

# Chatfield Reallocation Project

## Lessons Learned

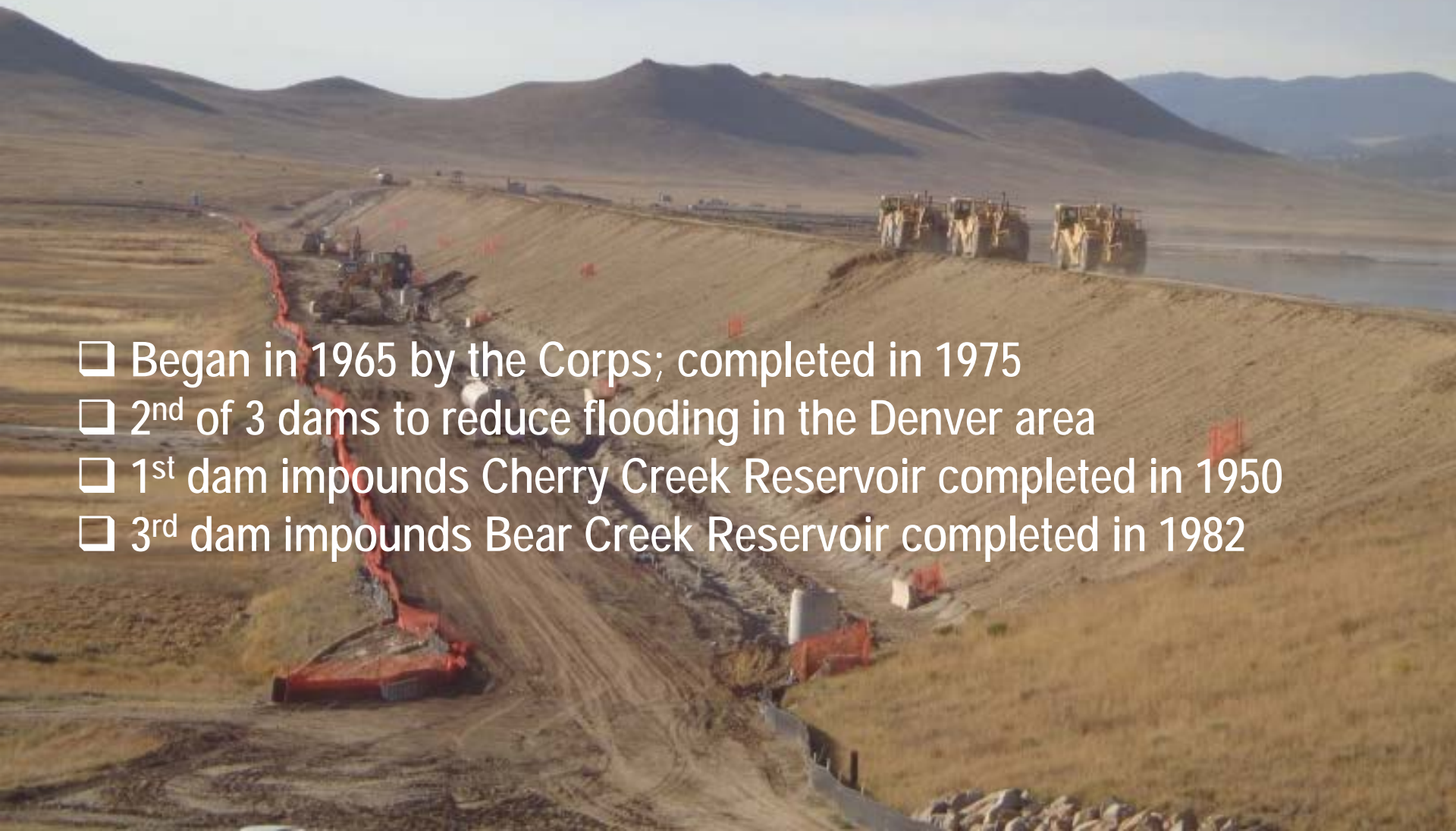
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# Construction

*View looking to southeast*

- ❑ Began in 1965 by the Corps; completed in 1975
- ❑ 2<sup>nd</sup> of 3 dams to reduce flooding in the Denver area
- ❑ 1<sup>st</sup> dam impounds Cherry Creek Reservoir completed in 1950
- ❑ 3<sup>rd</sup> dam impounds Bear Creek Reservoir completed in 1982



# Chatfield Reservoir Today

## □ Dam:

- 13,136 feet long
- Maximum height of 147 feet

## □ Location:

- On the South Platte River at confluence with Plum Creek
- 25 miles southwest of downtown Denver

## □ Reservoir:

- Length = 2 miles
- Average depth = 47 feet
- Drainage area = 3,018 miles<sup>2</sup>
- Current surface area = 1,479 acres
- Normal storage volume = 27,046 AF
- Total flood storage capacity = >350,000 AF



# Purpose of Chatfield Reservoir

## ☐ Multipurpose reservoir uses:

- Flood control (1<sup>st</sup> priority)
- Municipal
- Industrial
- Agriculture
- Recreation
- Fisheries and wildlife habitat



## ☐ Corps owns the dam, reservoir, and surrounding land property:

- Leases 5,381 acres to Colorado Division of Parks and Wildlife to operate Cherry Creek State Park and for fish production
- Leases storage space to Denver Water

# Chatfield State Park

Over 1,000,000 visitors per year



# Project Need

## □ Colorado's population projected to increase 65% from 4.34M in 2000 to 7.16M in 2030

- Front Range demand to surpass supply by 22%
- 2030 shortfall = 90,700 AF
- Chatfield Reservoir – a partial solution to store surface water and reduce demand for on non-renewable ground water
- Make use of an existing instream reservoir facility

## □ Regional water demand

- Municipal use
- Agriculture
- Environmental



# Project Authority

- ❑ Section 808 of Water Resources Development Act of 1986
- ❑ River and Harbor Act of 1958



# Project Participants



Town of Castle Rock

Colorado Parks and Wildlife

Castle Pines Metropolitan District

Colorado Water Conservation Board

Castle Pines North Metropolitan District

Centennial Water and Sanitation District

Center of Colorado Water Conservancy District

Central Colorado Water Conservancy District



# Project Goals

- ❑ 20,600 AF storage for the metro Denver, northeast Colorado farms, and Colorado Division of Parks and Wildlife; average annual yield = 8,539 AF
- ❑ Mitigate environmental impacts
- ❑ Modify recreational facilities to preserve current uses
- ❑ Support from Corps, Congress, local governments, businesses, environmental organizations, regulators, and other stakeholders
- ❑ Record of Decision (ROD)



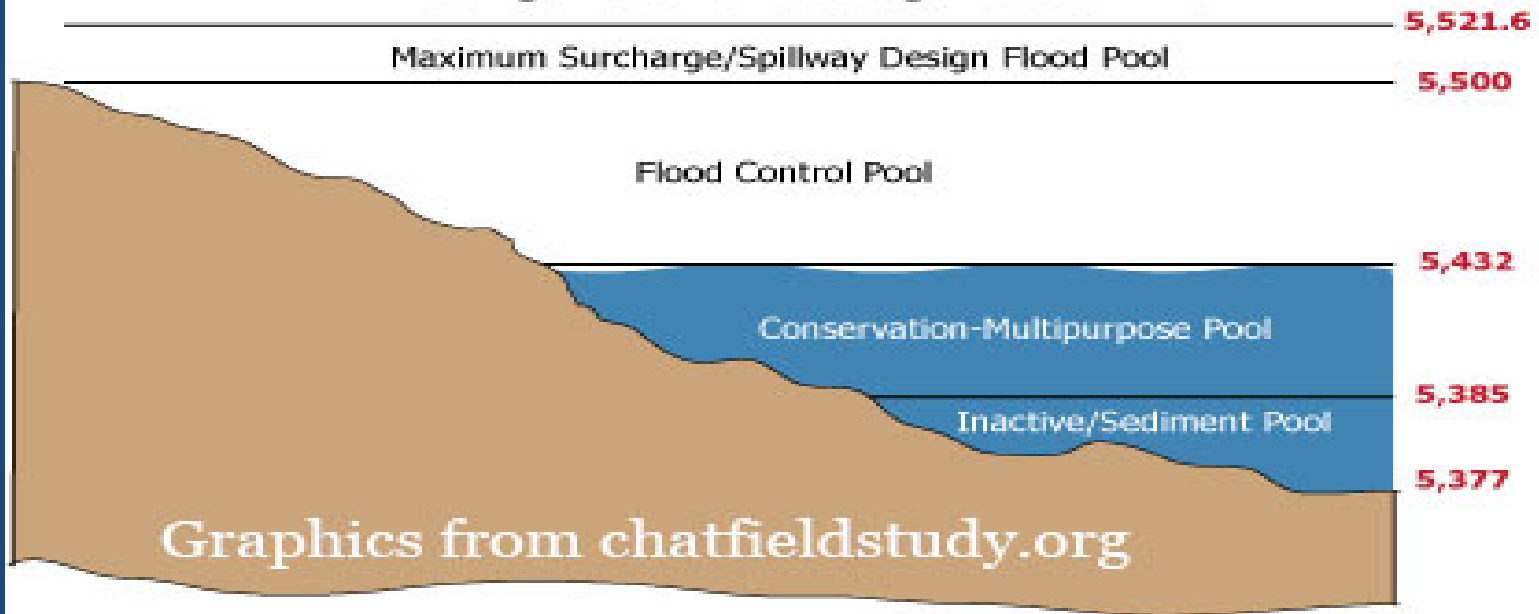
# Project Study Scope

- ❑ Impact on natural and cultural resources
- ❑ Impact of new reservoir water levels on:
  - Upland and wetland habitat
  - Recreational activities and facilities
  - Aquatic habitat
  - Endangered species
- ❑ Impact on socioeconomic resources
- ❑ Identify mitigation measures



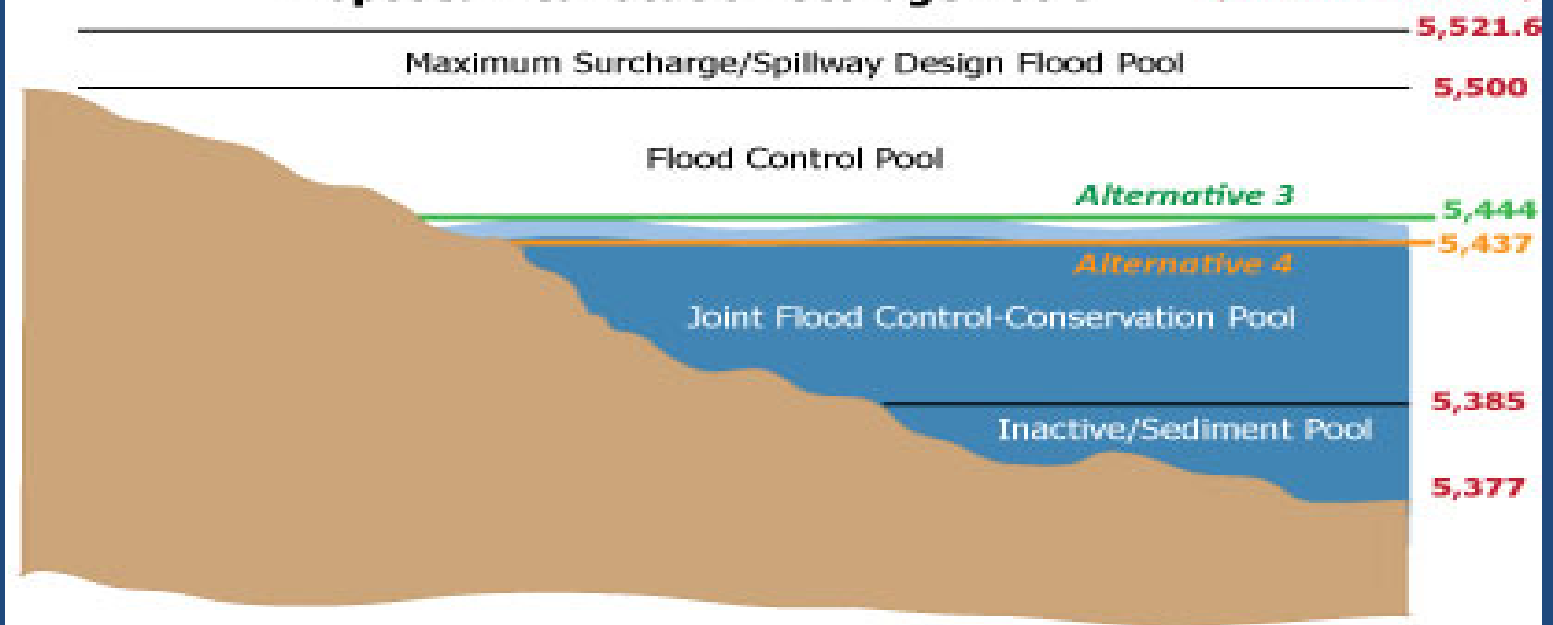
## Existing Reservoir Storage Pools

Elevation  
(feet above mean sea level)



## Proposed Reallocation Storage Pools

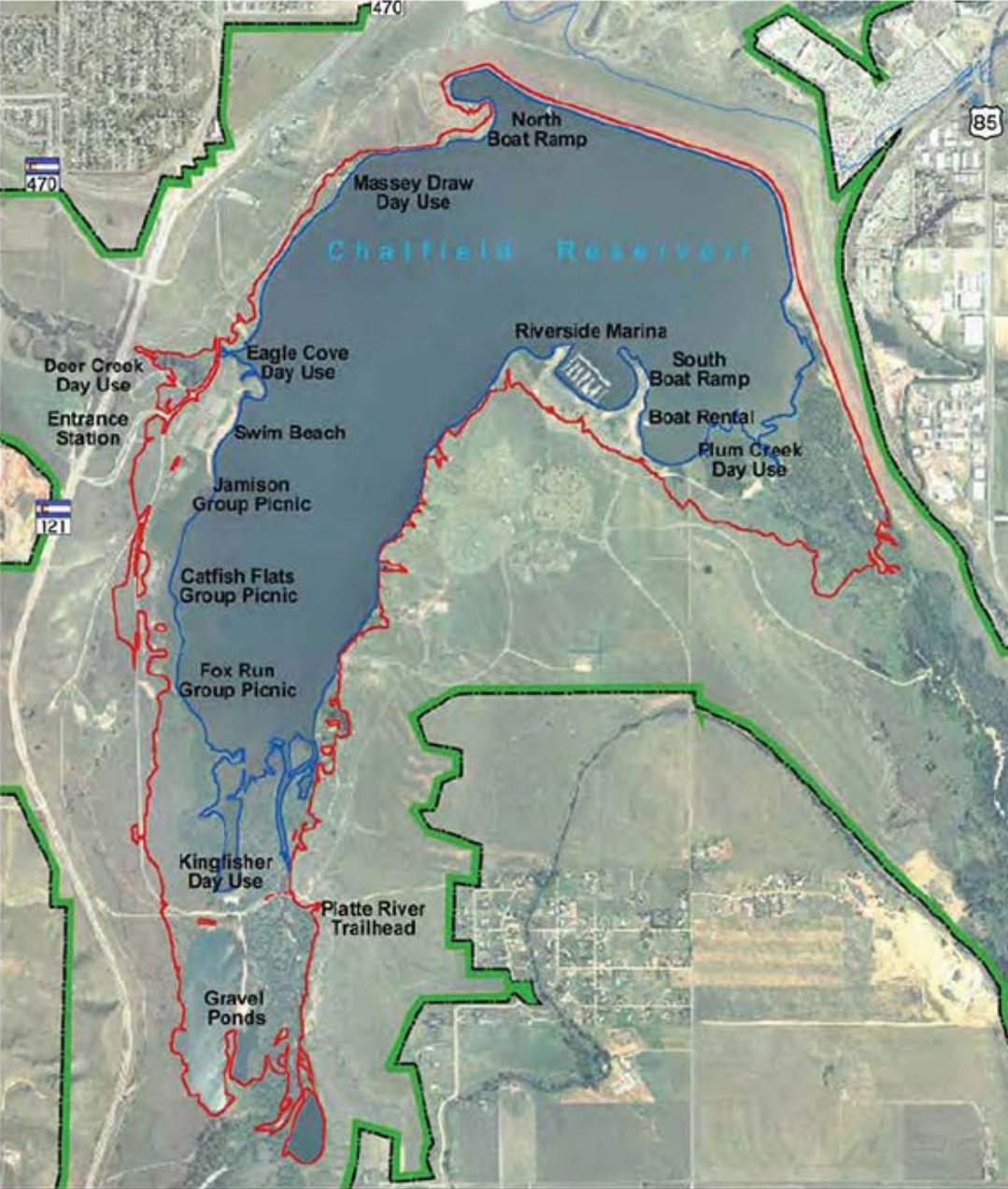
Elevation  
(feet above mean sea level)



# Chatfield State Park

Area to be inundated by reallocation project

Blue line = normal low pool (5426 ft)  
Red line = high pool (5444 ft)



High Pool - 5444  
Low Pool - 5426  
State Park Boundary  
Aerial Photograph: May 1999

Chatfield Reservoir  
Recreational Mitigation Study

# Project Status

- ✓ 1984: project begins; over \$10M spent to obtain ROD (excluding staff salaries)
- ✓ June 2014: ASA for Civil Works issued ROD / approved FR/EIS
- ✓ October 2014: ASA approved Water Storage Agreement and Omaha District Commander signed Agreement with Colorado
- ✓ October 2014: Audubon Society of Denver filed suit in Federal District Court to block the project; decision is pending
- ✓ October 2015: mitigation company formed to secure contracts for engineering and environmental work
- ✓ April 2017 final designs due for construction and mitigation work
- ✓ November 2017 construction work to start and end mid-2018
- ✓ Current projected project cost: \$154M exclusive of operating costs
  - \$7,500 per AF of available storage space;
  - \$18,000 per AF average annual yield

# Flood of 2015



**LIVE**



**RECORD-BREAKING FLOODING**  
**CHATFIELD STATE PARK**

# Technical Advisory Committee

- Chatfield Reservoir Mitigation Company
- Chatfield State Park
- Colorado Division of Parks and Wildlife:
  - Aquatic Biology Section
  - Resource Stewardship Section
  - Water Resources Section
- Colorado Trout Unlimited
- Colorado Water Conservation Board
- Conservation Colorado
- Denver Water
- Douglas County Division of Open Space & Natural Resources
- Sierra Club
- South Suburban Parks and Recreation
- Army Corps of Engineers Omaha District
- Army Corps of Engineers, Chatfield Operations
- U.S. Fish and Wildlife Service
- Western Resource Advocates



# Lessons Learned

- Time: 20 to 30 years
- Dedicated full-time staff
- Lawsuit(s) may occur
- Perseverance required
- Extensive lobbying required
- Constant Corps turnover of staff
- Collaboration with stakeholders is key
- Legal team for IGAs and contracts
- Complexities are mind-boggling
- Development cost – \$10M+ to get to the ROD





# Questions?

