Citizens' Water Advisory Committee (CWAC) Agenda

March 14, 2023, 6:00 p.m.
Aspen Room, 2nd Floor, Aurora Municipal Center/Hybrid

Microsoft Teams Link:
Click here to join the meeting
or
https://bit.ly/AuroraWaterAdvisoryCommittee

Call in (audio only) - 720-388-8447
Phone Conference ID: 532 291 8#

Members: Angie Binder - Chair, Richard "Dick" Eason -Vice Chair, Jay Campbell, Tom Coker, Dennis Dechant, William Gondrez, Janet Marlow, David Patterson, Daniel Widrich

1.	Approval of Minutes – February 14, 2023	Chair
2.	Introductions/Public Invited to be Heard	Chair
3.	Communications Update	Greg Baker
4.	Wild Horse Reservoir Update	Rich Vidmar
5.	Source Water Protection	Matt Ashley
6.	CWAC Restructure update	Marshall Brown
7.	New/Old Business	Chair
8.	Review Follow-Up Questions	Greg Baker .
9.	Confirm Next Meeting – Tuesday, April 11, 2023	Chair .
10.	Adjourn	Chair

Citizens' Water Advisory Committee (CWAC) Minutes
February 14, 2023, 6:00 p.m.
Aspen Room/Microsoft Teams

Members Present:	Angie Binder – Chair, Dick Eason - Vice Chair, Jay Campbell (Teams), Bill Gondrez, Daniel Widrich, Dennis Dechant (Teams), Tom Coker (Teams)
Absent:	Janet Marlow, Dave Patterson
Staff Present:	Marshall Brown, Alex Davis, Justin Montes, James DeHerrera, Alex Gagliardi, Swirvine Nyirenda, Greg Baker, Ted Hartfelder (Teams), Fernando Aranda (Teams), Gail Thrasher (Teams), Sonya Gonzalez (Teams), Dan Mikesell (Teams), Melina Bourdeau (Teams), Sarah Young (Teams),
Visitors Present:	None

The meeting was called to order at 6:00 p.m.

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1. Approval of January 10, 2023 Minutes
The January 10, 2023, minutes were approved with amendments.

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2. Introductions/Public Invited to be Heard
None.

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3. Communications Update
Greg Baker noted that city council approved the Water Availability Resolution advancing the drought stage to Stage I effective May 1. Council also approved and amendments to the drought surcharge. T. Coker asked about the status of the Kings Point Golf Course considering drought. M. brown reminded the committee that this was an agreement that grandfathered them in, however, negotiations with the developer resulted in less water being needed than originally stated. G. Baker also informed the committee that Aurora Water had received a Phase IV President's Award for the Partnership for Safe Water's Distribution program.

4.a. Quarterly Financial Update – 4th Quarter 2022
F. Aranda, Rate Analyst, highlighted the Quarterly Financial Report. He stated that the numbers were very preliminary and that they had not yet been audited.

4.b. Project of the Quarter – J. Montes highlighted the Radial Well projects at the Prairie Waters north campus facility. The next phase of this project is eligible for federal grants.

Questions were asked on clarification of the operational costs and current pipeline capacity.

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5. Integrated Water Master Plan Update

James DeHerrera, Project Engineer, presented on the update of the Aurora Water Integrated Water Master Plan, last completed in 2017. To meet the needs of current and future customers alike, the various disciplines within the utility must coordinate planning efforts to ensure alignment, consistent assumptions, and optimal capital utilization. The utility completed its first Integrated Water Master Plan (IWMP) in 2017. The IWMP integrated short- and long-range planning across the Water Resources, Source of Supply, Water Treatment, and Water Transmission disciplines within Aurora Water. The result was a multi-discipline Capital Improvement Plan (CIP) focused on growth-related projects using consistent key assumptions and the same planning horizon for all disciplines.

Questions were asked on how much water will be needed to support the IWMP's targets. Staff responded that water need is a combination of water rights, storage and efficiencies. Project timing becomes as much a priority as the project itself. Could water costs become a constraining factor for growth? Yes, it could happen, however, we have not seen that dynamic play out yet in the arid west.

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6. WISE Partnership

A. Davis provided a history and overview for the WISE Partnership. The WISE (Water Infrastrure and Supply Efficiency) Partnership is a regional water supply project that combines available water supplies and system capacities among Denver Water, Aurora Water and the South Metro WISE Authority, which consists of 10 water providers serving Douglas and Arapahoe counties. Participating South Metro communities include Highlands Ranch, Parker and Castle Rock, among others. In 2013, Aurora Water, Denver Water and the South Metro WISE Authority signed an IGA to provide a permanent, but interruptible, renewable water supply for SMWSA Members.

Questions were asked for clarification regarding the interruptibility of the agreements during drought. Staff noted that the agreement's block commitments have not kicked in yet due to SMWSA infrastructure challenges.

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7. Proposed committee restructure update

G. Baker, Public Relations Manager for Aurora Water, updated the committee on the proposed change to the Citizen's Water Advisory Committee's structure. The Water Policy Committee reviewed the proposed ordinance and supported adding specific powers that would utilize the committee to act as a point for reconsideration by outside proposers of water supply agreements that have been denied by staff and proposed commercial or industrial developers that would exceed engineering standards for water use. They asked that the powers for reconsideration of extraterritorial water supply agreements denied by staff and provide advice on projected water needs for new annexation agreements be retained with council. Staff will amend the ordinance and resubmit this to the Water policy Committee.

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8. New/Old Business

None

9. Review Follow-Up Questions
None

10. Confirm Next Meeting – Tuesday March 14, 2023.
Th next meeting on March 14, 2023 was confirmed.

11. Adjourn
The meeting was adjourned at 8:03 p.m.

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Angie Binder, Chair
Citizens' Water Advisory Committee

Adopted: _____

MEMORANDUM

City of Aurora

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To: **Citizens' Water Advisory Committee**

Through: **Marshall P. Brown, General Manager, Aurora Water**
Alexandra Davis, Deputy Director, Water Resources, Aurora Water

From: **Richard Vidmar, Water Resources Manager, Aurora Water**

Date: **March 14, 2023**

Subject: **Wild Horse Project Update – Presentation**

Purpose:

This presentation to the Citizens' Water Advisory Committee provides an update on the Wild Horse Project.

Background:

In May 2011, Aurora Water begin investigating the Wild Horse reservoir site near the Town of Hartsel. The site was predominantly owned by Hartsel Springs Ranch with some private inholdings and three parcels of federal land owned by the Bureau of Land Management (BLM). The original reservoir concept would have been approximately 32,000 acre-feet in volume and included a main dam in the canyon and a saddle dam on the western side. In 2016, Aurora Water purchased the Hartsel Springs Ranch land holdings in the area.

In 2018, Aurora Water determined that the dam heights could be raised and the topography could support a reservoir of up to 96,000 acre-feet. Aurora Water initiated additional geotechnical studies of the site. This area of Colorado has very complex geology which included inland seabeds and substantial volcanic activity in geologic history. This study found that the southern end of the reservoir site was part of an inland seabed and foundation conditions may be less suitable for a dam.

In 2020, Aurora Water initiated additional feasibility studies to develop a reservoir configuration that could be constructed given the geology on the site. It was determined that a layout which includes a dam that closes off the southern end the site is feasible. Within this layout, the dam heights were raised to the maximum potential and the resulting storage volume is estimated to be around 92,000 acre-feet.

Current Project Status:

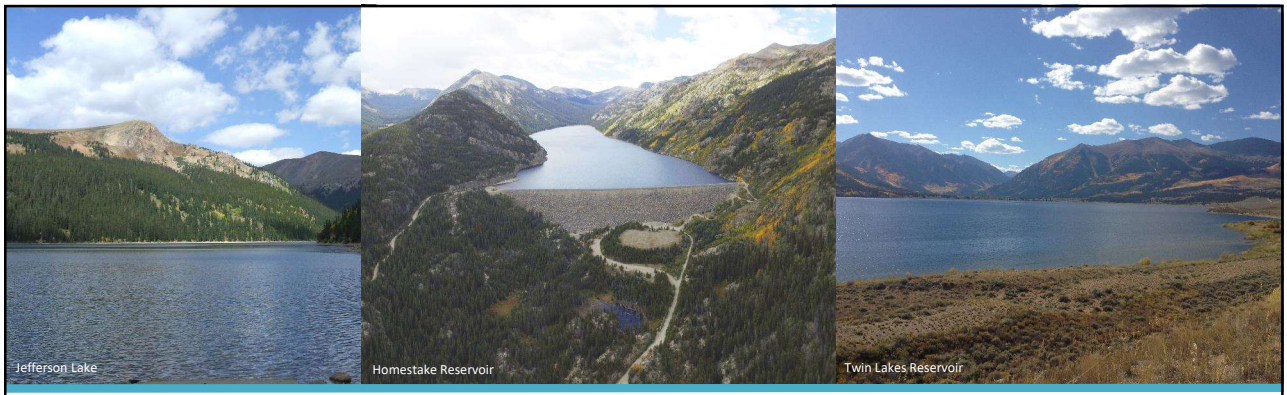
To advance the project, Aurora Water is transitioning into the 30% design phase. Aurora Water will conduct more detailed geotechnical investigations which will include about 22,000 linear feet of drilling site wide. Trenching to visually inspect the soil and rock stratifications will be performed this summer, along with advanced geophysical assessments including gravity and seismic surveys.

The permitting of the project has also advanced in the last year. Aurora Water has applied for a right-of-way on the federal lands needed to build the reservoir. In addition, the city has executed a collection agreement

with the BLM which will allow the BLM to fund staff for the project review. Aurora Water also just finalized a MOU with the BLM which will allow Aurora to hire the 3rd party contractor that will perform the Environmental Impact Statement (EIS). Once the third party is onboard, the BLM can issue the Notice of Intent and formally begin the EIS process.

Question:

Informational item only. No action required.



Wild Horse Reservoir Update

Citizens Water Advisory Committee
March 14, 2023

Richard Vidmar, PE – Aurora Water
John Clark PE – Aurora Water

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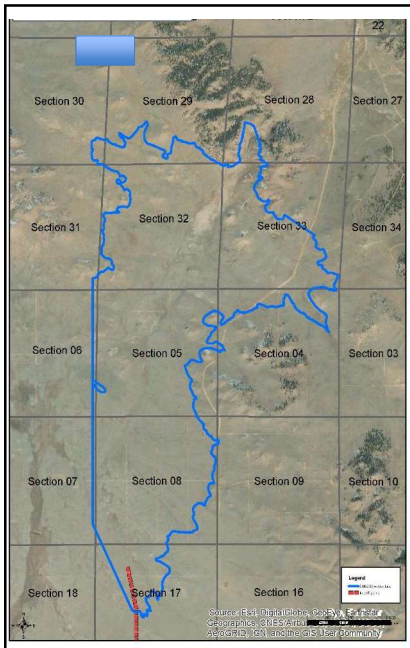

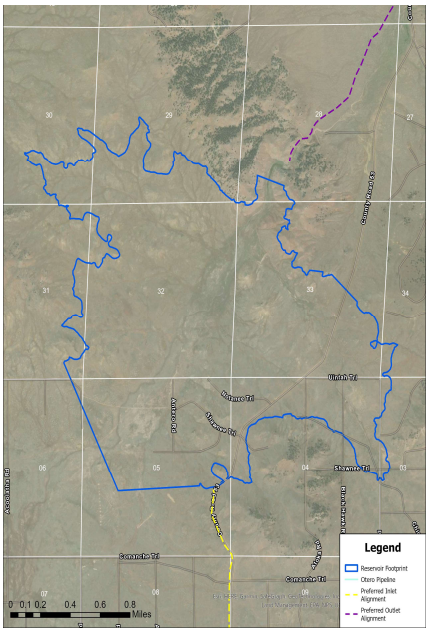

WildHorse RESERVOIR

Similar Capacity – Smaller Footprint

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Wild Horse Reservoir	Previous Footprint	Current Footprint
Reservoir Footprint		
Capacity (acre-foot)	96,500	92,000
Surface area (Acres)	2,394	**1,650**
Perimeter (miles)	15.8	**12.64**
Dam Specifications:		
Dam Crest Elevation (ft)	9062	9080
NWL & Spillway Elevation (ft)	9057	9070
Main Dam		
Material	Zoned Rockfill	Zoned Rockfill/ RCC
Height (ft)	128	**178**
Length (ft)	846	**975**
East Saddle Dam 1 (old North)		
Material	Zoned Earthfill	Zoned Earthfill/ Rock Fill
Height (ft)	74	**30**
Length (ft)	4,472	**450**
East Saddle Dam 2 (Old South)		
Material	Zoned Earthfill	Zoned Earthfill/ Rock Fill
Height (ft)	61	**72**
Length (ft)	5623	**1250**
West Dam (old Northeast)		
Material	Zoned Earthfill	Zoned Earthfill/ Rock Fill
Height (ft)	22	**155**
Length (ft)	886	**7150**

WildHorse RESERVOIR

Difference by the Numbers

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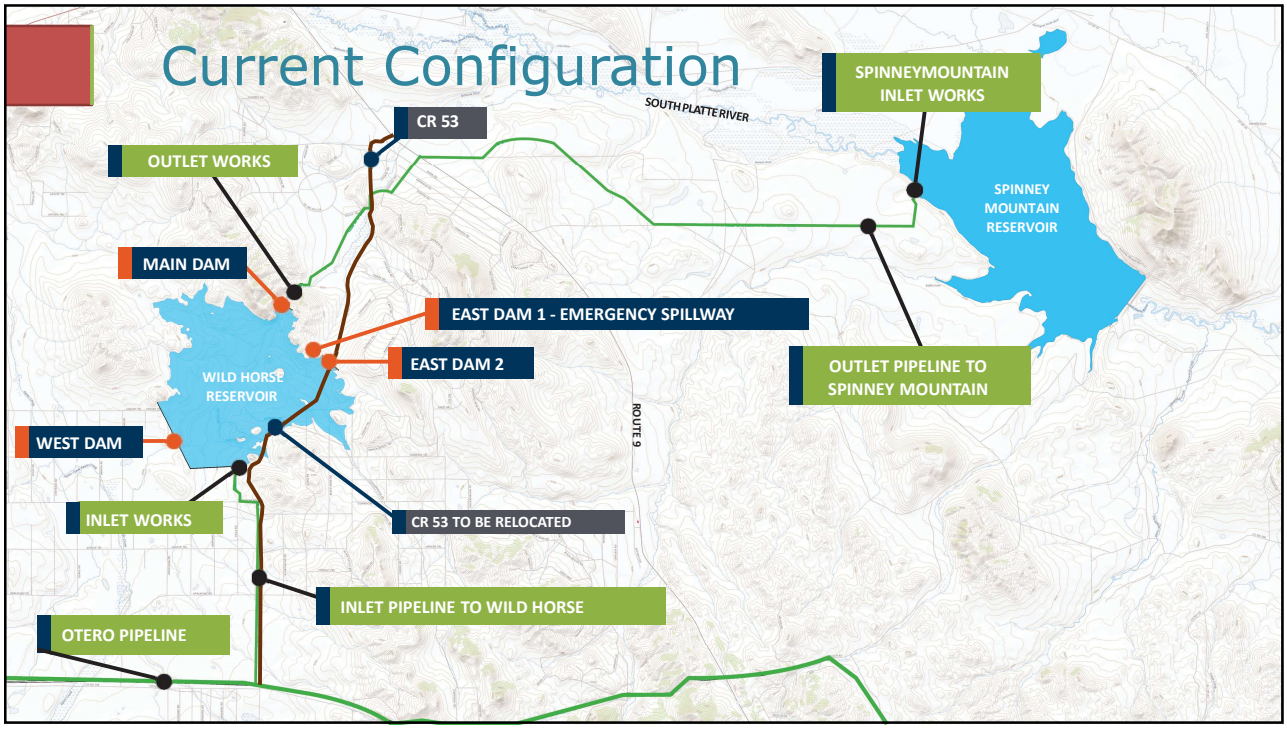

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Conceptual Dam Dimensions

Dam	Dam Types for Consideration	~ Height (ft) (Jurisdictional Height + 15' Freeboard)	Structural ~Height Estimate (ft)	Approx. Length (ft)
Main Dam	Zoned Rockfill RCC Zone Earthfill	148	178	975
East Dam 1	Zoned Earthfill Zoned Rockfill	25	30	450
East Dam 2	Zoned Earthfill Zoned Rockfill	47	72	1,250
West Dam	Zoned Earthfill Zoned Rockfill	105	155	7,150

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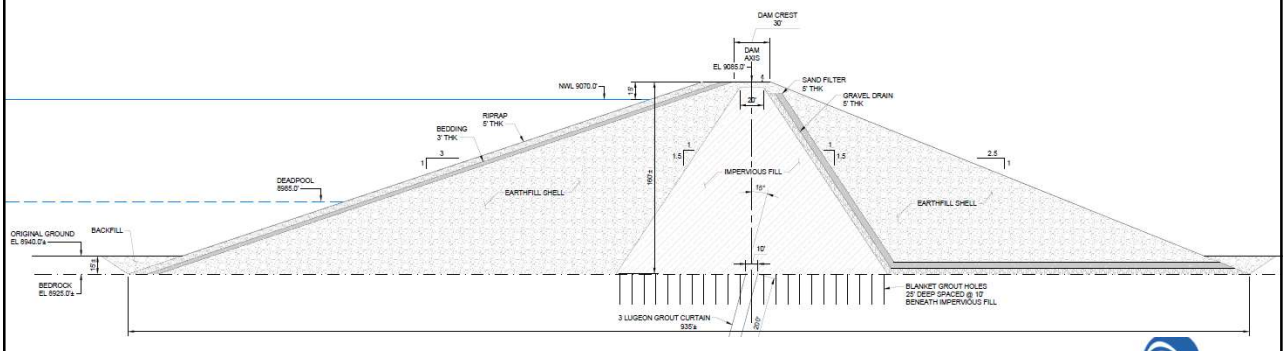
Conceptual Main Dam Configuration – Embankment



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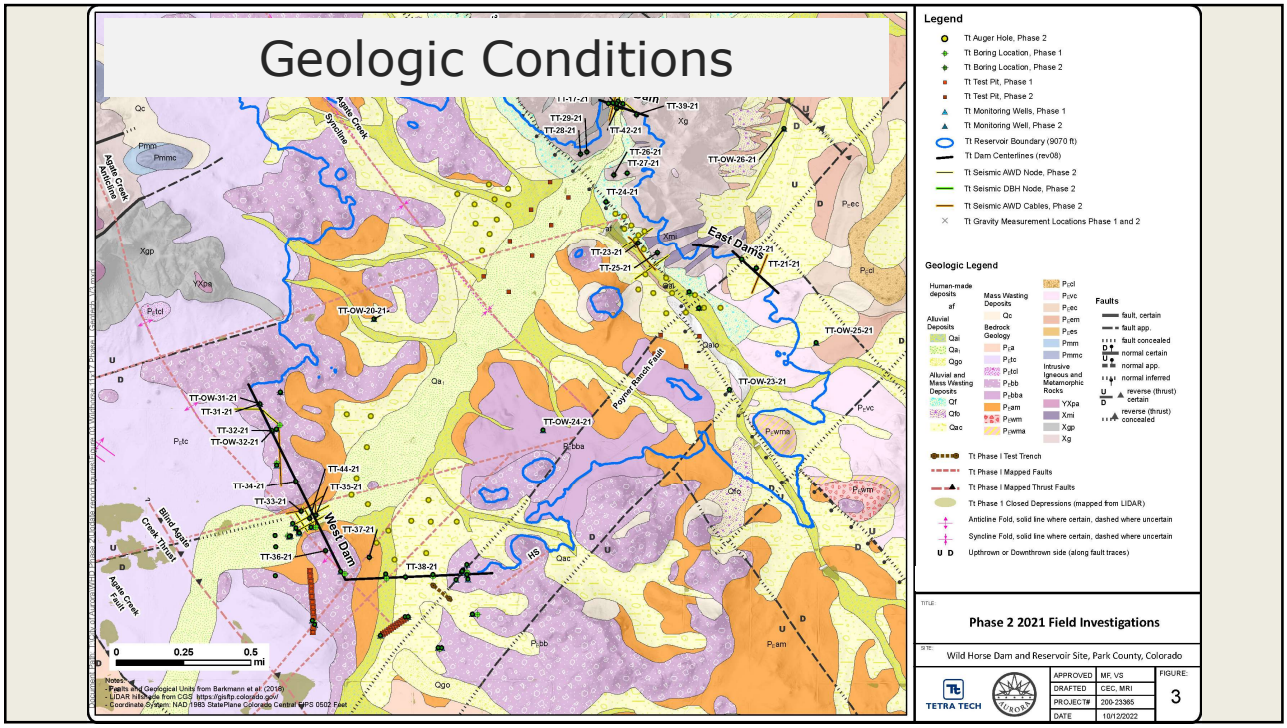
Geologic Conditions



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30% Design — Next Phase

- Developing Scope and Fee for 30% Design for pipeline, dam and reservoir
- City Council to review contracts late March / first of April
- 2023 Field Investigation - Borehole locations and LOA documents for Geotechnical Investigations
- Drilling to start late early June
  - ~22,000 lf of drilling identified for Dams, Reservoir and Pipeline
  - ½ mile radius buffer until the eagle fledges
- Work scheduled to be complete by mid-2024

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Permitting

- Cost recovery agreement signed with the BLM
  - Now BLM can charge to the project and begin work
- MOU with BLM signed
  - Defines process and roles and responsibilities during permitting process
  - Allows Aurora to hire 3rd Party NEPA contractor
- Draft scope for 3rd party NEPA sent to BLM – awaiting comments
- Letter of Authorization for field work submitted to BLM
- Golden Eagle monitoring continuing

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2023 Work Plan

WildHorse RESERVOIR

- Expanded land acquisition
- Additional geotechnical investigations
- Communications and messaging
- Permitting
- Modeling
- Design of Otero pipeline tap
- Analysis of outflow options & flow rates

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First Construction Project Completed at Wild Horse

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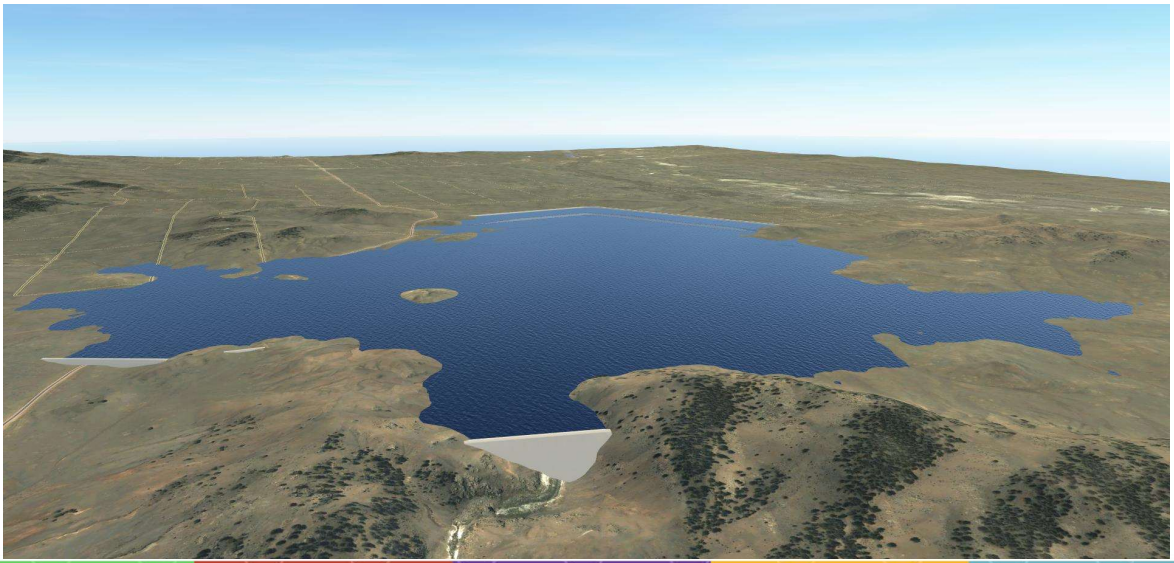
Questions?



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MEMORANDUM

City of Aurora

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To: **Citizens' Water Advisory Committee**

Through: **Marshall P. Brown, General Manager, Aurora Water**
Alexandra Davis, Deputy Director, Water Resources, Aurora Water

From: **Matt Ashley, Water Resource Specialist II, Aurora Water**

Date: **March 14, 2023**

Subject: **Source Water Protection Plan – Presentation**

Purpose:

This presentation to the Citizens' Water Advisory Committee provides an overview of the Source Water Protection Plan and how it will guide staff in protecting the quality of Aurora's source water.

Background:

Maintaining healthy watersheds increases water quality, protects infrastructure, and makes our water system more resilient. The Source Water Protection Plan is designed to provide strategic and focused direction for Aurora Water's work protecting Aurora's watersheds to ensure high water quality and protect critical infrastructure. The Plan will help the Water Resources team fulfill Aurora Water's mission to "Enhance and protect the quality of life for Aurora citizens by providing safe, dependable and sustainable water, sewer and stormwater services, today and in the future." Source water protection is the practice of protecting water quality and availability by stewarding the land over which water runs. Source water protection involves proactively implementing watershed health projects such as forest thinning, fuel reduction, as well as post-wildfire mitigation in forested areas, and sediment reduction projects in burned areas to prevent or mitigate impacts of wildfire on Aurora Water infrastructure.

The Source Water Protection Plan:

The Plan focuses on the upper watersheds of the South Platte, Arkansas, and Colorado Rivers, encompassing 3.2 million acres of land. The Implementation section of the Plan includes analysis tools that facilitate prioritizing projects to focus on high priority areas. The Plan outlines threats and hazards to Aurora's watershed and provides examples of projects to address these threats. Additionally, it supports continued partnerships which are a valuable tool through which to accomplish watershed health work. Aurora Water partners with various land management agencies and local stakeholder groups to leverage funding and increase knowledge.

Question:

Informational item only. No action required.

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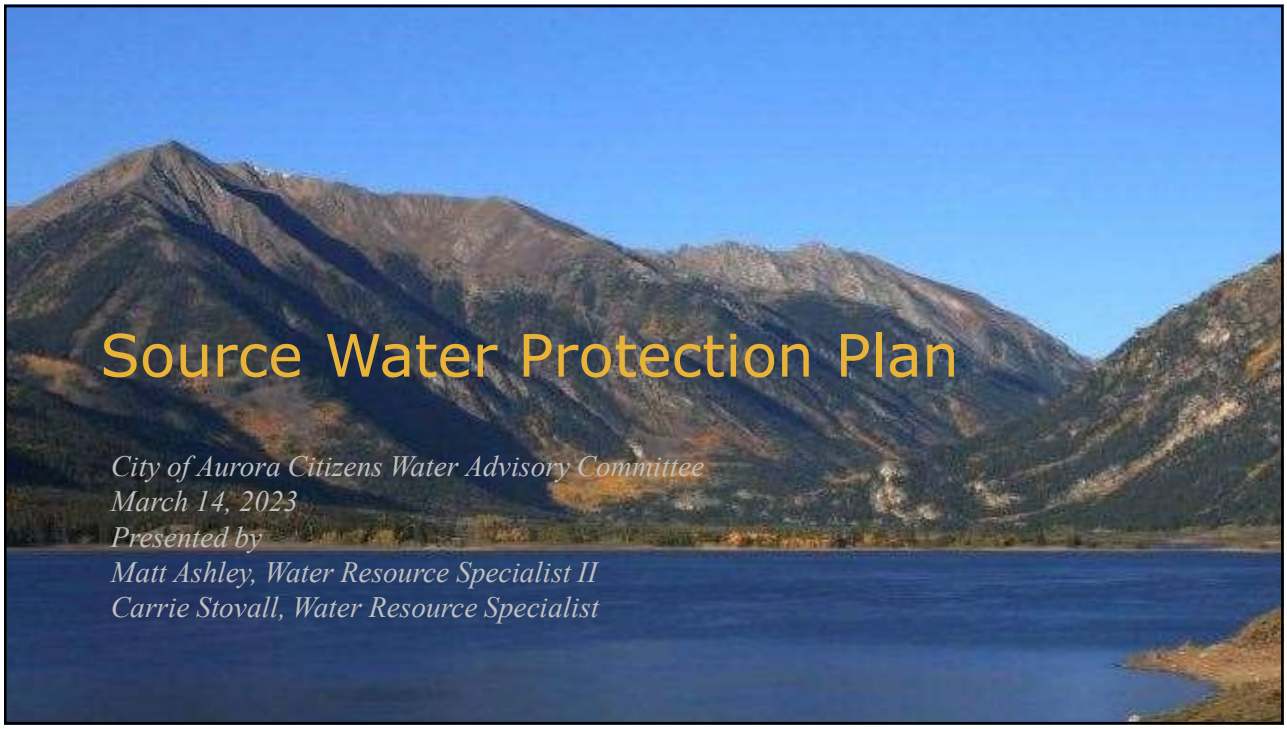

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Agenda

- What is a Watershed?
- What is Source Water Protection?
- Why does Aurora need a Source Water Protection Plan?
- SWPP Overview
- Strategic Watershed Management Plan
- Implementation
- Projects
- Threat Analysis
- Conclusions and Recommendations
- Next Steps – Future Updates and Additions to SWPP
- Questions

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What is a Watershed?

- An area that drains all water within its borders to a common point
- Aurora Water's watersheds:
  - 19,156,826 acres* or 29,932 miles^2
  - 18,641,381 acres or 29,127 miles^2
    - About 28% of Colorado

*Portion is in Wyoming

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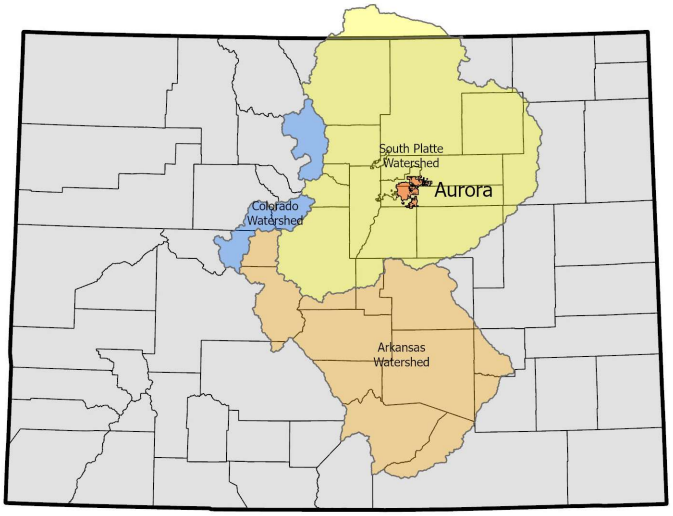
Aurora's Watersheds



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What is Source Water Protection?

Trail Creek Post-Fire, Pre-Restoration

Trail Creek Post-Fire Restoration with Sediment Catchment Basin

- Protecting water quality and availability by stewarding the land which the water runs off
- Threats to watersheds:
  - Wildfire suppression that has led to high fuel loads in the forests
  - Mountain pine beetle epidemic
  - Sediment post-fire
  - Mining and agriculture
  - Diminished floodplain functions
  - Land and transportation development
  - Wastewater
  - Aquatic nuisance species and plants

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Why does Aurora need a Source Water Protection Plan?

- Sediment after wildfires
  - Hayman Fire – 2002
  - Cameron Peak Fire – 2020
  - East Troublesome Fire – 2020
- Mountain Pine Bark Beetle
  - Fuel buildup
- Fire suppression
  - Bigger, more intense fires
- Water source regulations sometimes require SWP

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Dredging Strontia Springs Reservoir

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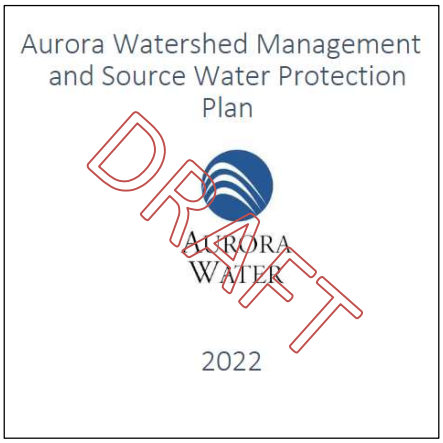
Source Water Protection Plan

- Aurora has been involved in watershed health for 15 years
- Guidance for Aurora Water's forest health and watershed protection work
- 3 Sections:
  - Strategic Watershed Management Plan
  - Implementation
  - Conclusions and Recommendations



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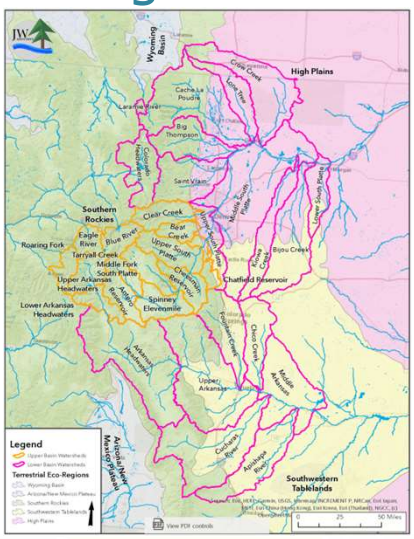
Strategic Watershed Management Plan

- Focused on upper watersheds, consisting of just over 3.2 million acres of land
  - 14 sub-basins (HUC-8 size)
- Collaboration, Adaptability, Resilience, and Focus
- Programs:
  - Communication, Collaboration, Education and Outreach
  - Forest Management
  - Ecosystem Services



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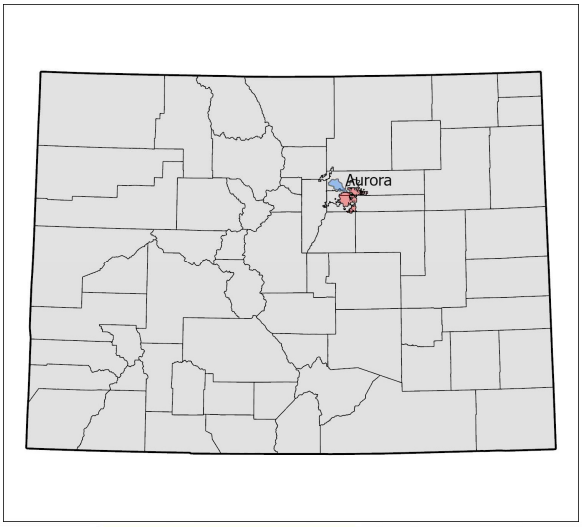
Hydrologic Unit Code (HUC) Watersheds

- The United States Geological Survey (USGS) hierarchical system of hydrologic units
  - Each unit is assigned a unique Hydrologic Unit Code (HUC)
- There are 6 levels in the hierarchy
  - HUCs from 2 (largest area) to 12 (smallest area)



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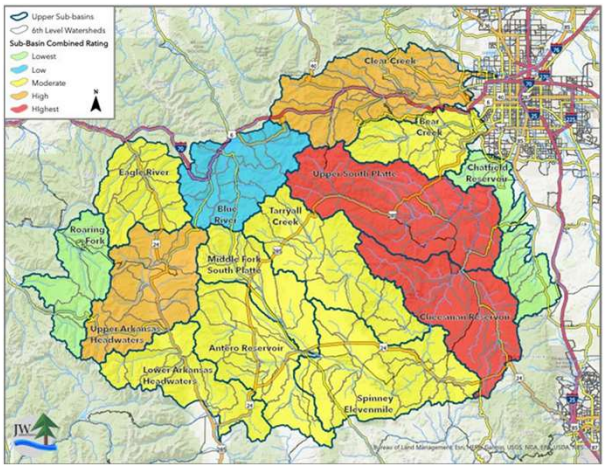
Implementation

- Watershed Prioritization:
  - Addressing most critical threats to Aurora Water's water supplies and infrastructure
- Two elements:
  - The importance of sub-basin to overall water supply system
  - The relative ranking of sub-basin potential hazards and threats

Combined Watershed Assessment



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Forest Health and Partnerships

- Prescribed burns & strategic thinning
  - Slow and prevent wildfires
- Partnership Groups (some)
  - Upper South Platte Partnership (USPP)
  - Colorado Forest Restoration Institute (CFRI)
  - Watershed Health Improvement Program (WHIP)
  - Colorado Forest Health Council (CFHC)

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Forest Health Project: Miller Gulch

(USDA Forest Service photos by Nathan Van Schaik)

- Forest health treatments near Bailey along the South Platte River.
  - Aurora Water's highest priority watershed
- Approximately 500 of 1,521 acres completed (~30%)
- 10-13 acres treated per day – year round
- Partners:
  - United States Forest Service (USFS)
  - Colorado State Forest Service (CSFS)
  - Department of Natural Resources (DNR)
  - Denver Water
  - Jefferson Conservation District

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Monarch Pass Steep Slope Logging

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Fuel Reduction Project: Mushroom Study

- Partner: Coalition for the Upper South Platte (CUSP)
- Fire mitigation creates wood chips from chipping
  - Wood chips take decades to degrade in our dry climate
- Fungal Degradation Project
  - Degradation of wood chips via mushrooms

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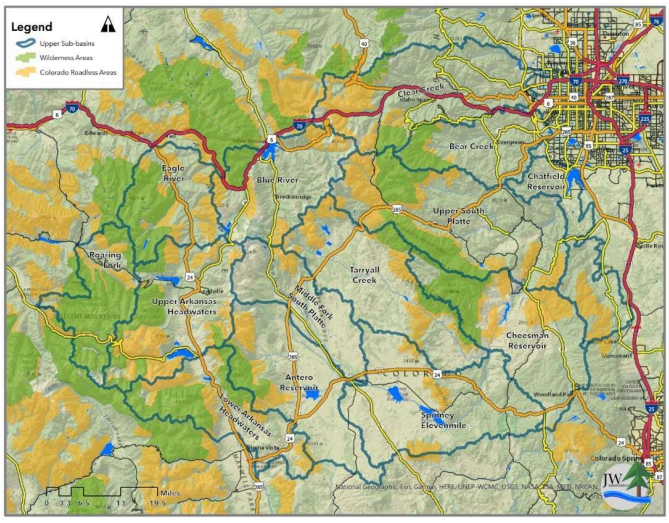
Challenges and Opportunities

- Ownership
  - Federal: 50%
  - State: 3%
  - Local Gov't: 3%
  - Private: 44%
- Access barriers
- Steep slopes
- Special land designations
- Cost of forest treatments
- Federal Regulations



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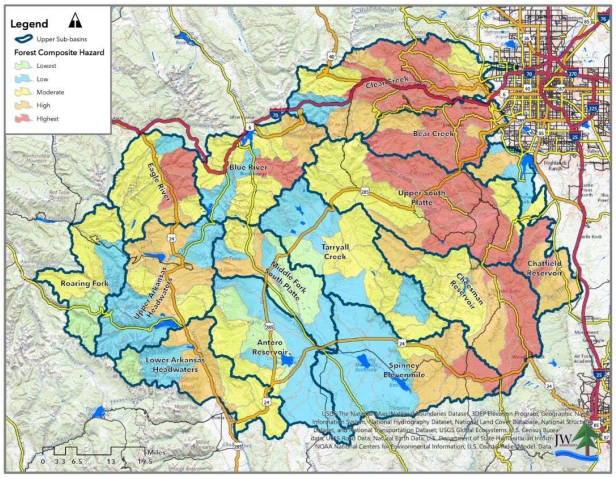
Threats and Hazards

- Forest Composite Hazard Map
  - Assessment of wildfire and post-fire hazards plus vulnerability of watersheds to climate change
- Forest Health
  - Thinning vs. full forest health
  - Insects, disease, drought, climate change



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SWPP Conclusions

- Protecting watersheds avoids expensive treatment process upgrades
- Healthy watersheds provide resilience
- Aurora Water should leverage contributions through collaboration
  - Allows Aurora's funding to go further
- Partnerships = more opportunities
  - Bigger voice in emergency planning
  - Larger planning role

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SWPP Recommendations

- Participate in planned projects
- Look for new opportunities with partners in high priority watersheds
- Continue to track legislation
- Promote sound management of Aurora Water's urban watersheds
- Update GIS tools and analysis
- Review this plan annually and update this plan at least every 4 years

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Next Steps

- Finalize the Plan
- Education and Outreach
- Continue program work
  - Partnerships
  - Funding
  - Planning
- Focus more on urban watershed
- Partner with land trusts and/or other groups to treat private lands
- Continue to think "outside the box"

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Questions?

Matt Ashley
Water Resource Specialist II
mtashley@auroragov.org

Carrie Stovall
Water Resource Specialist
cstovall@auroragov.org

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