



C O L O R A D O

**Colorado Water
Conservation Board**

Department of Natural Resources

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TO: Colorado Water Conservation Board Members

FROM: Lauren Ris, CWCB Director
Erik Skeie, Watershed and Flood Protection Section

DATE: January 26-27, 2026

AGENDA ITEM: 15. Bear Creek Lake Reallocation

Staff Recommendation:

This is an informational item only.

Background:

This study is intended to identify potential opportunities for storage in Bear Creek Lake. The information presented is not intended to establish any formal position or declaration of the CWCB. The identified storage opportunities in this study are in no way indicative of any policy, procedure, or precedent regarding any interpretation of law and should not be construed as such.

The Bear Creek Dam and Reservoir Project (aka “Bear Creek Lake”) was completed in 1977 by the U.S. Army Corps of Engineers (Corps) and is located on Bear Creek at its confluence with Turkey Creek, approximately 10 miles southwest of Denver, Colorado in Jefferson County. The reservoir was authorized for the purposes of flood control, recreation, and fish and wildlife enhancement with a majority of the reservoir being used for flood control. The project’s active capacity is 57,678 AF (at the spillway crest) and is currently operated at a maximum priority storage volume of 2,000 AF. The CWCB currently holds existing water rights for Bear Creek Lake decreed for piscatorial, recreational, municipal, domestic, industrial, and irrigation under case Nos. 79CW306 (1989 acre-ft) and 84CW167 (2,000 acre-ft).

In May of 2015, the Corps provided the CWCB with a draft Reconnaissance Study¹ evaluating the potential of reallocating up to 20,000 AF of space from flood control to multi-purpose storage. Based on the initial conclusions of the Reconnaissance Study, the Corps proposed initiating a feasibility study with the CWCB as the local sponsor. Feasibility study costs are split 50/50 between the Corps and the project sponsor.

¹ Also known as a Section 905(b) Analysis, these studies are preliminary assessments of potential reallocation of storage space in Corps dams.



At its November 2015 meeting, the CWCB Board approved including a request for up to \$2,500,000 from the Severance Tax Perpetual Base Fund in the annual Projects Bill for the Bear Creek Reallocation of Storage Study. These funds were officially appropriated in Section 7 of SB16-174.

Currently, there are two active aspects of the reallocation process discussed in this memo:

- 1) Reallocation Feasibility Study with the Army Corps Engineers
- 2) Potential Water Rights Issues

Reallocation Feasibility Study

On August 30th, 2019 CWCB and the Corps entered into a cost share agreement on a \$3 million Reallocation Feasibility Study.

CWCB suspended the work on the study after two issues came to light during that initial scoping meeting. First, the Corps needed to conduct a Risk Assessment before moving forward on a feasibility study. Army Corps staff completed this preliminary Risk Assessment in late September 2020 and concluded that the Reallocation Feasibility Study could proceed. Second, the State Engineer's Office (SEO) advised CWCB staff to work with the Corps on updating hydrology methods for the study. SEO, CWCB, and the Corps came to agreement on the hydrology in June of 2021, and the study resumed.

The Scoping Team Reconvened in August of 2021 and the first Public Scoping Meeting was held virtually on October 14th, 2021. There were over 200 participants, most of whom were local residents in Lakewood. The purpose of the meeting was to gather feedback on the proposed study alternatives.

The Corps proposed five study alternatives:

1. No Change
2. Increase Reservoir Capacity & Normal Operating Pool (up to 20,000 AF)
 - a. Structural modifications to dam (e.g. dam raise and spillway raise) to increase reservoir storage for water supply.
 - b. Excavate reservoir (remove accumulated sediment or deepen reservoir) to increase in-pool storage for water supply.
 - c. Excavate forebays upstream of reservoir to increase storage capacity for water supply.
3. Reallocation of Existing Capacity (up to 20,000 AF)
 - a. Reallocation of reservoir storage from flood control and/or flood surcharge zones to conservation zone for water supply.
 - b. Reallocation of reservoir storage from multipurpose zone to conservation zone for water supply.



4. Operational Changes (Release More Water/Release Water Sooner)/Increase Normal Operating Pool
 - a. Structural modifications to dam (e.g. lower spillway, widen spillway, raise spillway with fuse plug, modify outlet works) to increase dam freeboard.
 - b. Modify reservoir Water Control Plan and Tri-Lakes System Regulation Plan to release more water sooner to increase dam freeboard.
5. Nonstructural
 - a. Nonstructural measures downstream of dam (e.g. floodproofing or relocation of structures) to decrease consequences.

Public comment during the meeting was largely in opposition to the study, citing recreation and environmental mitigation concerns related to any increase in water elevation.

The Corps is currently working on preliminary investigations of these alternatives.

It should be noted that the following points are key to determining whether or not an alternative is feasible:

- The Corps has a policy to evaluate social well being and quality of life in their Reallocation studies.
- Environmental Cost is analyzed for each alternative.
- A full hydrologic analysis is being conducted as part of this study, so while a preliminary look showed that on average 20,000AF of water is available, more detailed analysis is being conducted.
- The primary purpose of the dam is flood control. A feasible alternative can not impede the Corps' ability to mitigate flood risk downstream of the dam.

Recent Progress: The Corps has been conducting a hydrology analysis and storage yield analysis for various Reallocation amounts. The levels currently under investigation are:

1. 300 AF
2. 750 AF
3. 1,865 AF
4. 3,500 AF
5. 6,000 AF

It should be noted that the upper bound of 6,000 AF is where on site mitigation work is still possible. Using the threshold of on site mitigation is based on costs and public feedback.

The Corps presented preliminary cost estimates for the above reallocation amounts to CWCB Staff in September 2025. CWCB Staff met with Potential Participants interested in the project (listed below) to determine which of these alternatives should be further investigated by the Corps as the study moves forward.



November 2025 communications with the Corps have effectively ruled out all alternatives except for the 300 AF volume. The Corps will not be receiving additional funding for the study, and anticipate only being able to complete the NEPA process for 300 AF with the funding that is currently allocated. Potential Participants are in support of CWCB working with the Corps on further investigation of the 300 AF.

CWCB Staff will continue to work with the Corps, Brown and Caldwell, and the stakeholders to determine next steps given the new funding reality.

Bear Creek Lake Reallocation Potential Participants January 2026

Brighton
Evergreen Metro District
Hidden Valley Water District
Foothills Parks and Recreation

Water Rights

In anticipation that the feasibility study may confirm that an additional 20,000 AF may be stored in Bear Creek Lake, the CWCB Board declared its intent to appropriate 20,000 AF of storage in Bear Creek Lake in March of 2016.

It was determined that partners be identified before an application was filed, and to that end Staff conducted several outreach efforts to build partnerships with local water users and determine interest in the project. Through these efforts the following entities have been identified as potential partners: City of Brighton, Evergreen Metropolitan District, Hidden Valley Water District, and Foothills Parks and Recreation District (Attachment 2). It should be noted that both Berthoud and Dacono are no longer interested in the project.

CWCB hired Brown and Caldwell to conduct the engineering required for a water rights application. Preliminary results are available (Attachment 2). Though the Corps will not include these results in the Feasibility Study, they have received Brown and Caldwell's results and methodology for consideration in their hydrologic analysis.

There are several legal issues to work through regarding water storage rights in Bear Creek Lake. Staff will continue to work with the Attorney General's Office.

Attachments:

1. Army Corps of Engineers September 2025 Presentation to CWCB Staff



Attachment 1

Army Corps of Engineers September 2025 Presentation to
CWCB Staff



BEAR CREEK DAM REALLOCATION GI STUDY

CWCB In-Progress Review

Chris Fassero
Omaha District
25 August 2025

"The views, opinions and findings contained in this report are those of the author(s) and should not be construed as an official Department of the Army position, policy or decision, unless so designated by other official documentation."



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STUDY BACKGROUND

- **Kickoff:** Feasibility Cost Sharing Agreement for study executed between USACE and CWCB on 30 August 2019.
- **Suspension:** 1st Iteration Planning Meeting held with CWCB, Colorado State Engineer, and City of Lakewood on 07 October 2019. Study suspended at CWCB's request from November 2019 to June 2021 to address concerns regarding dam safety considerations related to reallocation and questions regarding estimation of Probable Maximum Precipitation (PMP) and Inflow Design Flood (IDF).
- **Restart:** 2nd Iteration Planning Meeting held with CWCB, Colorado State Engineer, and City of Lakewood on 31 August 2021.
- **3x3 Exemption:** Assistant Secretary of the Army for Civil Works (ASA), approved 3x3x3 Exemption request that HQUSACE submitted for study on 10 November 2022 for an additional 57 months and \$3.2M.
- **VTAM Addendum:** VTAM addendum was approved by NWD on 03 July 2024 to move TSP milestone 11 months while keeping overall schedule intact due to delays in completing hydrology analysis.

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RISK-INFORMED DECISION OPPORTUNITIES

1. Evaluate Tri-Lakes system risk with reallocation. Is change from existing risk likely to be acceptable or unacceptable?
 - a. Complete HEC-WAT model so alternatives can be evaluated.
 - b. Evaluate whether with-project system risk would be acceptable or could be mitigated.
2. Evaluate downstream flood risk with reallocation. Will alternatives change flood risk and by how much?
 - a. Proceed with hydrology results while advance ATR backchecks are in progress.
 - b. Perform hydraulic analysis.
 - c. Perform LifeSim/TotalRisk analyses.
 - d. Evaluate whether with-project flood risk would be acceptable or could be mitigated.

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RISK-INFORMED DECISION OPPORTUNITIES

3. Evaluate whether/how much Town of Morrison's proposed Bear Creek withdrawals for Red Rocks Ranch will change storage-yield analysis (projected future use is ~13x current use).
 - a. Need evaluation/feedback from CWCB consultant.
 - b. Revisit/revise storage-yield analysis.
 - c. Evaluate whether expected future inflows can support reallocation.
4. Screen alternatives based on preliminary total cost.
 - a. Develop preliminary estimates of likely capital and environmental/recreational resource mitigation investments associated with each alternative and incorporate into preliminary cost of storage estimates.
 - b. For comparison, need input from CWCB regarding cost estimates for most likely non-federal water supply alternatives.

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HEC-WAT MODELING RESULTS – ALT 5 (6K AF)

- Outflow- and stage-frequency curves remain unchanged from Baseline for Chatfield, Cherry Creek, and downstream Denver Gage.
- No transfer of risk to Chatfield or Cherry Creek for events up to 0.2% AEP (500-yr).
- No increase in Bear Creek spillway activation for events up to 0.2% AEP (500-yr).
- No increase in non-breach flood risk downstream of Bear Creek seen at Denver Gage for events up to 0.2% AEP (500-yr).
- Bear Creek spillway flows expected to be greater and more frequent for events less frequent than 0.1% AEP (1,000-yr).
- Did not analyze AEPs less frequent than 0.2% (500-yr) in detail; additional WAT runs required for reliable results at less frequent events.



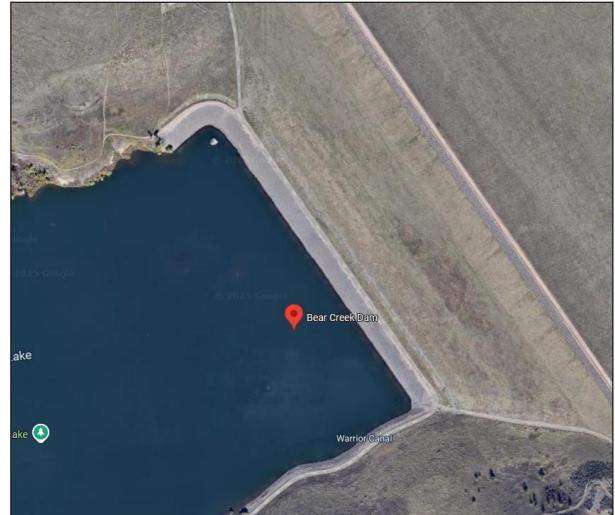
HYDRAULIC MODELING & ECONOMIC ANALYSIS

- Because HEC-WAT model results show no increase in Bear Creek spillway activation for events up to 0.2% AEP (500-yr):
 - Hydraulic modeling of flows downstream of Bear Creek has not been performed.
 - Economic analysis of flood damages downstream of Bear Creek has not been performed.
- Events less frequent than 0.1% AEP (1,000-yr) expected to cause greater and more frequent spillway flows.
 - Less frequent events will need to be analyzed for any alternatives carried forward to quantify changes in non-breach flood risk as well as dam safety risk and incremental flood risk.



CAPITAL IMPROVEMENTS – TOE ROAD

- Reallocation would raise reservoir normal operating pool, requiring upstream toe road to be raised.
- Preliminary design assumptions for ROM cost estimates.
 - Toe road would need to be raised by same amount as pool raise.
 - Dam face below toe road would be armored with riprap (same as existing).

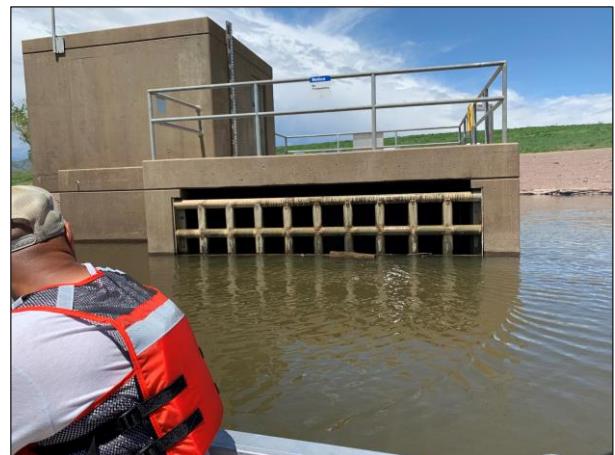


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CAPITAL IMPROVEMENTS – INTAKE TOWER

- Reallocation would raise reservoir normal operating pool, requiring intake tower to be raised.
- Preliminary design assumptions for ROM cost estimates.
 - Alternative 1 (300AF) would not require intake tower raise. It would result in more frequent flooding of intake tower dry well, but impact would be tolerable.
 - For Alternatives 2 – 5, Intake tower would need to be raised by same amount as pool raise.
 - Intake tower would be replaced using same design but with increased wall thickness and reinforcement.



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PUBLIC COMMENTS

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OCT 2021 – MAR 2025

Current Stats

Total Comments: 528 (very few comments have been received since March)
Opposed: 94% (493) **For:** 2% (13) **Neutral/Unclear:** 4% (22)
Unique Responses: 82% (434)
Form-Letter Responses: 18% (94)
Majority Contact Method: Email bear-creek-study@usace.army.mil



Summary

Themes in Opposition:

- Potential loss of Bear Creek Lake Park land (up to 615+ acres)
- Irreparable damage to riparian and wildlife habitat
- Negative recreational, educational, and aesthetic impacts
- Flood safety concerns immediately downstream of dam and for Denver metro area

Themes in Support:

- Very few comments support long-term water supply and proactive infrastructure planning

Key Takeaways:

- Public opposition is strong, organized (SaveBearCreekLakePark.org), and has engaged leadership
- Environmental, educational, and recreational concerns dominate
- Community favors less impactful solutions
- Public concerned with water being used to support development of eastward expanding cities



Alternatives Suggested by Public:

- Deepen existing pool
- Construct secondary pool
- Use gravel pits or aquifer storage
- Limit expansion to less impactful options

Path Forward

- Evaluate public input in decision-making
- Hold public meeting(s)
- Communicate results and plans transparently with stakeholders

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ENVIRONMENTAL, RECREATION, AND MITIGATION – BLUF

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Storage Increase	Wetland/Riparian Impact	Recreation Impact	Mitigation Cost (est.)
300 AF	Negligible – within current lake.	No notable impact – facilities and trails unaffected.	Minimal (<\$100K) – lowest mitigation needs.
750 AF	Negligible – less than 0.2 acres lost wetlands and less riparian wetlands lost.	No notable impact – facilities and trails unaffected.	Very Low (\$100K's) – 2nd lowest mitigation needs.
1,865 AF	Low – a few acres of riparian area inundated at edges.	Minor trail adjustments in low areas; park usage largely unchanged.	Low (≈ \$1-3M) – minor habitat/trail mitigation.
3,500 AF	Moderate – on the order of ~100 acres flooded (valley bottom habitat).	Noticeable – some trails and picnic sites flooded or cut off.	Moderate (≈ \$5-15M) – restore some habitat, reroute trails.
6,000 AF	High – significant area inundated (~150+ acres; ~0.5 mi of streams lost).	Major – multiple miles of trails and recreation zones affected.	High (≈ \$20M+) – extensive mitigation & relocation required.

Comparative Impacts & Costs by Alternative

(Approximate values: Impact acreage and costs are rough estimates for comparison; actual figures will depend on final design and mitigation requirements.)

Source: The Chatfield Reallocation Project documents and USACE Regulatory In-lieu Fee and Bank Information Tracking System (RIBITS).

Note: It is likely that we will be able to mitigate on site. Wetland credits in Jefferson County can range from \$60,000 to \$160,000 and was used to estimate on-site mitigation. It will likely be on the lower end. Upland impacts range from \$10,000 to \$60,000 based on numbers taken from Chatfield Project. Both ranges depend on quality of habitat.

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ENVIRONMENTAL, RECREATION, AND MITIGATION – DETAILS

Alternative: 300/750 AF Expansion (Smallest)

Environmental: **300 AF** - *Negligible impact.* Water level increase stays within existing reservoir footprint; no meaningful habitat loss. **750 AF** - *Minimal impact.* Slight rise in water level stays largely within existing reservoir footprint. Negligible new inundation of wetlands/riparian areas and most sensitive habitat remains intact.

Recreational: **300 AF** - *No impact.* Trails and facilities remain unaffected. **750 AF** - *No major effects.* Park facilities and trails remain essentially unaffected at this scale. Only minor shoreline adjustments (if any) would be needed for boat ramps or beach areas.

Mitigation: **300 AF** - *Minimal cost.* No significant mitigation or infrastructure changes needed; easiest option to implement. **750 AF** - *Low cost.* Little to no mitigation required aside from minor habitat enhancements. No significant infrastructure moves would be needed. **These alternatives would have minimal mitigation efforts likely under one million dollars.**

Alternative: 1,865 AF Expansion (Minor)

Environmental: *Low impact.* Expands pool marginally into riparian fringes. A few acres of wetland or cottonwood habitat at lake edge would convert to open water, but changes would be mostly confined to existing floodplain.

Recreational: *Minor impacts.* Possible periodic flooding of low-lying trail segments adjacent to current shoreline. Most trails, picnic areas, and park amenities would be mostly unaffected or could be rerouted around any slightly enlarged shoreline.

Mitigation: *Low cost.* Mitigation needs are limited – e.g., small-scale wetland restoration (to compensate for lost patches) and minor trail re-alignments. **Expected to be on order of 3.5 million dollars or less.**

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ENVIRONMENTAL, RECREATION, AND MITIGATION – DETAILS

Alternative: 3,500 AF Expansion (Moderate)

Environmental: *Moderate impact.* Inundates a larger area (~100+ acres of additional footprint), including more riparian habitat along Bear Creek. Some cottonwood stands and wetlands in valley bottom would be lost, though majority of park's habitat would remain above water.

Recreational: *Noticeable impacts.* Higher water could fragment several trails and inundate some picnic areas. Portions of popular paths along Bear Creek and Turkey Creek would need rerouting or boardwalks. Core facilities (e.g., parking, campground) would likely be unaffected, but visitor access around enlarged lake would be disrupted.

Mitigation: *Moderate cost.* Would require habitat mitigation (e.g., restoring wetlands upstream for acres lost) and recreation improvements (building new trail sections, relocating picnic tables). **Rough cost on order of \$10 million to offset environmental losses and rebuild park amenities.**

Alternative: 6,000 AF Expansion (Largest under consideration)

Environmental: *Significant impact.* Enlarges lake substantially and approximately 150 to 200 acres of additional land would be inundated. Portions of Bear Creek and Turkey Creek would be submerged (approx. ~0.5 mile of stream corridor combined), eliminating riparian and wetland vegetation in those areas. Wildlife habitat loss would also likely be significant.

Recreational: *High impact.* Floods a broad swath of park's valley floor. Multiple trail miles would be affected, which would likely require closure or rerouting of key trails along creek. Several picnic areas and fishing access points along current shoreline would be underwater. Recreation use would be significantly altered, concentrating activity on higher ground.

Mitigation: *High cost.* Extensive mitigation measures needed. This includes large-scale wetland and riparian habitat restoration to compensate for losses, as well as relocation or replacement of park infrastructure (trails, footbridges, possibly boat ramp). **Costs are expected in tens of millions; by comparison, Chatfield Reservoir reallocation (~20.6K AF) required about \$171 million in environmental/recreation mitigation.**

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