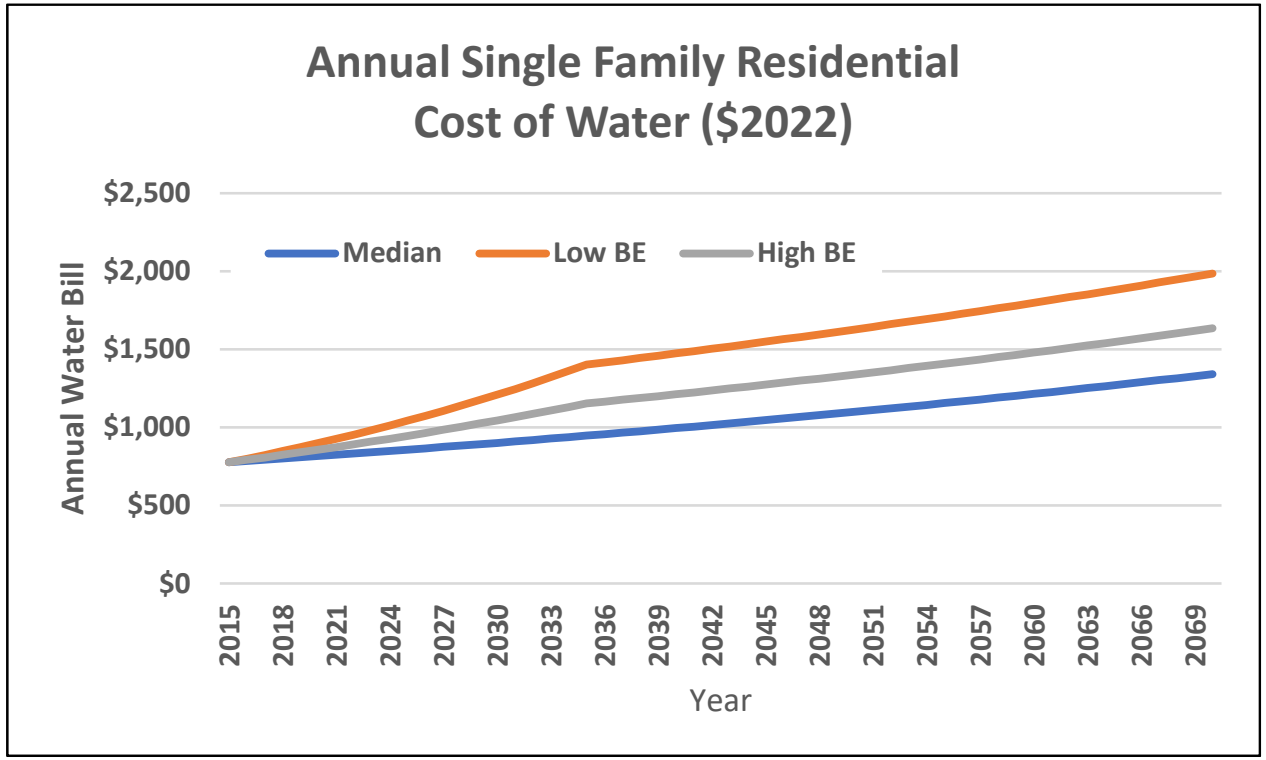
Other Scenario Settings for Future Demands

Historically Greeley had ~40% Multi-Family Development

Planning Scenario Name	Population Scenario	Climate Increase in Irrigation Rate	Conservation (Price Increases)	Multi-family Share of New Housing Units
High Bookend	High Growth	37%	Level II	40%
Median Scenario	Medium Growth	25%	Level I	40%
Low Bookend	Low Growth	12%	Level III	50%
No Climate Change	Medium Growth	0%	Level II	40%
Mix and Match	Medium Growth	25%	Level III	50%

Water Use Efficiency (Conservation)

- Driven by price (rate) assumptions
- All scenarios assume water continues to get more expensive (beyond basic inflation)
- Annual cost per Single Family Residence more than doubles by 2070 under Low BE scenario; increases by about 60% under Median scenario



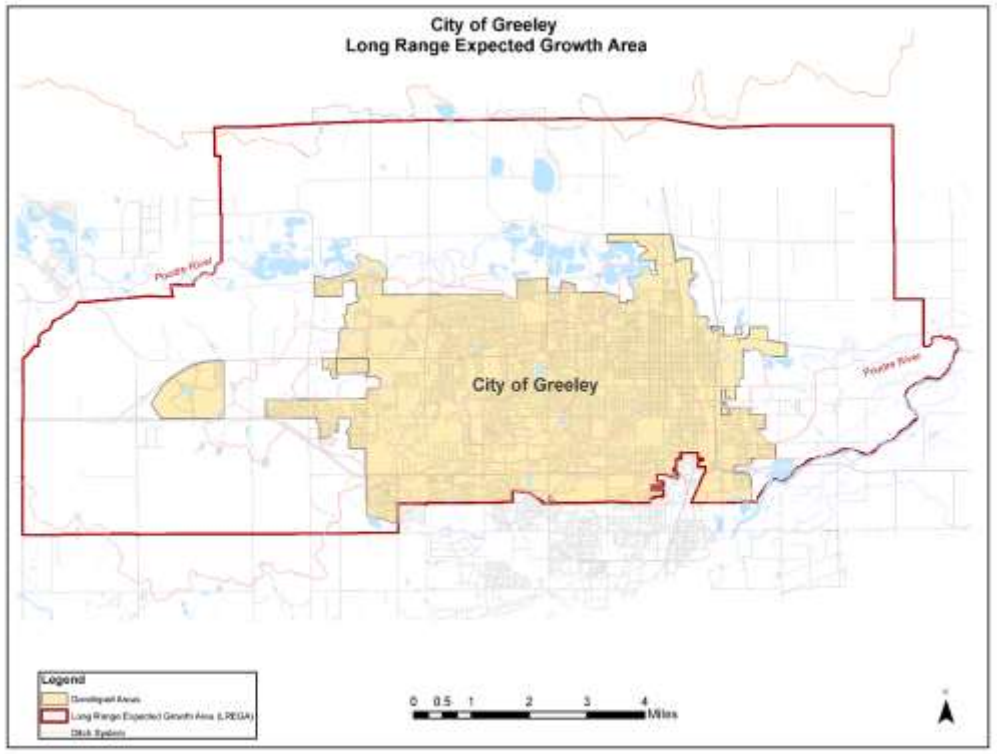
IWRP Projected Demands

Scenario Name	Projected Demand (acre-feet per year)		
	2030	2050	2070
Median	34,400	45,800	55,400
High Bookend	37,200	56,300	74,000
Low Bookend	28,600	33,300	37,600

2070 Demand Projection Details

	Population	Total Water Requirements (acre feet per year)	Systemwide Gallons Per Capita Day	Residential Gallons Per Capita Day
Current	*109,000*	*27,000*	*210*	*110*
2070 Projections				
Median	229,000	55,400	204	110
High Bookend	311,000	74,000	201	107
Low Bookend	182,500	37,600	173	87

What could "buildout" look like?



Factors:

- LREGA assumed to remain same
- Avg. residential density assumed to increase by about 30% (7 units/acre to 9 units/acre)
- Density decreases water use per capita, but increases use per acre
- Population growth rate affects timing

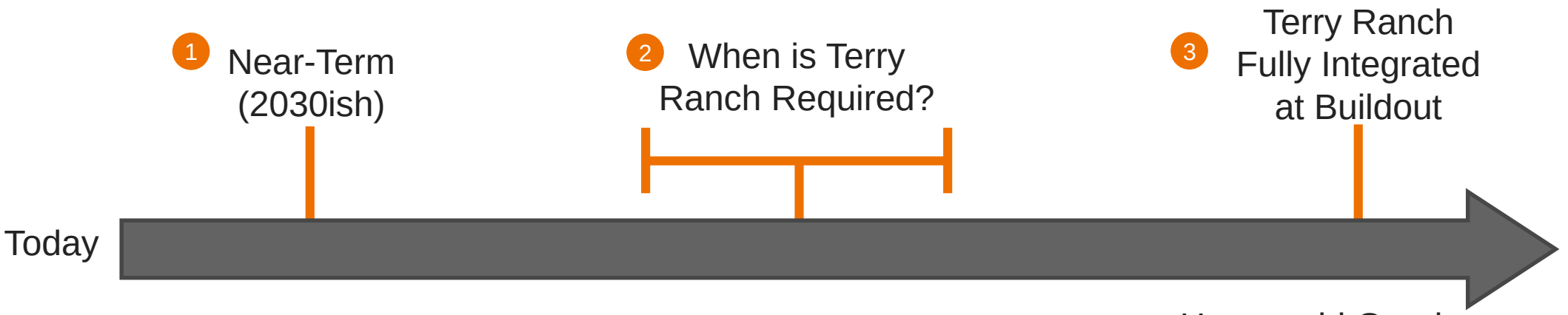
Projections:

- Buildout population would be about 420,000
- Timing between 2097 (High Bookend) and 2232 (Low Bookend)
- Total water requirements of about 83,000 to 98,000 acre-feet per year

LREGA is Long Range Expected Growth Area

How will demand forecasts be used?

Planning Horizons



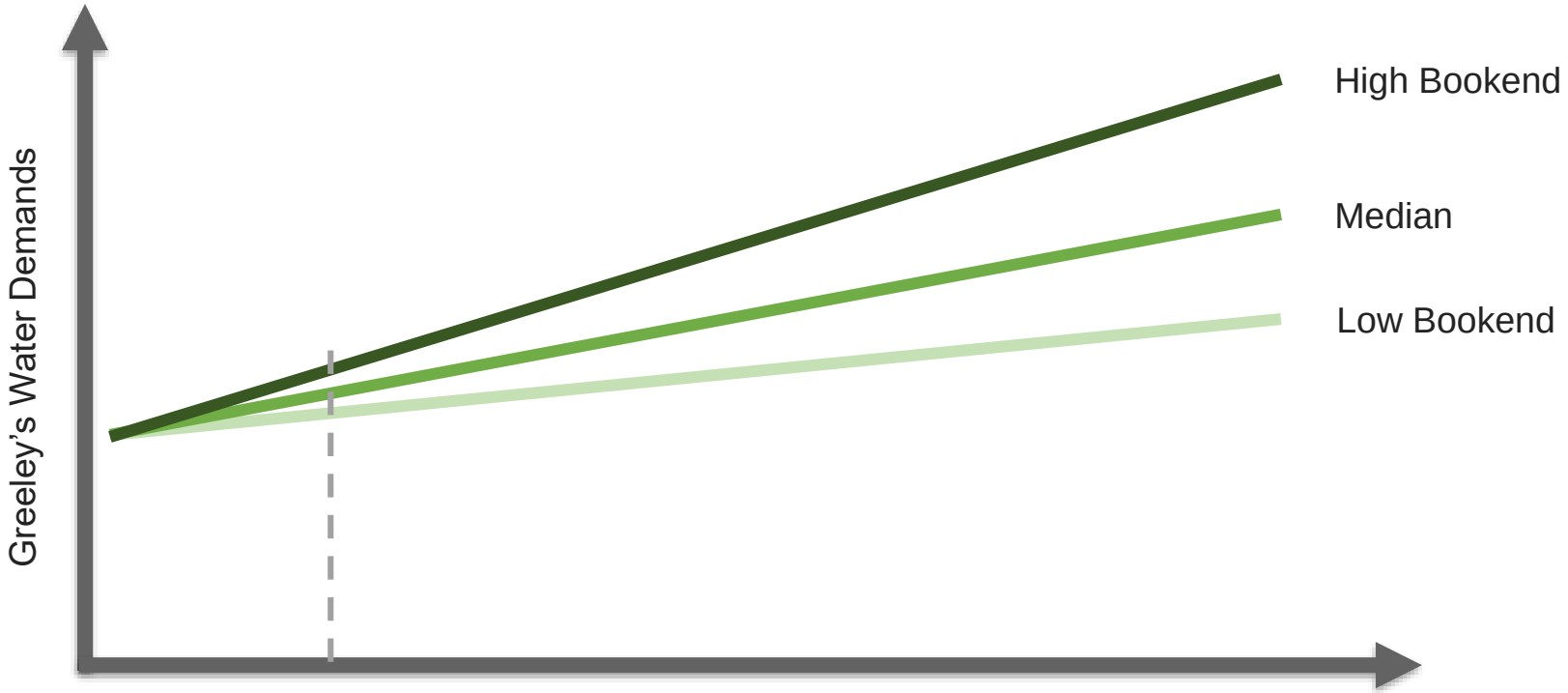
- Water resources projects for the next 10-20 years

How is the timing of Terry Ranch affected by:

- Demand growth
- Climate change
- Water rights portfolio
- Other Risks

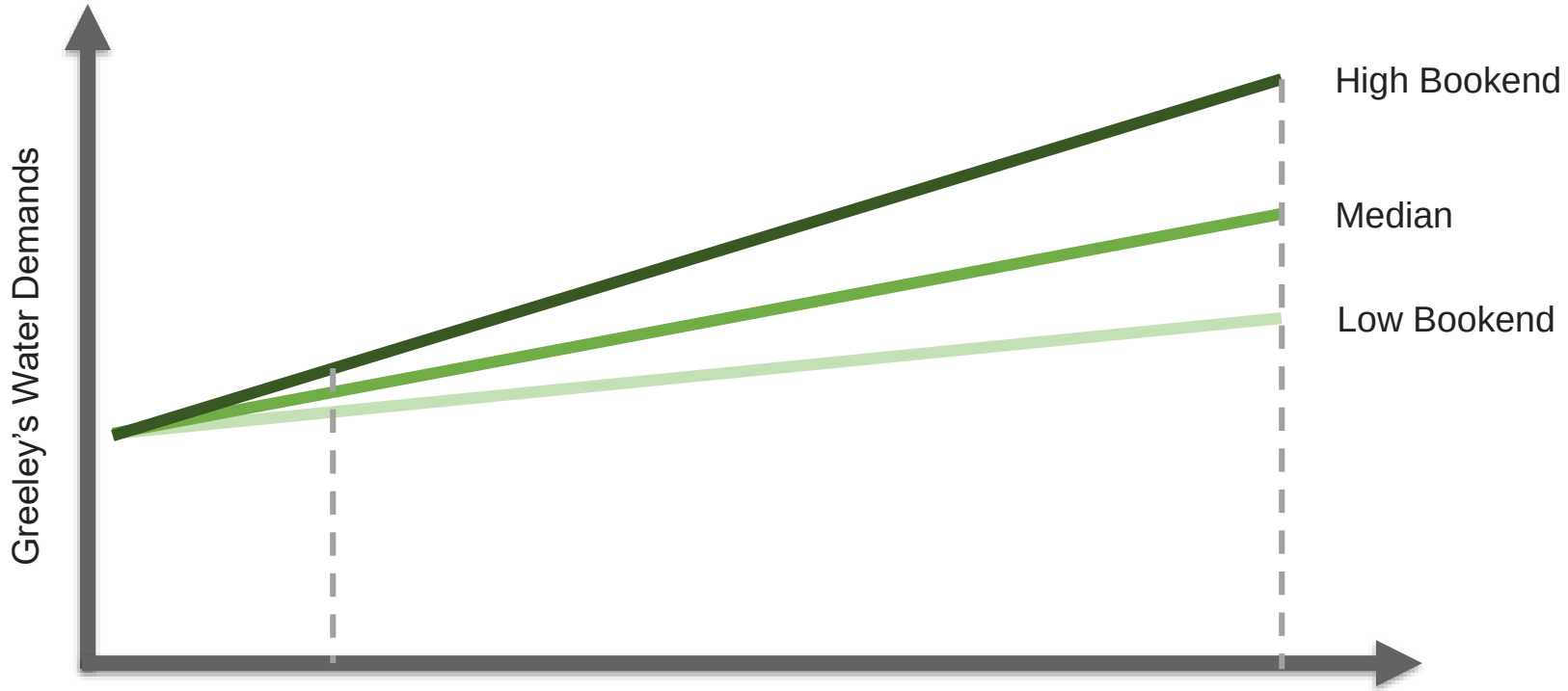
- How could Greeley use Terry Ranch?
- What is a sustainable use of Terry Ranch?

Demands and Planning Horizons



What projects are required in the next 10 years?

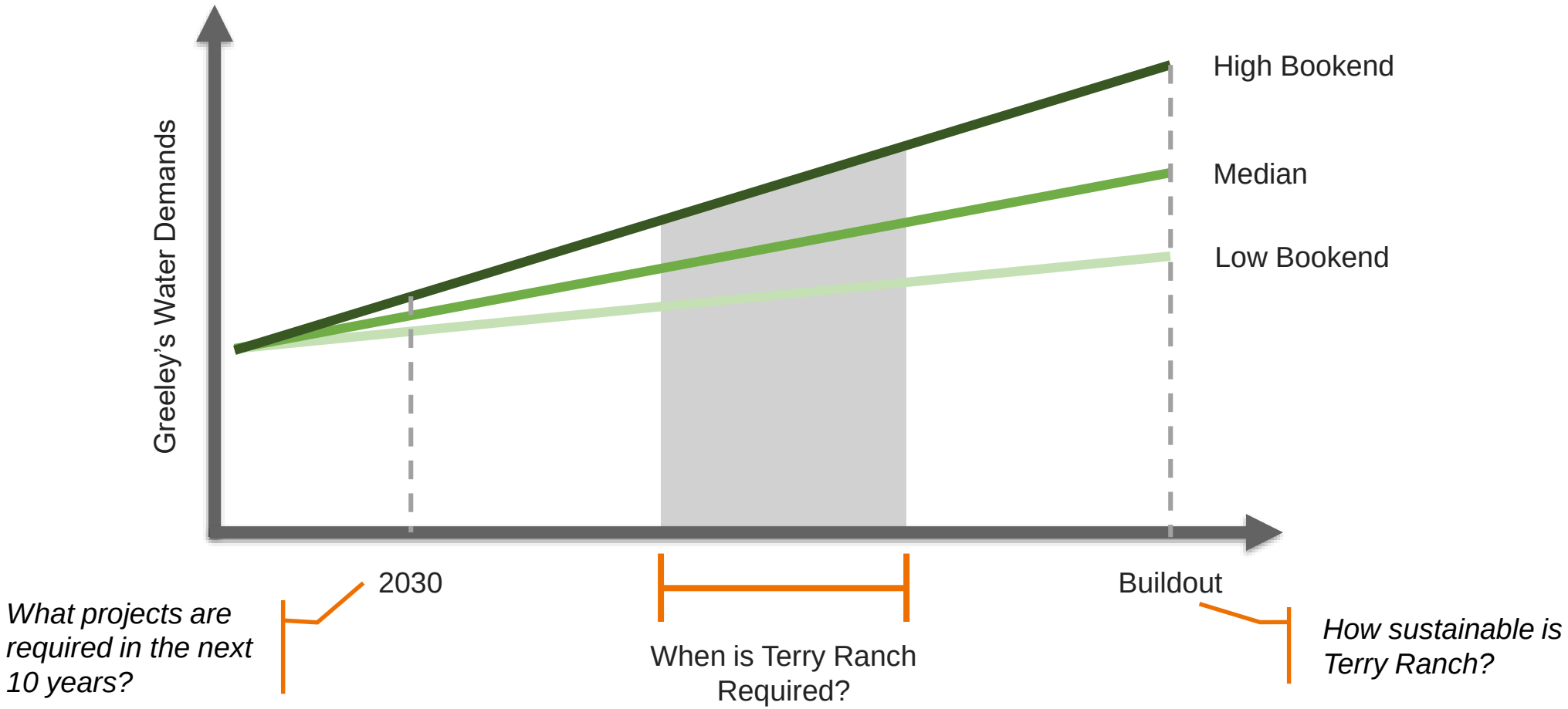
Demands and Planning Horizons



What projects are required in the next 10 years?

How sustainable is Terry Ranch?

Demands and Planning Horizons



Applying Demand Forecasts

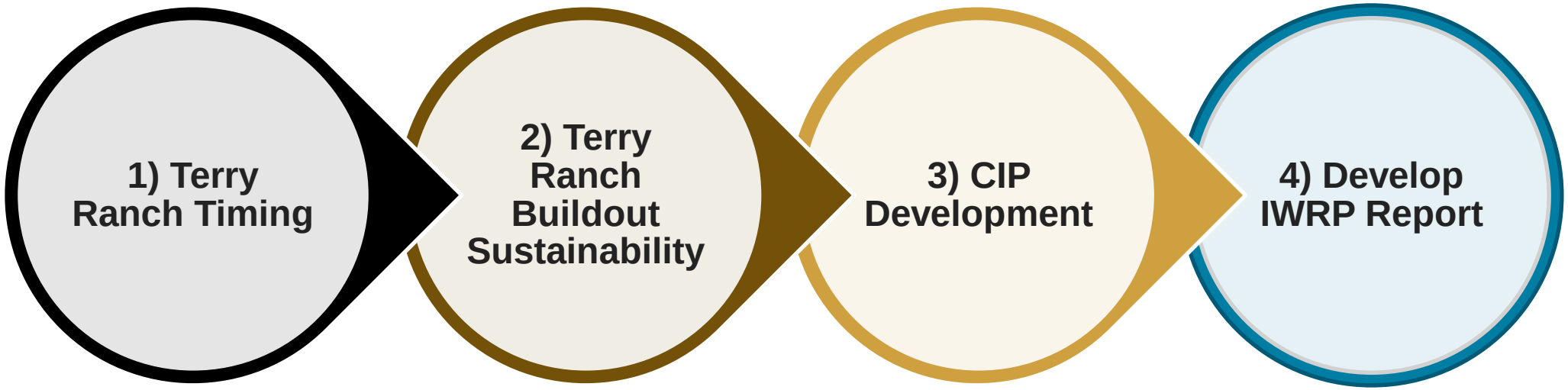
2030 and Buildout

- Simulate water supply system using forecasted demands for each Planning Scenario
- Develop portfolio such that performance is acceptable

Terry Ranch Timing

- Simulate water supply system under range of possible future demands (30,000 to 50,000 acre-feet per year)
- Determine at what demand performance becomes unacceptable
- Align with demand forecasts to establish potential timing

Next Steps



- When does Terry Ranch need to be online?
- How sustainable is Terry Ranch's used in the Planning Scenarios?
- What are the costs and timing for water resource projects for the next 5 years?

Questions?

Water & Sewer Agenda Summary

Date: September 21, 2022

Key Staff Contact: Leah Hubbard, Water Resources Operations Manager

Title: Outside Water Council Legal Report

Summary: The Attached Report has been provided by Mr. Jim Noble, Esq. with Welborn Sullivan Meck & Tooley, P.C.

Based on our review of the July, 2022 Water Court Resume, staff and water counsel do not recommend that the Water and Sewer Board file statements of opposition to any water court applications that would be due at the end of September, 2022.

Recommended Action: Informational Only

Recommended Motion: Informational Only

Attachments:

1. Legal Report for September 2022

Legal Report
Greeley Water and Sewer Board Meeting
September 21, 2022

I. Statements of Opposition: Based on our review of the July, 2022 Water Court Resume, staff and water counsel do not recommend that the Water and Sewer Board file statements of opposition to any water court applications that would be due at the end of September, 2022.

Water & Sewer Agenda Summary

Date: September 21, 2022

Key Staff Contact: Sean Chambers, Director

Title: Water Utilities Director's Report

Summary:

The Director will provide a summary overview of several items of Board interest:

1. Colorado State University – Living with the Colorado River Compact: Past, Present and Future – 9/26/22 https://watercenter.colostate.edu/colorado-river-compact-symposium/
2. Recognize City of Greeley participants of WLL course
3. Dropbox Board archive files are fully converted to Teams file platform
4. All emails have been entered into the NCWCD Windy Gap, Chimney Hollow, Project newsletter subscription

Recommended Action:

Non-action informational item

Recommended Motion:

N/A

Attachments:

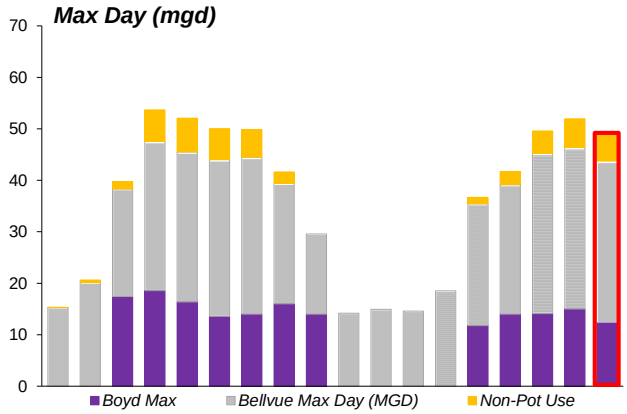
N/A

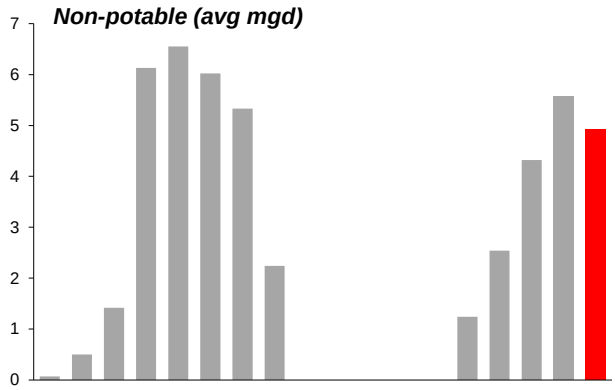
Water Treatment

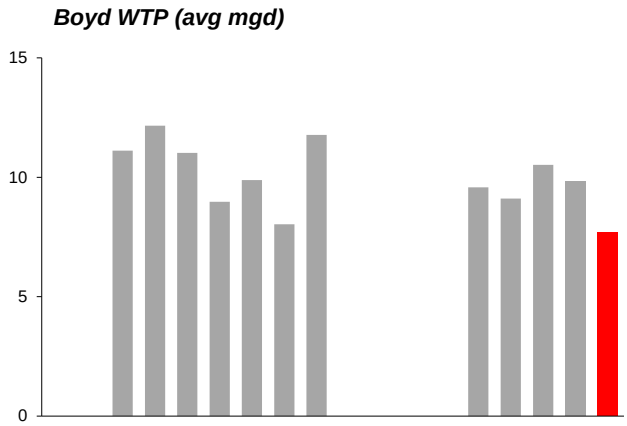
Bellvue Water Treatment Plant operates year-round with a transmission capacity of 29.1 million gallons per day (mgd) (plant capacity is 32 to 35 mgd). Water sources include Poudre River direct flows, Colorado-Big Thompson (C-BT), Windy Gap, High Mountain Reservoirs, Laramie-Poudre Tunnel, and Water Supply and Storage. Average volume is 19,000 acre-feet a year (2000-2011). The plant was built in 1907, with its last treatment upgrade in 2009. Solar panels were added in 2014.

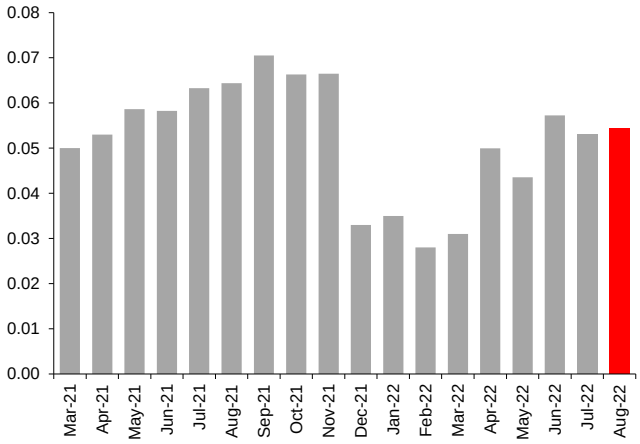
Boyd Water Treatment Plant operates normally from April to October with a plant capacity of 38 mgd (transmission capacity is 40 mgd). Water sources include Greeley-Loveland Irrigation Company, C-BT, and Windy Gap. Average Volume is 8,200 acre-feet (2000-2011). The current plant was built in 1974, with its last treatment upgrade in 1999. Solar panels were added at Boyd in 2014. In 2016, tube settlers and platte settlers were replaced in the sedimentation basins. In 2018, all old existing chemical lines were replaced with new lines and the piping was up-sized to carry more chemical. A PLC upgrade was done on the SCADA system. Sludge pumps were replaced and hooked into the Trac Vac system that pulls sludge out of the sedimentation basins.

Combined, Bellvue and Boyd can treat a maximum of 70-73 million gallons per day.





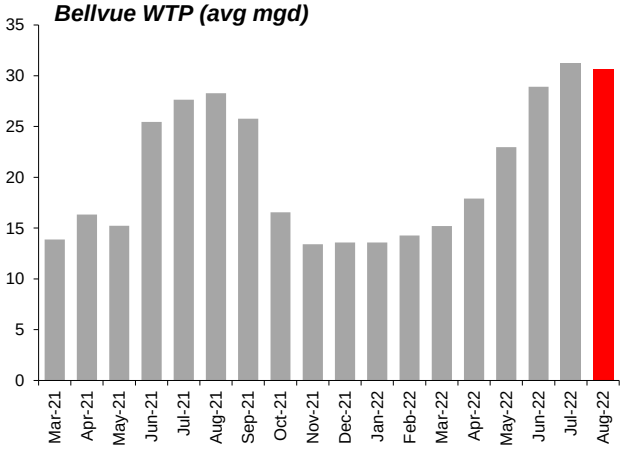




Starting May 2016 Bellvue turbidity measurements will use a new method resulting in more accurate readings.

**Turbidity limit: 95% of samples must be below 0.3 NTU.*

Turbidity is the measure of rel
ative clarity of a liquid. Clarity is important when producing drinking water for human consumption and in many manufacturing uses. Turbidity is measured in Nephelometric Turbidity Units (NTU).

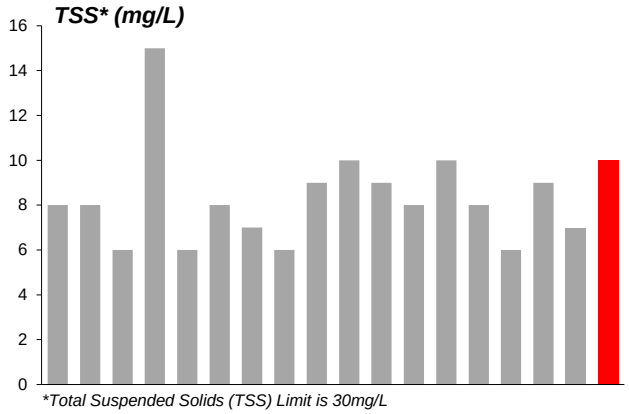


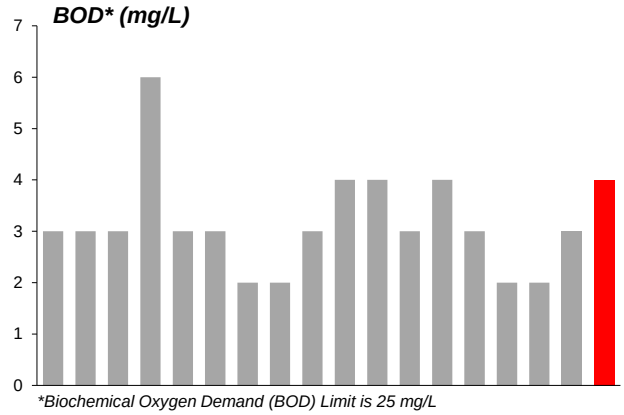
Wastewater Treatment

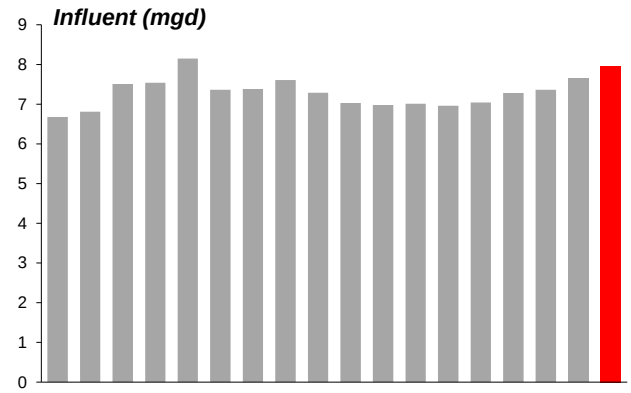
The Water Pollution Control Facility (WPCF) staff are dedicated environmental professionals who provide quality, safe and cost-effective wastewater treatment services for the citizens of Greeley. The WPCF treats wastewater to meet or exceed Environmental Protection Agency (EPA) and Colorado Department of Public Health & Environment requirements.

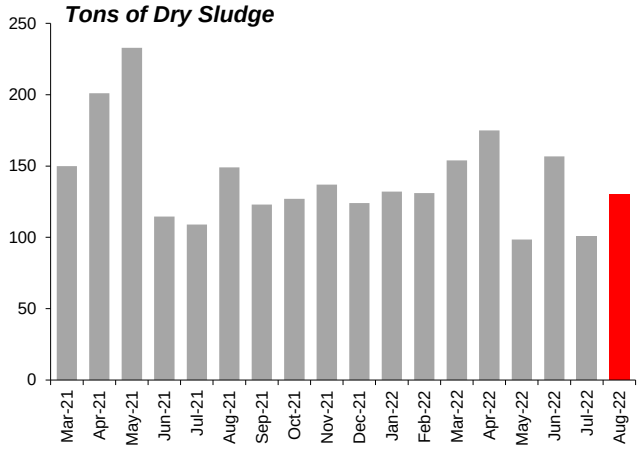
In 2011, the WPCF received an Xcel Energy Custom Efficiency Achievement Award for saving 2.78 million kWh and reducing CO2 emissions by 1,584 tons. In 2012, the WPCF received the Rocky Mountain Water Environment Association's (RMWEA) Sustainability Award for Colorado demonstrating excellence in programs that enhanced the principles of sustainability. A Certificate of Achievement from the Colorado Industrial Energy Challenge program managed through the Colorado Energy Office was received in the same year. In 2013, the plant received the City of Greeley's Environmental Stewardship Award for outstanding efforts to reduce energy (watts), conserve energy and water, reduce air and water pollution, and educate and encourage others to be environmental stewards. Also, in 2013, the plant was the recipient of a Bronze Award from the Colorado Environmental Leadership Program. In 2015, after having 5 years without a plant violation, the plant received the 2015 National Association of Clean Water Agencies (NACWA) Platinum Peak Performance award for the City of Greeley Water and Sewer Department.

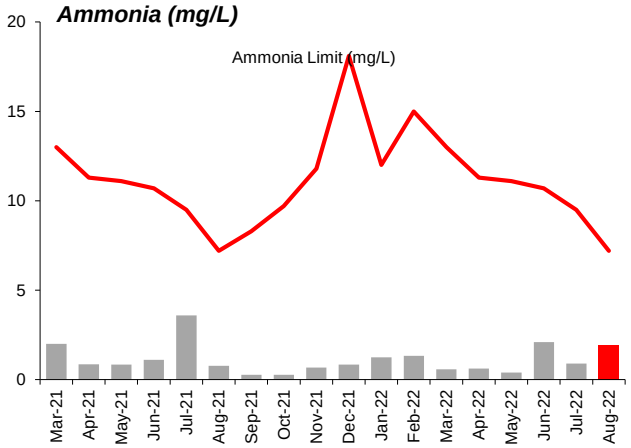
Note: the red column indicates the current month.











Water Distribution

The Greeley water distribution system consists of various sizes of pipes that generally follow the streets within the City. T he distribution system serves residences and businesses in Greeley, Evans and Garden City, and the system is divided into four pressure zones.

There are 69.75 million gallons of potable water storage in Greeley. The water is stored within three covered reservoirs and one elevated tank; 23rd Avenue - 37.5 million gallons, Mosier Hill - 15 million gallons, and Gold Hill - 15 million gallons. The system also has 476 miles of pipeline, 24,233 water meters and 3,378 fire hydrants.

The water pipes in the distribution system vary in size from 4" to 36". Pipe material is steel, ductile iron, cast iron, or p olyvinyl chloride. The age of the pipes varies from the 1890's to new installations.

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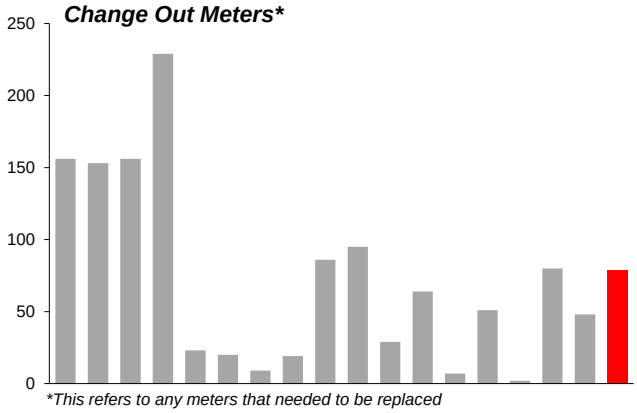
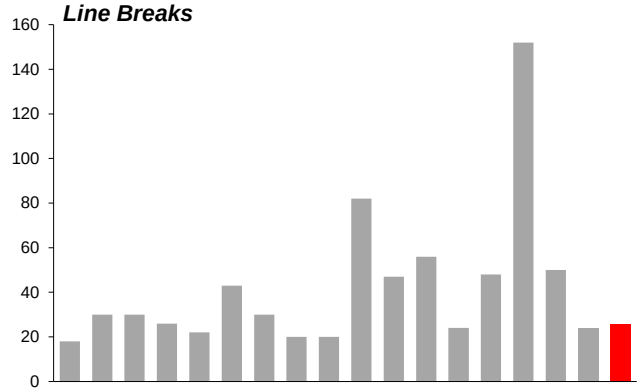
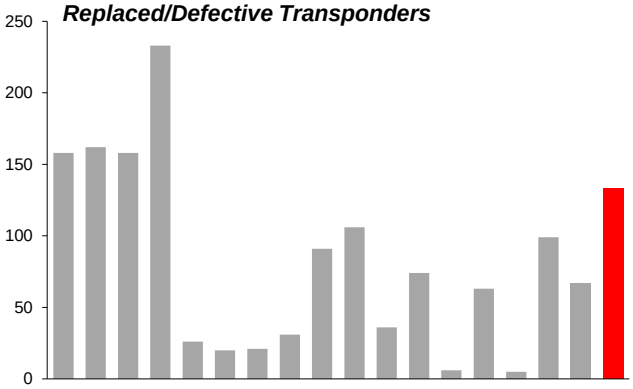
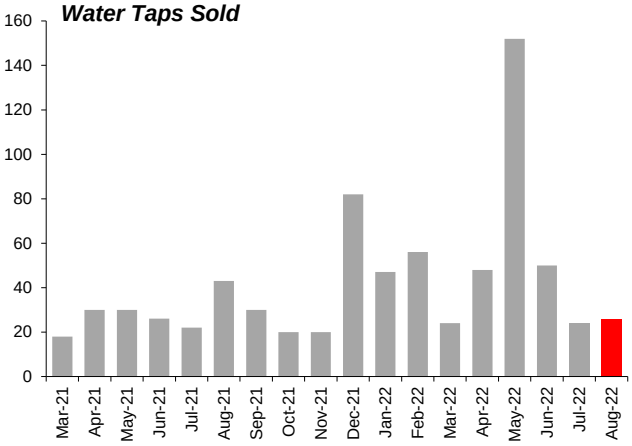
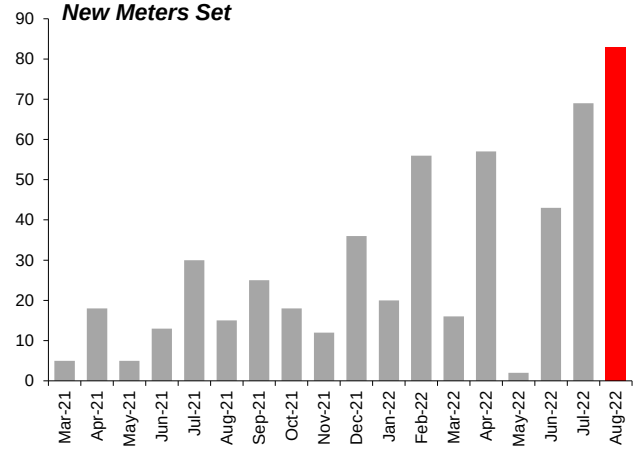


*This refers to any meters that needed to be replaced









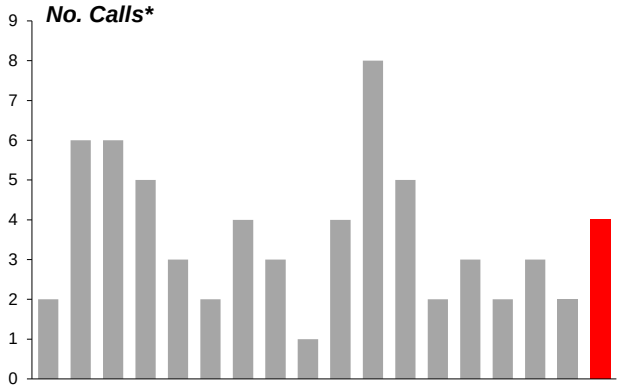
Wastewater Collection

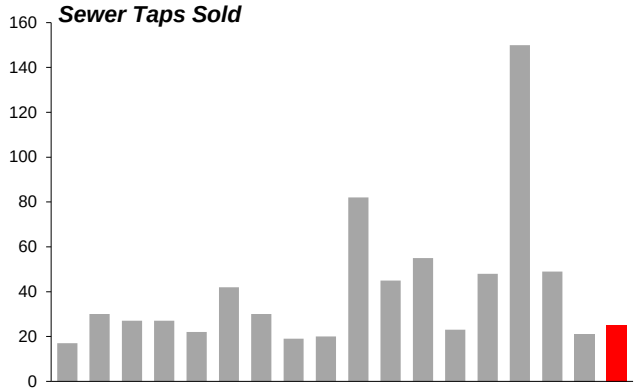
The mission of the Wastewater Collection Division of the Water and Sewer Department is to protect community health by transporting wastewater away from homes and businesses. This includes respecting property values and public safety by reducing the frequency of blockages in the sanitary sewer lines.

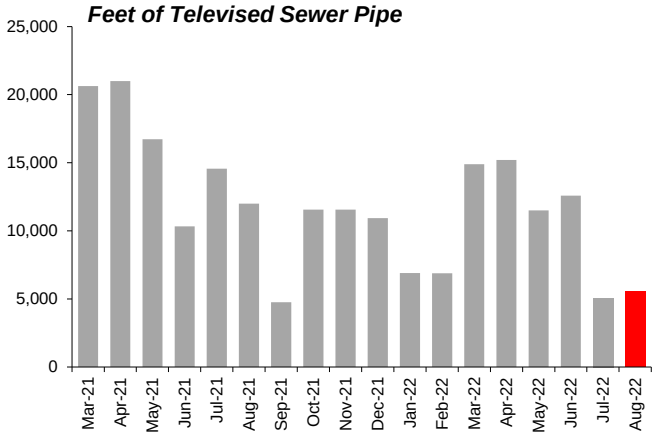
A wide variety of work is performed including routine cleaning of sewer lines, inspection of sewer lines, maintenance of the sewage pumping stations, rehabilitation of the system and responding to emergencies.

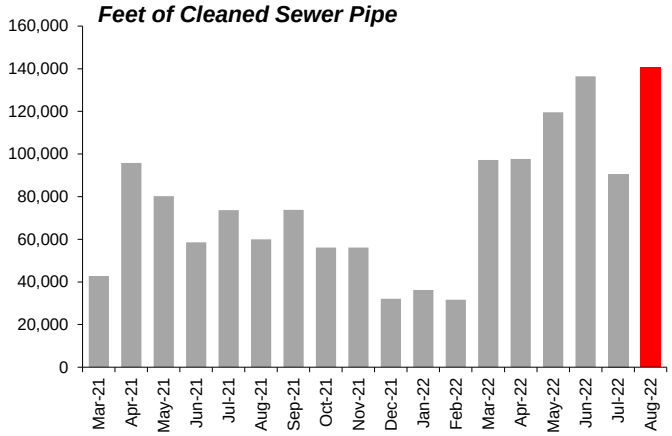
The wastewater collection system dates back to 1889. At the end of 2017, the system had a total of 364.8 miles of line and 10 sewage pumping stations. The sewer service area is approximately 51 square miles. Over the last 10 years, the system has grown by 17 miles.

Note: the red column indicates the current month.









Water Resources

Greeley has numerous water rights in four river basins; the Upper Colorado River, Cache La Poudre, Big Thompson and Laramie River. The Water Resource staff must account for all of this water and comply with the rules of the Colorado Water Court and the State Engineer's Office which is in charge of allocating all of Colorado's water resources. Approximately one-third of the City's water supply comes from agricultural water rights. These water rights must be formally changed to municipal use by a special legal process through the Water Court. In this court, Water Resource staff and attorneys also defend the City's water rights against adverse claims from other parties.

Greeley's goal is to have enough water in carry-over storage to sustain Greeley through a 50-year critical drought. Water in excess of this carry-over drought supply can be leased to agriculture, both for revenue and to support our local agricultural community. Modeling has shown that, given existing population and demand factors, Greeley will have sufficient water for citizens, if at the begininning of the 6-year long, 50-year critical drought, there is 20,000 acre-feet in storage on April 1st of the following year.

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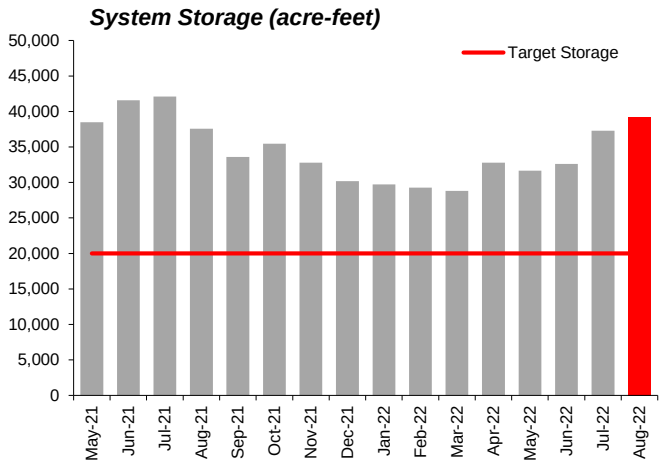
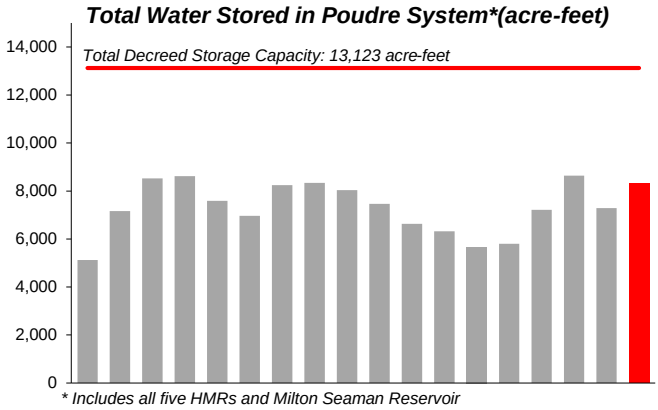
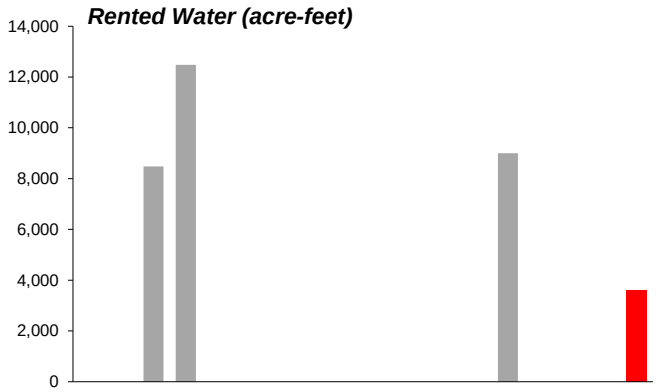
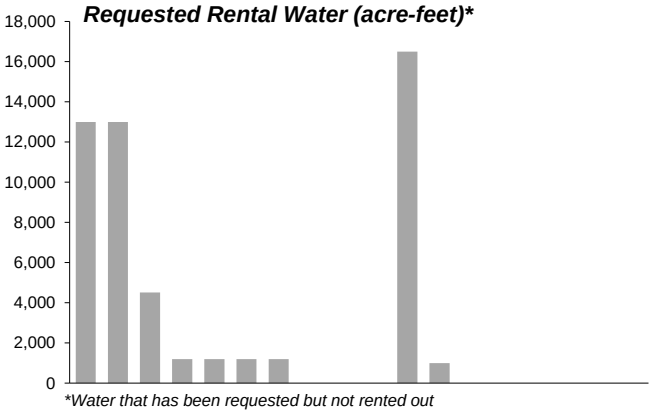
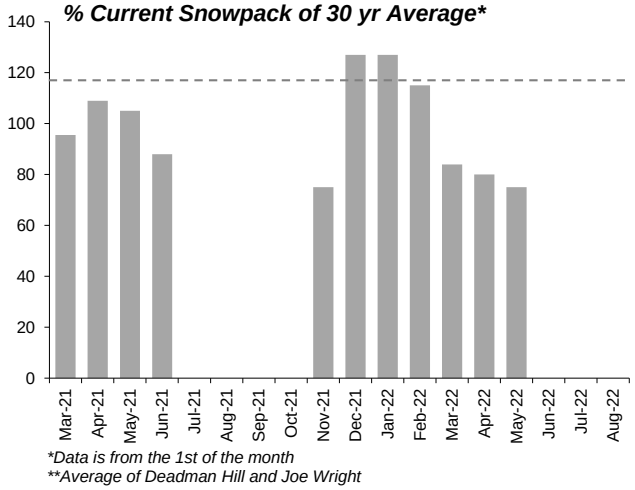
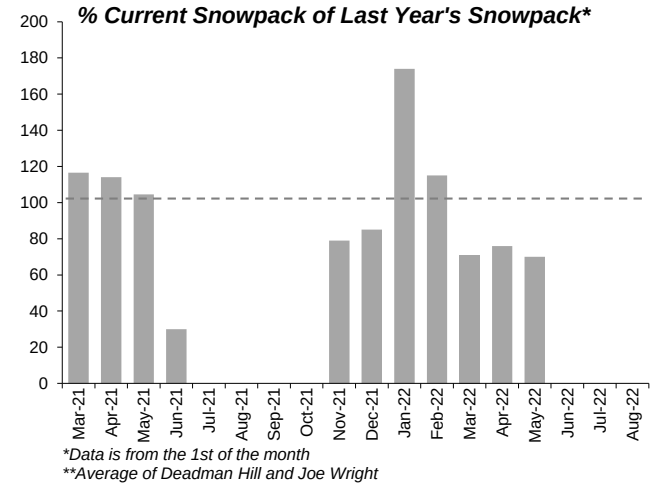








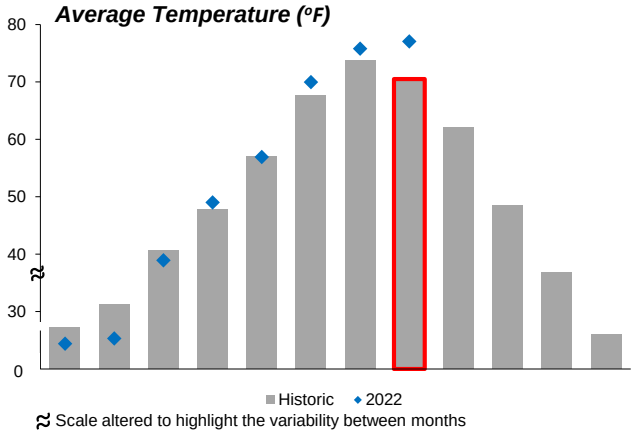


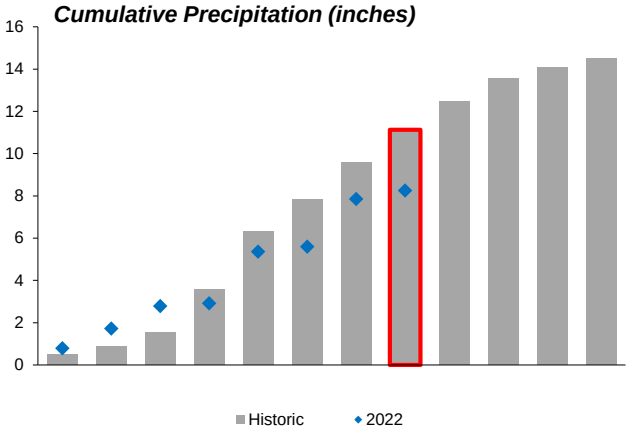


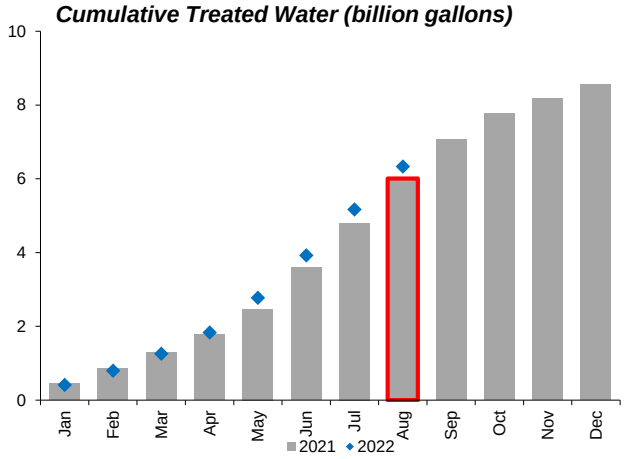
Treated Water and Weather Data

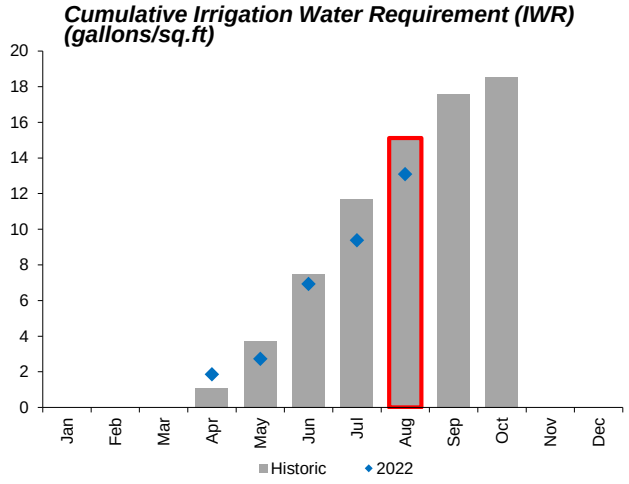
January 2022 average temperature was 24.38°F, approximately 2.8°F cooler than average. Febuary also brought colder temperatures averaging 25.23°F. In March the average temperatre was 38.94°F, slighlty cooler than the historical averge. Temperatures began to rise in April, bringing the average temperature to 49°F, which is slighty higher that the historical average temperature of 47°F. May brought an average temperature of 56.93° F, almost exact to the historical average. The average temperatre for June was 70°F slightly above the historical average. July's average temperature was 75.81° F which was 2.1° hotter than the historical average. At 77°F, August's average temperature was 7° hotter than the historical.

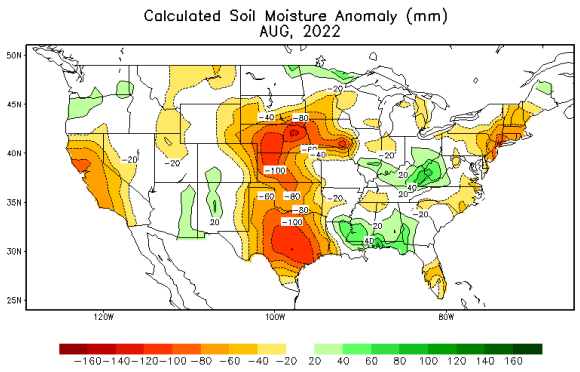
Greeley precipitation was 0.79 inches in January, which is slightly above average (0.43 inches). Febuary had high precipitation at 0.93 inches. March brought 1.07 in of precipitation, setting Greeley 1.23 inches over the historical cummulitive precipitation for March. Greeley has a very dry April with only 0.13 inches of precipitation bringing the cummulitive precipitation 0.63 inches below average. May brought 2.44 inches of precipitation. Greeley only revieved 0.2 in of precip in June, ending the month signifgicanlty lower than the historical average. July was a faily wet month for Greeley, bringing 2.25 inches of precipitation. August was a dry month this year, bringing only 0.41 inches of rain.

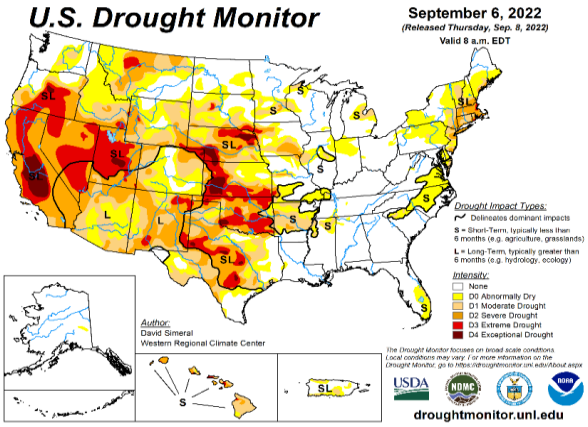












National Weather Service Climate Prediction Center