Water: Beyond Dams and Diversions

Demand Management –

The water and cost savings potential from increased conservation

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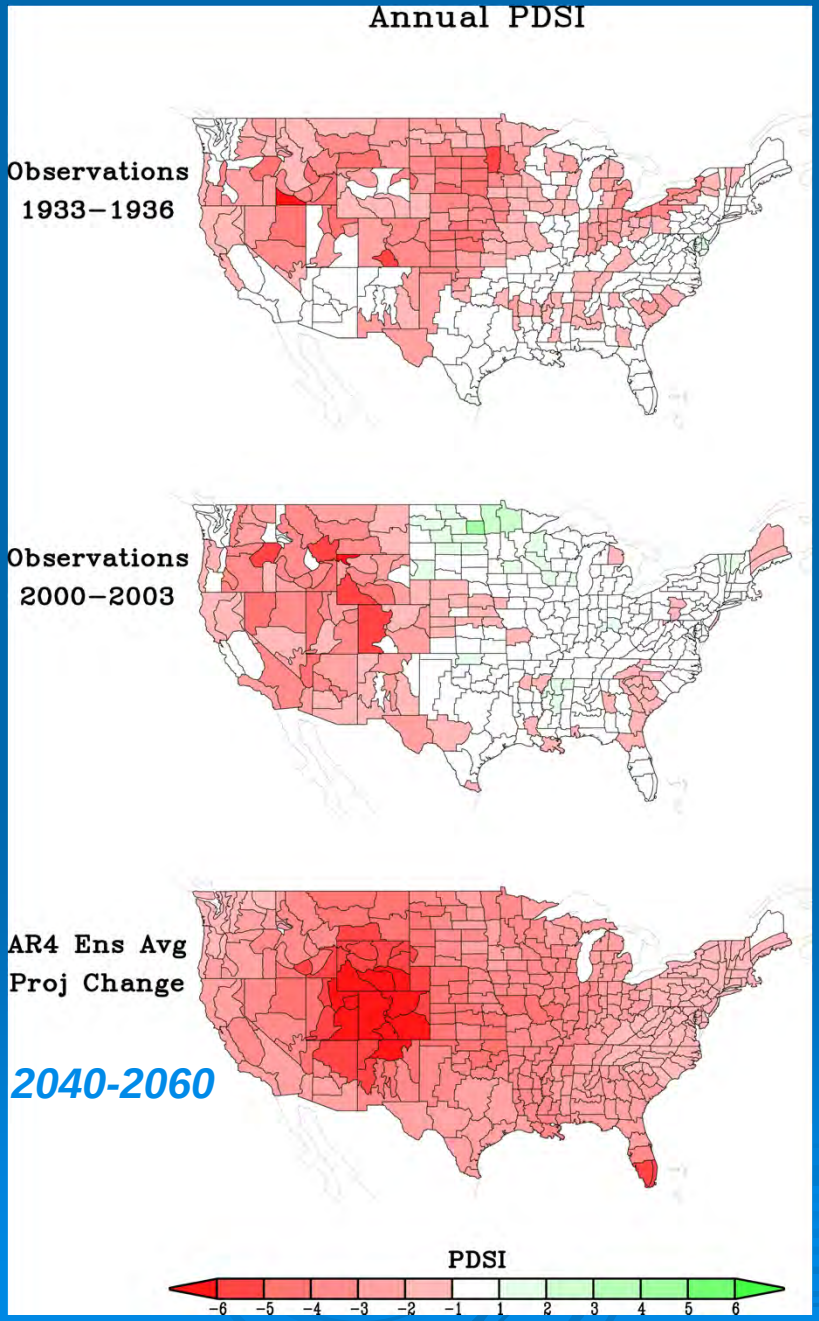
Drought @2050 vs Notorious Recent Historical Droughts

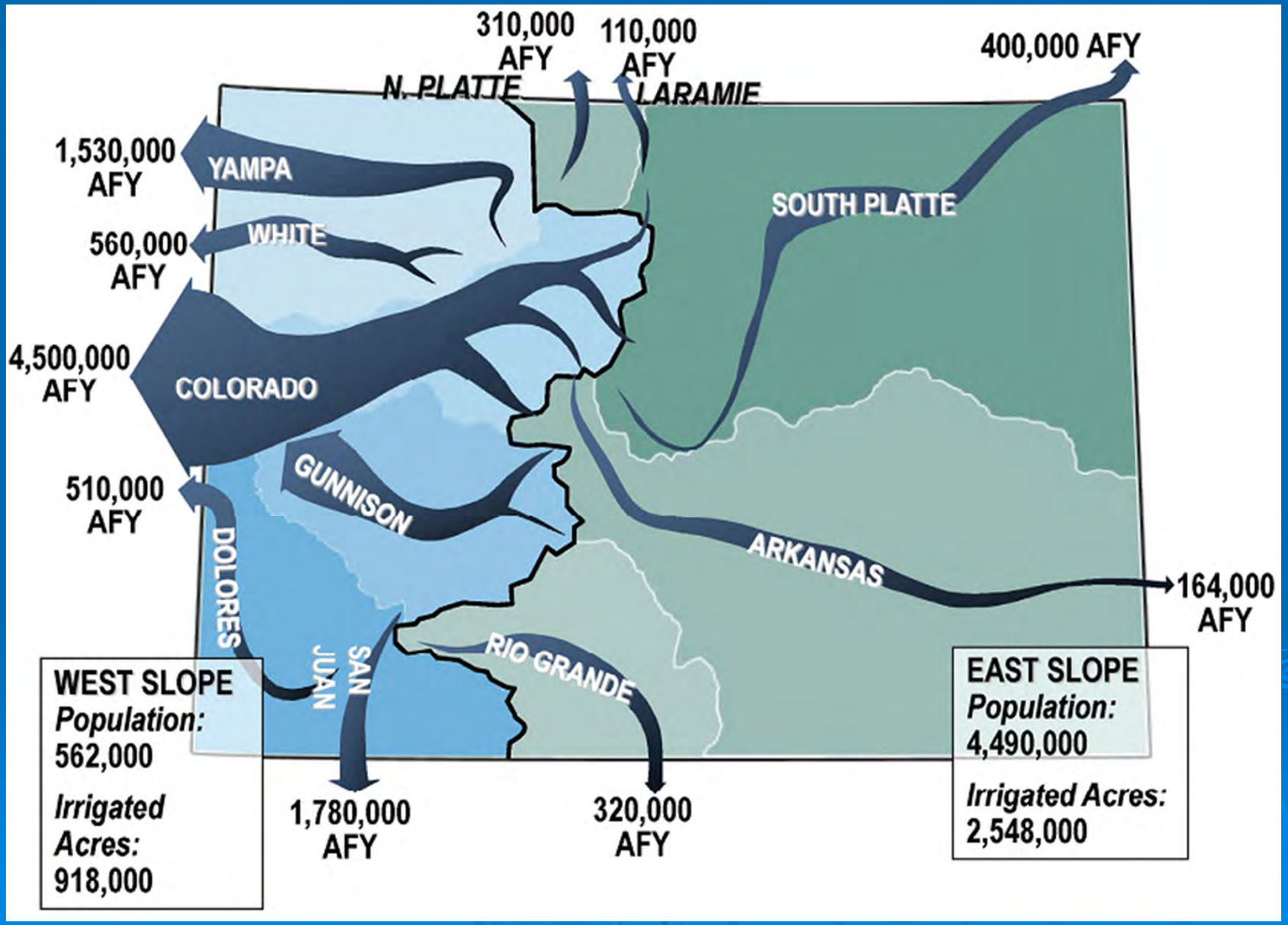
PDSI = Palmer Drought Severity Index

PDSI was developed by Wayne Palmer in the 1960s and uses temperature and rainfall information in a formula to determine dryness.



Source: Dr. Martin Hoerling, NOAA Earth System Research Laboratory

Colorado's Water Supply & Population



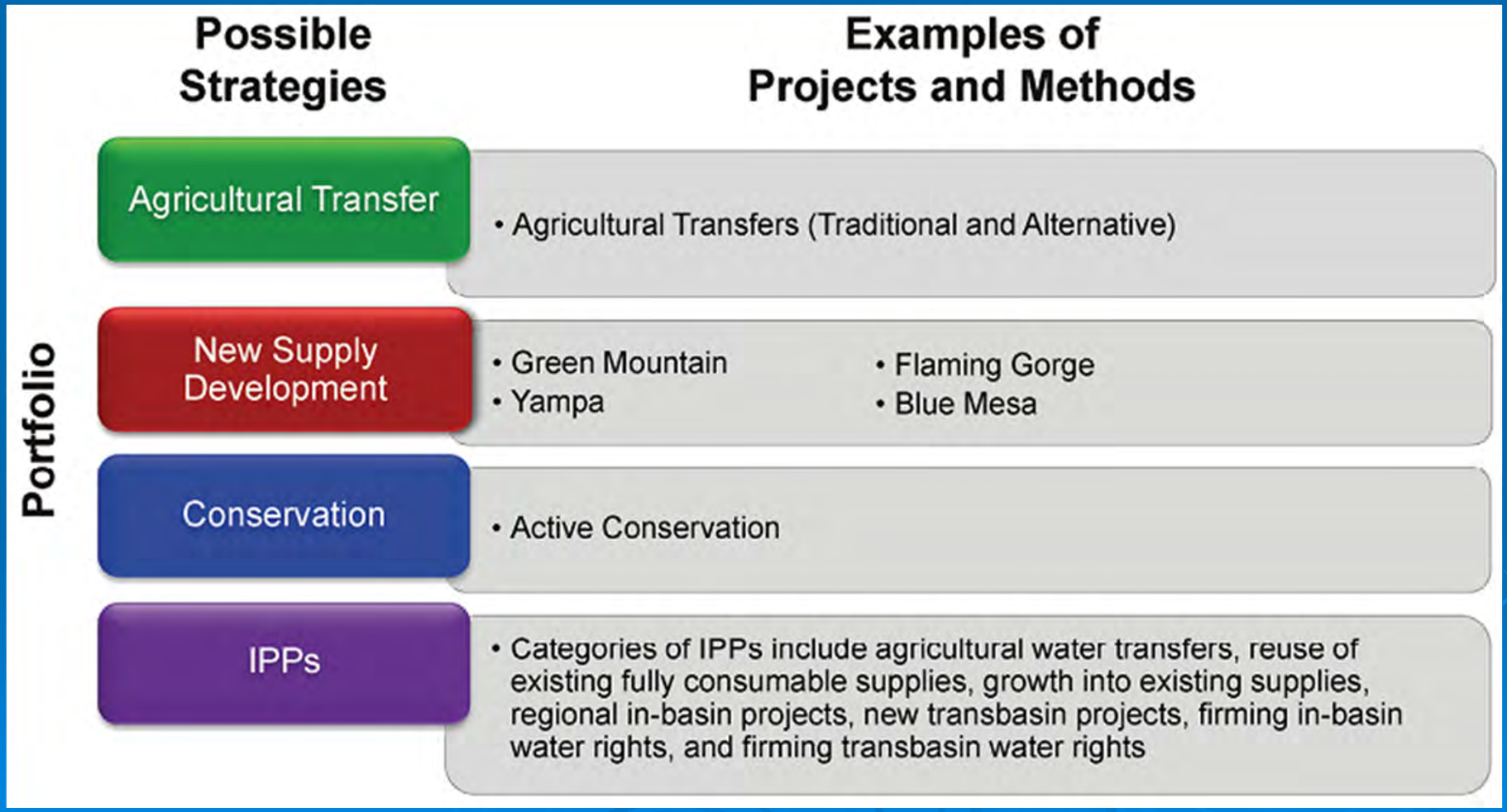
Source: SWSI 2010 Executive Summary (CWCB 2011)

Colorado's Water Future

- Current statewide demand – 1.2 million AF/yr.
- By 2050 population could double to more than 10 million
- Forecast 2050 demand – 1.7 – 2.1 million AF/yr.
- Passive conservation savings, 2050 – 150,000 AF
- Water supply "gap" at 2050 – 190,000 - 630,000 AF

Source: SWSI 2010 Executive Summary (CWCB 2011)

Water Supply Strategies



Source: SWSI 2010 Executive Summary (CWCB 2011)

Why Conservation?

- Physical water supply is finite.
- Do more with the water we already have.
- Reduced environmental impacts.
- Adaptability to climate change.
- Lowest cost new supply alternative.

CWW's Conservation Best Practices

NO	BEST PRACTICE	CATEGORY
1	Metering, conservation oriented rates and tap fees, customer categorization within billing system	Water System Utility
2	Integrated resources planning, goal setting, and demand monitoring	
3	System water loss control	
4	Conservation coordinator	
5	Water waste ordinance	
6	Public information and education	
7	Landscape water budgets, information, and customer feedback	Outdoor Landscape and Irrigation
8	Rules and regulations for landscape design and installation and certification of landscape professionals	
9	Water efficient design, installation, and maintenance practices for new and existing landscapes	
10	Irrigation efficiency evaluations	
11a	Rules for new construction	Indoor Residential
12a	High-efficiency fixture and appliance replacement for residential sector	
13	Residential water surveys and evaluations, targeted at high demand customers	
11b	Rules for new construction	Indoor Non -Residential
12b	High-efficiency fixture and appliance replacement for non-residential sector	
14	Specialized non-residential surveys, audits, and equipment efficiency improvements	

Forecast Conservation Savings

Project	Level	2030 Forecast Savings (AFY)	2050 Forecast Savings (AFY)
SWSI 2010	Passive	131,000	154,000
	Low	209,000	314,200
	Medium	264,000	485,200
	High	328,100	615,300

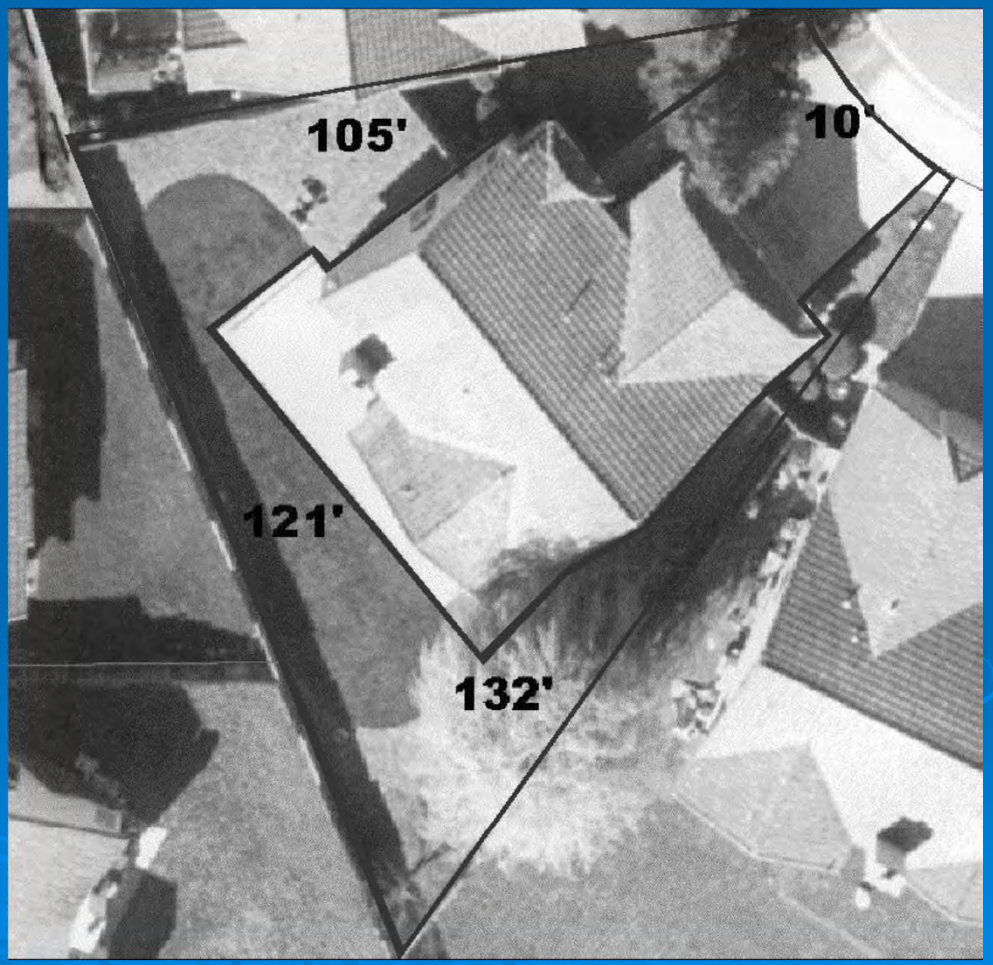
Estimated Cost of New Water Supply

- New supply projects - $16,200 / AF*
- Water transfers - $14,000 / AF*
- Conservation - $5,200 / AF*
- SWSI 2010 Conservation Cost Estimates - $5,400 - $8,200 / AF

*Kenney, D. et. al. (2010) Relative Costs of New Water Supply Options for Front Range Cities. Western Water Policy Program. CU Natural Resources Law Center

Water Budgets: Land Use Planning Meets Water Conservation

- Water budget = Customer specific water requirement
- Can be generous or conservative
- Can be informational or tied to rate structure



For More Information….

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Thank you!

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