

# Prescott AMA Fourth Management Plan

Public Hearing

# PRESCOTT AMA 4MP Development:

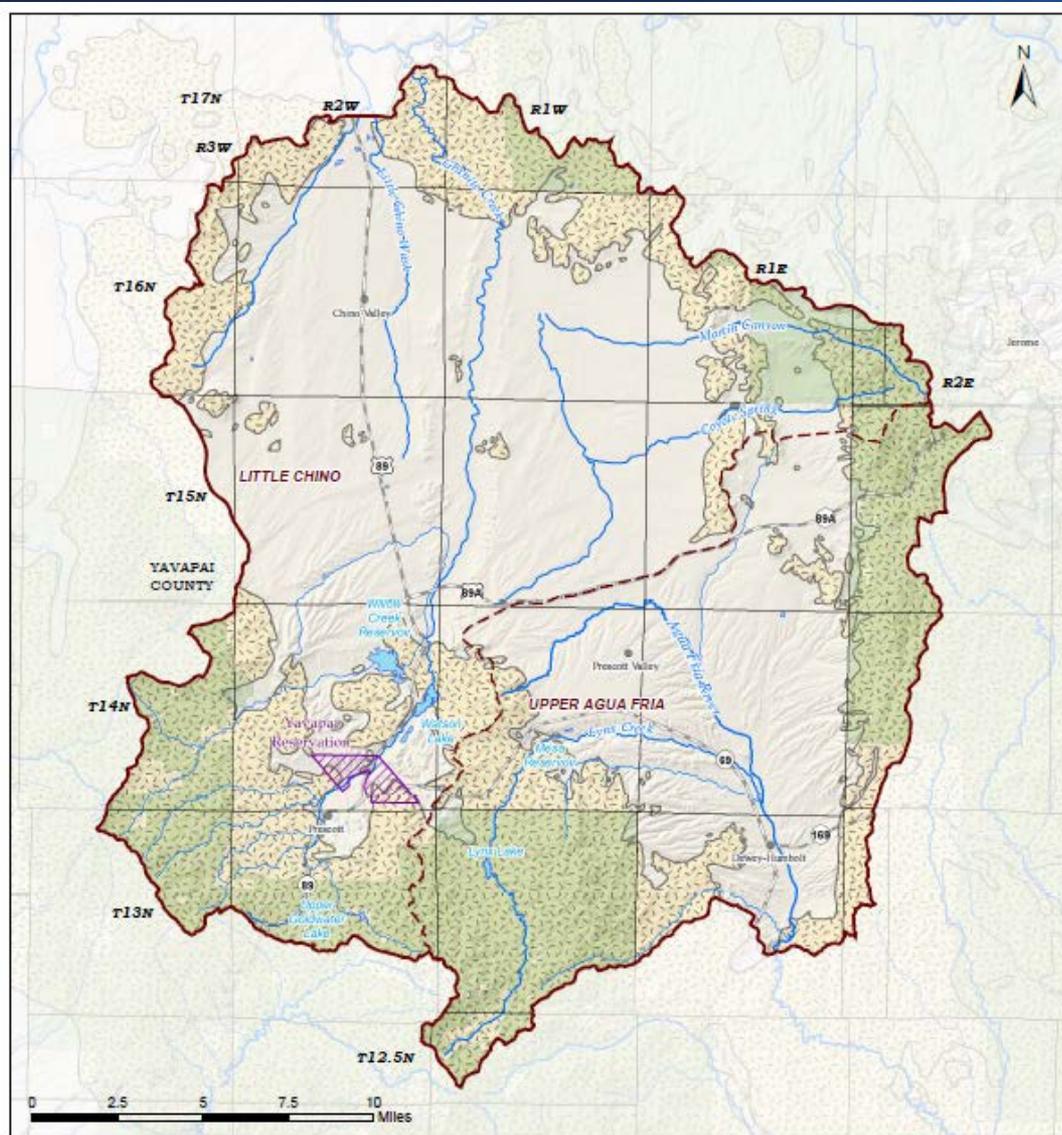
- January 2011
  - Prescott AMA (PRAMA) Assessment issued
- July 31, 2013
  - Draft Working Copy presented at GUAC
  - Requested written comments by September 2013
- December 18, 2013
  - Final Draft presentation at GUAC
  - Discussed changes made to the working copy draft based on comments received
- January 29, 2014
  - Requested any final comments at GUAC
  - PRAMA GUAC made and passed motion to promulgate
- February 28, 2014
  - PRAMA GUAC submitted letter to ADWR Director Michael Lacey recommending promulgation with suggested changes

# GUAC Recommendations:

- Correct text in Chapter 12 regarding the window of time the City of Prescott has to store Watson/Willow Lake water.
- Correct text in Chapter 2 so the water level rise in the LIC basin of +0.2 appears.
- In Chapters 3 and 5 list exempt well usage as a category separate from municipal demand.
- In Chapters 11 and 12 reword the reference to the City of Prescott's other surface water supplies as surface water in the southern portion of the AMA.
- Add text to Chapter 11 comparing the population projections used in the Assessment and the 4MP to the new projections recently released by Arizona Department of Administration, noting that projections are not predictions and that projections have historically been higher or lower depending on current economic circumstances.
- In Chapter 3 correct volume of unpledged extinguishment credits existing in the AMA to 139,273 AF.
- Make any other minor typographical corrections in other chapters and appendices.

# Data in Support of Plan

- Annual Water Withdrawal & Use Reports
- Hydrologic models
- Water level measurements
- Projected population and water demand
- Results and conclusions of other studies

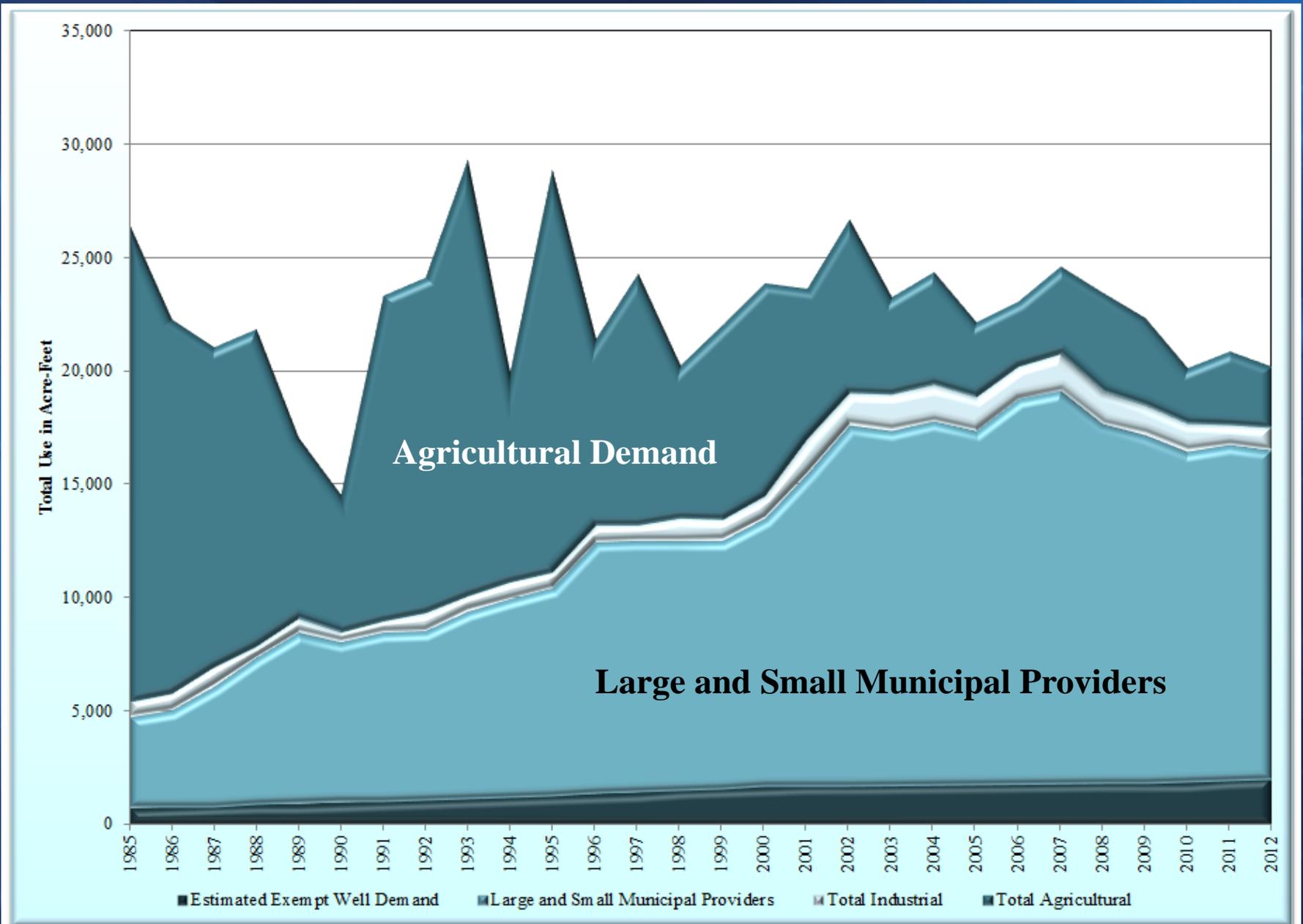


### Prescott AMA

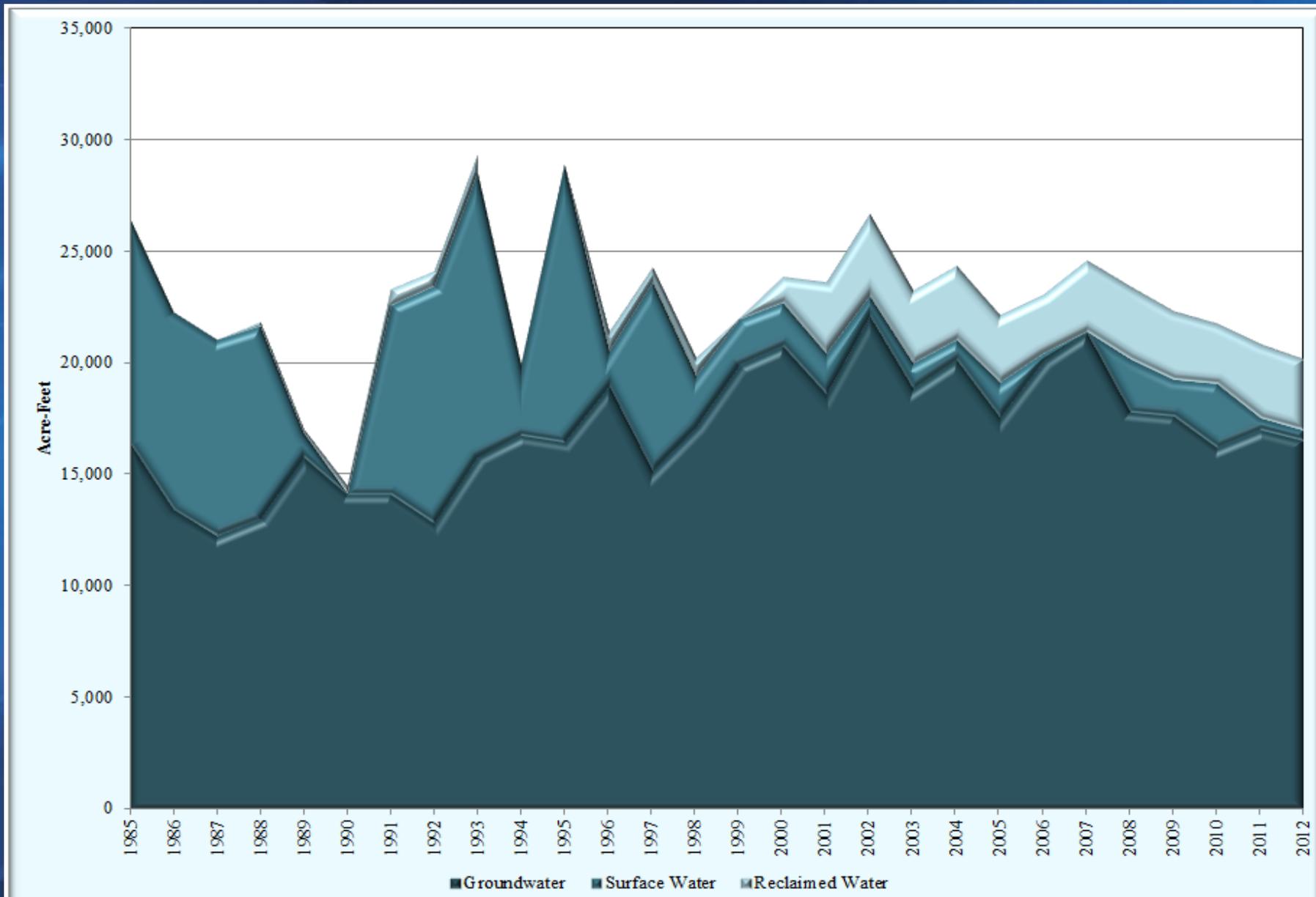


- Legend**
- Prescott AMA
  - Sub-basin
  - City or Town
  - Major Road
  - Lake
  - Stream
  - Hardrock
  - Prescott National Forest
  - State Boundary
  - Township/Range
  - County

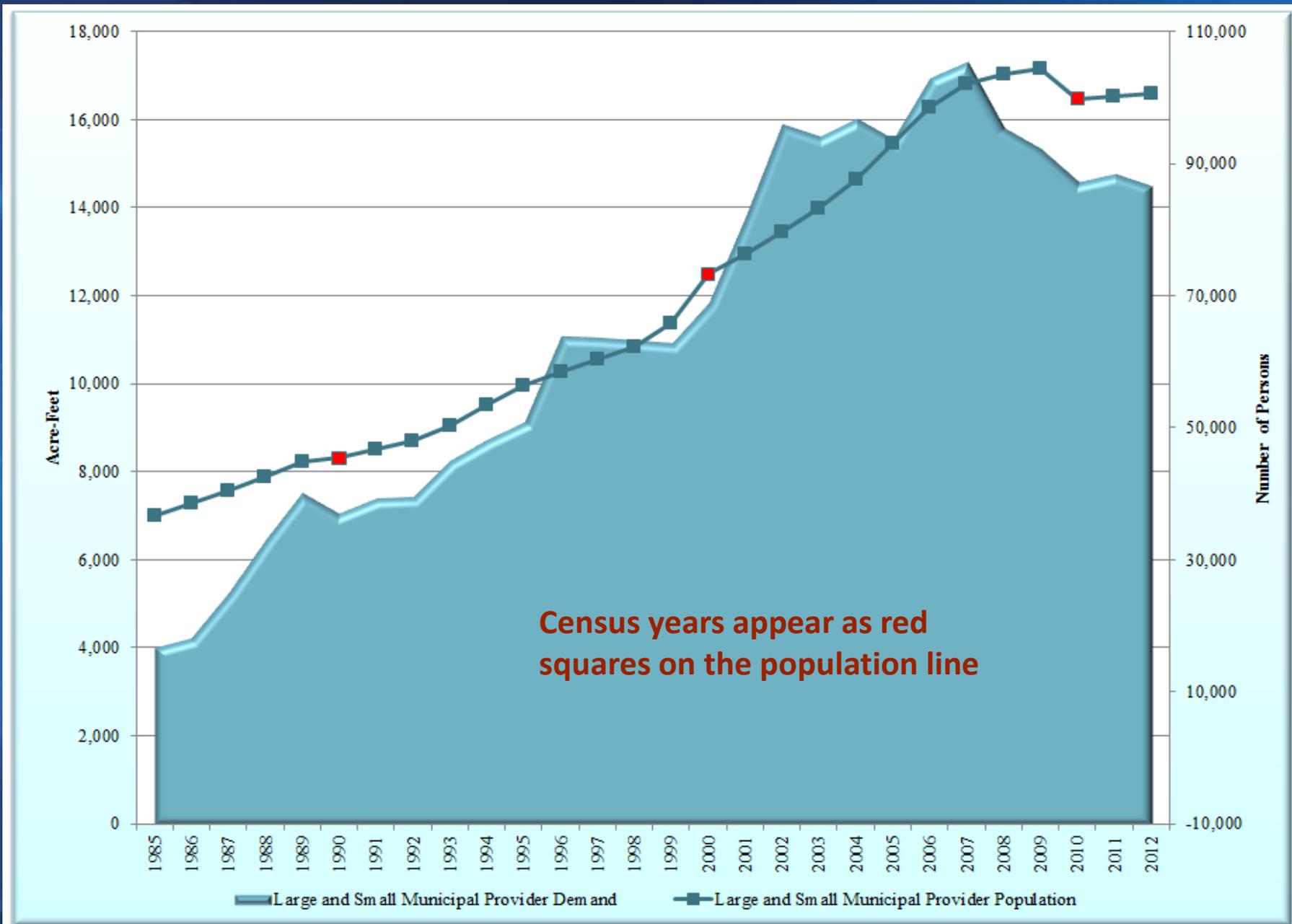
# HISTORICAL WATER DEMAND BY SECTOR



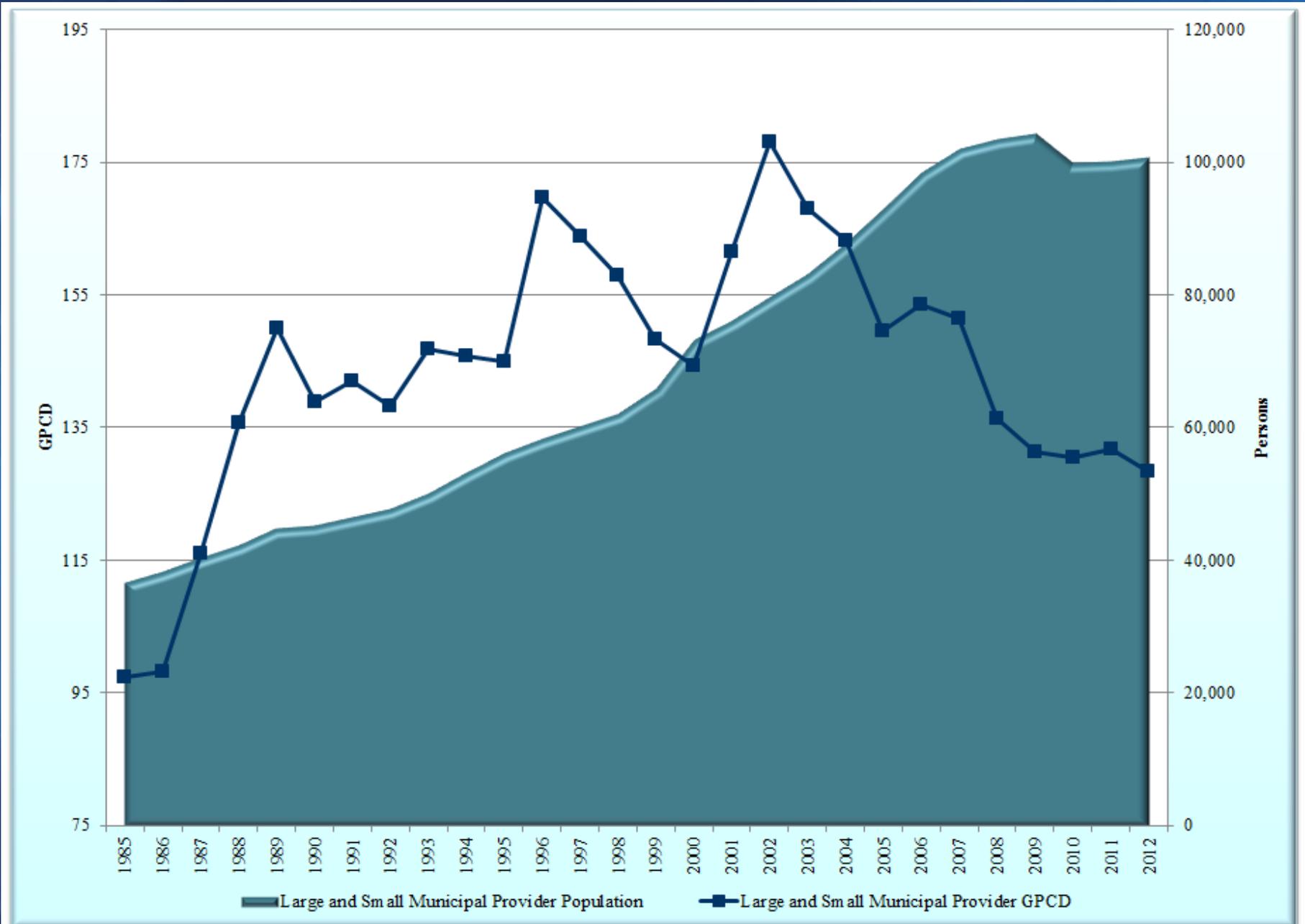
# HISTORICAL WATER SUPPLIES USED



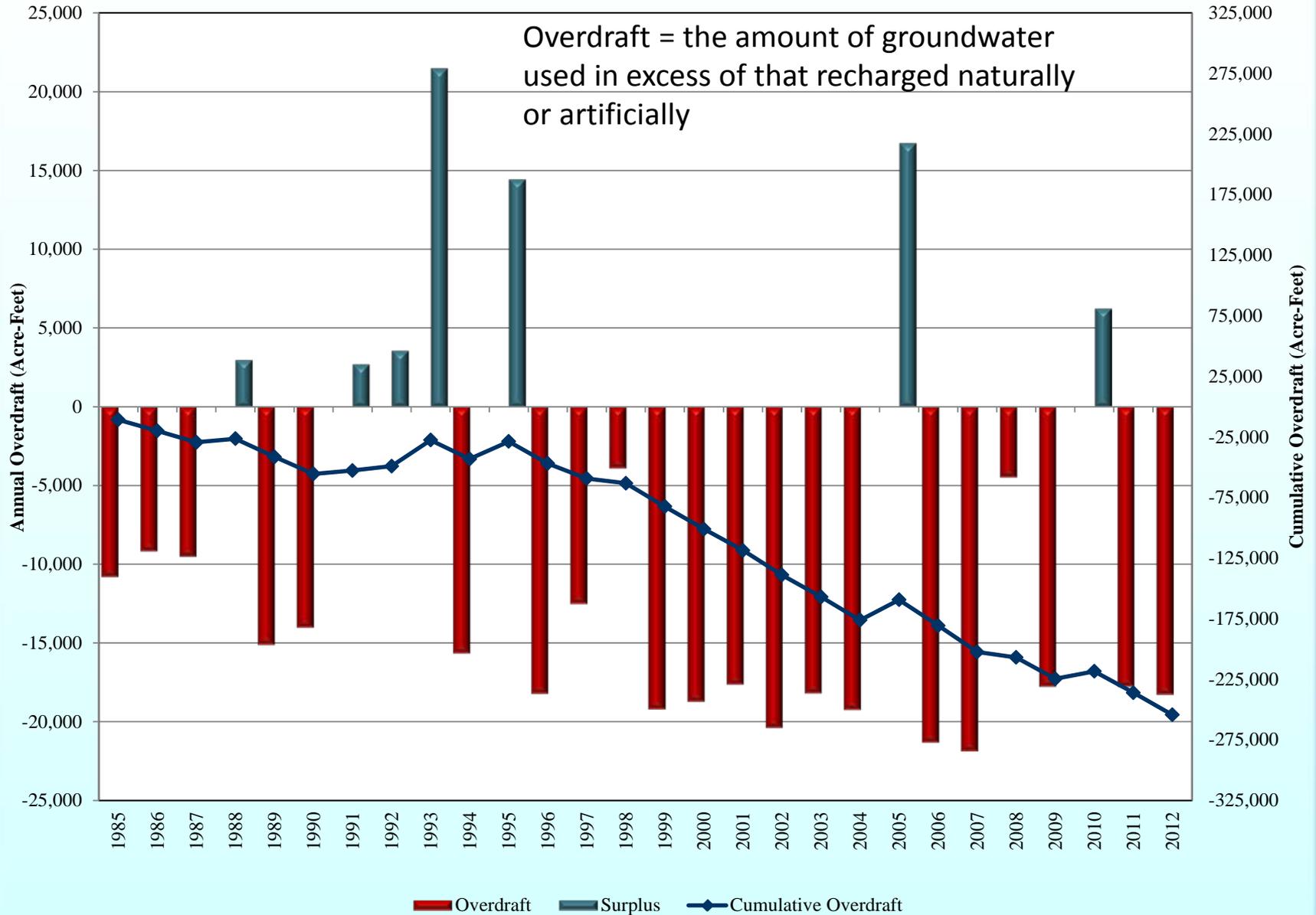
# HISTORICAL MUNICIPAL DEMAND AND PROVIDER POPULATION



# HISTORICAL MUNICIPAL POPULATION AND GPCD

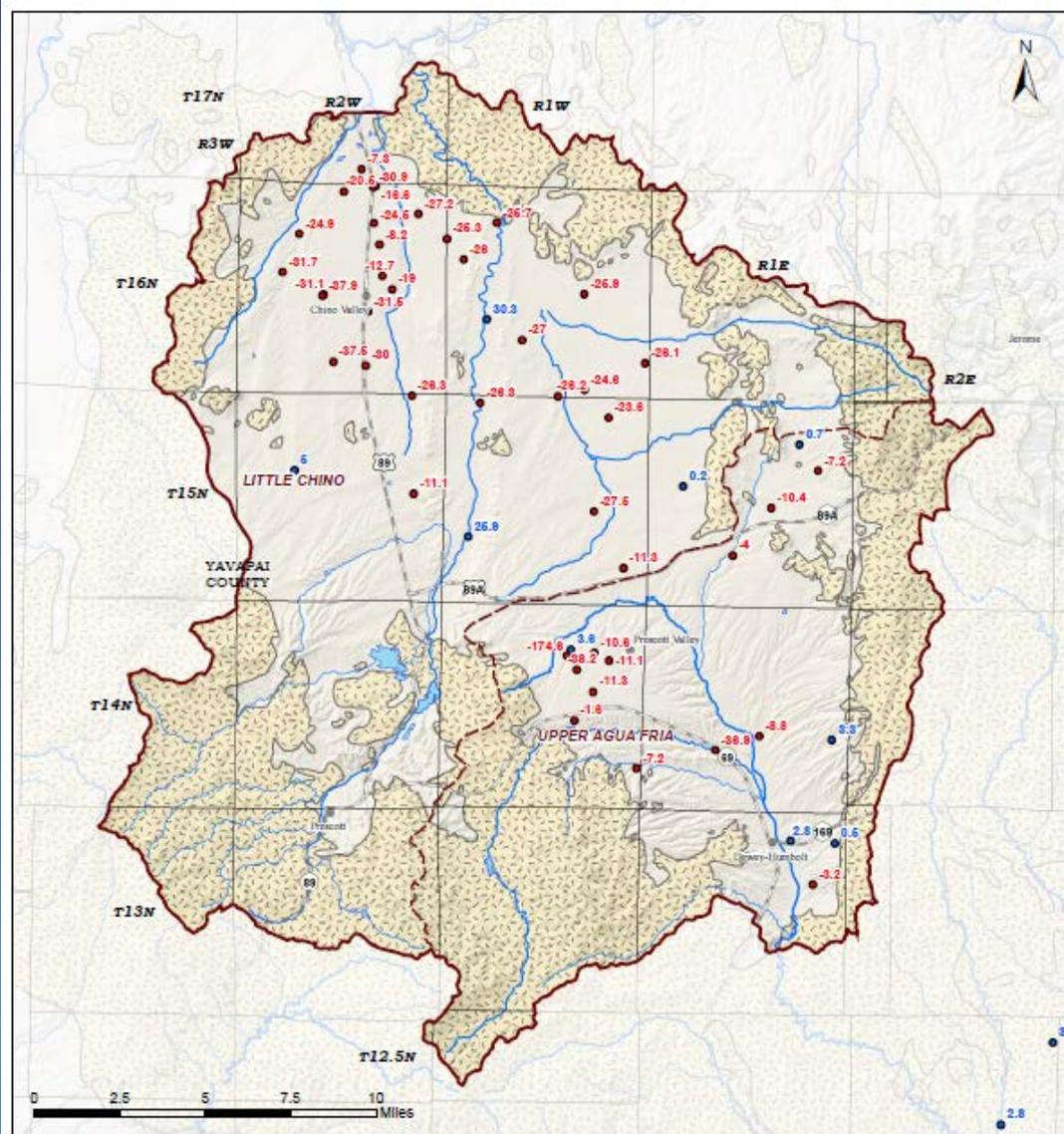


# HISTORICAL AND CUMULATIVE OVERDRAFT



# HISTORICAL OVERDRAFT

Year	Municipal Demand	Exempt Wells	Industrial Demand	Agricultural Demand	TOTAL AMA DEMAND	Renewable Supplies to Meet Demand <sup>1</sup>	Ground-water to Meet Demand	Offsets to GW Pumping <sup>2</sup>	OVERDRAFT
1985	4,004	785	641	20,987	26,418	10,005	16,413	5,639	(10,774)
1986	4,234	826	779	16,469	22,309	8,832	13,476	4,339	(9,138)
1987	5,259	870	895	14,043	21,067	8,789	12,278	2,793	(9,485)
1988	6,459	916	523	13,950	21,847	8,769	13,078	16,101	3,023
1989	7,541	964	669	7,927	17,101	1,310	15,791	732	(15,059)
1990	7,054	1,015	476	6,040	14,585	427	14,158	192	(13,967)
1991	7,418	1,068	516	14,321	23,323	9,172	14,151	16,882	2,731
1992	7,436	1,124	805	14,729	24,094	11,250	12,844	16,443	3,599
1993	8,260	1,184	704	19,172	29,320	13,497	15,822	37,334	21,511
1994	8,729	1,246	778	9,207	19,960	3,180	16,780	1,182	(15,598)
1995	9,137	1,311	696	17,745	28,889	12,415	16,475	30,952	14,477
1996	11,089	1,380	796	8,149	21,415	2,422	18,992	838	(18,154)
1997	11,070	1,453	731	11,057	24,311	9,116	15,195	2,721	(12,474)
1998	10,990	1,530	1,035	6,688	20,243	3,084	17,159	13,261	(3,898)
1999	10,939	1,610	926	8,566	22,041	2,167	19,875	737	(19,138)
2000	11,837	1,695	967	9,367	23,866	3,114	20,752	2,097	(18,655)
2001	13,789	1,713	1,550	6,567	23,619	4,996	18,624	1,051	(17,573)
2002	15,903	1,732	1,411	7,627	26,673	4,571	22,102	1,780	(20,322)
2003	15,634	1,750	1,608	4,254	23,246	4,358	18,888	762	(18,126)
2004	16,035	1,768	1,591	4,990	24,385	4,227	20,157	987	(19,171)
2005	15,571	1,787	1,496	3,302	22,156	4,565	17,591	34,366	16,776
2006	16,946	1,805	1,486	2,847	23,085	3,011	20,073	-1,170	(21,243)
2007	17,317	1,824	1,630	3,868	24,639	3,254	21,385	-415	(21,801)
2008	15,814	1,842	1,425	4,359	23,440	5,649	17,791	13,328	(4,463)
2009	15,342	1,860	1,312	3,822	22,336	4,686	17,650	-59	(17,709)
2010	16,269	1,879	1,218	2,455	21,820	5,583	16,237	22,508	6,271
2011	14,786	1,960	925	3,231	20,902	3,876	17,026	-686	(17,712)
2012	14,472	2,044	1,011	2,683	20,210	3,649	16,562	-1,664	(18,226)



### Water Level Change (ft/yr) 1994-2010 Prescott AMA



#### Legend

- Water Level Change 1994 - 2010
- Negative
  - Positive
  - ⬮ Prescott AMA
  - ⬮ Sub-basin
  - City or Town
  - ⬮ Major Road
  - 🌊 Lake
  - 🌊 Stream
  - 🌊 Hardrock
  - 📏 Township/Range
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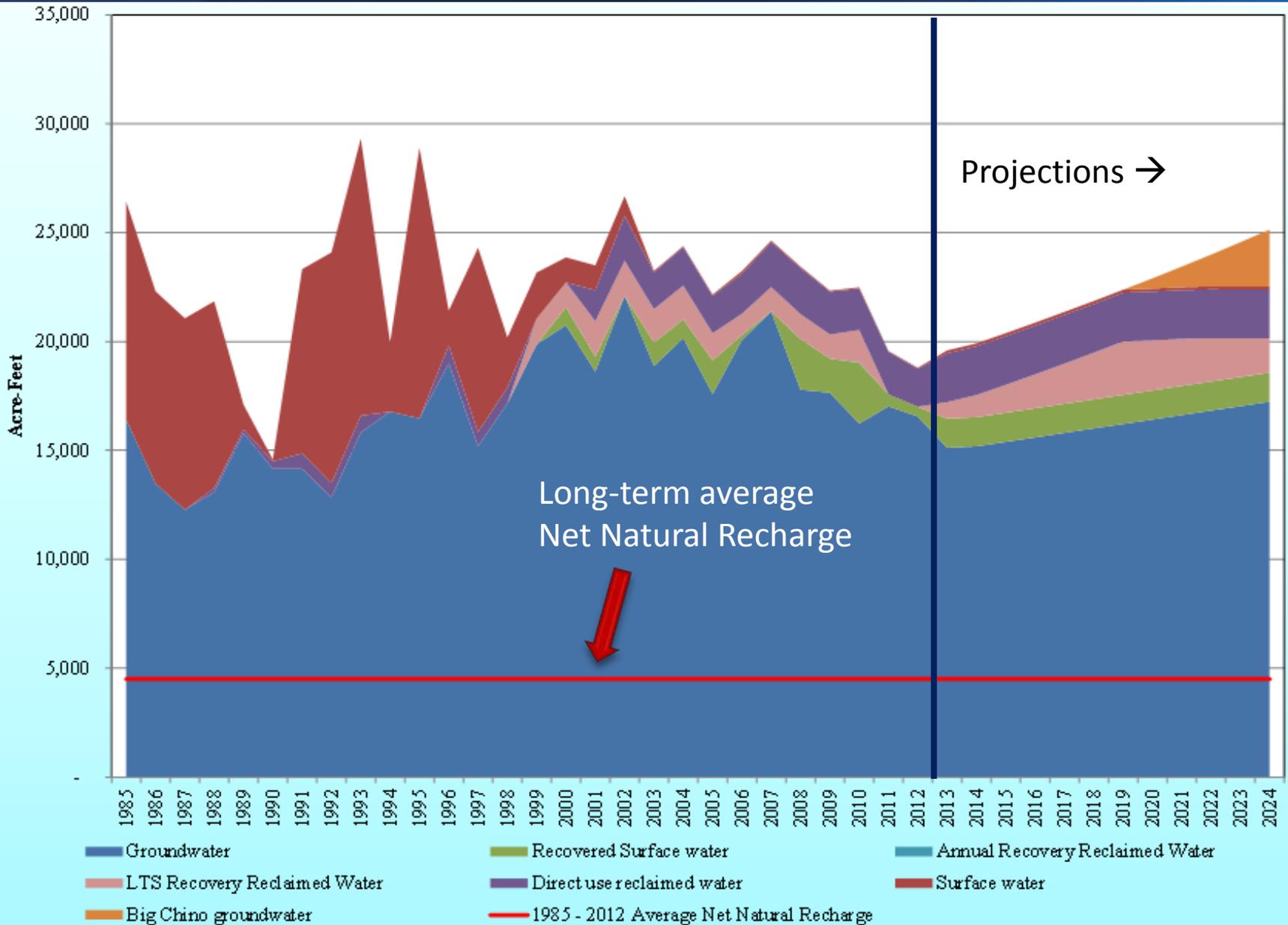
# AMA POPULATION PROJECTIONS

	2012	2014	2025	2040	2050
<b>AMA Assessment</b>					
<i>Scenario One</i>	145,108	152,973	197,720		
<i>Scenario Two</i>	145,809	154,482	206,152		
<i>Scenario Three</i>	151,011	161,782	221,020		
<b>Updated ADOA</b>					
<i>Low</i>	118,408	120,214	134,014	148,990	157,243
<i>Mid</i>	118,712	121,396	146,279	175,490	193,240
<i>High</i>	118,838	122,375	156,361	184,387	197,719
<b>WRDC</b>					
<i>Low</i>	132,310	138,980	167,902	183,451	186,743
<i>Mid</i>	134,698	143,161	184,019	222,283	240,429
<i>High</i>	138,137	149,177	207,214	285,005	329,213
<b>Draft 4MP</b>	119,790	126,454	169,186	214,478	241,406

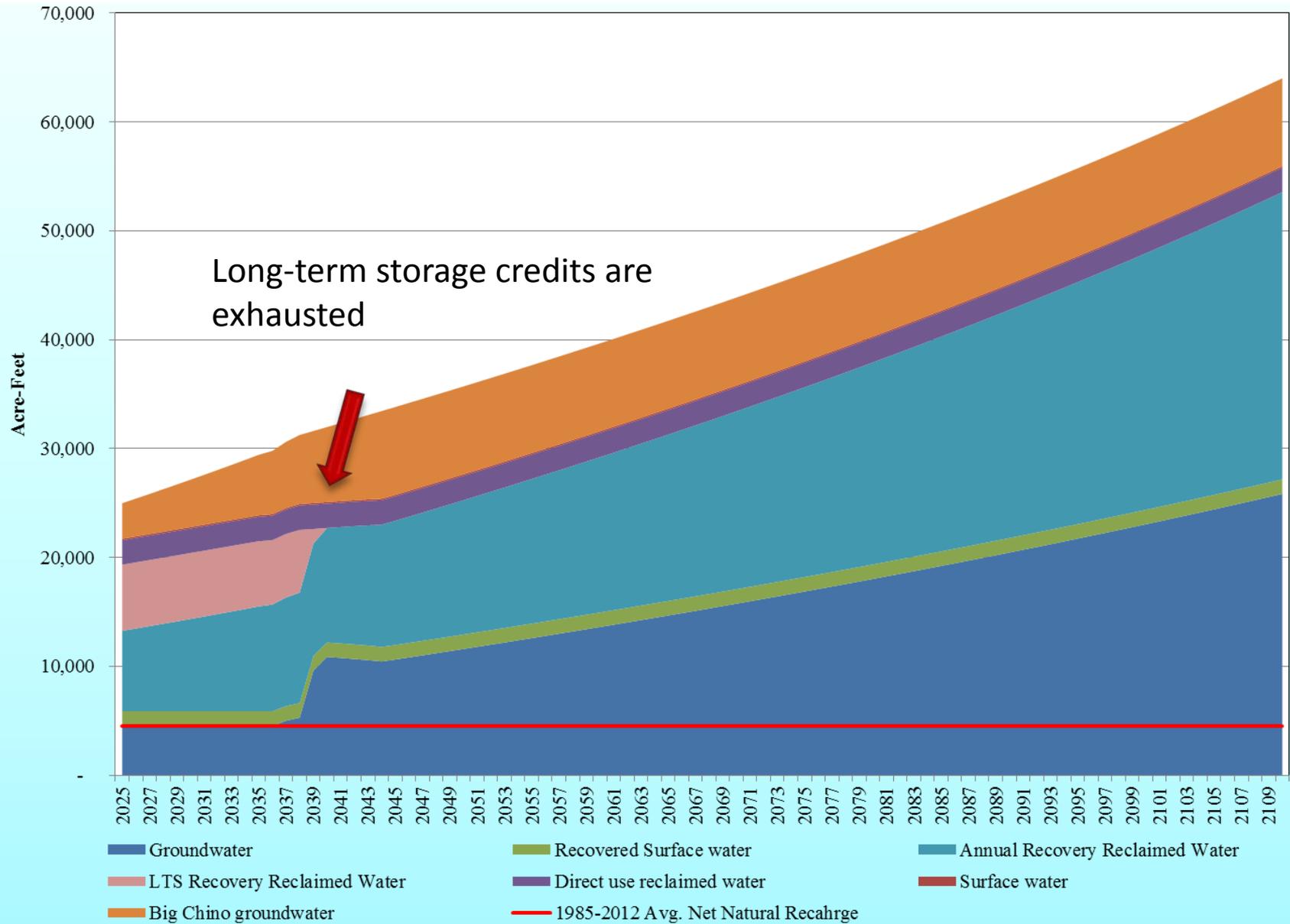
ADOA = Arizona Department of Administration

WRDC = Water Resource Development Commission

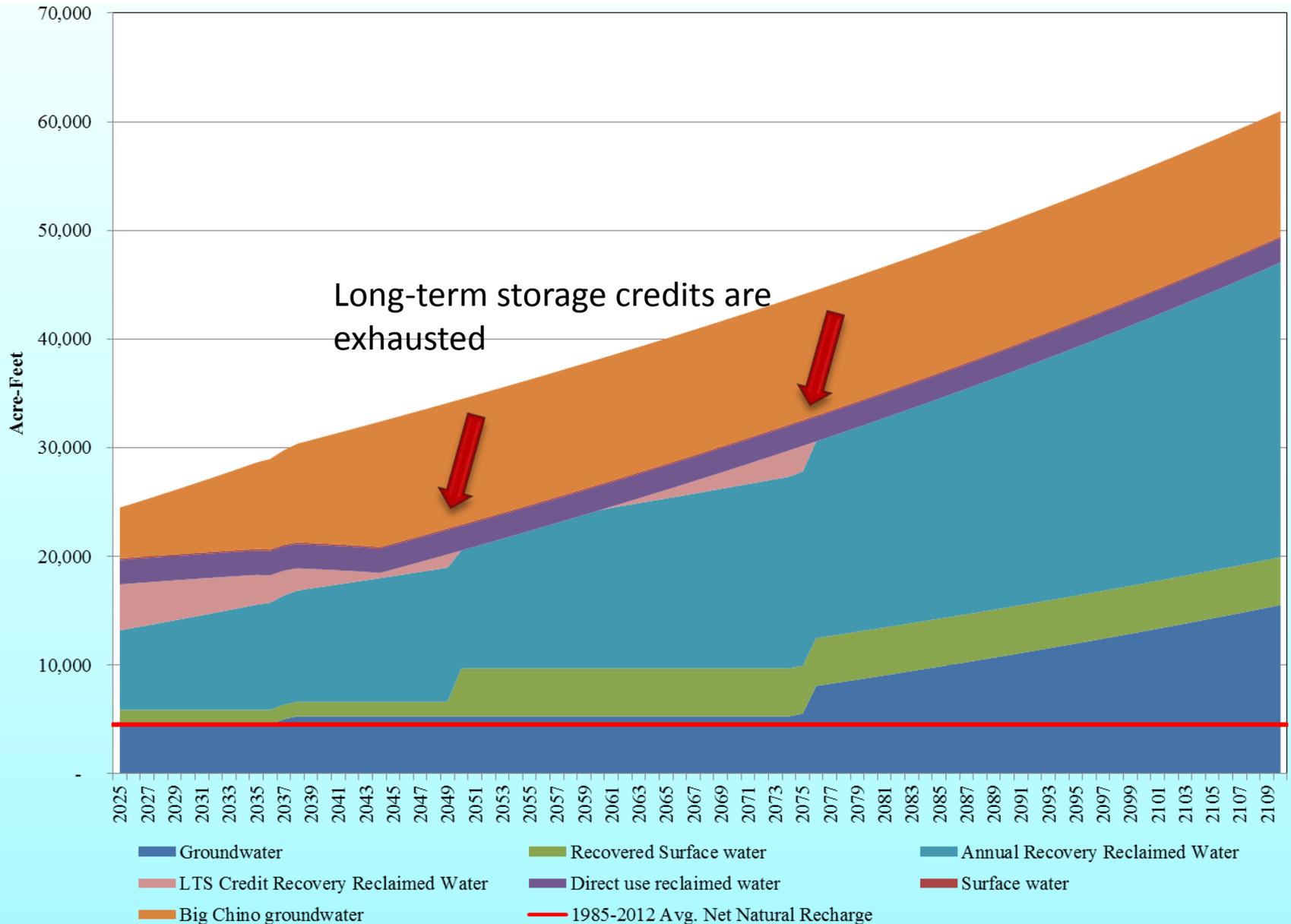
# 4MP Historical and Projected OD through 2024



# 4MP SCENARIO A: PROJECTED SUPPLIES



# 4MP SCENARIO C: PROJECTED SUPPLIES



# Information sources:

- Safe-yield Subcommittee of the PRAMA GUAC, 2006 report “Final Report on Safe-Yield Impediments”
- “Central Yavapai Highlands Water Resources Management Study Phase III – Water Supply Alternatives”
- Environmental Protection Agency – “WaterSense” plumbing fixtures
- City of Prescott Water Management Policy
- City of Prescott Designation of Assured Water Supply
- Town of Prescott Valley
- Town of Chino Valley
- Gary Woodard, University of Arizona

# 4MP Chapters

- Chapter 1 – INTRODUCTION
- Chapter 2 – HYDROLOGY
- Chapter 3 – WATER DEMANDS & SUPPLY
- Chapter 4 – AGRICULTURAL CONSERVATION PROGRAM
- Chapter 5 – MUNICIPAL CONSERVATION PROGRAM
- Chapter 6 – INDUSTRIAL CONSERVATION PROGRAM
- Chapter 7 – GROUNDWATER QUALITY ASSESSMENT
- Chapter 8 – AUGMENTATION & RECHARGE PROGRAM
- Chapter 9 – WATER MANAGEMENT ASSISTANCE PROGRAM
- Chapter 10 – PLAN IMPLEMENTATION
- Chapter 11 – WATER BUDGETS & PROJECTIONS
- Chapter 12 – WATER MANAGEMENT STRATEGY

# Changes in the 4MP from the 3MP:

- Municipal Total Gallons Per Capita Per Day (GPCD) Program
  - GPCD target = 2000-2009 median GPCD – 2 Standard Deviations
- Large-scale electric power plant program added to the Industrial Program
- New water budgets and AMA population projections prepared (prior to the release of the ADOA projections in autumn 2013)
- Water management strategy chapter

# 4MP Water Management Strategy:

- Construct additional storage facilities (Granite Creek)
- Add more wells within the area of impact of water storage
- Adopt new pumping regimes to shift pumpage seasonally to areas of water level rises, allowing other wellfields to recover
- Increase the proportion of the AMA population on central-sewer
- Import Big Chino or other additional supplies
- Adopt more stringent water conservation requirements

# ADWR wishes to acknowledge staff and others who contributed to the 4MP:

Mohammed Al-Sabbry	ADWR	Mike Lacey	ADWR
Chris Bartels	Town of Chino Valley	Amy Levy	ADWR
Thomas Buschatzke	ADWR	J. Scott Miller	ADWR
Tracey Carpenter	ADWR	Michelle Moreno	ADWR
Mariela Castaneda	ADWR	John Munderloh	Town of Prescott Valley
David Christiana	ADWR	Pam Muse	ADWR
Brian Conway	ADWR	Keith Nelson	ADWR
E. Frank Corkhill	ADWR	John Olsen	GUAC
Andrew Craddock	ADWR	Jesse Sandoval	ADWR
Doug Dunham	ADWR	Ken Slowinski	ADWR
Sandy Fabritz-Whitney	Former ADWR director	Linda Stitzer	Western Resources
Dena Gambrel	ADWR	Jeff Tannler	ADWR
Jonathan Garrett	Former ADWR staff	Larry Tarkowski	Town of Prescott Valley
Leslie Graser	City of Prescott	Gordon Wahl	Former ADWR staff
Ruth Greenhouse	ADWR	Gerry Walker	ADWR
Jim Holt	GUAC	Lisa Williams	ADWR
David Johnson	Former ADWR staff	Gary Woodard	Montgomery & Associates
Nicole Klobas	ADWR	Dianne Yunker	ADWR
Diane Kusel	ADWR	John Zambrano	CWAG

# The Prescott AMA 4MP Public Hearing

We will now call on those who completed a speaker card to come to the microphone and make their comments