

Water Supply & Demand Management

City Works 101 - Utilities
May 7, 2009



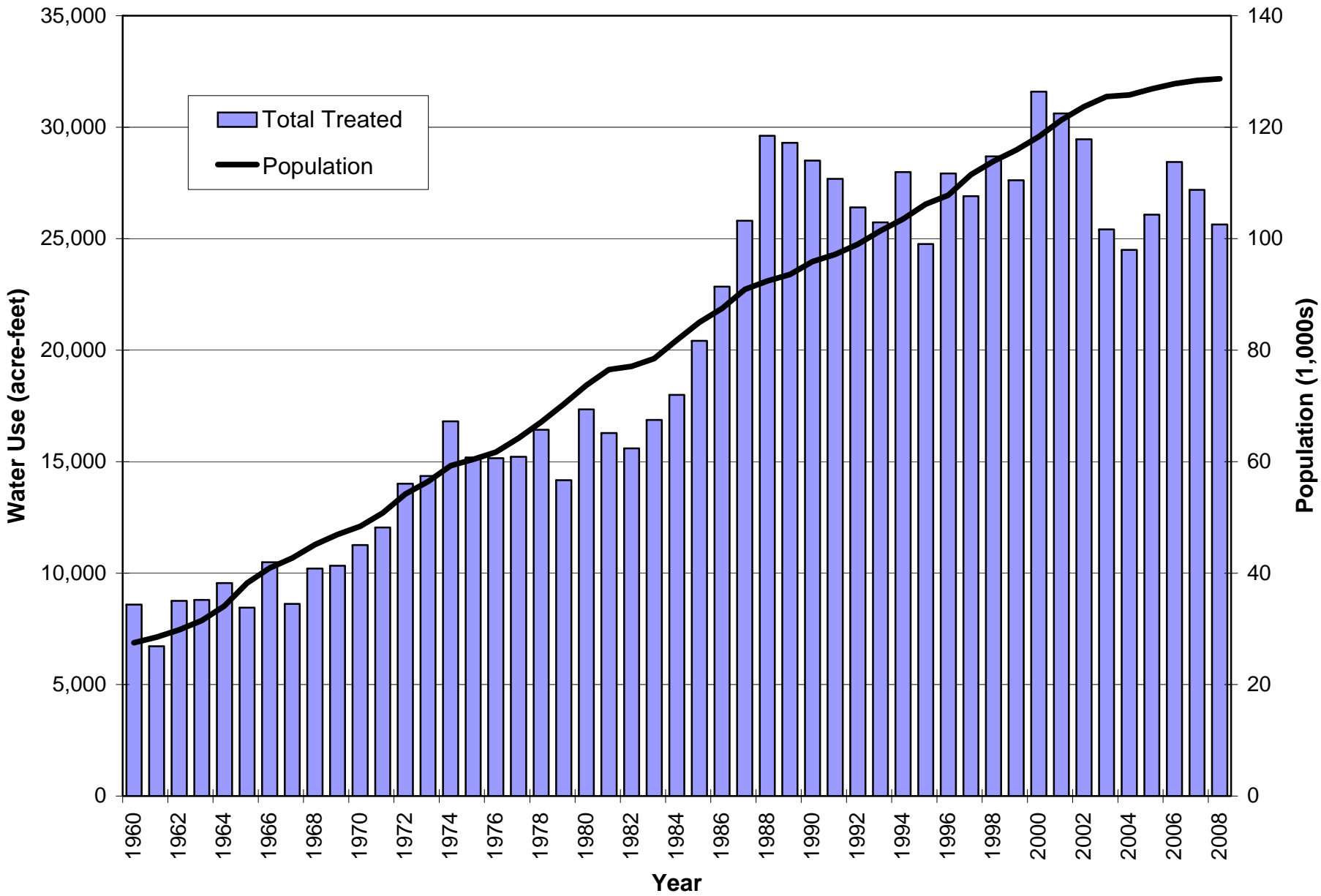
Water Supply & Demand Management Policy

- Adopted in 2003, combined old policies
- Policy Objectives
 - Provide an adequate and reliable supply of water for the beneficial use by customers and the community
 - Manage the level of demand and the efficient use of a scarce and valuable resource
- Water Use Goals
 - Average use of 185 gpcd by 2010
 - Peak day use of 475 gpcd by 2010

Water Demand (Use)

- Present Demands
 - Currently deliver about 28,000 AF/yr treated and 4,000 AF/yr of raw water
 - Demand levels declined from 235 to 198 gpcd before 2002
 - Lower use in recent years due to drought
 - Average of ~160 gpcd since 2002

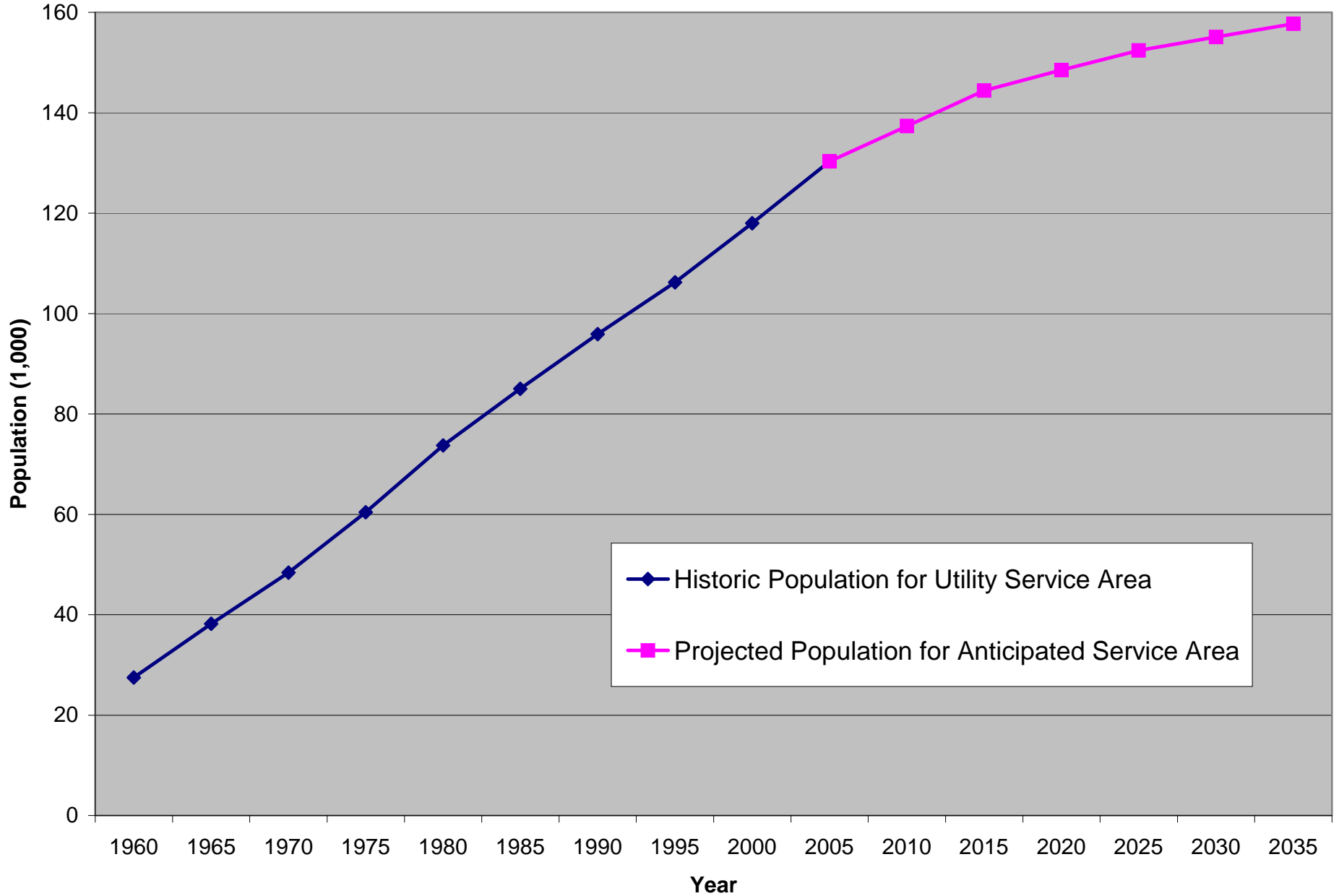
City of Fort Collins Treated Water Use and Service Area Population 1960-2008

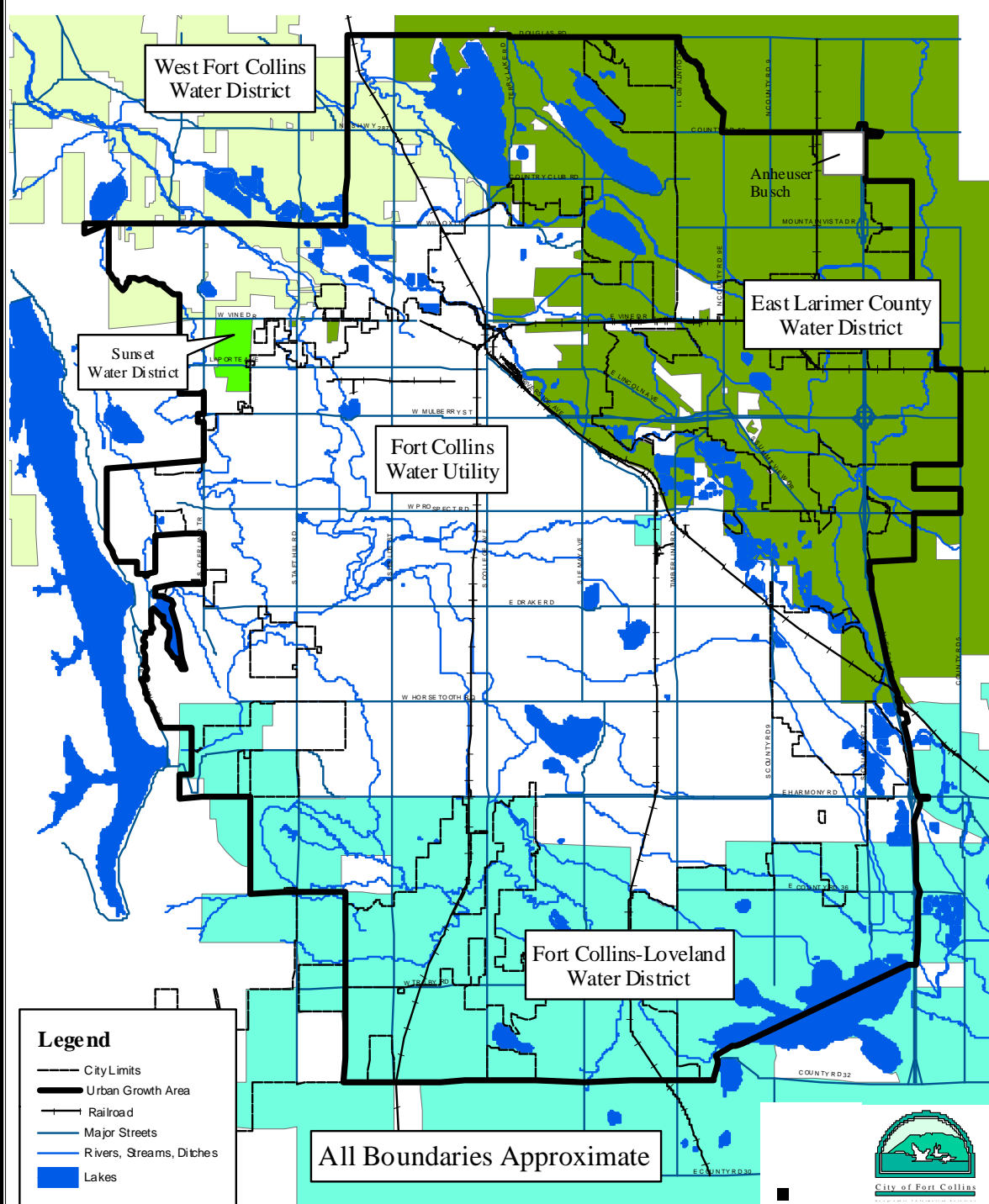


Water Demand (Use)

- Future Demands
 - Utilities must plan for the future
 - Depends largely on population and commercial growth
 - Anticipated population within Utility Service Area is ~158,000 by 2035
 - 2005 Service Area Population ~130,300

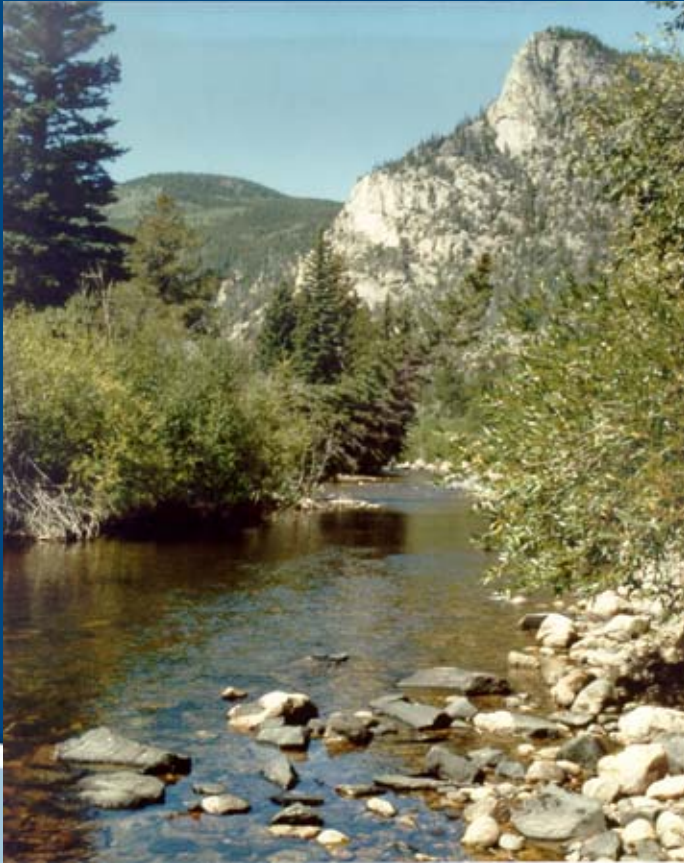
City of Fort Collins Historic and Projected Population for Service Areas





City of Fort Collins Water Supply - Sources

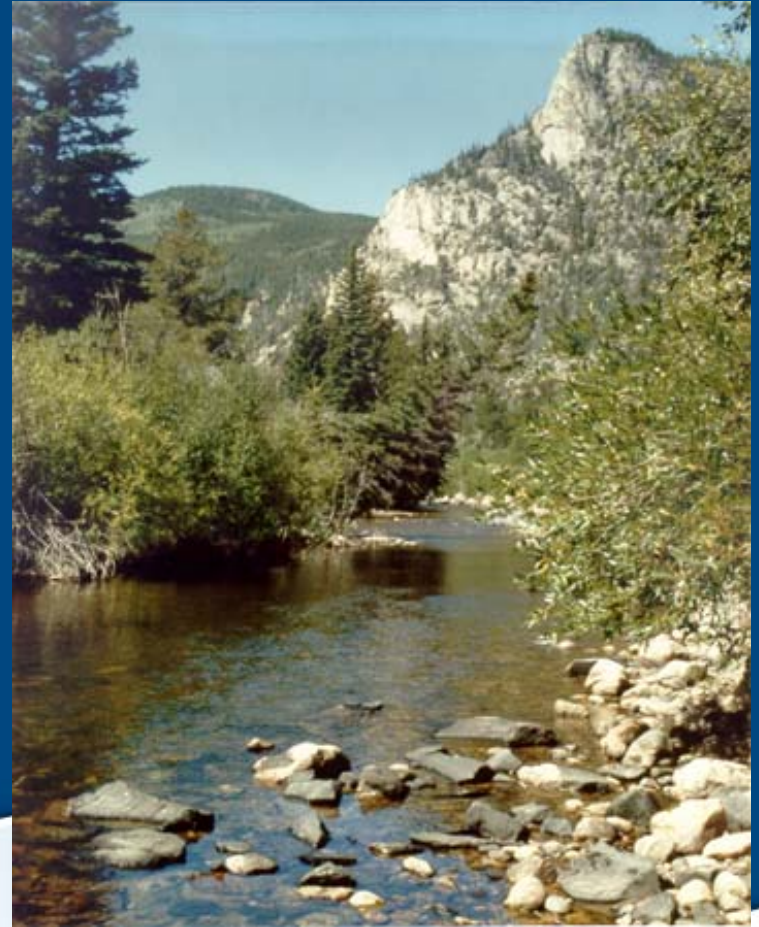
Poudre River



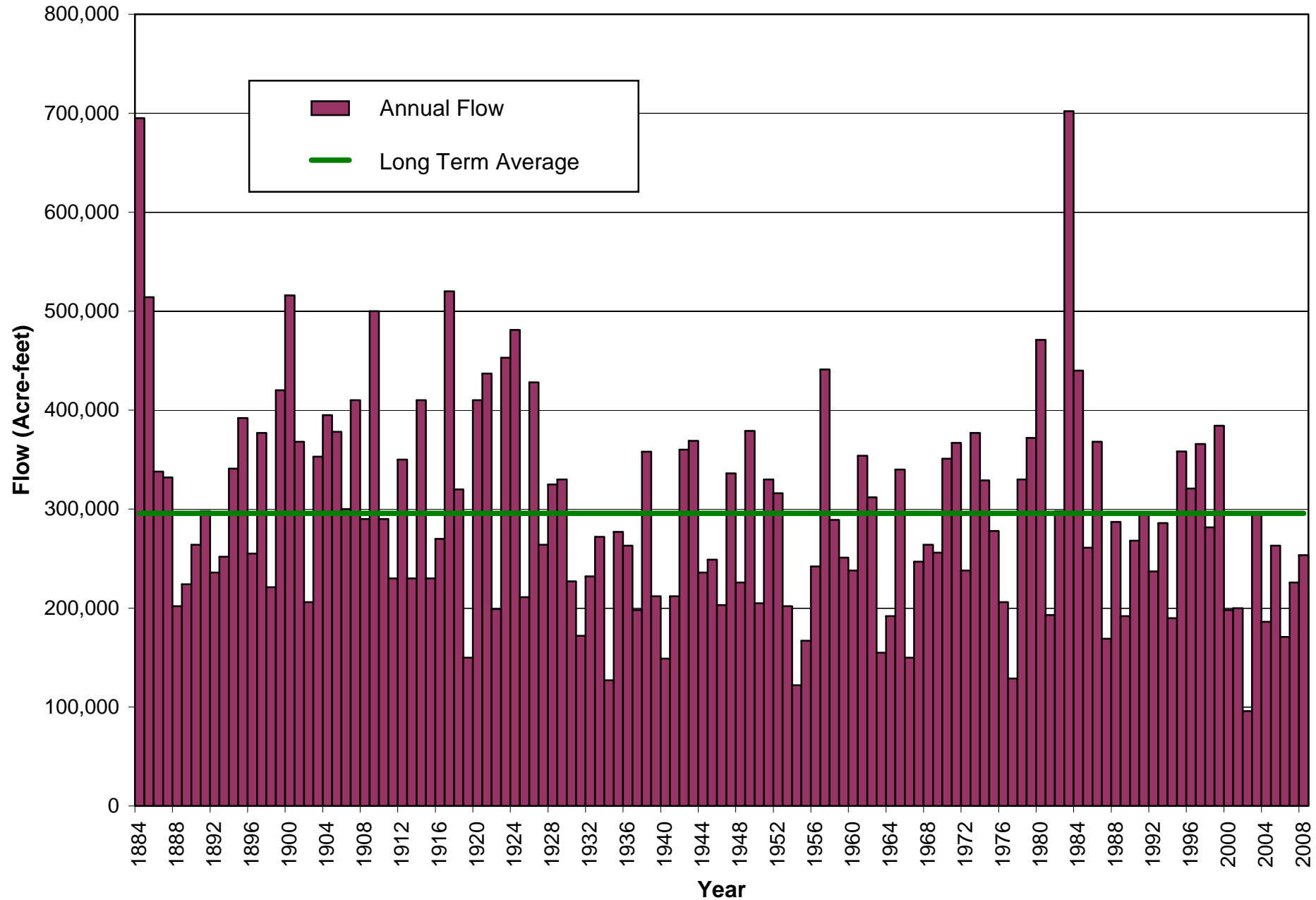
CBT Project

Poudre River

- Direct flow rights
- Converted irrigation rights
- Michigan Ditch & Joe Wright Reservoir
 - reservoir mainly used to capture ditch flows and has limited carryover capacity



Cache la Poudre River Annual Virgin Flows at the Mouth of the Canyon



Colorado-Big Thompson Project (CBT)

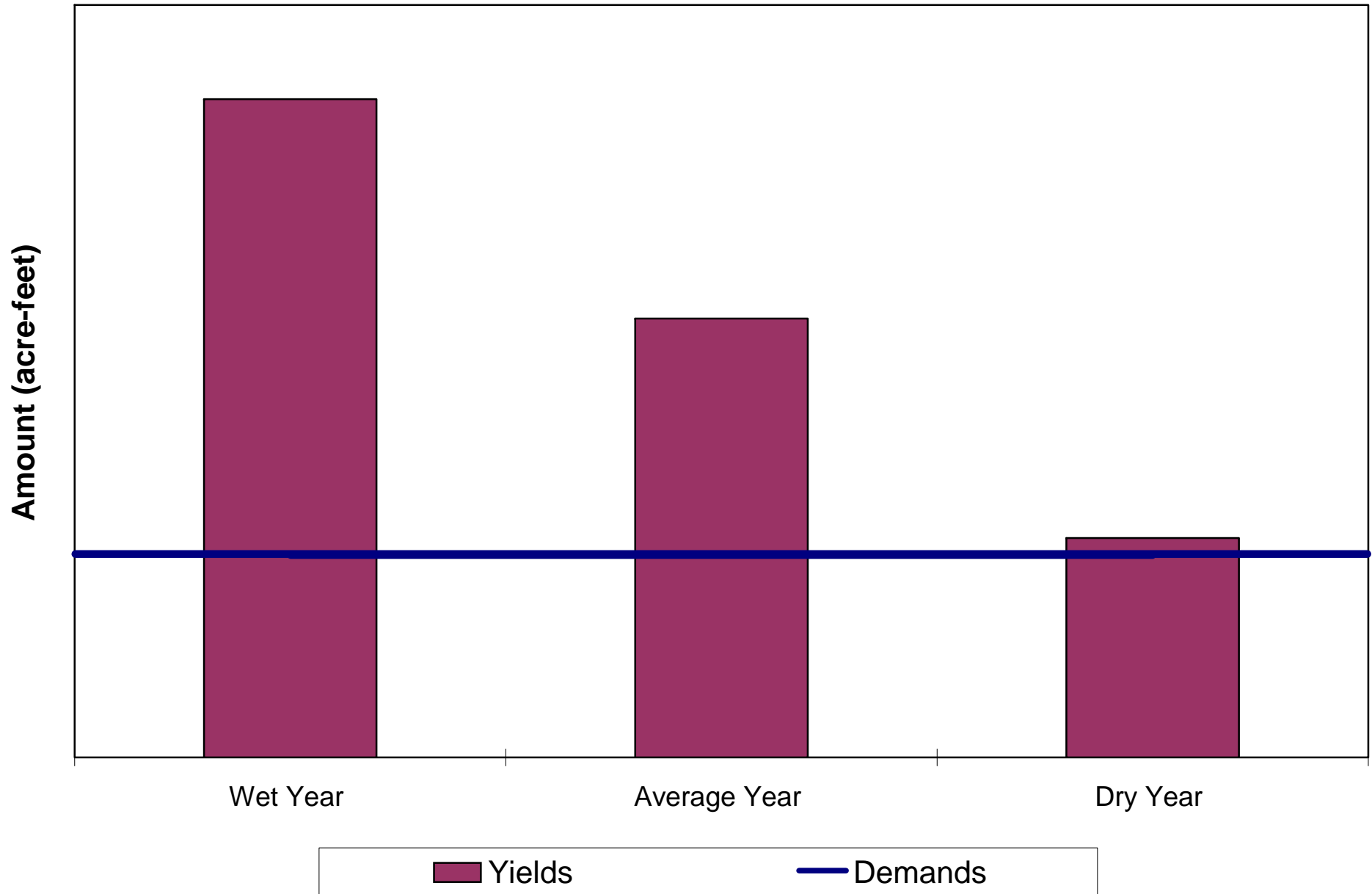


- Transmountain diversion
- Administered by the NCWCD
- Annual quota (dictates amount received)
- Supplemental supply
- City has limited ability to carryover water in CBT reservoirs

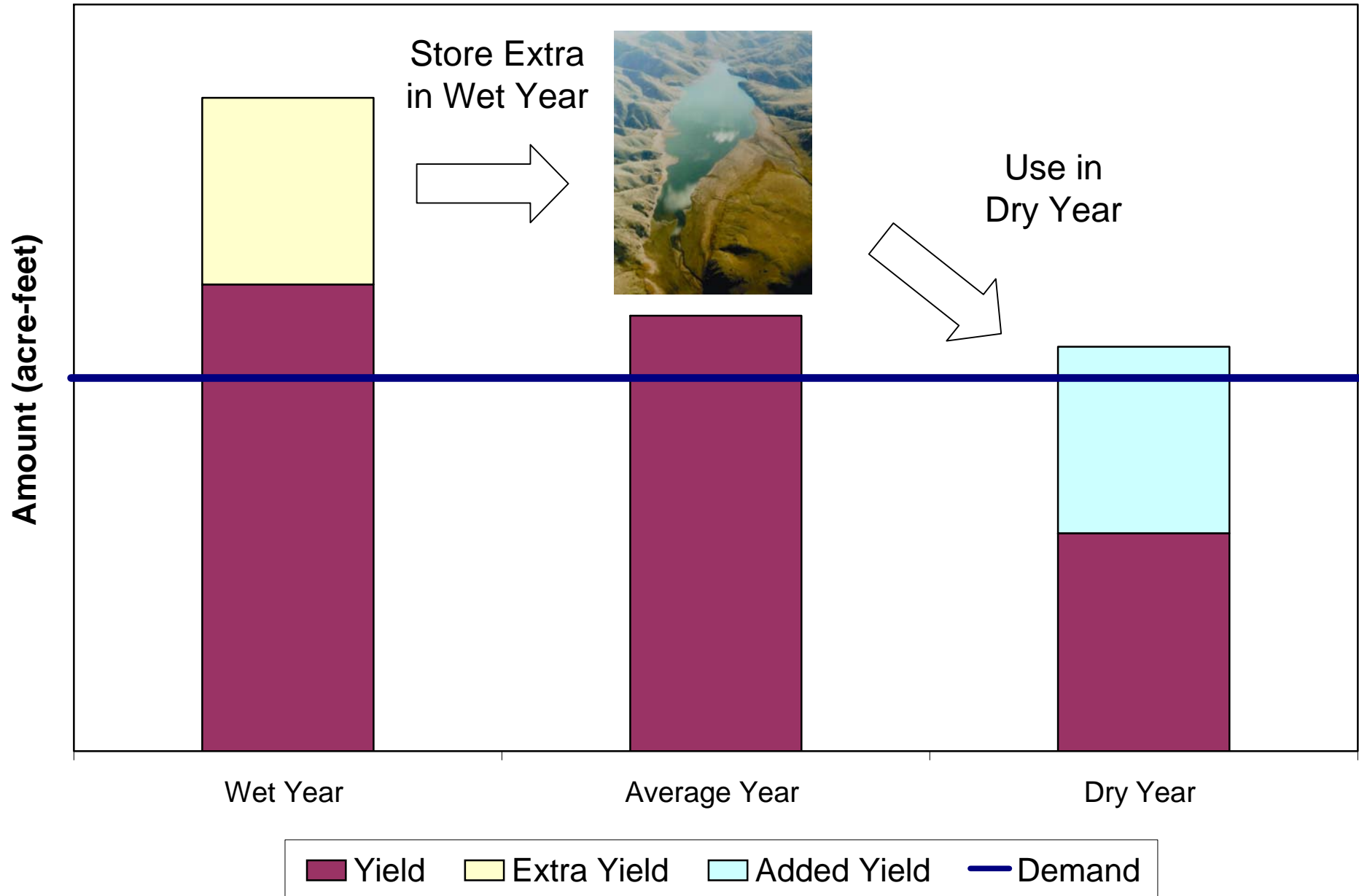
Water Supply

- Present Supply
 - Based on 1-in-50 drought criteria
 - 31,000 AF yield in dry year (1-in-50)
 - Surplus in wet and average years typically rented to agriculture
- Future Supply
 - Raw Water Requirements

Safe Yield Concept



Storage Balancing Effect



Why Storage Capacity?

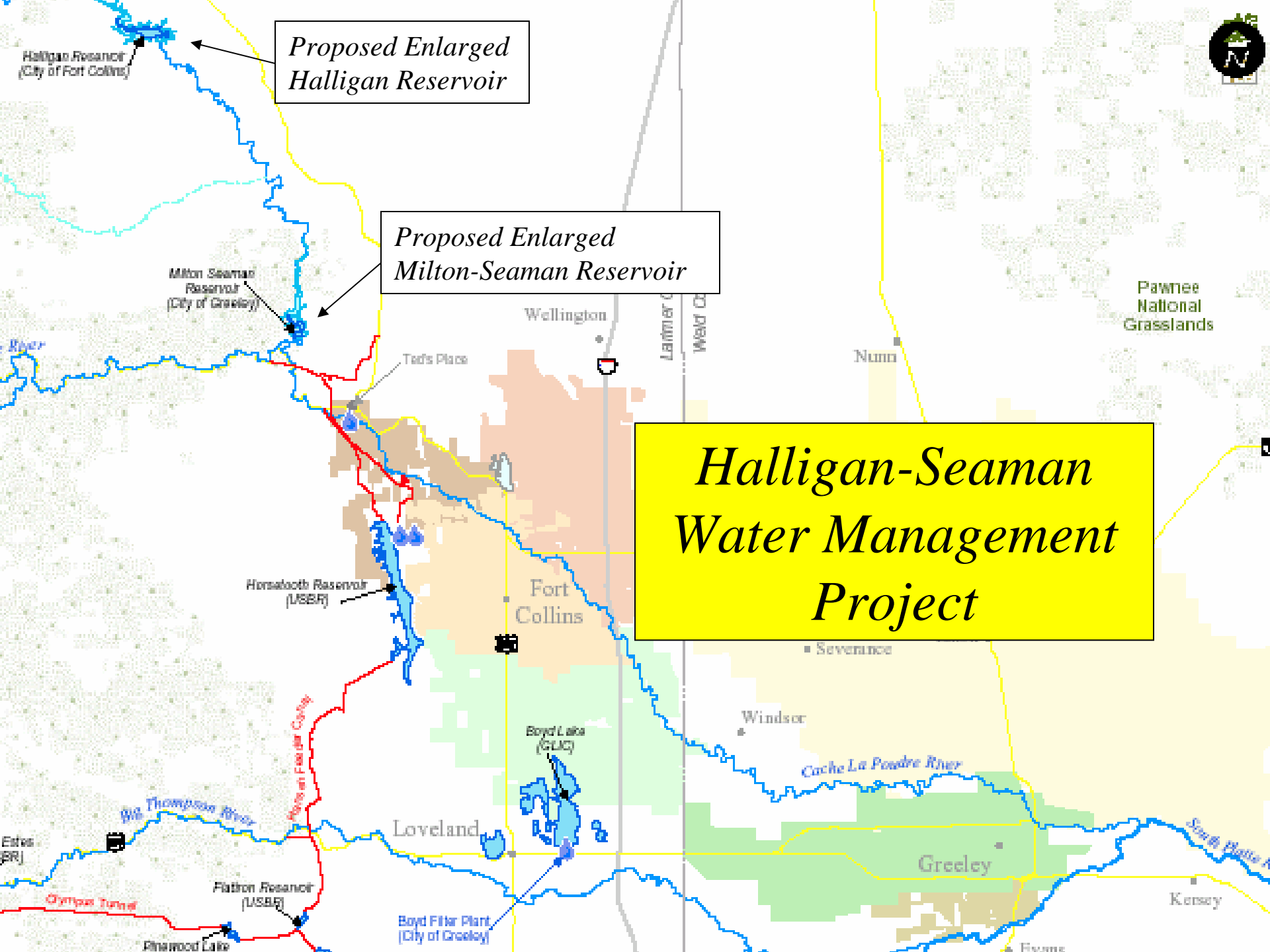
- Shifts wet year yields to dry years
- Shifts wet month yields to dry months
- Provides operational reliability and flexibility
- Needed to meet legal return flow obligations
- More cost effective than purchasing additional water rights
- Provides place to store what we conserve

City Storage Needs

- Operational Storage
 - Needed to meet return flow obligations
 - 1,500 to 2,000 AF needed
 - Local gravel pits make good option
- Carryover Storage
 - Needed to provide drought protection
 - Around 11,000 AF needed
 - Pursuing Halligan Reservoir enlargement

Halligan Reservoir Enlargement

- Enlarge existing reservoir to 40,000 AF
- Partnering with Tri-Districts and NPIC
- Teaming with City of Greeley on permitting process (Halligan-Seaman Water Management Project)
- Currently working through the NEPA permitting process with the Corps of Engineers



*Proposed Enlarged
Halligan Reservoir*

*Proposed Enlarged
Milton-Seaman Reservoir*

*Halligan-Seaman
Water Management
Project*

Halligan Reservoir
(City of Fort Collins)

Milton Seaman
Reservoir
(City of Greeley)

Horseshoe Reservoir
(USBR)

Flatiron Reservoir
(USBR)

Wellington

Fort Collins

Loveland

Greeley

Pawnee
National
Grasslands



Severance

Windsor

Kersey

Estes
(SR)

Pinewood Lake

Boyd Filter Plant
(City of Greeley)

Boyd Lake
(GLUC)

Ted's Place

Nunn

Larimer
West CO

Big Thompson River

Cache La Poudre River

South Platte River

North Platte County

Other Regional Storage Projects

- Northern Integrated Supply Project (NISP)
 - Developed by NCWCD (~15 participants)
 - Proposed Glade (~170,000 AF) and Galetton Reservoirs (~40,000 AF)
- Windy Gap Firming Project
 - Developed by NCWCD (~14 participants)
 - Proposed Chimney Hollow Reservoir (~90,000 AF)

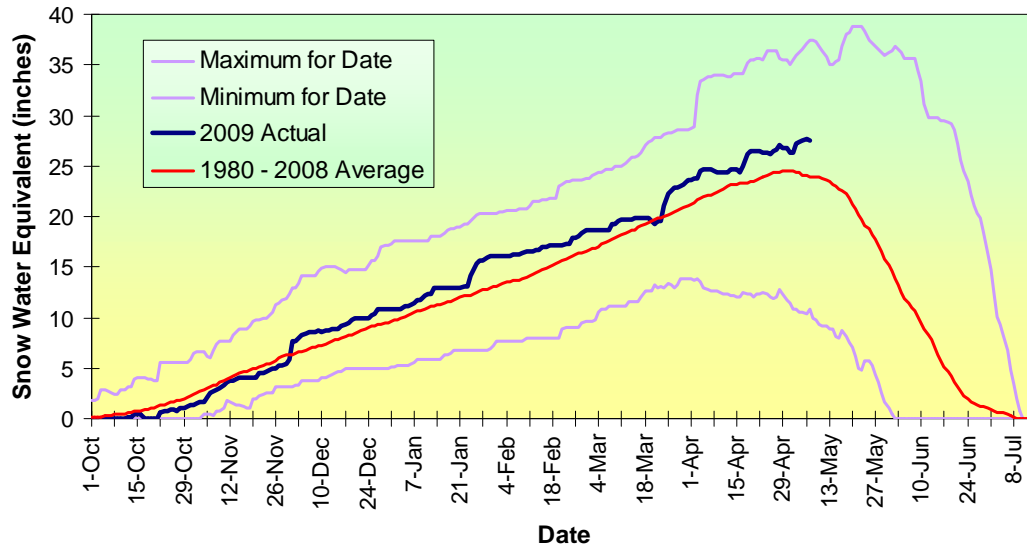
Windy Gap Firming Project

*Proposed Chimney
Hollow Reservoir
Location*

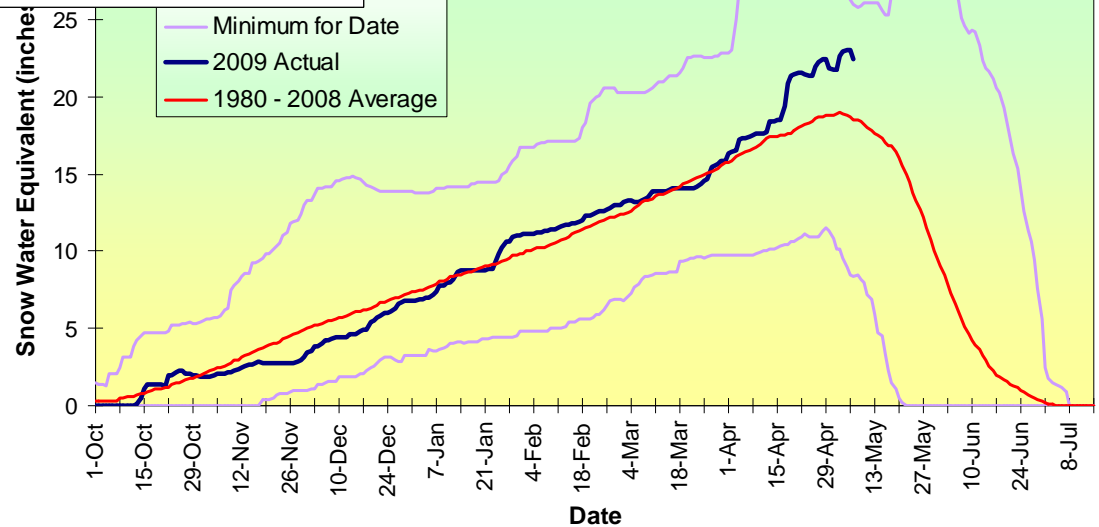


Supply Outlook for 2009

Joe Wright Snotel Site



Deadman Hill Snotel Site



Supply Outlook for 2009

- Total Supplies +53,800 AF
(projected min. river yields, CBT supplies (80% quota), 2008 carryover)
 - Total Demands -33,300 AF
(maximum treated and raw water demands and obligations)
 - Carryover for 2010 -10,000 AF
-
- Surplus (mostly rentals) +10,500 AF
 - Should not need mandatory restrictions
 - Continue on-going conservation efforts

Questions??

