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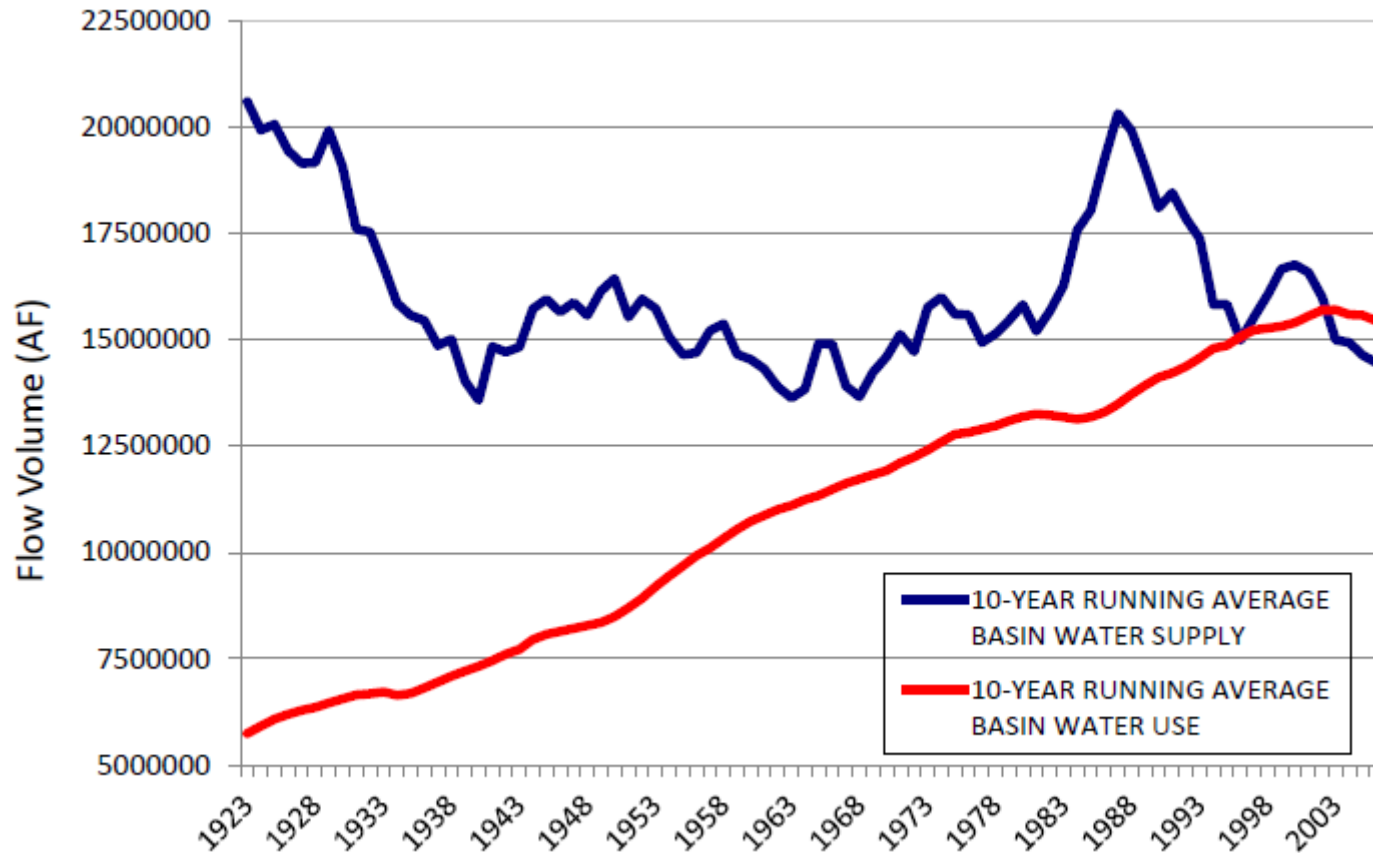
Conservation and a Balanced Water Supply Portfolio for Colorado



Jorge Figueroa
Western Resource Advocates

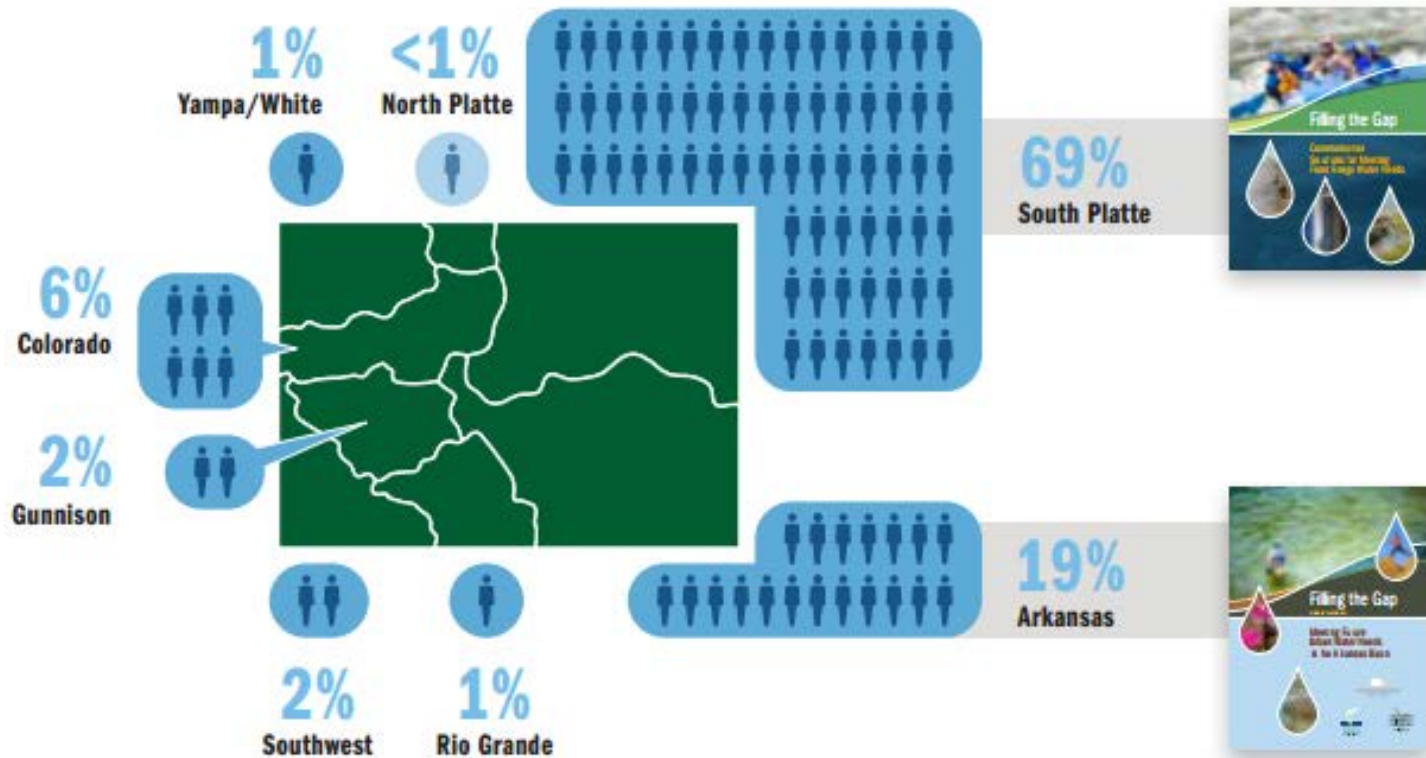
The Big Picture: Framing the Challenge

Historical Colorado River Water Supply and Demand

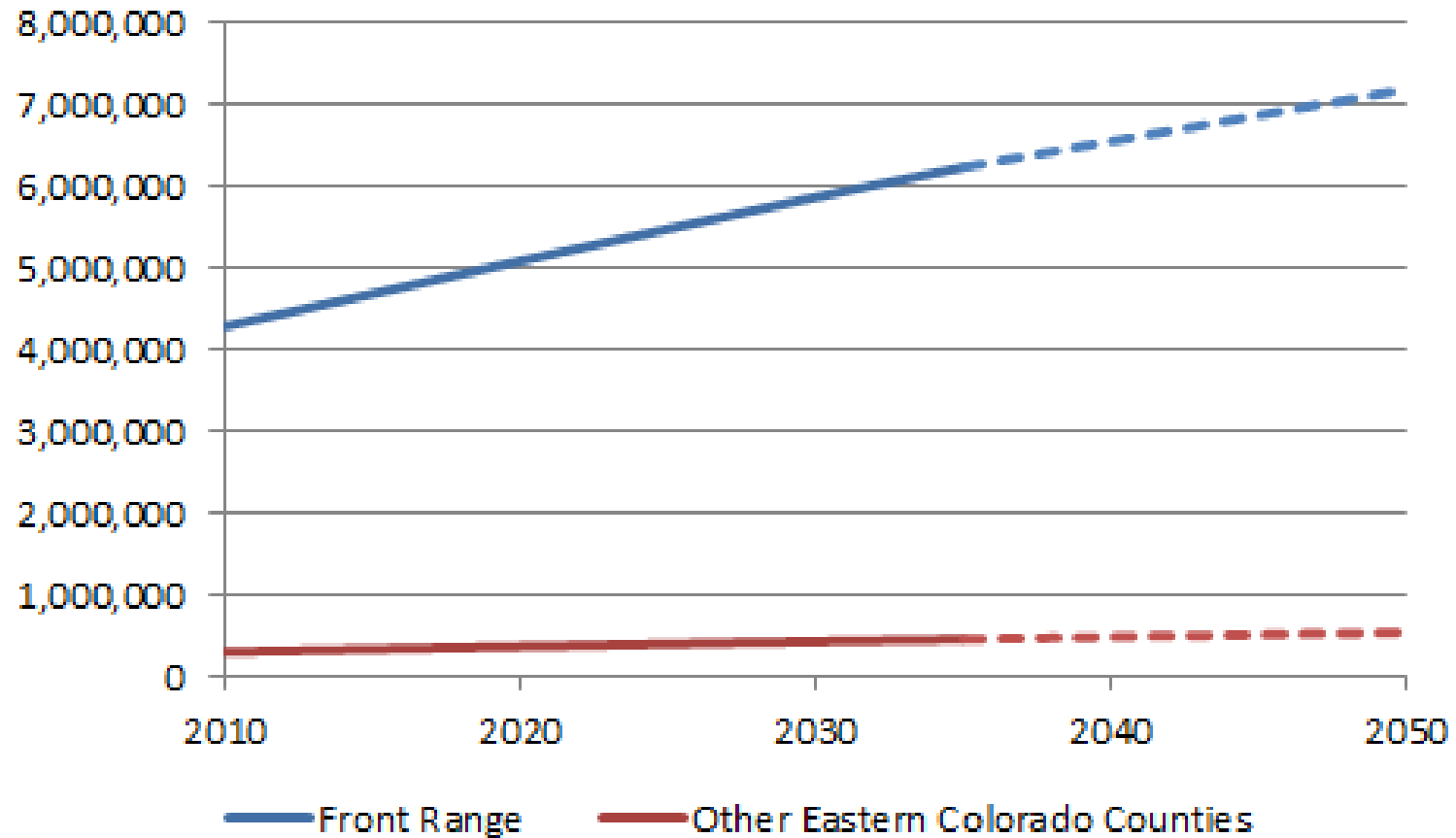


The Big Picture: Framing the Challenge

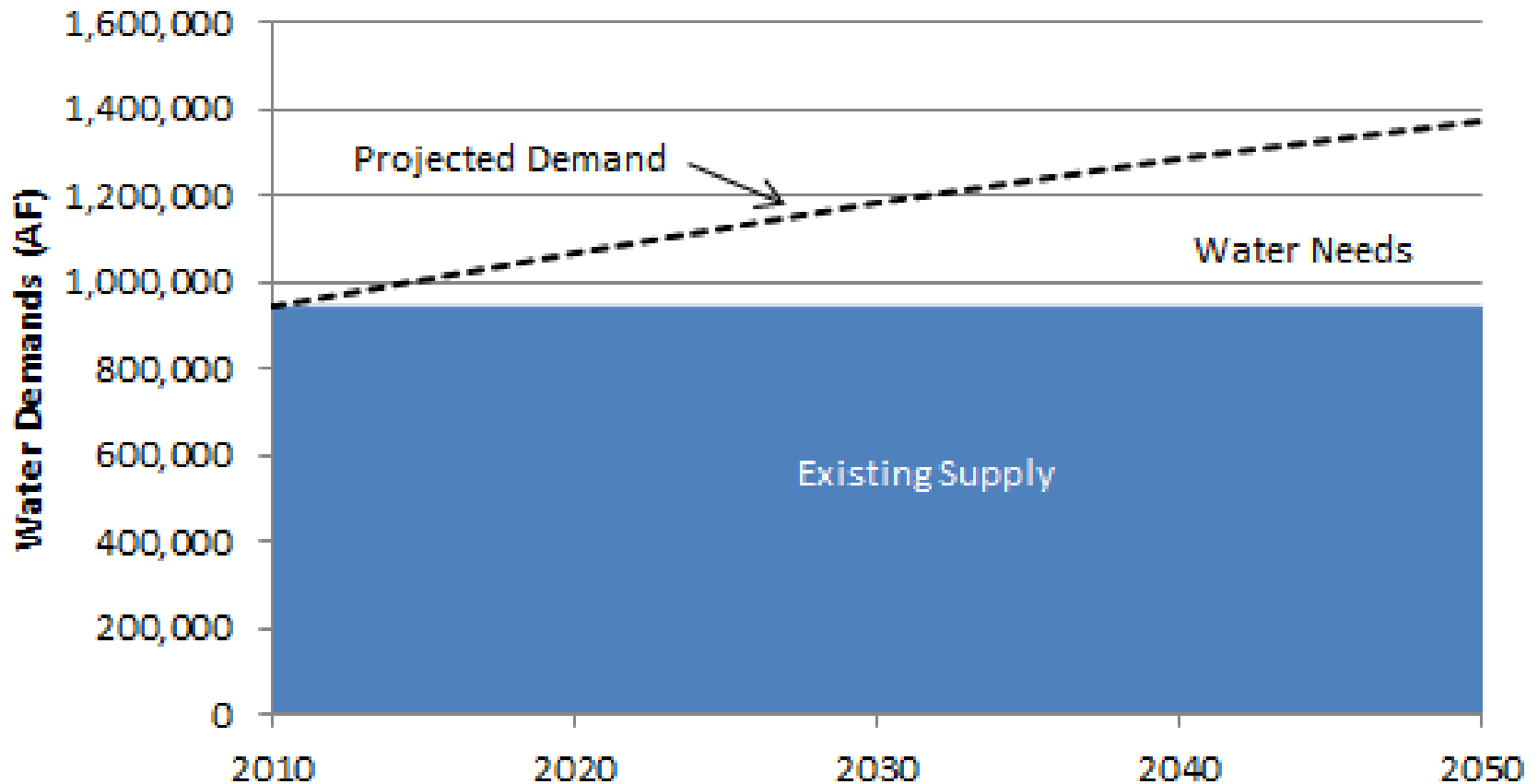
Population Distribution in the State of Colorado by River Basin in 2010



Population Projections



Future Urban Water Needs for the Front Range

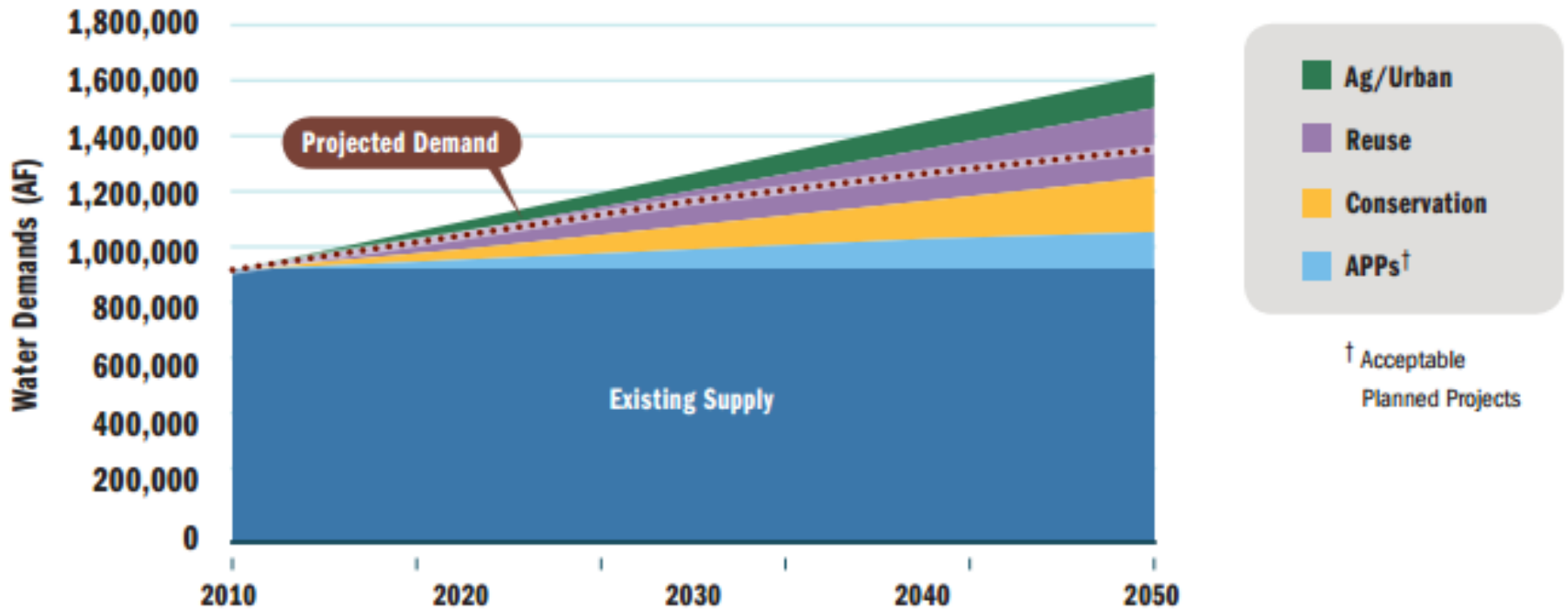


The Big Picture

- Colorado's water future – the next 40 years
 - Significant work by CWCB, BRTs, IBCC, etc...
 - M&I demand expected to double → “gap” by 2050
- *Filling the Gap Series*
 - Solutions-oriented
 - 21st Century approach
 - Sustainable, balanced, innovative
 - Protects Colorado's future



Our Portfolio

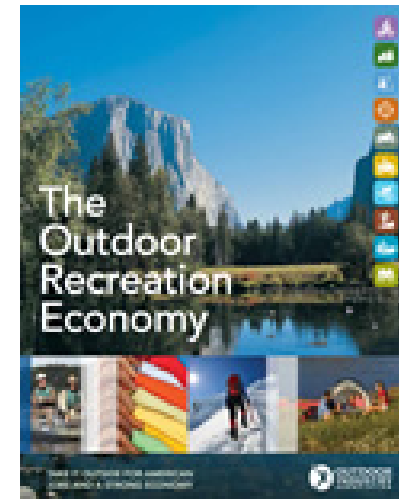
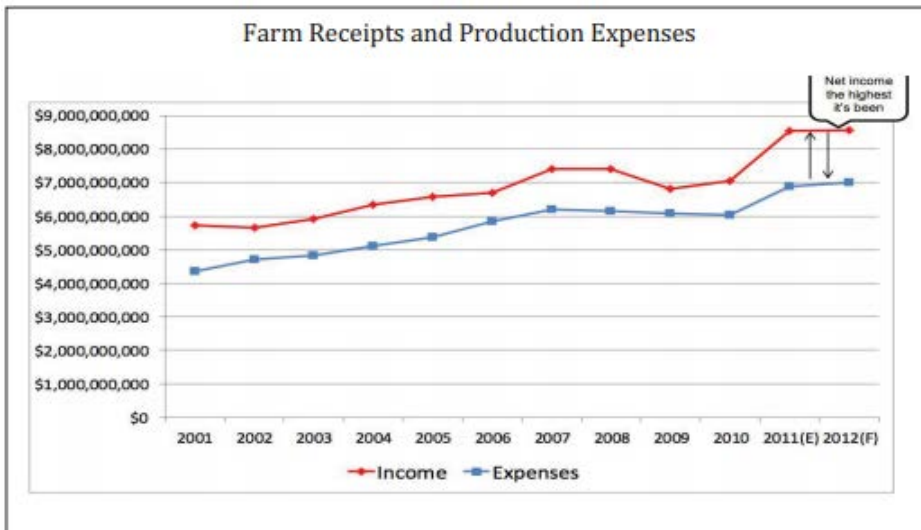


The Big Picture: Environment and Ag as Big Business

Net profits of Ag in Colorado highest ever

\$13 billion dollars spent by consumers in outdoor recreation in CO in 2012

Farm Receipts and Production Expenses



Outdoor Industry Association, 2012.

Sources: Graph from Colorado Department of Agriculture, data from USDA/Economic Research Service (2004-2009) and Colorado Business Economic Outlook (2010-2012)

Smart Principles and Traditional Structural Water Supply Projects

Big water supply projects are not necessary → Supplies can exceed demands without them

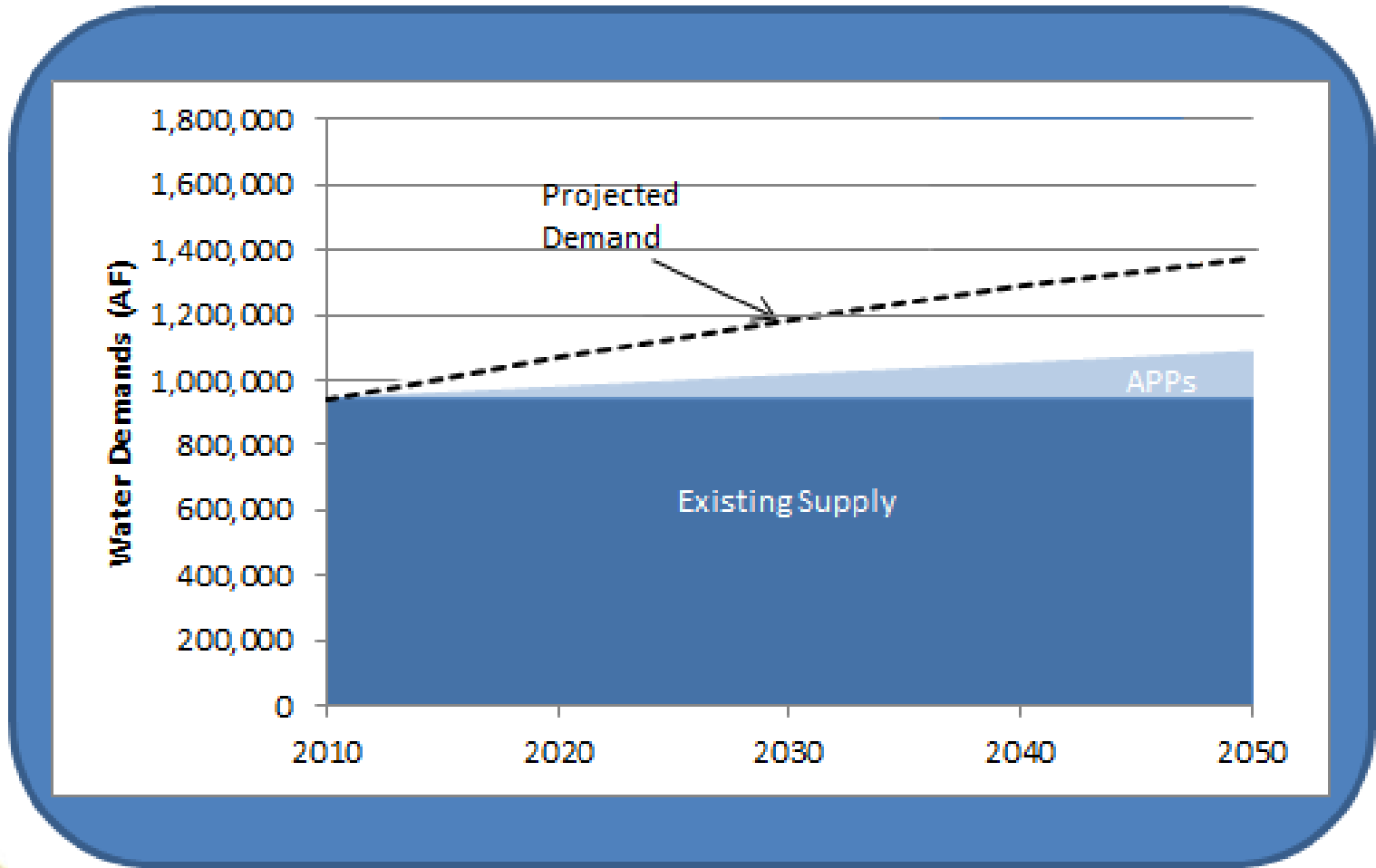
ISSUES:

- Cost
- Controversy
- Delay
- Evaporation
- Sedimentation

Smart Principles and APPs

- Make full and efficient use existing of supplies.
- Expand existing projects before building new ones.
- Maintain adequate flows in rivers under all future scenarios, even if future water availability decreases.
- Integrate systems and share resources among water users, and seek to develop “multi-purpose projects” to spread project benefits as well as costs.

Front Range Urban Water Needs with Acceptable Planned Projects



Water Conservation

- Managing Demand
- State Statute
- Conservation Measures
- Land Use Planning



High Conservation Strategy (SWSI)

❖ Indoor Residential

Reduced statewide to an average of 30 gpcd by 2050.

❖ Indoor Non-Residential

30% per capita use reduction by 2050.

❖ SF Residential Outdoor

27% per capita use reduction by 2050.

❖ MF Residential and Non-Residential, Outdoor

27% per capita use reduction by 2050.

❖ Water Loss

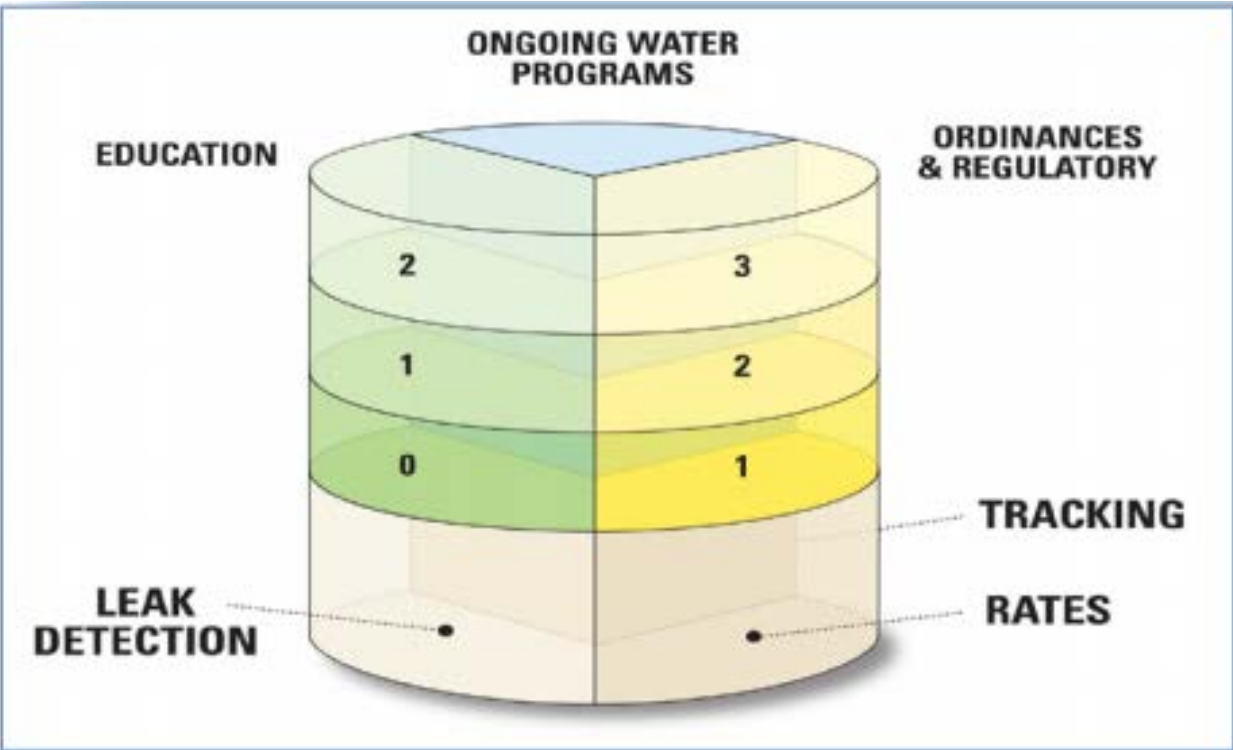
Real utility water loss reduced to 6% system demand by 2050.



WESTERN RESOURCE
ADVOCATES

High Conservation Strategy (SWSI)

Implementation Approach



Source: SWSI 2010, Appendix K.

High Conservation Strategy (SWSI)

Can It Be Done in the Real World?

40 YEARS OF INNOVATION



High Conservation Strategy (SWSI)

Can It Be Done in the Real World?

MUNICIPAL LEVEL

- ✓ William Maddaus, 1999. Realizing the Benefits From Water Conservation. *Journal of Contemporary Water Research and Education*. Vol. 114, Iss. 1.
- ✓ Colorado municipal water conservation plans: average water demand reduction of 11.3% over 10 years (SWSI 2010, Appendix K.)

STATE-WIDE LEVEL

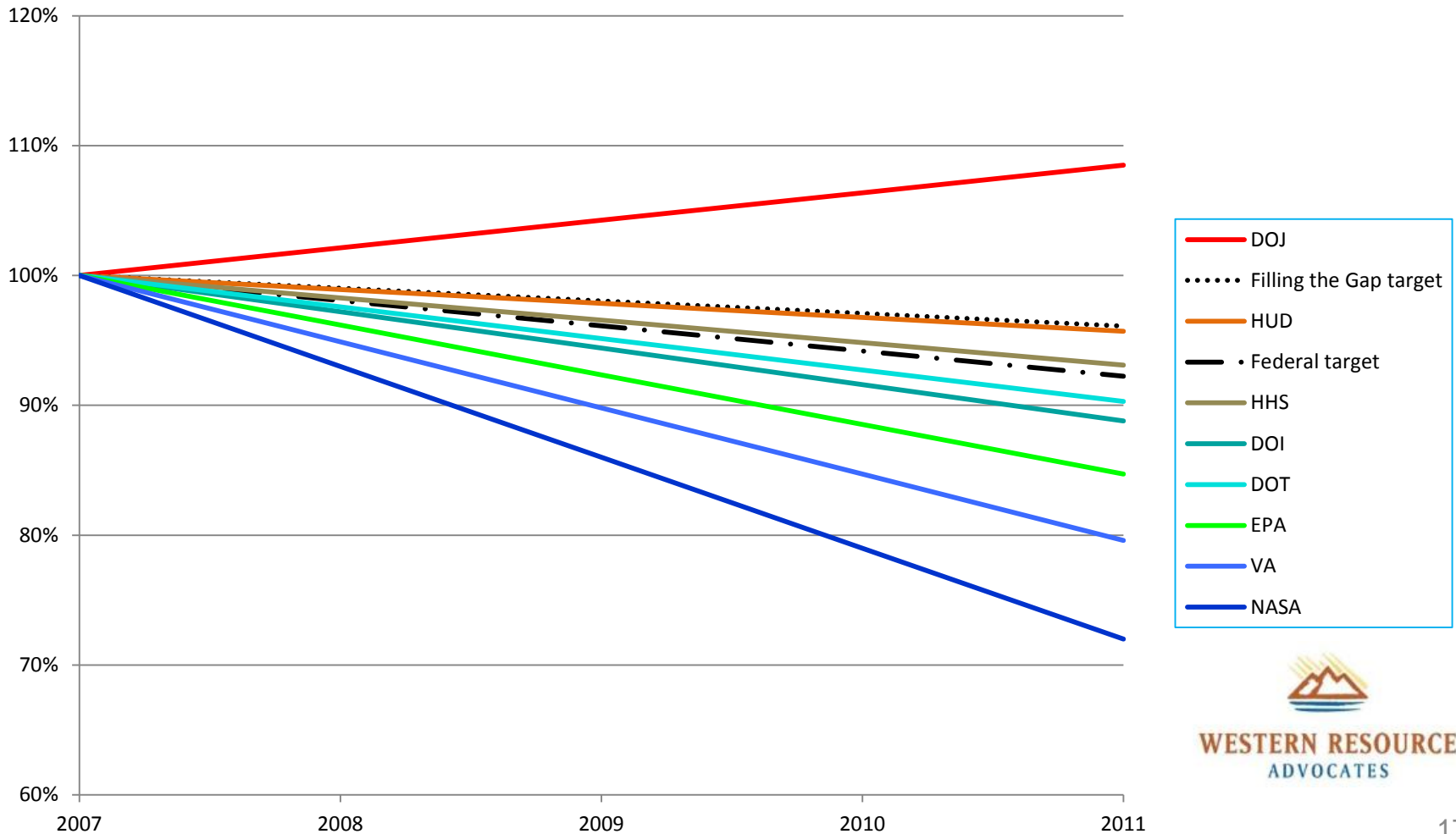
- ✓ California - *20x2020 Plan*
- ✓ Texas - Senate Bill (SB) 1094 and the Water Conservation Implementation Task Force Recommendations



High Conservation Strategy (SWSI)

Can It Be Done in the Real World? FEDERAL LEVEL

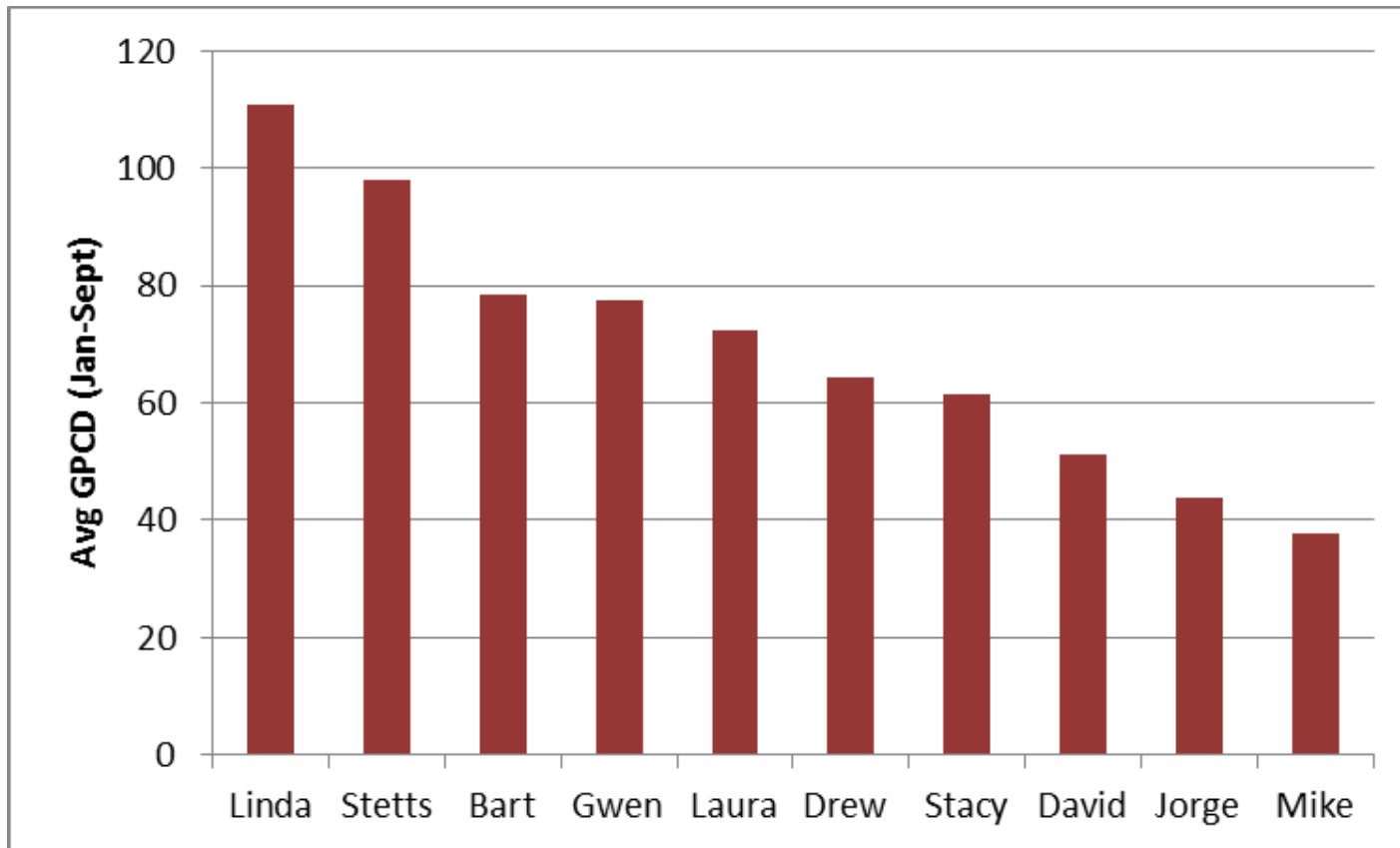
Water Intensity Reductions under Executive Order (E.O.) 13,423 and E.O. 13,514



High Conservation Strategy (SWSI)

Can It Be Done in the Real World? RESIDENTIAL

WRA's Water Smackdown 2012



Actual Landscapes



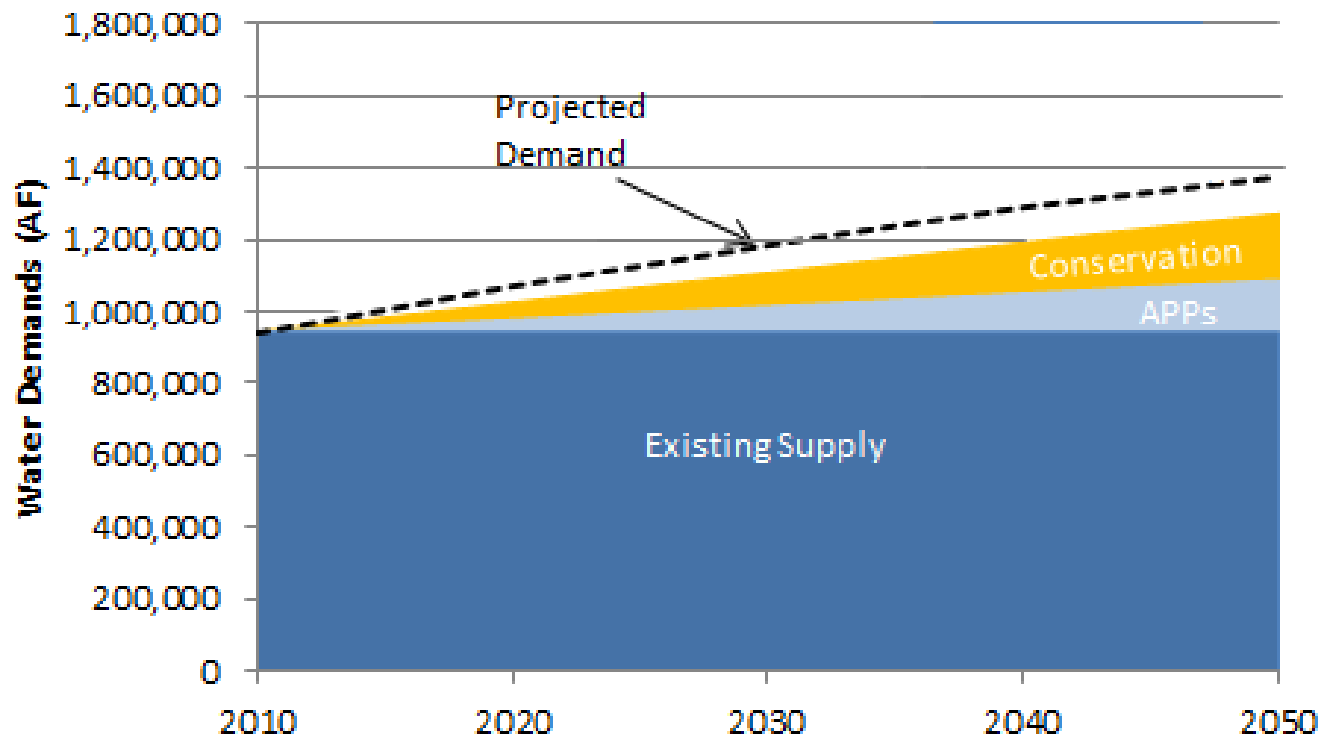
Jorge: 44 gpcd



Drew: 64 gpcd



Urban Water Needs with APPs and Conservation

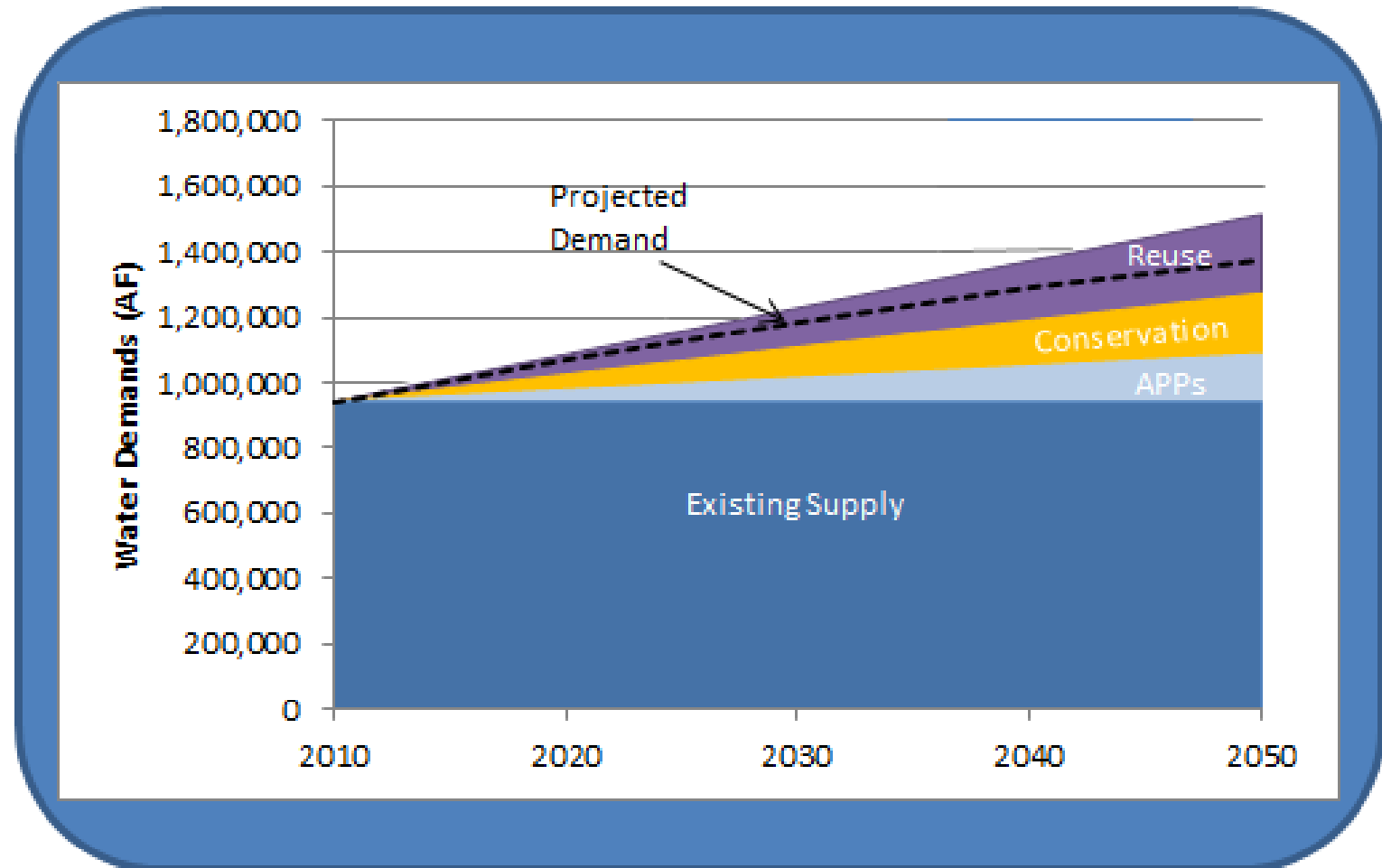




Water Reuse

- Increases supply
- Reusable water supplies in the Front Range
- The Front Range is already a leader

Urban Water Needs with APPs, Conservation, and Reuse

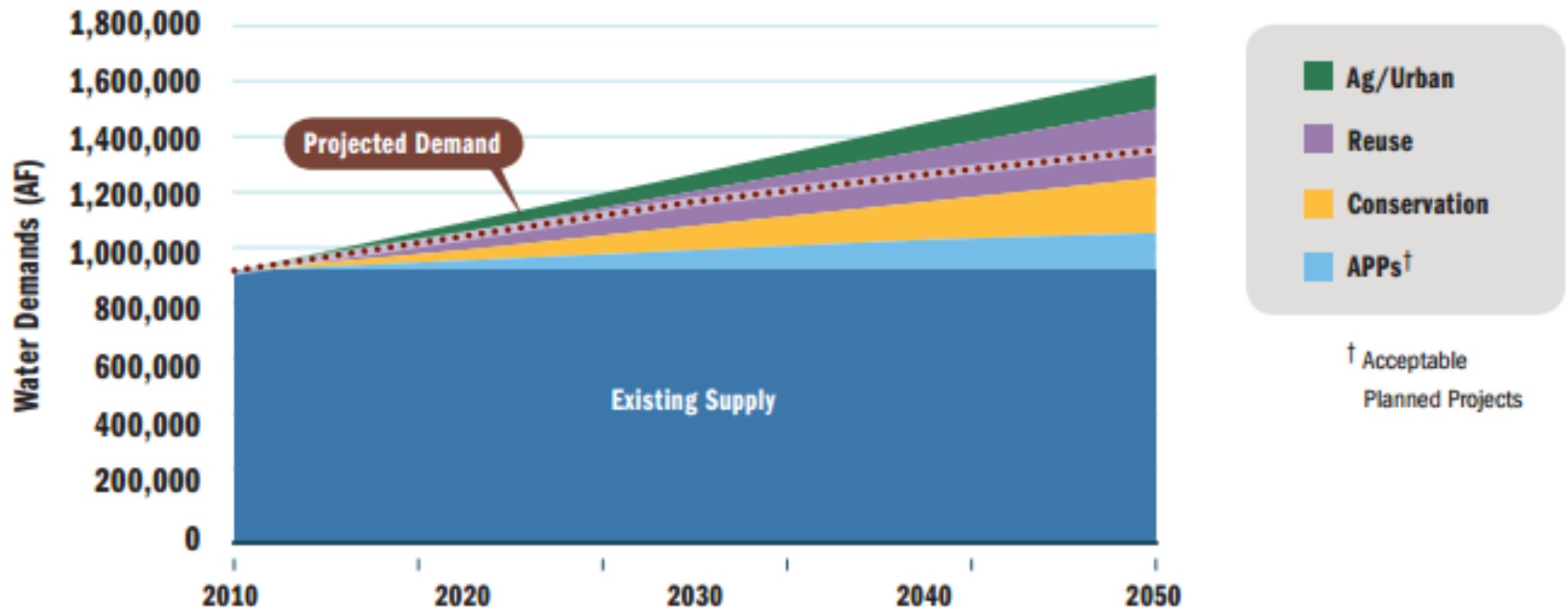


Ag/Urban Cooperation



- Voluntary
- Temporary
- Compensated
- Buy and Dry alternative
- Super Ditch
- Much interest from farmers

Urban Water Needs with APPs, Cons., Reuse, and Ag/Urban Cooperation



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.
- Maximize water reuse, and 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.



Thank You! Questions?

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Filling the Gap Series

is available online at:

www.westernresourceadvocates.org/gap

