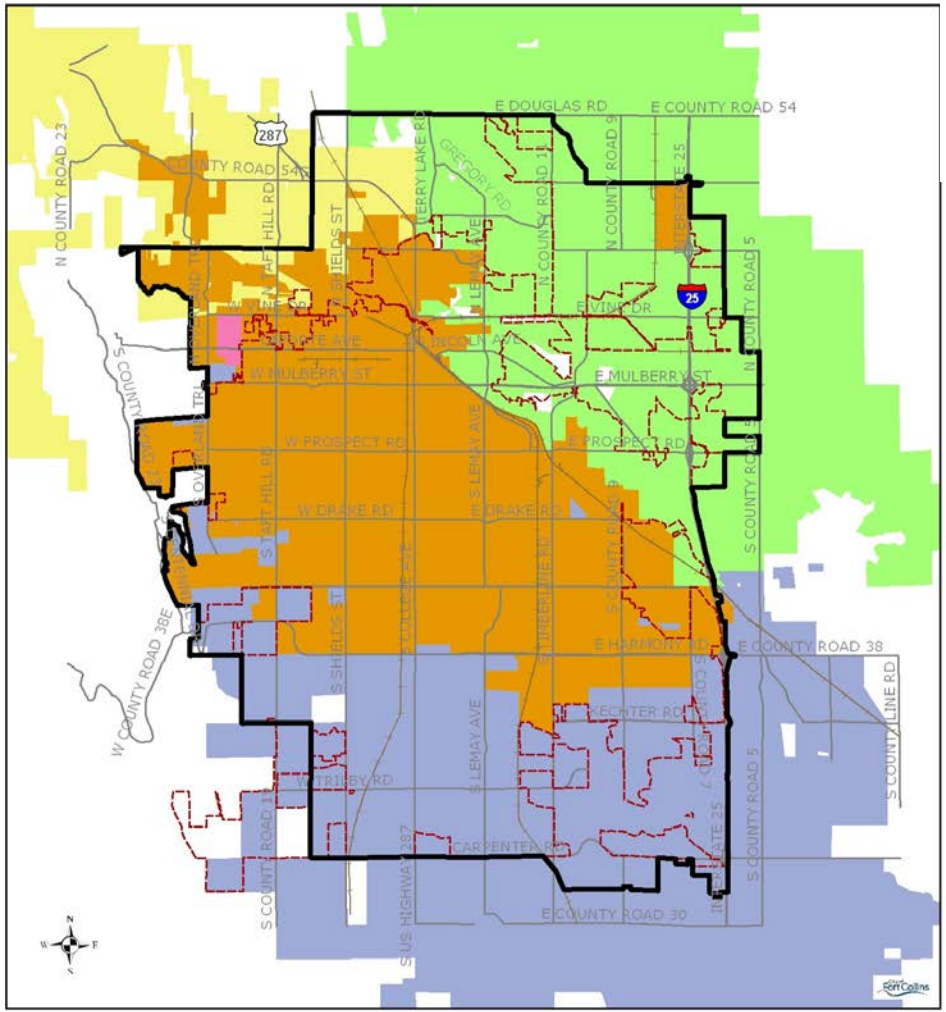
Water Literate Leaders

April 12, 2018

Fort Collins Utilities: Water Supply History and Future

Fort Collins Area Water Districts Map



Water Features
GMA
Major Streets
City Limits
Railroad

Water Districts

ELCO Water District
Fort Collins Loveland Water District
Fort Collins Utilities (Water)
Sunset Water District
West Fort Collins Water District

0 5,000 10,000 20,000 Feet

Fort Collins Water Utility History

- 1882: Water Utility formed
- Early 1900s: Acquired senior water rights
- 1958: Purchased first 6,000 CBT units
- 1960s: Established Raw Water Requirements

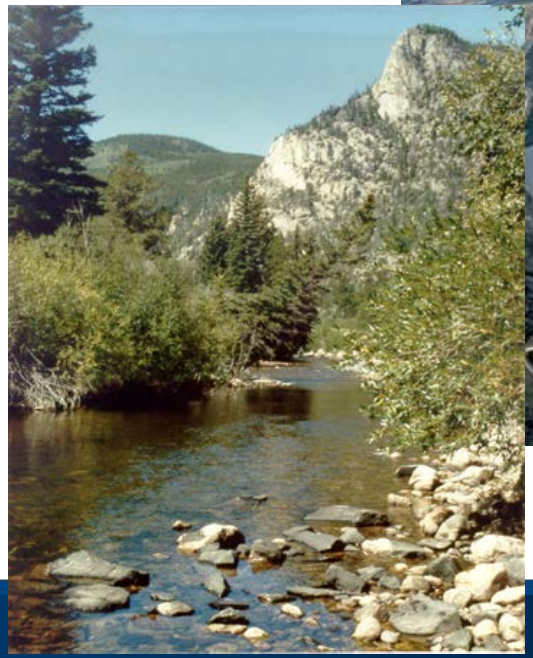
Fort Collins Water Utility History

- 1970s: Acquired/improved Michigan Ditch and Joe Wright Reservoir
- 1977: Drought – first water restrictions
- 1988: Water Supply Policy
  - Push to increase water supplies
- 2003 & 2012: Water Supply & Demand Management Policy
  - Focus on increased storage

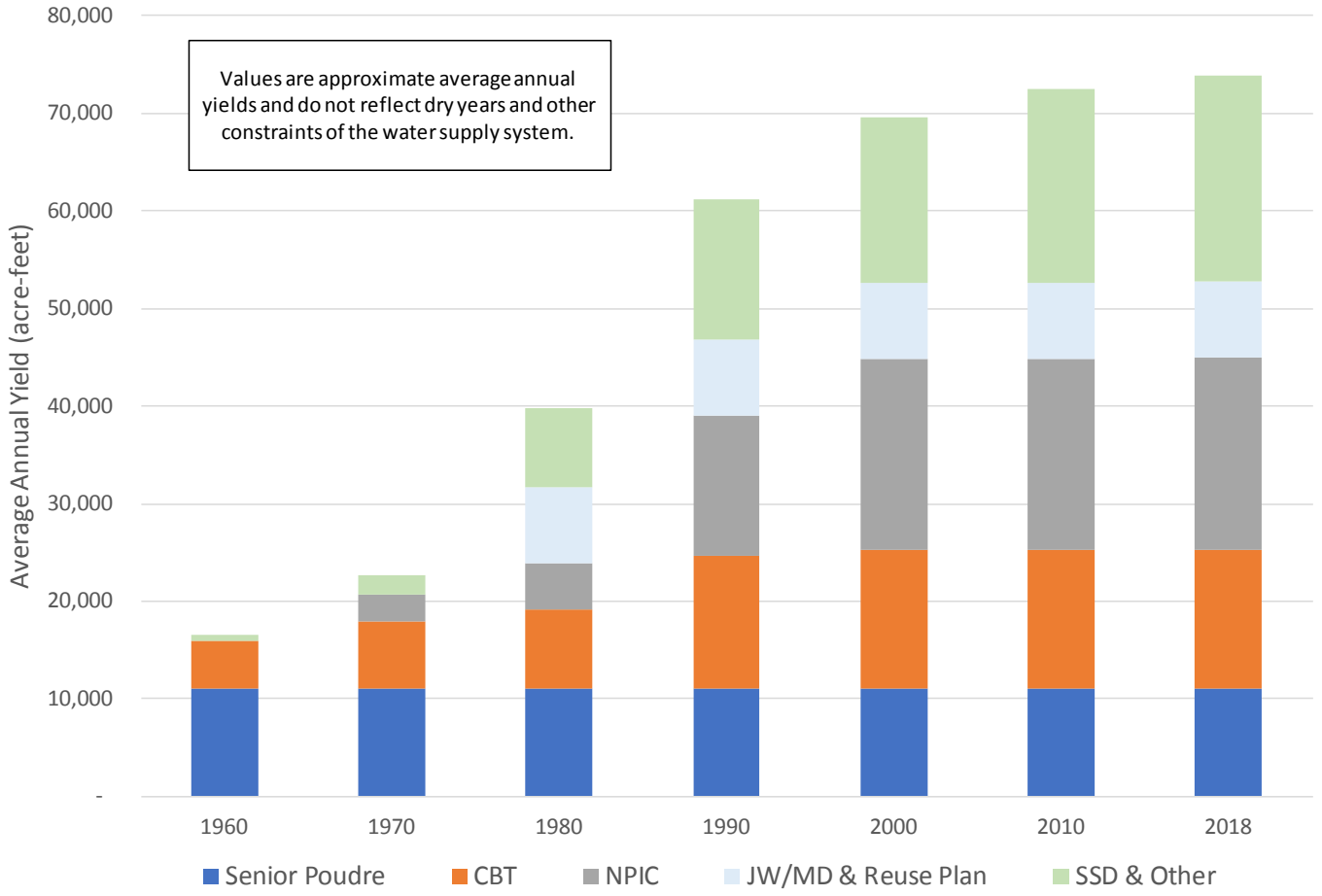
Water Supply Sources

- Poudre River & CBT Project

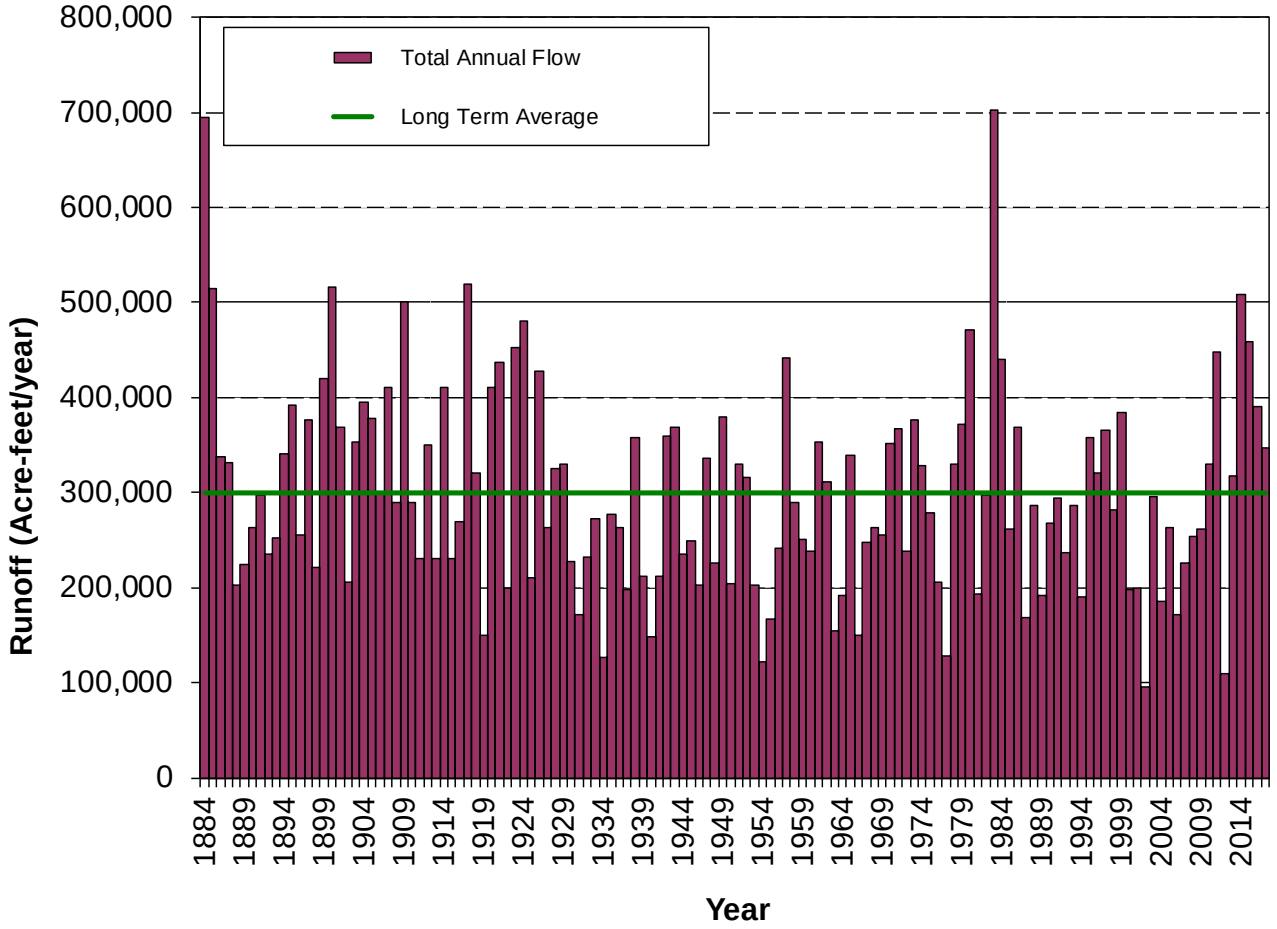
- On average, about 50/50 split between them

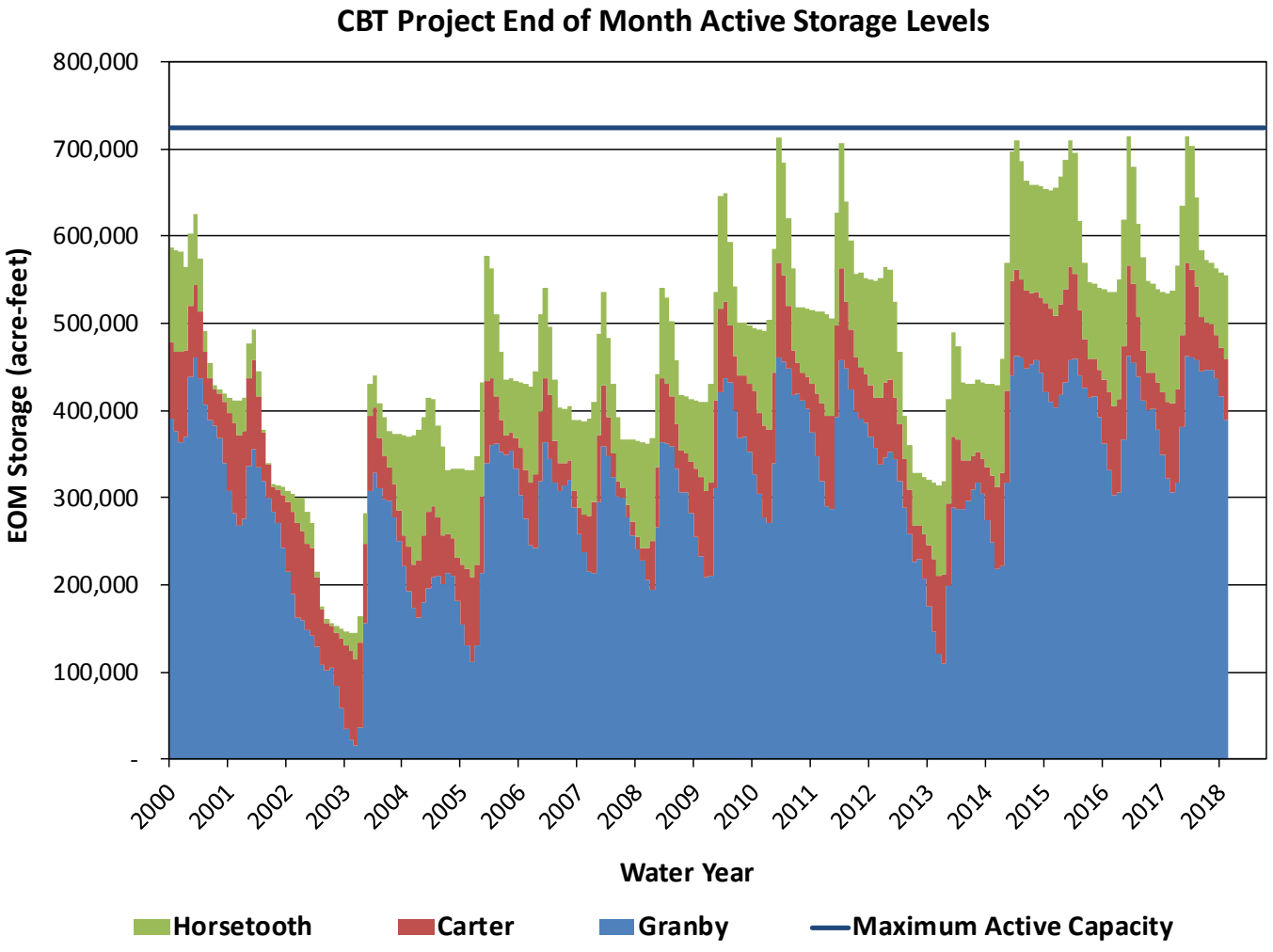


Fort Collins Utilities: Historic Water Right Ownership



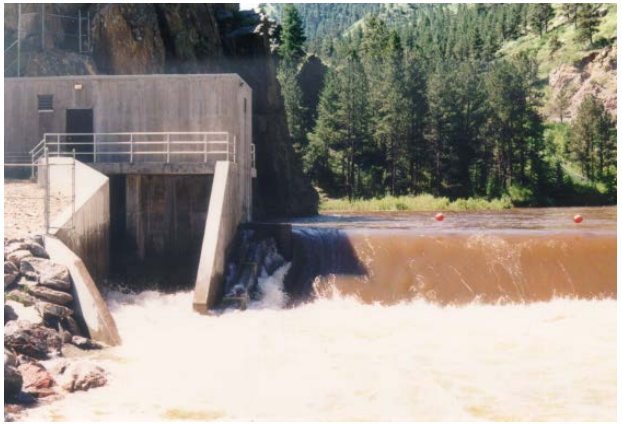
Poudre River Annual Native Runoff at the Mouth of the Canyon




CBT Project End of Month Active Storage Levels
EOM Storage (acre-feet)
800,000
700,000
600,000
500,000
400,000
300,000
200,000
100,000
-
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018
Water Year
Horsetooth
Carter
Granby
Maximum Active Capacity

Current Water Supplies

- Adequate supplies in most years
- Based on 1-in-50 year drought criterion
- Existing firm yield ~ 31,000 acre-feet/year



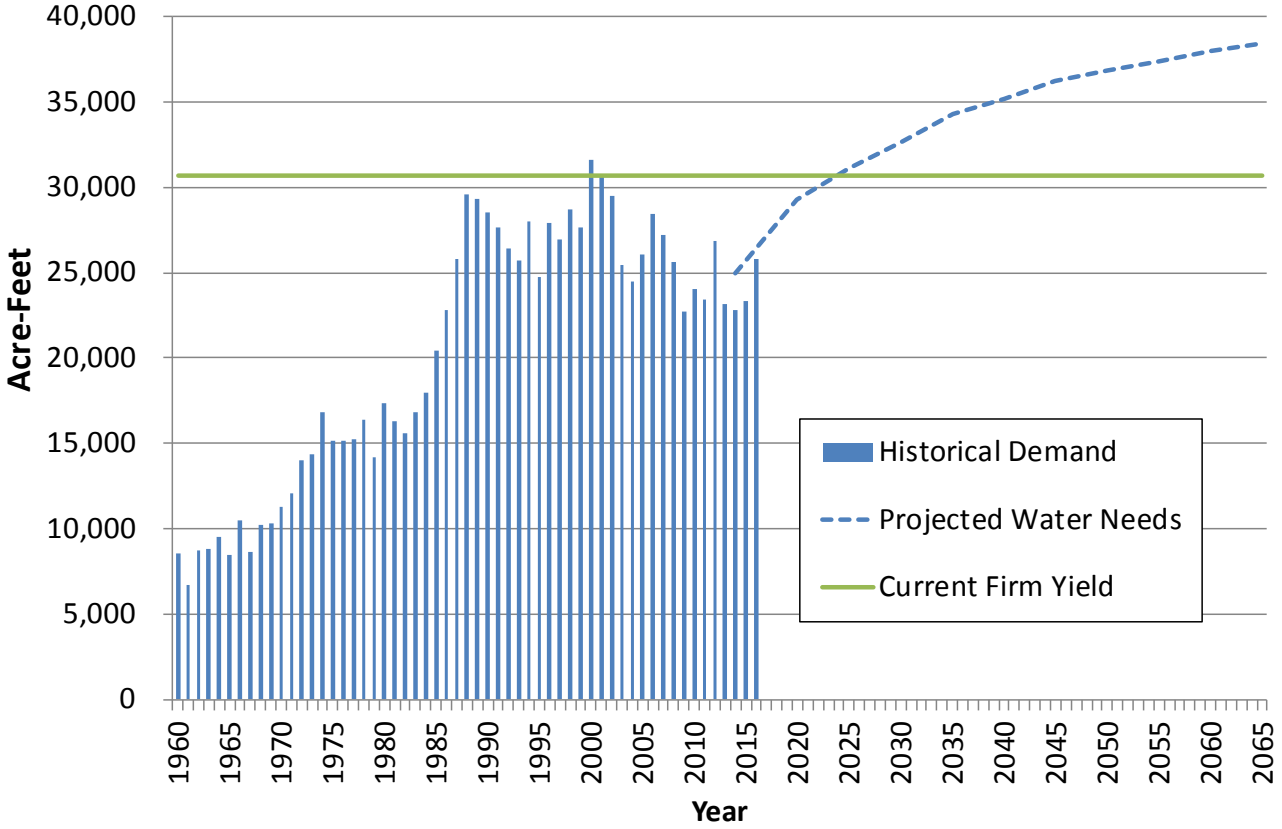
Current Water Demand (Use)

- Deliver ~24,000 acre-feet/year treated
  - ~4,000 acre-feet/year of raw water
- Demand levels have declined significantly
  - ~230 gpcd early 1990s
  - ~200 gpcd before 2002
  - ~145 gpcd last several years

Water Conservation

- Measures to reduce demands long-term
  - Restrictions used for short-term reductions
    - Water Supply Shortage Response Plan
- On-going conservation efforts
  - Rate structures, educational programs, rebates, sprinkler audits, etc.
  - Recent focus on commercial use
- Water efficiency goal of 130 gpcd by 2030

Fort Collins Utilities - Historical Demands, Projected Water Needs and Current Firm Yield



Service area population increase:
2017 ~134,000
2065 ~178,000

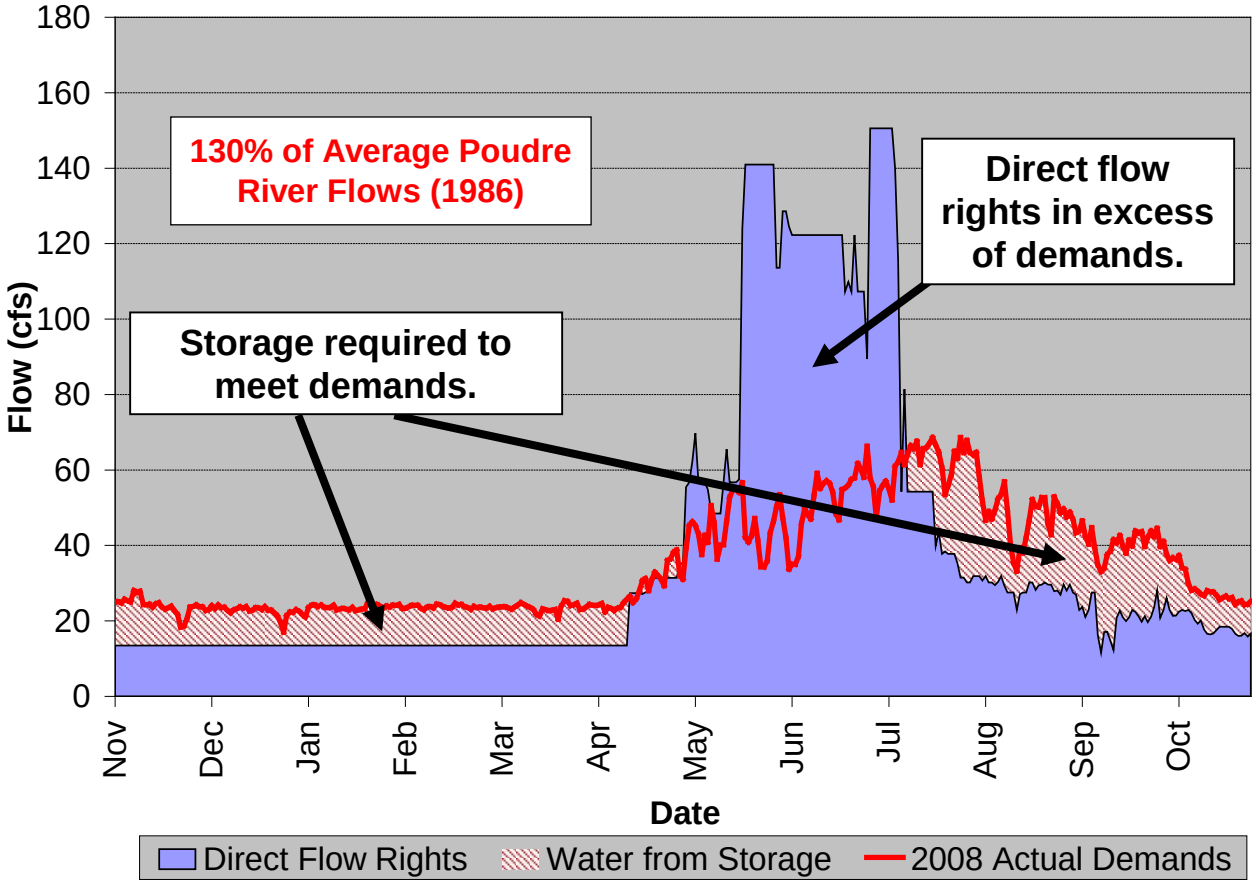
Industrial growth:
~3,000 acre-feet/year

Future Supply Plans

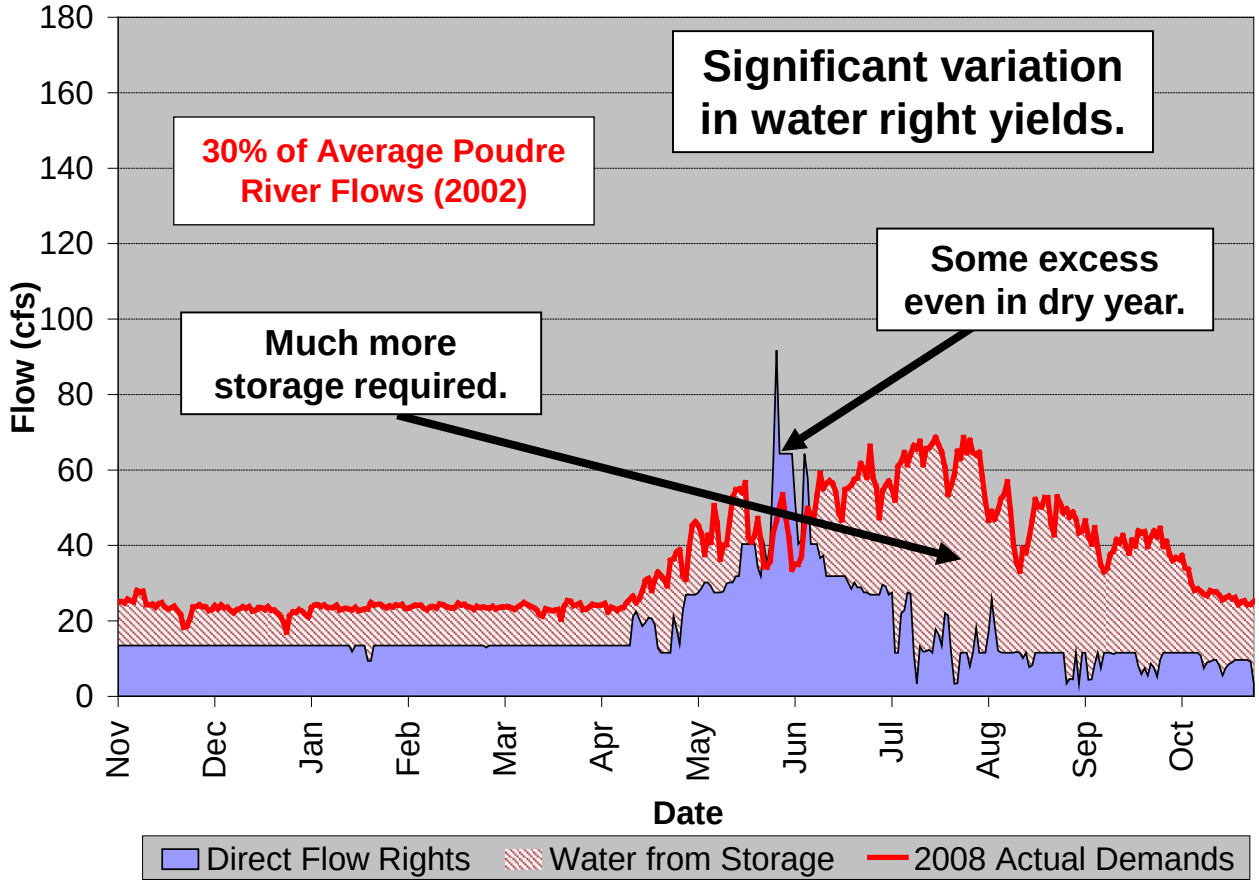
- Water Supply Requirements (recent changes)
  - Minimize additional water rights
  - Decreased volume required
  - Increased cash-in-lieu rate

- Acquire additional storage capacity
  - Manage existing rights
  - Increase firm yield

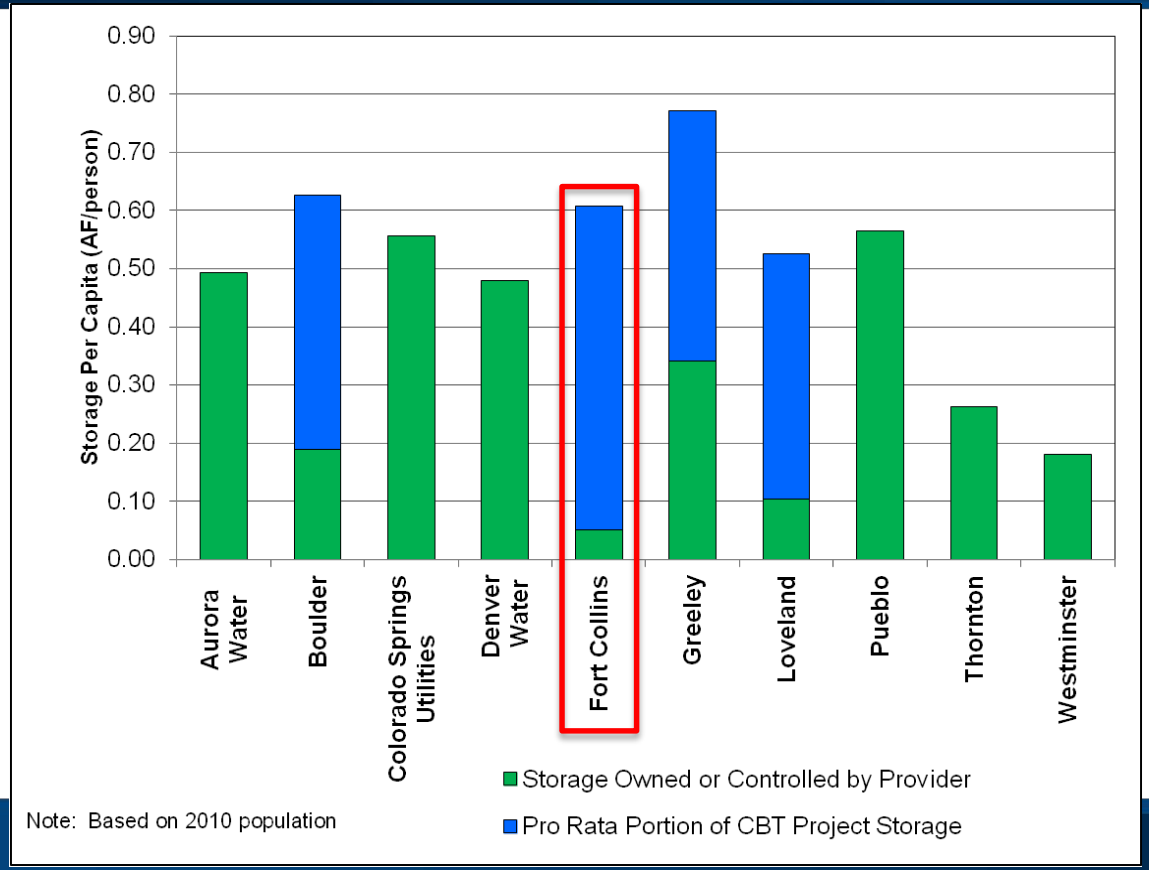
Water Supplies and Demands for Fort Collins Utilities



Water Supplies and Demands for Fort Collins Utilities



Storage per Capita Comparison



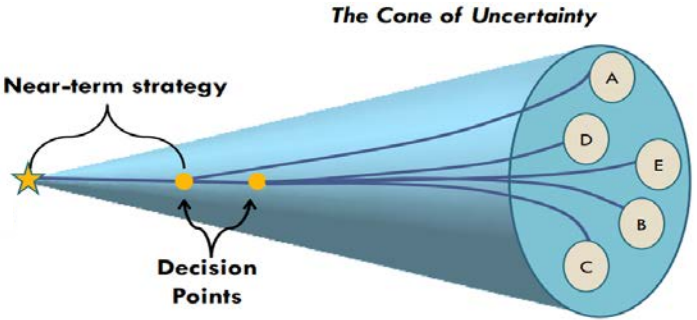
Storage Options

- Halligan Water Supply Project
  - Arduous permitting process
  - Considers other alternatives

- Investigating:
  - Aquifer Storage & Recovery (ASR)
  - NPIC Reservoirs 5 & 6
    - Potential project with Districts

Water Supply Vulnerability Study

- Completed in next year
  - Inform 2020 Water Supply & Demand Mgt. Policy update
- Exploring multiple scenarios
  - Climate change effects
  - Infrastructure failures
  - Demand variability
  - CBT impacts
- Embraces uncertainty



Future Regional Water Needs

- Greater water needs by surrounding Districts
- Environmental (in-stream flow) needs
- Utilities exploring ways to use excess water
- Encourage ATMs, regional projects, etc.
  - Looking for increased firm yield
  - Requires permanence, certainty & control

ATMs: Fort Collins History

- North Poudre Irrigation Company (NPIC)
  - Shares come with CBT and native rights
  - Utilities only uses CBT when needed; rents in most years
  - 2013: swapped native rights for CBT (1.5:1 ratio)

- Maxwell Ranch
  - Farm in NPIC service area & City separator zone
  - Purchased by Natural Areas, with some Utilities funds
  - Conservation easement; Utilities gets CBT portion of water

ATMs: Fort Collins History

- Water Supply and Storage Company Shares
  - Converted Utilities shares to municipal use
  - Allowed for continued AG use
  - Requires special accounting


THANK YOU!