

# Filling the Gap:

## Commonsense Solutions for Meeting Front Range Water Needs



**Joint West Slope  
Basin Roundtable Meeting  
May 26, 2011**

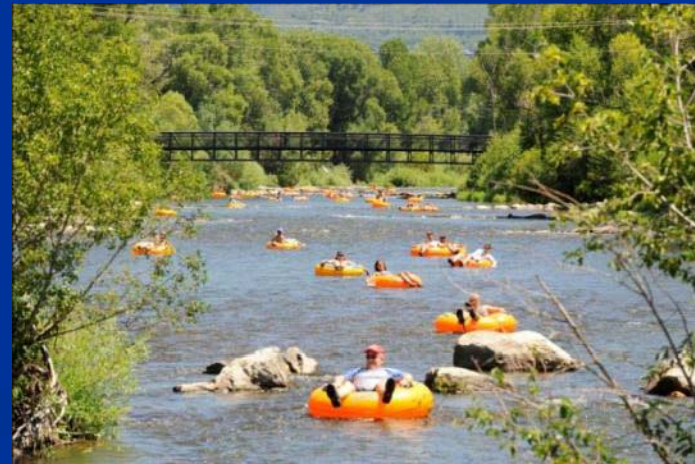
**Western Resource Advocates  
Trout Unlimited  
Colorado Environmental Coalition**

# The Big Picture

- Colorado's water future – the next 40 years
  - Significant work by State of Colorado and Interbasin Compact Committee in 2009-2010
  - 365,000 AF/year "gap" by 2050
- *Filling the Gap* — getting to "yes"
  - 21<sup>st</sup> Century approach
  - Sustainable, Balanced, Innovative
  - Protects Colorado's future

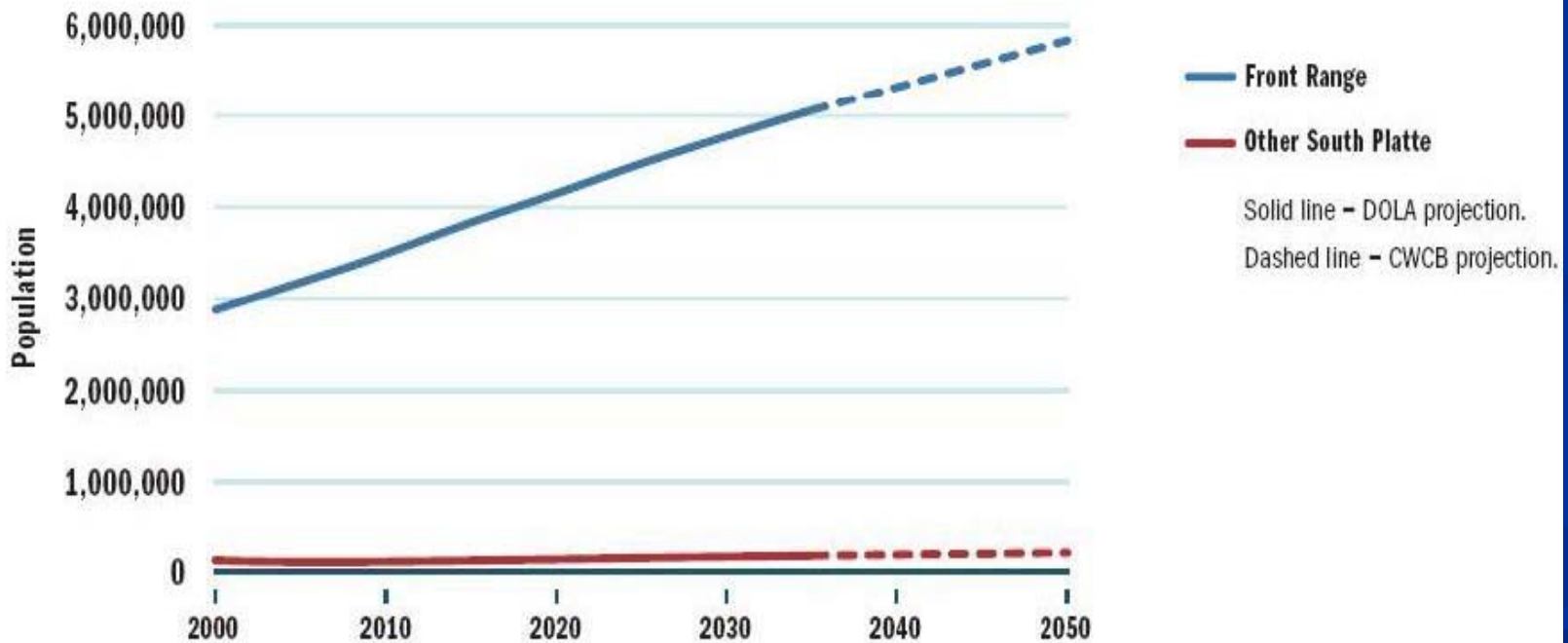
# Water and the Environment

- Healthy flowing rivers:
  - Sustain the environment
  - Power the economy
  - Support local communities
  - Create quality of life



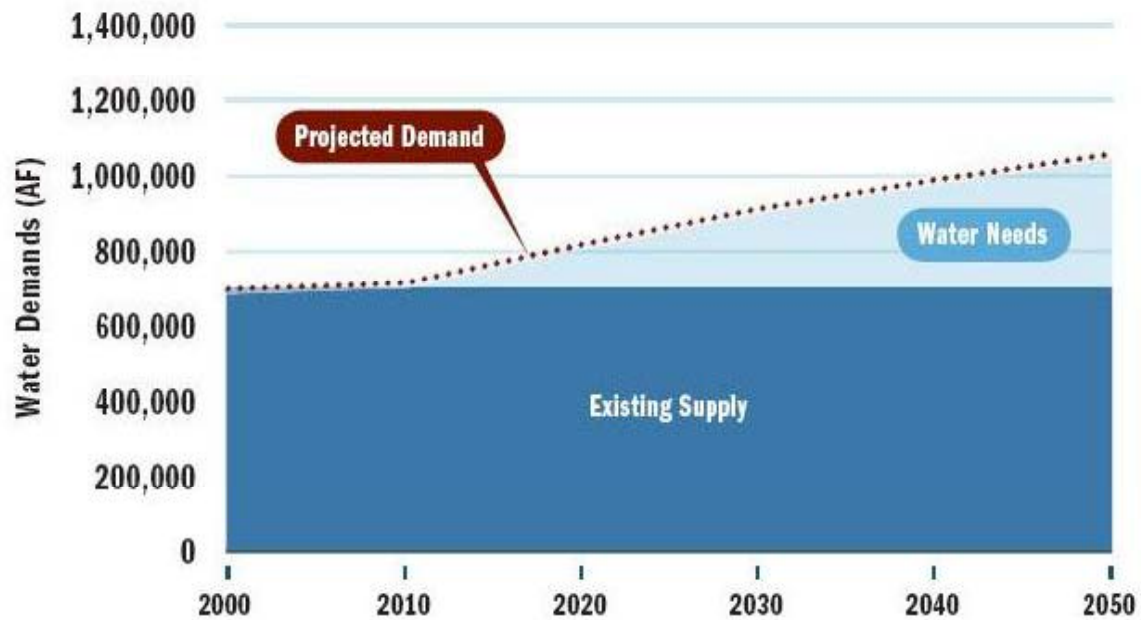
## FIGURE N° 2 POPULATION PROJECTIONS FOR THE SOUTH PLATTE BASIN.

The population of the Front Range is expected to nearly double between 2008 and 2050 for a total population of close to 5.8 million residents under a medium population growth scenario.



## FIGURE N° 4 ESTIMATE OF FRONT RANGE WATER NEEDS.

Using the most current CWCB data, we assume the Front Range will need 365,000 acre-feet of additional supply by 2050 to fully meet projected demands.



# Issues Associated With Structural Projects



- Cost
- Controversy
- Delay
- Evaporation
- Sedimentation

# Smart Principles

- Use existing supplies efficiently before making new diversions.
- Expand existing projects before building new ones.
- Improve use of existing water supply infrastructure by integrating systems and sharing resources among water users.
- Design ag-to-muni transfers to maintain agriculture and mitigate adverse impacts to rural communities.
- Invoke all stakeholders in decision-making processes.
- Fully address the environmental and socioeconomic impacts of water supply projects, especially trans-basin diversions.
- Leave adequate flows in rivers to support healthy ecosystems under all future scenarios, even if water availability diminishes in the future as a result of climate change or other factors.

**TABLE N° 1 FRONT RANGE ACCEPTABLE PLANNED PROJECTS.**

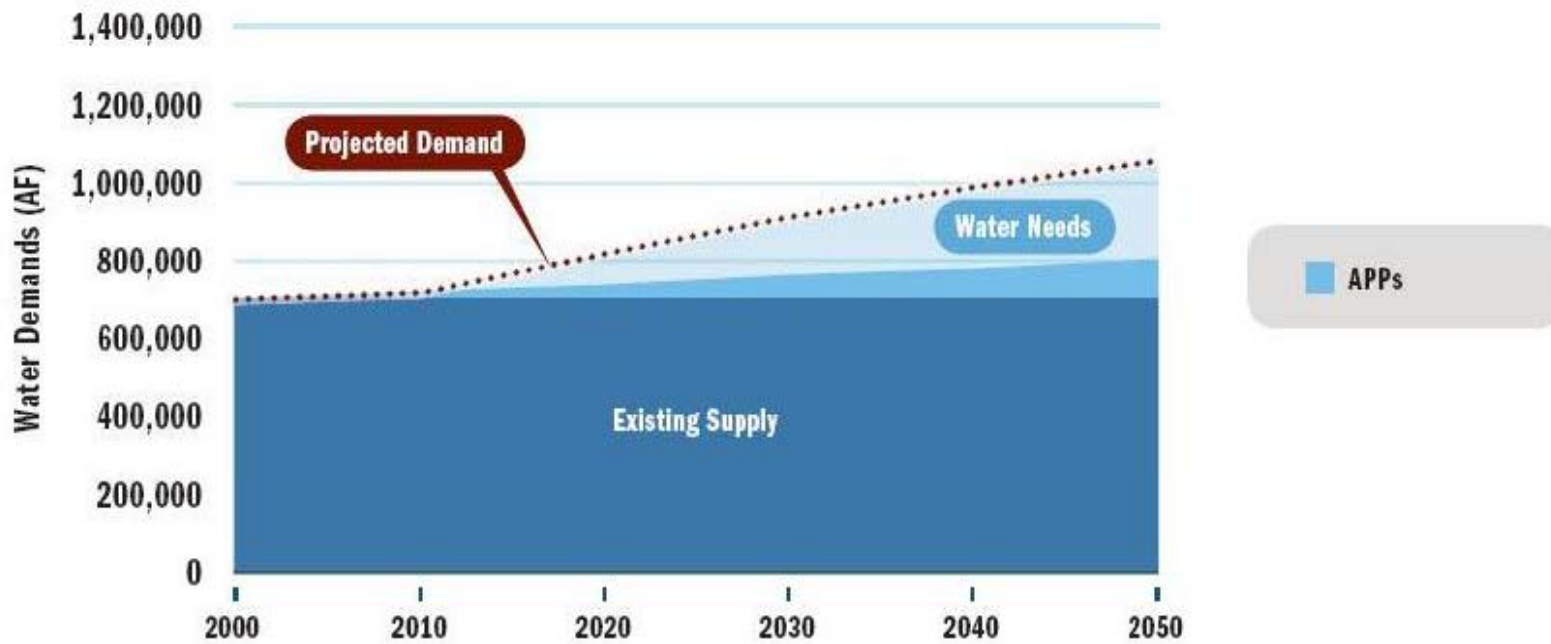
Project Name (Beneficiary)	Potential Yield (AF/year)	Description	Issues To Be Resolved
<b>Reservoirs</b>			
Chatfield Reservoir Reallocation (several central South Platte water suppliers)	8,000	Modify recreational facilities; reallocate 20,600 AF of storage from flood control to urban, agricultural, and instream uses.	Assess and minimize impacts of reservoir fluctuation on recreational facilities, wetlands, and bird habitats.
Gross Reservoir Enlargement (Denver Water)	18,000	Increase storage in existing reservoir by 72,000 AF.	Implement urban efficiency measures first.  Adopt adequate, enforceable measures to protect/ restore affected upper Colorado River Basin streams, and South Boulder Creek water quality and flows.
Halligan Reservoir Enlargement (Fort Collins)	7,000	Increase storage in existing reservoir by 33,500 AF.	Implement urban efficiency measures first.  Protect/restore N. Fork Poudre and Poudre River water quality and flows.
Rueter-Hess Reservoir Enlargement (Parker and other south Denver metro area providers)	15,000	Increase storage in existing reservoir by 54,000 AF.	Maximize use of in-basin surface water supplies, reuse, and conservation savings.

# FIGURE

# Nº 5

## ESTIMATE OF FRONT RANGE NEEDS INCLUDING THE ACCEPTABLE PLANNED PROJECTS STRATEGY.

APPs could collectively produce approximately 102,000 acre-feet of new water supply annually by 2050.



# Water Conservation

- Planning required by statute
- Tools available to providers
  - Rates
  - Rebates
  - Retrofits
  - Land use planning
- Public norms



# Issues with Conservation

- Demand Hardening
- Permanency
- % of Savings for Growth
- Impact on Return Flows

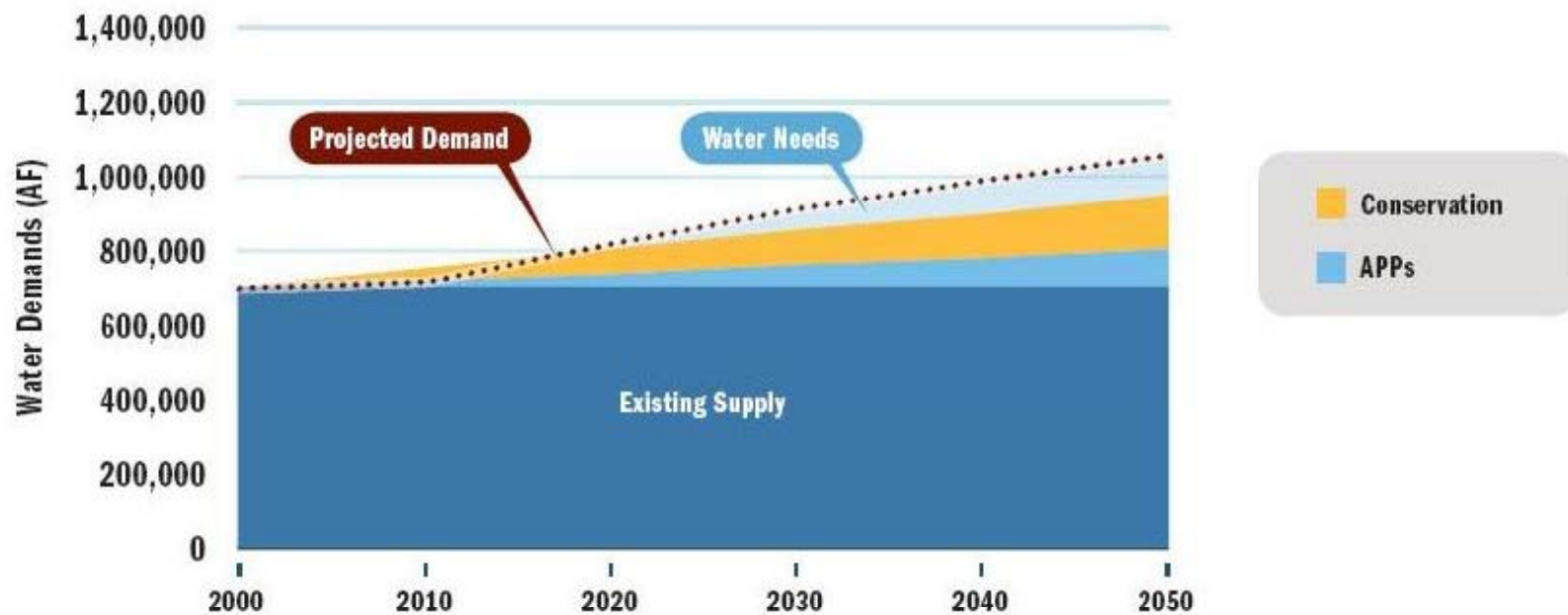


**FIGURE**

**Nº 6**

## **ESTIMATE OF FRONT RANGE WATER NEEDS INCLUDING THE ACCEPTABLE PLANNED PROJECTS AND CONSERVATION STRATEGIES.**

If 60% of active conservation savings are dedicated to meeting new demands, 153,000 acre-feet of new water supply could be made available annually to Front Range communities in 2050.



# Water Reuse



# Issues with Reuse



- Cost
- Public Acceptance
- Stream Flow Issues

**TABLE****Nº 3****DENVER AREA REUSABLE  
SUPPLIES AND RETURN FLOWS  
(ACRE-FEET PER YEAR).\***

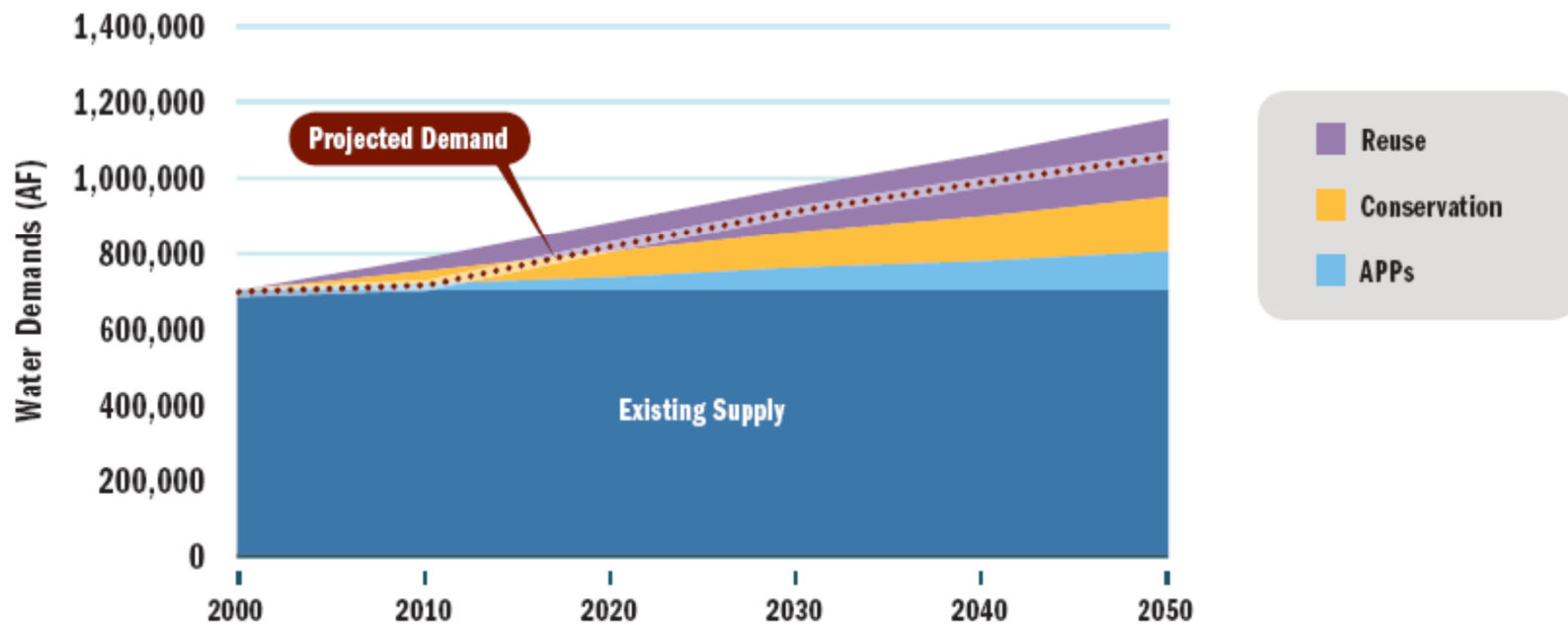
<b>Provider†</b>	<b>Reusable Supply (1999)</b>	<b>Future Reusable Supply‡</b>
Denver Water	50,000	95,000
Aurora	26,000	38,000
Douglas County	11,000	46,000
Thornton	5,000	24,000
Westminster	4,000	5,000
Arvada	1,000	2,000
Other	11,000	18,000
<b>Subtotal</b>	<b>108,000</b>	<b>228,000</b>
Reusable LIRF's§	25,000	40,000
<b>TOTAL</b>	<b>133,000</b>	<b>268,000</b>

**FIGURE**

**Nº 7**

**ESTIMATE OF FRONT RANGE WATER NEEDS INCLUDING THE ACCEPTABLE PLANNED PROJECTS, CONSERVATION, AND REUSE STRATEGIES.**

Existing and future plans for reuse along the Front Range could total 199,300 acre-feet annually by 2050.



# Ag/Urban Cooperation



# Issues with Ag/Urban Cooperation



- Sustaining Agriculture
- Instream Flows

**TABLE**

**Nº 5**

**ESTIMATE OF GROSS SUPPLY POTENTIAL FOR AG/URBAN COOPERATION IN THE SOUTH PLATTE BASIN (ACRE-FEET PER YEAR).**

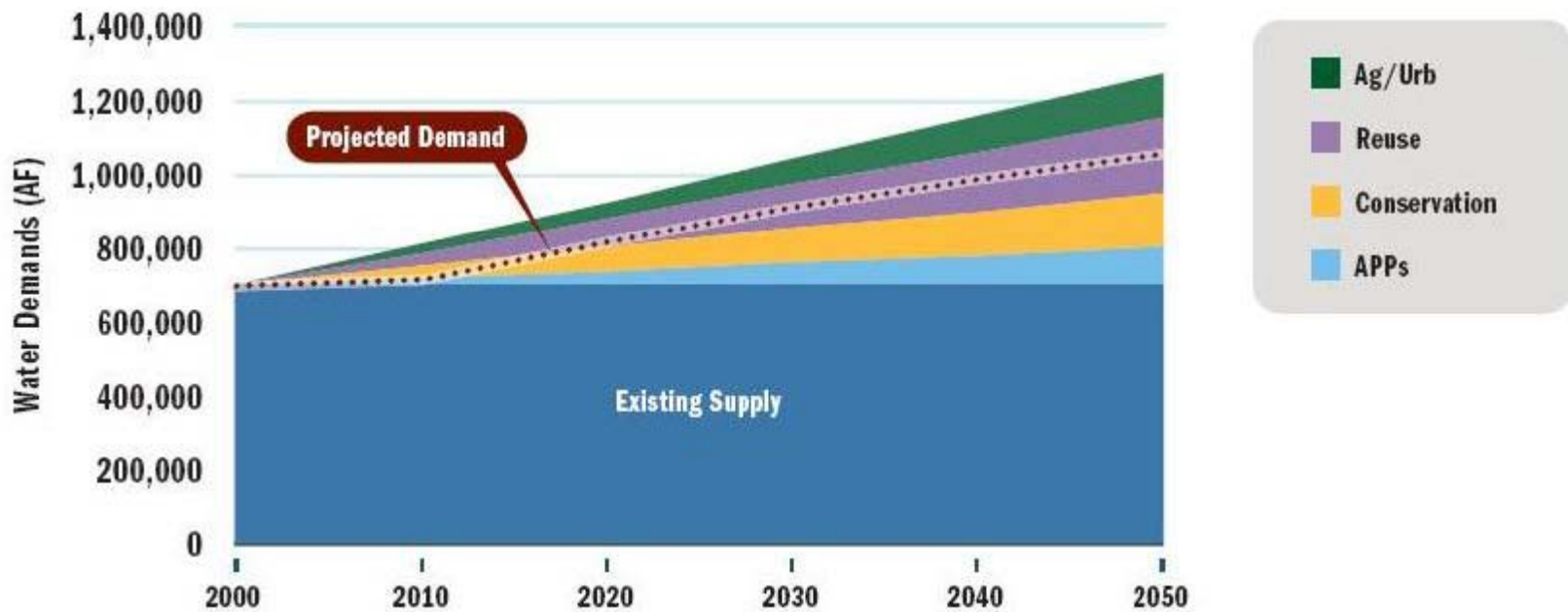
Sub-Basin	Average Dry-Year Supplies Owned by Agriculture with Diversions Above Greeley*	Average Clean Dry-Year Supplies† with Diversions Above Greeley*
South Platte above Chatfield‡	8,000	8,000
Bear Creek	~0§	~0§
Cherry Creek	~0§	~0§
Clear Creek	13,000#	4,000#
South Platte (Chatfield to Metro)	54,000	~0
South Platte (Metro to Big Thompson)	151,000	~0
Boulder Creek	49,000	24,000
St. Vrain / Left Hand	49,000	24,000
Big Thompson	73,000	47,000
Cache La Poudre	111,000	74,000
<b>TOTAL</b>	<b>495,000</b>	<b>190,000</b>

FIGURE

Nº 8

## ESTIMATE OF FRONT RANGE WATER NEEDS INCLUDING THE ACCEPTABLE PLANNED PROJECTS, CONSERVATION, REUSE, AND AG/URBAN COOPERATION STRATEGIES.

We assume 120,000 acre-feet of water could be made available annually through voluntary, cooperative ag/urban agreements without permanently drying irrigated lands.



# Recommendations

- Close the “gap” with balanced water supply strategies.
- Protect CO rivers and streams in all future water developments.
- Pursue only IPPs that can be constructed and operated according to “smart” principles.
- Implement more aggressive water conservation. Front Range homeowners consistently express a willingness to adopt enhanced conservation measures in order to protect rivers.
- Maximize water reuse, and work to improve public perception and acceptance of reuse projects.
- Cooperate with agriculture on voluntary water sharing agreements that benefit both municipalities and the agricultural community without permanently drying irrigated acres.

# Questions?

- Bart Miller, Water Program Director,  
Western Resource Advocates
  - 720-763-3719, [bmiller@westernresources.org](mailto:bmiller@westernresources.org)

*Filling the Gap*

is available online at:

[www.westernresourceadvocates.org/gap](http://www.westernresourceadvocates.org/gap)

