

STATE OF COLORADO

Colorado Water Conservation Board Department of Natural Resources

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TO: Colorado Water Conservation Board Members

FROM: Kevin Reidy, State Water Conservation Specialist
Veva Deheza, Section Chief
Office of Water Conservation & Drought Planning

DATE: November 5, 2009

SUBJECT: **Agenda Item #30, November 16-18, 2009 Board Meeting**
Presentation of Conservation Demand Reduction to 2050- "1% per Year"

Staff Recommendation

This is an *informational* item only and Board action is not required.

Background

The Colorado Water Conservation Board (CWCB) has invested significant amounts of time and energy aimed at quantifying our state's future water demands. The *1% per Year* report builds upon current CWCB efforts and incorporates the impacts of conservation into future demand projections. Three different scenarios of conservation are evaluated in this report – Level 1, Current Conservation, and 1% per Year – by quantifying the water savings and demand reductions associated with each scenario. The report illustrates 3 main points: 1) demand projections are reduced by including conservation; 2) unmet water needs are reduced and delayed by including conservation; and 3) a 1% per Year conservation goal is reasonable and achievable for Colorado utilities.

Conservation Effects on Future Demand Projections 2000 – 2050

Analyzing Level 1, Current Conservation, and
1% per Year Scenarios

CWCB Board Presentation

November 18, 2009

Drew Beckwith, Water Policy Analyst



WESTERN RESOURCE
ADVOCATES

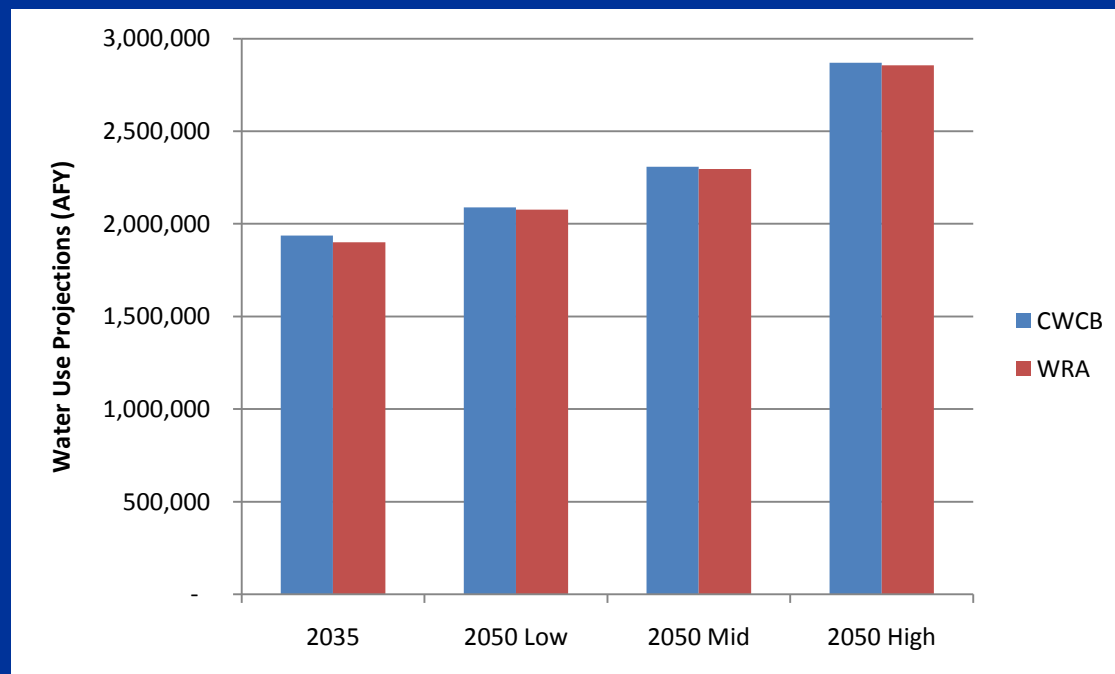
Outline

- 3 conservation scenarios
- Estimates of future demand and conservation savings
- “Wedge” graphs
- Single basin examples

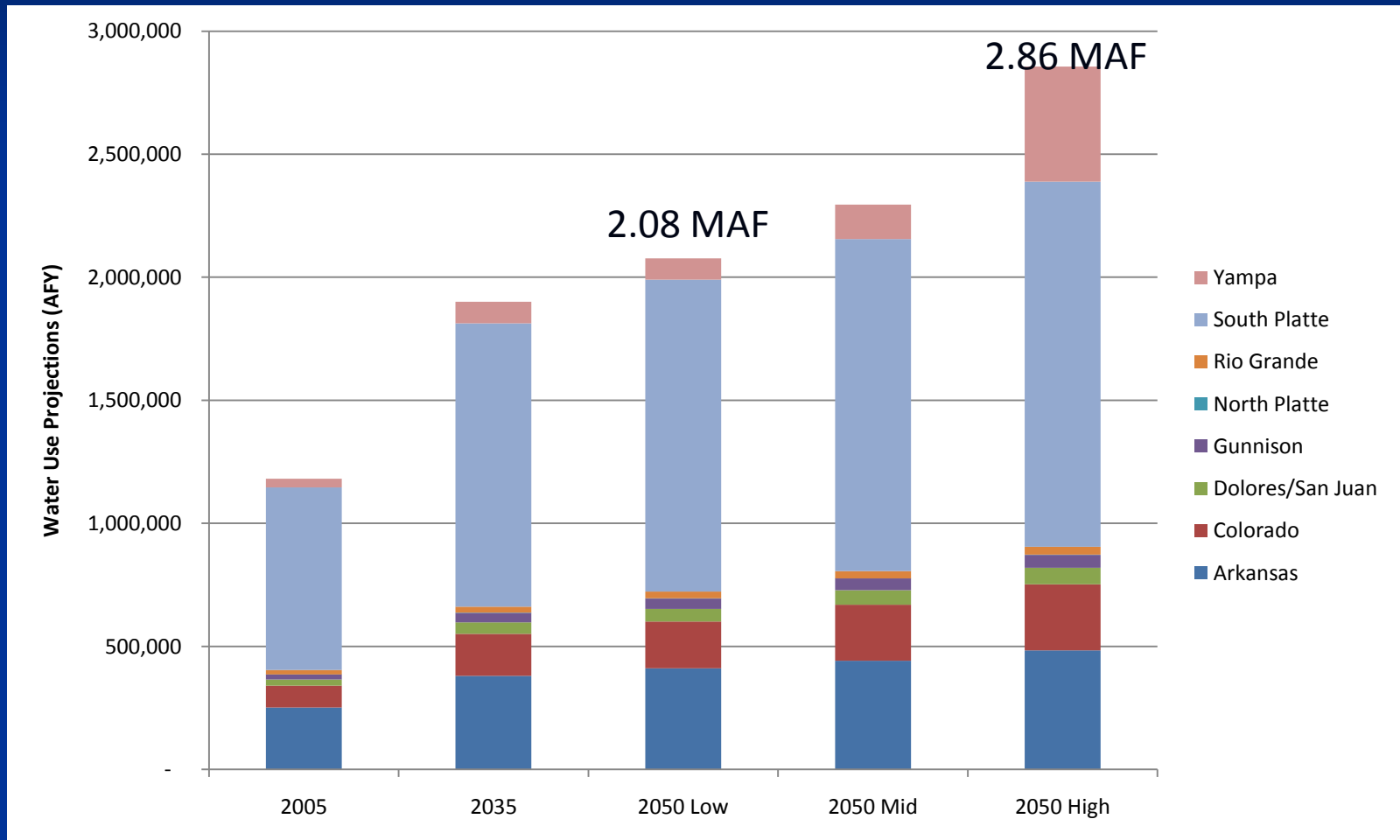


Baseline Demands

- Same as SWSI I & 2050 Demands Report
 - Rate (gpcd) * Driver (pop.)
 - Use “finer-scale” population data



Baseline Demands

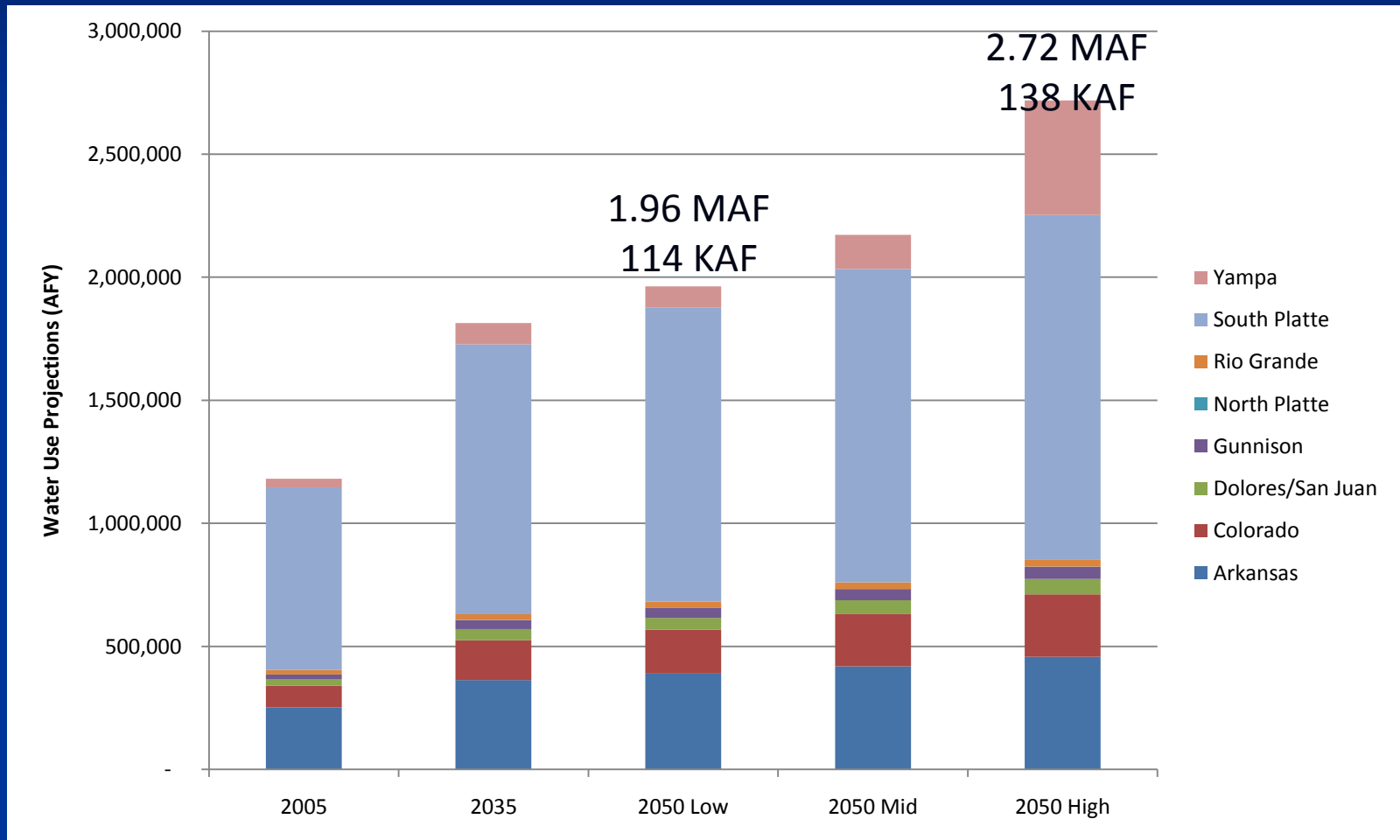


Level 1

- Incorporate “passive” conservation
- SWSI I estimate, 6% by 2030
- Ex: Grand County
 - Level 1 conservation = 4.5% reduction by 2020
 - 2020 M&I demands = 2020 baseline demands * $(1 - 0.045)$
- Does not include plumbing code updates, advancing tech, or current building trends



Level 1

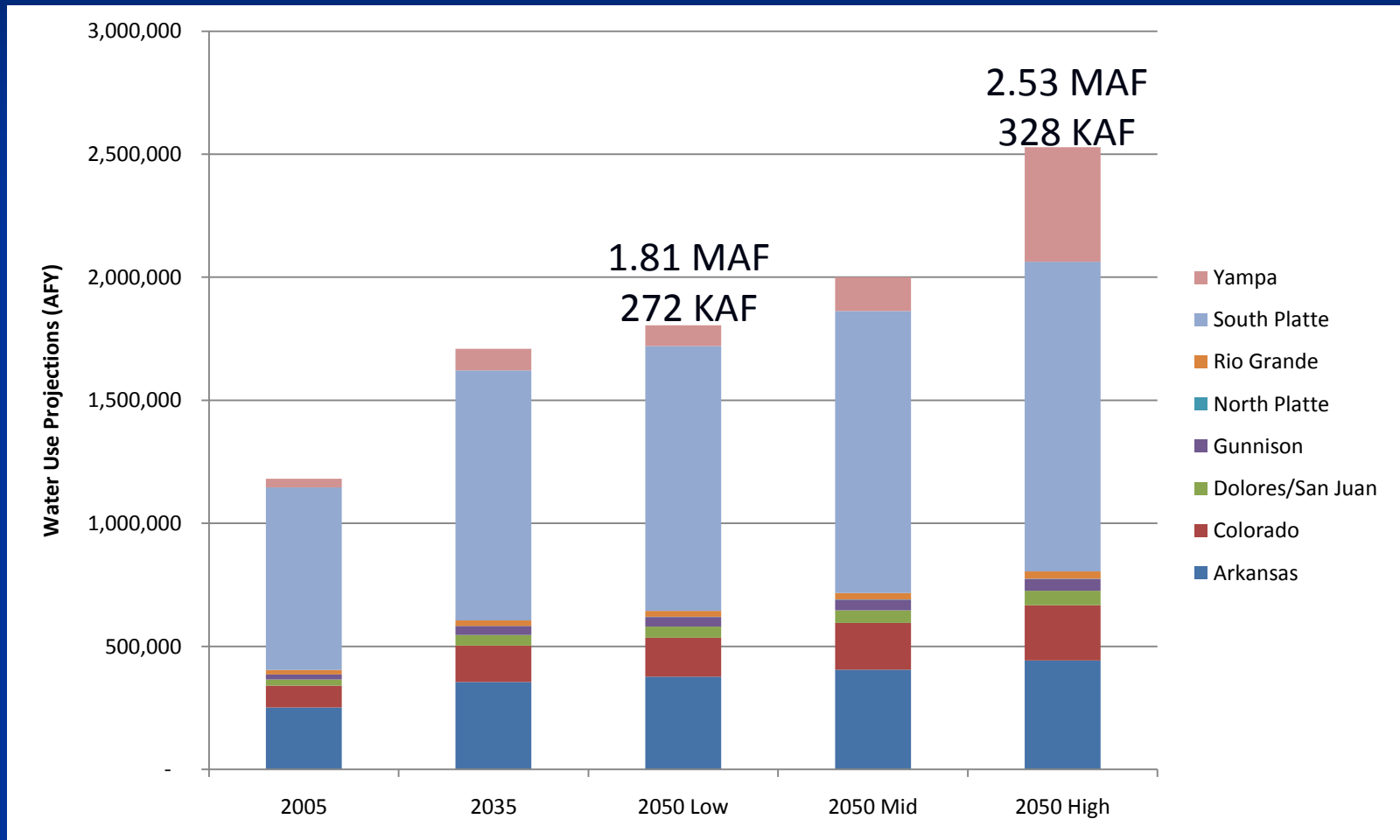


Current Conservation

- Savings estimated in SWSI I
- County's level reported in SWSI I
- Ex: Arapahoe County
 - Level 3 conservation = 16% reduction by 2030
 - 2030 M&I demands = 2030 baseline demands * $(1 - 0.16)$
- Does not include improvements since ~2002



Current Conservation



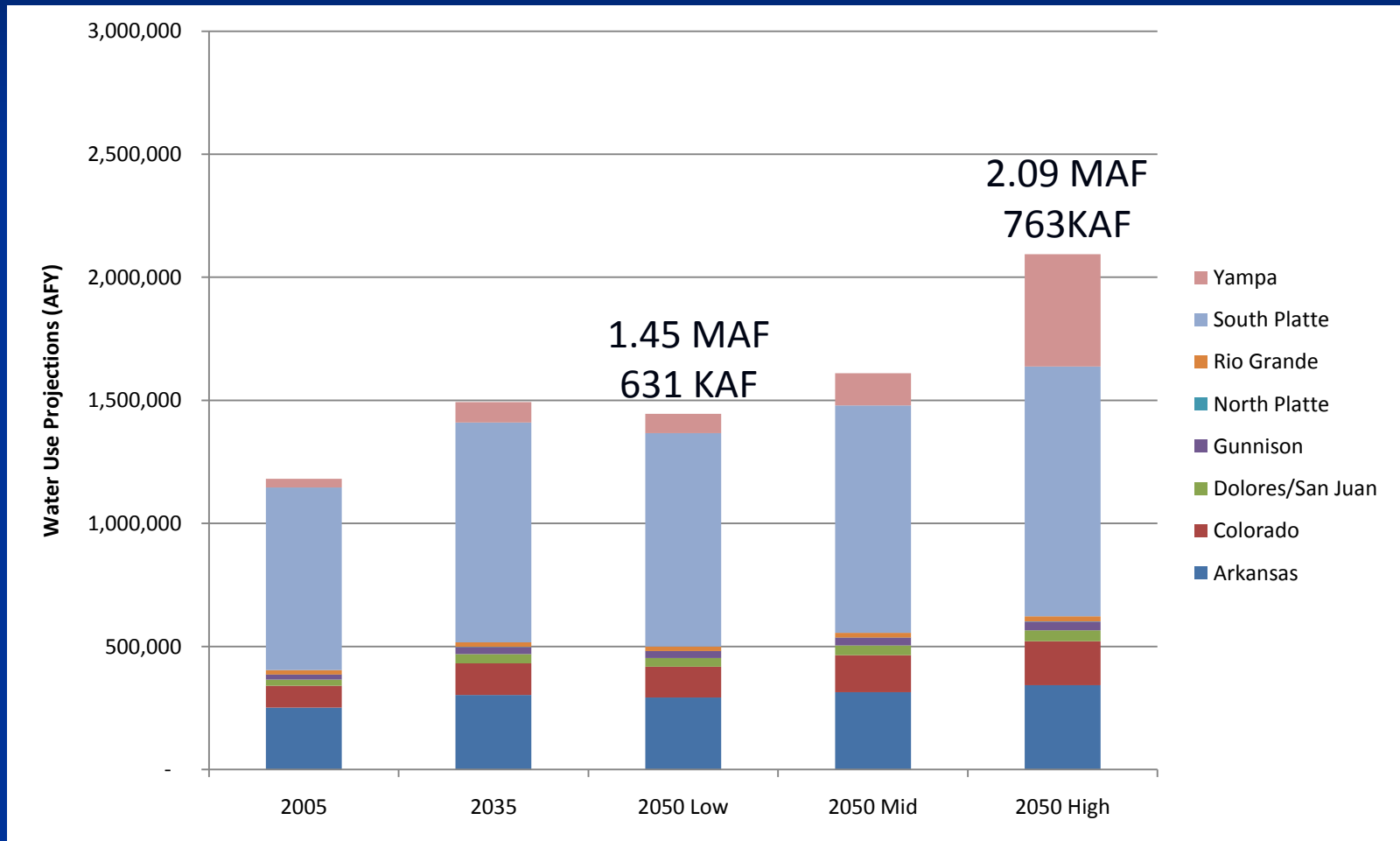
1% per Year

- 1% reduction from prior year
 - 100 → 99 → 98.01 → 97.03
- Presidential Executive Order¹
- Denver Water, Seattle Public Utilities, Southern Nevada Water Authority

¹ The White House, Office of the Press Secretary. 2009. Executive Order: Federal Leadership in Environmental, Energy, and Economic Performance. October, 5.



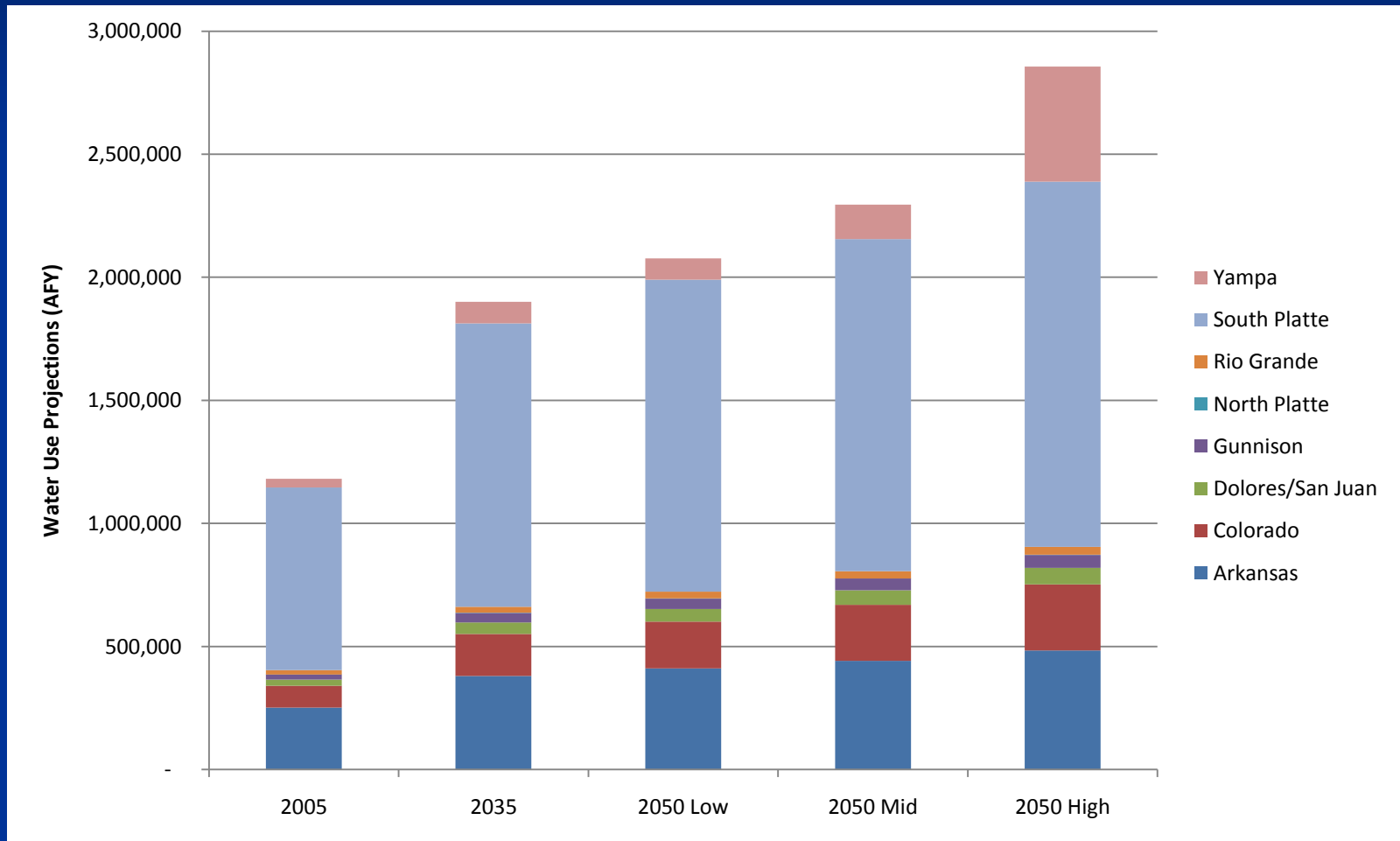
1% per Year



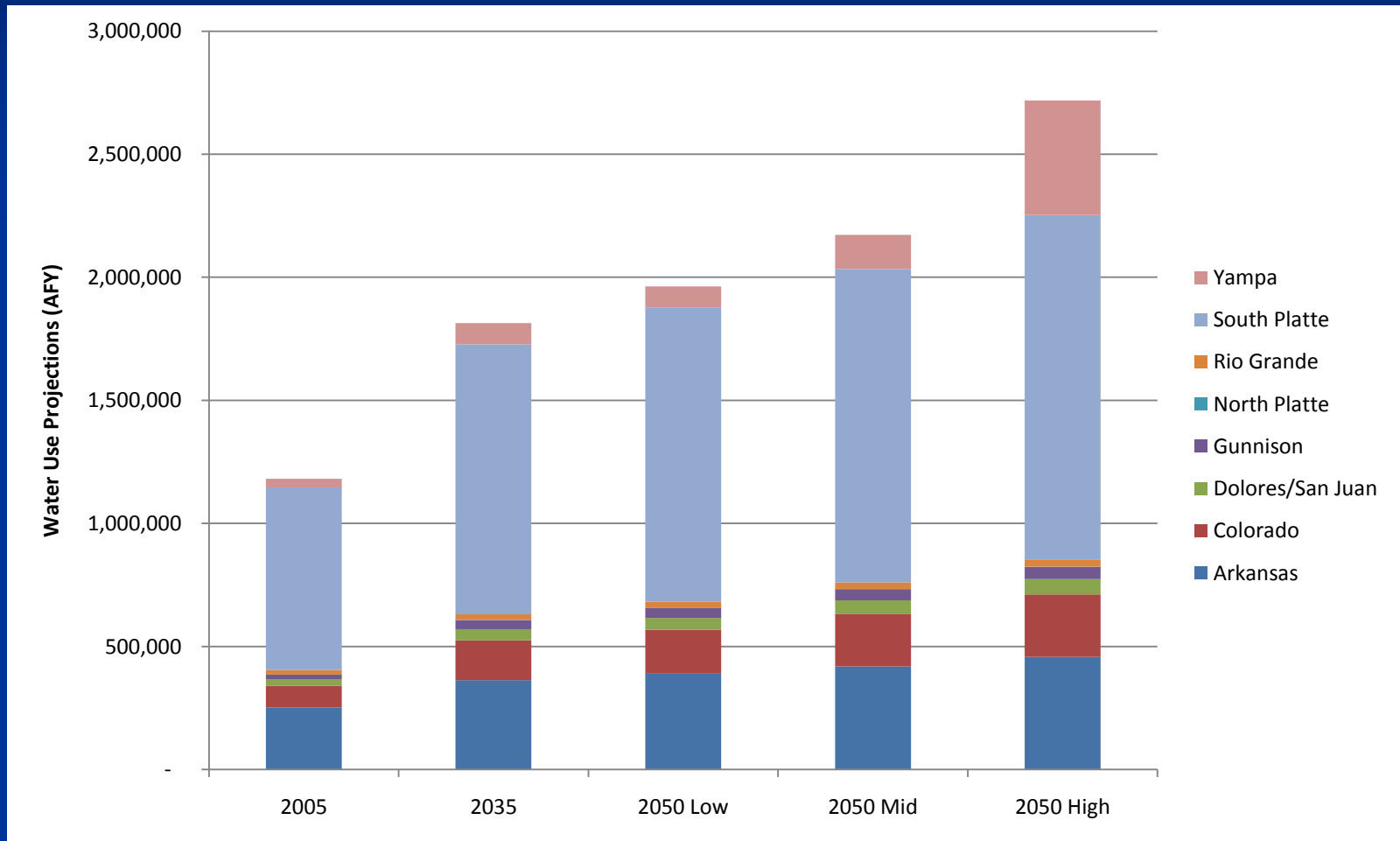
Rapid Comparison



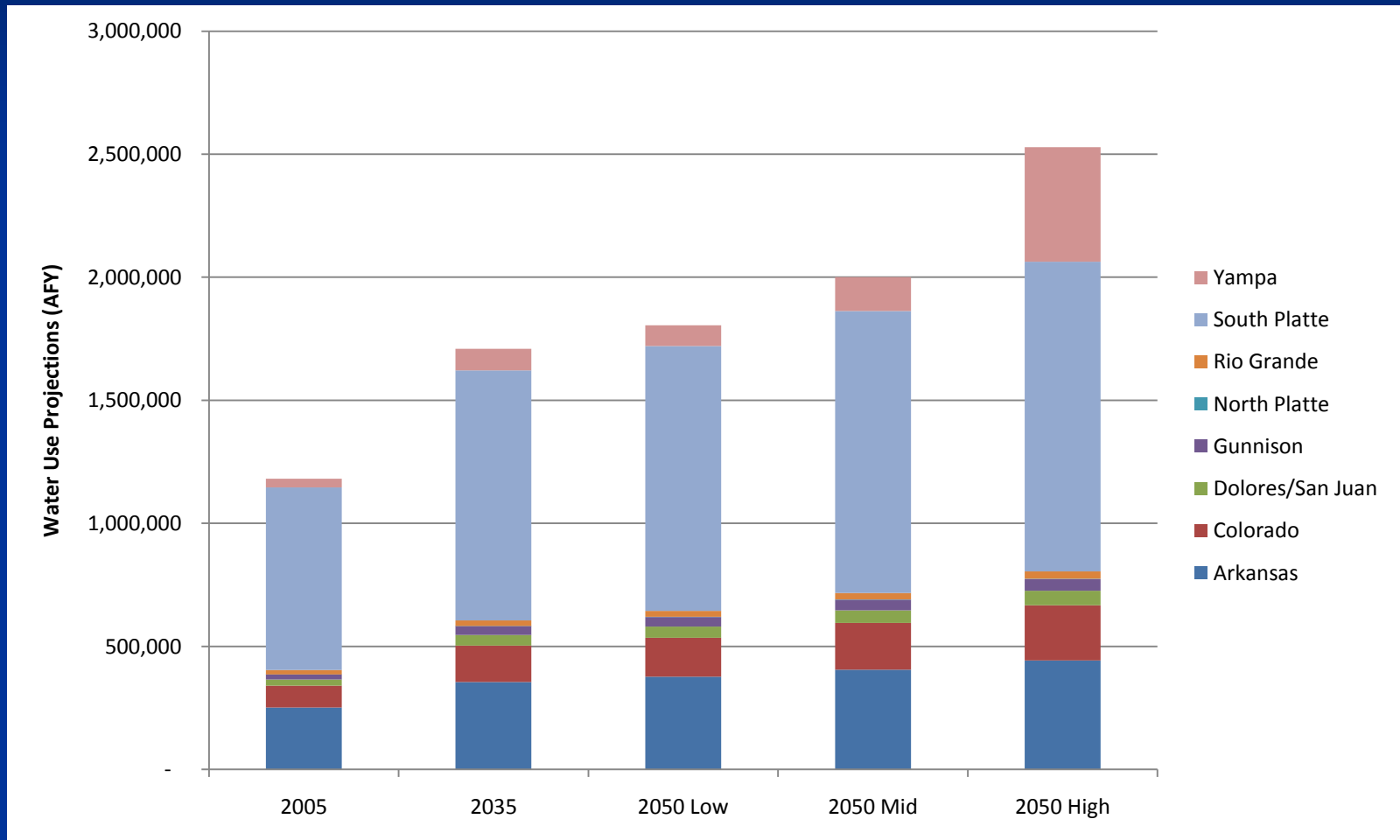
Baseline Demands



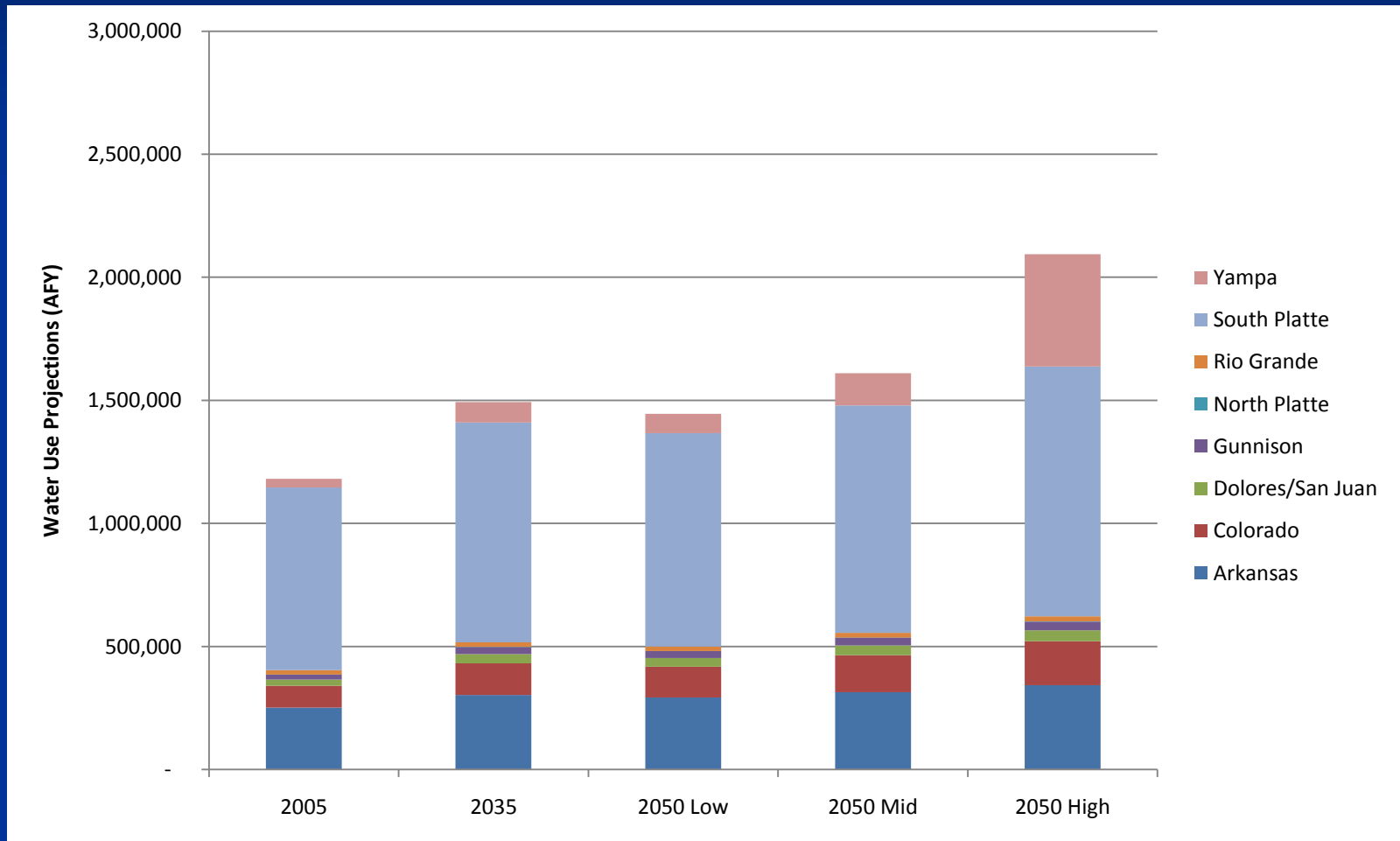
Level 1



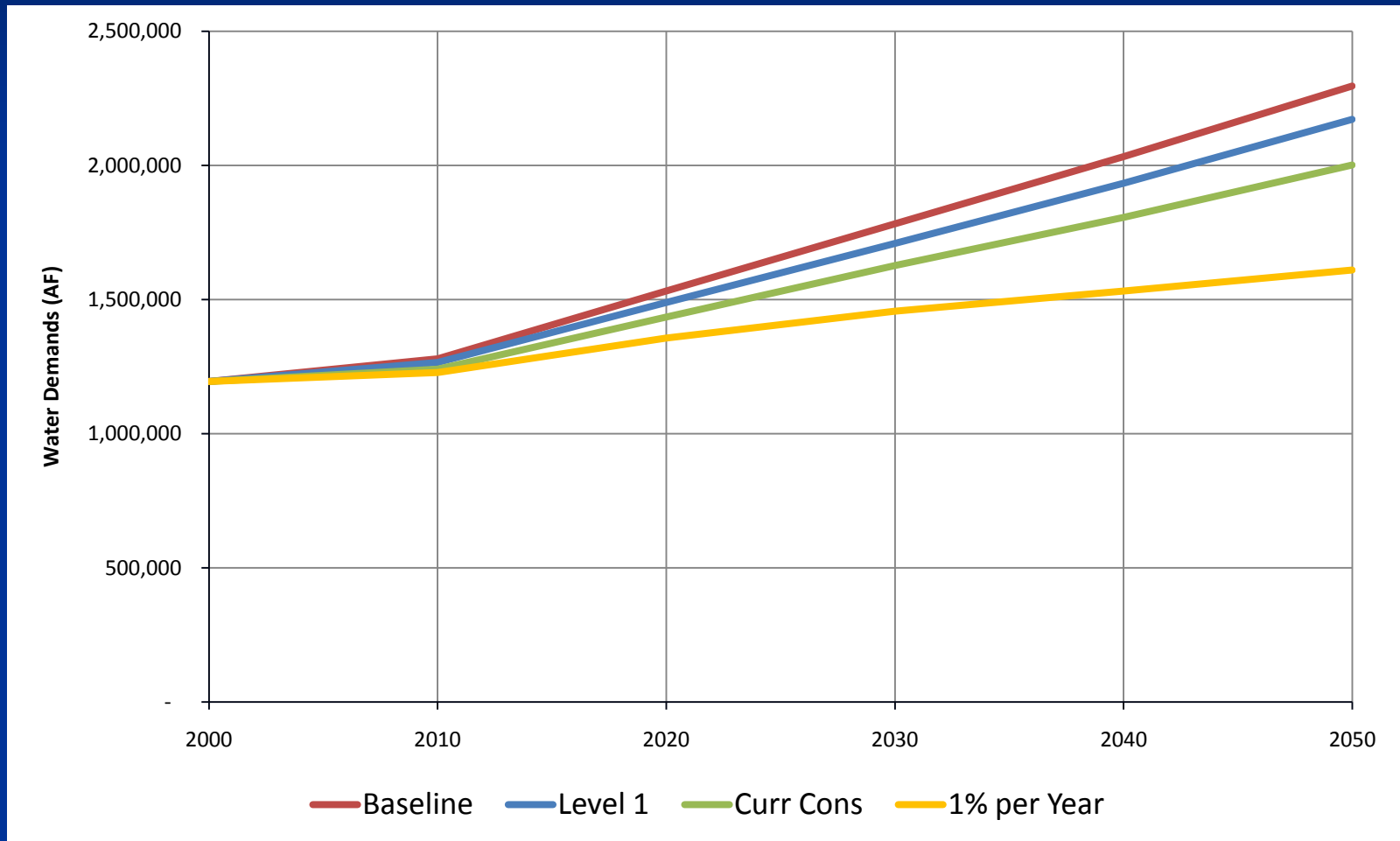
Current Conservation



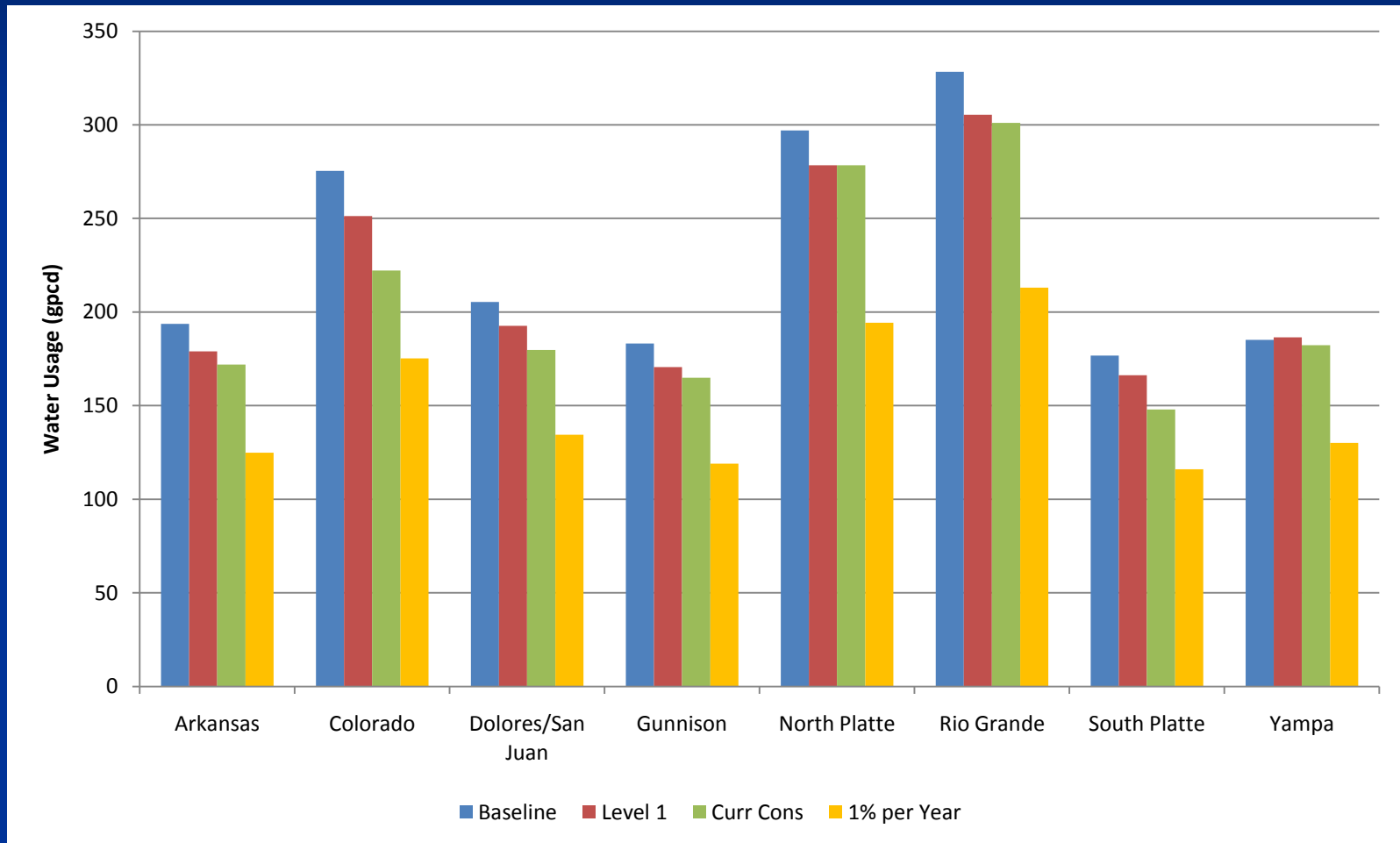
1% per Year



Demands Over Time



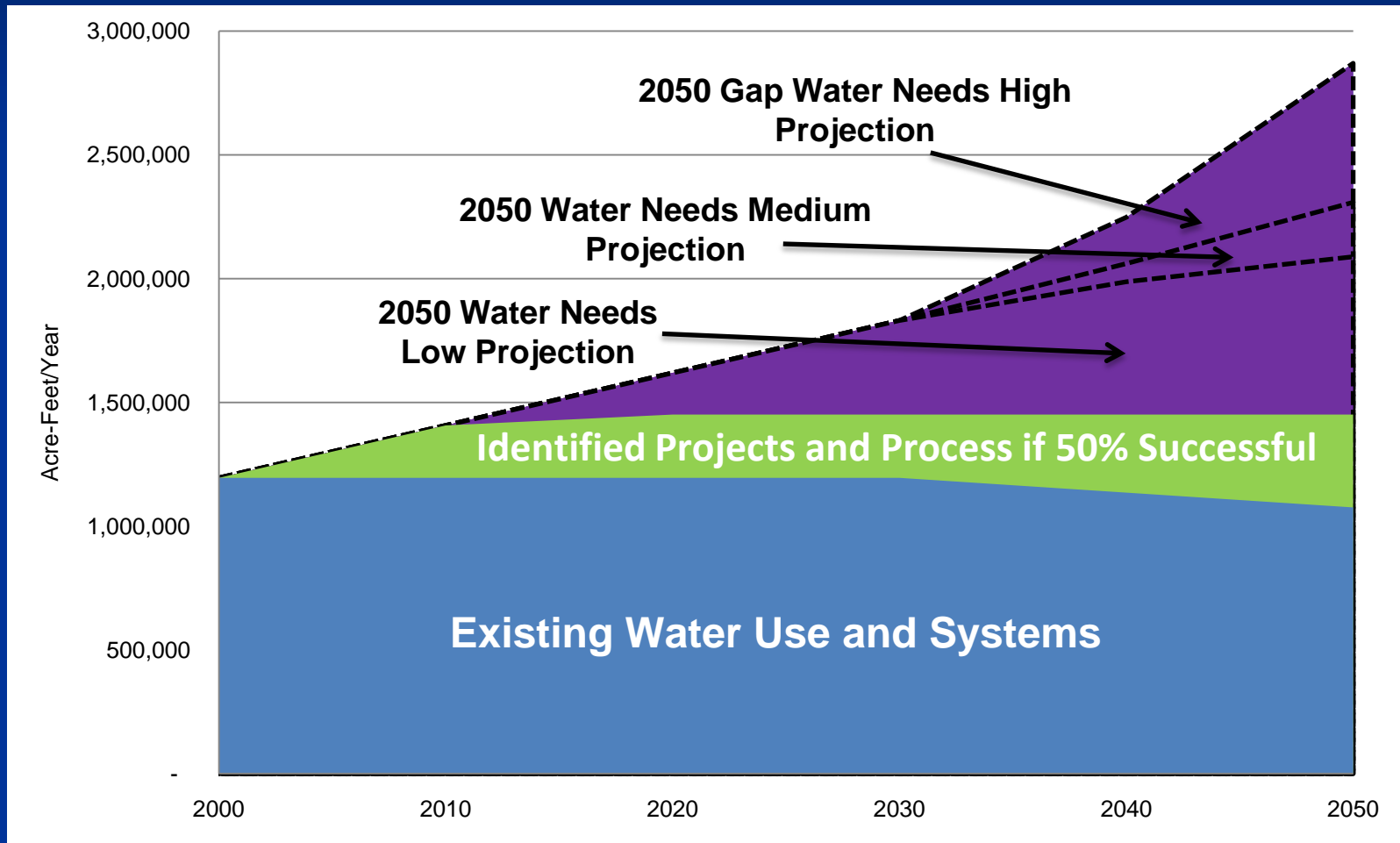
GPCD at 2050



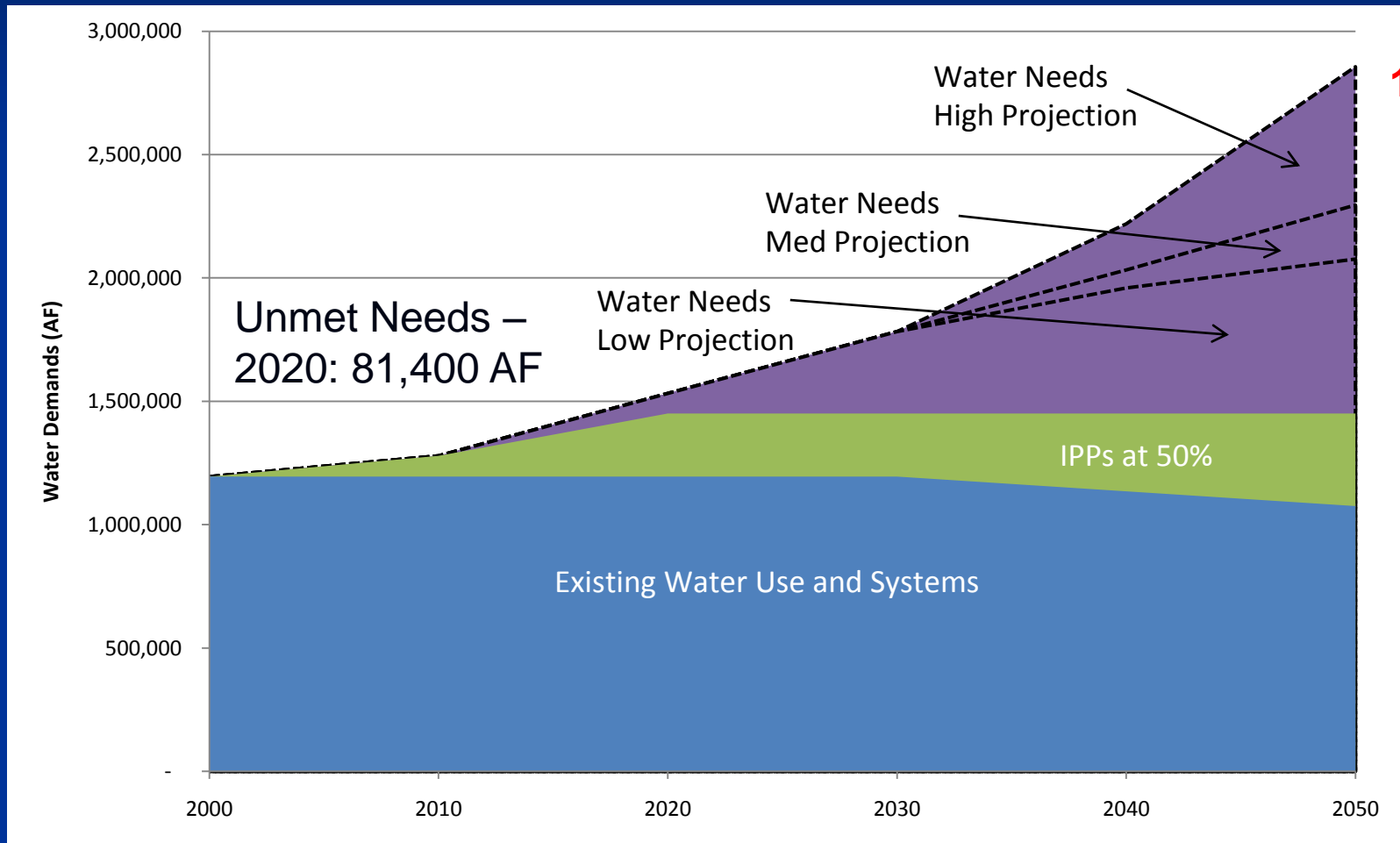
Existing Supply, IPPs, & Unmet Water Needs



CWCB Baseline



Updated Baseline

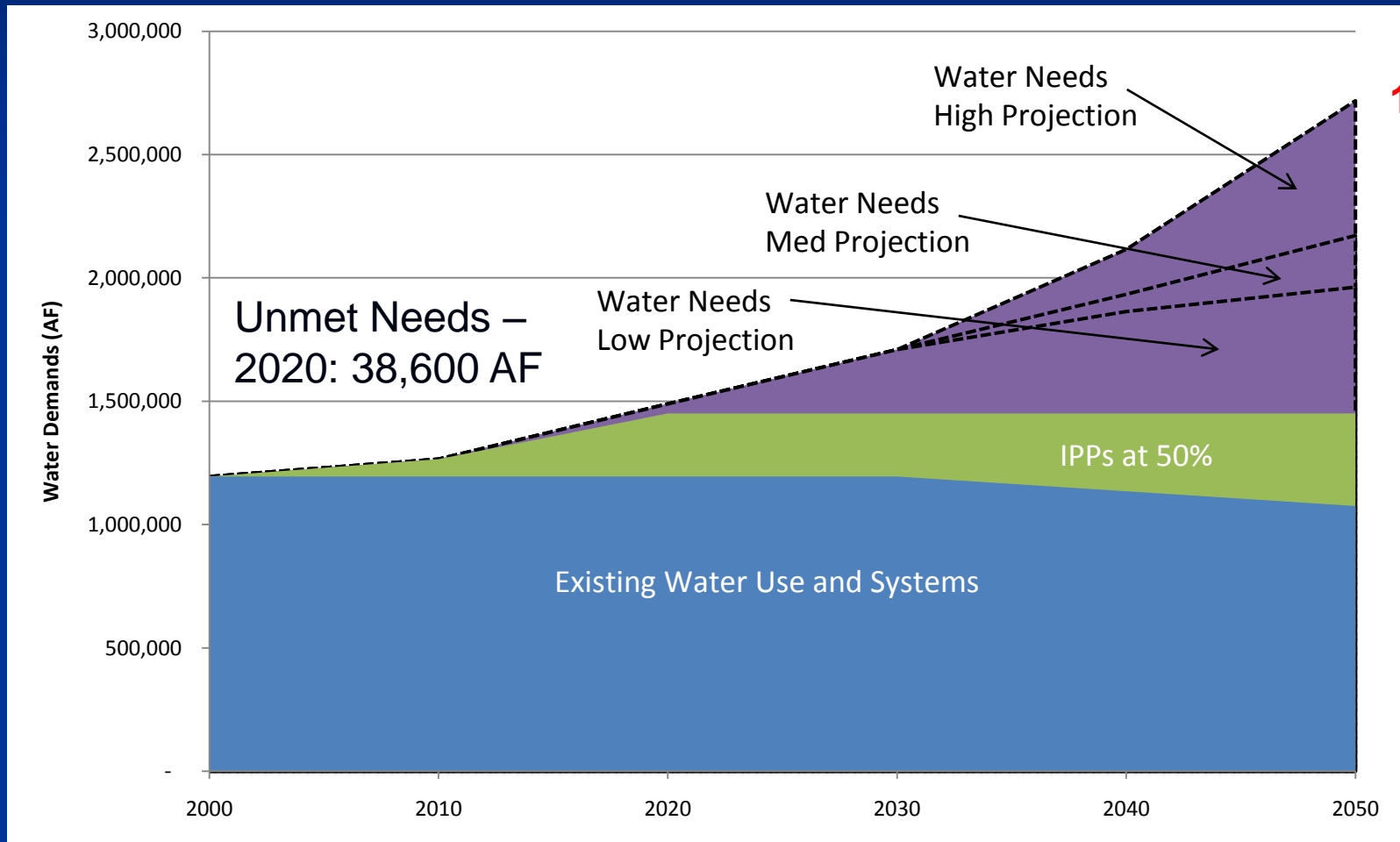


1.41 MAF

626 KAF



Level 1

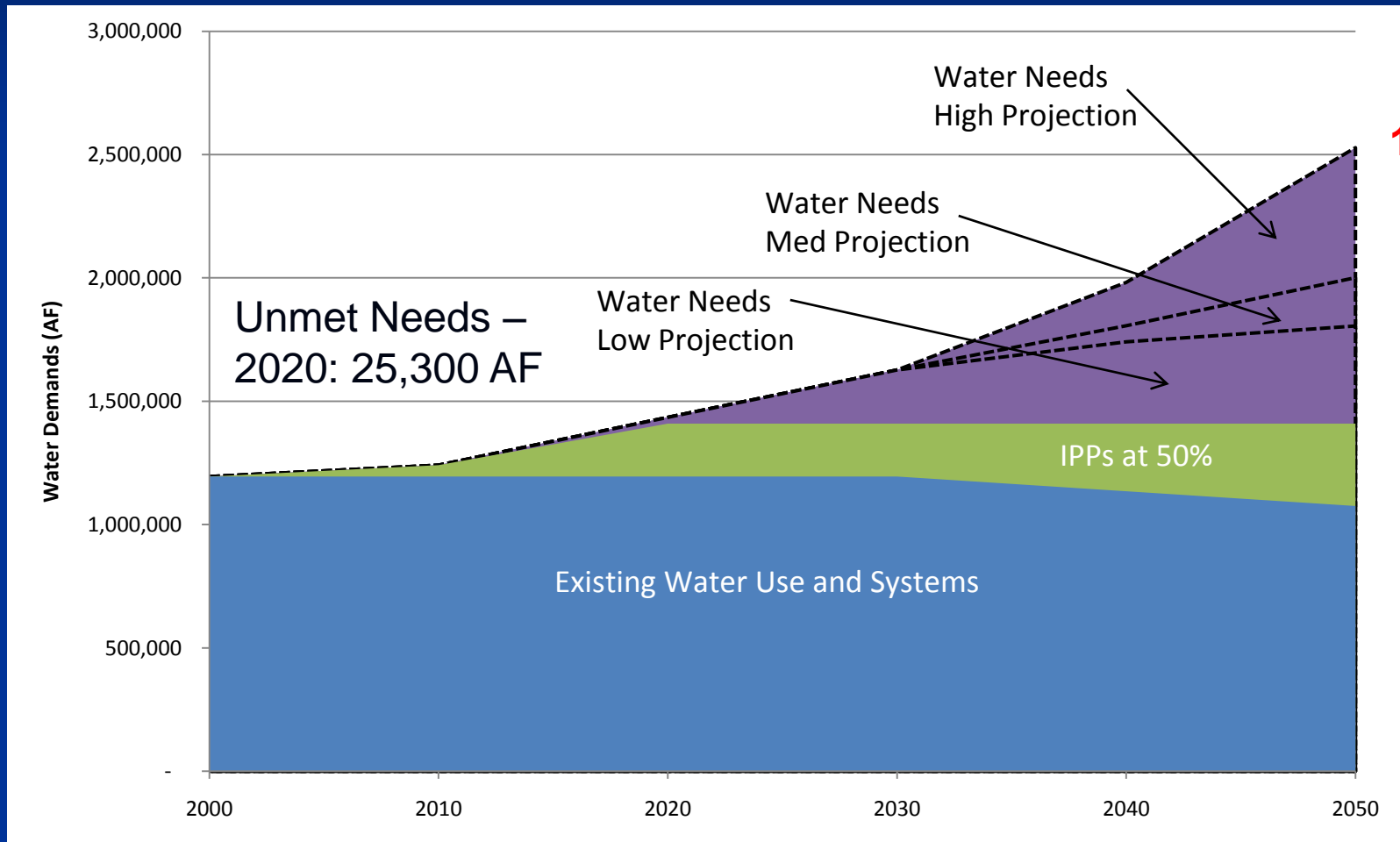


1.27 MAF

512 KAF



Current Conservation

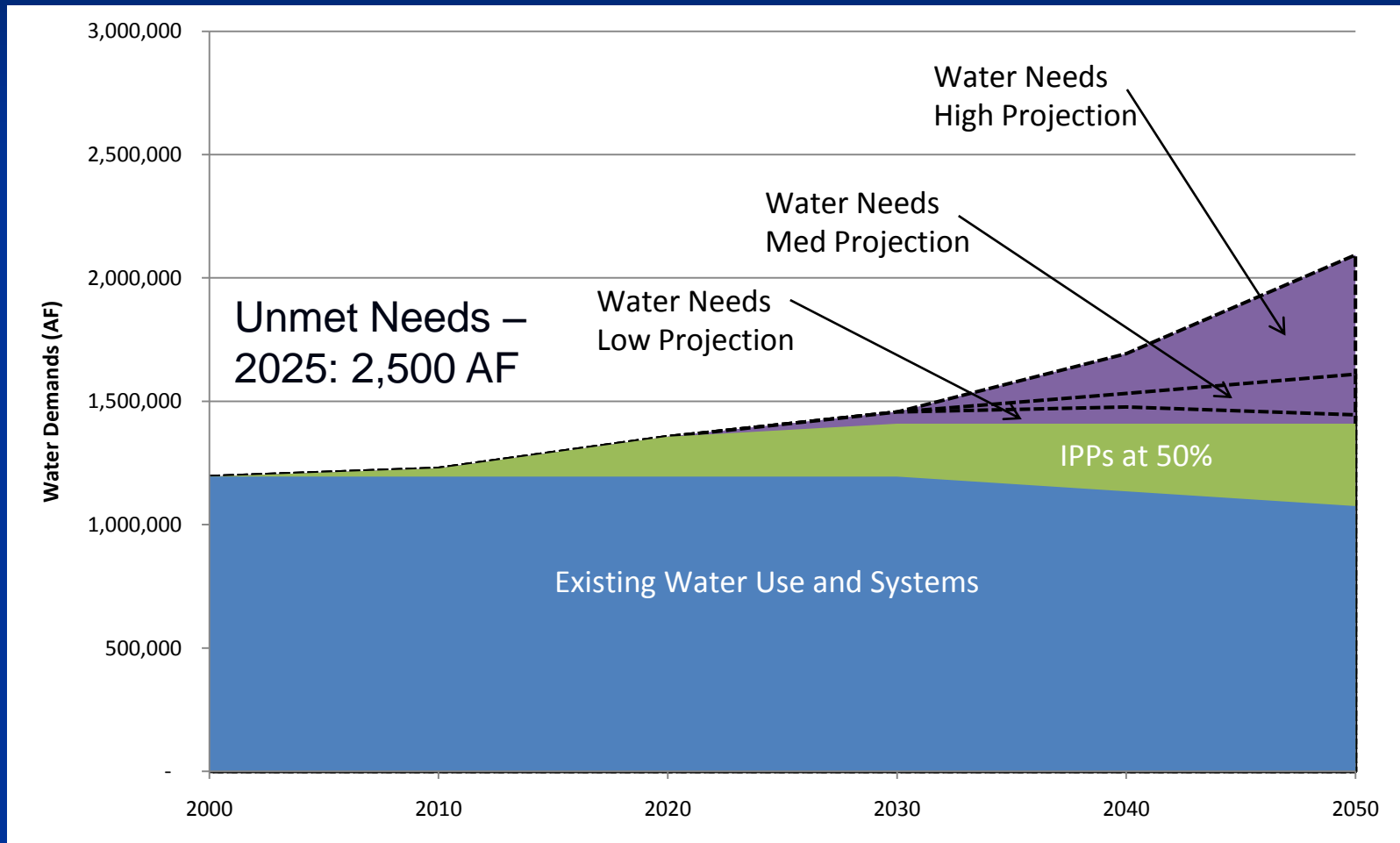


1.12 MAF

396 KAF



1% per Year



684 KAF

36 KAF

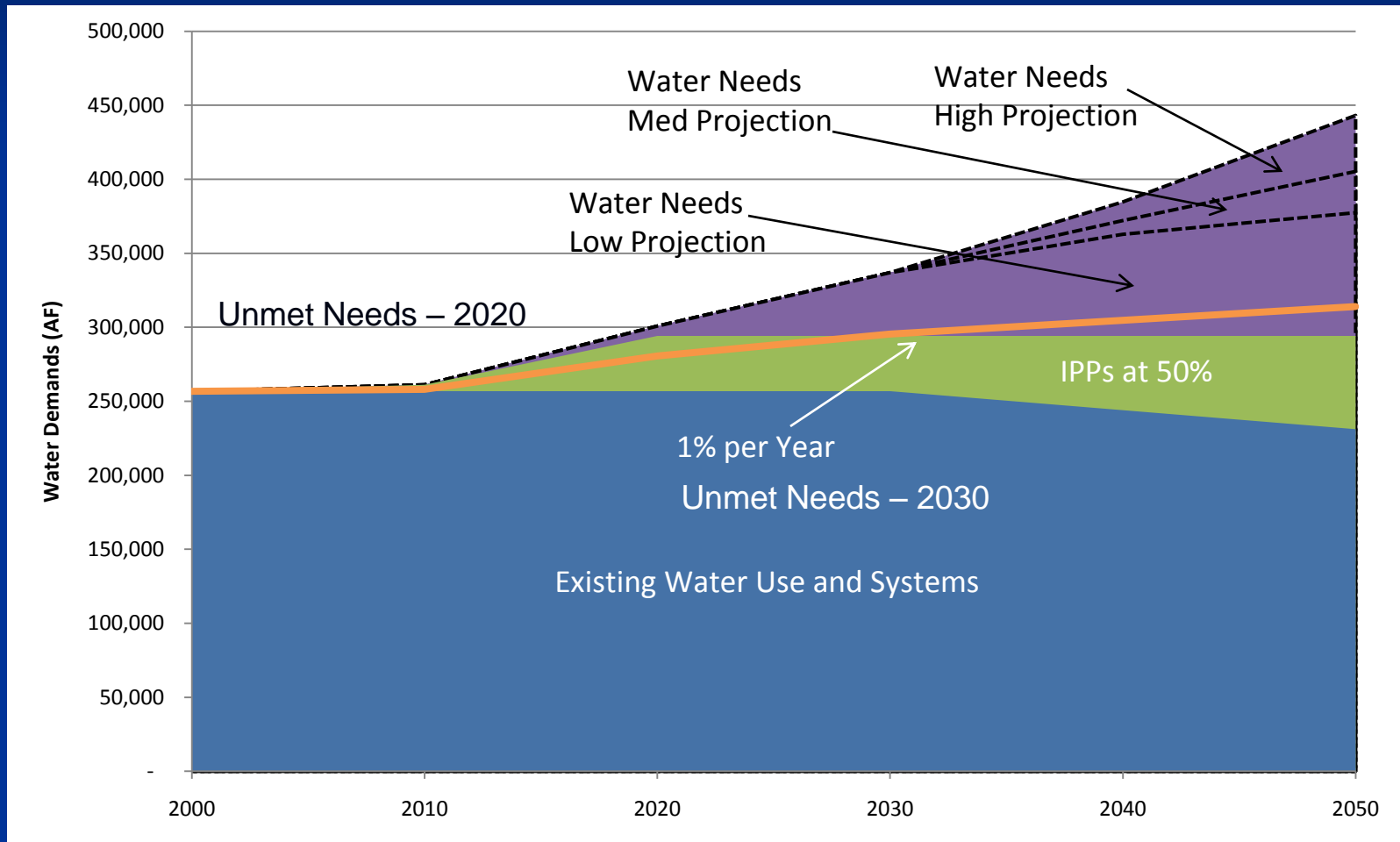


Single Basin Analysis

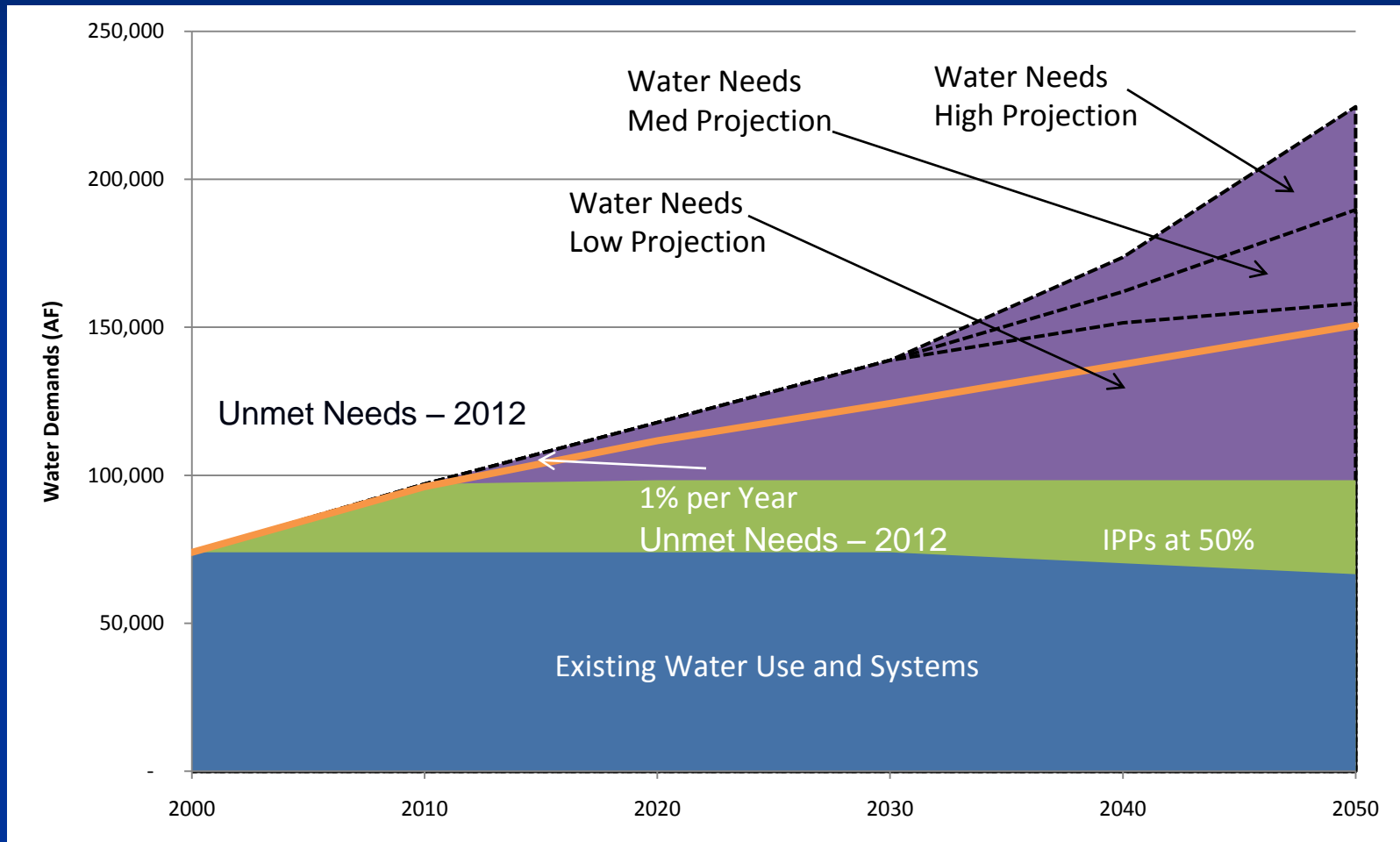
(Current Conservation Scenario)



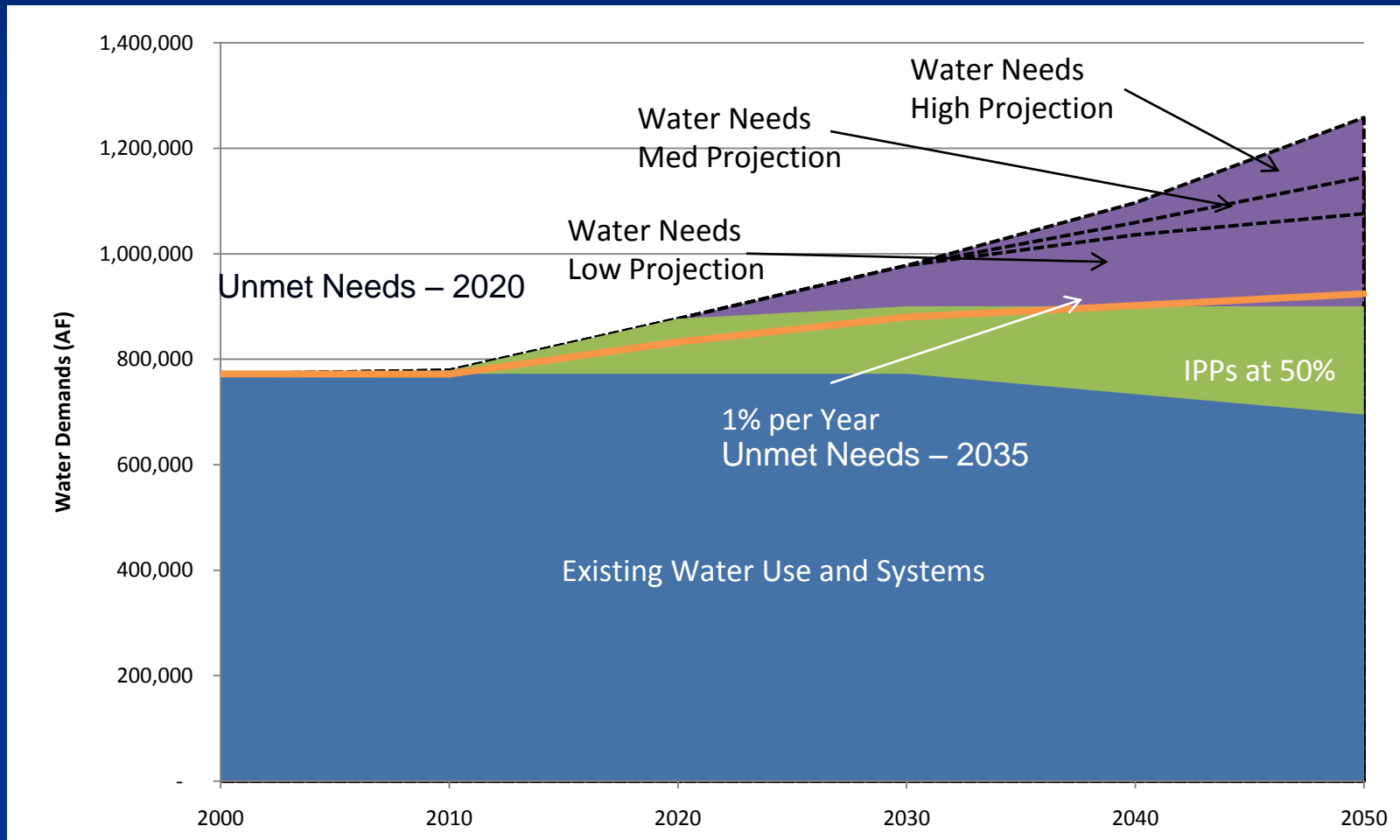
Arkansas Basin



Colorado River Basin



South Platte Basin



Summary

- Conservation is happening
- Future demands will be reduced
 - Range of 125,000 AF – 700,000 AF
- Unmet needs will be reduced and delayed
 - Range of 40,000 AF reduction to 80,000 AF reduction plus 5 year delay
- Data gaps are being addressed



Questions – Comments – Discussion

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