



October 24, 2023

Bear Creek Project Study Team
U.S. Army Corps of Engineers
ATTN: CENWO-PM-AC
1616 Capitol Ave
Omaha, NE 68102

Re: Bear Creek Lake Reallocation Project

To Whom It May Concern:

I am writing on behalf of Save Bear Creek Lake Park (SBCLP). SBCLP has retained my services as an attorney with the Sherman & Howard law firm in Denver, Colorado, and as the former director of the Colorado Water Conservation Board (CWCB) to provide perspective and comments on the U.S. Army Corps of Engineers (“Corps”) and the CWCB’s proposal to reallocate storage capacity in Bear Creek Lake (“Lake”) within Bear Creek Lake Park (“Park”) in Jefferson County, Colorado. As the former director of the CWCB from 2013 to 2017, I was the lead in developing the Colorado Water Plan (“Water Plan”), the state’s first comprehensive statewide water planning guidance, which was first issued in 2015. This background gives me a unique perspective on the realities, and the challenges and opportunities, of water management in the state.

SBCLP is a 501(c)(3) non-profit community organization that was created in 2019 to monitor, review, educate, and provide comment upon the Bear Creek Lake Reallocation Project (“Project”).

As part of my representation of SBCLP, I offer the following comments on the Feasibility Study currently being conducted to examine reallocating water storage capacity at the Lake. As you know, construction of Bear Creek Dam (“Dam”) was completed by the Corps in 1982 to provide flood control along Bear and Turkey Creeks in Jefferson County, Colorado. As such, it has successfully performed this function—including during large storm and runoff events in the watershed upstream of and proximate to the Dam. In performing this function, water flowing into the Lake during high flow and precipitation events has not permanently or severely negatively impacted the environment, wildlife habitat, and recreational assets and amenities of the Park and Lake. In short, the fluctuating water levels in the Lake from flood control have become understood, accepted, and manageable.

Adding a water storage component to this facility as contemplated by this Project—especially the proposed 5,000- to 20,000-acre feet (AF) of additional storage capacity and the resultant water level fluctuations thereby—will pose significant impacts to the Lake and Park. This is especially so due to the shallow topography of the Park land around the Lake and the limited



acreage of the Park. Thus, any alternative that considers additional storage above 2,500 AF without including dredging to deepen the Lake's vertical volume will eradicate much of the wetlands, wildlife habitat, and recreational features along Bear and Turkey Creeks and along the Lake's shoreline, as these cannot be mitigated or replaced at the Park once these components are flooded and subject to large and frequent volumetric fluctuations. For this reason, hereinafter when referring to the Project, this term will mean any alternative that considers a storage reallocation of 2,500 AF or larger that does not include dredging of the existing Lake bottom.

The Corps and CWCB have collected much data and input during this Feasibility Study from its own staff, other federal agencies, as well as state and local agencies, community leaders, and the general public during the ongoing scoping process. These entities and others will continue to provide the Corps and CWCB with data and analysis on the specific impacts to the environment, wildlife habitat, and recreational features of this community asset from this Project. As such, myself and SBCLP would refer you to those comments. Through this letter, we seek to provide more general perspectives and comments on the water needs of the state and region and how this Project relates to these larger concerns.

The Project's Relation to Colorado's Water Plan

From the information provided by the Corps and CWCB, this Feasibility Study is being conducted to help reduce the water supply gap identified by the Water Plan. The Corps and CWCB identified the Lake and Dam as an existing water impoundment facility that could be evaluated for additional water supply capacity in the South Platte River Basin, hence this Project.

However, it is important to emphasize that the Water Plan, both when it was first released in 2015 and as it has been revised at the beginning of this year, does not specifically propose or advocate for the development of any particular water project or initiative to address the water supply gap. The Water Plan itself does not justify—or act as the basis for—this particular Project. As a result, the proposal to add a storage component to this Lake and Dam must be reviewed on its own merits and should not be viewed as a Water Plan mandate.

Acknowledging this reality in no way diminishes the importance and utility of Colorado's Water Plan. The Water Plan describes the water situation in Colorado, identifies our water needs and challenges, and promotes collaboration and cooperation in meeting these realities. Importantly, it also outlines goals and objectives that projects and initiatives should be measured against as the state addresses our water needs. It is these goals and objectives that, when applied to this Project, should inform the Corps and CWCB as they evaluate its merits, consider mitigation measures, and explore alternatives.



The Project's Relation to the South Platte Implementation Plan

Since its development and issuance, the Water Plan has encouraged and facilitated existing collaborative efforts in the state's various water basins to address water issues and needs. One specific outcome of that effort has been the development of basin-wide implementation plans. These documents are produced by each basin to provide a more detailed look at the water challenges and needs—and to focus on the realities of—each specific watershed.

As you know, the South Platte Basin Implementation Plan ("South Platte BIP") applies to this Project. The latest version of the South Platte BIP was released in January 2022 and is contained in two volumes. In Volume 2, Appendix C, 187 projects and initiatives at various stages of development and implementation are listed that relate to and have an impact on water resources in the basin. This Project is listed on page 8 of Appendix C. As was noted regarding the Water Plan, the fact that this Project is listed in the South Platte BIP does not indicate that it is an essential project to reduce the water supply gap. It, like all of the other 187 projects and initiatives listed, simply relates to the overall activities and planning in the basin that can impact water resources.

Both volumes of the South Platte BIP contain the same 12 specific goals that are intended to be applied to water projects and initiatives in the basin (Volume 1, pp. 26-40; Volume 2, pp. 69-93). The initial Feasibility Study of this Project includes a range of alternatives associated with a storage capacity reallocation of 5,000 AF, 10,000 AF, and 20,000 AF. Given the specific realities and conditions at the Lake, Dam, and Park (specifically the low topography and relatively small acreage of Park land), any alternative that would increase storage at the Lake above 2,500 AF, without dredging to deepen the Lake to accommodate this additional volume, would compromise many of the 12 goals in the South Platte BIP.

Specifically, the following goals would be implicated by this Project (again, that is, any alternative that would increase storage above 2,500 AF without dredging of the current Lake bottom):

Goals 1 (Encourage Implementation of Projects) and 2 (Maximize Development of Native South Platte Supplies) envision projects that are multi-purpose—that is, that they provide for and accommodate municipal, industrial, agricultural, environmental, and recreational needs and objectives. As this Project would inundate many acres of the Park containing wetlands, wildlife habitat, and recreational features—features that will be difficult to mitigate or replace due to the confined space and limited acreage of the Park—it would compromise these goals of striving for multi-purpose objectives.

Goals 3 (Maintain and Promote Municipal and Industrial Conservation and Efficiency) and 4 (Maintain and Promote Reuse) would also be compromised by this Project as it exclusively considers storage and not water reuse, conservation, or efficiency measures that could be implemented in concert with or in lieu of this storage option.



Goals 6 (Protect and Enhance Watershed Function) and 7 (Protect and Enhance Environmental Attribute) would be the most compromised by this Project as it would inundate and thereby eradicate many acres of wetland and wildlife habitat associated with Bear and Turkey Creeks, and around the Lake's shoreline. Thus, the degree to which the Project's reallocation would inundate the riparian and wetland areas associated with the Park should be a significant consideration in assessing impacts of reallocation volumes.

In addition, as the Corps is aware, this Project must comply with Presidential Executive Order 11990 regarding wetlands protection (see 78 FR 68719, Floodplain Management and Protection of Wetlands). This Order directs federal agencies to consider wetlands protection in decision making and to evaluate the potential impacts of any new construction that would affect a wetland. Specifically, federal agencies are directed to take action to minimize the destruction, loss, or degradation of wetlands, and to preserve and enhance the natural and beneficial values of wetlands in carrying out major federal actions affecting federal lands and facilities. As noted, given the limited acreage of the Park, and the limited opportunities for establishing replacement wetland acres on the remaining Park lands post-inundation of the existing riparian and wetland lands, mitigation of this lost wetland habitat will be challenging.

The U.S. Environmental Protection Agency has noted in the past the importance and scarcity of wetland areas in the arid West, as a former EPA official noted:

“Riparian areas comprise less than one percent of the land area of most western States, yet up to 80 percent of all wildlife species in this region of the country are dependent upon riparian areas for at least part of their life cycles.” (Robert H. Wayland III, EPA, from Congressional Testimony, June 26, 1997)

The loss of the riparian and wetland areas of the Lake and Park from this Project will be keenly felt and are an important environmental value for the West and the Front Range of Colorado.

Goal 8 (Protect and Enhance Recreational Attributes) would be compromised by this Project. This is so as most of the trails that would be impacted are currently within the Park's riparian corridors. Replacing them with trails in open areas between fluctuating Lake pool levels and nearby roads and/or highways would dramatically change the character of these assets. Principally, in the riparian corridors, visitors and recreationalists are sheltered by shady cottonwood trees, cooled by breezes carried along the creeks, and thereby surrounded by the diverse wildlife of riparian habitat and immersed in the sounds of flowing water, rustling leaves, and birdsongs. While sacrificing some of the Park's riparian areas may be inevitable, this should be kept to a minimum. Unlike trails, riparian areas cannot be replaced.

In addition, the City of Lakewood has assessed recreational trail impacts under the Project's various reallocation volumes. This can be found at: <http://www.Lakewood.org/BCReservoir>. Essentially, this assessment found that under a 20,000 AF reallocation level, about 12.2 miles of trails would be impacted; at 10,000 AF, about 8.4 miles would be impacted; and at 5,000 AF, about 6.45 miles would be impacted. This does not even take into account the overall impact to



trails, as under these various reallocation levels most of these trails will be segmented in a manner that may make them unusable. It’s also likely that this lost trail mileage cannot be replaced within the Park due to the topological constraints and other hindrances.

The Corps should take into account how the Project will impact these goals in the South Platte BIP and strive to develop an alternative that will address any deviations from these goals and avoid these impacts entirely, or at least mitigate them to the maximum extent possible.

The Project’s Relation to Chatfield Reservoir Reallocation Project

As the Corps and the Denver-metro area has had experience with a similar reallocation effort at the Chatfield Reservoir, there may be an inclination to see that effort as a model to be applied at this Project. However, it’s worth noting the important differences between these two and why the specific realities at the Lake, Dam, and Park here present significant challenges that were not present at Chatfield Reservoir. Principally, the Chatfield Reservoir reallocation involved a reservoir with a different topological profile and thus less impact to surrounding environmental features and social factors. The much larger size of Chatfield Reservoir and its surrounding land area provided for significantly more on-site mitigation. Additionally, Bear Creek Lake Park is closer to densely populated and rapidly growing residential neighborhoods as compared to Chatfield State Park. The chart below quantifies the increased impact a similar reallocation would have on the much smaller Lake and Park.

| | Chatfield State Park | Bear Creek Lake Park (Excluding Golf Courses) |
|---|-------------------------|--|
| Approx. Park Size (acres) | 5,300 | 1,800 |
| Reallocation volume | 20,600 AF | 20,000 AF |
| Surface area of normal operating pool before reallocation (acres) | 1,500 | 110 |
| Surface area of normal operating pool after reallocation (acres) | 2,073 (38% increase) | 603 (450% increase) |
| Total reservoir capacity (including flood storage) | 355,000 AF* | 75,000 AF** |
| Reallocation as percentage of total reservoir capacity | 5.8% | 26.6% |
| Increase in pool elevation attributable to reallocation | 12 feet | 64 feet*** |
| Reduction in land area of park at full reallocation level | 15% | 30% |

*<https://nid.sec.usace.army.mil/#/dams/system/CO01281/summary>

** <https://nid.sec.usace.army.mil/#/dams/system/CO00004/summary>

***<https://dnrweblink.state.co.us/cwcb/0/edoc/215666/12.pdf?searchid=a6a8bbcd-60f7-43f3-960c-d57bbea64a6d>



In addition to these landscape issues, other realities of this Lake and Park make comparisons with the Chatfield Reservoir reallocation more tenuous. For example, as the topography of this Lake and its surrounding lands is so flat, allocating a storage volume of 2,500 AF or more (without dredging) will significantly increase the Lake's surface area. This, along with the shallow depths of the resulting pool, will likely present significant evaporative losses as well as create water quality concerns due to the resulting higher water temperatures. In this respect, it's important to note that blue-green algae blooms in the Lake have become more prevalent in the years since the reallocation study was initiated. Such impacts are likely to be more pronounced with a reallocation alternative of 2,500 AF or more (without dredging). With the added influence of global climate change which is increasing ambient temperatures and reducing soil and atmospheric moisture content, evaporative losses could be exacerbated by increasing the shallow surface area of the Lake.

As an example of the impacts of shallow water storage and increasing climate change on important water storage infrastructure, we offer the example of the Three Lakes Watershed in Grand County, Colorado. Many examples of water quality exist there; chief among them is Shadow Mountain Reservoir, which is shallow (but likely deeper than the expanded Lake proposed under the Project). Its shallow depth results in increased water temperatures and the proliferation of nutrients (algae and weeds) that are then transported upstream during certain times of the year into Grand Lake, one of the crown jewels of the Colorado River headwaters—especially due to its historic water clarity depths. As a result, Grand Lake's clarity is compromised across a significant portion of its volume in most years.

And, unlike at Chatfield Reservoir with its deeper pool and larger volume, this Lake and Park area are less likely to absorb fluctuations in the storage pool—particularly during periods of drought. As a result, the impact to the environmental and recreational assets at the Lake and Park will be much more pronounced, obvious, and disruptive.

Enhancing Social and Nature Based Benefits

We are aware that the Corps, through a 2021 policy directive and subsequent policy research papers, has noted the limitations of focusing narrowly on the benefit-cost analysis of water projects such as this Project (see *Memorandum for Commanding General, U.S. Army Corps of Engineers, Policy Directive – Comprehensive Documentation of Benefits in Decision Document, 5 January 2021, R.D. James, Assistant Secretary of the Army (Civil Works)* (“Directive”). The Directive specifically “emphasizes and expands upon policies and guidance to ensure the USACE decision framework considers, in a comprehensive manner, the total benefits of project alternatives, including equal consideration of economic, environmental, and social categories.”

As provided in this Directive, the Corps is directed to consider other social effects of projects that can include a wide range of factors, such as “urban, rural and community impacts; life, health, and safety factors; displacement; and long-term productivity.”



As has been highlighted above, there are a number of such social effects of this Project that are not typically quantifiable in a benefit-cost analysis but would be captured by the analysis articulated and outlined in this Directive. The Park hosts an estimated 800,000 user visits per year, likely more, as many visitors enter on foot, bicycle, or horseback and are therefore not counted at the fee entrance. The Lake and Park, and its operation heretofore as a flood control facility, has produced a wide variety of social benefits at the local and regional level, such as outdoor education activities, wildlife viewing and experiencing, opportunities for appreciation of natural ecosystems, and mental and physical health improvement—all aspects affected by this Project that should be considered as the Corps evaluates this Project and explores mitigation measures and alternative options.

Examination of Other Options

To reemphasize, SBCLP is not opposed to considering some reallocation of the Lake for water supply benefits. But any option selected must take into account the special nature of this Lake and Park. That is why the Corps should consider an alternative of 2,500 AF or less, irrespective of dredging, so as to lessen the inundation of critically important wetlands, wildlife habitat, and recreational assets, reduce evaporative losses, and reduce water quality degradation. SBCLP strongly prefers utilization of water storage options that would result in a reallocation of less than 2,500 AF. However, should the Corps seek an alternative that exceeds 2,500 AF, we would urge the Corps to consider a dredging component to create additional capacity such that the inundation footprint does not go beyond that which would result from a reallocation of 2,500 AF or less without dredging.

Because of these significant impacts, the Corps should also consider other alternatives beyond this Project that could help increase water supplies in the South Platte Basin. These include groundwater recharge (conjunctive use) and gravel pit storage.

Regarding groundwater recharge, the South Platte BIP notes in a number of sections the value of conjunctive use as an option for addressing water supply needs in the basin (see, e.g., Volume 2, pp. 26, 49, and 102), and in Goal 2 (Maximize Development of Native South Platte Supplies), Strategy 2.B. specifically encourages conjunctive use where appropriate (Volume 2, p.71). The Corps is encouraged to consider this alternative so as to mitigate or avoid the impacts to the Lake and Park from this Project.

Another option to consider that could mitigate or avoid impacts to the Lake and Park is water storage in gravel pits along the South Platte River. Denver Water, the water utility servicing the Denver-metro area, recognized this opportunity and established the Downstream Reservoir Water Storage Program so as to take advantage of gravel pits along the South Platte River north of Denver. Other Colorado entities have also recognized the value of this option, such as Water Education Colorado (see, e.g., <https://www.watereducationcolorado.org/publications-and-radio/headwaters-magazine/spring-2021-storage/south-platte-reclaiming-gravel-pits-as-reservoirs/>).

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SBCLP and I wish to continue to provide constructive input as the Corps proceeds with the Feasibility Study for this Project. We seek to advocate for alternatives and mitigation strategies that will lessen and, if possible, avoid the loss of cherished values at the Park and Lake. As growth and development continue to occur in the surrounding communities, open space and outdoor opportunities and experiences provided by the Lake and Park will become more and more valued, desired, and sought after. This Project should be evaluated based on these realities and take into account community desires and goals for a quality environment as efforts are ongoing to address our ever-growing water supply needs. We hope the Corps will factor these into its evaluation of this Project, as well as the comments provided herein.

Sincerely,

A handwritten signature in blue ink, appearing to read 'James Eklund', written over a light blue rectangular background.

James Eklund

cc:

Senator Michael Bennet
Senator John Hickenlooper
Representative Brittany Pettersen
Mr. Michael Connor, Assistant Secretary of the Army for Civil Works
Colorado Department of Natural Resources
Colorado Water Conservation Board
City of Lakewood
Jefferson County
South Platte Basin Roundtable
Metro Denver Roundtable
Save Bear Creek Lake Park