

# ARIZONA'S NEXT CENTURY

## *Strategic Vision for Water Supply Sustainability*

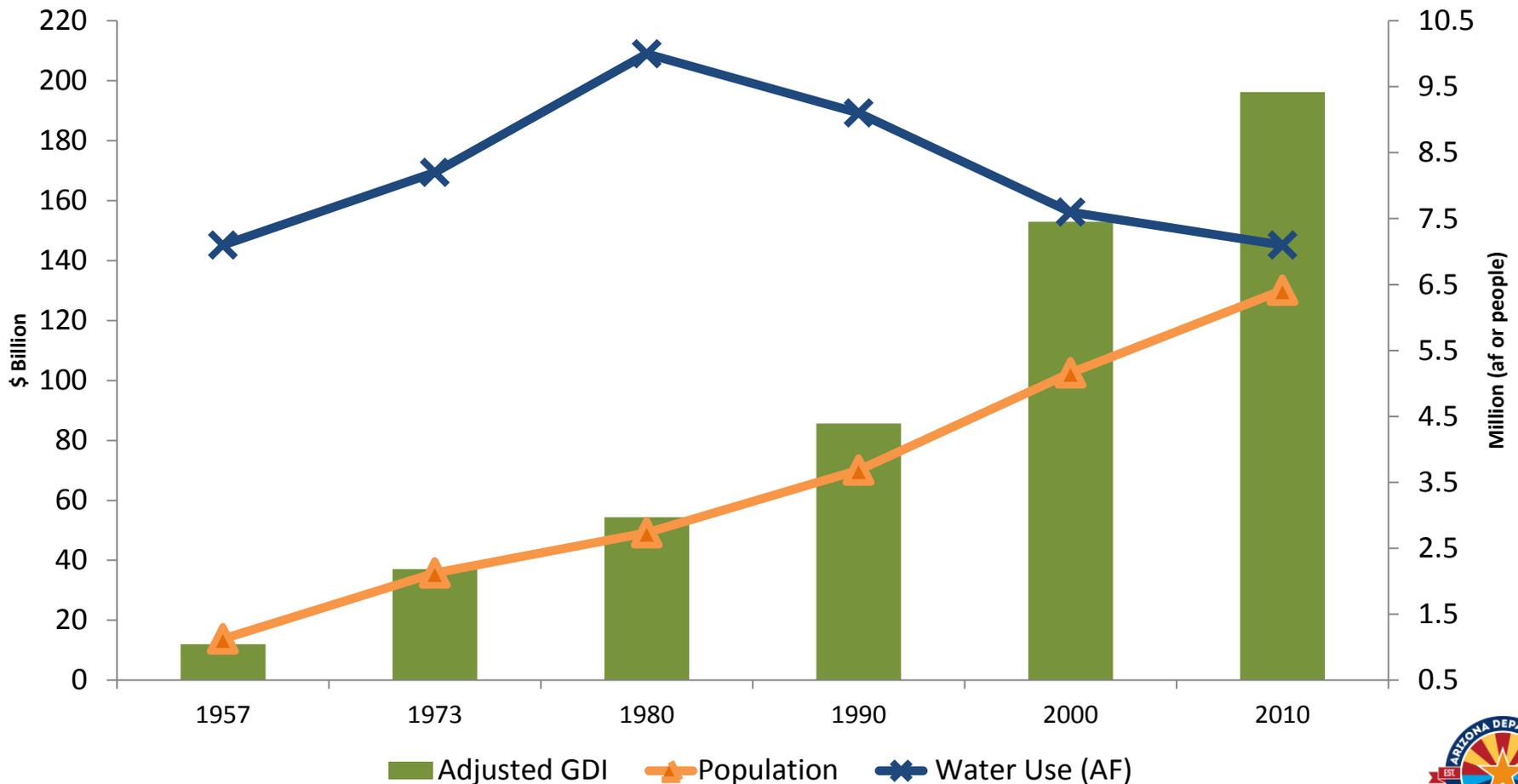


Arizona Association for  
Economic Development  
July 8, 2014

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

# What We Have Accomplished

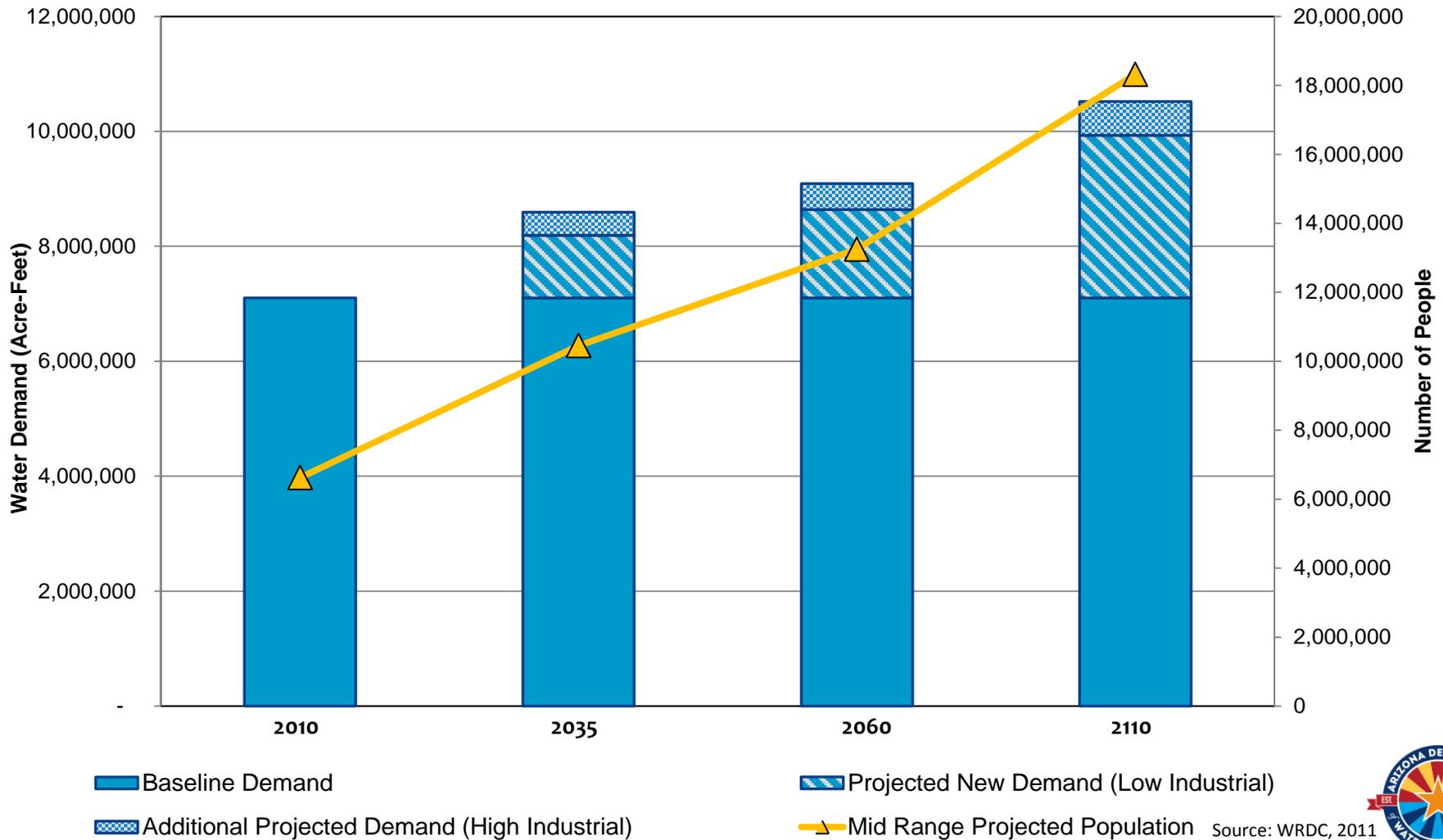
## Arizona Water Use, Population and Economic Growth (1957 – 2010)



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 (31 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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Director

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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

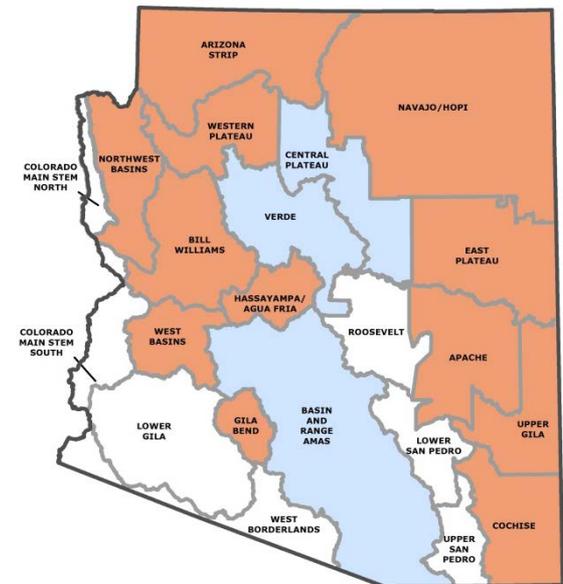
*Continued Commitment  
to Water Conservation*



*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*



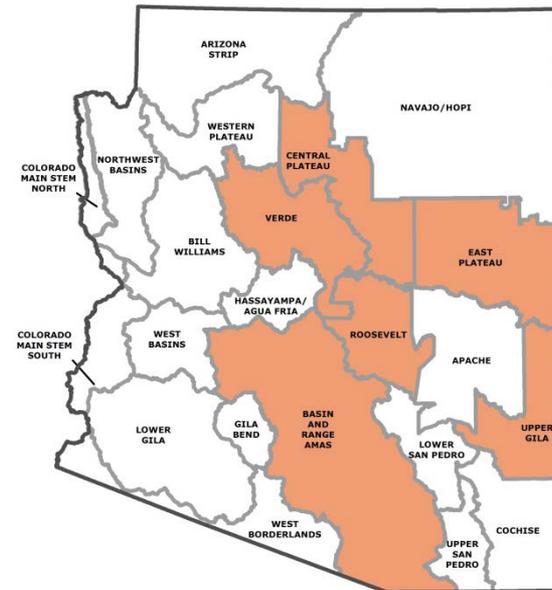
# Arizona Strategic Vision

## 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*



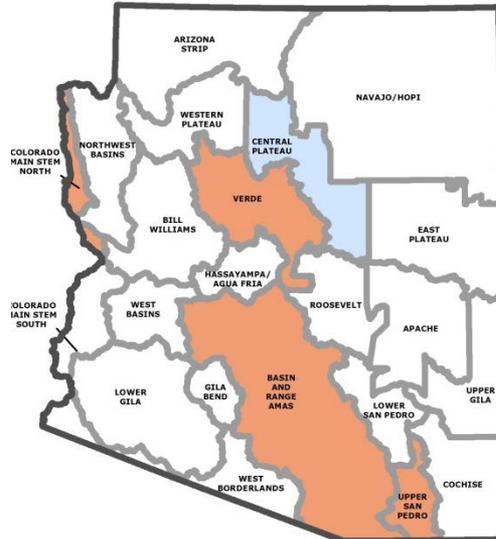
# Arizona Strategic Vision

## Regional Strategies (cont.)

*Importation of  
In-State Surface Water or  
Groundwater*



*Importation of  
Desalinated Water  
Via Exchange*



*Importation of  
Desalinated Water  
Direct Use*

