

ARIZONA'S NEXT CENTURY

Strategic Vision for Water Supply Sustainability

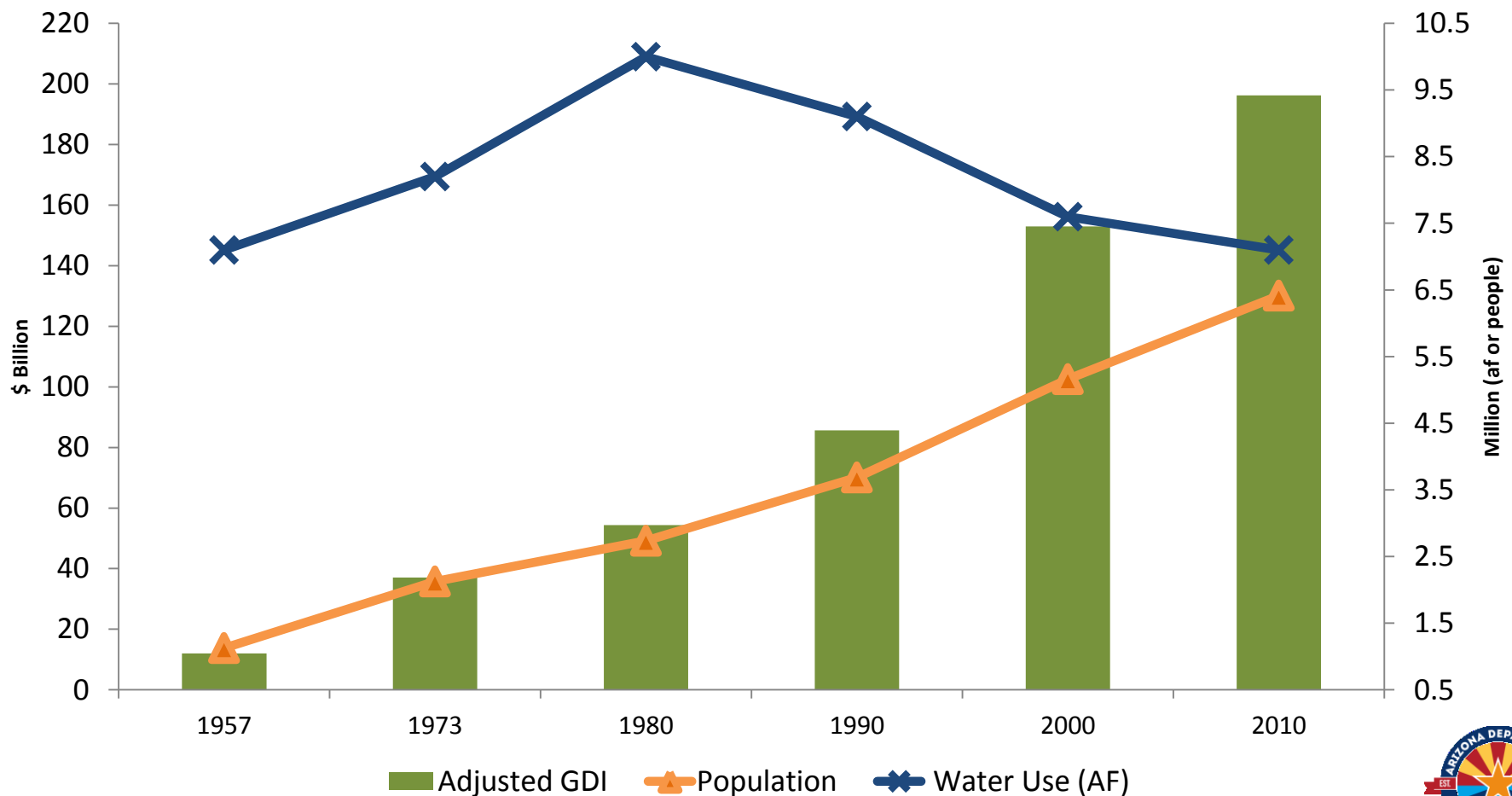


Western States Water Council
October 10, 2014

Michael J. Lacey, Director
Arizona Department of Water Resources

What We Have Accomplished

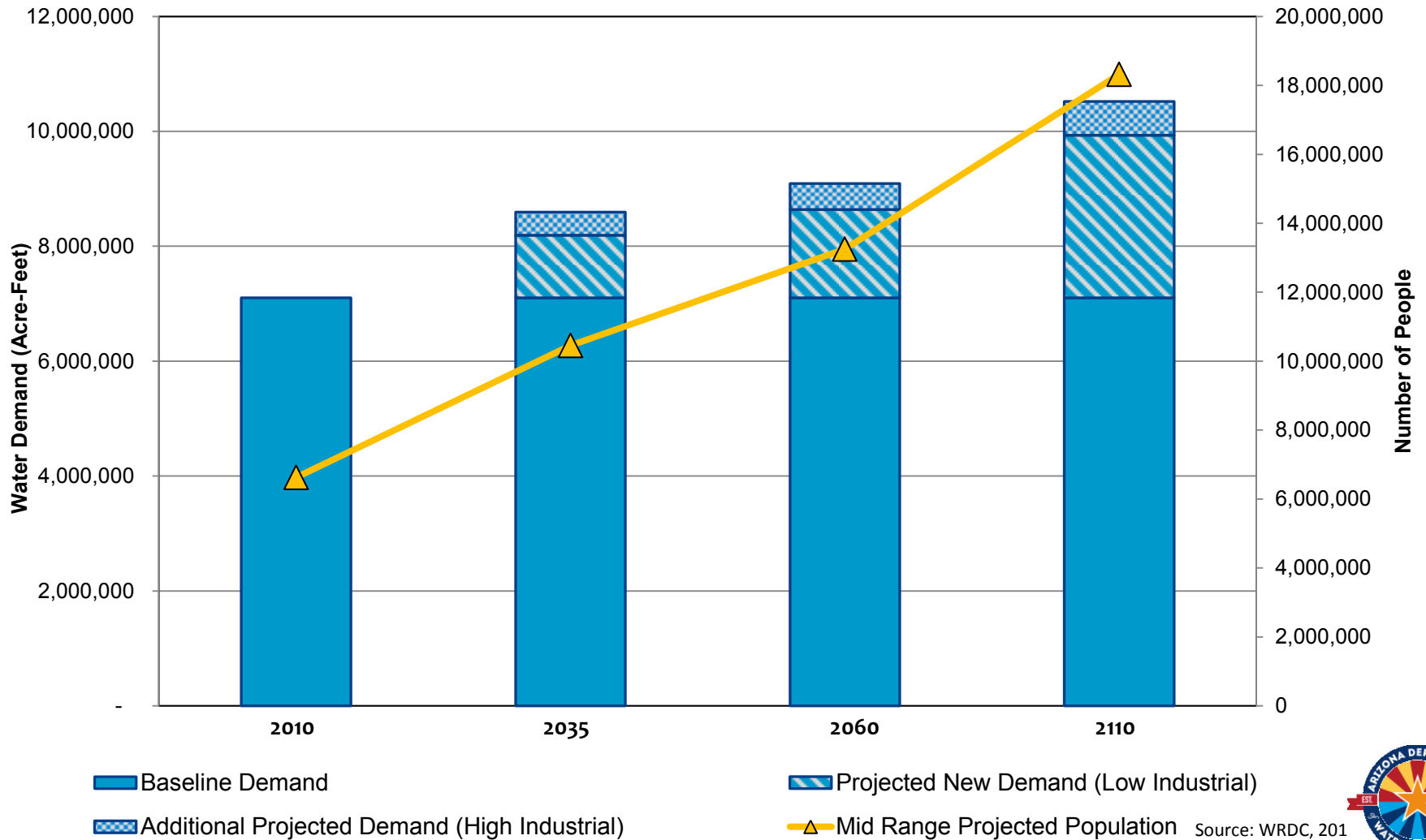
Arizona Water Use, Population and Economic Growth (1957 – 2010)



Source: ADWR, 2012



What We Have To Address



What We Are Doing

Arizona Strategic Vision for Water Supply Sustainability

Purpose:

Identify viable strategies to guide Arizona in addressing future water needs, providing a stable economy for our future – for all water users.

- Uses existing information (CRBS, WRDC, Az. Water Atlas, Water Level Monitoring, AMA Assessments)
- Identify Local Options First
- Identify Priority Strategies



Arizona's Strategic Vision

Building on Historic Accomplishments

- Salt River Project
- Colorado River Compact & Law of the River
- Central Arizona Project
- Resolution of Tribal Water Rights Claims
- 1980 Groundwater Management Act
- Assured and Adequate Water Supply Program
- Recharge and Recovery and Arizona Water Banking Authority



Arizona's Strategic Vision

Water Supply Opportunities

- **Non-Indian Agricultural (NIA) Priority CAP water**
- **Reclaimed Water/Water Reuse**
- **Groundwater in storage**
 - potable, poor quality & brackish supplies
- **Water Supply Development**
 - Revised Watershed Management Practices
 - Weather modification
 - Rainwater Harvesting/Stormwater Capture (large-scale or macro)
- **Importation or Exchange of New Water Supplies Developed Outside of Arizona (e.g., Ocean Desalination)**



Arizona's Strategic Vision

Challenges

- **Complex Physical Water Supply Availability**
- **Land Ownership**
 - 69% of Lands in Arizona Federally Owned & Managed
 - Federal Reserve Rights
 - Access to Water Supplies and Transmission of Future Water Supplies
 - NEPA/ESA/CWA Compliance
- **General Stream Adjudication**
- **Outstanding Tribal Water Rights Claims**
- **Complex Water Rights System**



Arizona's Strategic Vision

Identification & Analysis of Supply/Demand Imbalances

Water Supply and Demand Analysis

Arizona (2010)

Water Resources Development Commission

- Total statewide demands
 - Current - 6.9 MAF
 - 2035 - 8.1 MAF
 - 2110 - 10.6 MAF
- Projected imbalance between 900,000 and 3.2 MAF over the next 25 to 100 years

Reclamation (2012)

Colorado River Basin Water Supply & Demand Study

- Colorado River Basin-Wide average imbalance of 3.2 MAF by 2060
- Arizona's projected imbalance between 260,000 to 1.4 MAF by 2060



Arizona's Strategic Vision

- **Regional Strategies**
 - Identification & Analysis of “Planning Areas”
- **Statewide Priorities**
 - Common Strategies Across the State
- **Action Plan**
 - What's Next?



**Strategic Vision
Planning Areas**

Legend
• City or Town
□ Planning Area
□ County
— Stream
— Major Highway



Arizona's Strategic Vision

Strategic Priorities For Moving Arizona Forward

- ***Identify the Role of In-State Water Transfers***
- ***Resolution of Federal and Non-Federal Water Rights Claims***
 - General Stream Adjudication
 - Indian Water Rights Settlements
- ***Continued Commitment to Water Conservation & Reuse of Reclaimed Water – Including Direct Potable Reuse***
- ***Comprehensive Statewide Data Collection & Analysis***
 - Modeling Local Conditions
- ***Supply Importation - Desalination***
- ***Funding***
 - Rural Infrastructure
 - Business, Community and State Leader Engagement



Arizona's Strategic Vision Roll Out Process

- **Whistlestop Tour (40 So Far)**

GUACs

Watershed Groups

Water Users/Associations

ITCA

IBWC SE AZ Community Forum

Homebuilder Reps

AHS

AZ House & Senate

Chambers of Commerce

WRRC

Agribusiness & Water Council

Arizona Congressional Delegation

- **Topic Specific Engagement**

- **Desalination**

- Design Build Finance Reps

Mexican Water Officials

- **Water Transfers**

- DCDC Dialogue – ADWR / Yuma Reps

- **Reuse**

- **Adjudication Process**

- **Economic Development/Finance Alternatives**

- **Next Steps Planning - Integration**



Arizona's Strategic Vision Conclusions

- **Ultimately, the State of Arizona is not facing an immediate water crisis**
 - *There are some local areas that require more immediate action*
- **Growing statewide imbalance between existing water supplies and demand projected in the next 25 years**
- **The lack of an immediate problem increases the potential for inaction**
- **Arizona's History is its Future!**
 - *We must continue to invest and develop new water supplies and infrastructure to support economic growth*
- **Arizona needs a continuing Strategic Vision for Water Supply Sustainability to guide its economic stability through the next century**



Arizona Strategic Vision

Ten Year Action Plan

- **Legislate Strategic Vision update every 10 years (Year 1)**
- **Begin Discussions on Ocean Desalination (Year 1)**
 - Exchange Options (California & Mexico)
 - Direct Delivery Options (Mexico)
- **Resolve ADOT Right-of-Way Issues for Utilities (Year 1)**
- **Establish Adjudication Study Committee (Year 1)**
- **Begin Discussions on Water Development Financing (Year 2)**
 - Immediate Needs for Water Resources Development Revolving Fund for rural Arizona
 - Long-Term Needs for Large-Scale water importation projects
- **Remove statutory limitation (A.R.S. § 45-801.01(22)) on the ability to receive long-term storage credits for recharging reclaimed water beyond 2024 (Year 2)**



Arizona Strategic Vision

Ten Year Action Plan *(cont.)*

- **Review and implementation of Adjudication Study Committee Findings (Year 3)**
- **Review Legal and Institutional Barriers to Direct Potable Reuse of Reclaimed Water – develop and implement plan for resolution (Year 3)**
- **Develop and Begin Implementation of Direct Potable Reuse of Reclaimed Water Public Perception Campaign (Year 4)**
- **Begin discussions with New Mexico on an Interstate Cooperative Program for Watershed Management/Weather Modification in the Upper Gila Watershed (Year 4)**
- **Resolve Remaining Indian Settlements (Year 1 - 10)**
- **Resolve General Stream Adjudication (Year 5 - 10)**



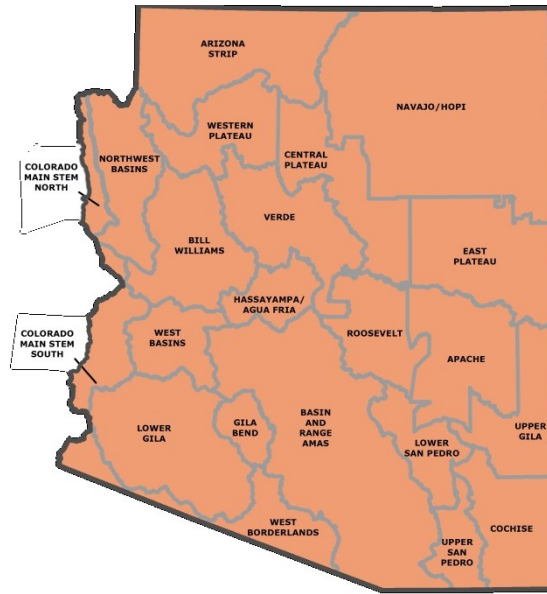
Arizona Strategic Vision

Regional Strategies

*Continued Commitment
to Water Conservation*



*Expanded Monitoring &
Reporting of
Water Use*



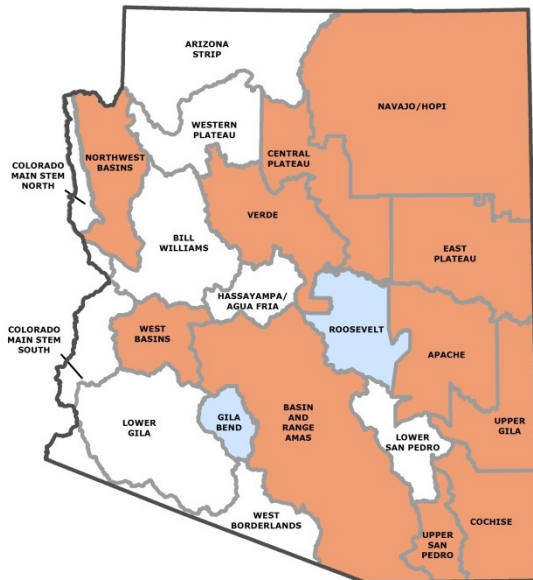
*Local Water Supply Study
Groundwater System
Analysis/Modeling*



Arizona Strategic Vision

Regional Strategies (cont.)

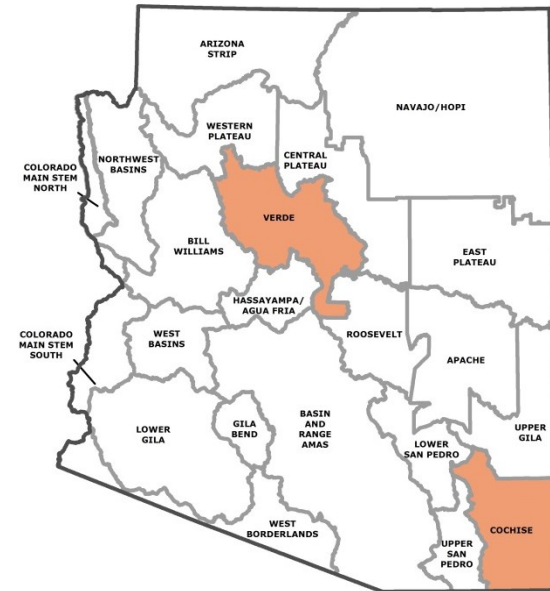
*Increased Direct &
Indirect Use of
Reclaimed Water*



*Increased Access to
Locally Available Potable
& Brackish Groundwater
and Enhanced Recharge*



*Local Water
Management*



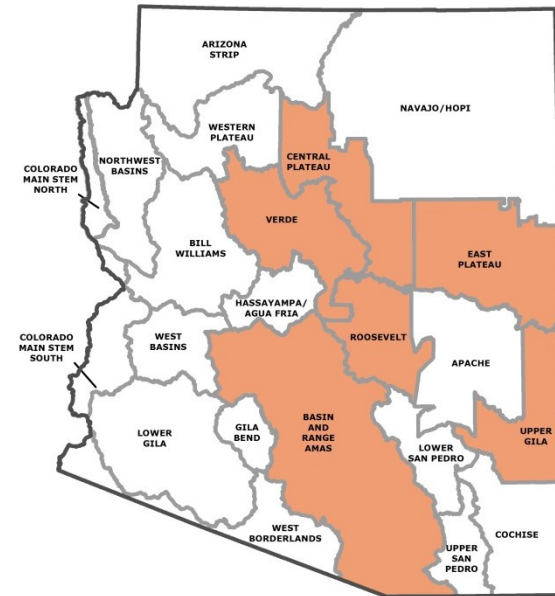
Arizona Strategic Vision

Regional Strategies (cont.)

Forest & Watershed Management



Weather Modification



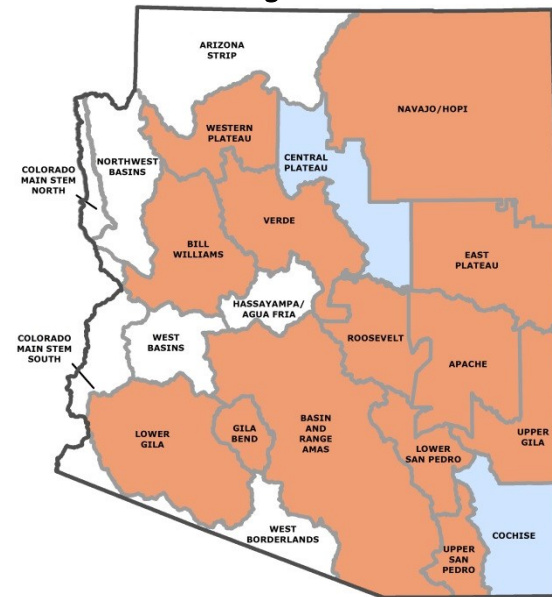
Arizona Strategic Vision

Regional Strategies (cont.)

Firming of Low Priority Colorado River Supplies



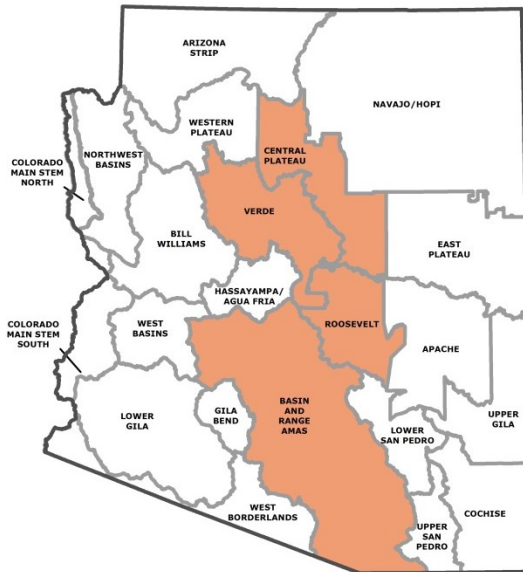
Resolution of Federal & Non-Federal Water Rights Claims



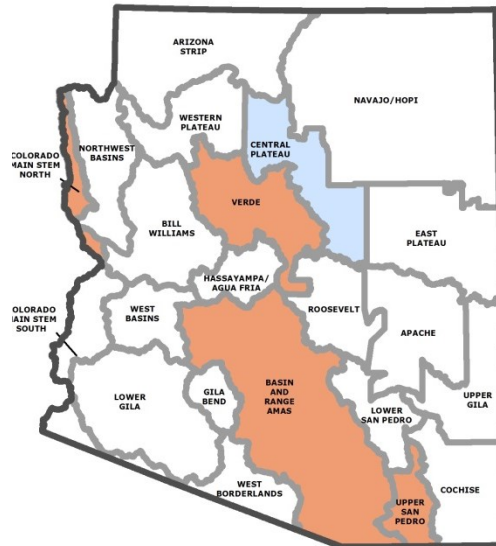
Arizona Strategic Vision

Regional Strategies (cont.)

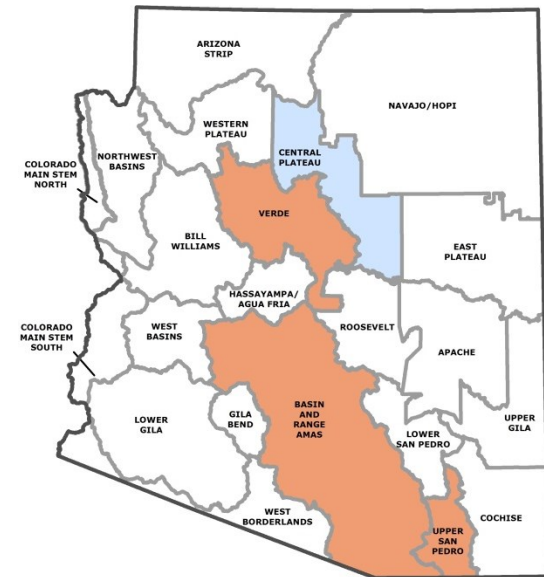
Importation of In-State Surface Water or Groundwater



Importation of Desalinated Water Via Exchange



Importation of Desalinated Water Direct Use



Initial Prioritization Process

ADWR / ASU Morrison Institute

- Co-Chaired by Retired US Senator Jon Kyl and ADWR Director Michael Lacey
- Facilitated by Morrison Institute
- 29 Group Members
- ADWR's Goals
 - Prioritize and add structure to Strategic Priorities & Action Items forwarded in the Vision
 - Build coalitions to advance individual priorities
 - Further codify Governor Brewer's Water Vision and fashion consensus and structure for Arizona's next governor

Organization	Member	Organization	Member
Co-Chair Retired US Senator	Jon Kyl	Co-Chair Arizona Department of Water Resources	Michael Lacey
Office of the Governor	Kevin Kinsall	Gila River Indian Community – Akin Gump	Jason Hauter
Arizona Community Foundation	Steve Selznow	Maricopa Stanfield Irrigation District	Grant Ward
Arizona Cotton Growers Association	Rick Lavis	Novo Power	Brad Worsley
Arizona Municipal Water Users Association	Kathy Ferris	Salmon Lewis & Weldon PLC	Byron Lewis
Arizona Public Service	Ann Becker	Salmon Lewis & Weldon PLC	John Weldon
	Robert Lotts	Salt River Project	John Sullivan
ASU College of Law	Rhett Larson		David Roberts
ASU Morrison Institute	Grady Gammage Jr.	Snell and Wilmer	William Staudenmaier
Audubon Arizona	Sarah Porter	Southern Arizona Water Users Association	Warren Tenney
Brown & Brown Law Offices PC	David Brown	Squire Sanders	Peter Culp
Central Arizona Project	Tom McCann	The Nature Conservancy Arizona	Pat Graham
DMB Associates, Inc.	Karrin Kunasek Taylor	University of Arizona	Sharon Megdal
EPCOR	Glenn Williamson	Wade Noble Law Office	Wade Noble
Freeport-McMoRan Inc.	Sandy Fabritz-Whitney		

Arizona's Strategic Vision for Water Supply Sustainability

Questions?

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