



## COLORADO PARKS & WILDLIFE

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### **ANTICIPATED RECREATIONAL IMPACTS**

1. Chatfield Reservoir typically fluctuates no more than 5 feet in elevation from Memorial Day to Labor Day, which means that recreational facilities, shade trees and parking areas are located in close proximity to the water. Reservoir fluctuations over this same time period will increase up to 17 vertical feet if the reallocation is approved, greatly increasing the horizontal distance to the water from recreational facilities, shade trees and parking areas.
2. Most of the existing recreational facilities, day use areas, associated infrastructure and 587 acres of recreational land will become unusable for recreational purposes due to periodic inundation.
3. Additional recreational land will become unusable for recreational purposes if proposed borrow pit areas are too large or improperly restored
4. Less wildlife habitat and natural shade for park visitors due to the Complete or significant loss of mature cottonwood trees located within the reallocated storage space.
5. Visitors will have to walk farther from the day use areas, restrooms and parking lots to access the water because these facilities will be moved to the top of the reallocated storage space and, in most years, there will not be enough water available in priority to keep the reallocated storage space full.
6. Certain areas within Chatfield State Park will become more crowded because visitors will preferentially use relocated day use areas that are closer in overall distance to the water level and make less use of day use areas farther from the water.
7. The reallocated storage space is located at an elevation within Chatfield Reservoir with more gentle topography, creating shallow water levels with increased boating hazards. Consequently, no additional boatable acreage for motorized vessels is expected to be created within Chatfield Reservoir.
8. Marina facilities, both on land and on water, will become unusable at their present location due to inundation and more significant water level fluctuations. Marina facilities will also lose the protection they currently have from wave and ice actions, because the existing breakwater and surrounding land masses will be inundated.
9. Increased shoreline exposure leading to erosion, creation of large mudflats, loss of existing wetlands and new weed proliferation due to more frequent and greater water level fluctuations.

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10. Water quality may be degraded due to increased water level fluctuations and shoreline erosion.
11. Increased possibility of introducing aquatic nuisance or invasive species from surrounding positive areas during high water and flooding.
12. Many of the relocated recreational facilities will be more vulnerable to flood events and subject to additional temporary closures because they will be constructed within the 10 year floodplain in order to provide reasonable access to the reservoir at low water levels.
13. Daily, weekly and monthly park and marina operations will need to be significantly modified to account for more frequent and larger water level fluctuations.
14. Increased operational costs for the duration of the project due to more frequent and larger water level fluctuations.
15. Decreased revenues from lost visitation, due to a diminished recreational experience both during and post-construction.

#### **ANTICIPATED FISH AND WILDLIFE IMPACTS**

1. Wildlife habitat will be negatively impacted by the inundation of areas upstream of Chatfield Reservoir on Deer Creek, Plum Creek and the South Platte River.
  - a. There will be an impact to federally-designated critical habitat for Preble's meadow jumping mouse and migratory birds including, but not limited to, Double-crested Cormorant and Great Blue Heron. Habitat that will be impacted is also utilized by terrestrial mammals.
  - b. There will be loss of wetlands and trees, including mature cottonwoods that also provide habitat for terrestrial mammals.
  - c. There will be a greater proliferation of noxious weeds due to more frequent water level fluctuations.
2. Chatfield Reservoir's walleye spawning program produces 30-40 million eggs annually, and will be negatively impacted if storage of water within the reallocated storage space results in larger or more frequent water level fluctuations during the spawning season. Additionally the smallmouth bass fishery is supported by natural reproduction which will be negatively impacted by larger water level fluctuations during the spawning season.
3. Increased fish migration out of Chatfield Reservoir, due to more frequent and larger reservoir fluctuations.

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4. Aquatic species within Chatfield Reservoir could be harmed by the increased erosion of fine sediment caused by storage of water within the reallocated storage space and increased fluctuations.
5. Dissolved oxygen levels within Chatfield Reservoir will decrease and may adversely impact aquatic species in localized areas of the reservoir. Lower oxygen levels will occur when the decomposition of vegetation located in the reallocated space is inundated and the decomposition process increases biological oxygen demand.
6. Aquatic species in Chatfield Reservoir may be exposed to higher levels of mercury by lower dissolved oxygen causing the methylation of mercury, which will likely be picked up in the food chain.
7. Phosphate and ammonia loading will increase as a result of periodic inundation and decomposition of vegetation located within the reallocated storage space, which could also lead to lowered dissolved oxygen.
8. Increased storage of native water in Chatfield Reservoir will result in loss of stream habitat below Chatfield Reservoir due to additional zero and low flow days.
9. Decreased water quality downstream of Chatfield Reservoir as a result of decreased flows.

**\*\*\*\*\*Potential for additional recreational and environmental impacts depending upon the type (native vs transmountain) of water stored and its priority.**

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