

Water Challenges: The Pressures of Providing a Reliable Water Supply for Differing Agricultural Markets



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Water Is...

- Life
- A commodity
- Governed
- Fought for
- Necessary
- Precious
- Invigorating
- Spiritual
- Limited
- Everything
- Clean
- Polluted
- Plentiful
- Beer
- A provider
- Community

“In the West, when you touch water, you touch everything” – US Representative Wayne Aspinall



- Photo: “Waiting for water on the Grand Valley Project. The home of B. B. Freeman and family, who had been waiting for water for six years. 1913.”
- Without water storage, life in Colorado would be at the mercy of the weather.

Introduction of Irrigation

- 1859
 - Development of first irrigation ditch in Boulder County
- 1870
 - Boulder County: Value of farmlands was highest in the territory at \$575,650

Source: Boulder County's Agricultural Heritage Deon Wolfenbarger – March 2006

Early Settler Period

Jesse farming here pays big. You bet wee Can make money other ways but farming is A shore Shot and A fast way to make money here...Wheat is one main point...They rased the best wheat here last year I ever see grow. Jesse you would knot know this Country although you was here in 60, you know that wee thought they couldn't be any thing rased here but wee was mistaken.

-Letter from Boulder City, Colorado Territory 1863

Source: *Boulder County's Agricultural Heritage Deon Wolfenbarger – March 2006*

Mechanized Period

To those who imagine Colorado as sort of semi-desert, whose people depend almost wholly upon the mines for support, it may be somewhat of a revelation to learn that the value of Colorado's agricultural products is greater than her minerals...To the farmers of the east and middle west, our untilled soils seem poor and unproductive, but with the magic touch of water and Colorado sunshine, they become the most product in the world.

-Boulder Commercial Association 1907

Source: Boulder County's Agricultural Heritage Deon Wolfenbarger – March 2006

Irrigation Challenges

**Table of Dry and Wet Periods for Colorado from the Fraction of Observing Sites.
Precipitation for 24 month SPI.**

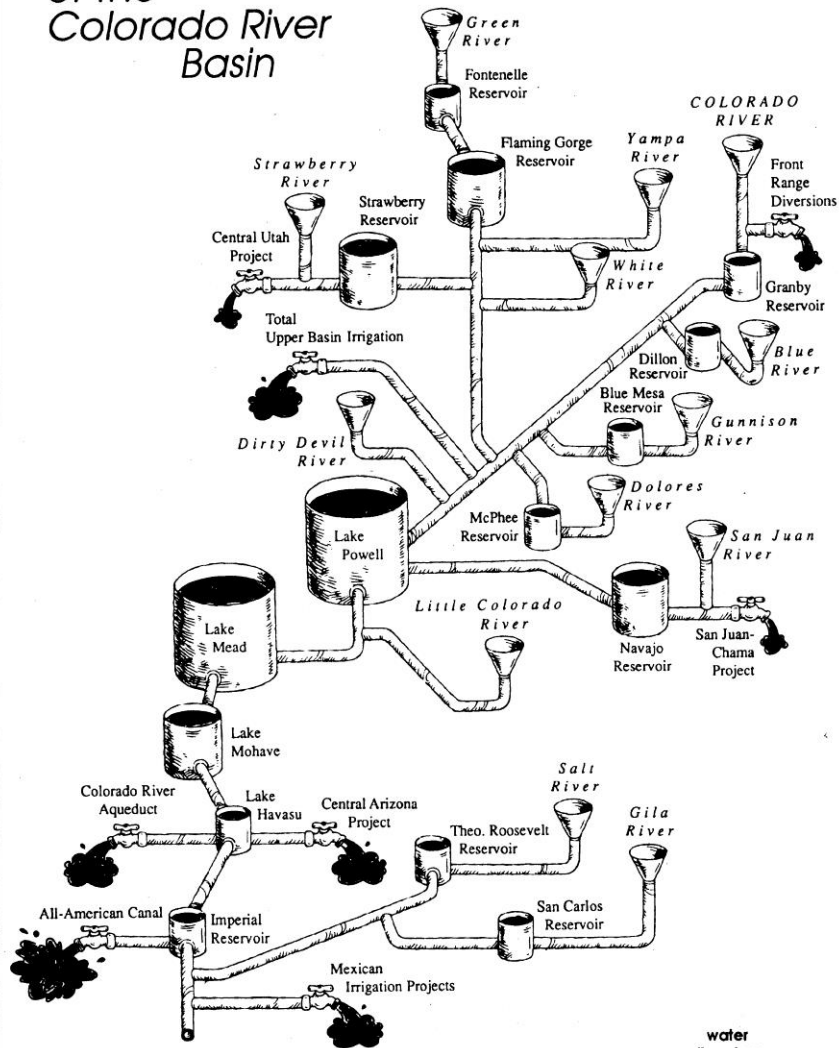
Date	Dry	Duration	Date	Wet	Duration
1893-1905	X	12 years	1905-1931	X	26 years
1931-1941	X	10 years	1941-1951	X	10 years
1951-1957	X	6 years	1957-1959	X	2 years
1963-1965	X	2 years	1965-1975	X	10 years
1975-1978	X	3 years	1979-1996	X	17 years

*Source: A History of DROUGHT IN COLORADO LESSONS LEARNED AND WHAT LIES AHEAD
McKee, Doesken, Kleist, et. al. - 2000*

An Inconvenient Truth

- 70% of our native annual Front Range water supply flows past us in just 60 days.
- In you understand this, you understand that we must impound water during the period of high run-off for later use.

the plumbing of the Colorado River Basin



Gulf of California

key to the plumbing system

significant tributary



less than 1.5 million



2 - 5 million



33 - 36 million



water diversions in acre-feet

0 - 0.6 million



1.2 - 2.4 million



2.75 million



Clint McKnight,
based on art by Lester Doré,
High Country News

Irrigation Challenges Cont...

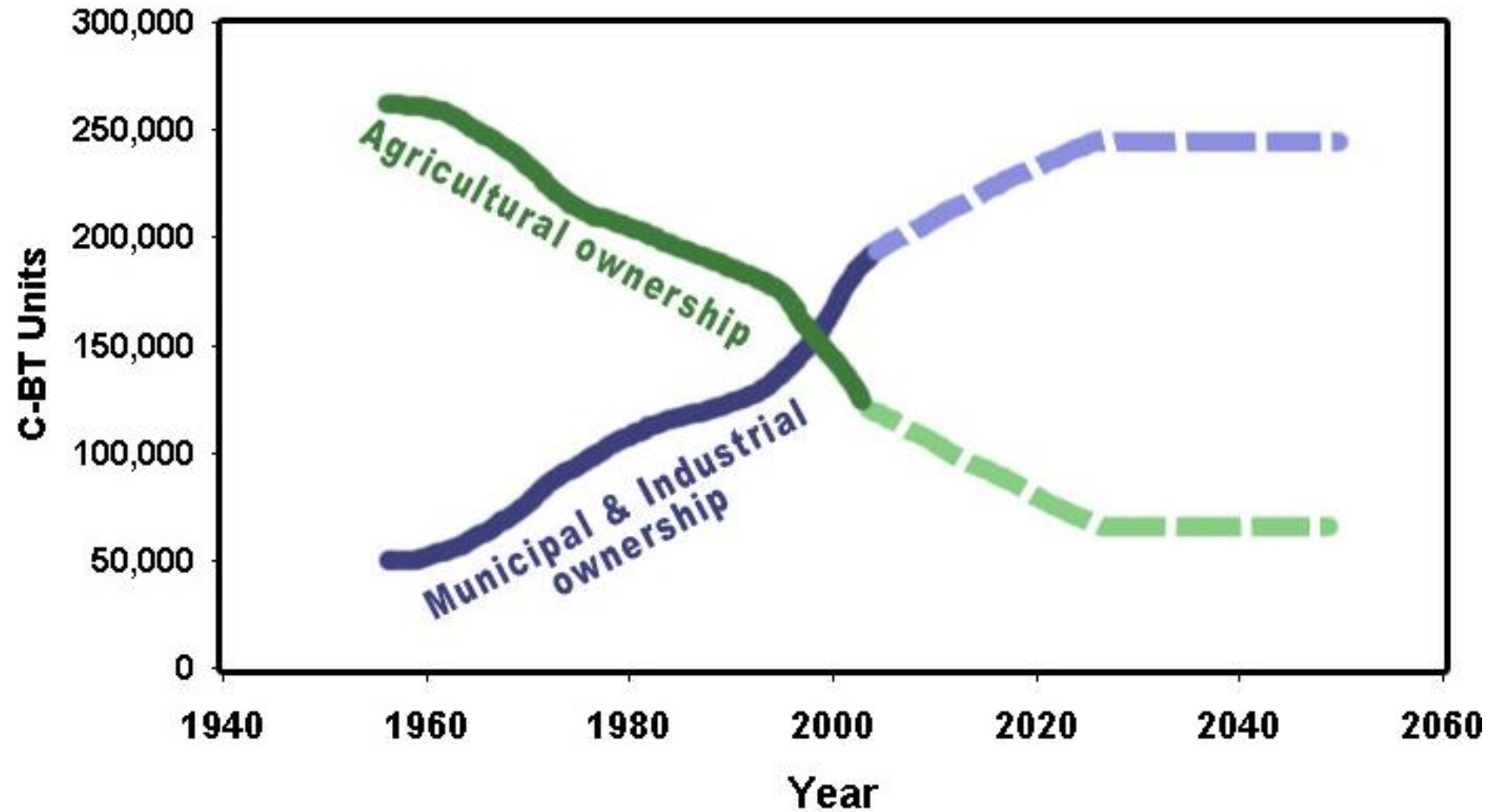
- Boulder County: 514 farms and 39,363 acres in irrigation (1987)
- Efficiencies (Return Flows)
- Urban Encroachment (Ditch Maintenance)
- Climate Change
- Supplemental Supplies (C-BT)
- Buy & Dry (Agriculture Pipeline)
- Competition (Environment & Recreation)



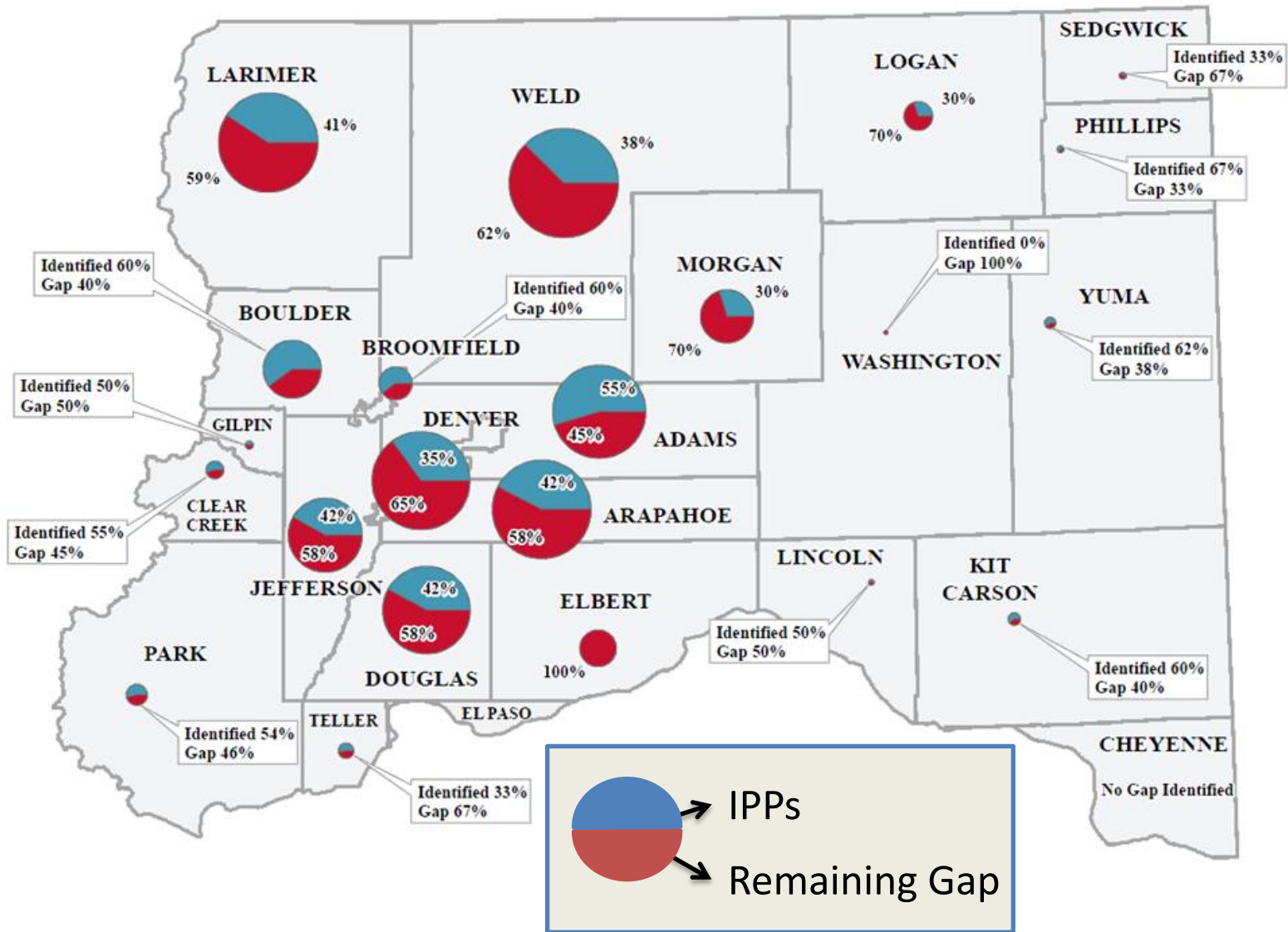




C-BT Ownership Trends

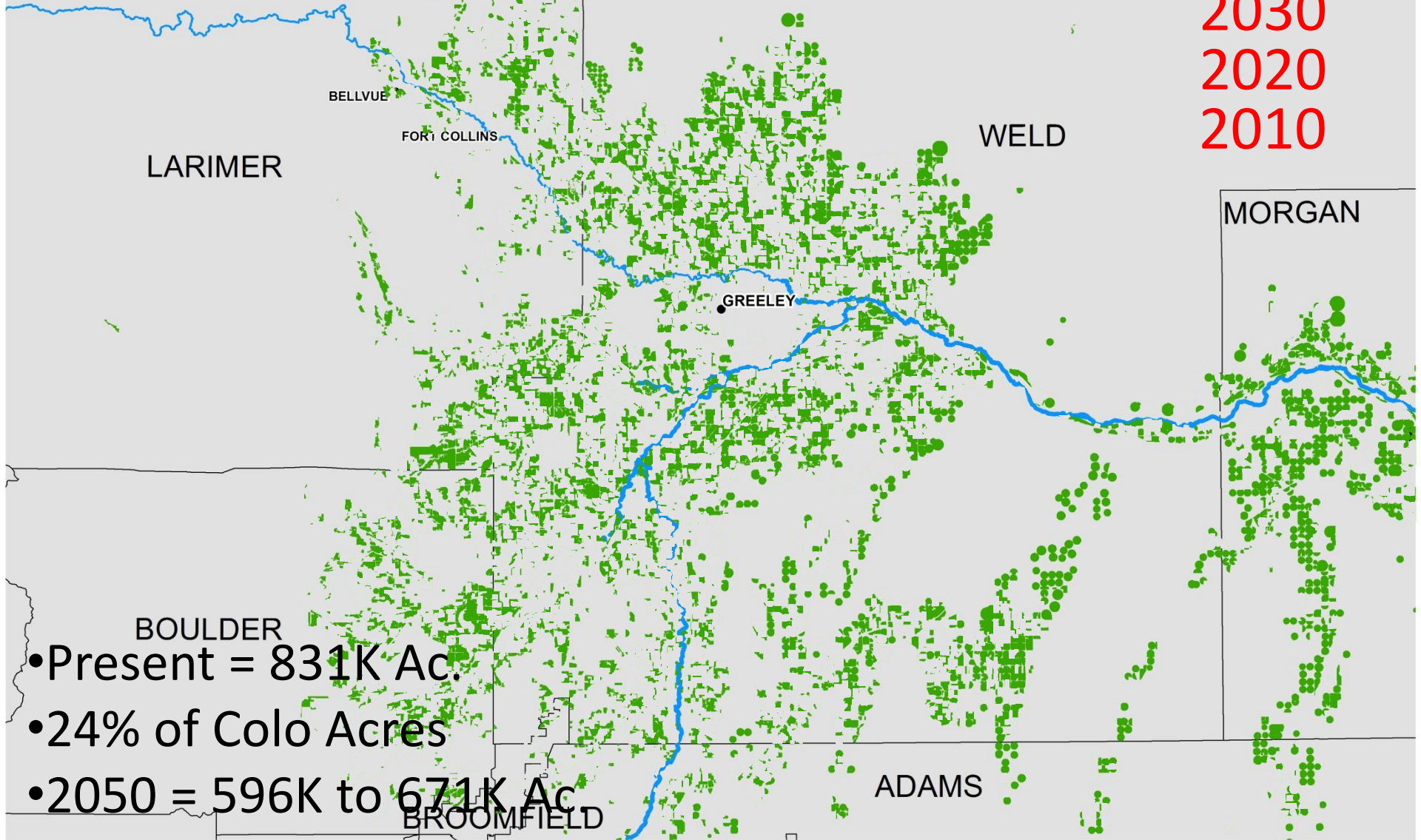


M&I Gap by County



Plan A – “Status Quo”

2050
2040
2030
2020
2010



Competing Needs / Limited Resource



Local Policy Examples

- Boulder County
 - Cropland Policy (2011)
 - Water Policy (2012)
- City of Longmont
 - Raw Water Dedication Policy
- City of Boulder
 - Rental “Policy”

Policy Result Examples

- Boulder County has invested over \$830,000 in organic and market farm improvements on open space properties since 2012.
 - Most of these improvements are infrastructure in support of irrigation, such as holding ponds, electric service, pipes and ditch improvements.
- Boulder County provides a full-time seasonal weed crew to work on control of weeds adjacent to organic production fields; 2016 will be the third consecutive year.

Source: Boulder County Parks and Open Space Memo – March 2016

Organic Production Incentives

Organic Preference in
bid process

50% rent reduction for
first 5 years

Organic Certification
cost assistance (county
pays 50% not covered by
USDA programs)

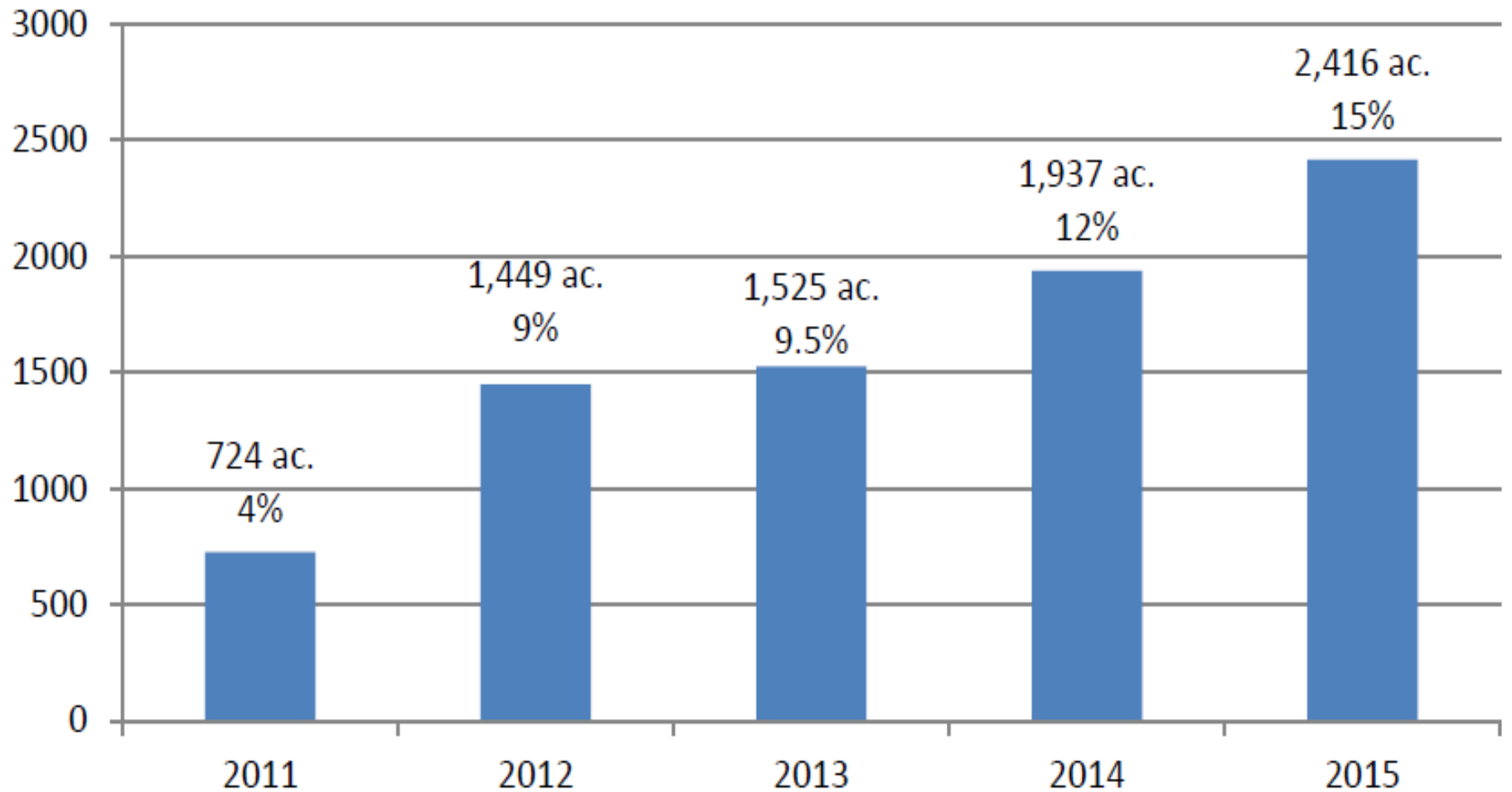
Share cost of organic
crop/marketing
consultant (up to 50%)

Infrastructure
Improvements such as
irrigation, fencing,
buildings, etc.

Organic weed team
available to help with
weeds outside
production areas

Source: Boulder County Parks and Open Space Memo – March 2016

Certified and Transitioning Organic Acres



Source: Boulder County Parks and Open Space Memo – March 2016

Closing Thoughts

- Is irrigated agriculture sustainable?
 - History says yes
 - Infrastructure may need significant changes
 - Ditches
 - Agriculture pipeline
- Can local policy enhance or hinder irrigated agriculture?
 - Yes and Yes

Questions?

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