



**Colorado's Water
Supply Future**



Arkansas Roundtable Meeting Fountain, Colorado

March 11, 2009

**Projects and Methods to Meet
Identified Water Supply Needs**

Basin-Wide Water Needs Assessments

- Identify Consumptive Water Needs (M&I and Agricultural)
- Identify Nonconsumptive Water Needs (Environmental and Recreational)
- Identify Available Water Supplies
- Identify Projects and Methods to Meet Consumptive and Nonconsumptive Water Needs

Path Forward – 2009

- Consumptive Needs Assessment done in Draft
- Nonconsumptive Priority Areas Identified

Focus of 2009:

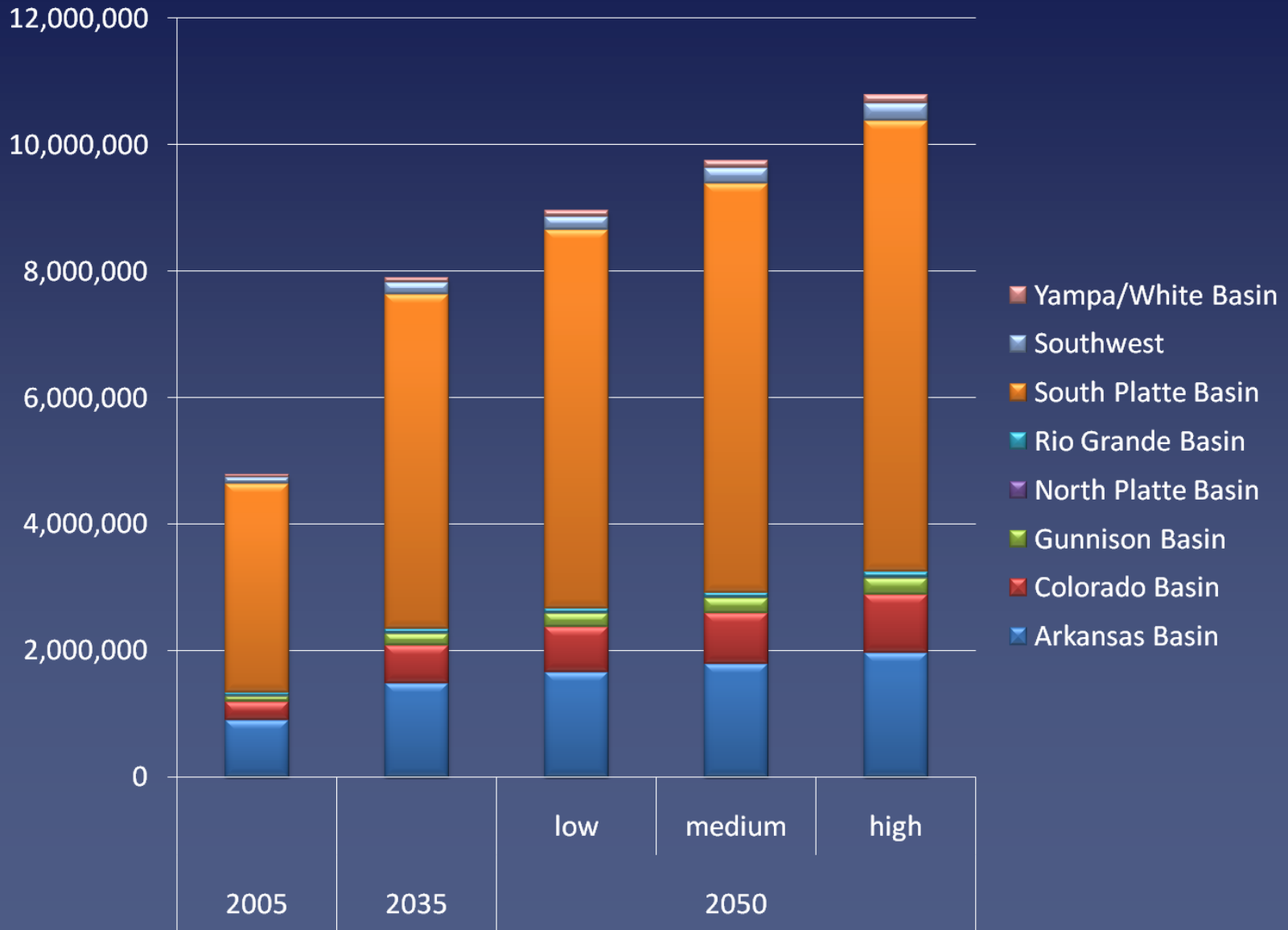
***Projects and Methods to Meet Identified Needs
(M&I and Nonconsumptive)***

Status of Basin Roundtable Needs Assessments

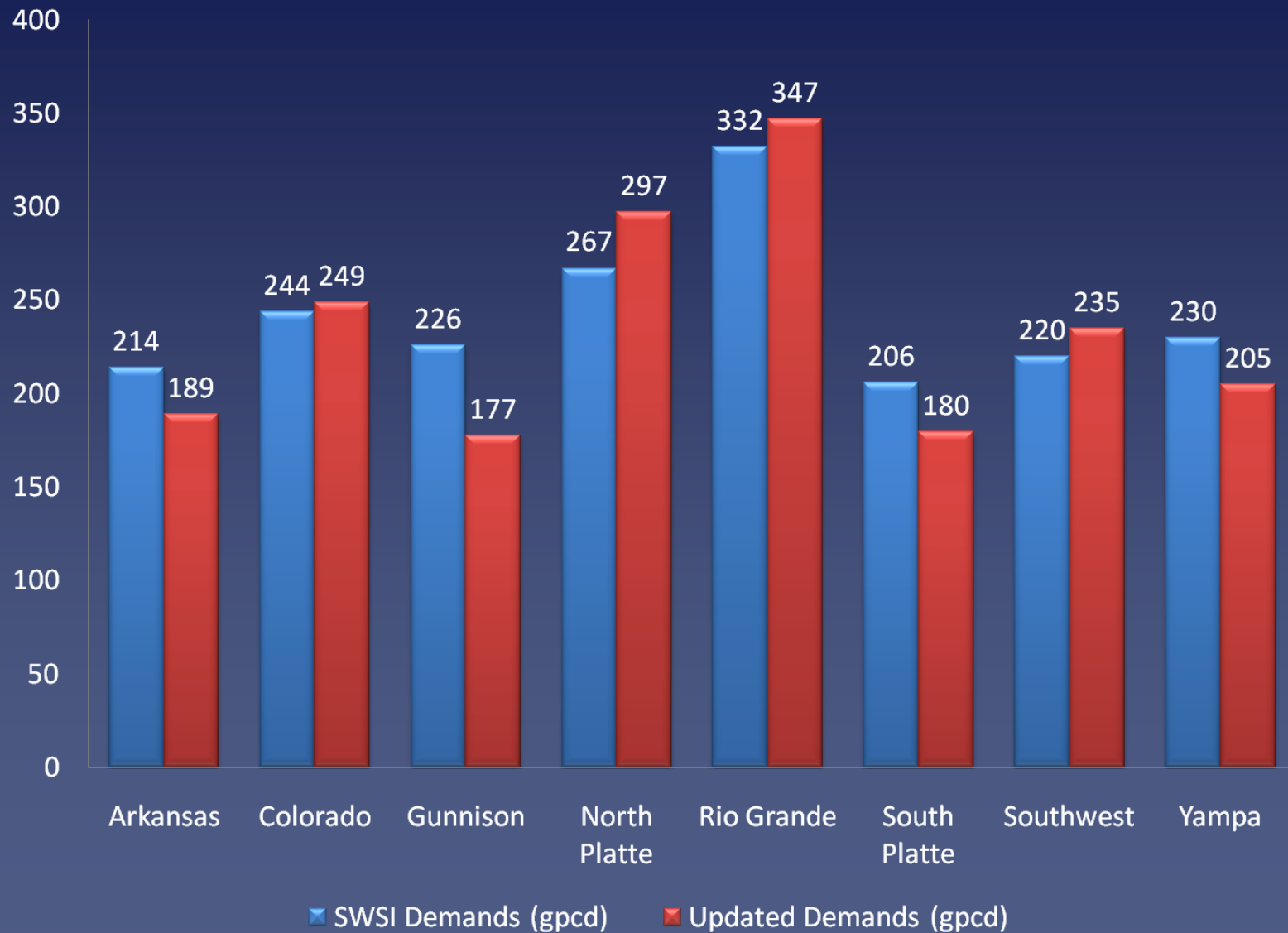
Basin	Consumptive Needs Assessment	Nonconsumptive Needs Assessment	Water Supply Availability Assessment
Arkansas	• Augment SWSI 1 with Task Order requests • Demands to 2050	• Roundtable review mapping	• SWSI 1 • Task Order Request

*Visions and Strategies for
Colorado's Water Supply Future:
M&I Water Demands to 2050*

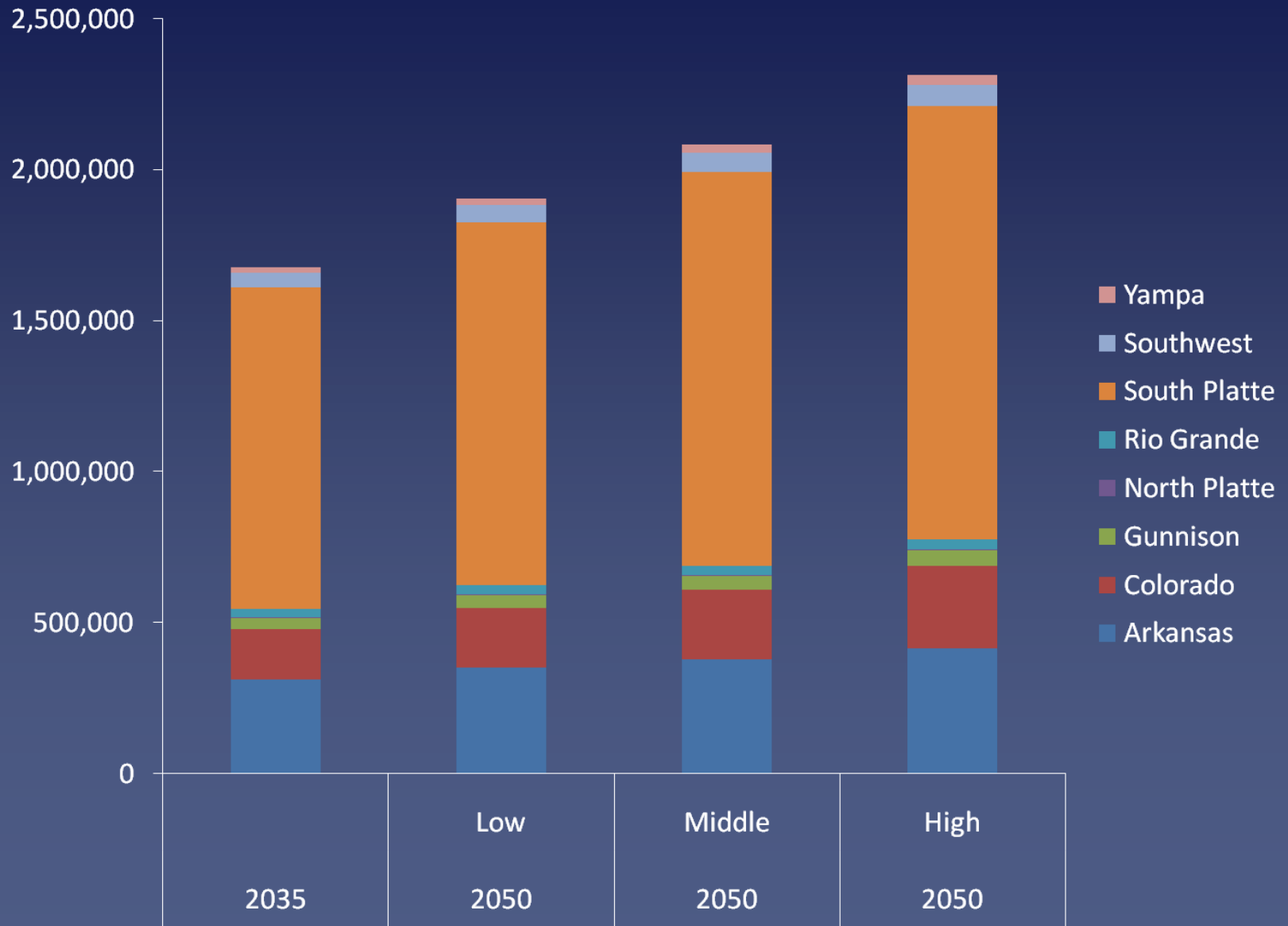
Population Projections



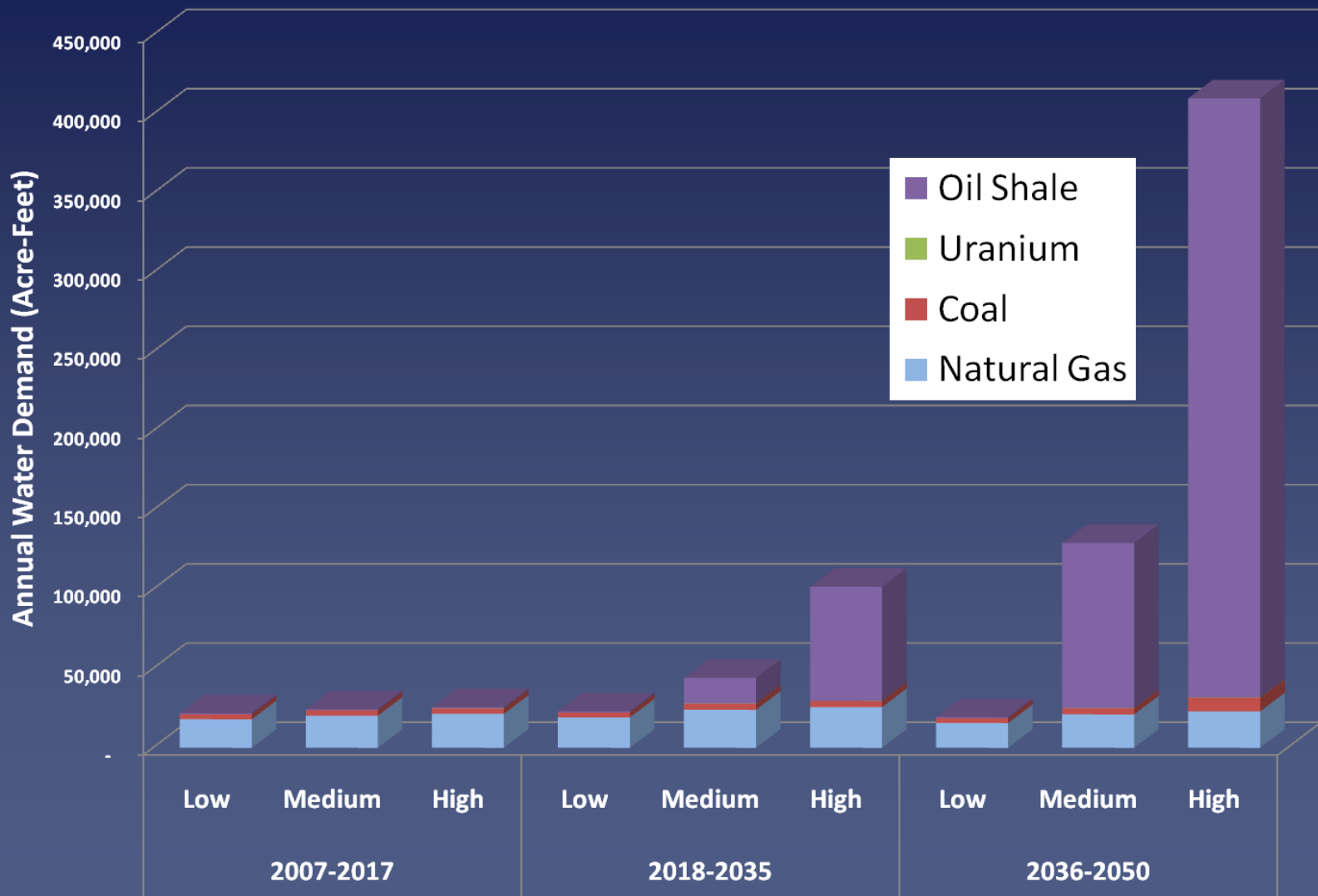
M&I Water Usage Rates by Basin



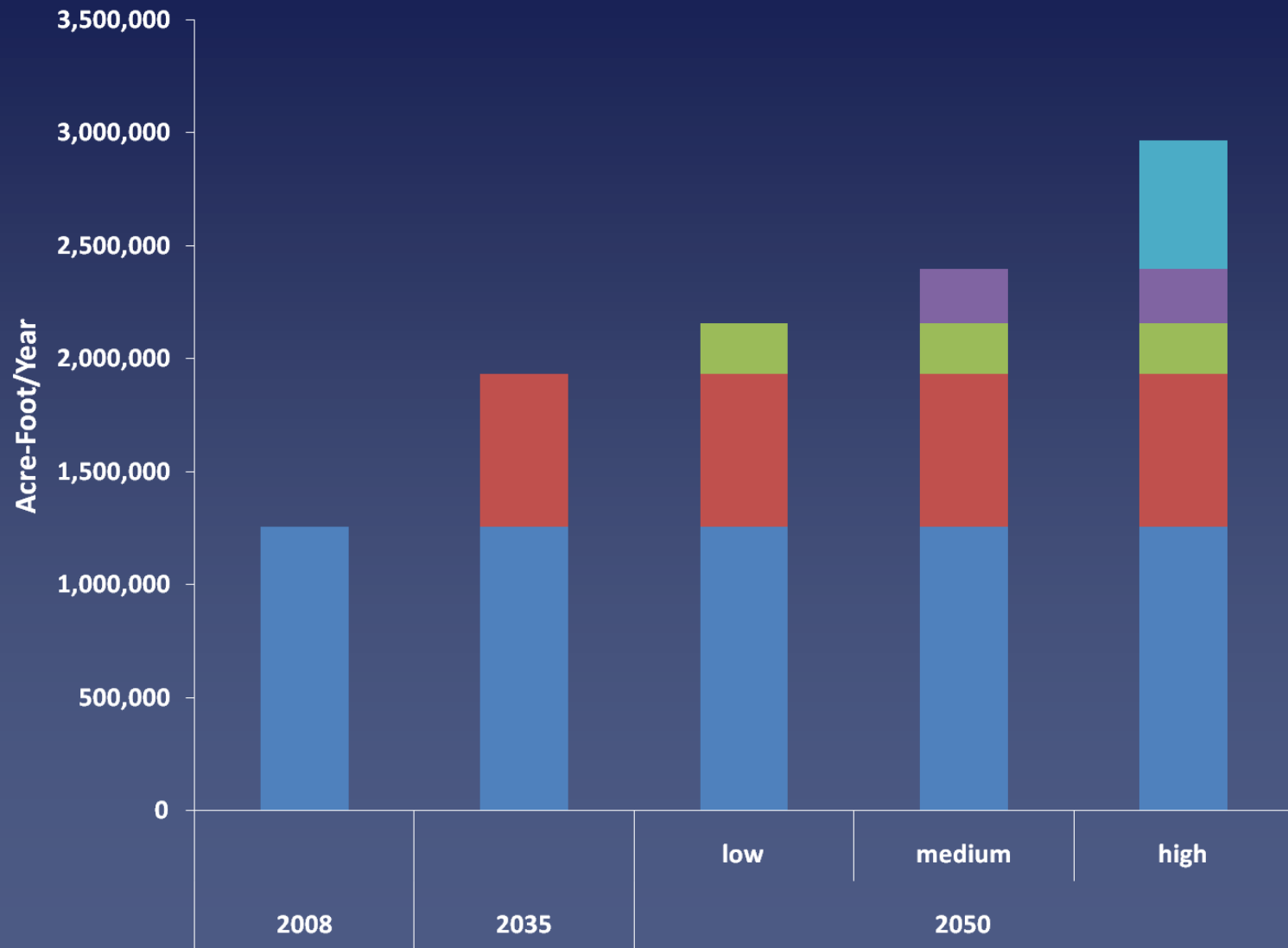
Municipal Water Demands by Basin



Colorado and Yampa/White Energy Demands

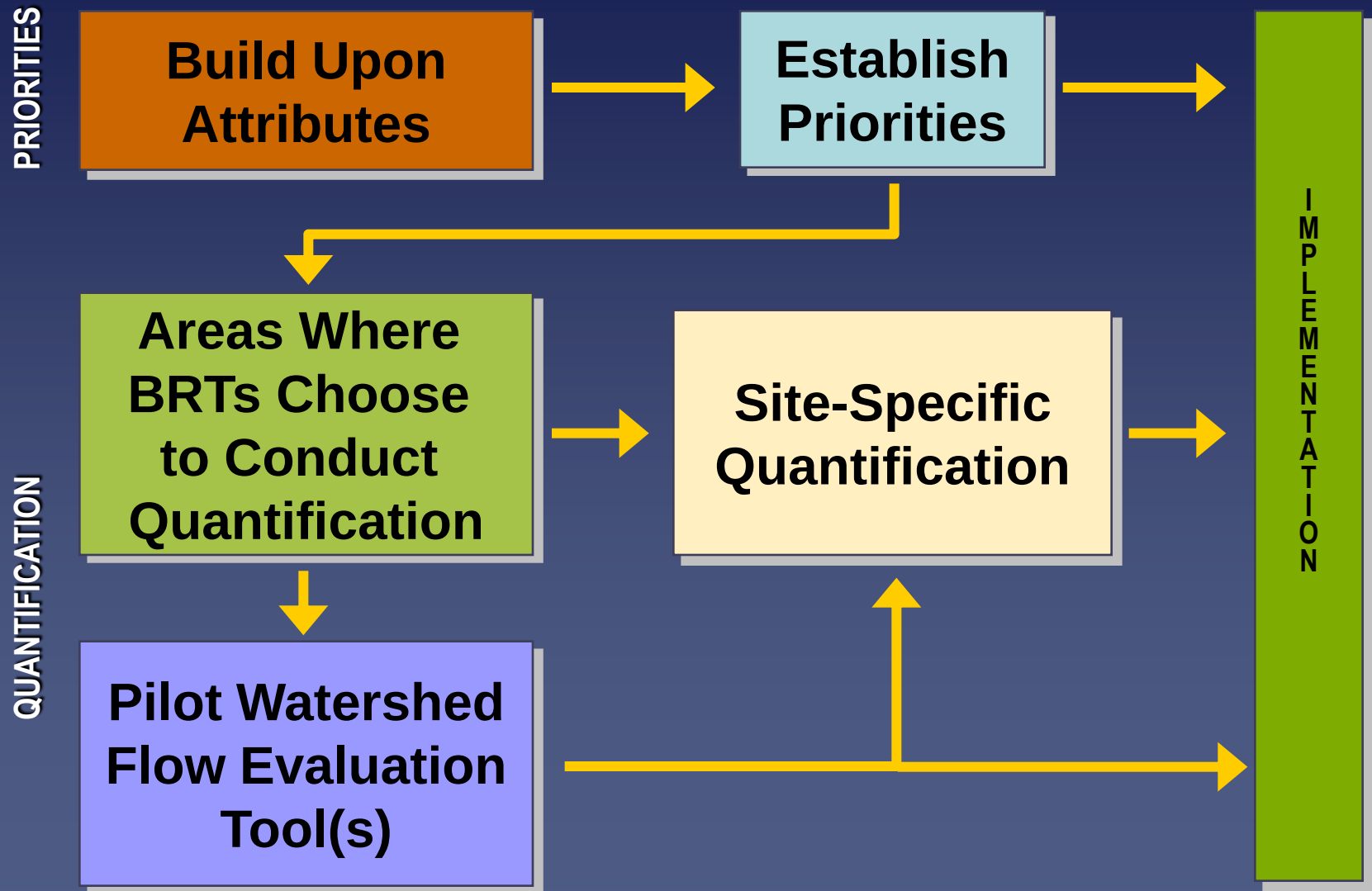


By 2050, Colorado will need up to 1.7 MAF to Meet M&I Demands*

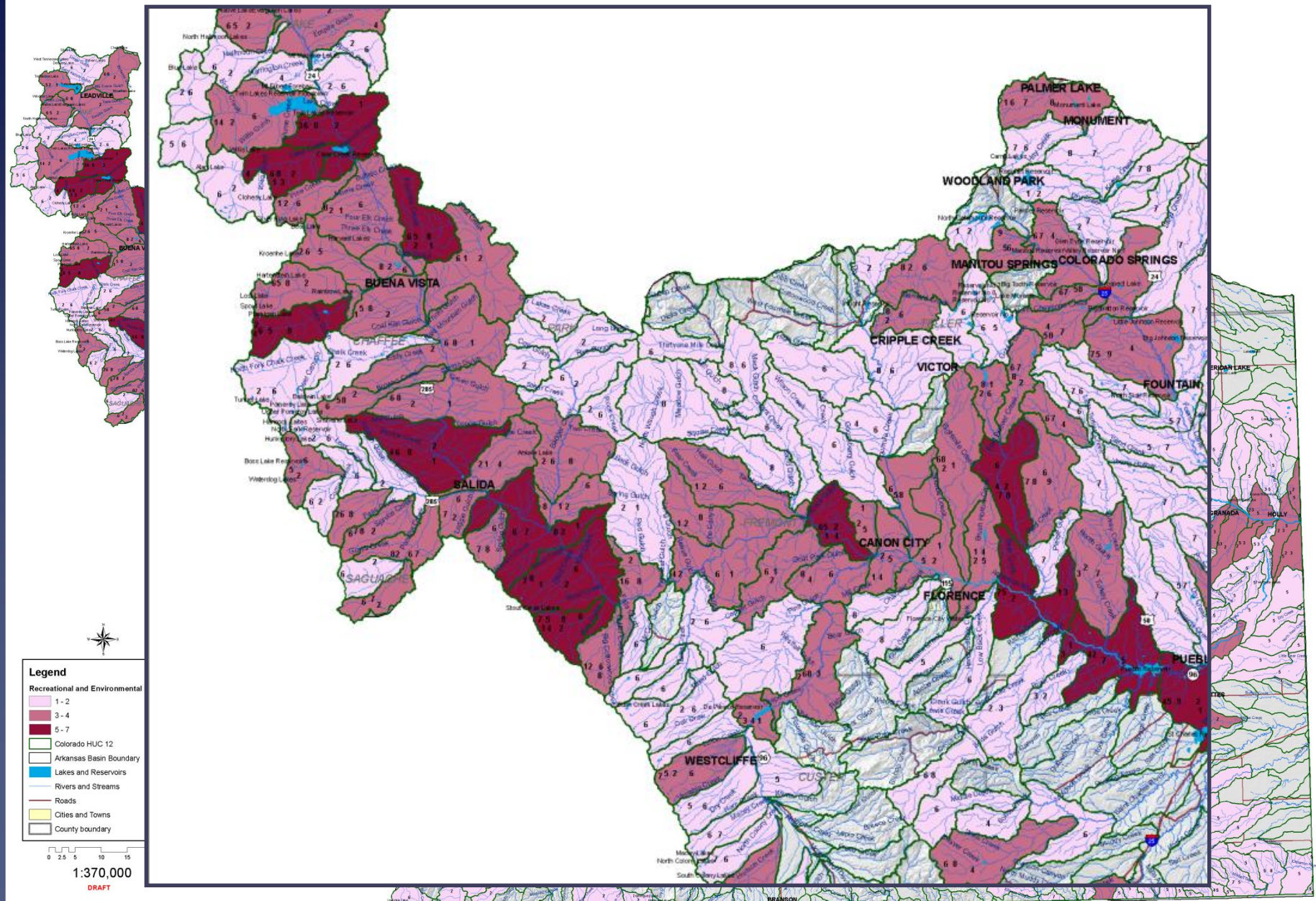


*This does not take into account demand reductions from conservation for future demands

Nonconsumptive Needs Assessment Methodology



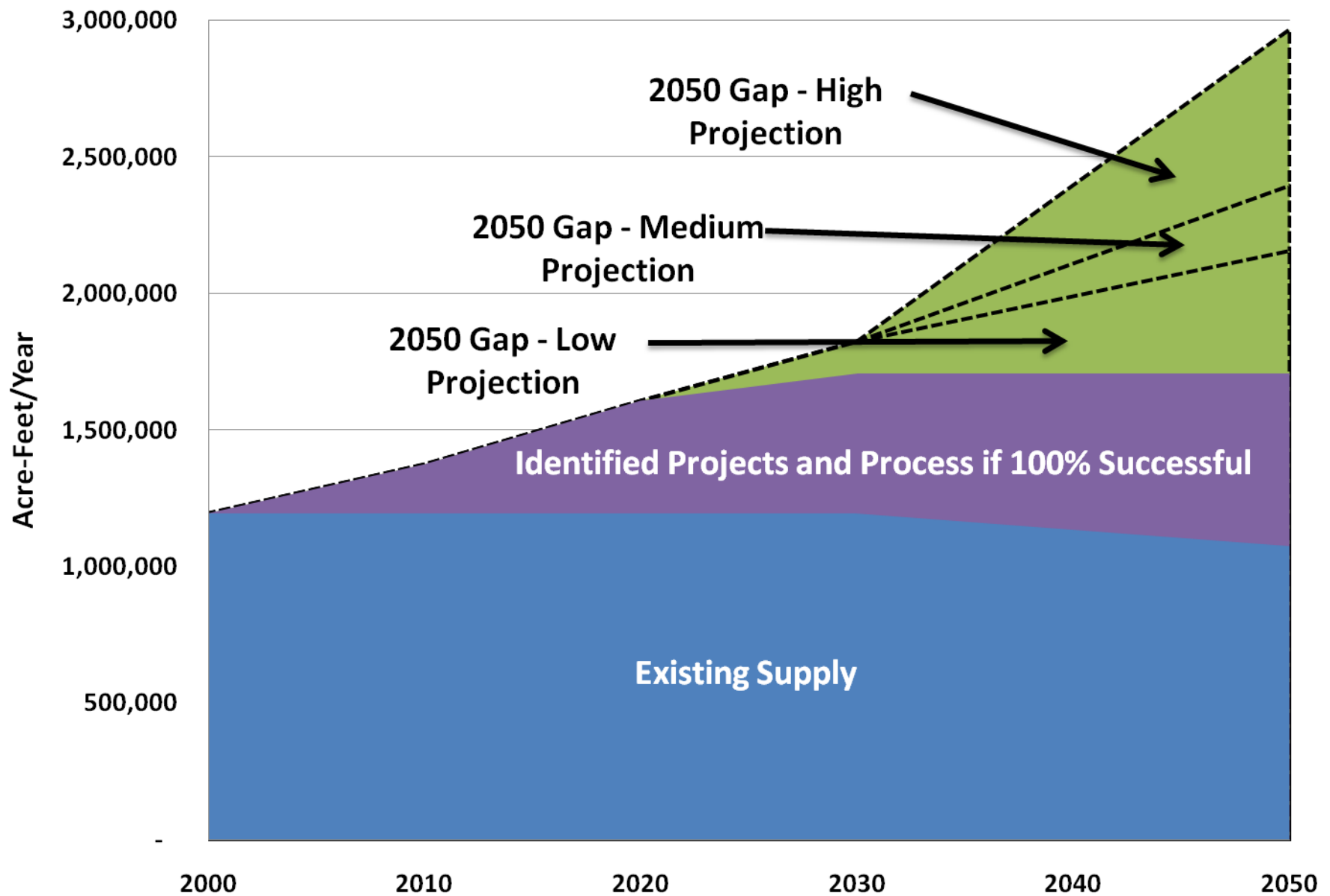
Arkansas Basin Nonconsumptive Needs Assessment Environmental and Recreational Priorities HUC 12 Watershed Based Environmental and Recreational Attributes Prioritization



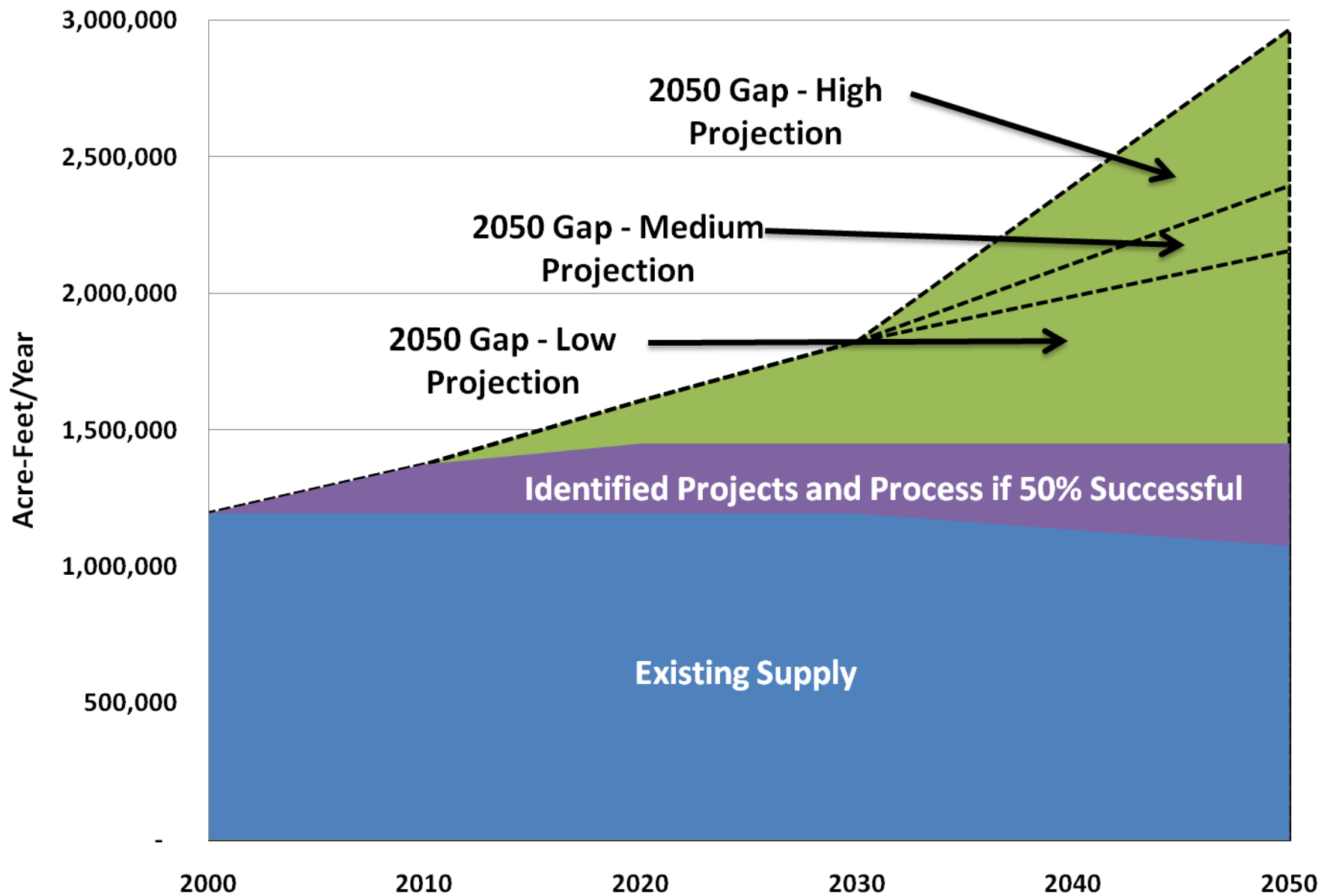
Roundtable Action Items

- Finalize map
- Identify projects and methods for priority areas

State of Colorado Projected Water Demands, Supplies and Gaps



State of Colorado Projected Water Demands, Supplies and Gaps



Arkansas IPPs

Major Identified Projects and Processes in Arkansas Basin Counties

County	Estimated Demand Met by Identified Projects and Processes and Additional Conservation (AFY)	Identified Projects and Processes
Upper Arkansas (Chaffee, Fremont, Lake, Teller)	7,100	• PSOP – Re-operation of the Fry-Ark Project – Turquoise and Pueblo Reservoir Enlargements – 10 to 12 percent reduction in demand for storage via conservation • Augmentation Plans • Increased use of Fry-Ark M&I allocation directly or for augmentation • Agricultural transfers
Urban Counties (El Paso, Pueblo)	71,900	• Active conservation • PSOP • Maximizing existing water rights • Alluvial aquifer recharge and pumping with augmentation and advanced water treatment • Reuse for non-potable irrigation of parks and golf courses and other landscaping • Exchanges • Agricultural transfers • Southern Delivery System to deliver existing water rights • Increased use of Fry-Ark allocation

Major Identified Projects and Processes in Arkansas Basin Counties (cont.)

County	Estimated Demand Met by Identified Projects and Processes and Additional Conservation (AFY)	Identified Projects and Processes
Lower Arkansas (Bent, Crowley, Otero, Prowers)	0	• Active Conservation • PSOP • Pipeline • Exchanges • Increased use of Fry-Ark allocation • Agricultural transfers • Alluvial groundwater pumping with augmentation and advanced water treatment • Use of local ditch water for irrigation of landscaping
Eastern Plains (Baca, Cheyenne, Elbert, Kiowa, Lincoln)	0	• Groundwater (non-tributary)
Southwestern Arkansas (Custer, Huerfano, Las Animas)	1,900	• Existing water rights • Augmentation Plans • Agricultural transfers • Storage and treatment of water in Trinidad Reservoir
TOTAL	80,900	

Detailed Identified Projects and Processes for Arkansas Basin

County	Major Provider	Remaining Gross Gap (AF)	Supplies Beyond 2030*	Notes	Source
Baca	Springfield	0	N	Assumed that non-tributary groundwater will meet future needs.	—
Bent	Las Animas	0	N	Arkansas Valley Pipeline would improve water quality and reduce transit losses. There are concerns over future supplies as Fry-Ark may be oversubscribed, and return flows and firm yield less than planned.	Arkansas Valley Pipeline Study and Arkansas Basin Roundtable feedback
	Bents Fort Water Association	0	N	Arkansas Valley Pipeline would improve water quality and reduce transit losses. There are concerns over future supplies as Fry-Ark may be oversubscribed, and return flows and firm yield less than planned.	Arkansas Valley Pipeline Study and Arkansas Basin Roundtable feedback
	McClave Water Association	0	N	Arkansas Valley Pipeline would improve water quality and reduce transit losses. There are concerns over future supplies as Fry-Ark may be oversubscribed, and return flows and firm yield less than planned.	Arkansas Valley Pipeline Study and Arkansas Basin Roundtable feedback

* Y = Yes; N = No; U = Unknown

Detailed Identified Projects and Processes for Arkansas Basin (cont.)

County	Major Provider	Remaining Gross Gap (AF)	Supplies Beyond 2030*	Notes	Source
Bent (cont.)	Unincorporated Bent Co. not served by a water district	100	N	Arkansas Valley Pipeline would improve water quality and reduce transit losses. There are concerns over future supplies as Fry-Ark may be oversubscribed, and return flows and firm yield less than planned.	Arkansas Valley Pipeline Study and Arkansas Basin Roundtable feedback
Chaffee	Buena Vista	0	N	No gap.	Terry Scanga, UAWCD
	Salida	500	N	Have existing alluvial and surface water diversions (5.5 cfs in Harrington and 1.6 in Champ Ditches) and augment as necessary with ditch rights and Fry-Ark water. Harrington water rights provide 577 AF of average CU. Champ Ditch water rights are used to recharge an alluvial aquifer and provide approximately 120 AF of CU. Existing CU demands are approximately 500 AF. Can store in Pueblo on if and when basis or in North Fork Reservoir.	Terry Scanga, UAWCD

* Y = Yes; N = No; U = Unknown

Detailed Identified Projects and Processes for Arkansas Basin (cont.)

County	Major Provider	Remaining Gross Gap (AF)	Supplies Beyond 2030*	Notes	Source
Chaffee (cont.)	Poncha Springs	200	N	Well augmentation. High potential for growth. Contract with UAWCD for 100 AF of storage space. Own several water rights plus use Fry-Ark allocations. McPherson 35 AF of CU and Fry-Ark water and may be acquiring ditch rights. Current demands are 80 AF of CU. Looking for 230 AF of storage.	Terry Scanga, UAWCD
	Unincorporated Chaffee Co.	1,600	N	Need well augmentation through UAWCD. Will seek additional Twin Lakes, Fry-Ark, and agricultural rights. Will need storage to firm yield. Plans to rehabilitate Boss and North Fork and O'Haver Reservoirs. Cottonwood and Rainbow storage sites in Cottonwood drainage.	Terry Scanga, UAWCD
Cheyenne		0	N	Assumed that non-tributary groundwater will meet future needs.	—

* Y = Yes; N = No; U = Unknown

Detailed Identified Projects and Processes for Arkansas Basin (cont.)

County	Major Provider	Remaining Gross Gap (AF)	Supplies Beyond 2030*	Notes	Source
Crowley	Olney Springs	0	N	Have existing wells and augmentation plan augmented with Twin Lakes and Fry-Ark. Arkansas Valley Pipeline would improve water quality and reduce transit losses.	Arkansas Valley Pipeline Study, Arkansas Basin Roundtable feedback, and Matt Heimerich, Crowley County Commissioner
	Crowley County Water System including towns of Crowley and Ordway	100	N	Arkansas Valley Pipeline would improve water quality and reduce transit losses. PSOP could provide firming of Fry-Ark allocation. Potential increase in prison population would result in a gap. State Demographer population forecast shows minor increase in population.	Arkansas Valley Pipeline Study, Arkansas Basin Roundtable feedback, and Matt Heimerich, Crowley County Commissioner
	Sugar City	0	N	Arkansas Valley Pipeline would improve water quality and reduce transit losses. There are concerns over future supplies as Fry-Ark may be oversubscribed, and return flows and firm yield less than planned.	Arkansas Valley Pipeline Study, Arkansas Basin Roundtable feedback, and Matt Heimerich, Crowley County Commissioner

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Detailed Identified Projects and Processes for Arkansas Basin (cont.)

County	Major Provider	Remaining Gross Gap (AF)	Supplies Beyond 2030*	Notes	Source
Crowley (cont.)	Unincorporated Crowley Co. not served by a water system	0	N	Arkansas Valley Pipeline would improve water quality and reduce transit losses. There are concerns over future supplies as Fry-Ark may be oversubscribed, and return flows and firm yield less than planned.	Arkansas Valley Pipeline Study, Arkansas Basin Roundtable feedback, and Matt Heimerich, Crowley County Commissioner
Custer	Round Mountain Water District (Towns of Westcliffe and Silvercliff)	150	N	Alluvial groundwater.	Terry Scanga, UAWCD
	Unincorporated Custer County not in a water district	200	N	Covered by UAWCD when well augmentation plan is filed. Some areas with augmentation will be difficult due to intermittent streams and futile calls. Need Twin Lakes water or agricultural rights since not in SECWCD. Will need storage plus acquisition of water rights.	Terry Scanga, UAWCD

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Detailed Identified Projects and Processes for Arkansas Basin (cont.)

County	Major Provider	Remaining Gross Gap (AF)	Supplies Beyond 2030*	Notes	Source
El Paso	Colorado Springs Utilities	0	Y	Colorado Springs has adequate supplies beyond 2030. Member of Fountain Valley Authority. Southern Delivery System (SDS) and PSOP will firm yield and provide delivery infrastructure.	Kevin Lusk, Colorado Springs Utilities
	Security	0	N	Member of Fountain Valley Authority. Has wells in Widefield aquifer and currently leasing Colorado Springs Widefield aquifer water. Will participate in SDS to replace leased aquifer water. PSOP could provide firming of Fry-Ark allocation. Will purchase agricultural rights along Fountain Creek as needed.	Gary Thompson, W.W. Wheeler and Associates
	Fountain	0	N	Member of Fountain Valley Authority. Will participate in SDS. PSOP could provide firming of Fry-Ark allocation. Will drill additional alluvial wells and augment with Fry-Ark and agricultural dry-up along Fountain Creek.	Gary Thompson, W.W. Wheeler and Associates

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Detailed Identified Projects and Processes for Arkansas Basin (cont.)

County	Major Provider	Remaining Gross Gap (AF)	Supplies Beyond 2030*	Notes	Source
El Paso (cont.)	Widefield	0	N	Member of Fountain Valley Authority. PSOP could provide firming of Fry-Ark allocation. Has wells in Widefield and Jimmy Camp Creek aquifers. May construct Reverse Osmosis treatment facility to treat Fountain Creek water to drinking water standards and recharge aquifers. Will purchase agricultural rights along Fountain Creek as needed.	Gary Thompson, W.W. Wheeler and Associates
	Unincorporated El Paso Co. including water districts not listed	8,000	N	Evaluating several options. Currently 100 percent on non-tributary groundwater. Gap could be higher if existing non-tributary groundwater supplies fail to meet existing demand in the future.	Gary Barber, El Paso County Water Authority
	Monument	0	N	Part of Unincorporated El Paso Co. gap.	El Paso County Water Authority Report
	Manitou Springs	0	N	No information on supplies to meet gap.	

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Detailed Identified Projects and Processes for Arkansas Basin (cont.)

County	Major Provider	Remaining Gross Gap (AF)	Supplies Beyond 2030*	Notes	Source
Elbert		1,400	N	No information on supplies to meet gap.	
Fremont	Florence	0	N	Part of City of Florence Regional Water System. Oak Creek Reservoir and agricultural transfers are planned to meet future demand.	2002 Regional Water System Study by Martin and Wood Consulting.
	Cañon City	0	Y	Have existing senior water rights but needs storage to firm existing water rights.	Terry Scanga, UAWCD
	Penrose Water District	200	N	May have problems with existing firm yield. Currently using leased water right from Beaver Park Irrigation Company and seeking new acquisitions. Penrose Water District, Beaver Park Irrigation Company, CDOW, Victor and Cripple Creek cooperated on meeting 2002 drought needs.	CDM survey response; Pueblo Chieftain Editorial - "Protecting Our River" - August 2004
	Unincorporated Eastern Fremont Co.	1,500	N	Need well augmentation. Petitioning into UAWCD.	Terry Scanga, UAWCD

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Detailed Identified Projects and Processes for Arkansas Basin (cont.)

County	Major Provider	Remaining Gross Gap (AF)	Supplies Beyond 2030*	Notes	Source
Fremont (cont.)	Unincorporated Western Fremont Co.	500	N	UAWCD has developed augmentation supplies for that portion of Fremont County in the UAWCD, including use of Fry-Ark allocation.	Terry Scanga, UAWCD
	Coal Creek	0	N	Part of City of Florence Regional Water System. Oak Creek Reservoir and agricultural transfers are planned to meet future demand.	2002 Florence Regional Water System Study by Martin and Wood Consulting
	Williamsburg	0	N	Part of City of Florence Regional Water System. Oak Creek Reservoir and agricultural transfers are planned to meet future demand.	2003 Florence Regional Water System Study by Martin and Wood Consulting
	Rockvale	0	N	Part of City of Florence Regional Water System. Oak Creek Reservoir and agricultural transfers are planned to meet future demand.	2004 Florence Regional Water System Study by Martin and Wood Consulting
	Park Center Water District	0	N	No gap.	CDM survey response

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Detailed Identified Projects and Processes for Arkansas Basin (cont.)

County	Major Provider	Remaining Gross Gap (AF)	Supplies Beyond 2030*	Notes	Source
Huerfano	Walsenburg	0	N	Recently purchased additional water rights (Walsenburg #5 Ditch) and seeking funding for additional storage.	Walsenburg City Clerk
	Gardner	—	—	—	Didn't respond
	La Veta	0	Y	Surface water supplies.	CJ, Town of La Veta
Kiowa	Eads	0	N	Assumed that non-tributary groundwater will meet future needs.	
Lake	Parkville W&S	0	N	Provides water to Leadville and surrounding area. Has adequate water rights, but concern with tunnel and reservoir that provides physical water supply. Reservoir needs rehabilitation or replacement and funding is needed.	Gary Thompson, W.W. Wheeler and Associates

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Detailed Identified Projects and Processes for Arkansas Basin (cont.)

County	Major Provider	Remaining Gross Gap (AF)	Supplies Beyond 2030*	Notes	Source
Lake (cont.)	Unincorporated Lake Co. not served by Parkville Water District	1,100	N	Have filed for a blanket augmentation plan. Created a new augmentation source by obtaining CU from Aurora. Will be in the market to acquire additional water rights and fold into blanket augmentation plans. Sources will Twin Lakes, agricultural transfer or as potential diverter approaches county. Storage is also needed. Box Creek (Aurora) site is a potential. Need to partner.	Jim Felt, Felt, Munson and Culichia
Las Animas	Trinidad	0	N	Existing mountain water system is at capacity. Acquired and transferred agricultural shares and have a storage account and water rights to store in Trinidad Reservoir. Planning to construct a new water treatment facility at Trinidad Reservoir.	Gary Thompson, W.W. Wheeler and Associates
	Unincorporated Las Animas Co.	500	N	Need for well augmentation upstream of Trinidad Reservoir.	Gerry McDaniel, special water counsel to Las Animas
	Aguilar	—	—	—	Didn't respond
Lincoln		0	N	Assumed that non-tributary groundwater will meet future needs.	—

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Detailed Identified Projects and Processes for Arkansas Basin (cont.)

County	Major Provider	Remaining Gross Gap (AF)	Supplies Beyond 2030*	Notes	Source
Otero	La Junta	250	N	Constructed Reverse Osmosis Water Treatment Facility. Arkansas Valley Pipeline would improve water quality and reduce transit losses. There are concerns over future supplies as Fry-Ark may be oversubscribed, and return flows and firm yield less than planned.	Arkansas Valley Pipeline Study and Arkansas Basin Roundtable feedback
	Fowler	0	N	Arkansas Valley Pipeline would improve water quality and reduce transit losses. There are concerns over future supplies as Fry-Ark may be oversubscribed, and return flows and firm yield less than planned.	Arkansas Valley Pipeline Study and Arkansas Basin Roundtable feedback
	Manzanola	0	N	Arkansas Valley Pipeline would improve water quality and reduce transit losses. There are concerns over future supplies as Fry-Ark may be oversubscribed, and return flows and firm yield less than planned.	Arkansas Valley Pipeline Study and Arkansas Basin Roundtable feedback

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Detailed Identified Projects and Processes for Arkansas Basin (cont.)

County	Major Provider	Remaining Gross Gap (AF)	Supplies Beyond 2030*	Notes	Source
Otero (cont.)	Rocky Ford	50	N	Arkansas Valley Pipeline would improve water quality and reduce transit losses. There are concerns over future supplies as Fry-Ark may be oversubscribed, and return flows and firm yield less than planned.	Arkansas Valley Pipeline Study and Arkansas Basin Roundtable feedback
	Hancock Water Company	0	N	Arkansas Valley Pipeline would improve water quality and reduce transit losses. There are concerns over future supplies as Fry-Ark may be oversubscribed, and return flows and firm yield less than planned.	Arkansas Valley Pipeline Study and Arkansas Basin Roundtable feedback
	Parkdale Water Company	0	N	Arkansas Valley Pipeline would improve water quality and reduce transit losses. There are concerns over future supplies as Fry-Ark may be oversubscribed, and return flows and firm yield less than planned.	Arkansas Valley Pipeline Study and Arkansas Basin Roundtable feedback
	Swink	0	N	Arkansas Valley Pipeline would improve water quality and reduce transit losses. There are concerns over future supplies as Fry-Ark may be oversubscribed, and return flows and firm yield less than planned.	Arkansas Valley Pipeline Study and Arkansas Basin Roundtable feedback

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Detailed Identified Projects and Processes for Arkansas Basin (cont.)

County	Major Provider	Remaining Gross Gap (AF)	Supplies Beyond 2030*	Notes	Source
Otero (cont.)	South Swink W.C.	0	N	Arkansas Valley Pipeline would improve water quality and reduce transit losses. There are concerns over future supplies as Fry-Ark may be oversubscribed, and return flows and firm yield less than planned.	Arkansas Valley Pipeline Study and Arkansas Basin Roundtable feedback
	Homestead Water Company	0	N	Arkansas Valley Pipeline would improve water quality and reduce transit losses. There are concerns over future supplies as Fry-Ark may be oversubscribed, and return flows and firm yield less than planned.	Arkansas Valley Pipeline Study and Arkansas Basin Roundtable feedback
	Southside Water Company	0	N	Arkansas Valley Pipeline would improve water quality and reduce transit losses. There are concerns over future supplies as Fry-Ark may be oversubscribed, and return flows and firm yield less than planned.	Arkansas Valley Pipeline Study and Arkansas Basin Roundtable feedback
	Unincorporated Otero County	0	N	Arkansas Valley Pipeline would improve water quality and reduce transit losses. There are concerns over future supplies as Fry-Ark may be oversubscribed, and return flows and firm yield less than planned.	Arkansas Valley Pipeline Study and Arkansas Basin Roundtable feedback

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Detailed Identified Projects and Processes for Arkansas Basin (cont.)

County	Major Provider	Remaining Gross Gap (AF)	Supplies Beyond 2030*	Notes	Source
Prowers	Lamar	250	N	Arkansas Valley Pipeline would improve water quality and reduce transit losses. There are concerns over future supplies as Fry-Ark may be oversubscribed, and return flows and firm yield less than planned.	Arkansas Valley Pipeline Study and Arkansas Basin Roundtable feedback
	Wiley	50	N	Arkansas Valley Pipeline would improve water quality and reduce transit losses. There are concerns over future supplies as Fry-Ark may be oversubscribed, and return flows and firm yield less than planned.	Arkansas Valley Pipeline Study and Arkansas Basin Roundtable feedback
	May Valley Water Association	50	N	Arkansas Valley Pipeline would improve water quality and reduce transit losses. There are concerns over future supplies as Fry-Ark may be oversubscribed, and return flows and firm yield less than planned.	Arkansas Valley Pipeline Study and Arkansas Basin Roundtable feedback
	Unincorporated Prowers Co.	100	N	Arkansas Valley Pipeline would improve water quality and reduce transit losses. There are concerns over future supplies as Fry-Ark may be oversubscribed, and return flows and firm yield less than planned.	Arkansas Valley Pipeline Study and Arkansas Basin Roundtable feedback

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Detailed Identified Projects and Processes for Arkansas Basin (cont.)

County	Major Provider	Remaining Gross Gap (AF)	Supplies Beyond 2030*	Notes	Source
Pueblo	Pueblo BOWW	0	Y	Have existing direct flow, storage, trans-basin, and exchange rights.	Alan Ward, Pueblo Board of Water Works
	St. Charles Mesa	0	N	Will continue to acquire additional agricultural rights as needed and will grow into Bessemer Ditch irrigated acres.	Steve Witte, Division 2 Engineer
	Pueblo West	0	N	Will continue to acquire additional agricultural rights as needed. Acquired water rights outside of service area and own ranch in Upper Arkansas basin.	Steve Witte, Division 2 Engineer
	Boone	—	—	—	Didn't respond
	Avondale W&SD	—	—	—	Didn't respond
	Beulah Water Works District	0	Y	Surface water supplies; 750,000 gallon storage capacity for 163 families; projects are ongoing with grants/loans from Colorado Department of Local Affairs.	Charles Hutchinson, Secretary to the Board of Directors

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Detailed Identified Projects and Processes for Arkansas Basin (cont.)

County	Major Provider	Remaining Gross Gap (AF)	Supplies Beyond 2030*	Notes	Source
Pueblo (cont.)	Rye	0	Y	Surface water supply from Greenhorn Creek and two wells (one for watering school lawns and other for drinking water); 50,000 gallon storage tank being installed presently; Board not concerned about water supplies.	Town Clerk
	Colorado City	—	—	—	Didn't respond
Teller	Cripple Creek	0	N	Just received a new water right decree. Should be adequate based on recent growth rates continuing into the future, but is evaluating future needs. Penrose Water District, Beaver Park Irrigation Company, CDOW, Victor and Cripple Creek cooperated on meeting 2002 drought needs. Could use more high altitude storage for drought reliability.	Sandy MacDougall, MacDougall, Woldridge and Worley

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Detailed Identified Projects and Processes for Arkansas Basin (cont.)

County	Major Provider	Remaining Gross Gap (AF)	Supplies Beyond 2030*	Notes	Source
Teller (cont.)	Victor	600	N	Town is supplying all of the water it can product to the gold mine. The gold mine has a current shortage of 600 to 1,200 AF per year. Long-term status of gold mining is uncertain. If gold mining ceases, Victor has an excess of supply. CWCB assisted in funding a dam rehab. Colorado Springs upstream collection system limits physical supply. Physical availability a concern in 2002 and Colorado Springs cooperated in bypass of water. Penrose Water District, Beaver Park Irrigation Company, CDOW, Victor and Cripple Creek cooperated on meeting 2002 drought needs. Could use more high altitude storage for drought reliability.	Sandy MacDougall, MacDougall, Woldridge and Worley

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Potential Future Arkansas Basin Water Management Options

Project	Sponsor	Type of Project	Additional Storage (AF)	Additional Yield (AFY)	Project Purpose and Notes
Arkansas Valley Pipeline	La Junta	Infrastructure	None	None	Would improve water quality and reduce transit losses for M&I users downstream of Pueblo Reservoir
El Paso County Water Authority	El Paso County Water Authority	Development of surface water storage and conjunctive use of non-renewable groundwater and development of renewable water supplies	Not Applicable	Variable	Long-term supply for unincorporated Northern El Paso County
Pueblo RICD	City of Pueblo	Recreation	Not Applicable	Not Available	Flows for City of Pueblo kayak course
UAWCD Augmentation Plan North Fork Reservoir	UAWCD	Additional Storage	2,000	500	Storage for augmentation of domestic wells. Yield number is consumptive.

Potential Future Arkansas Basin Water Management Options (cont.)

Project	Sponsor	Type of Project	Additional Storage (AF)	Additional Yield (AFY)	Project Purpose and Notes
Oak Creek Reservoir Project	Florence; Joint Project w/USACD	Additional Storage	Up to 7,000	Not Available	Storage for the Town of Florence for M&I needs.
Cache Creek Reservoir	East Twin Lakes Ditches and Waterworks Economic Development	Additional Storage	7,620	3,000	—
Las Animas County Augmentation Plan	Las Animas County	Additional Storage	Not Available	Not Available	Acquisition of water rights and storage upstream of Trinidad Lake to augment domestic wells

Roundtable Action Items

- Review and update IPPs and base options

Development of Water Supply Strategies

Elements of the Visioning Process



**Colorado's
Water Supply
Future Vision
Goals**

Meet M&I Demands

Meet Agricultural Demands

**Meet Colorado's Environment and
Recreation Demands**

**Promote Cooperation Between Water Supply
Planners and Land Use Planners**

**Promote More Cooperation Among All
Colorado Water Users**

Optimize Existing and Future Water Supplies

Promote Cost-Effectiveness

Minimize the Net Energy Used to Supply Water

**Protect Cultural Values Linked to
Water Resources**

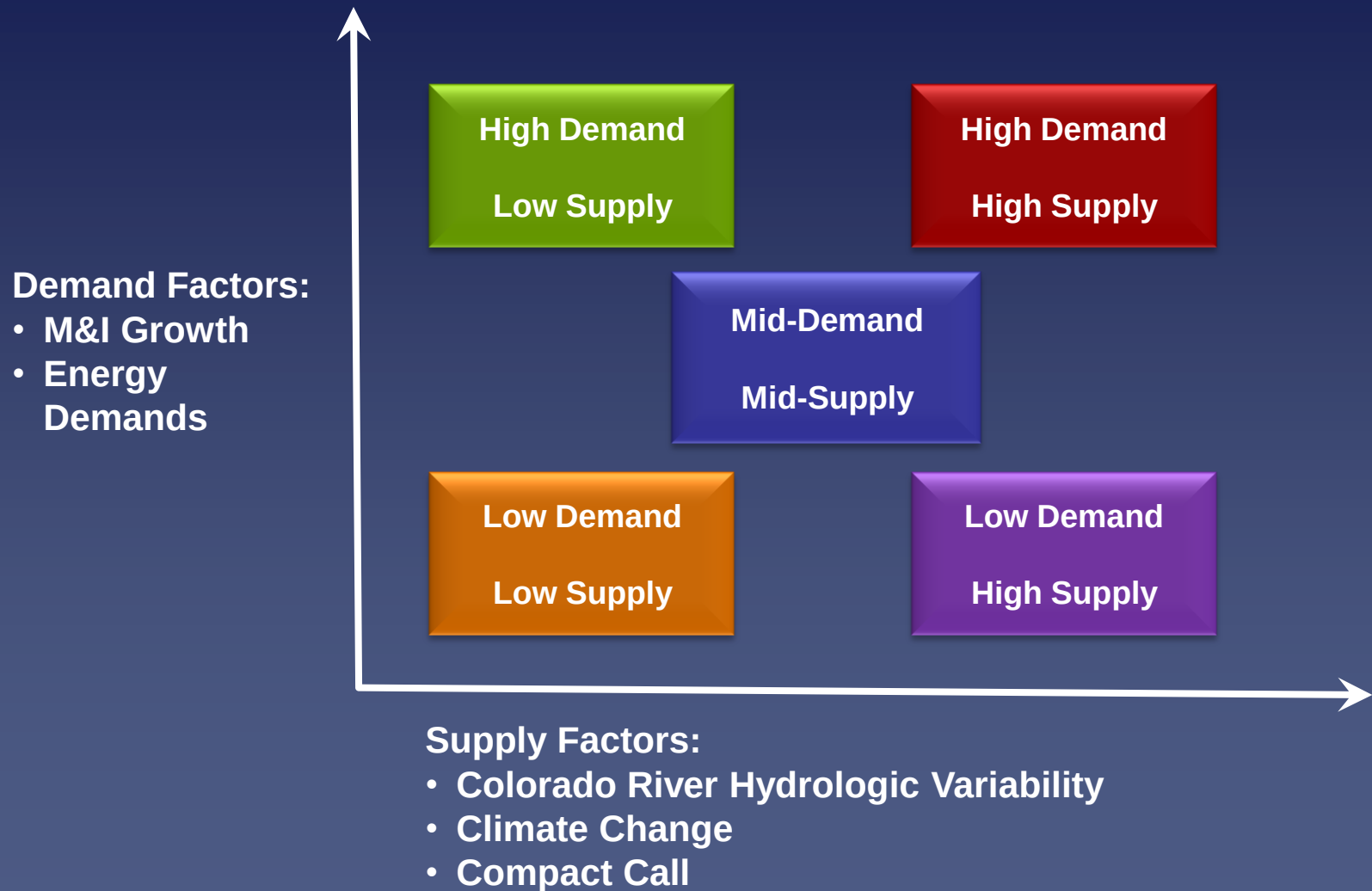
**Provide Operational Flexibility
and Coordinated Infrastructure**

**Promote Increased Fairness When
Water is Moved Between Areas**

**Comply With all Applicable
Laws and Regulations**

**Educate all Coloradoans on the
Importance of Water**

2050 Planning Horizon for Colorado's Water Supply Future



2050 Planning Horizon for Colorado's Water Supply Future

Demand Factors:

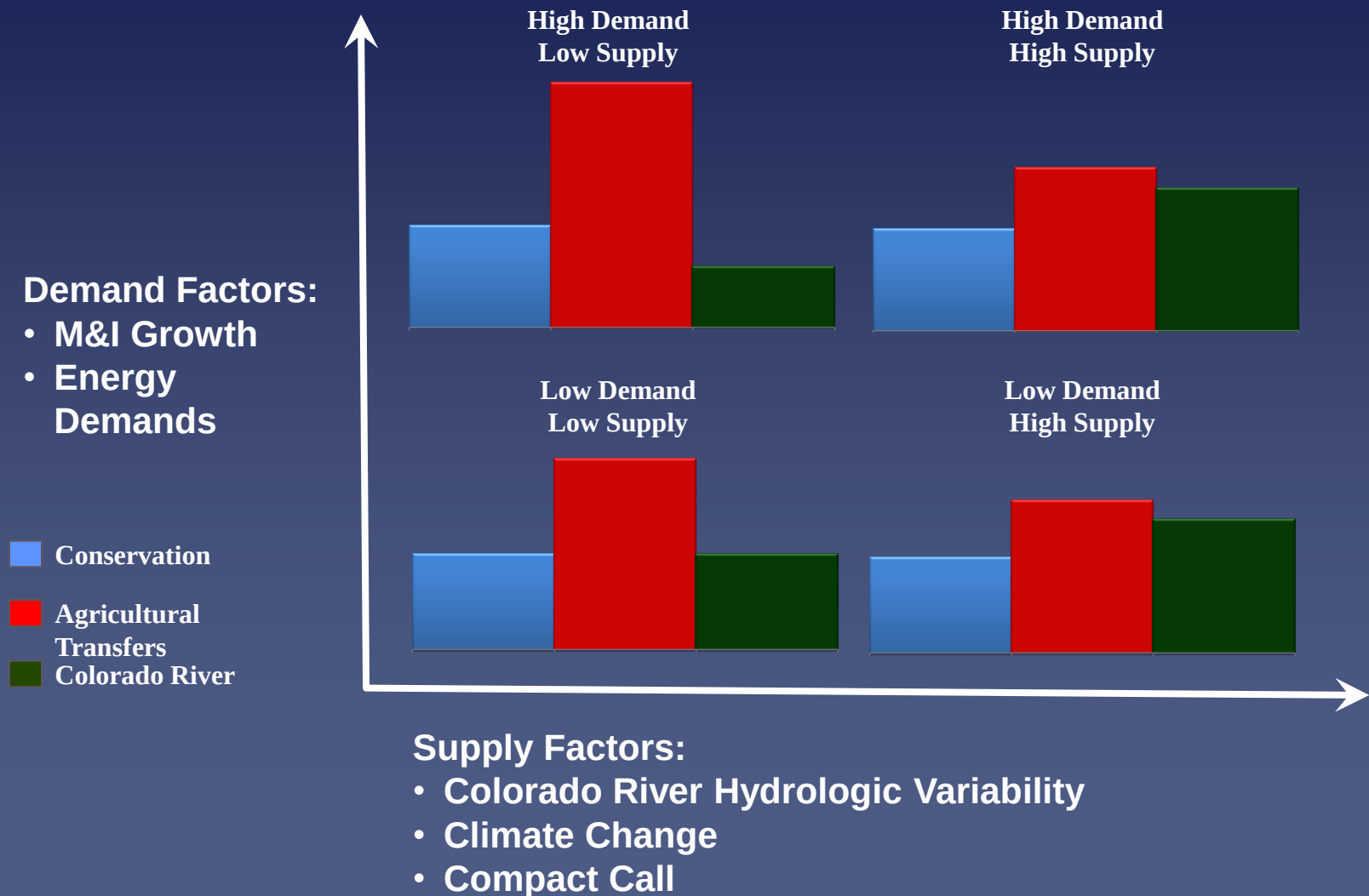
- M&I Growth
- Energy Demands



Supply Factors:

- Colorado River Hydrologic Variability
- Climate Change
- Compact Call

2050 Planning Horizon for Colorado's Water Supply Future

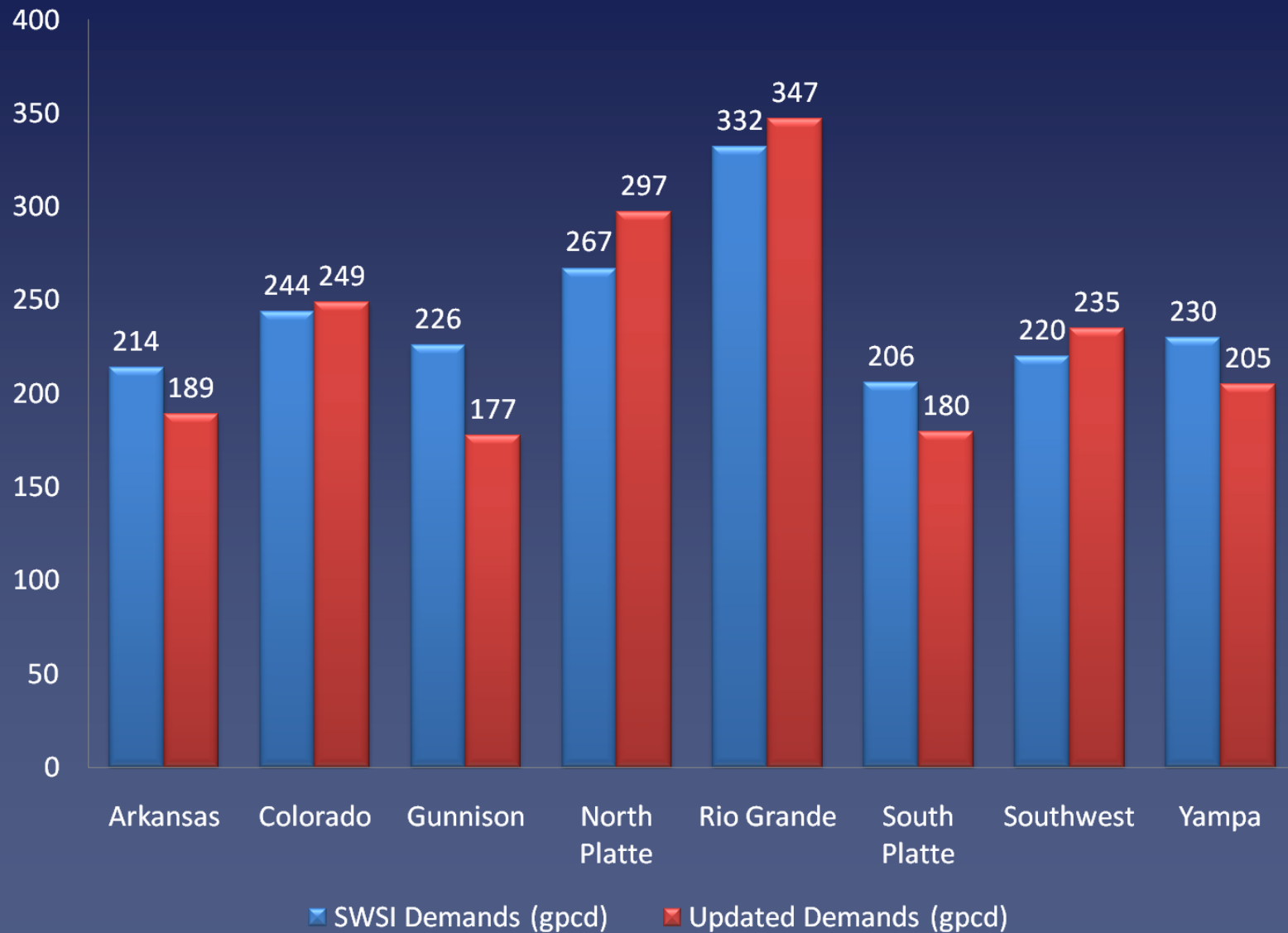


Water Supply Strategies

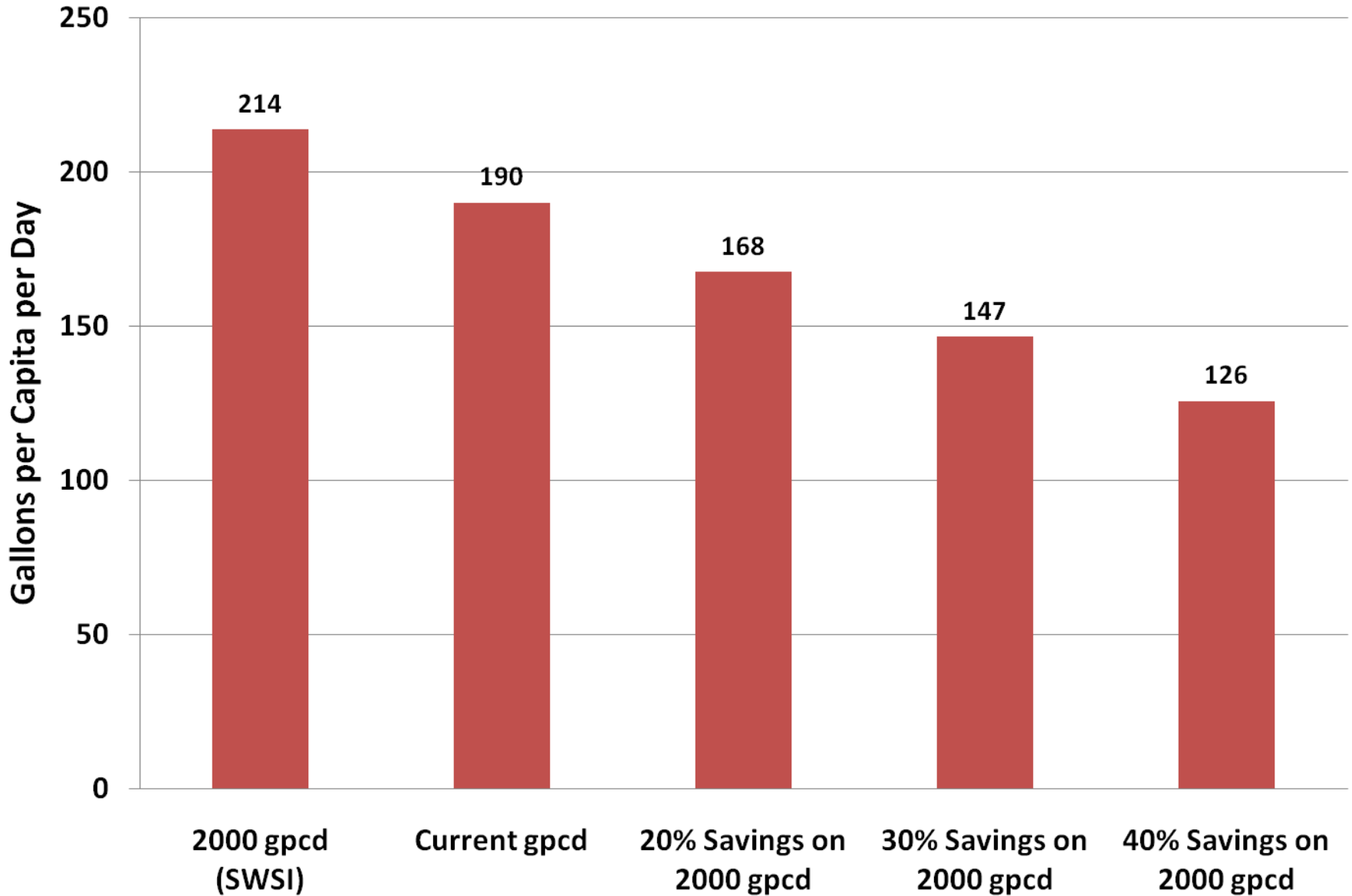
- Water Conservation
- Agricultural Transfers
 - Conventional and alternative transfers
- Development of New Supplies
 - New Storage
 - Transbasin

Water Conservation

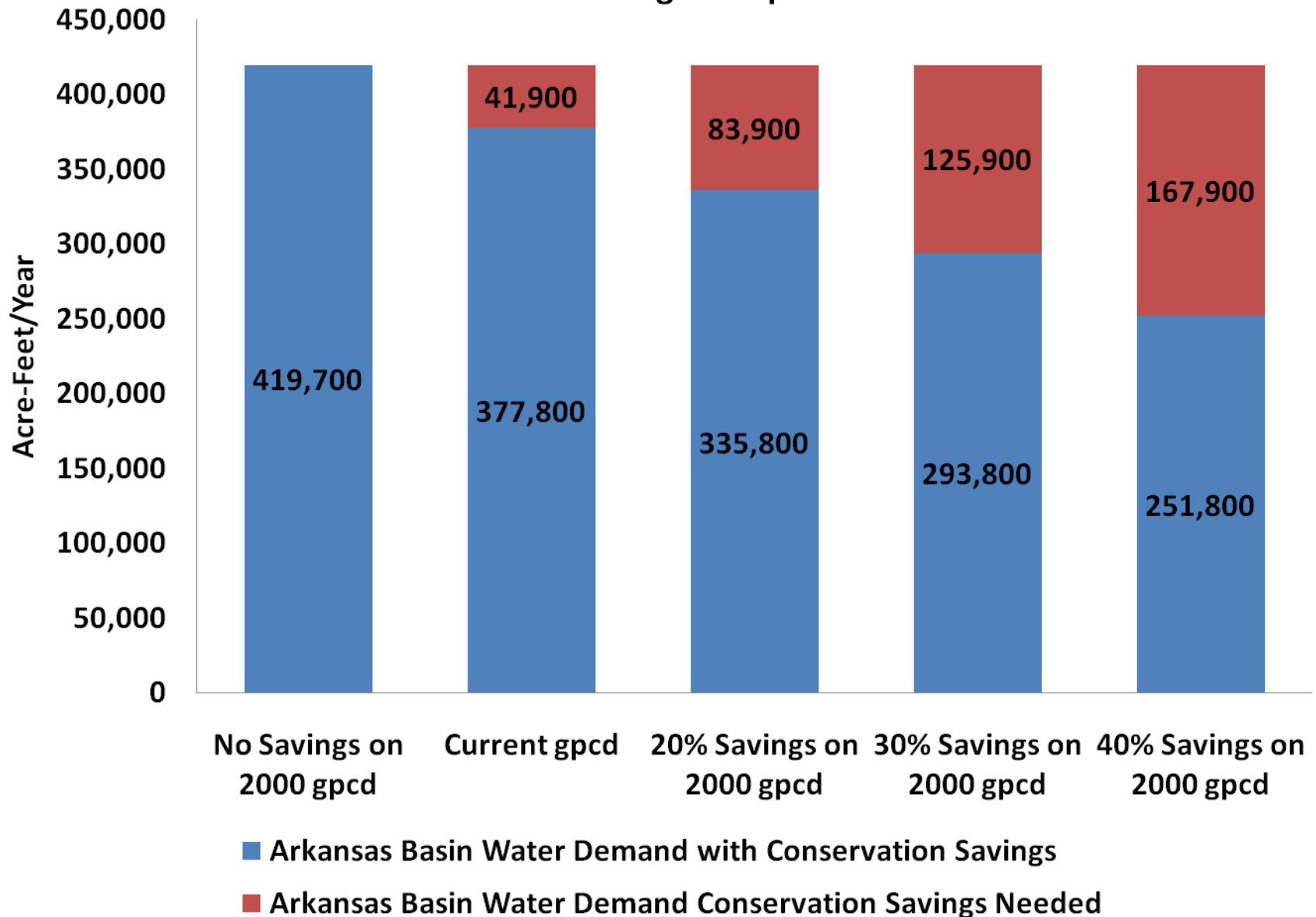
M&I Water Usage Rates by Basin



Arkansas Basin Gallons per Capita per Day



Arkansas Basin 2050 M&I Water Demand Forecast Potential Conservation Savings Compared to Current GPCD

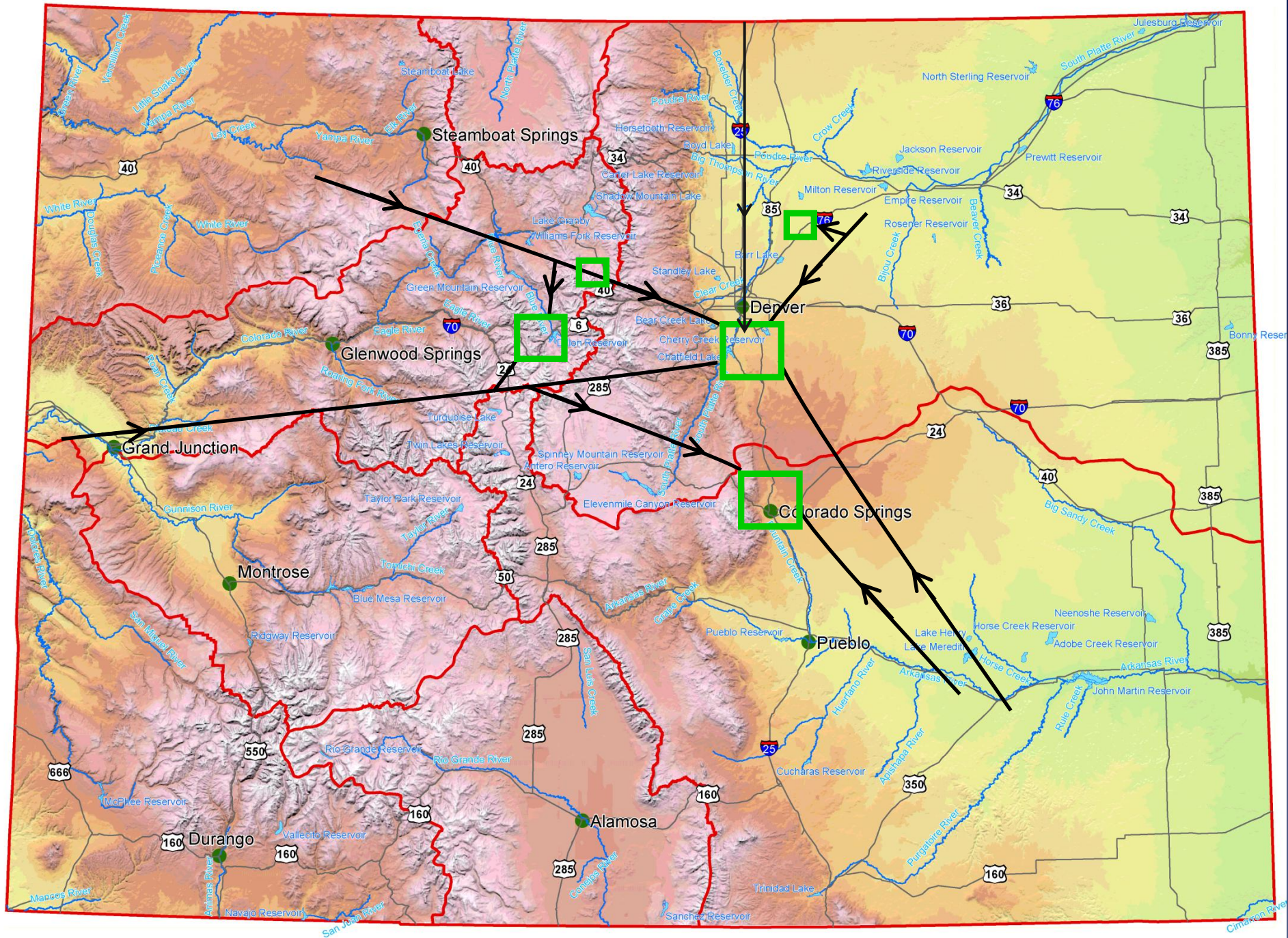


Ag Transfer Strategy

- Lower South Platte Transfer
- Lower Arkansas Transfer

Development of New Water Supplies

- Green Mountain Concept <100,000 acre-ft
- Yampa Concept >100,000 acre-ft
- Flaming Gorge Concept >100,000 acre-ft



Risk Management Strategies

- West Slope Water Bank
- Compact Delivery via Blue Mesa
- Conjunctive Use of Denver Basin Aquifer
- Timing/Phased Development

Proposed Technical Work – 2009

MEETING 1

- Present status of needs assessment (SWSI I, “Other appropriate sources,” task orders, WSRA studies)
- Present demands to 2050
- Discuss projects and methods for meeting in-basin needs (SWSI IPPs, SWSI base options, other projects identified since SWSI)
- Review nonconsumptive basin maps final product (attributes and priorities)
- Present approach to evaluating water supply strategies

Proposed Technical Work – 2009

MEETING 2

- Refine demands to 2050
- Screen projects and methods for meeting identified needs
- Discuss next steps on nonconsumptive priority areas (quantification and/or implementation strategies)
- Discuss progress on evaluation of water supply strategies

Proposed Technical Work – 2009

MEETING 3

- Discuss progress on nonconsumptive quantification and implementation strategies
- Discuss progress on projects and methods for meeting identified needs and evaluation of water supply strategies
- Discuss integrating needs assessments with Colorado River supply availability preliminary results

Proposed Technical Work – 2009

MEETING 4

- Present draft results of nonconsumptive quantification and implementation strategies
- Present draft results of projects and methods for meeting identified needs
- Present draft results of evaluation of water supply strategies