Colorado's Water
Supply Future

Southwest Roundtable Meeting
Durango, 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:

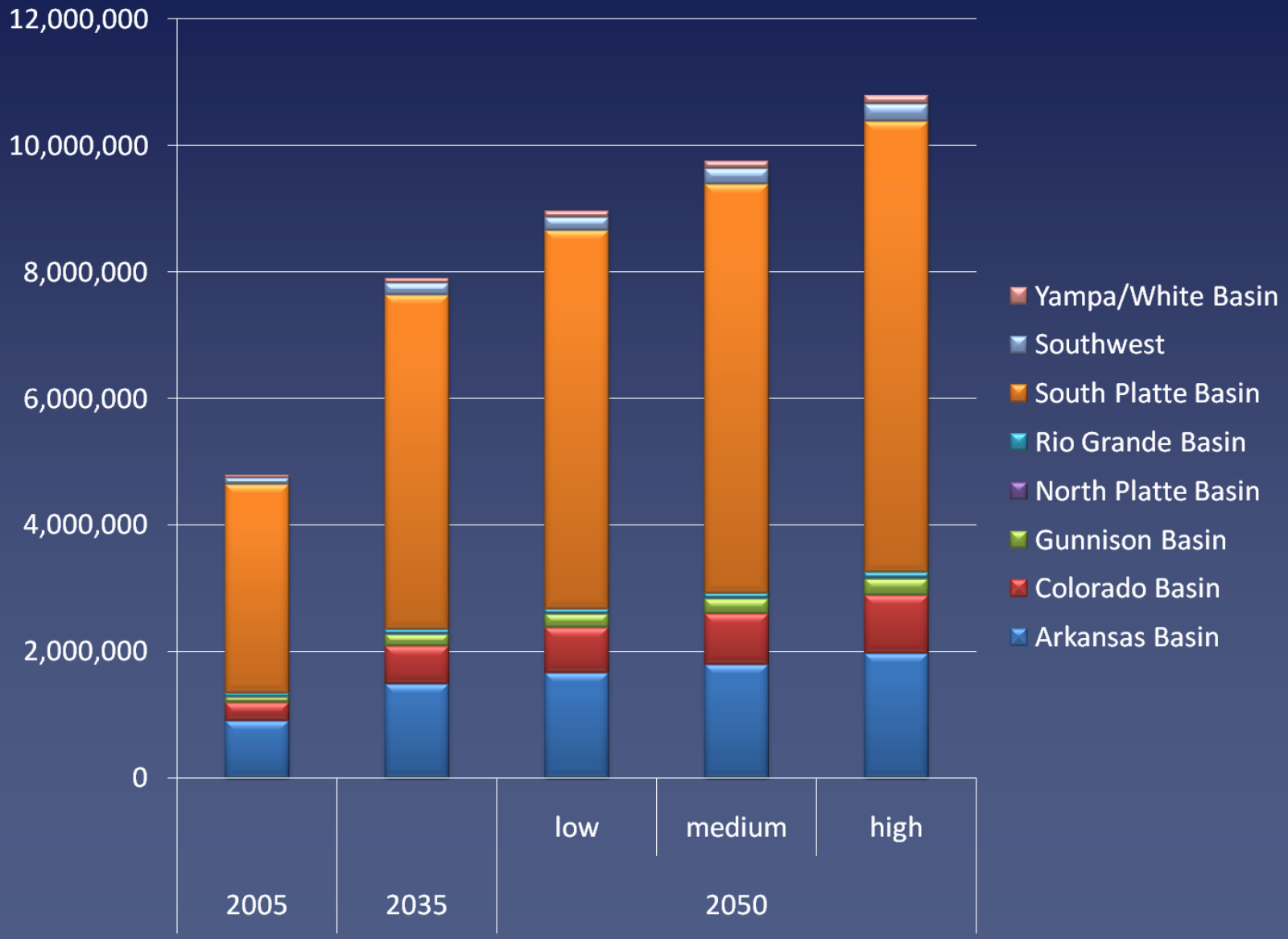
Projects and Methods to Meet Identified Needs (M&I and Nonconsumptive)

Status of Basin Roundtable Needs Assessments

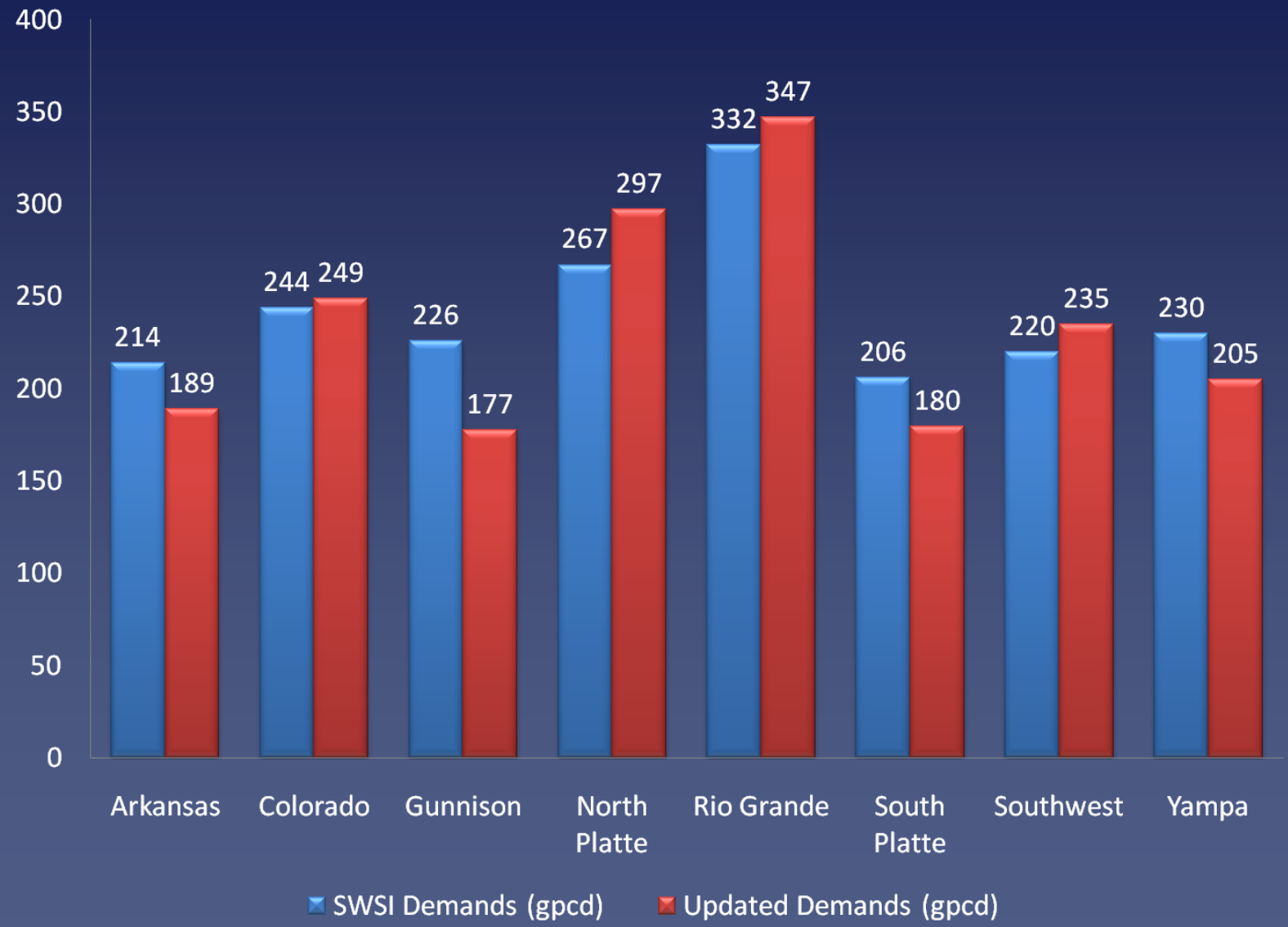
Basin	Consumptive Needs Assessment	Nonconsumptive Needs Assessment	Water Supply Availability Assessment
Southwest	• Demands to 2050	• Developed preliminary priority mapping and help Public Meetings	• SWSI 1 • Colorado River Supply Availability Study

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

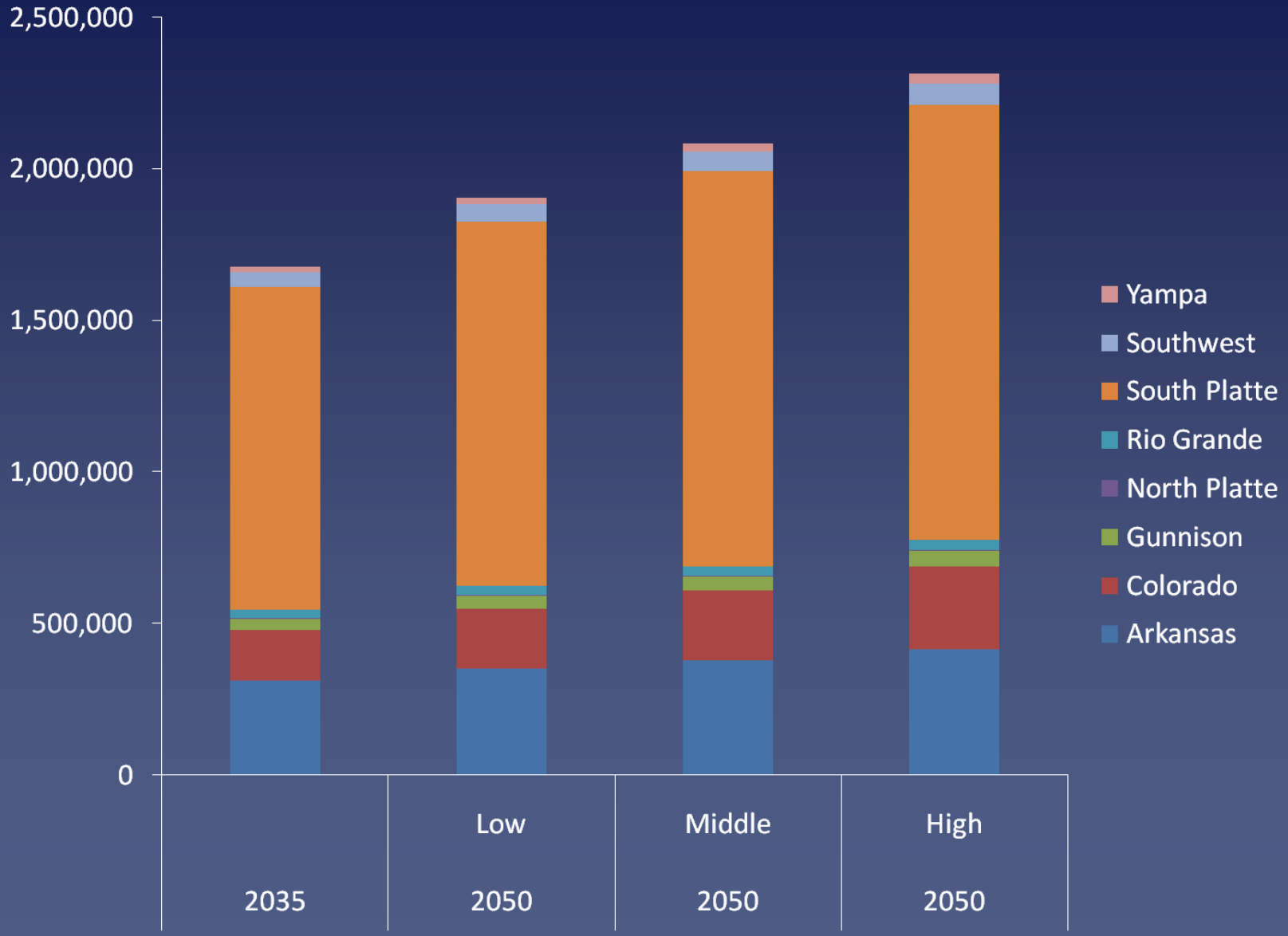
Population Projections



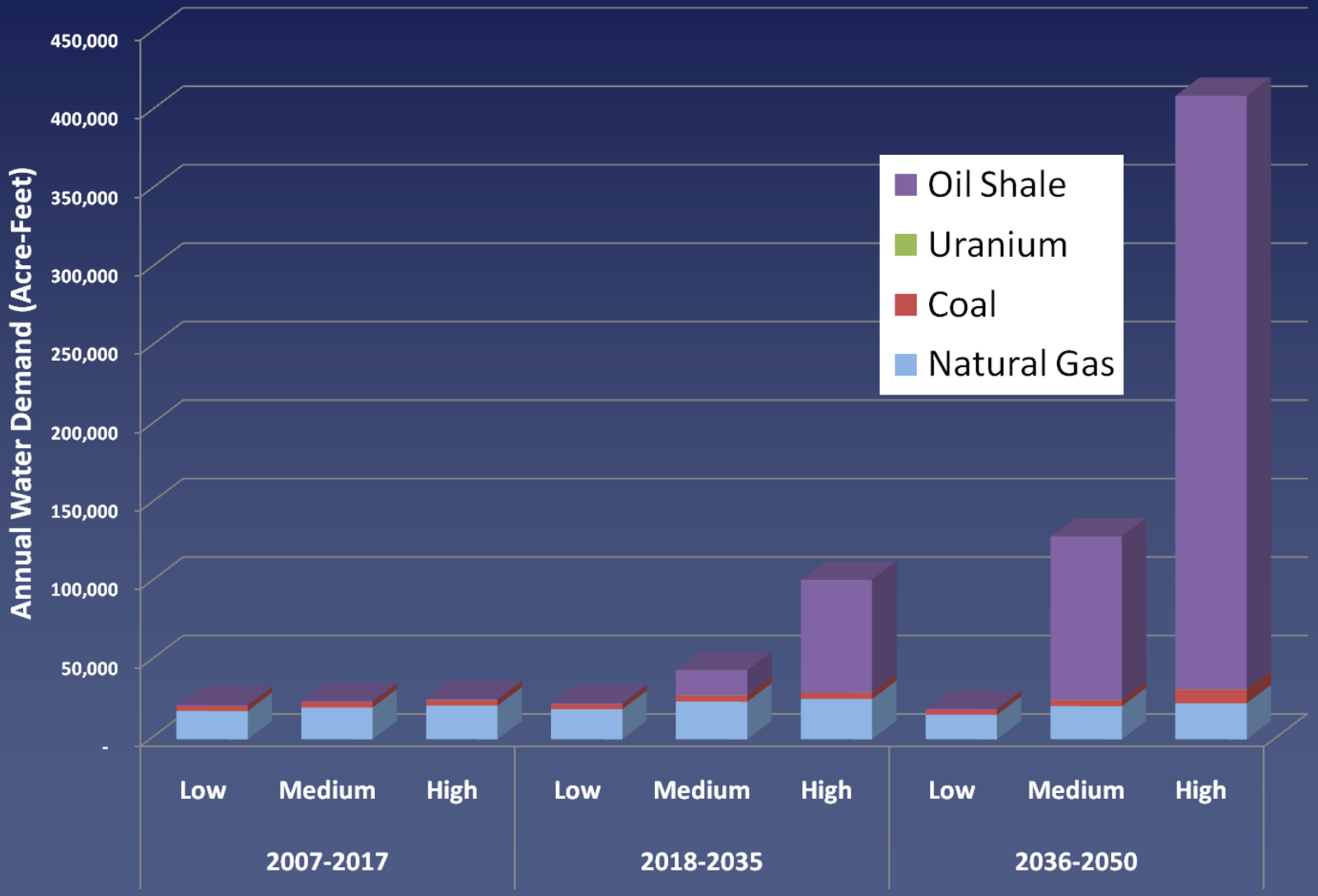
M&I Water Usage Rates by Basin



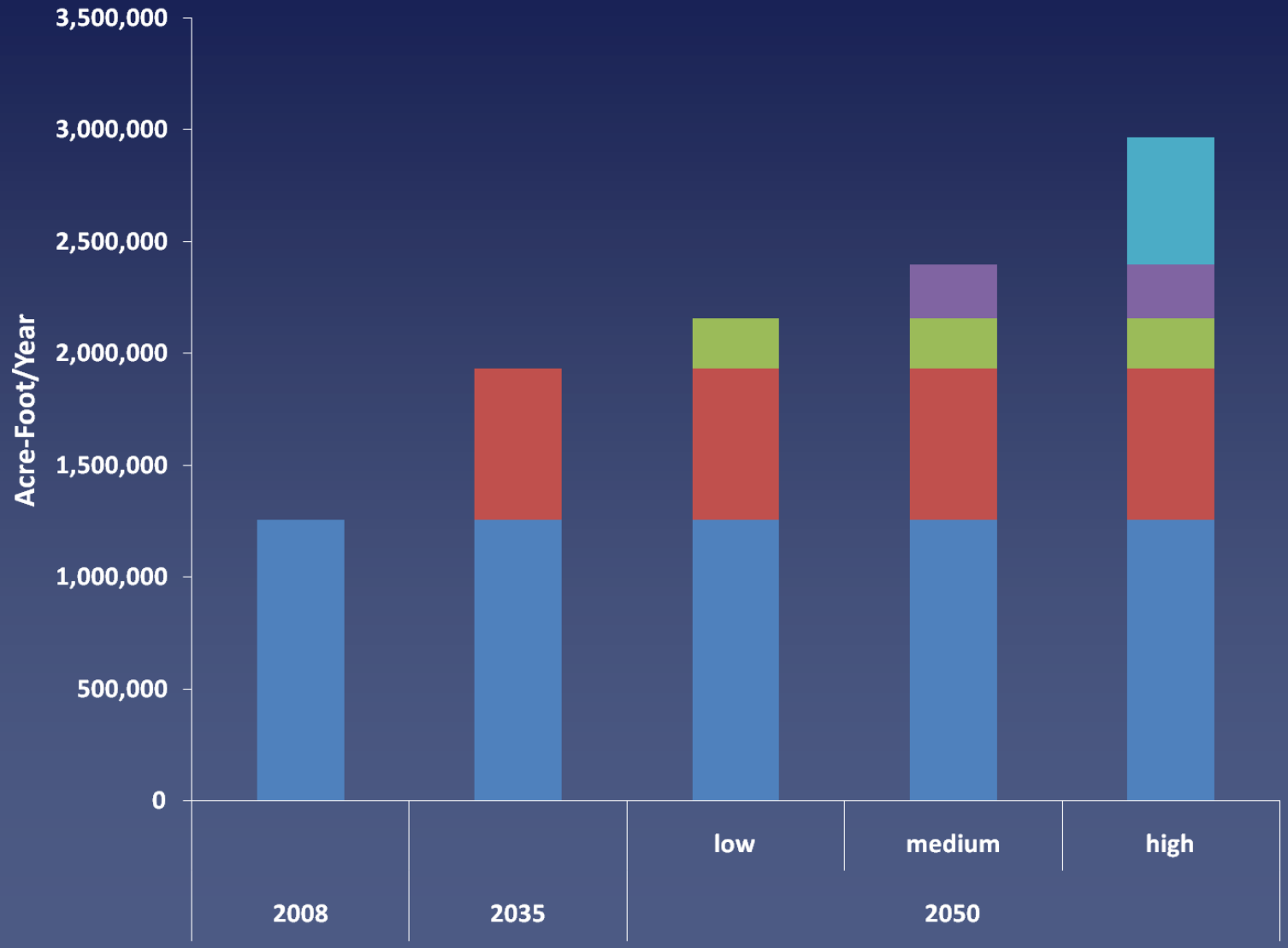
Municipal Water Demands by Basin



Colorado and Yampa/White Energy Demands

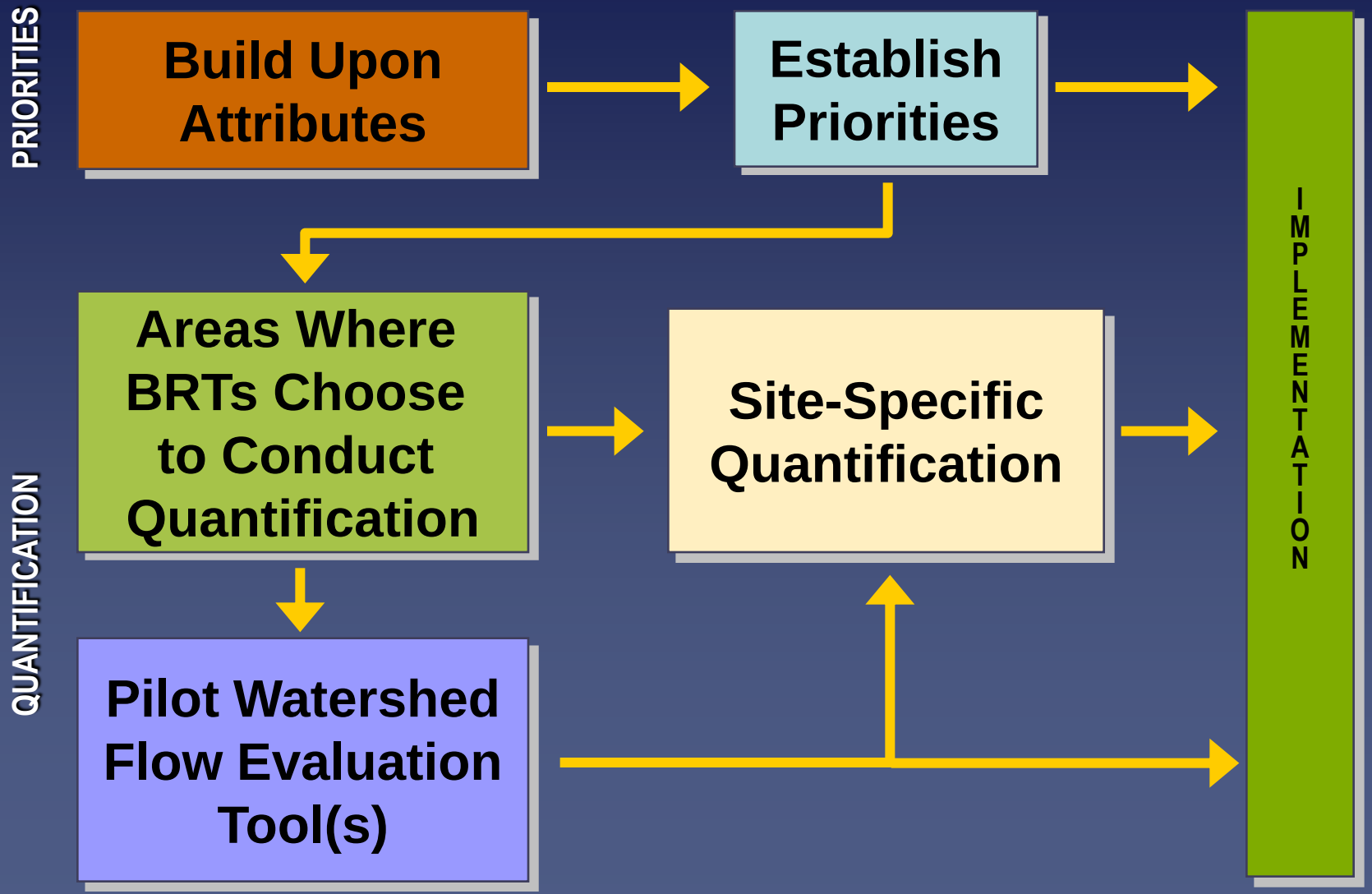


By 2050, Colorado will need up to 1.7 MAF to Meet M&I Demands*

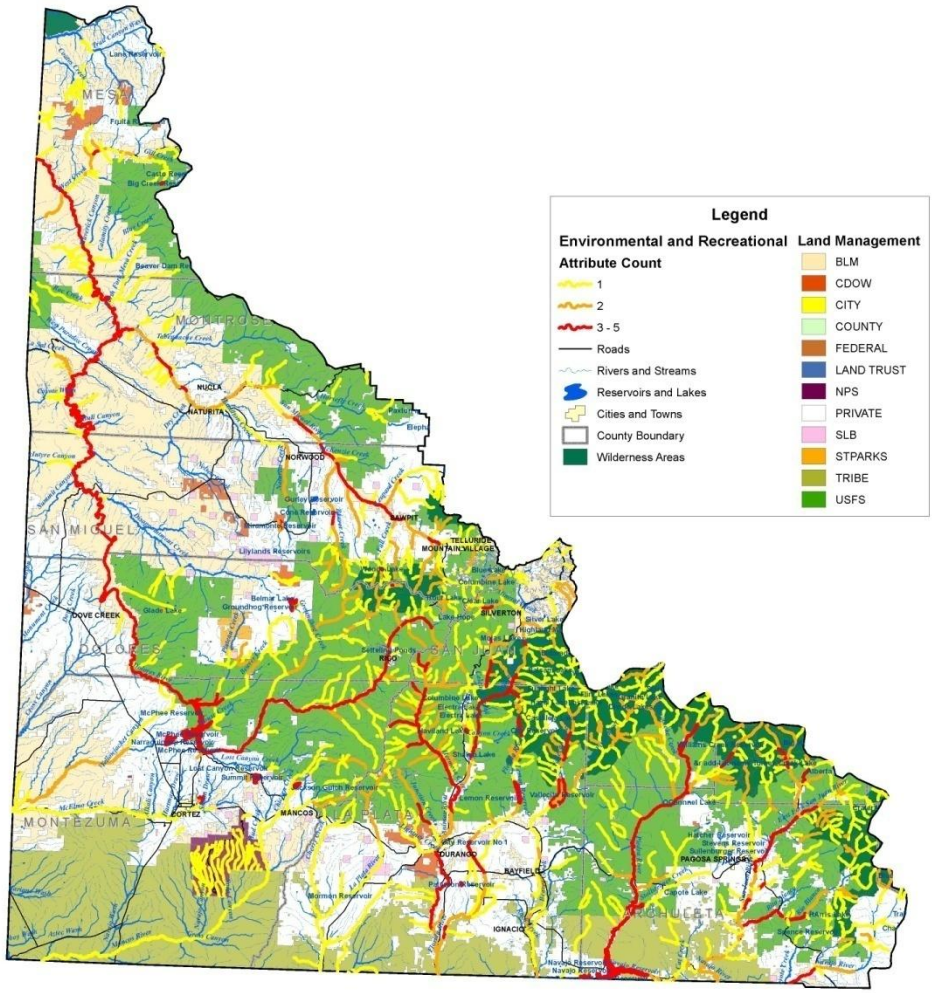


*This does not take into account demand reductions from conservation for future demands

Nonconsumptive Needs Assessment Methodology



Southwest Basin Non-Consumptive Needs Assessment
Environmental and Recreational Attribute Count per Stream Segment



DRAFT

Data from the following sources:
See Individual Attribute Maps,
NREL, CWCB

0 5 10 20 30 40 Miles

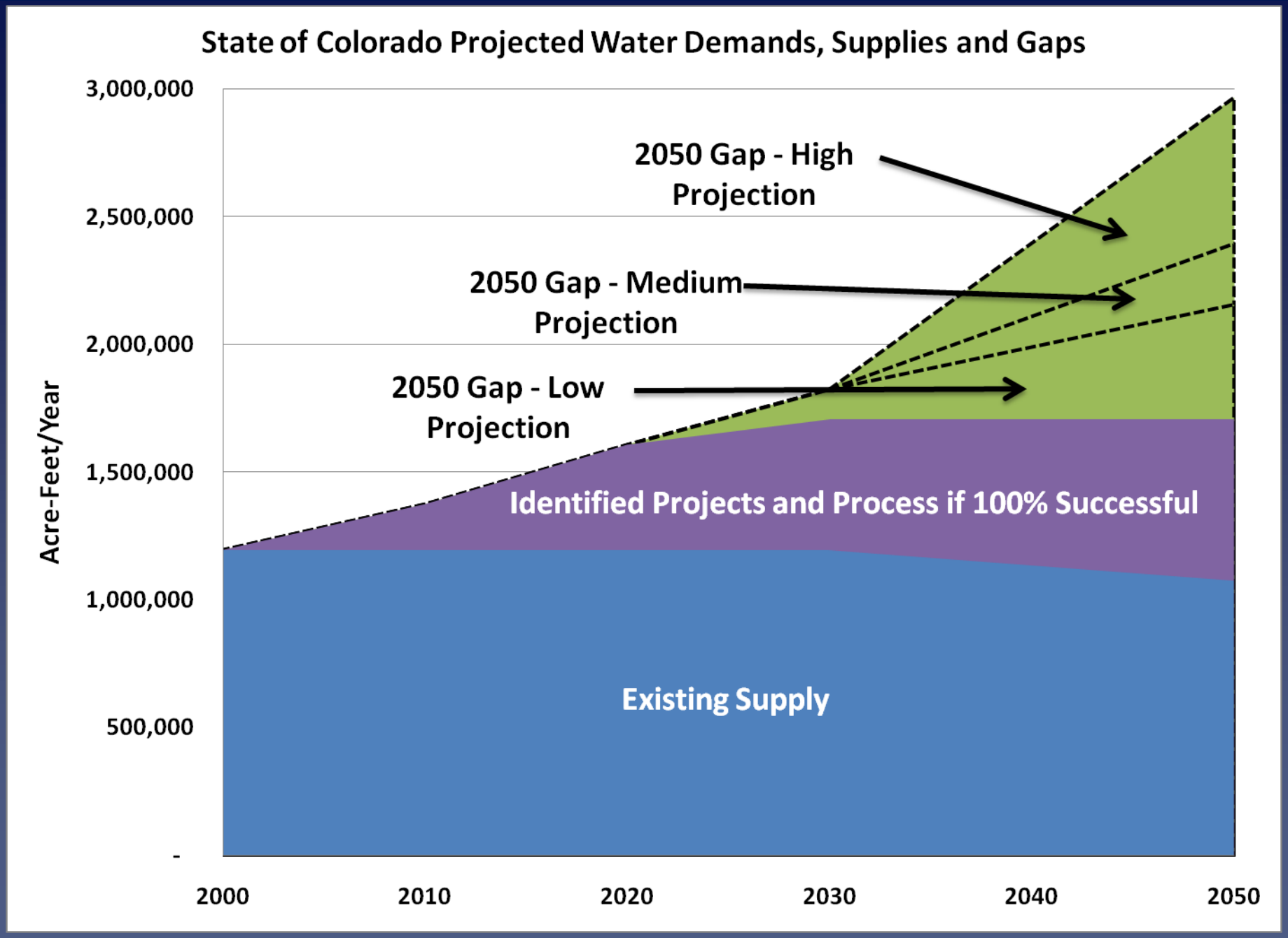
Scale: 1:625,000

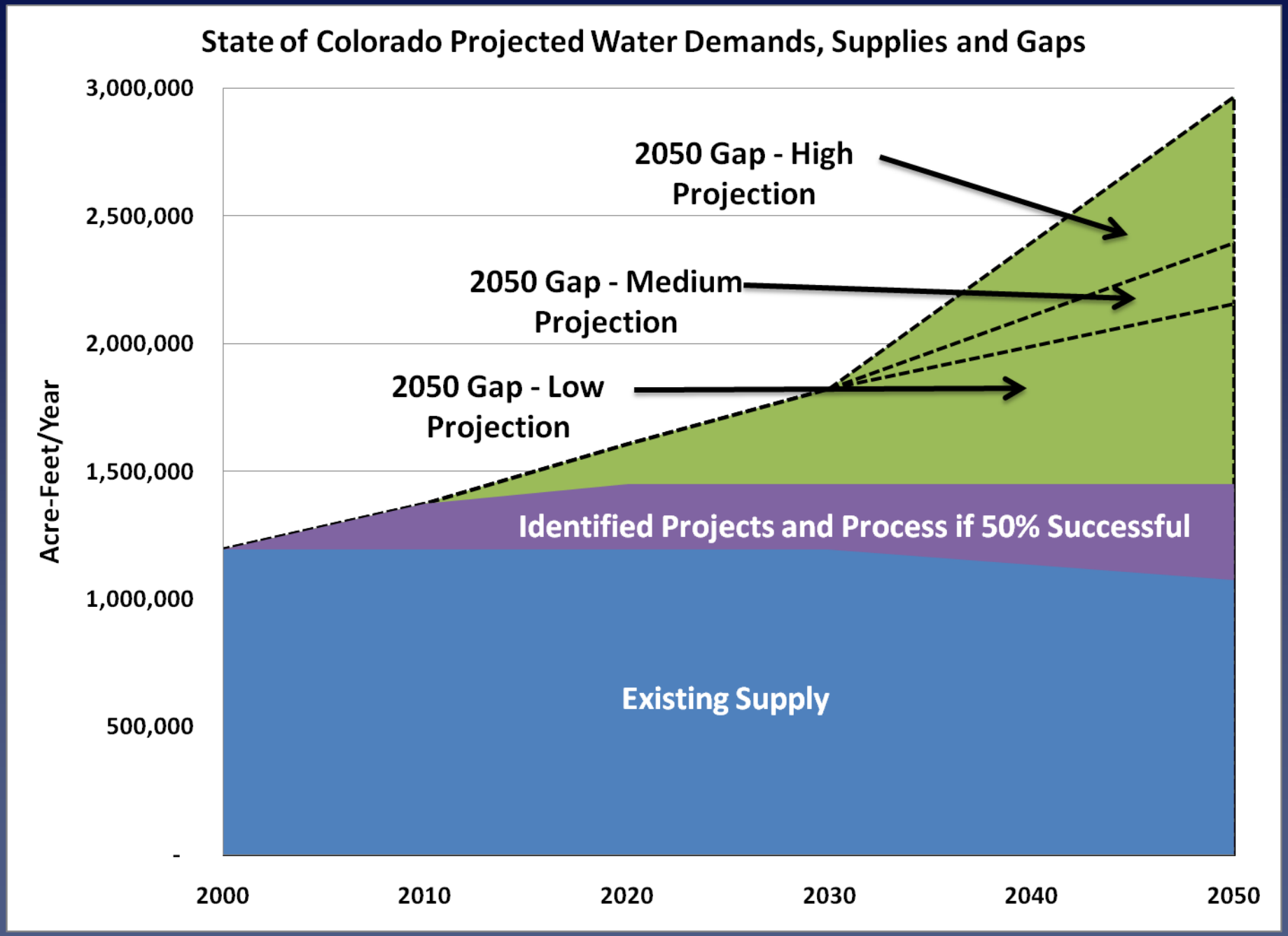
Attribute Categories Included:

- Aquatic-Dependent State Endangered, Threatened and Species of Concern (Including Conservation Agreement Species)
- Rare Plants and Significant Riparian/ Wetland Plant Communities
- Special Value Waters (CWCB Instream Flow Waters, CO Outstanding Waters, Eligible and/ or Suitable Wild and Scenic River Reaches)
- Whitewater and Flatwater Boating
- Cold and Warm-Water Fishing
- Waterfowl Hunting/Viewing

Roundtable Action Items

- Finalize map
- Identify projects and methods for priority areas


State of Colorado Projected Water Demands, Supplies and Gaps
3,000,000
2,500,000
2,000,000
1,500,000
1,000,000
500,000
-
Acre-Feet/Year
2050 Gap - High Projection
2050 Gap - Medium Projection
2050 Gap - Low Projection
Identified Projects and Process if 100% Successful
Existing Supply
2000
2010
2020
2030
2040
2050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1,500,000
1,000,000
500,000
-
Acre-Feet/Year
2050 Gap - High Projection
2050 Gap - Medium Projection
2050 Gap - Low Projection
Identified Projects and Process if 50% Successful
Existing Supply
2000
2010
2020
2030
2040
2050

Southwest IPPs

Major Identified Projects and Processes in Southwest Basin Counties

County	Estimated Demand Met by Identified Projects and Processes and Additional Conservation (AFY)	Identified Projects and Processes
Archuleta	3,300	Dry Gulch Reservoir Existing supplies and water rights
Dolores	200	Existing supplies and water rights
La Plata	5,900	Animas-La Plata Project Existing supplies and water rights
Montezuma	3,100	Dolores Project Existing supplies and water rights
Montrose	700	Existing supplies and water rights
San Juan	—	Existing supplies and water rights
San Miguel	700	Existing supplies and water rights
TOTAL	**13,900**	

Detailed Identified Projects and Processes for Southwest Basin

County	Sub-Basin	Major Provider	Remaining Gross Gap (AF)	Supplies Beyond 2030*	Notes	Source
Archuleta	San Juan	Pagosa Area Water and Sanitation District (PAWSD)	0	Y	Will build Dry Gulch Reservoir and provide raw water to PAWSD. Some financing limitations without teaming.	Harris Engineering Water Supply Study
	San Juan	San Juan Water Conservancy District	0	Y	Will build Dry Gulch Reservoir and provide raw water to PAWSD. Some financing limitations without teaming.	Response to CDM survey
	San Juan	Unincorporated Archuleta County not covered by a water district	366	N	Have assumed 5 to 10 percent of future demand in each county will be in rural area not covered by PAWSD and groundwater or hauling water may be the only options and alternatives will not be developed.	BRT feedback
Dolores	Dolores	Dolores Water Conservancy District	0	Y	CWCB instream flow may limit the ability to provide augmentation above McPhee Reservoir in the future. Alternatives include small storage (10 to 20 AF) or alluvial storage.	Steve Harris, Janice Sheftel and John Porter

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

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

County	Sub-Basin	Major Provider	Remaining Gross Gap (AF)	Supplies Beyond 2030*	Notes	Source
Dolores (cont.)	Monument Creek/San Juan	Dove Creek	0	Y	Have right to water from Dolores Water Conservancy District.	Steve Harris, Janice Sheftel and John Porter
	Dolores	Rico	0	N	Instream flow right may be an obstacle in the development of an alluvial well field. Working on coming into Dolores Water Conservancy District. Would need small storage if alluvial well field cannot be developed.	Steve Harris, Janice Sheftel and John Porter
	Mancos/ McElmo	Montezuma Water Company	0	Y	Supplies potable water to rural Dolores and Montezuma Counties.	Steve Harris, Janice Sheftel and John Porter
	Dolores	Unincorporated Dolores County not covered by a water district	17	N	Have assumed 5 to 10 percent of future demand in each county will be in rural area not served by Rico or Dove Creek and groundwater or hauling water will be the only options and alternatives will not be developed.	BRT feedback

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

County	Sub-Basin	Major Provider	Remaining Gross Gap (AF)	Supplies Beyond 2030*	Notes	Source
La Plata	Animas/ San Juan	Durango West Metro District #1	40	N	Potential joint project to construct raw water pump and pipeline among Durango West Metro Districts and Lake Durango Water Company. Other options include the future Animas La-Plata/ Western La Plata rural domestic system or to purchase treated water from the City of Durango.	Steve Harris, Janice Sheftel and John Porter
	Animas/ San Juan	Durango West Metro District #2	40	N	Potential joint project to construct raw water pump and pipeline among Durango West Metro Districts and Lake Durango Water Company. Other options include the future Animas La-Plata/ Western La Plata rural domestic system or to purchase treated water from the City of Durango.	Steve Harris, Janice Sheftel and John Porter
	Animas/ San Juan	Durango	0	Y	Have adequate water rights and negotiating for Animas-La Plata Project Water to increase overall storage.	Jack Rogers, City of Durango

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

County	Sub-Basin	Major Provider	Remaining Gross Gap (AF)	Supplies Beyond 2030*	Notes	Source
La Plata (cont.)		Edgemont Ranch Metro District	0	U	May need storage for firming.	Steve Harris
		El Rancho Florida Metropolitan	0	N	Built out.	Steve Harris
	Animas/San Juan	Lake Durango Water Company	300	N	Potential joint project to construct raw water pump and pipeline with Durango West Metro Districts and Lake Durango Water Company. Other options include the future Animas La-Plata/ Western La Plata rural domestic system.	Steve Harris, Janice Sheftel and John Porter
	Pine/San Juan	La Plata - Archuleta Water District	0	U	This District is needed to treat and distribute water. There is a gap if this District is not formed. Options include wells or water hauling.	Steve Harris, Janice Sheftel and John Porter

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

County	Sub-Basin	Major Provider	Remaining Gross Gap (AF)	Supplies Beyond 2030*	Notes	Source
La Plata (cont.)	Animas/San Juan	Purgatory Metropolitan District	100	N	District has sufficient water now, but is anticipating huge growth, especially at Durango Mountain Resort. The District is looking for more water. Water rights must be deeded to District with inclusion of property within the District. District is looking at all opportunities but does not have any other specific plans.	Janice Sheftel
	Pine/San Juan	Bayfield	0	U	Need storage to firm existing water rights. Only other option is to lease water from Vallecito Reservoir.	Steve Harris, Janice Sheftel and John Porter
	Pine/San Juan	Forest Lakes Metro District	0	Y	Future issue is cost of contract water from Vallecito Reservoir.	Steve Harris, Janice Sheftel and John Porter
	Pine/San Juan	Southern Ute Indian Tribe and Ignacio	0	Y	Source of water and treatment is Southern Ute Indian Tribe water rights. Tribe treats water, but each has own distribution systems.	Steve Harris, Janice Sheftel and John Porter

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

County	Sub-Basin	Major Provider	Remaining Gross Gap (AF)	Supplies Beyond 2030*	Notes	Source
La Plata (cont.)	Florida/ San Jaun	Unincorporated La Plata County in Florida Drainage	100	N	Need for augmentation water. Water could be stored on Edgemont Ranch or institutional changes to Florida Project to allow domestic and augmentation uses.	Janice Sheftel
	Pine/San Juan	Unincorporated La Plata County upstream of Vallecito Dam	0	N	Served by wells.	Steve Harris
	Animas/ San Juan	Unincorporated Northern La Plata County not covered by a water system	348	N	North of Durango in Animas River Basin. No single entity that can serve and operating on individual augmentation plans. Durango proposed RICD could impact future water development. Electra Lake is available as a source of augmentation and physical source, but is costly. May be small amounts of ag available to change, but will be expensive.	Steve Harris, Janice Sheftel and John Porter

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

County	Sub-Basin	Major Provider	Remaining Gross Gap (AF)	Supplies Beyond 2030*	Notes	Source
La Plata (cont.)	La Plata/San Juan	Unincorporated Western La Plata County not covered by a water system	50	N	Have assumed 5 to 10 percent of future demand in each county will be in rural area not served by a water district and groundwater or hauling water from Marble Springs or a municipal system will be the only options and alternatives will not be developed.	Steve Harris, Janice Sheftel and John Porter
	La Plata/ Animas/San Juan	Western La Plata County Water System	0	N	Up to 700 AF of Animas-La Plata water that requires treatment and distribution to deliver the water. Wells are not an option, would require water hauling.	Steve Harris, Janice Sheftel and John Porter
Monte-zuma	Mancos/ McElmo	Mancos	0	Y	Source is Jackson Reservoir and direct flow rights.	Steve Harris, Janice Sheftel and John Porter
	Dolores	Dolores	0	Y	Have water rights and could purchase water from Dolores Project if needed.	John Porter

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

County	Sub-Basin	Major Provider	Remaining Gross Gap (AF)	Supplies Beyond 2030*	Notes	Source
Monte-zuma (cont.)	Mancos/ McElmo/ San Juan	Mancos Water Company	0	Y	Mancos Water Company is negotiating with the Mancos Water Conservancy District to increase their supply from the Jackson Project.	John Porter
	McElmo	Cortez	0	Y	Have direct flow rights and Dolores Project Water available.	Response to CDM survey
	Mancos	Montezuma County Water District	0	Y	Could purchase water from Dolores Project Water or Montezuma Water Company.	John Porter
	San Juan	Montezuma Water Company	0	Y	Supplies potable water to rural Dolores and Montezuma Counties.	Steve Harris, Janice Sheftel and John Porter
	McElmo	Summit Water District	0	N	Negotiated with Montezuma Water Company for water.	John Porter

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

County	Sub-Basin	Major Provider	Remaining Gross Gap (AF)	Supplies Beyond 2030*	Notes	Source
Monte-zuma (cont.)	Mancos/ McElmo	Unincorporated Montezuma County not covered by a water district	168	N	Have assumed 5 to 10 percent of future demand in each county will be in rural area not served by a water district and groundwater or hauling water may be the only options and alternatives will not be developed.	BRT feedback
	Mancos/ McElmo	Ute Mountain Ute Indian Tribe	0	N	Current Dolores Project Water allocation may be used by 2030. City of Cortez treats the Tribe's water piped from McPhee. Additional water potentially available from Dolores Project.	Steve Harris, Janice Sheftel and John Porter
Montrose	San Miguel	Nucla	0	U	Mustang Water Authority formed to provide water.	Buckhorn Geotech Report on Mustang Water Authority
	San Miguel	Naturita	0	U	Mustang Water Authority formed to provide water.	Buckhorn Geotech Report on Mustang Water Authority

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

County	Sub-Basin	Major Provider	Remaining Gross Gap (AF)	Supplies Beyond 2030*	Notes	Source
Montrose (cont.)	San Miguel	Tri-State Power Facility	2000	N	Have adequate water rights for future demands but would need storage to firm the yield if plant is expanded. Need storage options.	Bill Haffner, Tri-State Generating
	San Miguel	Unincorporated Montrose County not covered by a water system	135	N	Have assumed 5 to 10 percent of future demand in each county will be in rural area not served by a water district and groundwater or hauling water will be the only options and alternatives will not be developed.	BRT feedback
San Miguel	San Miguel	Aldaroso Ranch & Homeowners Co	0	N	Have water rights and groundwater.	Helton & Williamsen
	San Miguel	Norwood Water Commission	1000	N	Could also serve some of unincorporated Montrose County in addition to Town of Norwood.	John Porter
	San Miguel	Telluride Ski Area	0	Y	Assumed to have sufficient supplies (per Town of Telluride).	John Porter
	San Miguel	Telluride	0	Y	Existing water rights.	John Porter

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

County	Sub-Basin	Major Provider	Remaining Gross Gap (AF)	Supplies Beyond 2030*	Notes	Source
San Miguel (cont.)	San Miguel	Unincorporated San Miguel County not covered by a water system	195	N	Have assumed 5 to 10 percent of future demand in each county will be in rural area not served by a water district and groundwater or hauling water will be the only options and alternatives will not be developed.	BRT feedback
San Juan	Animas/San Juan	Silverton	0	N	Physical water supply is adequate, but applying for augmentation plan. Will need to expand raw water storage to firm supply. Durango proposed RICD could impact future water development.	Janice Sheftel
	Animas/ San Juan	Cascade Village	0	N	North of Purgatory and supplies water to condominium development. Option is to develop wells. Durango proposed RICD could impact future water development.	Steve Harris

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

County	Sub-Basin	Major Provider	Remaining Gross Gap (AF)	Supplies Beyond 2030*	Notes	Source
San Juan (cont.)	Animas/ San Juan	Unincorporated San Juan County not covered by a water system	0	N	Minor projected increase in demands.	Steve Harris

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Potential Future Southwest Basin Water Management Options

Project	Sponsor	Type of Project	Additional Storage (AF)	Additional Yield (AFY)	Project Purpose and Notes
WETPACK – New Irrigated Lands - Use of Totten Reservoir	Dolores Water Conservancy District	Additional Storage	2,800	1,840	Totten Reservoir has not been operated since 1992. Project would provide supply to irrigate additional lands in the Dolores Water Conservancy District.
WETPACK - New Irrigated Lands - Class B shares	Dolores Water Conservancy District	Water Rights Acquisition	Not Applicable	6,000	Purchase of 1,500 Class B Montezuma Valley Irrigation Co. shares. Project would provide supply to irrigate additional lands in the Dolores Water Conservancy District.
WETPACK New Reservoir Construction - Plateau Reservoir	Dolores Water Conservancy District, Colorado Department of Natural Resources and potential for environmental interests	Additional Storage	20,000	3,300 to 3,700	Construct Plateau Reservoir; Yield is limited as McPhee Reservoir spills 50 percent of the time. Project would provide for environmental flows.
WETPACK Groundhog Reservoir Storage Increase	Dolores Water Conservancy District	Additional Storage	1,000	Not Available	Storage would be increased by raising spillway elevation without raising dam

Potential Future Southwest Basin Water Management Options (cont.)

Project	Sponsor	Type of Project	Additional Storage (AF)	Additional Yield (AFY)	Project Purpose and Notes
WETPACK - Construction of Storage Upstream of McPhee Reservoir	Dolores Water Conservancy District	Additional Storage	Not Available	Not Available	This project is needed if the Rico alluvium project is not viable
WETPACK Lawn and Garden M&I Water	Dolores Water Conservancy District	M&I Reuse	Not Applicable	4,500	If specific service areas are determined. This could provide non-potable irrigation water for M&I uses.
Long Hollow Reservoir	La Plata Water Conservancy District	Additional Storage	up to 5,400	Not Available	Would maximize yield in Colorado by providing storage for compact compliance.
Red Mesa Ward Reservoir Enlargement	La Plata Water Conservancy District and Red Ward Reservoir and Ditch Company	Additional Storage	up to 2,898	Not Available	Additional storage for agricultural users.
Durango West Raw Water Pump and Pipeline	Durango West Metro Districts No. 1 & 2 and Lake Durango Water Company	Pipeline	Not Applicable	Not Available	Additional water source for M&I use.

Potential Future Southwest Basin Water Management Options (cont.)

Project	Sponsor	Type of Project	Additional Storage (AF)	Additional Yield (AFY)	Project Purpose and Notes
Reconstruct Emerald Lake Dam	Pine River Irrigation District/ Southern Ute Indian Tribe	Additional Storage	Not Available	Not Available	Located in the Weminuche Wilderness Area. Project would reconstruct dam and provide water for agricultural uses.
Pine River Donation of Instream Flow Rights	Pine River Irrigation District, CWCB and Southern Ute Indian Tribe	Environmental	Not Applicable	Not Available	Currently awaiting draft donation agreement from CWCB and draft water rights application to implement donation of instream flow right.
Animas River instream flows	Potentially CWCB	Environmental	Not Applicable	Not Available	Need for instream flow right.
Agricultural Drought Insurance Program	None	Drought Insurance	Not Applicable	Not Available	This would be an alternative to developing storage projects to increase reliability for agriculture.
La Plata River Instream flows	CWCB	Environmental	Not Applicable	Not Available	Need for instream flow right.
Mancos Water Conservancy District Borrow Pit Storage	Mancos Water Conservancy District	Additional Storage	Not Available	Not Available	Storage to firm the yield for district uses.
Reservoir Re-operation	Federally-owned reservoirs	Additional Storage	Not Available	Not Available	Change in USACE flood criteria could allow increased storage.

Potential Future Southwest Basin Water Management Options (cont.)

Project	Sponsor	Type of Project	Additional Storage (AF)	Additional Yield (AFY)	Project Purpose and Notes
Habitat Restoration	None	Environmental	Not Applicable	Not Available	Restore riparian and aquatic habitat.
Southern Ute Indian Tribe – Bison Lake	Southern Ute Indian Tribe	Additional Storage	620	Not Available	Multi-purpose project for Southern Ute tribe needs.
Southern Ute Indian Tribe – Ute Creek Reservoir	Southern Ute Indian Tribe	Additional Storage	2,390	Not Available	Multi-purpose project for Southern Ute tribe needs.
Southern Ute Indian Tribe – Cat Creek Reservoir	Southern Ute Indian Tribe	Additional Storage	1,170	Not Available	Multi-purpose project for Southern Ute tribe needs.
Town of Rico Pipeline	Town of Rico	Pipeline	Not Applicable	Not Available	Project will replace existing surface water source on Silver Creek and improve water quality.
Straw Dam	San Miguel Water Conservancy District	Additional Storage	Not Available	Not Available	Multi-purpose project.
New Marie Scott Reservoir	San Miguel Water Conservancy District	Additional Storage	Not Available	Not Available	Feasibility Study funded by CWCB. Multi-purpose project.
Increase in Pre-construction Funding for Water Projects	CWCB and Colorado Water Resources & Power Development Authority	Various	Not Applicable	Not Available	Provide for grants to study water supply development options.

Potential Future Southwest Basin Water Management Options (cont.)

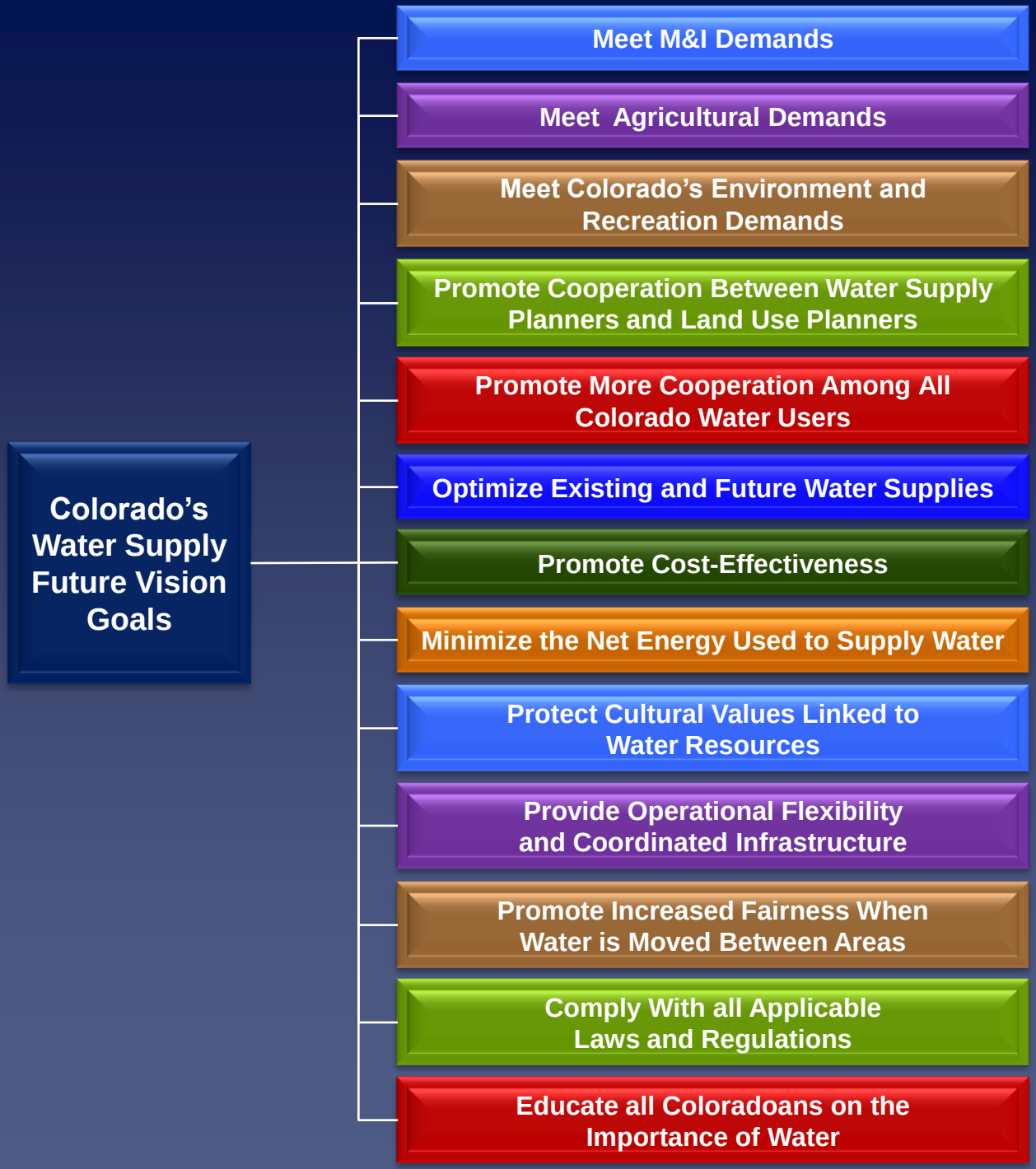
Project	Sponsor	Type of Project	Additional Storage (AF)	Additional Yield (AFY)	Project Purpose and Notes
Revise Probable Maximum Precipitation Events	None	Additional Storage	Not Available	Not Available	Would decrease cost of new reservoirs and allow raising spillway in existing reservoirs.
WETPACKS San Juan County, Utah M&I Project	Dolores Water Conservancy District	Additional Storage	Not Available	Not Available	Requires resolution of interstate issues. Would benefit Utah water users.
Forest Management	None	Management Practice	Not Applicable	Not Available	Increase runoff from national forests.
City of Durango Recreational In Channel Diversion	City of Durango	Recreation	Not Applicable	Not Available	Provide for flows for Durango kayak course.
Irrigation System Efficiency Improvements	NRCS for Salinity Control, other potential sponsors to reduce losses	Water Conservation	Not Applicable	Not Available	Line canals to increase deliveries to users.
Operational or reallocation option	None	Additional Storage	Not Available	Not Available	Use portion of agricultural storage for M&I use.
Alternate storage approach – alluvial and tributary groundwater storage	None	Additional Storage	Not Available	Not Available	Recharge surface water into groundwater storage and slag returns to stream.

Roundtable Action Items

- Review and update IPPs and base options

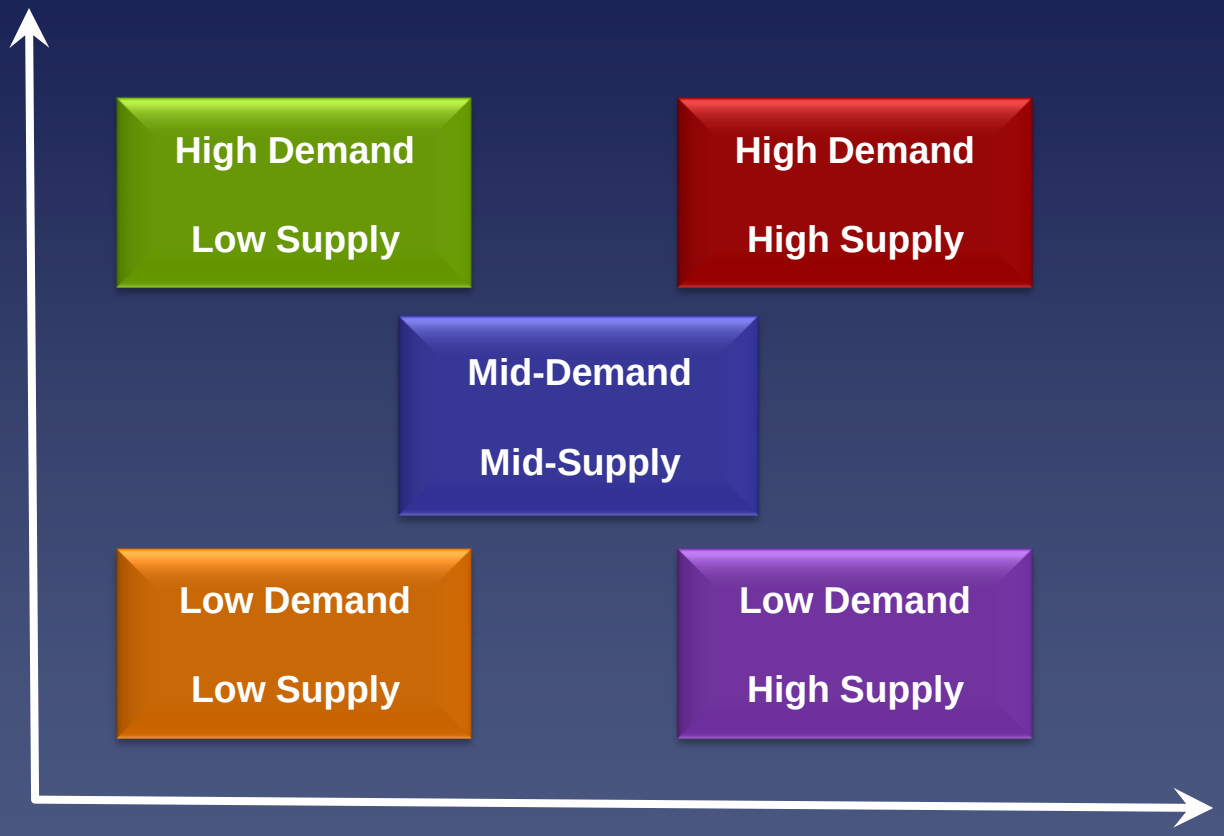
Development of Water Supply Strategies

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

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

Demand Factors:
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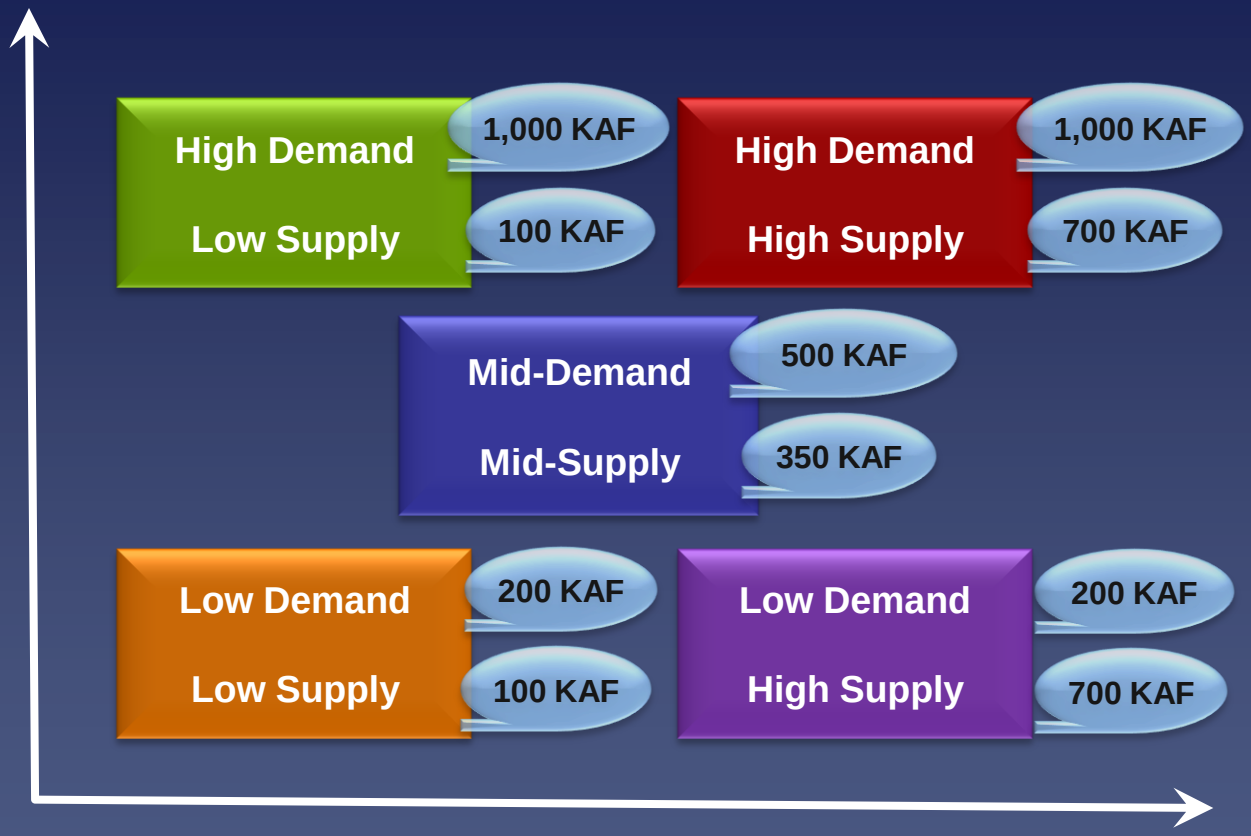
- **Energy Demands**



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2050 Planning Horizon for Colorado's Water Supply Future

Demand Factors:
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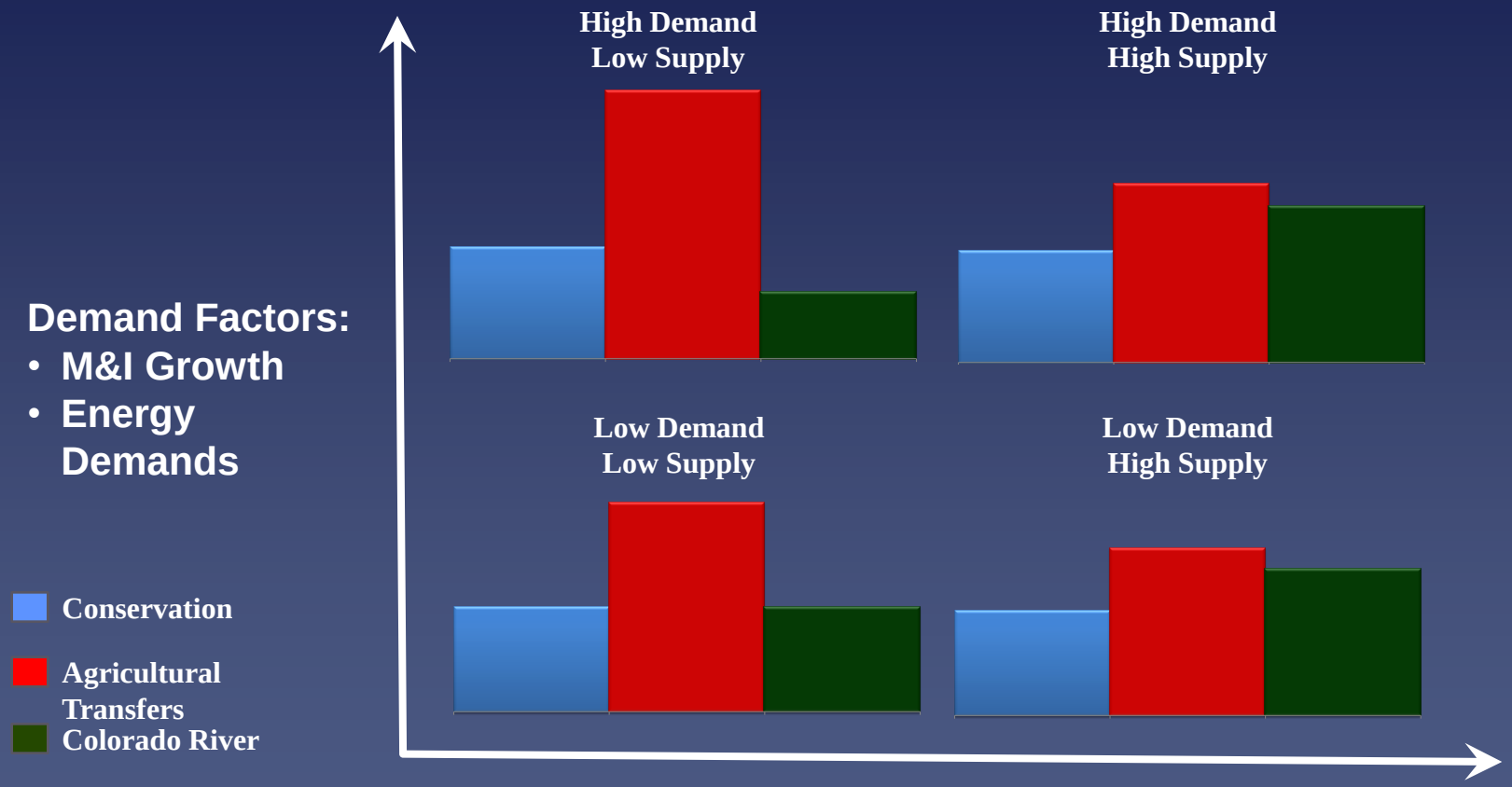

Supply Factors:
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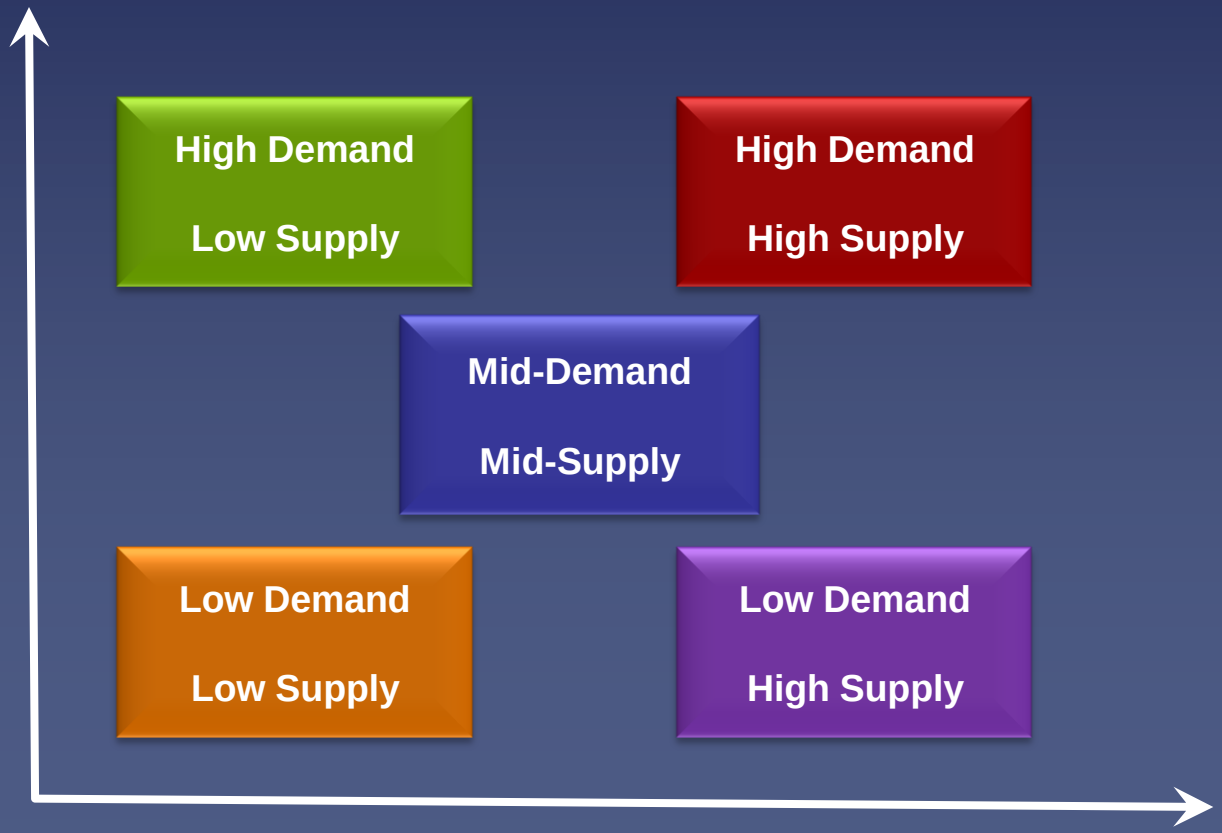
Narratives about Colorado's Water Supply Future

Create a narrative describing what would lead to the 5 different scenarios



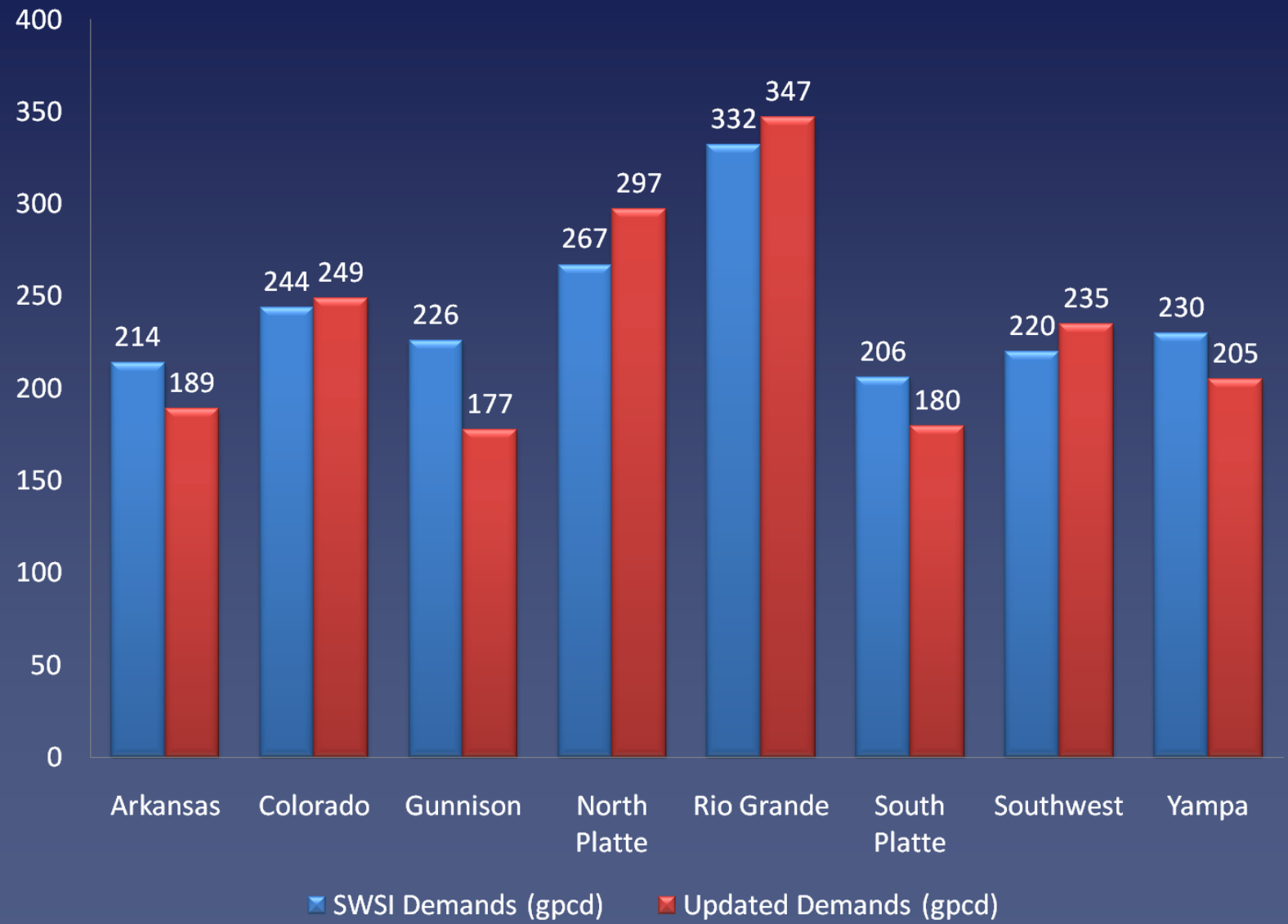
Water Supply Strategies

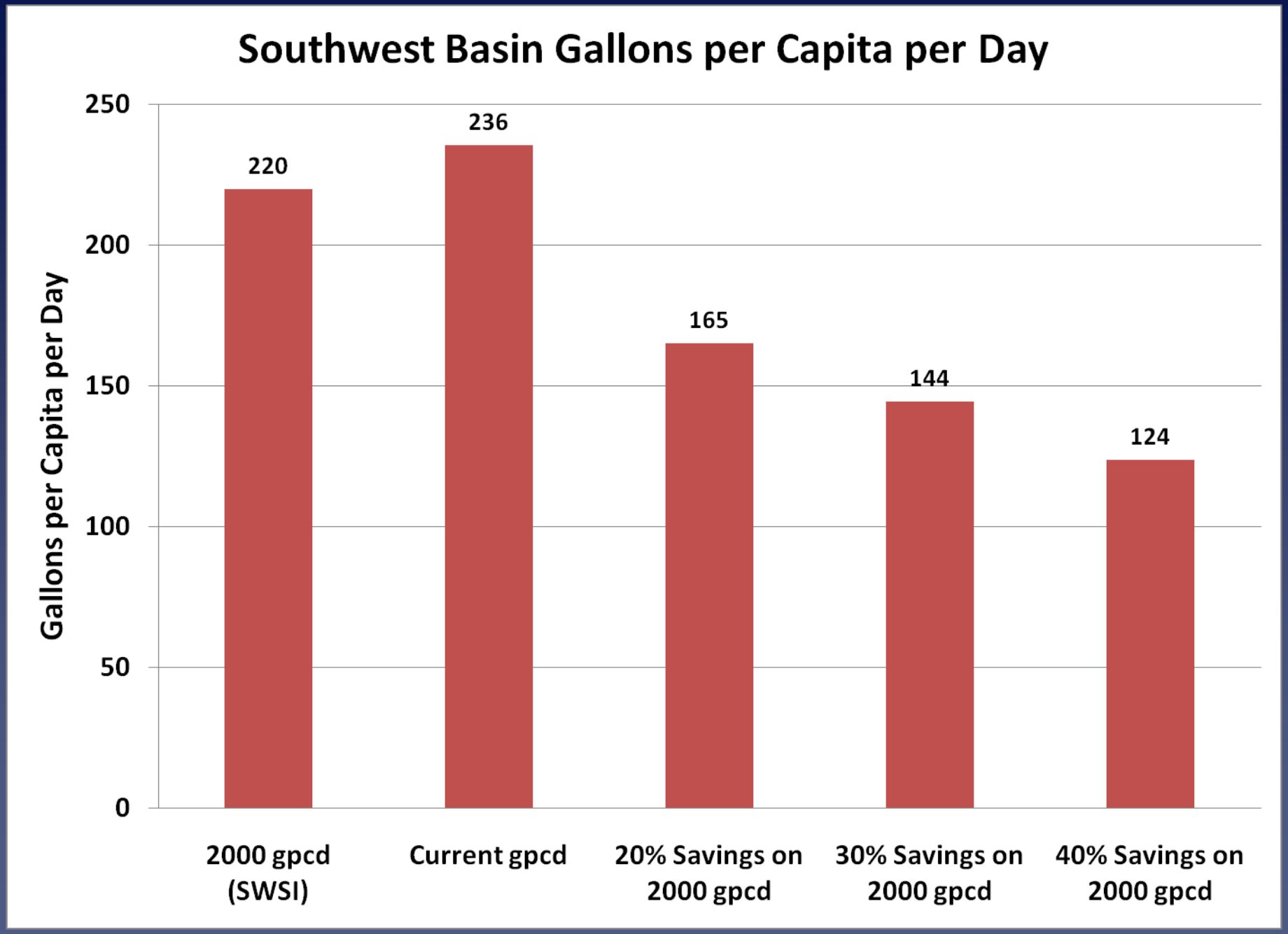
- Water Conservation
- Agricultural Transfers
  - Conventional and alternative transfers
- Development of New Supplies
  - New Storage
  - Transbasin

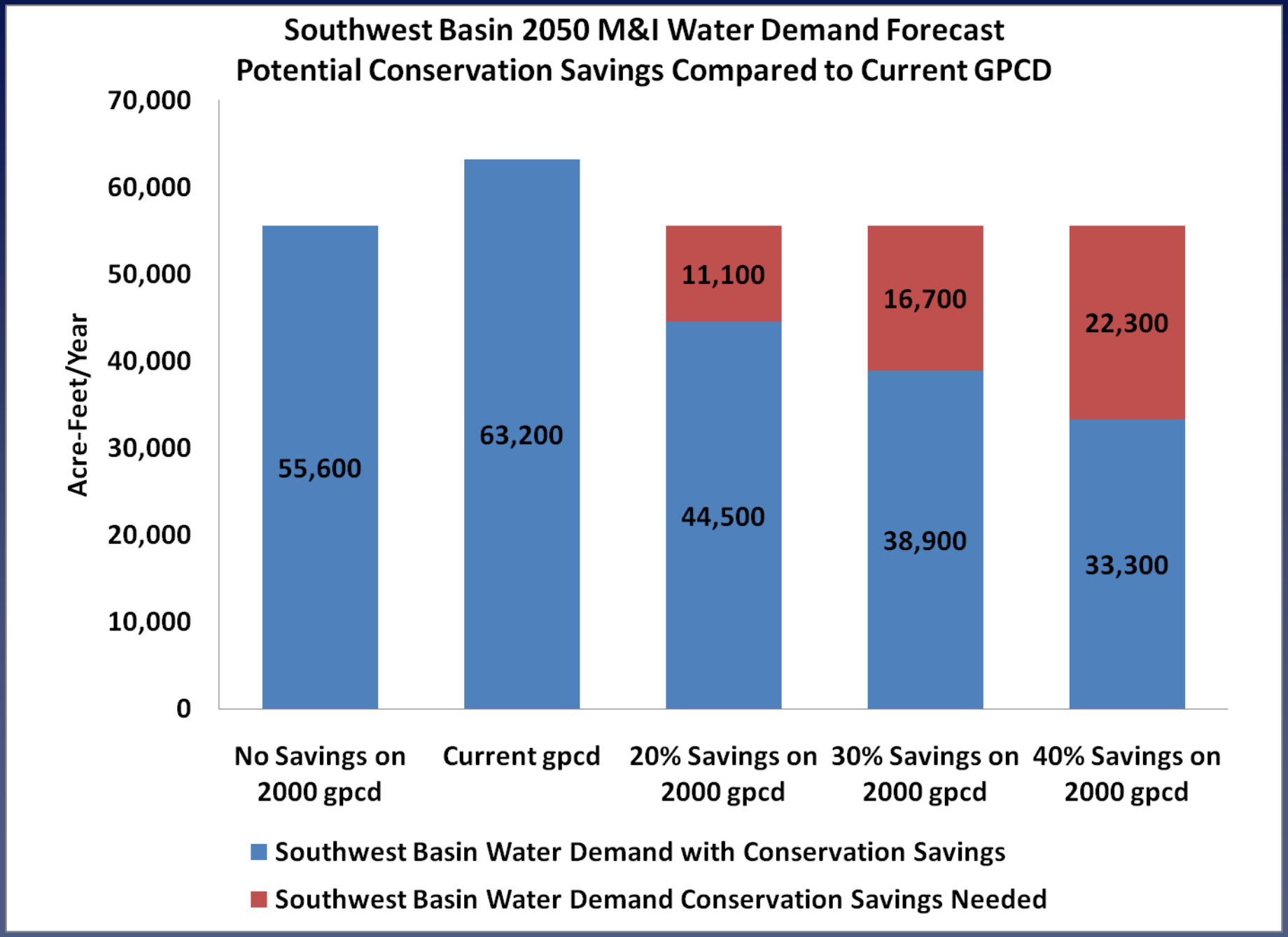
These strategies address M&I needs, but options to address agricultural and nonconsumptive needs will be added as strategies are evaluated

Water Conservation

M&I Water Usage Rates by Basin




Southwest Basin Gallons per Capita per Day
Gallons per Capita per Day
250
200
150
100
50
0
220
236
165
144
124
2000 gpcd (SWSI)
Current gpcd
20% Savings on 2000 gpcd
30% Savings on 2000 gpcd
40% Savings on 2000 gpcd

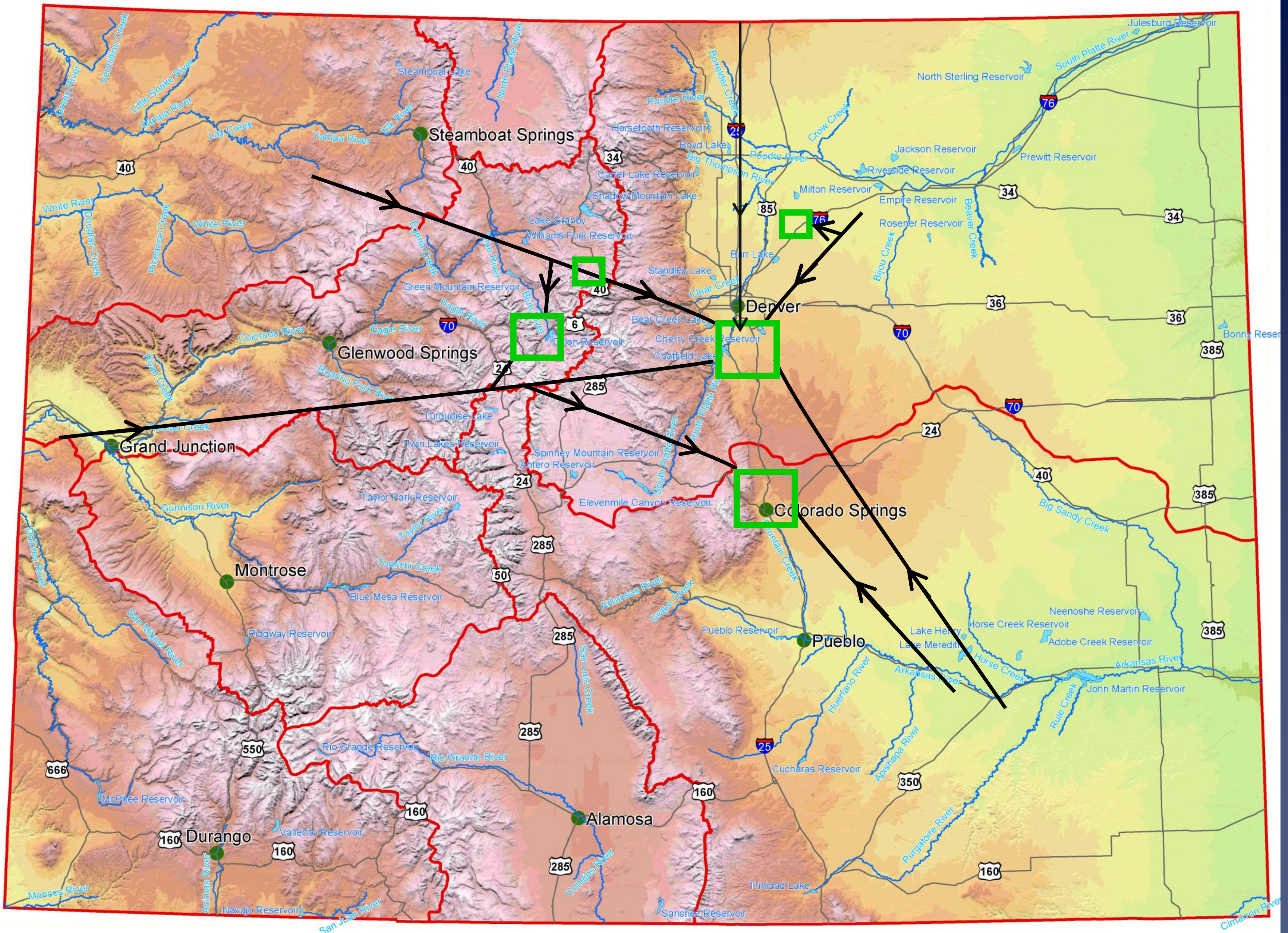

Southwest Basin 2050 M&I Water Demand Forecast
Potential Conservation Savings Compared to Current GPCD
Acre-Feet/Year
70,000
60,000
50,000
40,000
30,000
20,000
10,000
0
55,600
63,200
44,500
11,100
38,900
16,700
33,300
22,300
No Savings on 2000 gpcd
Current gpcd
20% Savings on 2000 gpcd
30% Savings on 2000 gpcd
40% Savings on 2000 gpcd
Southwest Basin Water Demand with Conservation Savings
Southwest Basin Water Demand Conservation Savings Needed

Ag Transfer Strategy

- Lower South Platte Transfer
- Lower Arkansas Transfer

Development of New Water Supplies

- Green Mountain Concept <100,000 acre-ft
- Yampa Concept >100,000-250,000 acre-ft
- Flaming Gorge Concept >100,000-250,000 acre-ft
- Big Straw Concept


Steamboat Springs
Glenwood Springs
Grand Junction
Denver
Colorado Springs
Montrose
Pueblo
Alamosa
Durango
Steamboat Lake
North Platte River
Poudre River
Horsetooth Reservoir
Boyd Lake
Big Thompson River
Carter Lake Reservoir
Shadow Mountain Lake
Lake Granby
Williams Fork Reservoir
Standley Lake
Clear Creek
Bear Creek Lake
Cherry Creek Reservoir
Chatfield Lake
Dillon Reservoir
Green Mountain Reservoir
Eagle River
Colorado River
Roaring Fork River
Turquoise Lake
Twin Lakes Reservoir
Spinney Mountain Reservoir
Antero Reservoir
Elevenmile Canyon Reservoir
Taylor Park Reservoir
Taylor River
Tomichi Creek
Blue Mesa Reservoir
Gunnison River
Ridgway Reservoir
San Miguel River
Dolores River
McPhee Reservoir
Mancos River
Animas River
Navajo Reservoir
San Juan River
Vallecito Reservoir
Rio Grande Reservoir
Rio Grande River
San Luis Creek
Conejos River
Sanchez Reservoir
Trinidad Lake
Cucharas Reservoir
Huerfano River
Apishapa River
Purgatoire River
Pueblo Reservoir
Arkansas River
Grape Creek
Fountain Creek
Lake Henry
Lake Meredith
Horse Creek
Horse Creek Reservoir
Neenoshe Reservoir
Adobe Creek Reservoir
John Martin Reservoir
Rule Creek
Big Sandy Creek
Cimarron River
Bonny Reser
Julesburg Reservoir
South Platte River
North Sterling Reservoir
Prewitt Reservoir
Jackson Reservoir
Riverside Reservoir
Milton Reservoir
Empire Reservoir
Beaver Creek
Bijou Creek
Crow Creek
Boxelder Creek
Barr Lake
Poudre River
Vermillion Creek
Green River
Little Snake River
Yampa River
Elk River
Lay Creek
White River
Douglas Creek
Piceance Creek
Eagle River
Blue River
Roan Creek
Plateau Creek
40
34
85
25
76
36
70
6
24
285
50
385
550
666
160
350

Risk Management Strategies

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

Engineering Evaluation Elements
(Examined by March CWCB/IBCC meeting)

- Description of strategy or project elements – water source, conveyance and storage, water quality
- Capital costs – permitting, mitigation, water rights, land acquisition, pumps, pipe, treatment, storage
- Annual Operation and Maintenance costs – energy, equipment maintenance and replacement

Purpose

Ability to compare tradeoffs between strategies

Strategy Evaluation
(Examined after March CWCB/IBCC meeting)

Identification of:

- Project benefits
- Implementation issues
- Potential attributes/additional options
- Acceptability

Other evaluation elements:

- Discuss potential attributes/additional options for ag transfer and new supply development options with Basin Roundtables
- Incorporate other conservation elements such as sharing of conserved water and the infrastructure and institutional arrangements required

Qualitative description of how each strategy meets the Vision Statement and Vision Goals

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