

ARIZONA'S NEXT CENTURY

Strategic Vision for Water Supply Sustainability



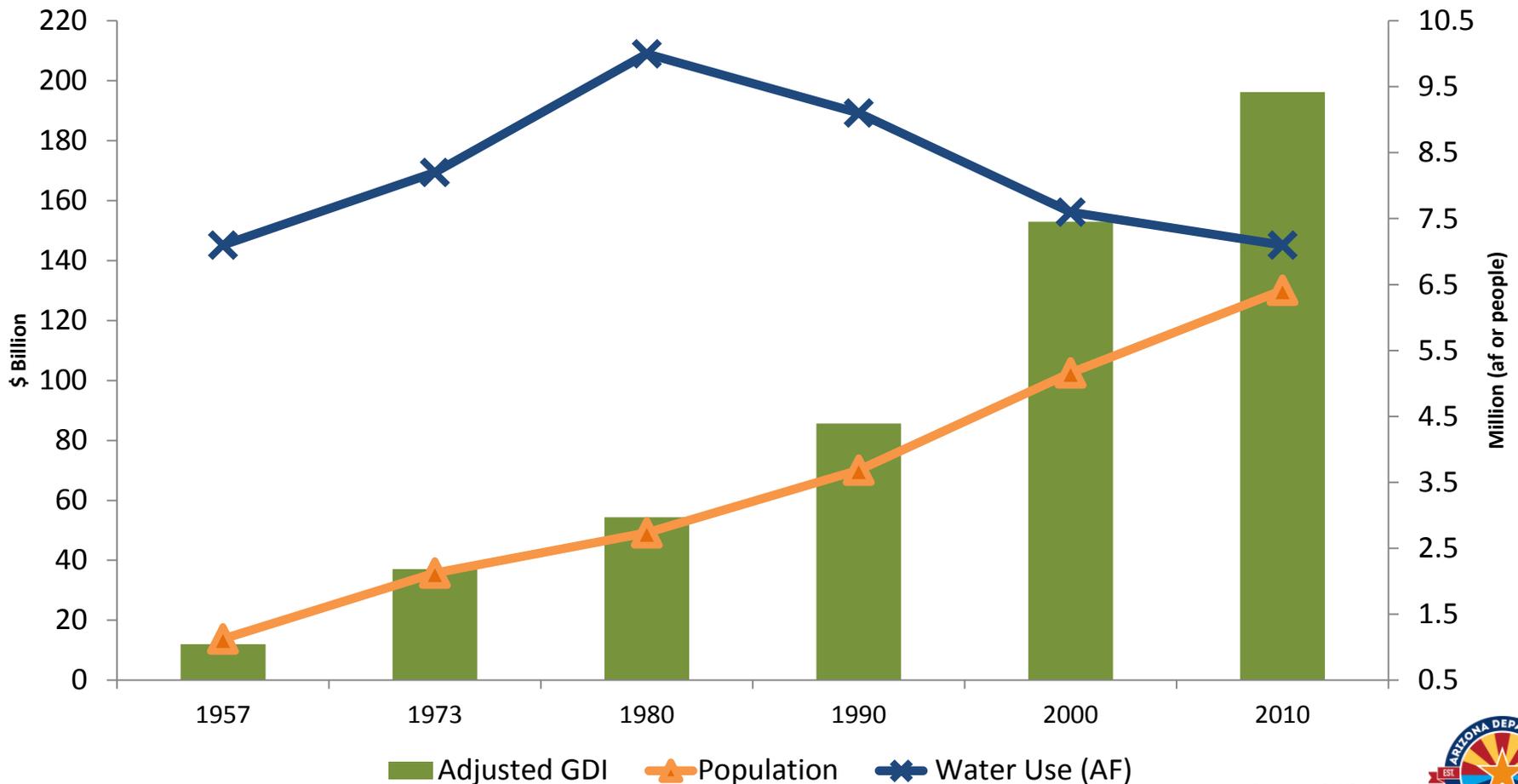
Arizona-Mexico Commission
Environment & Water Committee

June 20, 2014

*Michael J. Lacey, Director
Arizona Department of Water Resources*

What We Have Accomplished

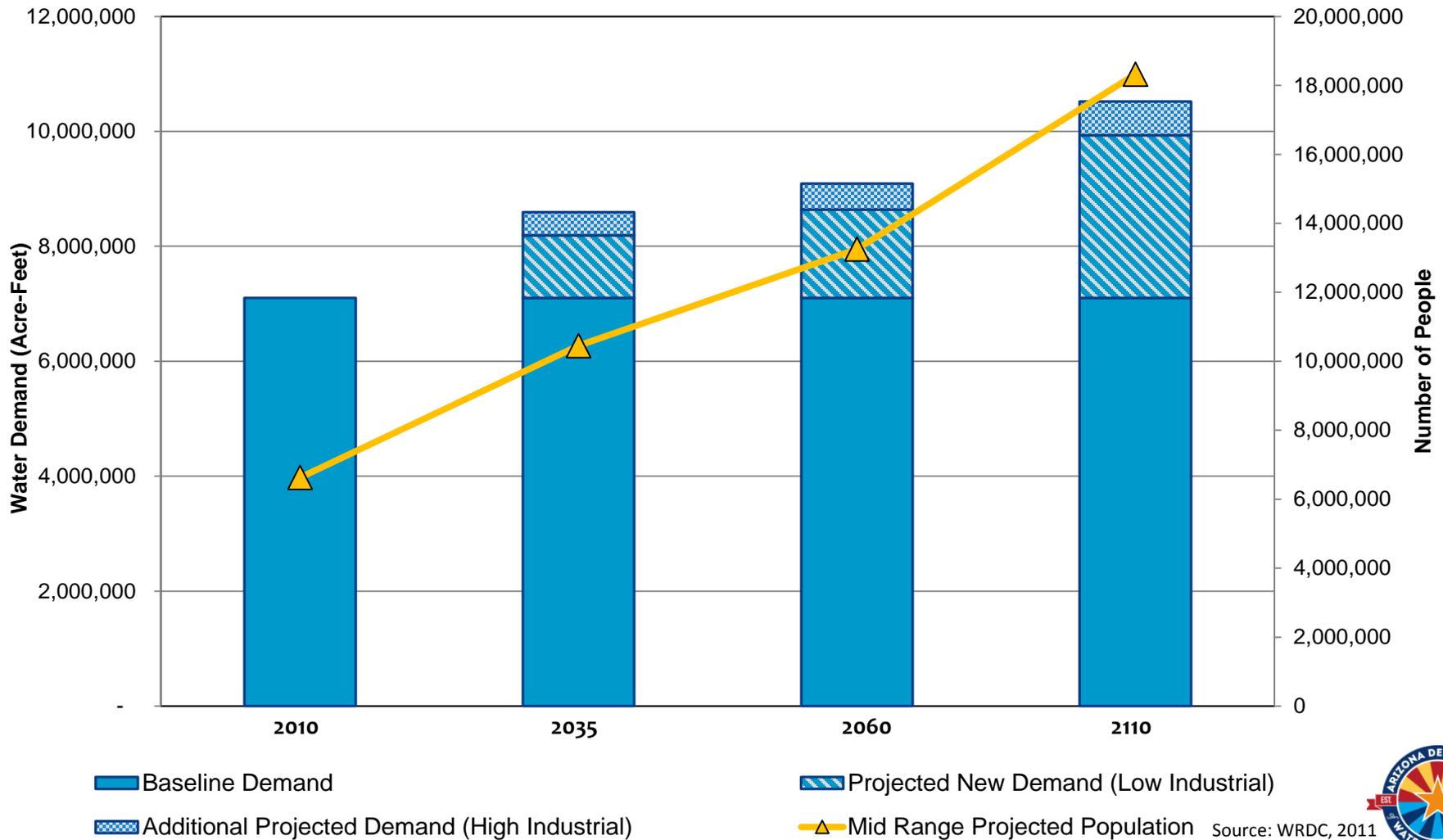
Arizona Water Use, Population and Economic Growth (1957 – 2010)



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**
 - *National leader in water conservation and water reuse programs within the five Active Management Areas*
- **Assured and Adequate Water Supply Program**
- **Recharge and Recovery and Arizona Water Banking Authority**
 - *8.5 million acre-feet in storage for future use*



Arizona's Strategic Vision

Identifying Opportunities and Challenges

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

Identifying Opportunities and Challenges

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 Water Resources Development Commission (2010) "WRDC"	<ul style="list-style-type: none">• Demands v. Supplies for the next 25, 50 and 100 years (2035, 2060 and 2110)• ID potential water supplies to meet unmet demand	<ul style="list-style-type: none">• Total statewide demands<ul style="list-style-type: none">• Current - 6.9 MAF• 2035 - 8.1 MAF• 2110 - 10.6 MAF• Projected imbalance between 900,000 and 3.2 million AF over the next 25 to 100 years
BOR Colorado River Basin Water Supply & Demand Study (2012) "Basin Study"	<ul style="list-style-type: none">• ID water supply and demand imbalances in the Colorado River Basin through the year 2060• Develop strategies to resolve identified imbalances	<ul style="list-style-type: none">• Colorado River Basin-Wide average imbalance of 3.2 million acre-feet by 2060• Arizona's imbalance between 260,000 to 1.4 MAF by 2060 (Est)



Arizona's Strategic Vision



Strategic Vision Planning Areas

Legend

- City or Town
- Planning Area
- County
- Stream
- Major Highway

- **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 (29 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 identified between existing water supplies and demand projected in the next 25 years**
- **The lack of an immediate problem increases the potential for inaction, running the risk of procrastinating and not motivating ourselves to plan and invest in our future**
- **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)**



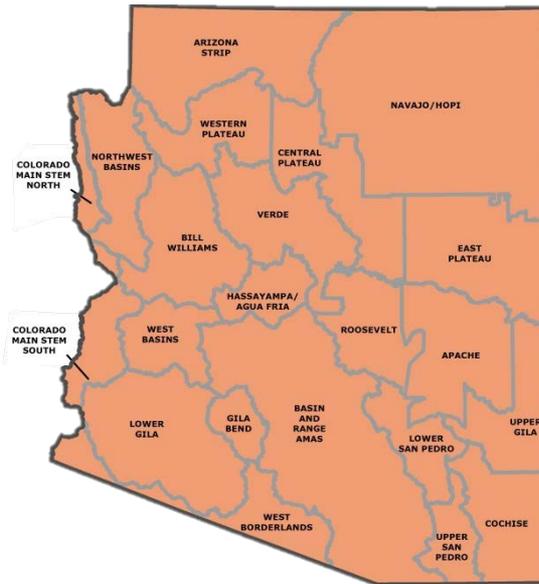
Arizona Strategic Vision

Regional Strategies

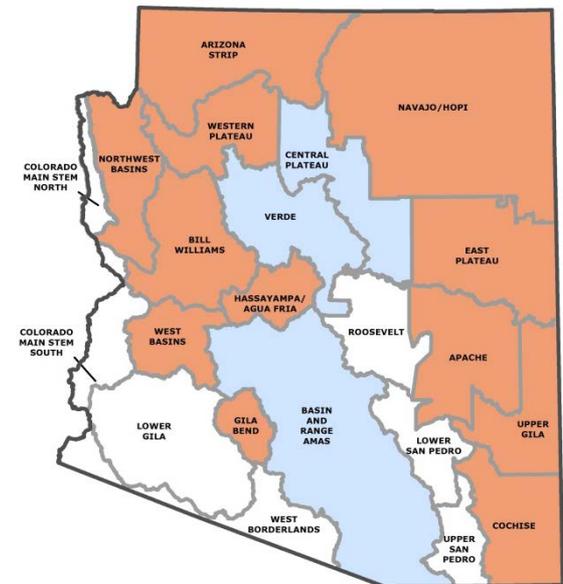
*Continued Commitment
to Water Conservation*



*Expanded Monitoring &
Reporting of
Water Use*



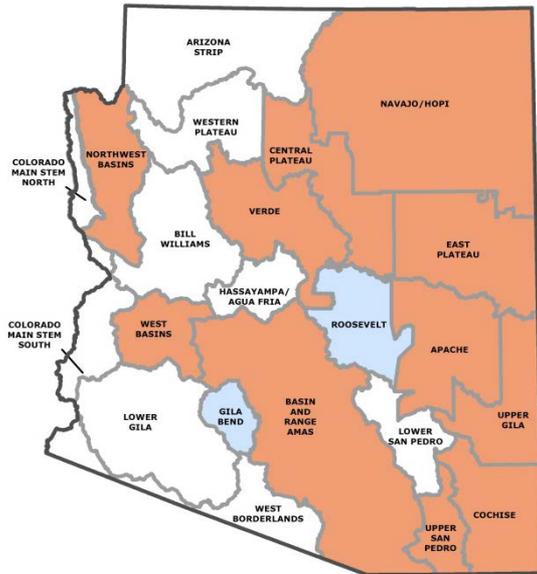
*Local Water Supply Study
Groundwater System
Analysis/Modeling*



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



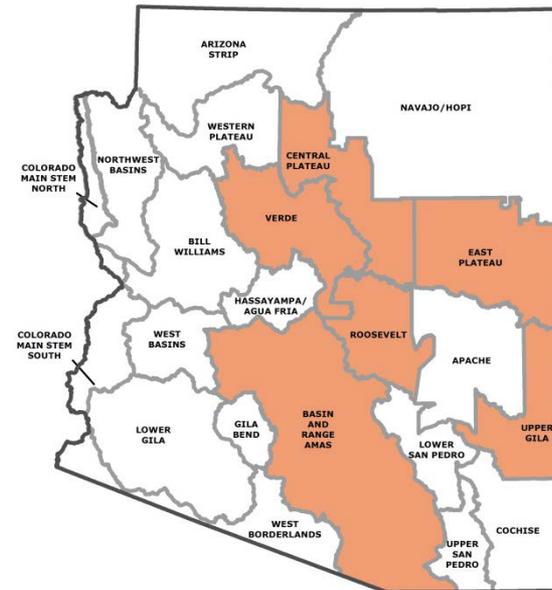
Arizona Strategic Vision

Regional Strategies (cont.)

Forest & Watershed Management



Weather Modification



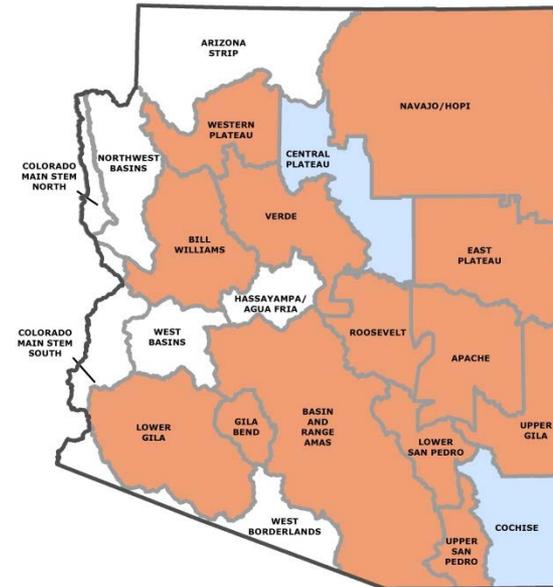
Arizona Strategic Vision

Regional Strategies (cont.)

Firming of Low Priority Colorado River Supplies



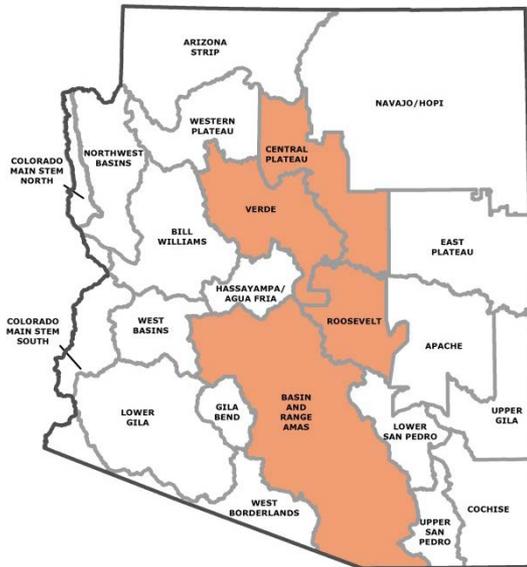
Resolution of Federal & Non-Federal Water Rights Claims



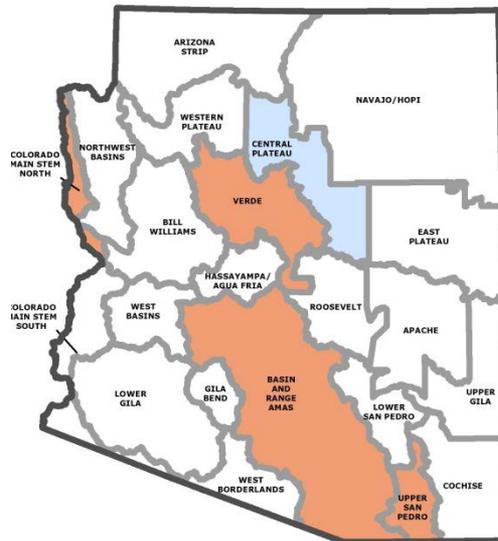
Arizona Strategic Vision

Regional Strategies (cont.)

*Importation of
In-State Surface Water or
Groundwater*



*Importation of
Desalinated Water
Via Exchange*



*Importation of
Desalinated Water
Direct Use*

