ARIZONA'S NEXT CENTURY

Strategic Vision for Water Supply Sustainability

Urban Land Institute

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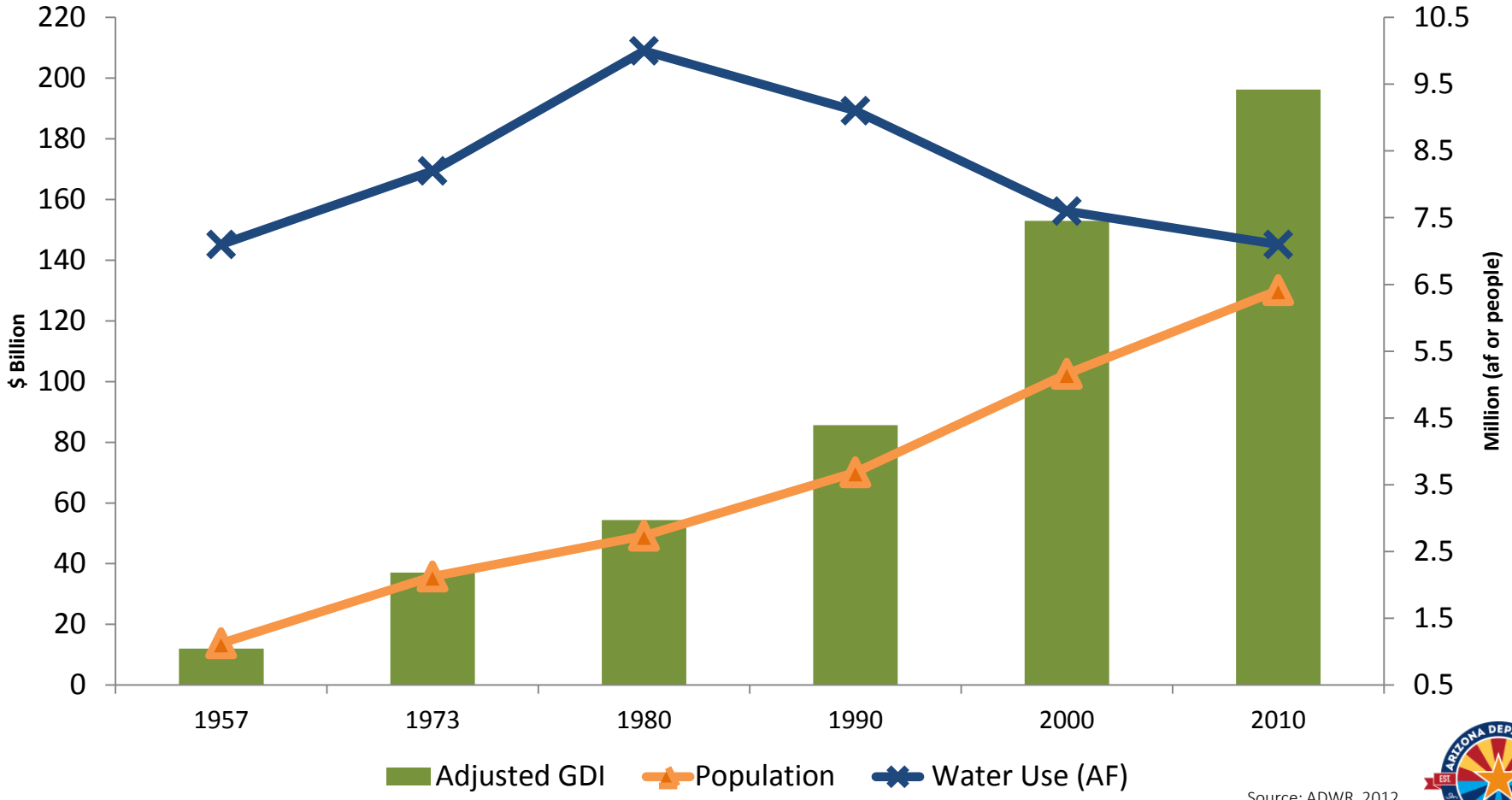
Arizona Department of Water Resources

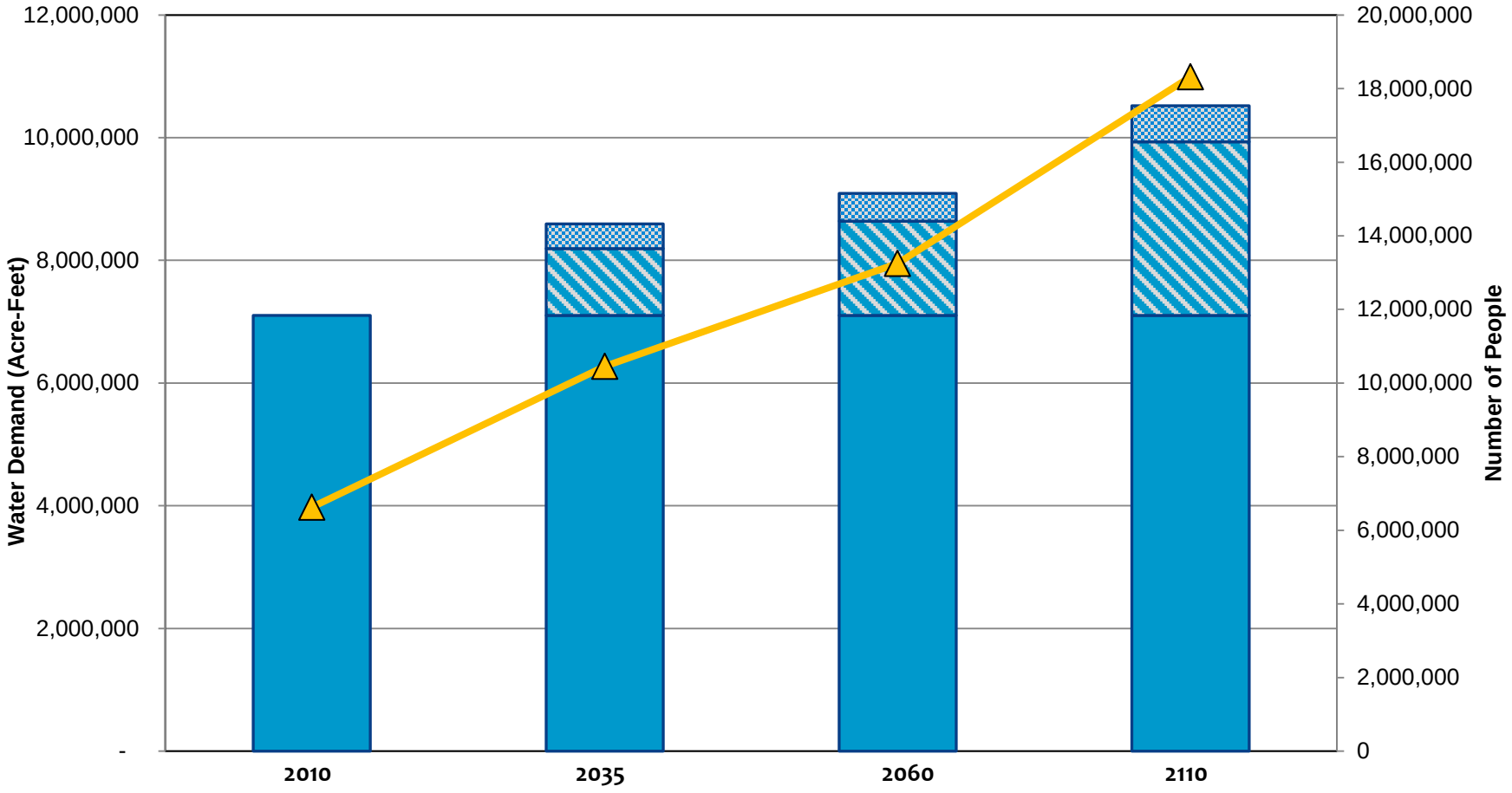
What We Have Accomplished

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



Source: ADWR, 2012

What We Have To Address



Source: WRDC, 2011

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

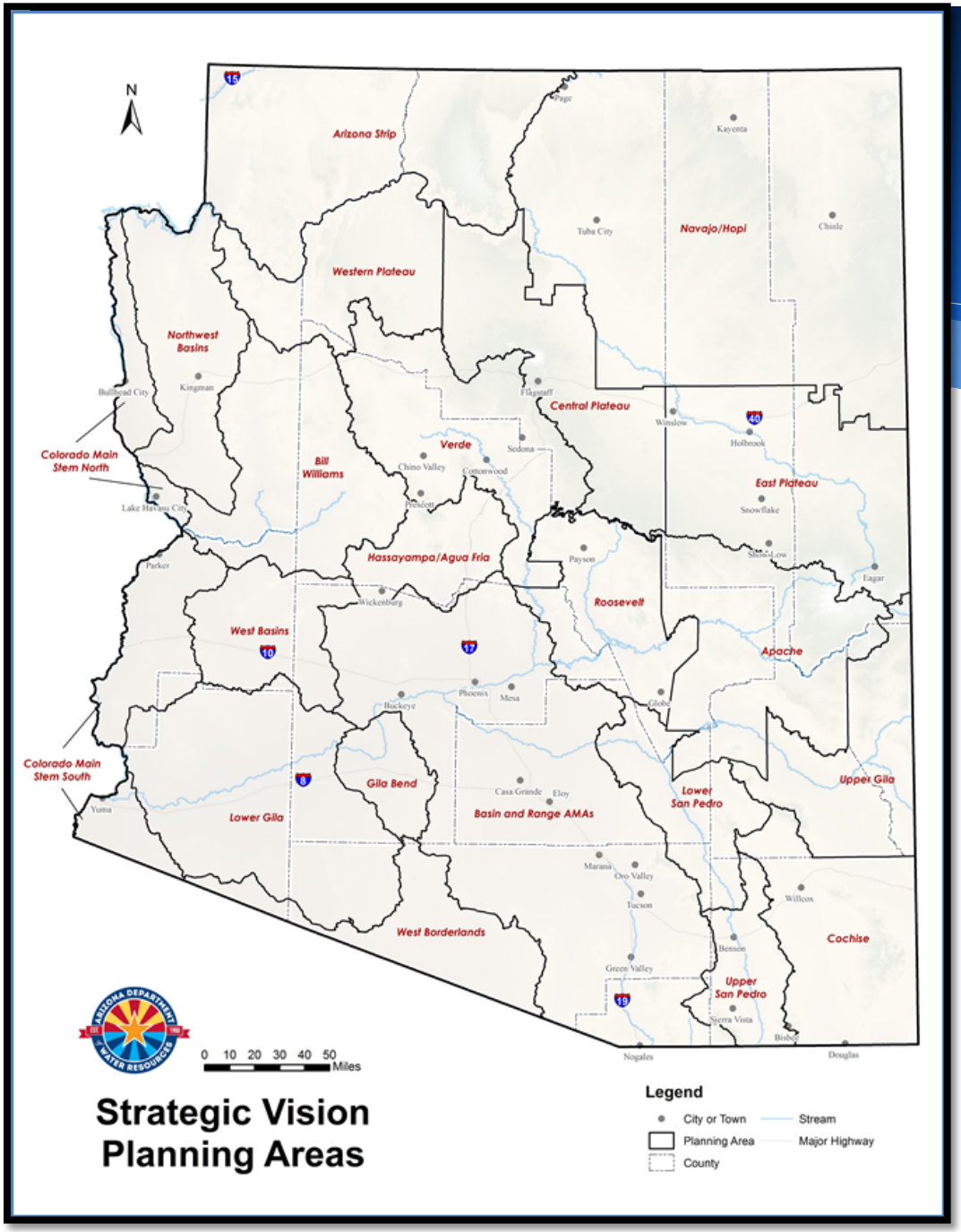
Identification & Analysis of Supply/Demand Imbalances

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?*

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 (33 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's Strategic Vision for Water Supply Sustainability

Questions?

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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)

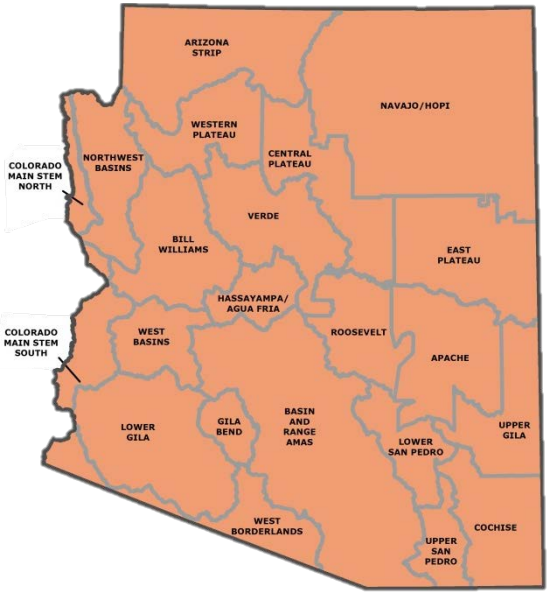
Arizona Strategic Vision
Ten Year Action Plan (*cont.*)

- **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)

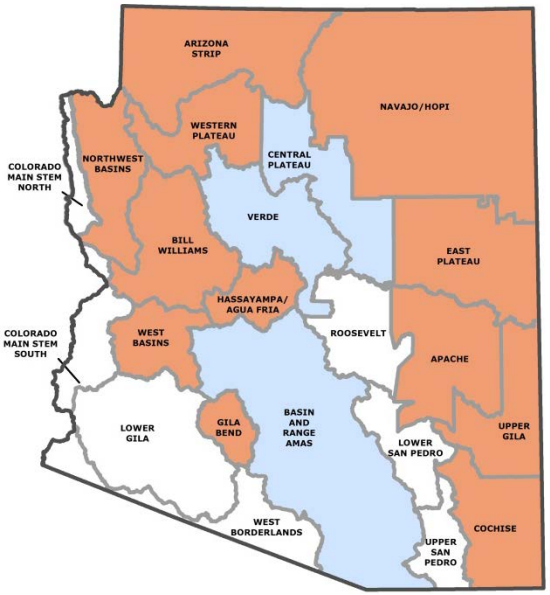
Arizona Strategic Vision
Regional Strategies

Continued Commitment to Water Conservation

Expanded Monitoring & Reporting of Water Use

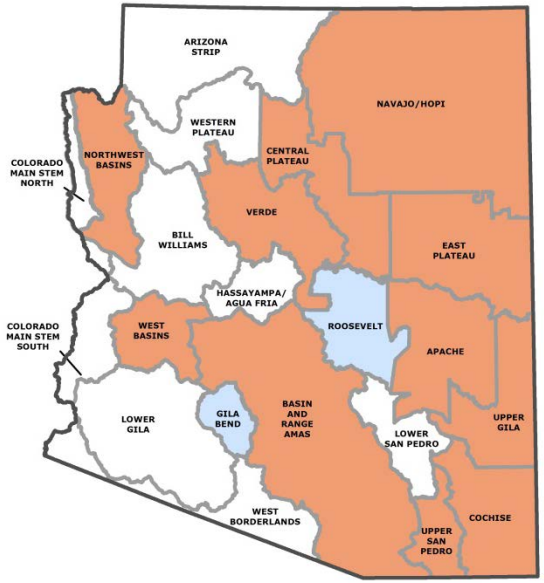


Local Water Supply Study Groundwater System Analysis/Modeling

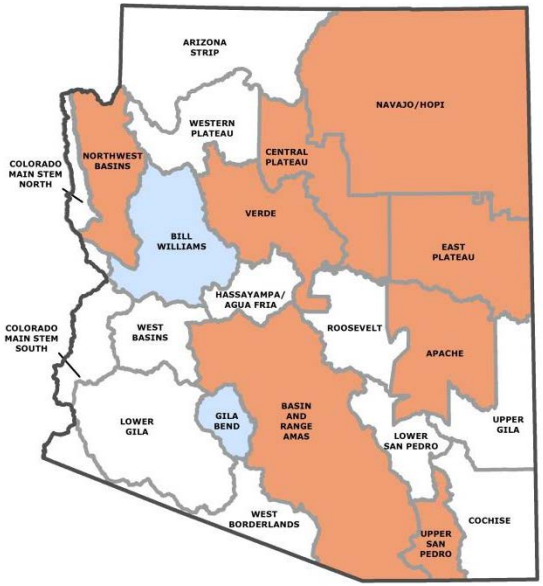


Arizona Strategic Vision
Regional Strategies (cont.)

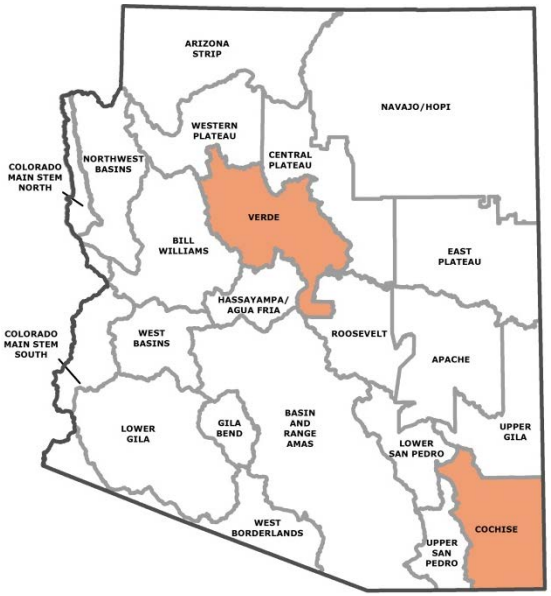
Increased Direct & Indirect Use of Reclaimed Water



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

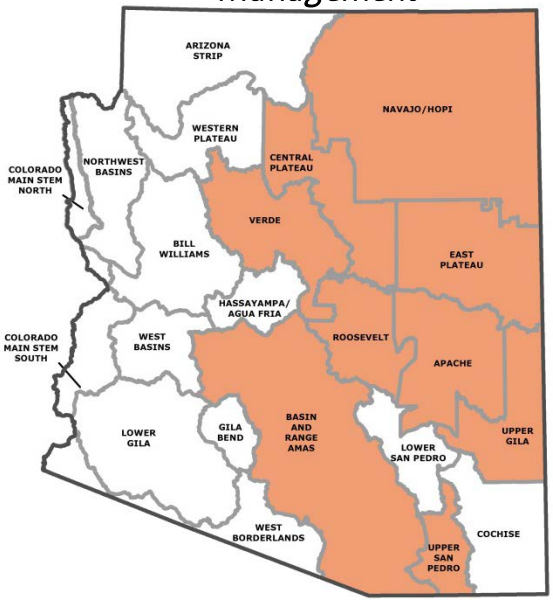


Local Water Management

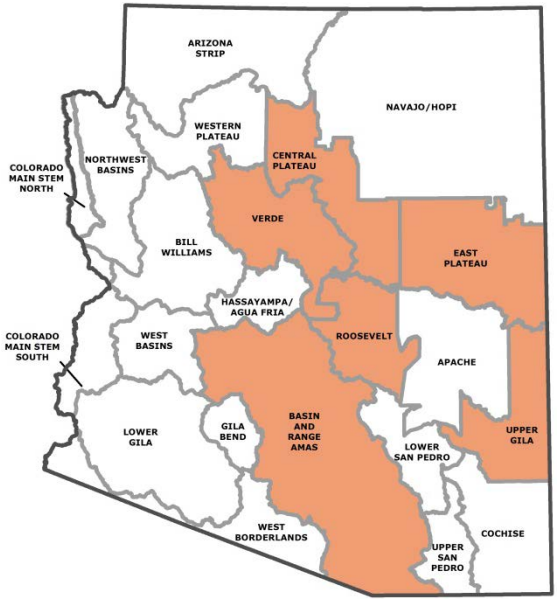


Arizona Strategic Vision
Regional Strategies (cont.)

Forest & Watershed Management



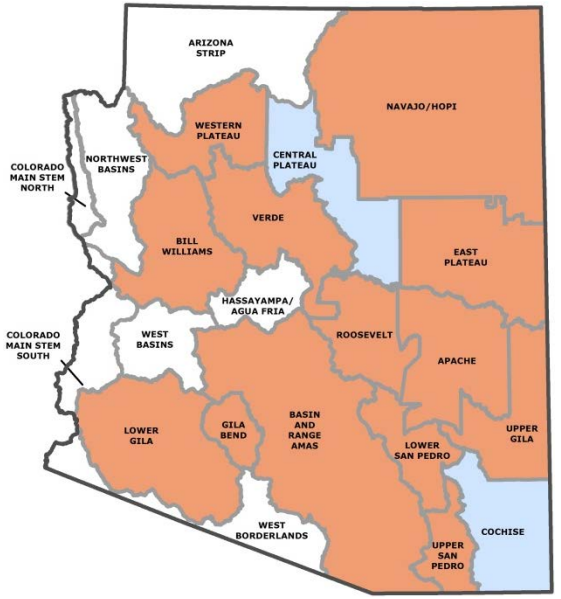
Weather Modification



Arizona Strategic Vision
Regional Strategies (cont.)

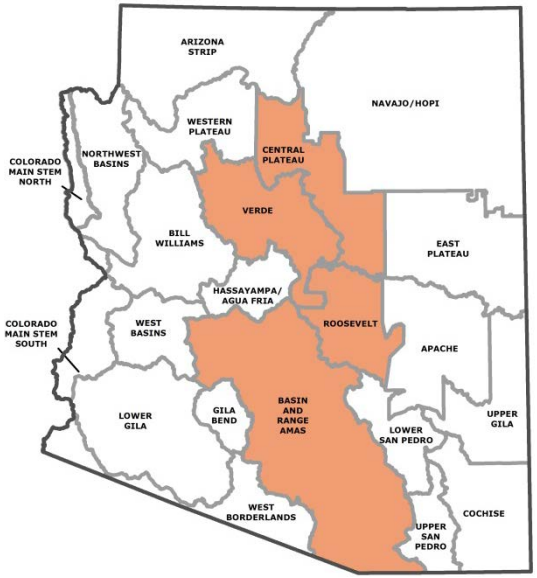
Firming of Low Priority Colorado River Supplies

Resolution of Federal & Non-Federal Water Rights Claims

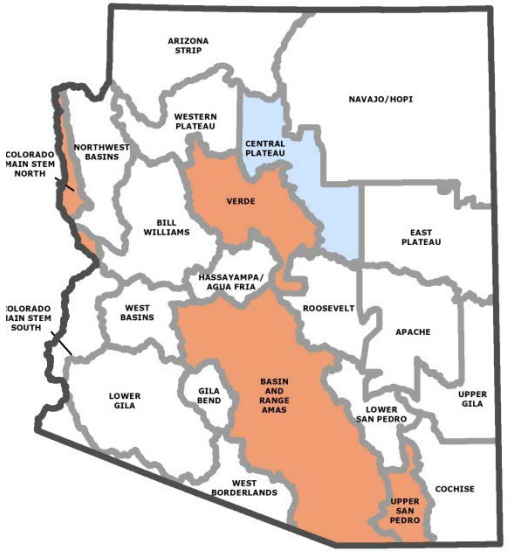
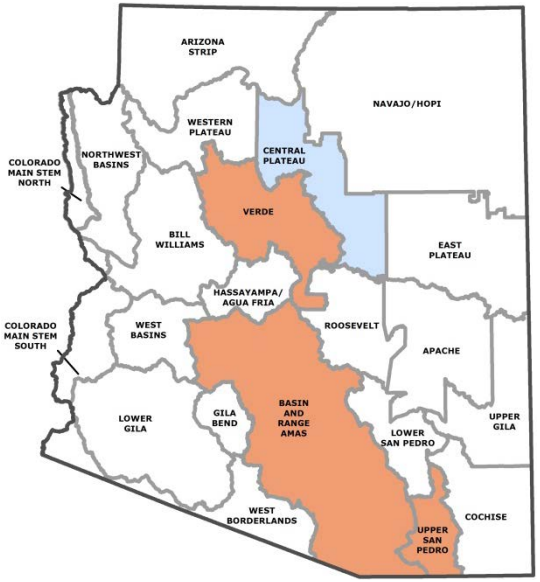


Arizona Strategic Vision
Regional Strategies (cont.)

Importation of In-State Surface Water or Groundwater



Importation of Desalinated Water Via Exchange



Importation of Desalinated Water Direct Use