

NOTICE OF PUBLIC MEETING

Pursuant to Resolution No. 4464 of the City of Chandler and to A.R.S. 38-431.02, NOTICE IS HEREBY GIVEN to the members of the CHANDLER CITY COUNCIL and to the general public that the CHANDLER CITY COUNCIL will hold a **SPECIAL MEETING** open to the public on **MONDAY, SEPTEMBER 23, 2013, AT 6:00 P.M.** in the Chandler City Council Chambers Conference Room, 88 E. Chicago St., Chandler, AZ.

One or more members of the Chandler City Council may attend this meeting by telephone.

Dated: September 19, 2013

(Agendas are available in the Office of the City Clerk, 175 S. Arizona Avenue.)

Persons with a disability may request a reasonable accommodation such as a sign language interpreter by contacting the City Clerk's office at (480) 782-2180. Requests should be made as early as possible to allow time to arrange accommodation.

AGENDA

CALL TO ORDER:

1. Statewide movement of Water Rights
2. Water demand estimates
3. Acquisition costs
4. Total Dissolved Solids (TDS)
5. Central Arizona Project (CAP) Cost Increases

Council Goals Micro-Retreat

(Water Discussion)



9.23.13

Current Items of Interest

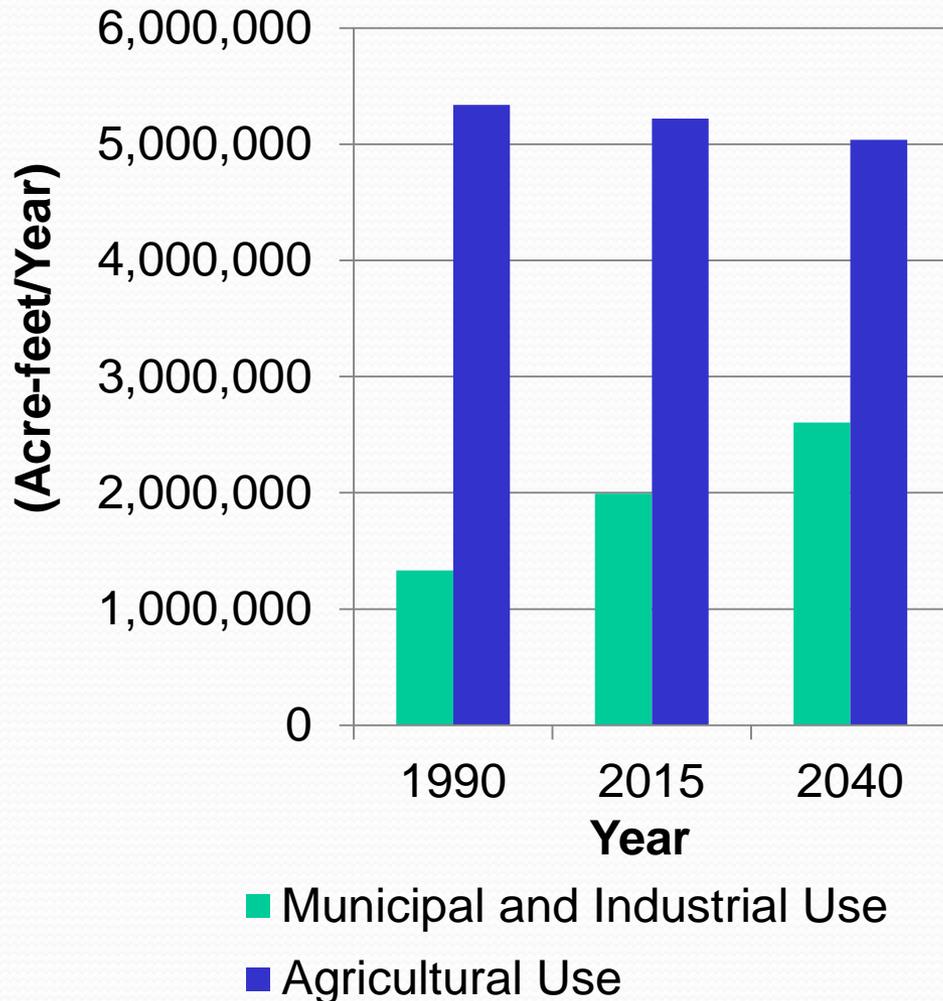
- **Statewide movement of Water Rights**
 - Shift from agricultural use to municipal use
 - East Valley Groundwater Conditions
- **Water demands will increase above build-out estimates**
 - 2008 Master Plan
 - Develop policies to manage future industrial demands
 - Drought management
 - Peak demand
- **Acquisition costs will Increase**
- **Total Dissolved Solids (TDS)**
- **Central Arizona Project (CAP) Cost Increases**

Statewide Water Use

- Water Supply is **NOT** a problem
- Orderly transfer of Agricultural use to Municipal use must be solved



Statewide Water Use



STATEWIDE:

- Population will grow
- Municipal & Industrial demand will increase
- Agricultural use dominates
- Groundwater mining will continue
- **New Water Not Being Created**

Groundwater Management Act (GMA) Provisions

- Prohibits new agricultural lands
- New Developments must use renewable water resources
- Safe-Yield Goal
- Limits new well pumping
- Mandatory Water Conservation
- Assumed agriculture will phase out

Assured Water Supply Requirements

Must prove :

1. Physical Availability

- 100-years of groundwater or surface water is available.

2. Consistent with Safe-Yield

- No “mined” groundwater.

3. Financial Capability

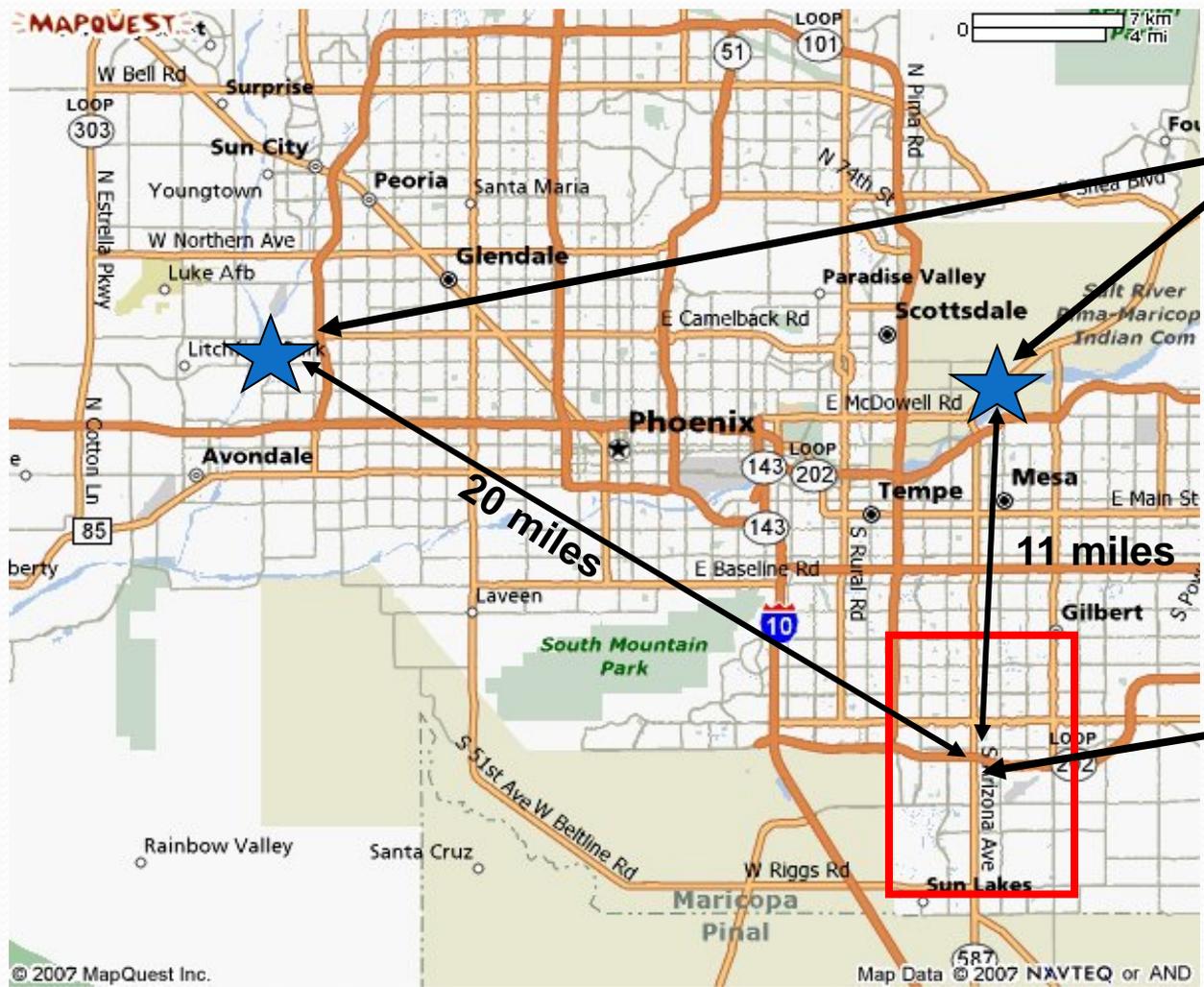
- Ability to pay for constructing infrastructure to treat and deliver the water.



“Safe-Yield”

does not equal

“Sustainable Aquifers””



Recharge
(20 mgd)

20 miles

11 miles

Pump
(20 mgd)

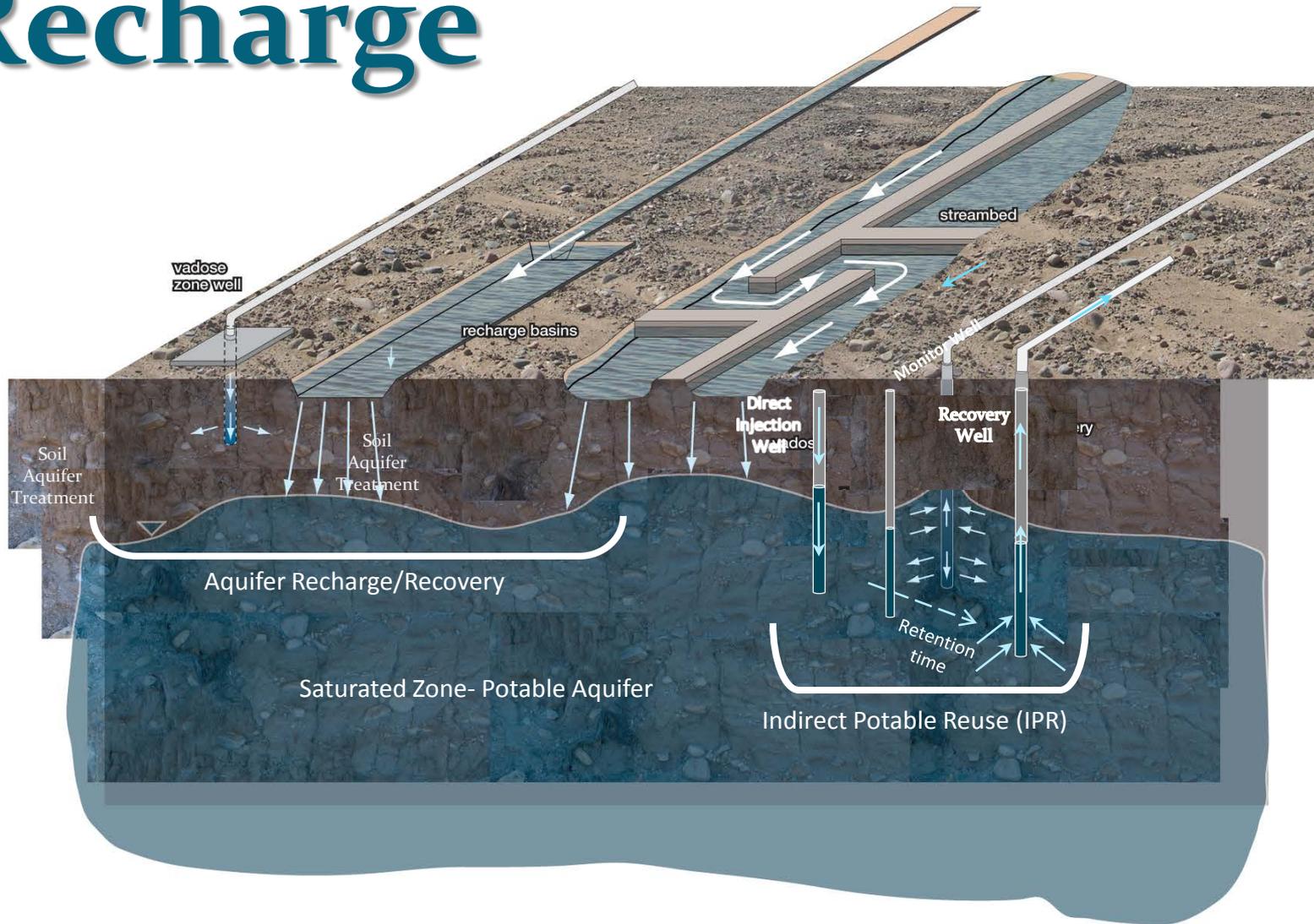
This meets “Safe-Yield” criteria

GMA Impacts to Chandler

- 94% of Groundwater pumped requires surface water recharge
- Renewable supplies to meet demands through 2025
- Implementation of 12 Conservation Programs

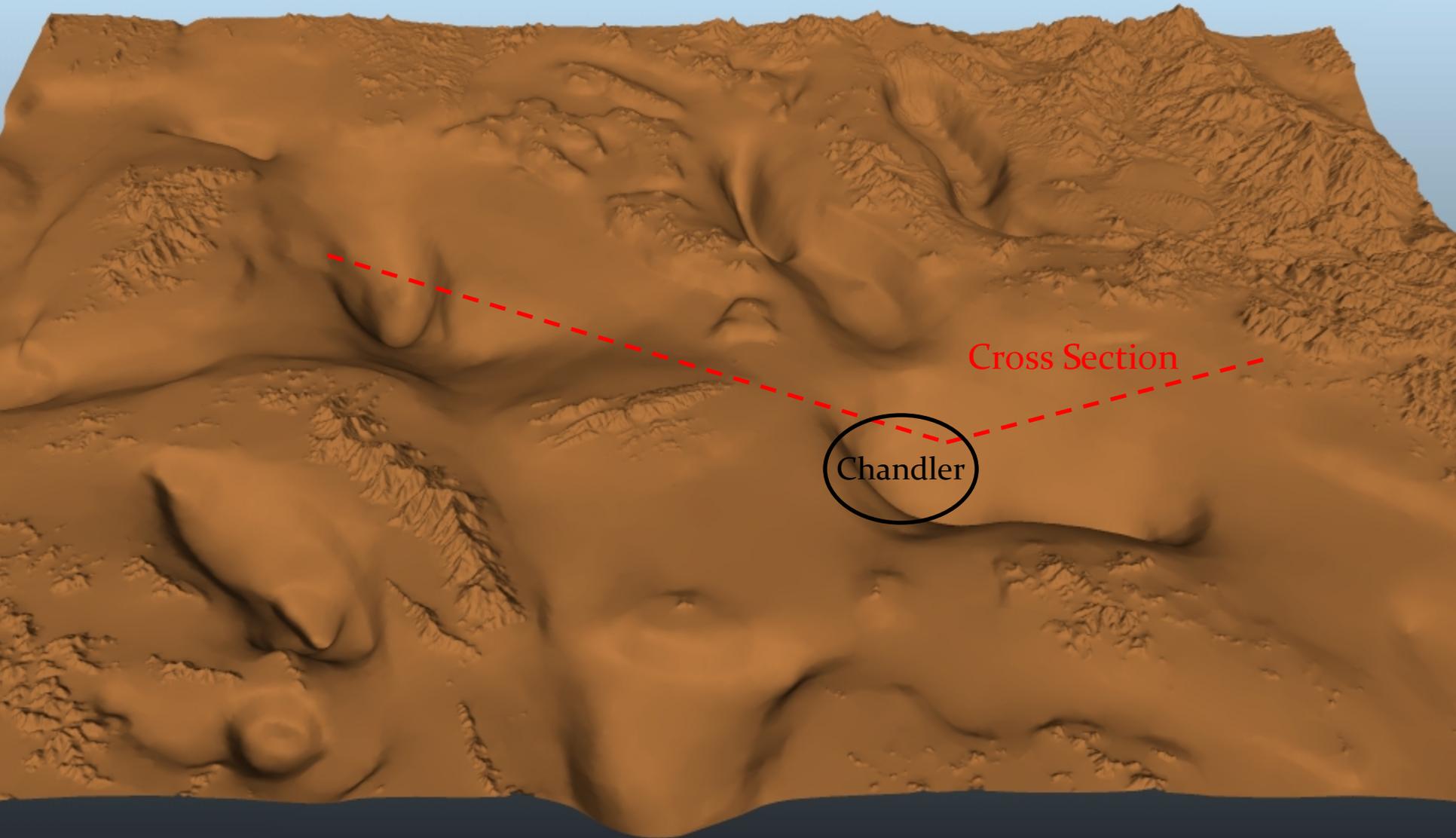


Recharge



East Salt River Valley Groundwater Conditions

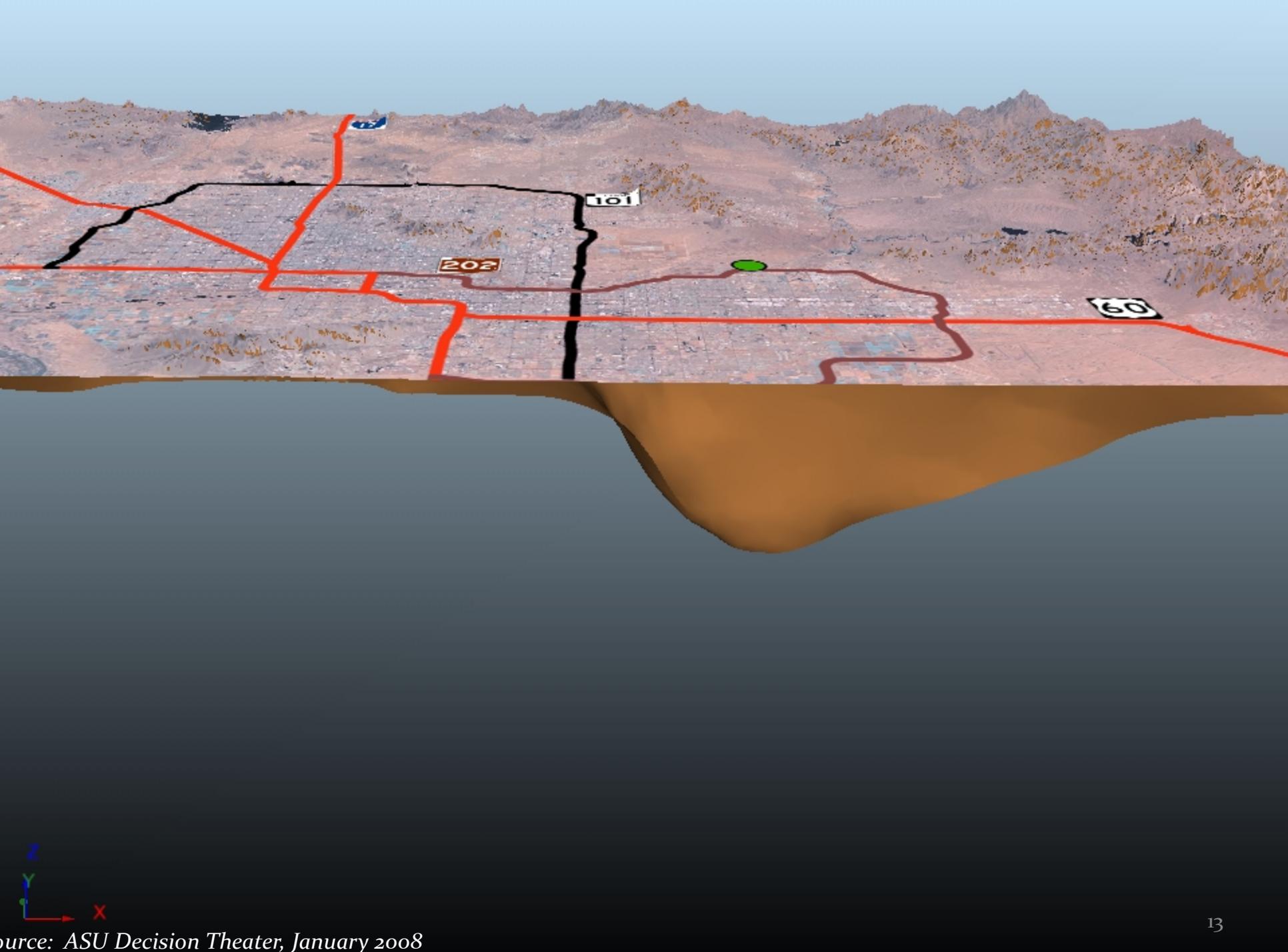




Cross Section

Chandler

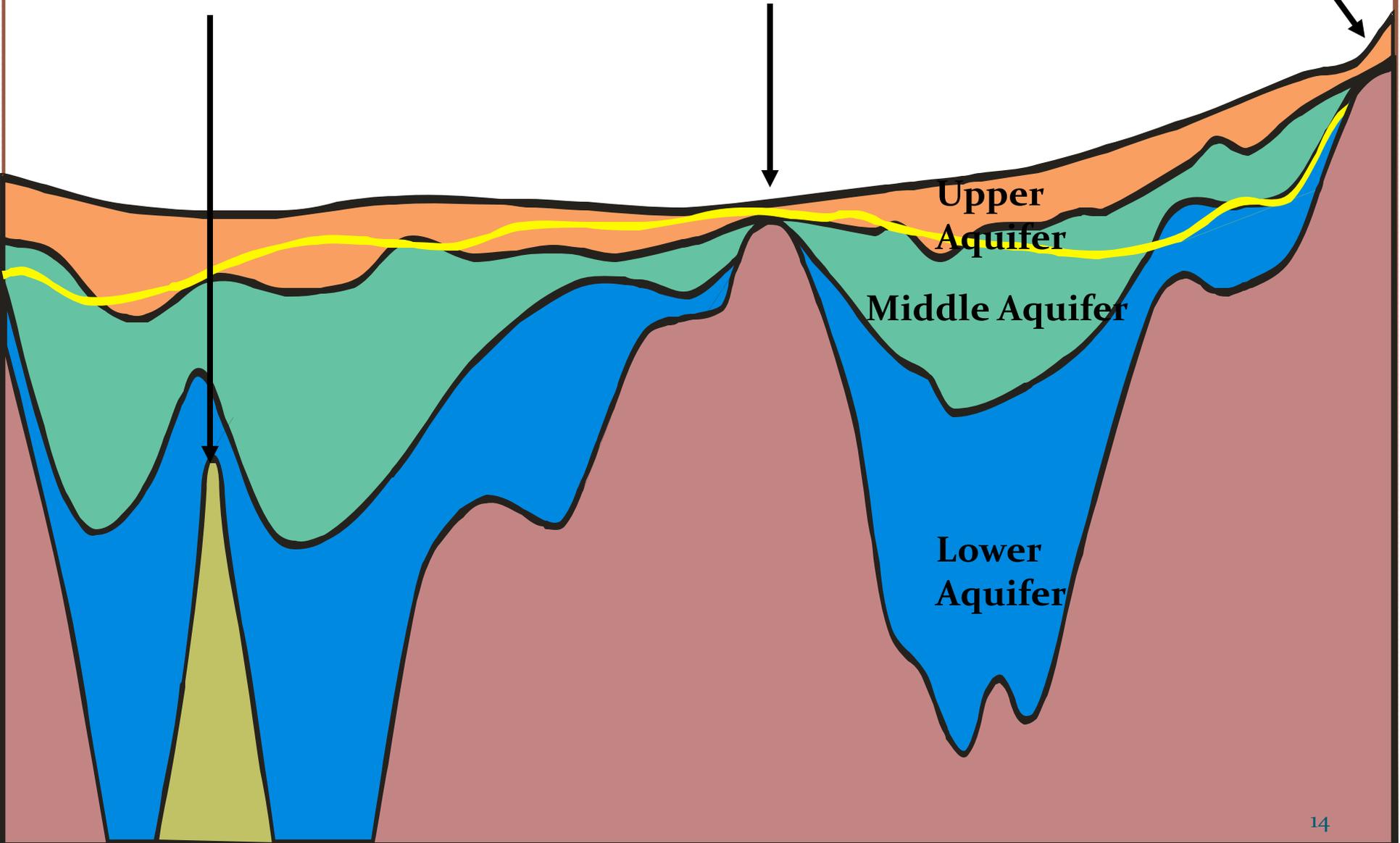




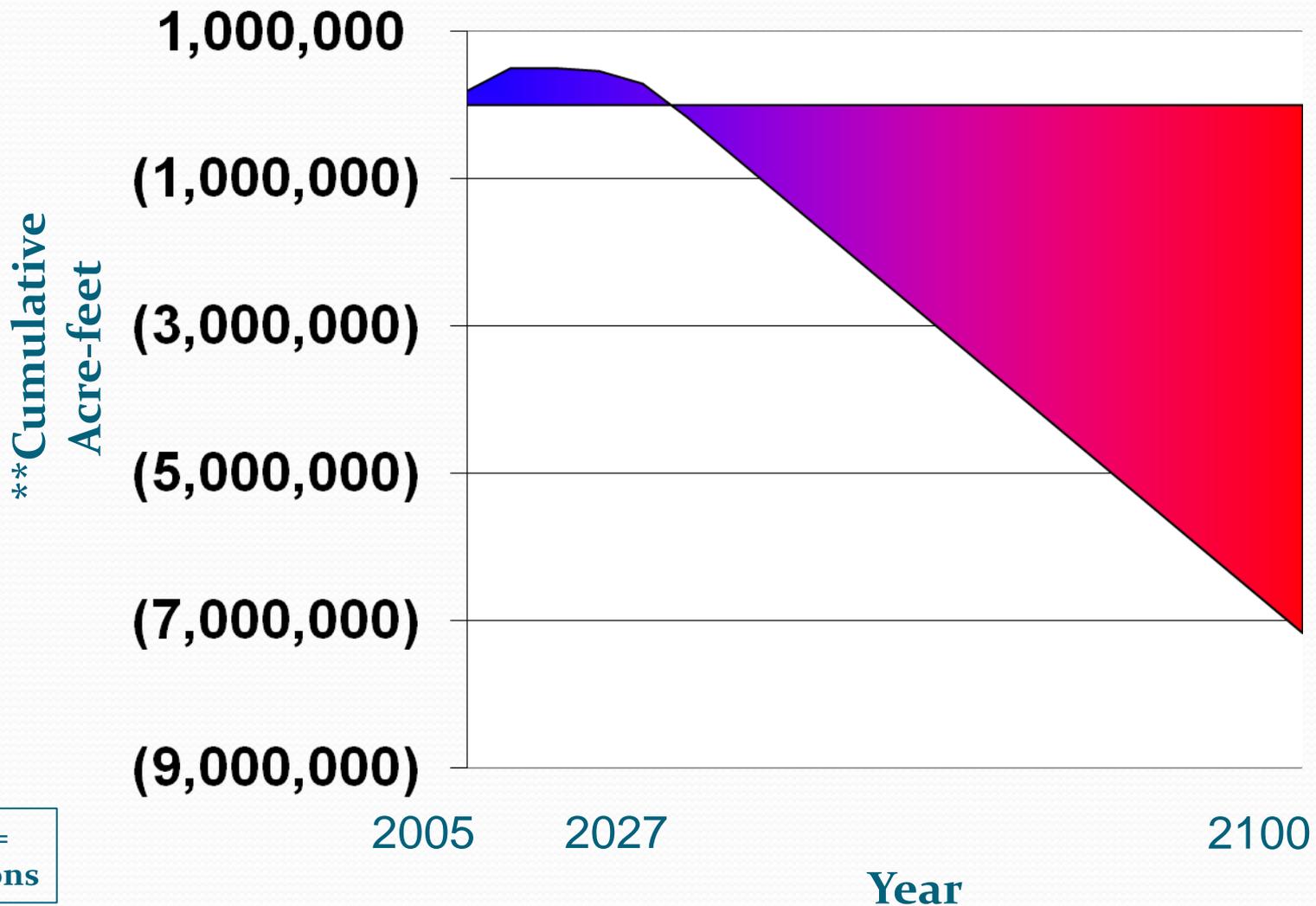
**Luke Salt
Dome**

Tempe Buttes

**Superstition
Mountains**



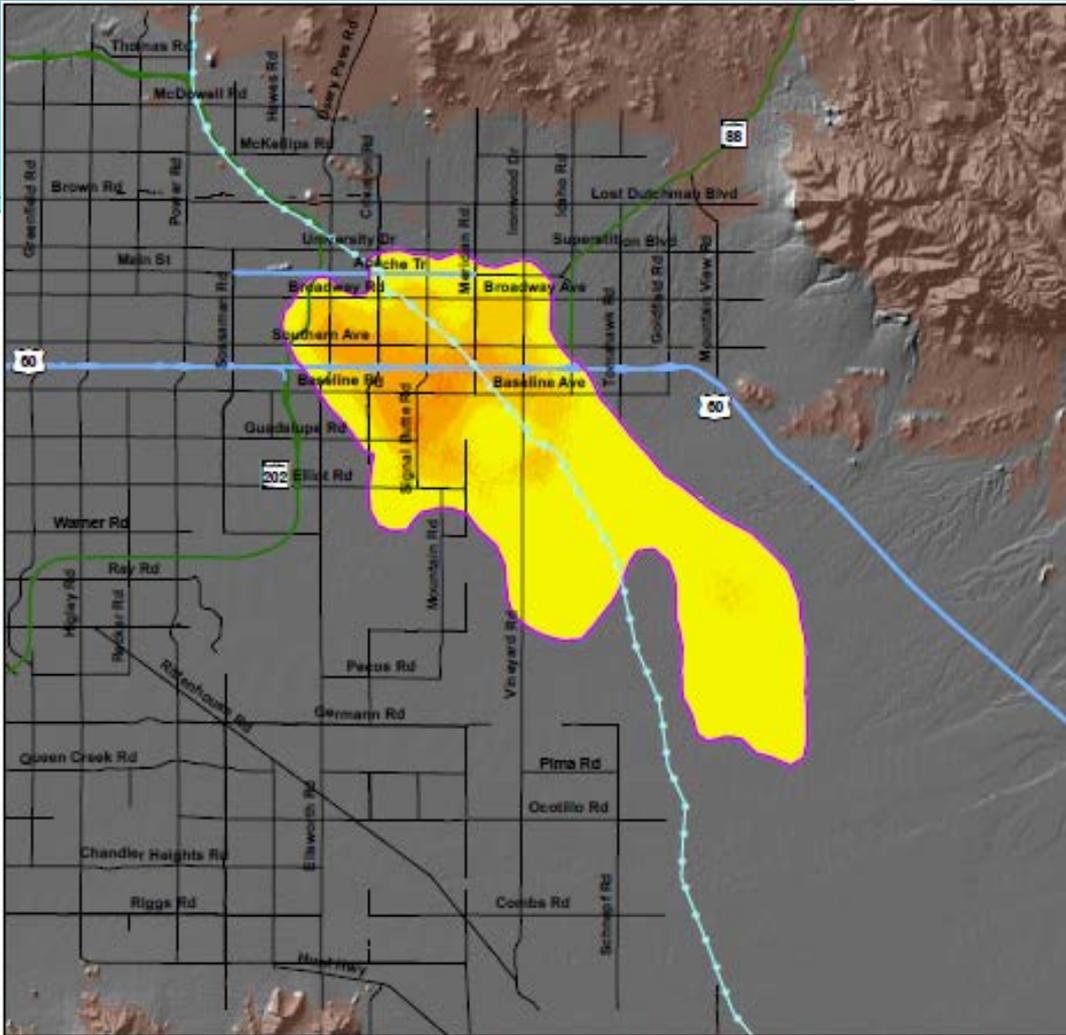
East Valley Pumping and Recharge



Acre Foot =
325,851 gallons

Source: East Valley Water Forum, 2007

Land Subsidence



Land Subsidence in the Hawk Rock Area of East Mesa and Apache Junction
Based on ADWR Radarsat-2 Time-Series InSAR Data
Time Period of Analysis: 1.0 Years 05/15/2010 To 05/10/2011



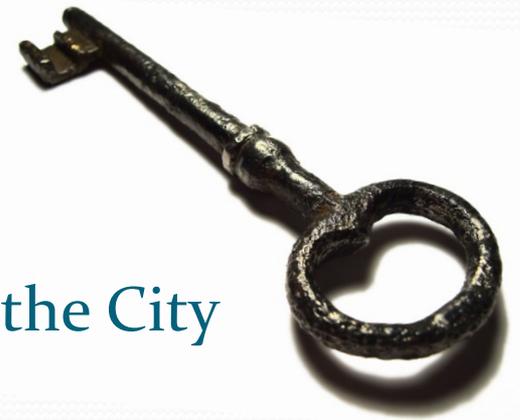
Decorelation (white areas) are areas where the phase of the received satellite signal changed between satellite passes, causing the data to be unusable. This occurs in areas where the land surface has been disturbed (i.e. bodies of water, snow, agriculture areas, areas of development, etc).



Source: <http://www.azwater.gov/AzDWR/Hydrology/Geophysics/HawkRockSubsidence.htm>

Water System Key Features

- Dual Surface Water Treatment Plants (WTP)
 - Chandler WTP – SRP/RWCD/CAP
 - Santan Vista WTP (Joint Chandler/Gilbert) – CAP
- Groundwater Wells
 - Provide water supply redundancy
 - Must meet GMA requirements
- New Pressure Zone Boundary
 - Stabilize system pressures throughout the City
- Booster Pump Station Upgrades
 - Improve system operation and save energy



Build Out Water System Redundancy

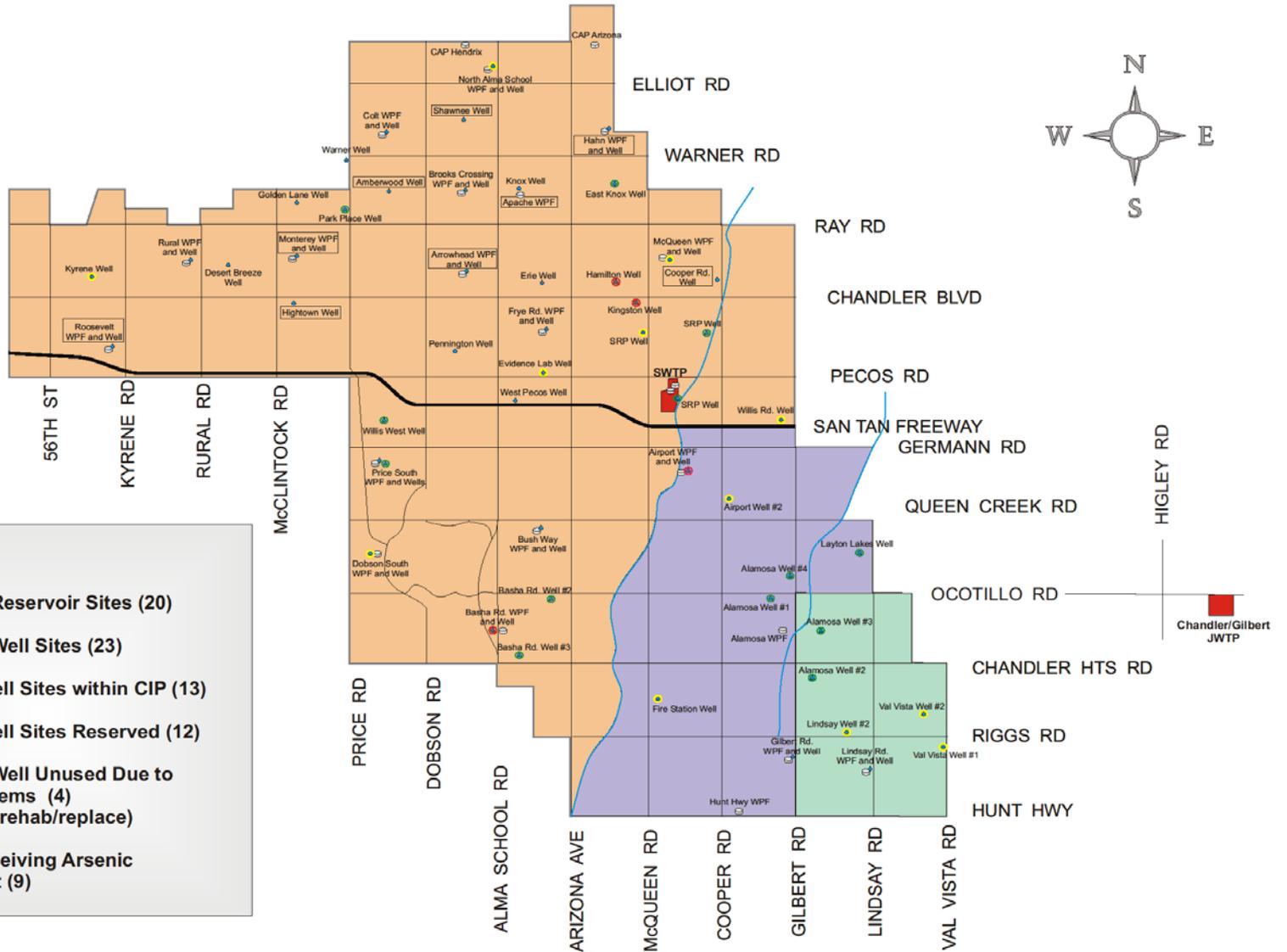
- Average Day Demand – 87.7 MGD**
- Well Production Capacity – 74 MGD
- Surface Water Treatment Capacity
 - Chandler – 60 MGD
 - Santan Vista – 24 MGD
- Storage – 22 tanks
- Generators

**Includes current Intel Expansion 42.1

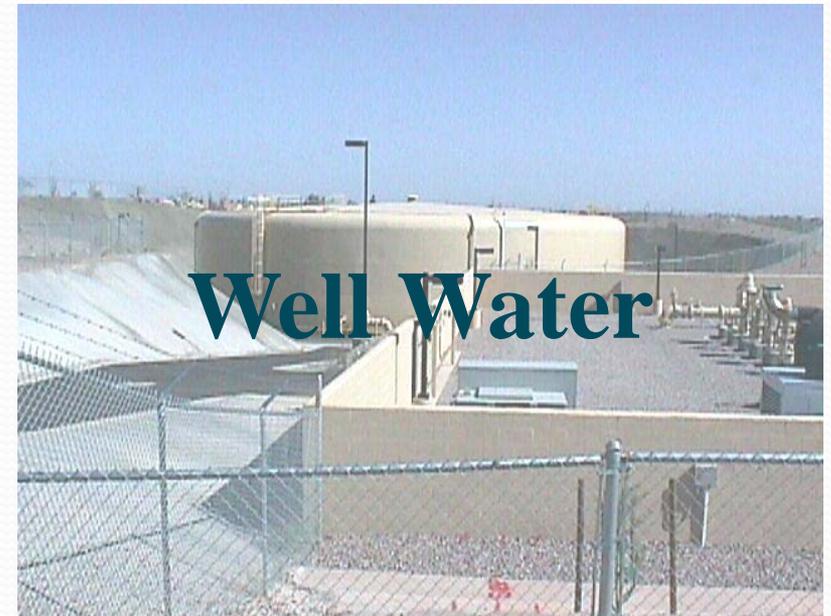
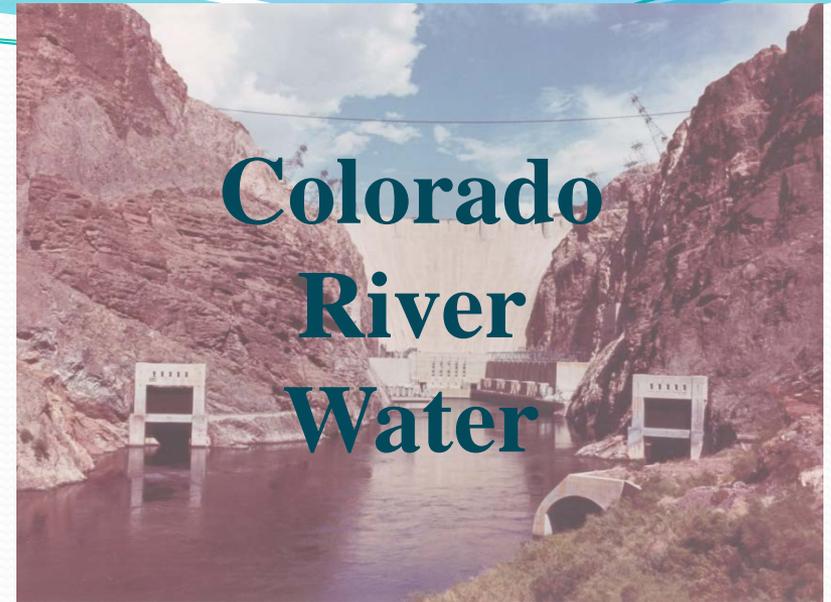


Chandler + Arizona
Where Values Make The Difference

Municipal Utilities – Well and Reservoir Map



Chandler's Water Sources



Chandler's Water Resources

Historical Strategies

- Pre-2000: **Acquire**
 - Gila River Indian Community Water Settlement (GRIC) last major acquisition
- 2000-2012: **Protect**
 - White Mountain Apache Settlement (preserved existing supplies)
- 2013 +: **Acquire**
 - 3.3 MGD for Intel
 - Manage Future Industrial Demands
 - Cooling towers (data centers and large office space)
 - Limited supply

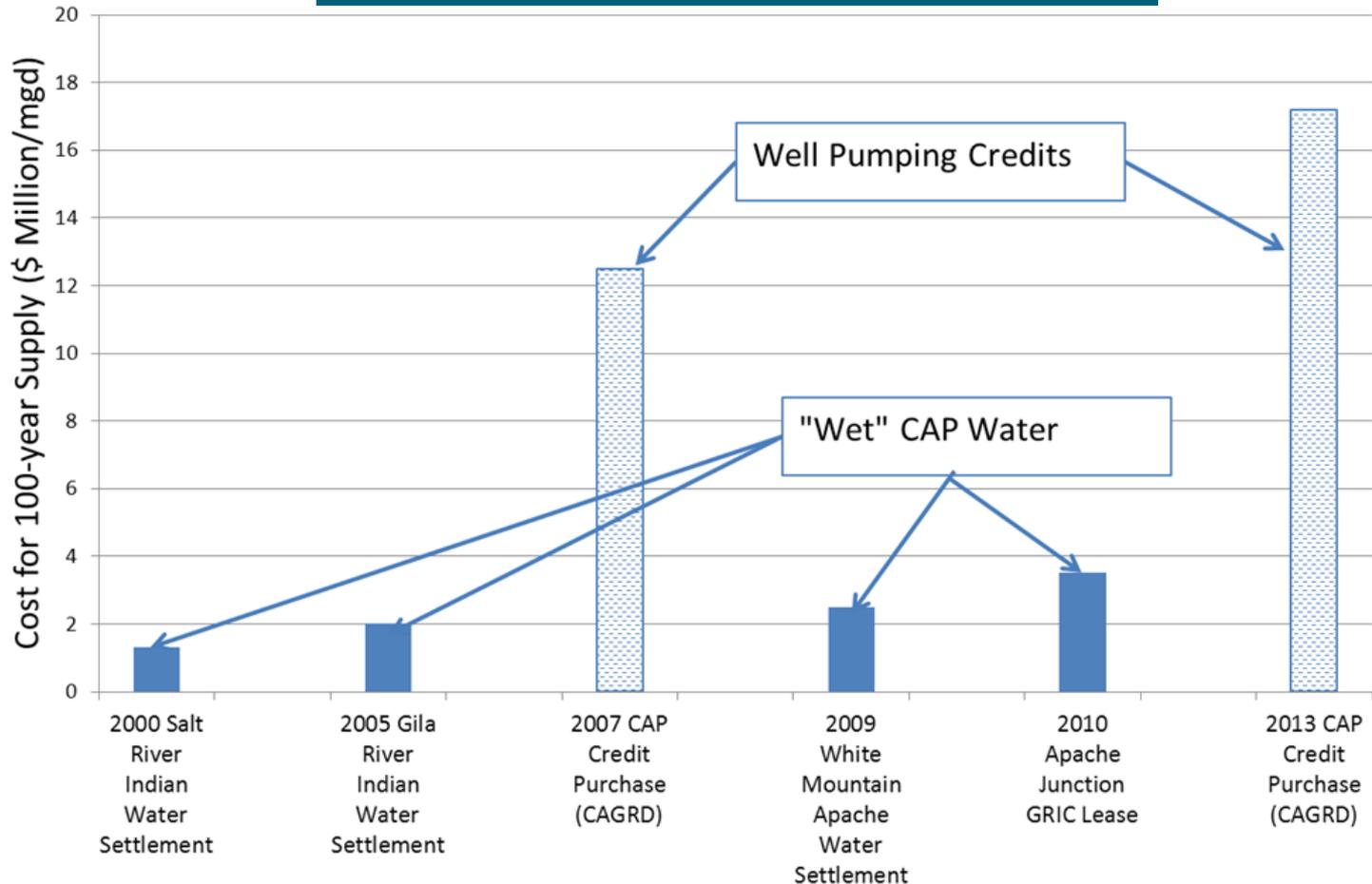


Chandler's Water Resource Allocation

- 2012 Water Master Plan Update
- Land-based Allocation
- Data Center/Cooling Towers
- Build-Up
- Future Allocations
- Future Water

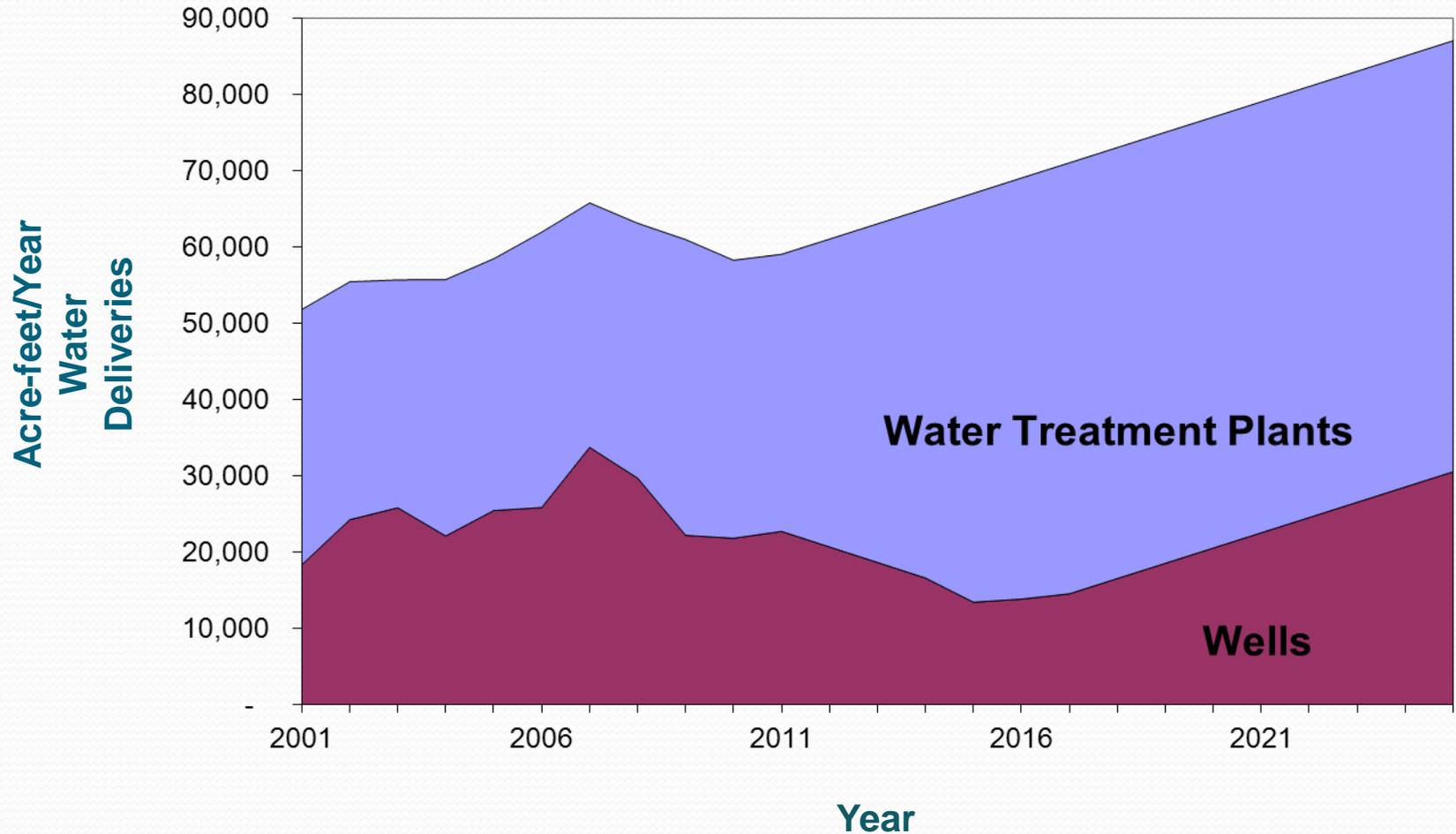


Previous Water Purchases

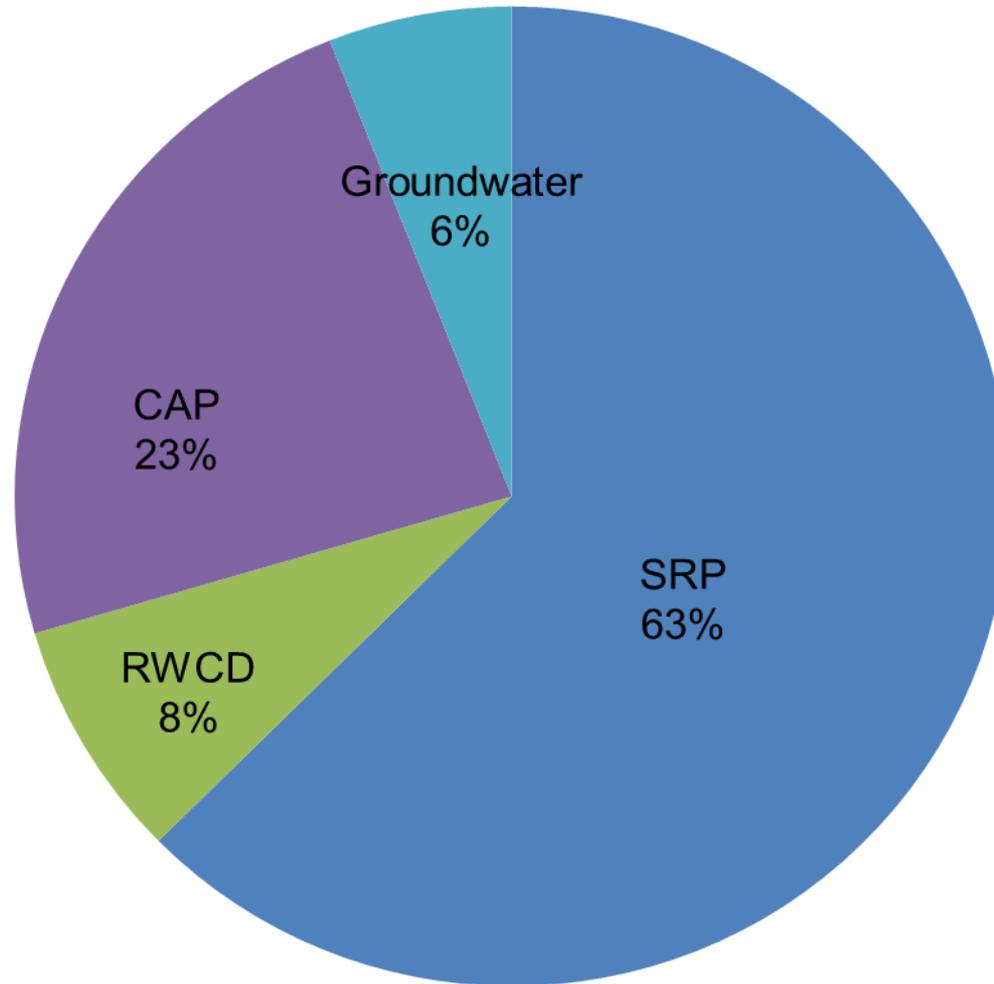


Past water costs cannot be used to predict future costs. Water availability is a limited market.

Wells Are Important to Chandler



Chandler 's Legal Water Supplies Used Current Condition, Normal Water Supply Conditions

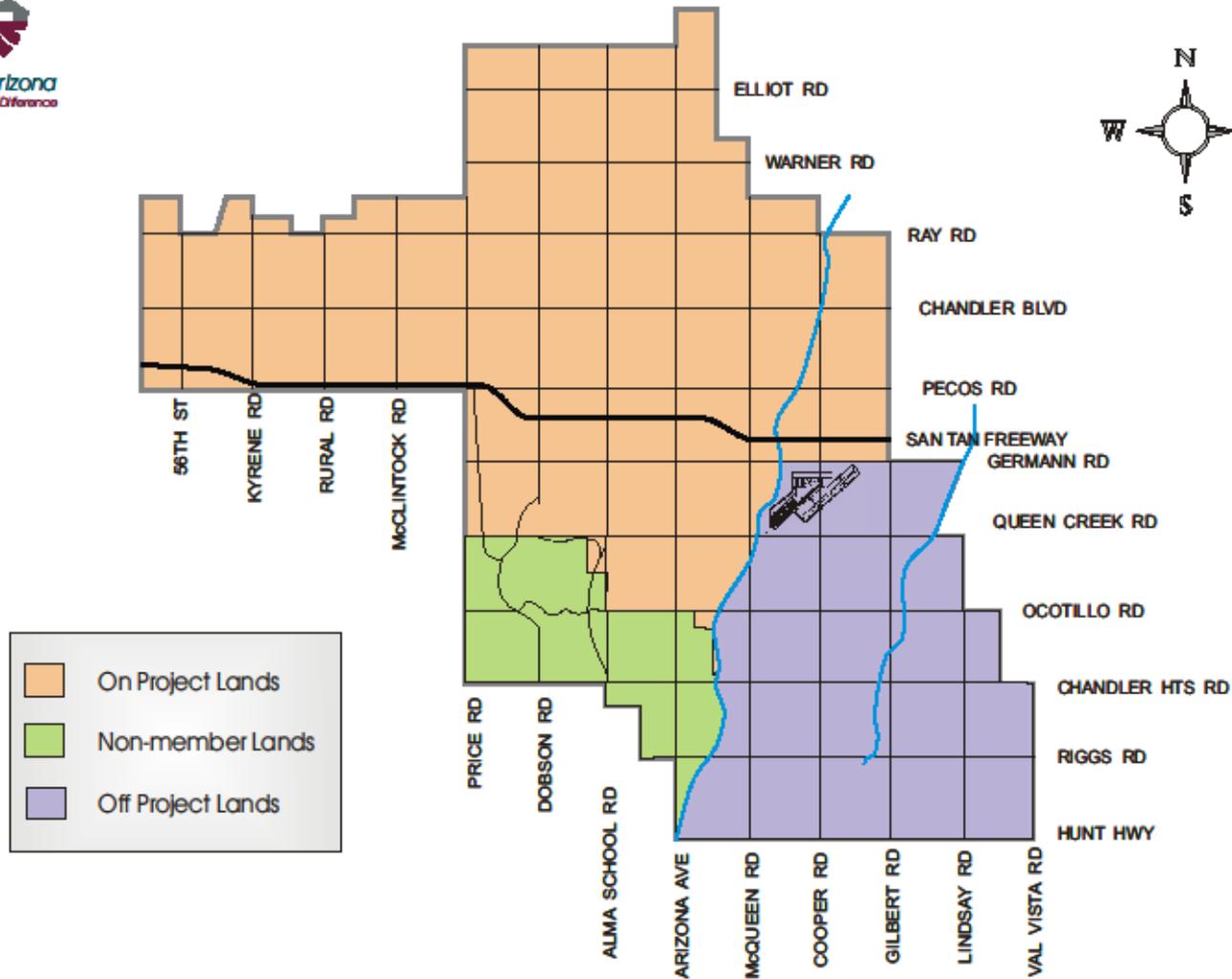


Total 2012 Supplies Used: 62,000 af



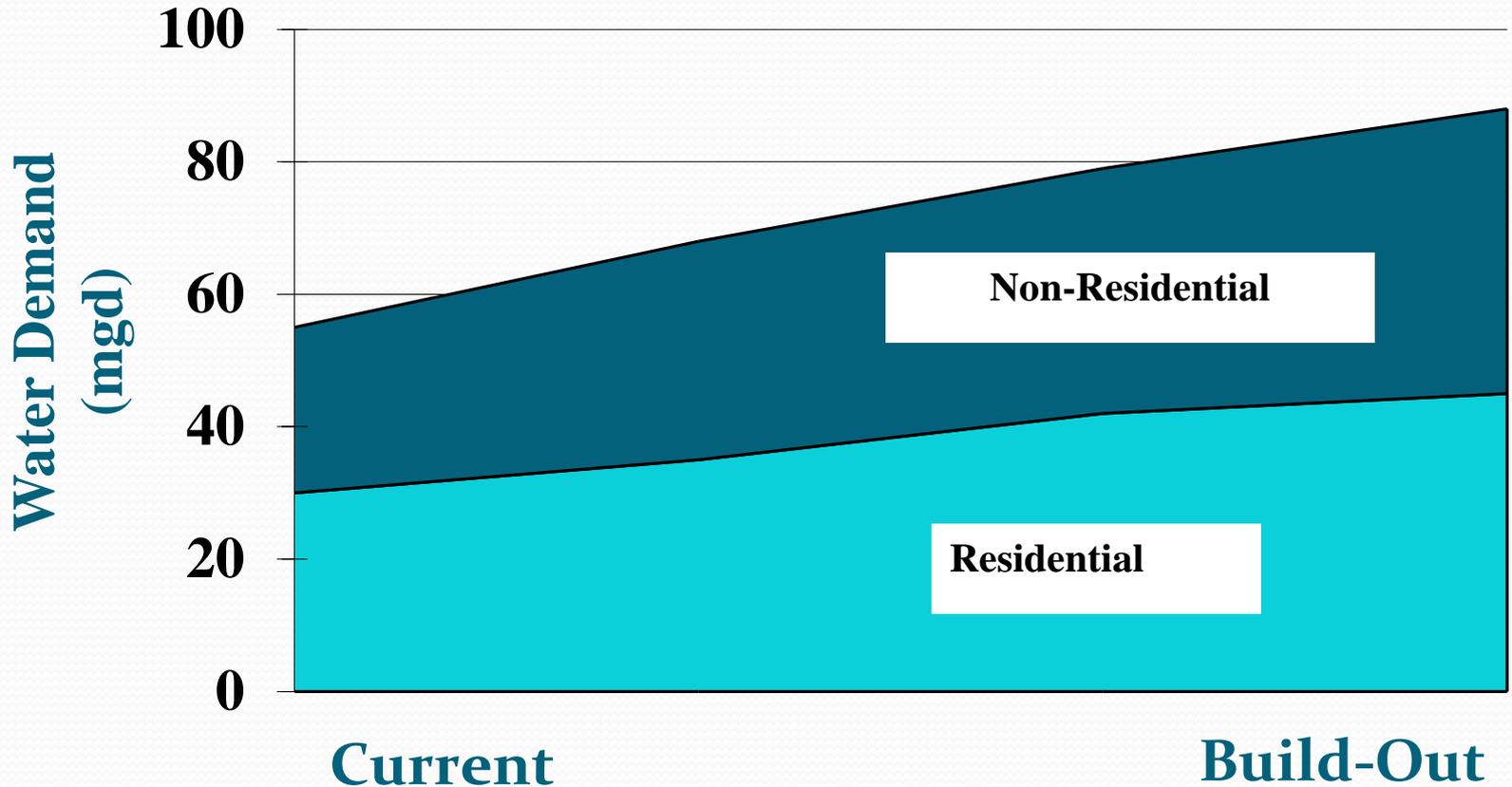
Chandler + Arizona
Where Values Make The Difference

Municipal Utilities - Chandler SRP Lands



City of Chandler

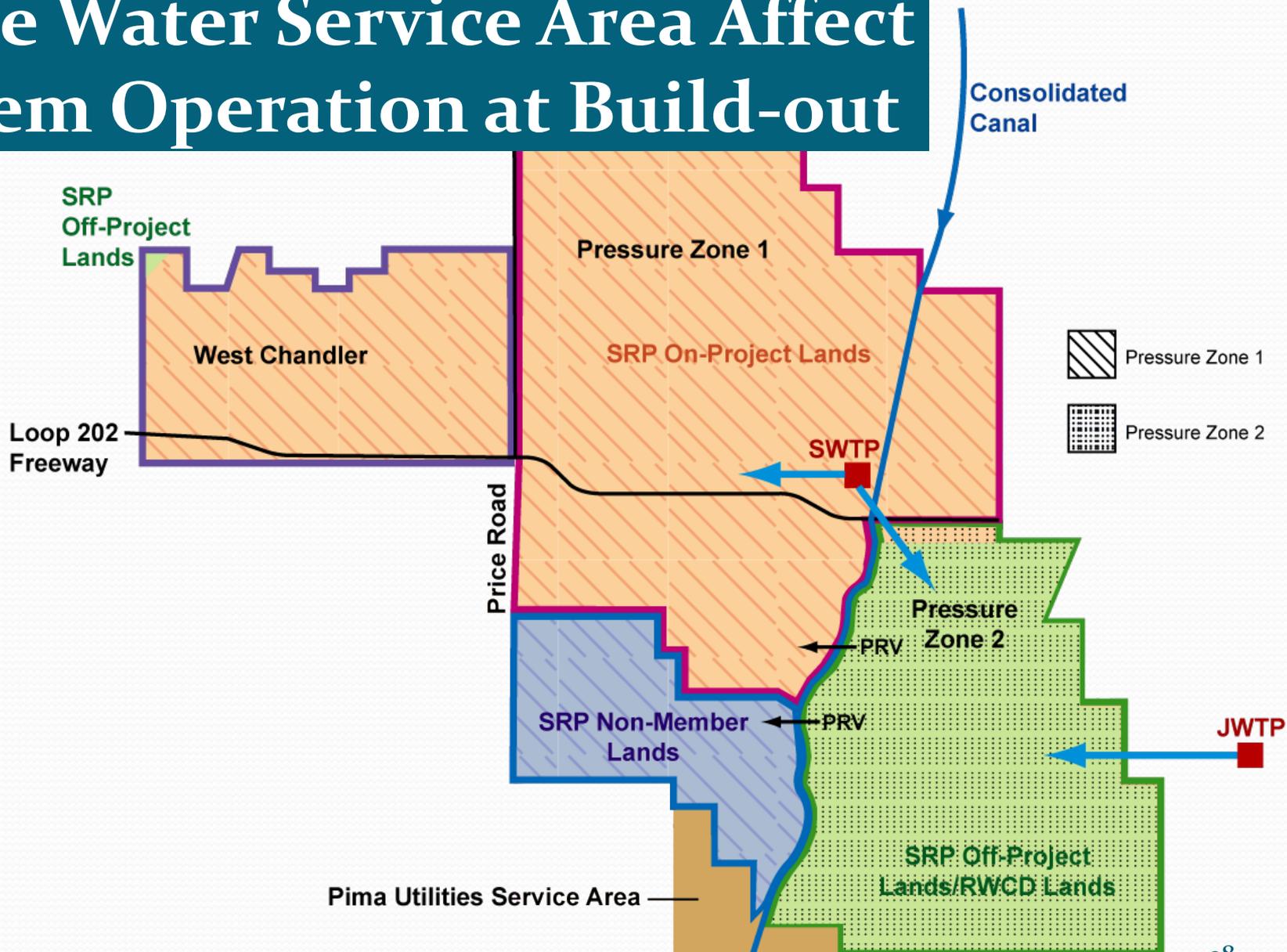
Potable Water Demands



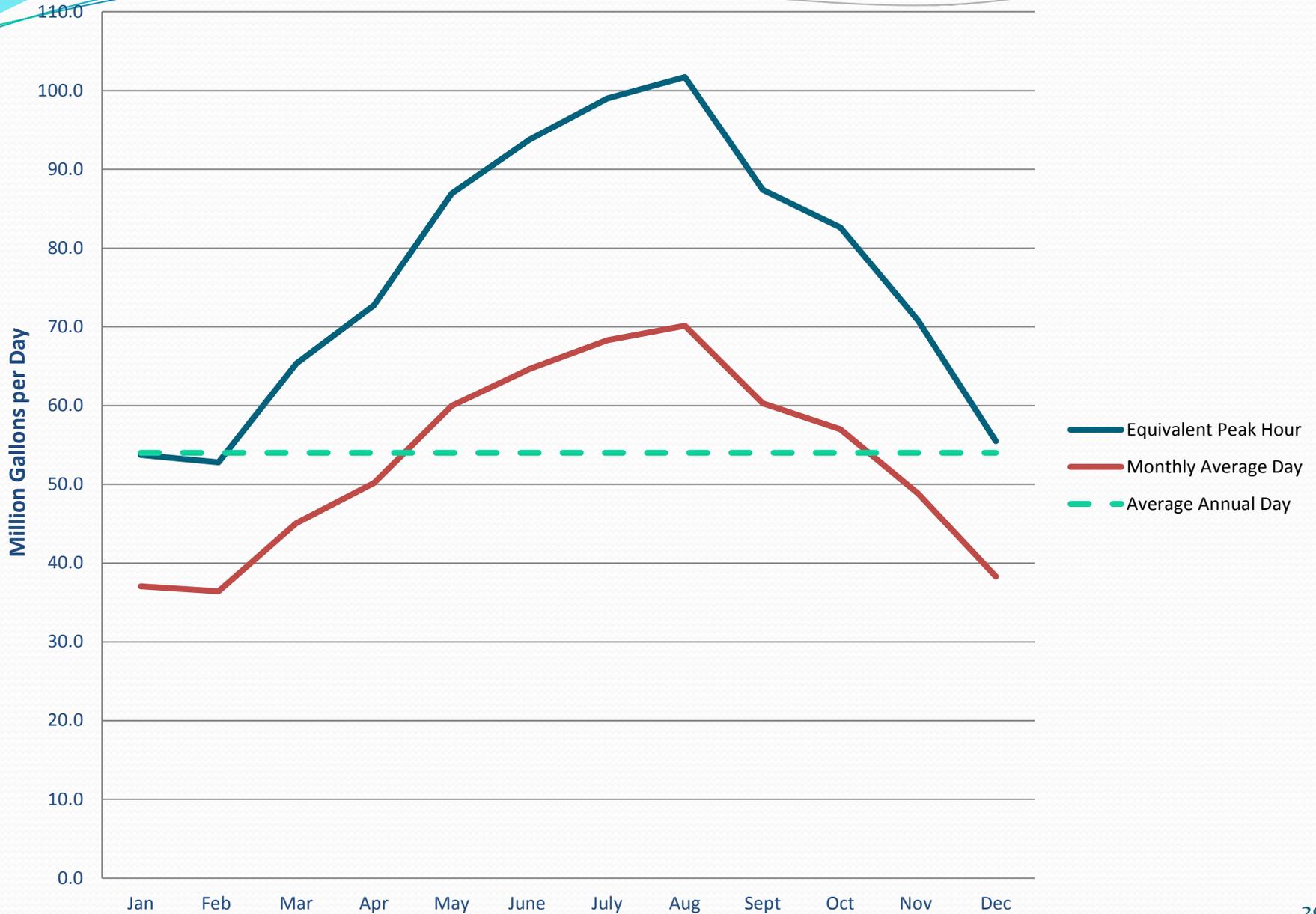
87.7 mgd total build out water demand

Source: 2012 Water Demand Update

Pressure Zones and SRP Status of the Water Service Area Affect System Operation at Build-out



2012 Average Monthly Water Demand



Reclaimed Water Management

- Salinity
(TDS- Total Dissolved
Solids)

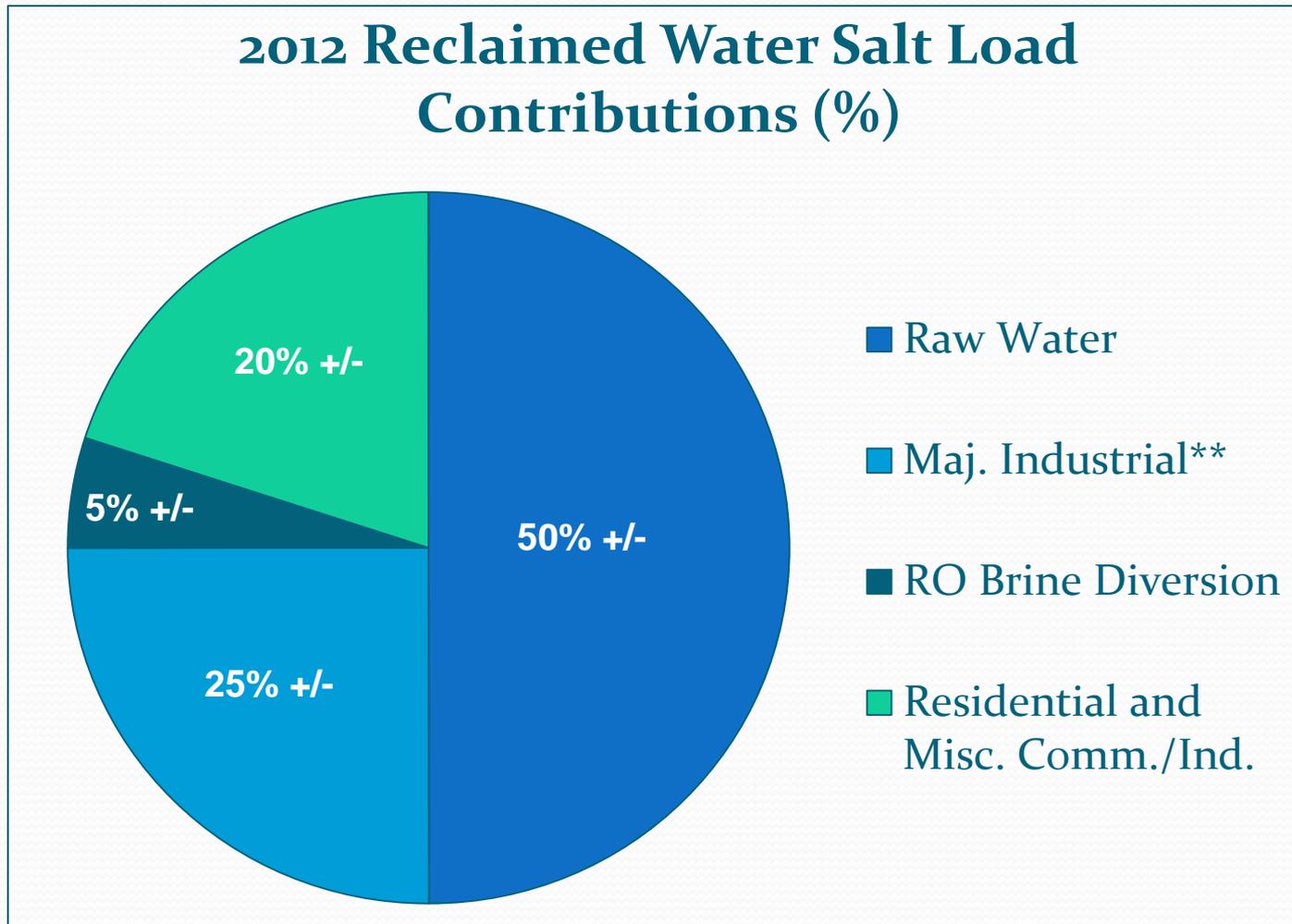


Salinity General Guidelines

- **Secondary MCL: 500 mg/L**
 - Aesthetics
 - Not enforceable
- **Potable limit: 1,200 mg/L**
- **Brackish Water (>1,000 – 30,000 mg/L)**
- **Saline water (> 30,000 – 50,000)**
- **Brine (>50,000 mg/L)**



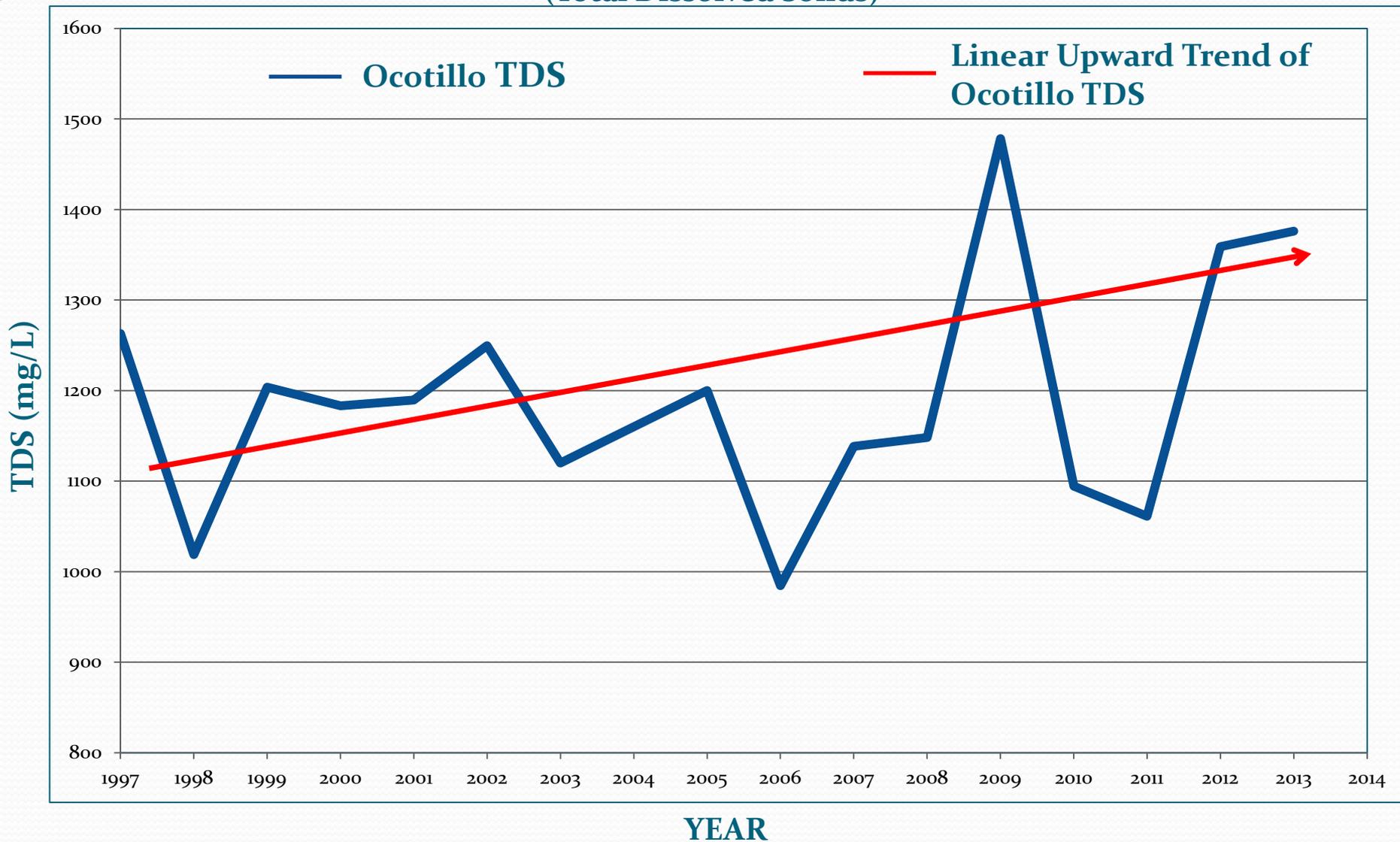
Salt Load Contributions



**Includes High TDS Cooling Tower Blow-down

OCOTILLO TDS

(Total Dissolved Solids)



Effect of CAP Cost Increase on Chandler



1% increase in Chandler water rates

- Generates about \$495,000/year
- \$0.30/month to average residential user (12,000 gal/month)
- \$357.00/month to average industrial user (16,400,000 gal/month)

Questions?

