



West Salt River Valley Basin Study - Supply and Demand Modeling

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To: West Valley Water Association (WVWA) and U.S. Bureau of Reclamation (USBR)

From: Ken Seasholes, CAP

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1.0 Basin Study

1.1 Background

In July 2014, the West Valley Water Association (WVWA; formerly WESTCAPS) was awarded a Basin Study grant through the United States Bureau of Reclamation's (USBR) WaterSMART program, resulting in the West Salt River Valley Basin Study ("Study"). The Study is a collaborative effort between WVWA, USBR and 11 West Valley cities and water providers, to evaluate regional water supply and demand in the West Valley under changing climate and varied rates and spatial distributions of population growth. The West Valley as it relates to this Study is defined by the West Salt River Valley, Lake Pleasant, Hassayampa and Rainbow Valley Sub-basins of the Phoenix Active Management Area (AMA; Figure 1). Adaptation strategies will be developed as a result of the Study to ensure future sustainability of water resources within the West Valley.

Broadly defined, the goals of the Study are to:

- Analyze existing and future water supply and demand conditions
- Analyze the effect of changing climate on water resources
- Model groundwater and potential recharge
- Develop and evaluate adaptation strategies
- Conduct a trade-off/economic analysis of adaptation strategies
- Produce a final report

1.2 Role of the Central Arizona Project

The Central Arizona Project's (CAP) principal role in the Study is to conduct supply and demand modeling under various scenarios of future growth and water demand projections, as well as evaluate the effects of climate change on CAP supplies. To achieve these goals, the Central Arizona Project Service-Area Model (CAP:SAM) was employed. CAP:SAM projects future water demands, and the water supplies available to satisfy those demands, for each major water user in CAP's three-county service area (Maricopa, Pinal and Pima). The Study Area incorporates 13 municipal water providers¹ and a variety of CAP infrastructure including 3 recharge projects, 11 turnouts and 2 pumping plants (Figure 1). Supply and demand modeling was conducted under six pre-adaptation scenarios developed to represent a wide range of potential futures. These scenarios were differentiated based on the rate of population growth, the spatial distribution of growth and climate-related factors. This report describes the development, execution and results of the CAP:SAM modeling under these different scenarios.

¹ Municipal water providers include: Arizona Water Company, White Tank; Avondale; Buckeye; El Mirage; EPCOR Agua Fria; EPCOR Sun City; EPCOR Sun City West; Glendale; Goodyear; Peoria; Phoenix; Surprise; Tolleson

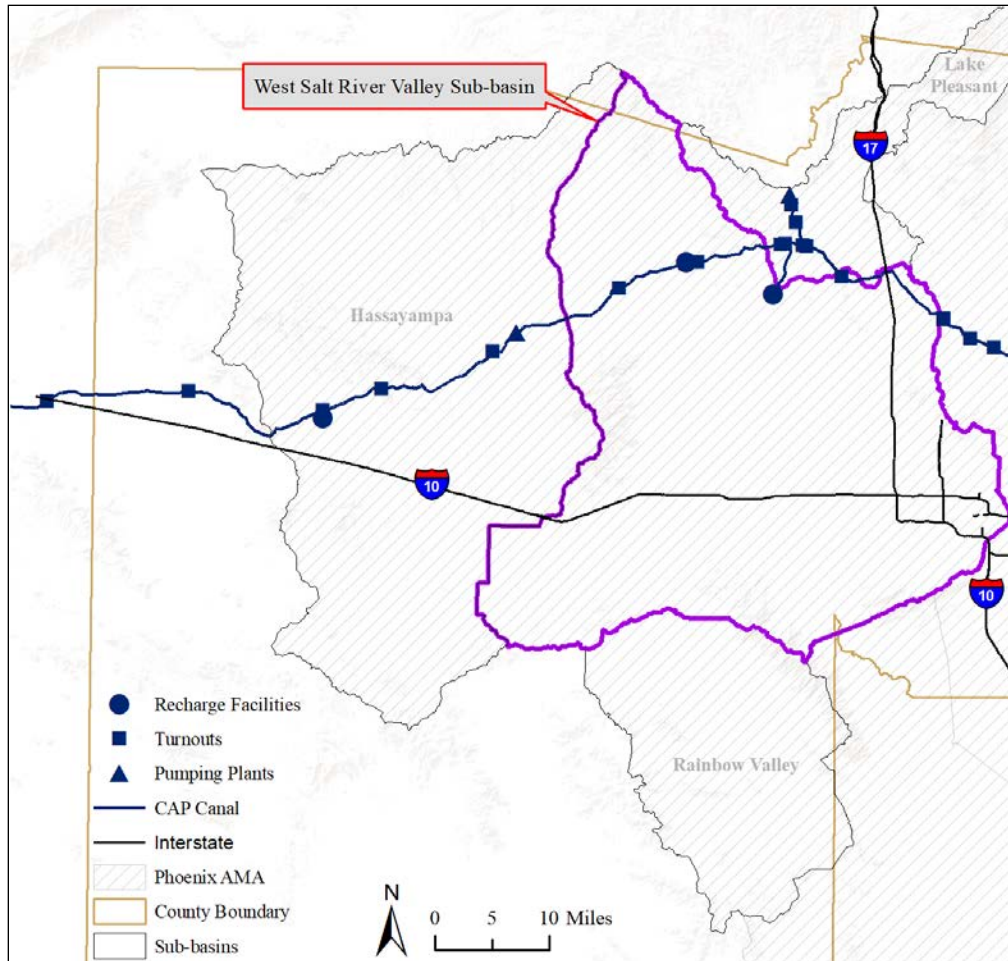


Figure 1: Study Area and CAP infrastructure (the three CAP turnouts east of the West Salt River Valley Sub-basin are considered outside of the Study Area).

2.0 Brief Summary of Pre-Adaptation Supply and Demand Scenarios

2.1 Scenario Development

In the winter of 2015 and spring of 2016, Study participants, working primarily within the WVWA Planning Committee, began to refine and clarify expectations about scenarios for the Study. As part of that process, the potential role of the CAP:SAM model was discussed and CAP made several presentations to the group. A process of model validation and confidence-building was also initiated, in which each water provider was provided the specific supply and demand data, GIS ShapeFiles, and initial model results. Participants were requested to review the data for accuracy and reasonableness. The feedback received was used to make refinements to a number of individual assumptions. That process was also used to reach group consensus that CAP:SAM was a suitable tool to evaluate supply and demand in the Study Area.

On June 5, 2016, stakeholders in the Study participated in a scenario development workshop hosted by CAP. The workshop combined an overview of the modeling capabilities of CAP:SAM with a traditional scenario planning process to identify key drivers of supply and demand, and an initial matrix of factors. In keeping with the Study’s formal scope of work, the group agreed with the need to consider a range of climate conditions, as well as a desire to evaluate a range of future population growth outcomes. There was also discussion about the total number of scenarios and relative merits of having some scenarios in which only the climate factors were adjusted so that a pairwise comparison could be made.

The group reached an initial consensus on having a total of six “pre-adaptation” scenarios (Table 1) that would include differences in the rate of population growth, spatial distribution of growth, relative rates of conservation and a set of climate-related factors, including the magnitude and frequency of shortage to the CAP, crop evapotranspiration, and surface water availability. Climate was classified into three categories 1) Historic, 2) hot and dry and 3) warm and wet.

Table 1: Pre-adaptation scenario descriptions.

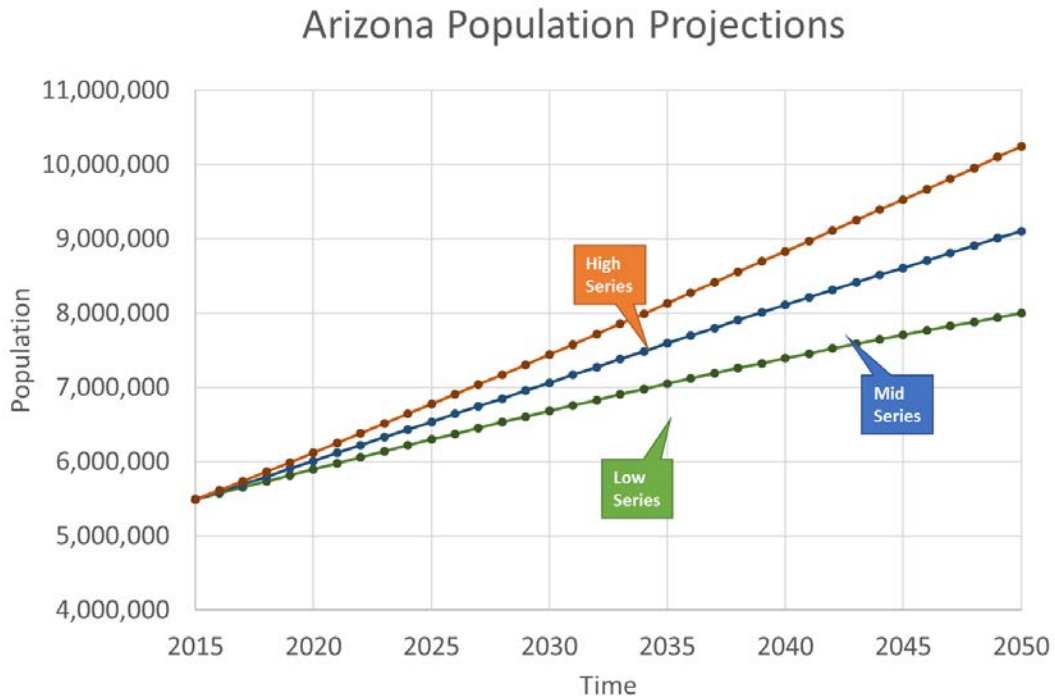
Scenario ID	Name	Growth Pattern	Climate
A*	Baseline	Medium	Historic
B	Dry Baseline	Medium	Hot, Dry
C	Rapid Outward Growth	Rapid Outward	Historic
D*	Dry and Rapid Outward Growth	Rapid Outward	Hot, Dry
E	Wet and Rapid Outward Growth	Rapid Outward	Warm, Wet
F*	Slow and Compact Growth	Slow and Compact	Historic

* Key scenario chosen for further discussion in this report

The “D. Dry and Rapid Outward Growth,” and “F. Slow and Compact Growth” scenarios represent the two extremes in terms of growth and climate influences. The “A. Baseline” scenario is intended to represent “business as usual.” All six of the pre-adaptation scenarios constrain the use of renewable supplies to those that are in-hand, or part of existing plans. Scenarios A, D and F are considered key scenarios and are discussed in detail in this report.

2.2 Growth

“Rapid” and “Slow” growth scenarios refer to the difference between the high and low growth series respectively, projected by the Arizona Department of Administration (ADOA; Figure 2). These scenarios result in significant differences in the total number of housing units at the end of the forty-five year Study period (2.2 million vs. 1.7 million).



Arizona Department of Administration, Office of Employment & Population Statistics, 12/11/2015

Figure 2: Arizona Department of Administration’s high, mid and low population projections

For many of the communities within the Study Area, that difference in growth is compounded when comparing the "Compact" and "Outward Growth" spatial distribution scenarios developed by Applied Economics (Figure 3). Those differences are most pronounced in the western-most portion of Study Area. For instance, by 2060 (end of study period), there is more than a two-and-a-half-fold difference in projected housing units in Buckeye between the Compact vs Outward Growth scenarios (389,429 vs. 148,718). The location of growth is also important because of the differences in the legal and physical supplies available to meet future demands. The growth rates and patterns also affect the rate at which agricultural land is urbanized.

*HU = Housing Units

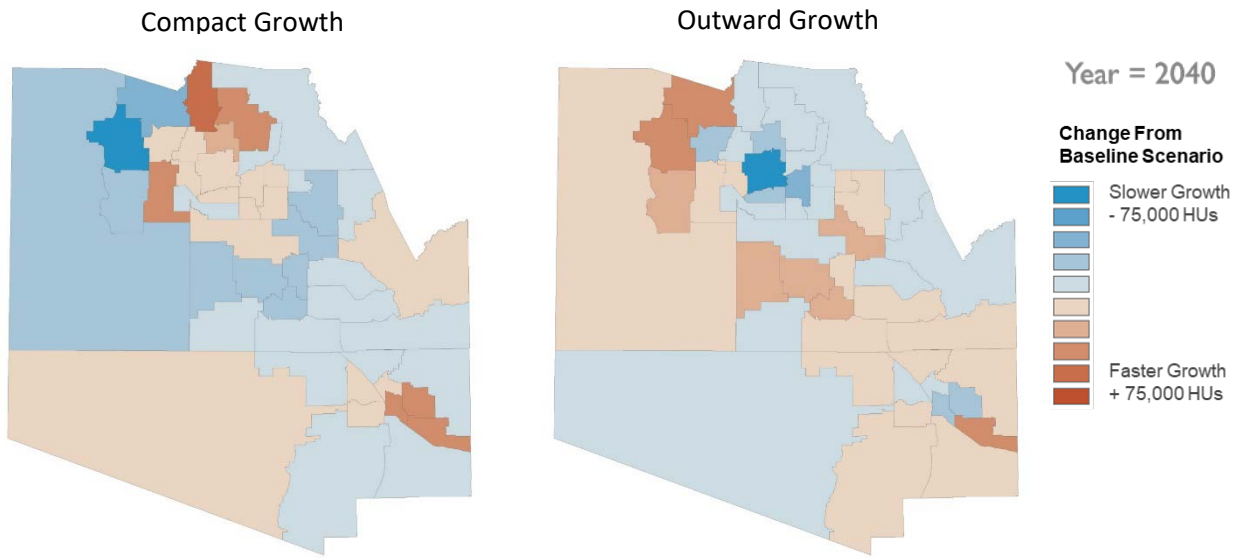


Figure 3: Compact and Outward growth scenarios for the year 2040, developed by Applied Economics' Socioeconomic Allocation Model.

2.3 Demand

The CAP:SAM model projects municipal demand on the basis of the growth factors described above, along with usage rates that reflect the characteristics of each water provider. Those usage rates also vary among the scenarios, but generally trend modestly downward to reflect observed long-term trends associated with improvements in water efficiency and societal tastes and preferences. The differences in usage rates, combined with the growth factors, result in substantial differences in water demand among providers and among the scenarios (Table 2). Agricultural demand is also simulated and is based on cropped acres, crop mix, consumptive use and irrigation efficiency. Gradual improvements in agricultural efficiency are also included in all scenarios.

Table 2: Growth and demand for 13 M&I subcontractors for the three key scenarios at the end of the study period (2060).

	Housing Units			Total Demand (AF)			AWS Groundwater ¹ (AF)		
	A: Baseline	D: Dry, Rapid	F: Slow, Compact	A: Baseline	D: Dry, Rapid	F: Slow, Compact	A: Baseline	D: Dry, Rapid	F: Slow, Compact
AZ WC White Tank	16,301	36,668	14,346	8,672	20,320	7,535	5,990	14,034	5,197
Avondale	69,172	86,554	50,511	27,706	35,946	19,799	9,556	18,553	2,410
Buckeye	165,474	389,429	148,718	55,036	136,344	49,239	35,415	91,145	31,318
El Mirage	16,209	15,705	14,531	5,981	6,012	5,118	1,770	1,827	1,378
EPCOR, Agua Fria	112,207	170,772	101,512	40,677	63,402	35,636	14,045	32,935	10,854
EPCOR, Sun City	43,342	47,240	38,800	13,614	15,241	11,640	1,612	2,335	886
EPCOR, SC West	19,330	18,729	18,193	4,942	4,972	4,293	118	74	23
Glendale	116,289	117,520	124,388	49,306	51,823	50,107	-	-	-
Goodyear	100,626	126,689	71,881	42,227	55,381	29,670	18,246	32,229	2,316
Peoria	150,425	228,007	109,570	61,967	95,952	44,231	-	49,744	-
Phoenix	906,351	800,732	912,345	367,297	337,543	352,294	-	-	-
Surprise	99,164	185,533	69,590	29,101	56,059	20,112	7,645	26,567	251
Tolleson	3,251	3,131	3,804	4,328	4,416	4,391	113	179	209
	1.82 M	2.23 M	1.68 M	710,854	883,411	634,065	94,510	269,622	54,842

¹The volume of groundwater that requires replenishment and/or substitution with renewable supplies under Arizona's Assured Water Supply rules. Includes CAP:SAM supply categories of "Replenished Groundwater" and "Unknown"

2.4 Supplies

CAP:SAM classifies supplies into six priorities: Priority Three (P3), Indian, Municipal and Industrial (M&I), Non-Indian Agriculture (NIA), Ag Pool, and Other Excess. These supplies are allocated among a variety of tribal, municipal and industrial users, as well as the Central Arizona Groundwater Replenishment District (CAGR) and Arizona Water Banking Authority (AWBA). Entitlements are based on contract volumes, and all existing and pending leases and exchanges are modeled in CAP:SAM. The volumes of NIA-priority supply that have been recommended for reallocation by the Director of the Arizona Department of Water Resources (ADWR) have also been included. In years in which Other Excess water is available, up to 200,000 acre-feet is made available for banking and replenishment by the AWBA and CAGR, of which up to 75,000 is available in the Study Area. CAP allocations and leases for the M&I subcontractors in the Study Area are shown in Table 3.

Table 3: West Valley CAP allocations and leases

	P3 Priority	M&I Priority	Indian Priority				NIA Priority					Total
			WMAT, HVID	FMYN Lease	GRC Lease	SRPMIC	Hohokam ²	RWCD	Reallocated ³	WMAT, Unfirm	WMAT, Firmed	
Avondale	-	5,416	34	-	-	-	-	-	-	640	208	6,298
Buckeye ¹	-	68	-	-	-	-	-	-	2,786	-	-	2,854
El Mirage	-	508	-	-	-	-	-	-	1,318	-	-	1,826
EPCOR, Agua Fria	-	11,093	-	-	-	-	-	-	-	-	-	11,093
EPCOR, Sun City	-	4,189	-	-	-	-	-	-	-	-	-	4,189
EPCOR, Sun City West	-	2,372	-	-	-	-	-	-	1,000	-	-	3,372
Glendale	2,850	17,236	91	-	-	1,814	-	682	-	1,714	558	24,945
Goodyear	-	10,742	-	-	7,000	-	-	-	-	-	-	17,742
Peoria	-	25,236	49	-	7,000	-	-	-	-	935	305	33,525
Phoenix	4,750	122,204	490	4,300	15,000	3,023	36,144	1,136	-	-	-	187,047
Surprise	-	10,249	-	-	-	-	-	-	-	-	-	10,249
Tolleson	-	-	-	-	-	-	-	-	-	-	-	-
Total	7,600	209,313	664	4,300	29,000	4,837	36,144	1,818	5,104	3,289	1,071	303,140

¹ Buckeye's M&I subcontract is based on 43 AF from Valencia Water and its original contract which declines to 25 AF after 2034.

² Converts to M&I priority in 2044

³ Based on ADWR recommendation

2.5 Climate and Shortage

The pre-adaptation scenarios include differences in future climate conditions. To simulate hotter and drier climate conditions, the “Dry” scenarios include a lesser rate of decline in municipal demand (to account for higher evapotranspiration rates for outdoor water use), a gradual increase in crop consumptive use, and more severe reductions in CAP and surface water availability. The Dry scenarios also include CAP shortage sequences with a clear trend towards deeper, longer and more frequent shortages. These include reductions to the CAP supply of up to 2/3rds of the normal CAP supply (i.e., 1 MAF shortage) that are severe enough to affect some of the highest priority CAP users. The deeper and more regular reductions in the CAP supply also heavily affect the availability of the “NIA-priority” supplies, which are less secure than Indian and M&I Priority.

2.6 Recharge

Recharge and recovery are key strategies used by many of the water providers in the Study Area to utilize their CAP water and effluent. There is a general downward trend in annual CAP recharge over the study period (Figure 4). Variability in the utilization of recharge capacity is heavily influenced by the diminished availability of CAP water during shortages, and conversely, the availability of Other Excess CAP water in the periods of little or no supply reduction.

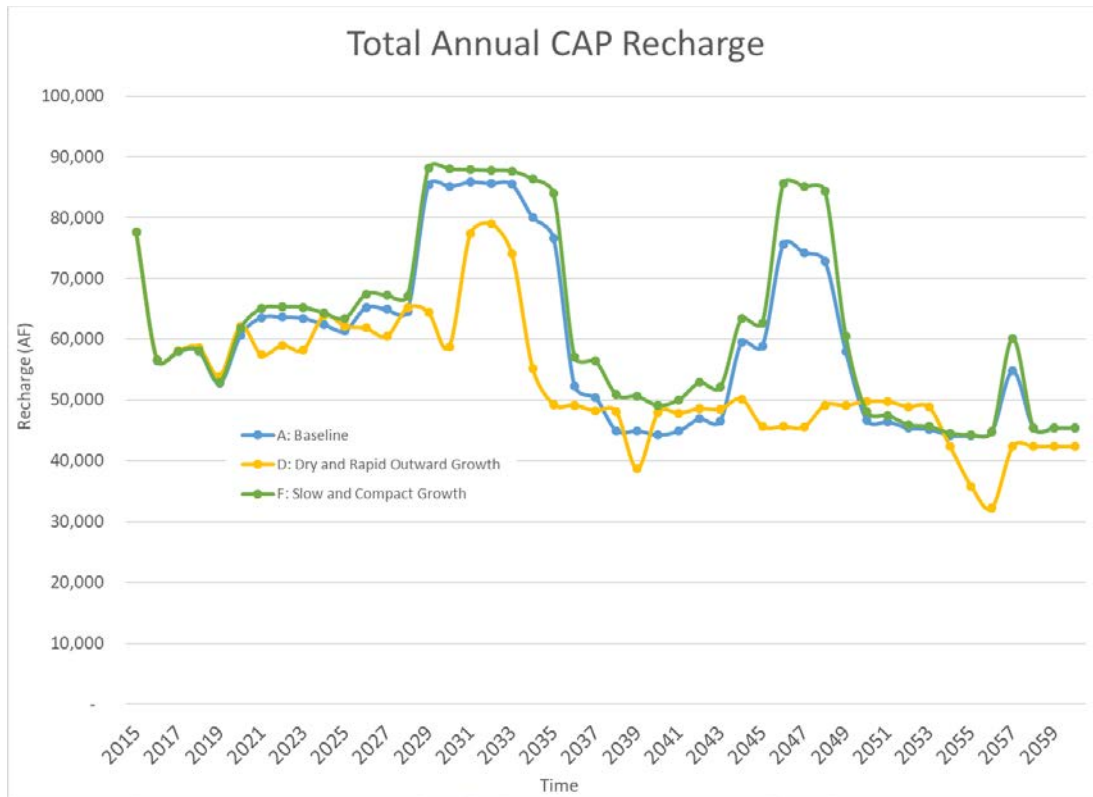


Figure 4: Total Annual CAP Recharge for the three key scenarios. Peaks and troughs correspond to periods of little to no shortage and deep shortages, respectively.

2.7 Groundwater Reliance

Absent significant changes in renewable supply utilization, the Study Area will be heavily dependent on groundwater pumping to meet future demand. Much of that pumping will be subject to the State's Assured Water Supply (AWS) rules, and will require offsetting replenishment by the CAGR, or by the water providers themselves. However, those mechanisms depend on acquisition or development of renewable water supplies that are largely unidentified, and in some cases quite speculative. In scenario D (“Dry and Rapid Outward Growth”) for example, there is 279,010 AF of 2060 pumping that would require replenishment with renewable supplies.

In keeping with the desire of the Study participants to restrict the pre-adaptation scenarios to currently known supplies, replenishment by the CAGR with additional supplies is excluded. This allows adaptation strategies to be more directly compared (e.g., reliance on the CAGR versus locally developed supplies) but also results in near "worst case" impacts to the regional aquifers.

3.0 Modeling Background

The supply and demand scenarios for the Study were created primarily using CAP:SAM. CAP:SAM was developed by staff at CAP's Resource Planning and Analysis department to help evaluate and plan for possible future conditions. CAP:SAM projects water supply and demand for all major water users in CAP's three-county service area (Maricopa, Pinal and Pima), and is designed to easily generate "what-if" scenarios. While this geographic scope extends far beyond the Study Area, there is regional interdependency of both supply and demand that has sub-regional effects. The model can simulate a wide range of future conditions, including variable rates and patterns of growth, shortage impacts, effluent reuse, aquifer recharge and recovery and complex supply portfolio management decisions. CAP:SAM accounts for multiple supply types, and the major elements of Arizona's elaborate legal and regulatory framework that affect the availability and accounting of those supplies. CAP:SAM relies on data that comes from CAP, the ADWR, the county associations of governments, and others, including data directly from Study participants.

CAP:SAM has significant capabilities to assist in planning and analysis for sub-regions like the West Valley, and even for individual water users' service areas. However, like ADWR's groundwater flow models, CAP:SAM is best understood as a *regional* planning tool. Like any model, CAP:SAM simplifies phenomena that have many layers of additional complexity. For example, while CAP:SAM simulates supply and demand of more than 100 entities (tribes, municipal providers, agriculture, institutional users), including 20 in the Study Area, for the most part it does not model the distribution of those supplies and demands *within* an individual water provider or irrigation district.² In addition to complexity, future supplies and demands contain elements of deep and irreducible uncertainty. Questions about the future hydrology and management of the Colorado River, the tastes and preferences of homeowners, or the pace and direction of technological change are but a few. CAP:SAM addresses these kinds of uncertainties by allowing the user to make and set assumptions about key factors, which in combination constitute a CAP:SAM scenario.

As a systems model, the utility of CAP:SAM rests on its ability to generate different supply and demand conditions, and then approximate how water users would respond. Many of those future responses are influenced by the set of laws, rules, rights and practices that comprise the water management framework that applies in the Study Area, so substantial effort has gone into trying to represent that framework within the model. Ultimately, CAP:SAM seeks to strike a balance between unmanageable complexity and unreasonable simplification. That remains an ongoing challenge as the capabilities of CAP:SAM are expanded and refined.

² Exceptions include distinguishing between Salt River Project on and off project demands, and the location of urbanizing agricultural land.

4.0 Water Management Context

4.1 Active Management Areas

Arizona has an elaborate water management framework, particularly within delineated Active Management Areas (AMAs). The West Valley Study Area falls within a portion of the Phoenix AMA. The geographic domain of CAP:SAM includes the entire Phoenix AMA, as well as the Pinal and Tucson AMAs.³ Because some supplies, including CAP water, have multiple priorities, it is necessary to account for all users of that supply, and as a consequence, the CAP:SAM scenario results reported in this Study reflect a subset of results.

The modeling performed in this Study assumes that the existing legal and regulatory framework stays in place through to the end of the planning period (2060). Of particular importance for the municipal sector are the assumptions that the State's AWS rules and the CAGRDR continue to exist.

4.2 AWS and CAGRDR

The AWS Rules require a demonstration of a 100-year physically available water supply for all new subdivision demands, and those demands must be met primarily on the basis of renewable supplies. The AWS rules do allow the satisfaction of the 100-year requirement on the basis of groundwater, but most of that pumping must be offset through the recharge of renewable supplies. One of the primary mechanisms for meeting that latter requirement is voluntary enrollment in the CAGRDR, either on an individual subdivision basis ("Member Lands") or for an entire water provider ("Member Service Areas"). Each municipal water provider is categorized in CAP:SAM as having one of the following options for their AWS status: 1) Member Service Area (MSA), 2) Member Land Provider (ML), 3) Designated on Own, 4) Undesignated, and 5) Other. The status of a provider can change through time (e.g., an undesignated provider can become designated, or an undesignated provider can become a Member Land provider if it starts serving new subdivisions). The category of "Other" is applied to certain institutional providers (e.g., prisons, universities, etc.). For the pre-adaptation portions of this Study, CAP:SAM modeling assumed that the AWS Rules remain in place through the Study period, and that water providers maintain their current strategy for complying with the AWS Rules (Figure 4). For water providers with Designations of Assured Water Supply (DAWS), which have both time and volume limits, this further assumes that those providers modify/renew their Designation as necessary through the study period. For those providers that satisfy the AWS Rule's "Consistency with Management Goal" provision (i.e., requirement for use of renewable supplies) through membership in the CAGRDR, they are similarly assumed to maintain that status.

³ CAP:SAM also accounts for CAP water deliveries that occur in the Harquahala Irrigation Non-Expansion Area that is immediately to the west of the Phoenix AMA.

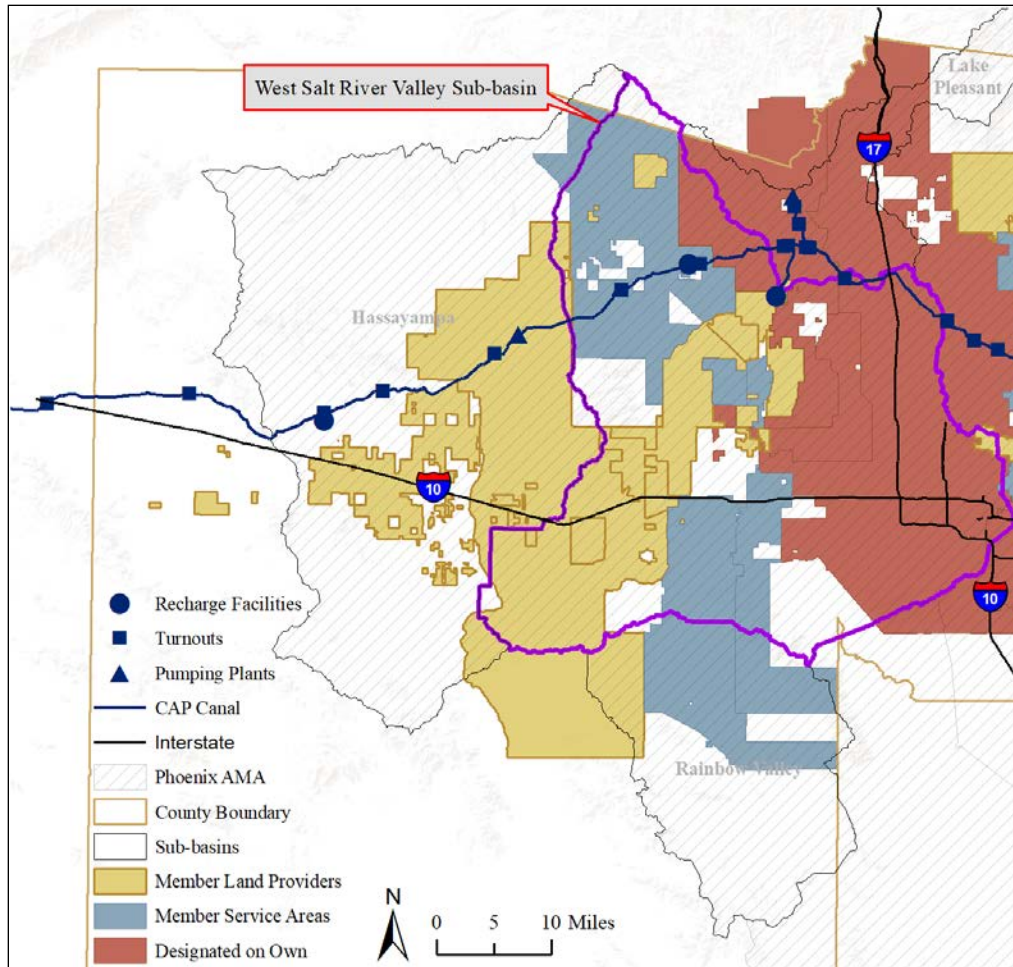


Figure 5: CARGD membership in the Study Area.

A more detailed explanation of the AWS Rules is beyond the scope of this document, but the requirement for municipal uses to rely substantially on renewable supplies (directly or otherwise) is fundamental to understanding why and how the legal and physical supplies available to water providers are used.

The potential role of CARGD is particularly noteworthy in the Study Area because many of the communities in the West Valley currently have portfolios of renewable supplies that are small relative to their projected demand. Provided that these areas can continue to meet the physical availability and financial capability requirements of the AWS Rules, membership in the CARGD allows new growth while staying in compliance with the renewable supply provisions. By extension, the CARGD itself is presumed to continue to exist and stay in compliance with the applicable statutory requirements. This includes submission of successive 10-year Plans of Operation, approved by ADWR, which require demonstration of sufficient renewable supplies to support current and projected membership, and annual requirements to stay current with replenishment obligations.

For the evaluation of future supply and demand imbalances, maintaining the current AWS compliance strategies assists in the direct comparison among the six scenarios. However, those are not the only strategies to meet future demands. Indeed, the CAP:SAM model runs highlighted that, in the absence of a change in current strategy, the Study Area may have a higher reliance on the CAGR than was previously anticipated or is desirable. For many of the Study participants, the CAP:SAM model results raised significant concerns about the cost and viability of ongoing reliance on the CAGR. To reflect those concerns, and at the request of Study participants, renewable supplies available to the CAGR were capped at current levels in the pre-adaptation scenarios (~10,000 AF in the Study Area). This has the effect of greatly amplifying the projected negative effects of groundwater pumping by those reliant on the CAGR.

Finally, it is important to note the differences between the modeling performed for this Study and the modeling by ADWR for AWS purposes, and by the CAGR for its 2015 Plan of Operation. Though there are shared tools (the groundwater flow model and CAP:SAM respectively), the modeling assumptions made in these regulatory processes are unique and in some cases peculiar to certain legal requirements. These analyses serve critical roles, but their purposes are sufficiently different that they cannot be used for direct comparison to this Study.

4.3 Agricultural Rights

Agricultural uses are also subject to Arizona’s regulatory framework within the AMAs, including quantified rights, conservation goals, and a prohibition on bringing new land into production. ADWR water rights allocation and use data for irrigation districts and Irrigation Grandfathered Rights were used as inputs to CAP:SAM.

Most irrigation districts have also been permitted by ADWR as Groundwater Savings Facilities (GSFs). In a GSF arrangement, a partner provides a renewable supply to the irrigation district, and the partner then earns a recharge credit for the volume of groundwater the irrigation district would have otherwise pumped. CAP:SAM accounts for both parts of this transaction, and maintains the somewhat counterintuitive legal accounting in which the irrigation district’s use is accounted for as “groundwater, in-lieu”, while the partner is credited on the basis of the renewable supply they gave (e.g., CAP water). ADWR typically issues the GSF permit volume based on the sum of the groundwater rights within a district, so as agricultural demand is adjusted in CAP:SAM due to efficiency changes, crop mix, or urbanization, the district’s GSF capacity is adjusted accordingly.

5.0 Model Steps

CAP:SAM is a complex model that performs hundreds of interrelated calculations within the GoldSim software environment (<https://www.goldsim.com/web/home/>). However, CAP:SAM’s overall structure is organized into four conceptually basic steps: 1) project demands, 2) determine supplies, 3) request supplies, and 4) fulfill demands.

5.1 Step 1 - Project Demands

To simulate water demand, CAP:SAM produces individual projections for 80 public and private water utilities accounting for more than 99% of the demand in the municipal sector, 23 Agricultural Irrigation Districts and other Grandfathered Irrigation Rights, 12 Tribes and Tribal Districts, and over 20 other user categories including the CAGR, AWBA, and industrial users such as mines and power plants. Only a subset of those users are within the Study Area, but because there are interactions among supplies and demands, the results in this Study are extracted from CAP:SAM runs that include the full three county model domain. The basis for those demand projections is described further below, but projecting demand is the first major calculation step in the model.

5.2 Step 2 - Determine Supplies

The CAP:SAM model tracks the total legal and physical supply availability for 16 supply types in each projection year. Supply categories include Effluent, Surface Water, including the Salt River Project, and CAP water. The supply of Long Term Storage Credits (LTSCs), and Groundwater Allowances are tracked and debits and credits occur through time. To model the CAP supply from the Colorado River, CAP:SAM allows the user to input an annual diversion supply for Arizona, demands from on-River users, total system losses, and the net storage to CAP's storage reservoir, Lake Pleasant. CAP:SAM can also utilize externally generated Colorado River supply scenarios from the Colorado River Simulation System (CRSS). For supplies that have multiple users, like CAP water, this model step calculates the aggregate supply available, prior to allocation by priority and individual user.

5.3 Step 3 - Request Supplies

CAP:SAM contains extensive water supply data for each of the water using entities that are simulated by the model. For municipal water providers, this includes legal entitlements to surface water and CAP water, initial balances of both LTSCs and Groundwater Allowances, remediated groundwater volumes, and for providers that do not have a DAWWS, attributes related to any subdivisions that are currently enrolled as MLs of the CAGR. Similarly, CAP:SAM contains supply portfolios for irrigation districts, Tribes, and others. Most of the supply data originated from publically available sources, but Study participants also reviewed and provided revisions to the data.

The "request" step of the model sets how much of each supply in an entity's portfolio will be available to satisfy demand, if necessary. In many cases, the "request" is set at the full volume of the supply that is legally available to that entity, but there are individual circumstances in which entitlement volumes are individually adjusted either by percentage, or by setting a limit to represent specific preferences or operational limitations. For instance, there are a few water providers that have entitlements to CAP water that they are not putting to use for legal or operational reasons. In those specific cases, the "request" for that supply is reduced.

For requests for CAP supplies, in addition to entitlement by priority type, requests are further differentiated between water destined for a water treatment plant versus annual storage and recovery (ASR). CAP:SAM also contains individualized preferences for earning underground LTSCs with any CAP entitlement that is available to a provider after their annual demand has been satisfied. The request portion of the model also includes distribution of CAP water storage facilities that include deliveries to irrigation districts as in-lieu groundwater storage (GSFs), or to direct recharge projects (Underground Storage Facilities [USFs]) Finally, the request step simulates transfers, leases, exchanges, reallocations, and priority conversions. For the West Valley Basin Study, only existing or currently proposed transactions were included.

5.4 Step 4 - Fulfill Demands

In the final and most computationally complex model step, information from each of the other steps is brought together and reconciled. For each projection year, CAP:SAM takes the demands for each entity and steps through each supply type in a defined sequence, incrementally satisfying the demand of each entity based on their request and their volume of unsatisfied demand. That sequence is a reflection of observed historic behavior, which itself is largely based on utilizing lower cost supplies first. The allocation method varies among the supplies (see Section 7 below), but the primary sequence for fulfilling demand is as follows:⁴ effluent; exempt groundwater (DAWS); surface water; CAP water (by priority); recovered CAP long-term storage credits; groundwater allowance; replenished groundwater; exempt groundwater (CAWS); unknown. As the model cycles through each of those supplies, credits and debits to CAP Long-Term Storage Accounts (LTSA) and Groundwater Allowances are calculated. Accruals to LTSAs are based on the storage preference parameters set in the “request” step, and accruals to the groundwater allowance are based on the Incidental Recharge Factor specified in the Designation of Assured Supply for each water provider with a DAWS.

6.0 Demand

6.1 Municipal Demand

Municipal water demand is a complex phenomenon that is the result of literally millions of individual daily decisions. There is extensive research on this topic, and individual water providers have varying levels of sophistication in projecting demand. The current version of CAP:SAM takes a fairly simplistic aggregated approach to projecting municipal demand.

To help differentiate the effects of observed long-term declines in water use from future growth-related trends, the model separately considers existing and new municipal demand.

⁴ Note that in order to account for GSF arrangements, there is some iterative looping within CAP:SAM, so the fulfillment sequence is not as linear as described here.

6.1.1 Existing Demand

Existing municipal demand represents baseline water use, as reported to ADWR in the most recent Annual Report, prior to the consideration of future growth. The initial existing demand is based on the volume reported by each provider to ADWR. That demand (in AF) and the count of housing units for that year are used to generate an initial Gallons Per Housing Unit per Day (GPHUD) value. The model allows the user to modify that GPHUD by specifying an annual rate of change (+ or -, in %), along with both a cumulative maximum change (in %), and a minimum "floor" (in GPHUD). The floor prevents the modified GPHUD value from dropping to unrealistically low values (if a negative rate of change has been specified). If an initial GPHUD is below the floor, its value is held constant at the initial value. CAP:SAM then generates a projection of existing demand by multiplying the modified GPHUD, which varies every year, by the number of existing housing units, which remain fixed. GPHUD values for each provider are shown in Appendix B.

6.1.2 New Demand

CAP:SAM simulates new demand on the basis of housing units that are projected to be built in each water providers' service area. Each projected housing unit is multiplied by a provider-specific GPHUD that represent the demand from the housing unit itself as well as a fraction of the ancillary demands (e.g., new parks, commercial land uses, etc.). Projected housing units and GPHUDs for those new units are included in Appendix B. The model is designed to be able to simulate a wide range of future growth rates and patterns, so there are a number of overall parameters that can be adjusted on a "dashboard" interface, and the model then performs the calculations based on those parameters. There are three primary steps within CAP:SAM for modeling new municipal demand: Project Housing Units, Distribute Spatially, and Calculate Demand.

Project Housing Units

The calculation of new municipal demand begins with an annual projection of new housing units for the entire CAP Service Area. To account for the lingering effects of the housing collapse, and to allow users to test a wide range of growth scenarios, CAP:SAM allows the user to define a number of components of the annual growth projection. For this Study, these factors were adjusted to match the High, Medium or Low projection series from the Arizona Department of Administration, depending on the scenario, with an initial "catch-up" period to compensate for slower than projected growth in the first 3 to 5 years of actual data.

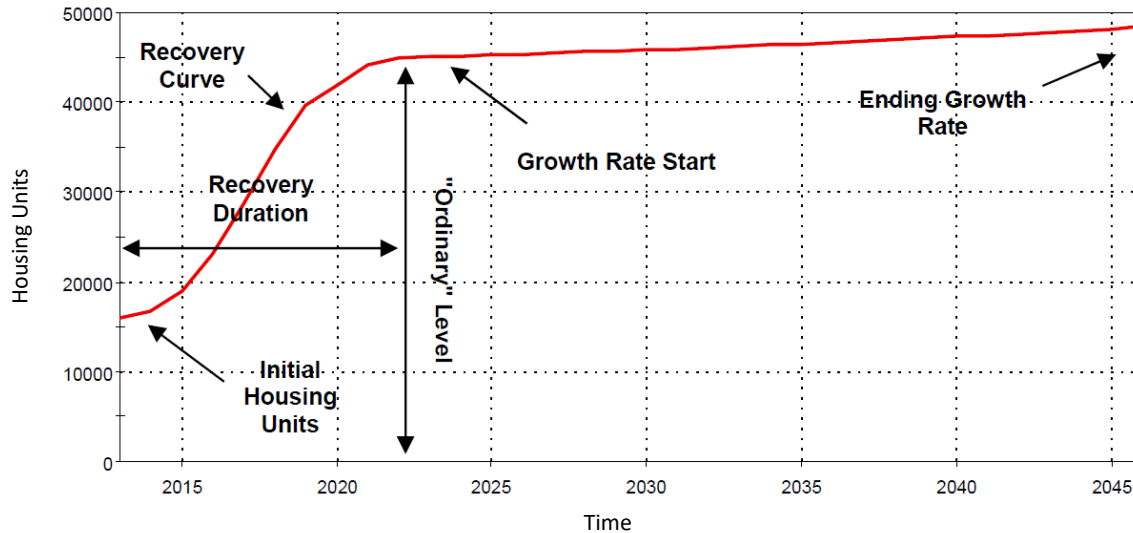


Figure 6: Components of annual housing unit projection.

Distribute Spatially

CAP:SAM spatially distributes housing units among water providers based on a geographic reference projection of housing units by provider, by time. CAP:SAM is capable of utilizing any reference projection, including official geographic forecasts developed by the Associations of Governments (MAG, CAG, and PAG). The Associations' forecasts are provided by Transportation Analysis Zone (TAZ), with a count of housing units for successive decades. The geographic projections provided by the Associations are based on growth modeling that incorporates a large number of factors, including demographic data from the U.S. Census, construction data, planned developments, land uses, employment patterns, and transportation infrastructure

To accommodate a variety of growth rates, while maintaining the integrity of the spatial growth pattern, CAP:SAM adjusts the timing of the reference projection to match the housing units generated by the model using the parameters specified by the user in the annual housing unit projection. For example, a particular model run might project 2.8 million housing units for 2030, but the reference projection might have projected 2.9 million for 2030. CAP:SAM accounts for this by estimating the point within the reference projection at which 2.8 million units were distributed, and then applies that estimate to each water provider.

Alternate Spatial Distribution Patterns

In addition to dynamically adjusting the rate at which growth occurs, CAP:SAM can incorporate alternative growth patterns. To implement this capability, CAP contracted with a consulting firm—Applied Economics—that had developed a socioeconomic model for Maricopa, Pinal and Pima counties. The description of that model, extracted from their final report, follows:

The Sun Corridor Socioeconomic Allocation Model (SCSAM) is implemented using a Microsoft Access application that organizes the data and implements the methods

necessary to generate alternative regional growth scenarios. This includes functionality for data storage and manipulation, description of scenario equations and parameters, and the calculation and reporting of results.

Data Storage, Manipulation and Retrieval

Input data includes baseline data for the population and employment categories that are being modeled; the data for various factors identified as influencing the growth in these categories, and allocation totals for the three-county region derived from the ADOA statewide model. The key characteristics of each Study Area used in the allocation of growth includes build-out capacities, a myriad of locational “factors,” travel time matrices and minimum growth estimates. As data was selected for use in the model, information was recorded about the source of the data, and it how it is classified and described. This metadata is available for reference when constructing scenarios. Data imported into the model is occasionally modified within the model and exported, allowing for alternatives and documentation of the process used to obtain results. SCSAM creates secondary data sets based on calculations involving one or more sets of primary data. One example of this is the combination of historical growth data and data from travel time matrices (spatial analysis using a gravity model) to be used in regression analysis. SCSAM uses various measures of growth (such as total population and basic employment) divided by the square of travel time from travel time “matrix” data resulting in an accessibility measurement for specific category variables for each Study Area. These are time-weighted measures of accessibility of specific variables for each Study Area, calculated as a summation of that measure of growth for every other Study Area divided by the square of the travel time to every other Study Area. By calculating accessibility as inversely related to the square of a proximity measure such as travel time, human behavior can be related to spatial interaction based on the inclination of travelers to choose shorter trips when possible.

Scenario Development and Storage

Allocation scenarios are designed as a series of methods and procedures. Each data table stored in the model can be used in one or more scenarios. Each scenario is based on different data and/or different methods of analysis. Scenarios can be copied and refined, allowing the researcher to document and log each round of analysis. Note that in this version of the model this is the only way to create a new scenario. The model is driven by projections for the three-county Sun Corridor region that are translated into control totals reflecting the most-likely, the most-pessimistic and the most-optimistic future scenarios. These allocation totals drive the results of each model scenario. Allocation scenarios based on alternative allocation totals and different other assumptions and changes to specific data sets can be developed, saved, recalled and modified.

As part of the contract work, Applied Economics developed eight different growth scenarios by varying key assumptions that affect the relative distribution of housing units. Some of the key factors included relative proximity to transportation infrastructure and existing development, how quickly planned but unbuilt development takes place, relative willingness to commute to employment centers, and land use capacity factors. For the West Valley Study, three of those spatial scenarios were used: “Baseline,” which mirrors the officially adopted growth pattern by the Maricopa Association of Governments; “Outward Growth,” which doubled the employment travel time factor and places a greater proportion of housing units in the western portion of the Study Area; and “Compact” which halved the travel time and increased the housing capacity factor in the urban core by up to 20%, which places a greater proportion of the growth in the Phoenix and portions of the metro area that are outside the Study Area.

Convert Housing Units to Demand

New municipal demand is calculated by multiplying the cumulative projected new housing units for each provider by a set of provider-specific GPHUDs. The GPHUDs for new demand are developed outside of the model, and are separate from the ones derived within the model for existing demand. CAP:SAM can be loaded with multiple sets of GPHUDs for new demand, and the user can select from among them via a drop-down list. As with the Existing Demand, the user can modify the initial New Demand GPHUDs by specifying an annual rate of change (+ or -, in %), along with both a cumulative maximum change (in %), and a minimum "floor" (in GPHUD). These parameters are also independent of those specified for Existing Demand.

6.2 Agricultural Demand

Because the footprint of irrigated agriculture cannot expand (other than on tribal lands), population growth can result in significant urbanization of agricultural land with a commensurate reduction in irrigation demand. To model this effect, a GIS analysis was performed using ADWR’s GIS layers for irrigation district and individual rights, crop type imagery from the National Agricultural Statistical Service, and TAZs from the county Association of Governments. That analysis was used to identify and quantify the acreage of TAZs that wholly or partially intersected active agricultural land. As new housing units are projected for one of these TAZs, reduction in agriculture acreage is calculated based on the average density of surrounding urban uses. For TAZs that straddle active agricultural land and undeveloped desert land, CAP:SAM allows the user to set a preference so that more or less of the agricultural land is developed. The default is that the housing units are split proportionally.

CAP:SAM also has the ability to simulate agricultural demand based on a number of factors that affect agricultural use. These include crop mix by irrigation district (USDA’s CropScape), changes in efficiency, substitution of higher water use crops, and changes in consumptive use due to climate change.

6.3 Tribal Demand

The West Valley Study Area does not include tribal reservations, however, the use of tribal supplies (particularly CAP water) elsewhere in the CAP service area can affect the availability in the Study Area, so CAP:SAM runs include assumptions about tribal water use, including on-reservation use (predominantly irrigation), off-reservation storage at USFs and GSFs, and off-reservation leasing. Leased tribal supplies are included in individual water provider portfolios.

7.0 Supplies

7.1 Effluent

In the process of fulfilling annual demands, CAP:SAM makes projections of effluent use. This effluent use includes non-potable reclaimed distribution (i.e., “purple pipe”) and any recovered effluent that is indirectly satisfying potable demand (i.e., water that is physically groundwater, but legally effluent). CAP:SAM relies on ADWR reported data for a base year, and then allows the use of the supply to increase in proportion (adjustable) to the overall demand. Importantly, CAP:SAM’s effluent accounting does not reflect the total volume of effluent produced or potentially available to a water provider. This capability is currently under development, but for this Study, separate calculations of effluent production were made (see groundwater modeling report). In some cases, those calculations resulted in effluent volumes that were greater than what providers have identified plans for putting to use, and were thus characterized as “unused.” That term simply denotes that based on current utilization rates and plans, there is likely a volume of effluent that is available for more complete use. Appropriately, effluent factors significantly in this Study’s (Options and Strategies) discussion, and could have a large role in reducing reliance on groundwater pumping and CAGRDR replenishment.

7.2 Exempt Groundwater (Designated Providers)

For a water provider with a DAWS, certain types and volumes of groundwater are exempt from the requirement for offsetting pumpage with recharge of a renewable supply. The most notable is pumping that is required as part of a remediation project for contaminated groundwater. CAP:SAM allows these volumes to be specified, and used to satisfy annual demand early in the sequence of supply utilization, even if the provider has renewable supplies that exceed annual demand.

7.3 Surface Water, SRP

CAP:SAM does not attempt to simulate the Salt River Project (SRP) system or surface water supplies in detail. Notably, the SRP supply available to each city is not differentiated between water originating from reservoirs versus from wells that is legally accounted for as surface water for AWS purposes. However, the *physical* distinction is obviously critical when evaluating

impacts to the regional aquifer system, so in this Study, the proportion of SRP water that came from wells was separately estimated and then attributed to individual cells in the groundwater flow model.

As an approximation of the volumes of SRP water available to each water provider in the “request” step of CAP:SAM, values from SRP’s 2008 AWS study were used. Data from each water providers’ ADWR Annual Report is then used as the base year for the CAP:SAM projection. That usage rate then varies based on the on-Project demand. To the extent that that demand is increasing, it can grow until it reaches the “request” volume.

7.4 Surface Water, Other

CAP:SAM accounts for other surface water in a manner similar to SRP water, using ADWR Annual Reporting data, along with specific data provided by individual users. In this Study, water provided by the Maricopa Water District is an important non-SRP surface water supply.

7.5 CAP Water

CAP:SAM classifies into six priorities: P3, Indian, M&I, NIA, Ag Pool, and Other Excess. These supplies are allocated among a variety of tribal, municipal and industrial users, as well as the CAGR, AWBA. Entitlements are based on contract volumes, and all existing and pending leases and exchanges are modeled in CAP:SAM. The volumes of NIA-priority supply that have been recommended for reallocation by the Director of ADWR have also been included. In years in which Other Excess water is available, up to 200,000 acre-feet is made available for banking and replenishment by the AWBA and CAGR, of which up to 75,000 is available in the Study Area.

7.6 Long-Term Storage Credits

CAP:SAM contains the initial balance of LTSCs for each water provider, as tracked by ADWR. The storage preference settings (referenced in the ‘Step 3 - Request Supplies’ section above) allow the supply of CAP LTSCs to increase, and the model makes a cut-to-the-aquifer calculation. Credits can also be recovered (pumped) and used to meet annual demands. For AWS purposes, that recovered water is legally identical to the supply used to create the credit (e.g., CAP water). The use of CAP LTSCs as a supply in CAP:SAM is affected by two primary factors: a preference factor set for each water provider during normal water supply conditions, and a calculation of reduction to a providers’ supply based on shortage conditions. The preference factor for most water providers is 1% (i.e., treating the LTSC balance like a 100-year supply), though in cases where providers have indicated a specific management strategy for their credits, the factor has been adjusted. The shortage provisions are tied to reductions to a providers’ CAP water supply that aren’t otherwise firmed by the AWBA (e.g., NIA-priority supplies). When their CAP supplies are reduced, the reduction is made up with recovery of the providers’ credits, if available.

7.7 Groundwater Allowance (Designated Providers)

Water providers that have a DAWS have a Groundwater Allowance that represents a volume of groundwater that does not require offsetting replenishment. For providers in the Study Area, (i.e., Phoenix AMA), the initial volume was based on 7.5 times the provider's 1994 demand. In addition, providers annually receive credit for incidental recharge based on a percentage specified in their Designation Order (typically 4%) of the previous year's total demand. Finally, providers can acquire Extinguishment Credits that are granted by ADWR when grandfathered groundwater rights are permanently retired.⁵ The management of the Groundwater Allowance varies by water provider: some have opted to use the balance as it is accrued, some never use it; and some treat it like a long-term supply. CAP:SAM allows each of those approaches to be simulated by setting a preference percentage (i.e., 100%, 0%, 1% respectively).

7.8 Replenished Groundwater

For water providers that have a relationship with the CAGRD, this supply is the volume of groundwater that is reported to ADWR and the CAGRD as "Excess Groundwater." The physical supply is no different from any other groundwater pumped by the provider, but it generates an obligation on the part of the CAGRD to replenish the aquifer with an equal volume of renewable supply (through recharge or use of previously stored water).⁶

Because CAP:SAM was initially developed to support the CAGRD's 2015 Plan of Operation, the model has some particularly elaborate capabilities to estimate the volume of Replenished Groundwater, including tracking data on the 1,100 currently enrolled CAGRD ML subdivisions, along with Category 2 golf courses, and MSAs.⁷

7.9 Exempt groundwater (Undesignated Providers)

For water providers that do not have a DAWS, there are several categories of groundwater use that do not require replenishment. These include the groundwater allowances granted to each CAWS issued to subdivisions served by the provider, any non-subdivision demand, pre-1995 subdivision demand, and lost and unaccounted for water. Because the volume of Replenished Groundwater is calculated in a previous model step, the primary calculation of this supply is based on the amount of demand that hasn't yet been satisfied.

⁵ A more complex set of calculations are made for the Pinal AMA where Groundwater Allowances are affected by unique provisions related to pre-2007 Extinguishment Credits.

⁶ In keeping with CAGRD operations, a three year lag in demand is introduced to simulate the time difference between when Excess Groundwater is reported and when the replenishment takes place.

⁷ See <http://www.cagr.com/operations/plan-of-operation/current-plan> for additional detail.

7.10 Unknown

Within CAP:SAM, the “unknown” supply is calculated primarily as a zero checksum to verify that a providers’ entire demand has been satisfied with supplies that are consistent with the AWS Rules. For purposes of this Study, any volumes of “unknown” were assumed to be satisfied with groundwater.

8.0 Supply Shortages

One of the requirements of this study was to use the regional groundwater flow model to simulate future water level changes. For computational and budgetary reasons, this constrained each scenario to a single time-series of supplies and demands, rather than the large suites of hydrologic inputs that are typically used to evaluate shortages.

For some supplies, the use of a mean or median value may be appropriate, but for others, including CAP water, retaining the supply variability is important because there are users with differing supply priorities. So while CAP:SAM has the ability to process large suites of outcomes, including results from the CRSS model, the approach chosen to address the single time series constraint was to develop “representative” sequences of shortage. The timing and volumes of these synthetic traces do not correspond to specific CRSS model results, but instead were created to test the system response under differing levels of stress.

8.1 Central Arizona Project Water Shortages

- “Historic Climate” This shortage pattern is generally similar to supply traces from CRSS in which the observed hydrology is used. The frequency and depth of shortage increases modestly through the study period as projected uses in the Colorado River Basin increase. The shortage levels, up to 720,000 acre-feet, are analogous to the volumes under consideration under the Drought Contingency Plan proposed in 2016.
- “Dry climate” this sequence includes a clear trend towards deeper, longer and more frequent shortages. This shortage sequence was created to test reductions to the CAP supply that were severe enough to affect some of the highest priority users, including reductions of up to 2/3rds of the normal CAP supply (i.e., 1 MAF shortage). That magnitude of shortage is greater than any currently agreed level, but is consistent with results from regionally downscaled global circulation models.⁸
- “Wet Climate” this sequence is intended to simulate a generally favorable hydrology, resulting in comparatively infrequent and less deep shortages through time.

⁸ There is strong agreement among the climate and runoff models indicating a hotter, dryer future in the study area and Colorado River basin as a whole. See, for instance, “Tech Memo No 86-68210-2018-02 Climate, Hydrology, and Demand Projections” and the “Colorado River Water Supply and Demand Study.” However, the responses by future water managers, including the magnitude of shortage reductions, are speculative.

- To reiterate, none of these CAP supply traces should be used to infer future reservoir operations, or construed as any indication of the magnitude of supply reductions attributable to Arizona or the Central Arizona Project. As with other modeling assumptions in this study, they are best understood to be “what-if” scenarios for evaluation and comparison of system performance.

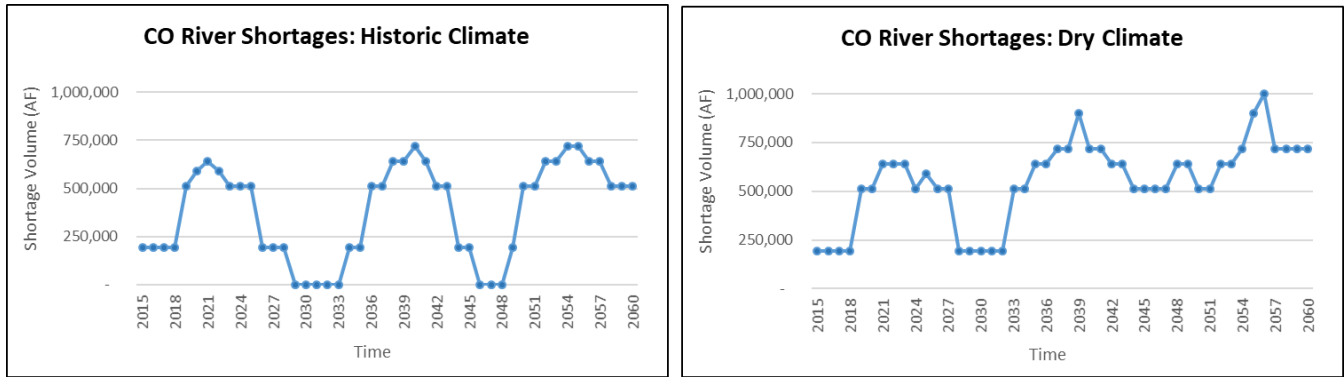


Figure 7: “Representative” shortage traces for Historic and Dry Climate.

The CAP shortage reductions affect the supply available as CAP:SAM fulfills requests in priority order. For Indian and M&I priority, CAP:SAM implements the shortage sharing formulae contained in the 2004 Arizona Water Settlements Act.⁹ NIA-priority supplies are reduced in proportion to the supply available to meet requests. While CAP:SAM’s approach is to build supply and demand up from each of the users, for the CAP supply, the model can also be set to reconcile to an aggregate projection, by priority. This feature was added so CAP:SAM can generate shortage impact results that are comparable to analyses performed by CAWCD, ADWR and the AWBA. Those analyses rely on a “buildup schedule” of CAP uses based on broad assumptions about future use, including full utilization of CAP long-term contracts (equaling 1.415 MAF) by a particular date. This option was turned on for the scenarios of this Study, set to the 2045 buildup schedule. The effect of this is to moderately increase the severity of projected shortage to individual CAP contractors.

8.2 Surface Water

As with the CAP supply sequences, the timing and magnitude the surface water supply reduction is not associated with a specific forecast of watershed conditions, but is intended to reflect how a supply reduction could affect users. That supply reduction is expressed as a

⁹Indian_Priority = (IF P4_Supply > 853079 AF AND Year < 2044 THEN 0.25438 * P4_Supply + 93303 AF) OR (IF P4_Supply <= 853079 AF AND Year < 2044 THEN 0.3637518 * P4_Supply) OR (IF P4_Supply > 853079 AF AND Year >= 2044 THEN 0.18606 * P4_Supply + 151585 AF) OR (IF P4_Supply <= 853079 AF AND Year >= 2044 THEN 0.3637518 * P4_Supply). M&I_Priority = P4_Supply – Indian_Priority. Note, if orders for Indian Priority are less than supply, the extra is available to M&I, and vice versa.

uniform percent reduction in availability, without further differentiation among water providers. As mentioned in Section 7.3, the SRP supply is legally accounted for as surface water, even though a portion, and in some cases a significant portion, of the supply may originate from wells. The ability of SRP to utilize wells, and the geographic constraints on where SRP water may be used, make the SRP supply much more reliable than the variability in the Salt and Verde River watersheds might suggest. As a consequence, the CAP:SAM runs that simulate the historic climate assume 100% availability of the SRP supply, with the proportion originating from wells separately calculated in the groundwater flow model.

In the “hot & dry” climate scenarios, periods of reduced availability were simulated, including a single year with a historically unprecedented 50% reduction. For this Study, the inclusion of such deep reductions is intended to help understand how climate extremes could affect regional supplies and demands. However, the simplistic nature of this approach may be particularly unrealistic for a few of the larger providers, including the City of Phoenix which has both very senior surface water rights, and a comparatively higher proportion of active SRP wells. To adjust for this, in the groundwater flow model, the projected increase in pumping from reduced surface water availability was assigned primarily to wells that are shared with SRP. This results in an approximation of the expected net effect—reduced surface supplies resulting in increased groundwater pumping. It is also worth noting that the last two years of the study period, the deep reductions to surface water availability occur at the same time deep shortages are simulated for the CAP supply.

8.3 Groundwater

CAP:SAM makes projections of demand for groundwater, in several legal categories, but does not simulate the physical properties of the regional groundwater aquifers, so it does not have the ability to constrain the supply of groundwater on the basis of physical availability or pumping extraction costs. Pumping by agriculture is limited by quantified Irrigation Grandfathered Rights, but consistent with the 1980 Groundwater Management Act, Service Area Rights held by water providers are allowed to increase. In the pre-Adaptation CAP:SAM scenarios for the West Valley Study Area, groundwater is a large proportion of the supply that is assumed to be used to meet increased demands. The ability to continue to satisfy the Physical Availability provisions of the AWS rules is beyond the scope of CAP:SAM’s capabilities, but is a central benefit of connecting CAP:SAM results to the groundwater flow model. Results from the groundwater model were able to identify areas where physical availability may in fact be constrained.

9.0 Recharge

Recharge facilities often have more than one entity permitted to store, and entities often have permits to store at more than one facility. This many-to-many relationship, along with the changes in capacity at GSFs, requires reconciliation such that all requested water is stored, but

the capacity of facilities is not exceeded. CAP:SAM resolves this through an iterative multi-step process. The process begins with two values: 1) the sum of total volume of water to be stored by each category of user (municipal, tribal, industrial CAGR, AWBA) and 2) the total storage capacity at each facility (USF and GSF). The sum of total water to be stored from a provider is first divided equally to each facility, and the total capacity of the storage facility is divided equally among the users with permits to store at that facility. The model takes the lesser of these two values to fulfill the requests for storage. At the completion of that step, the remaining water to be stored and the remaining facility capacity is distributed using the same logic. The model performs this set of calculations until all of the requested water is stored.

There are seven CAP recharge facilities modeled in the Study Area, four of which are USFs and three GSFs¹⁰. In the model runs performed for the Study, the utilization of recharge capacity is heavily influenced by the diminished availability of CAP water during shortages, and conversely, the availability of Other Excess CAP water in the periods of little or no supply reduction.

10.0 Connection to Groundwater Flow Model

The following CAP:SAM supply categories are incorporated as pumping stresses in the groundwater flow model:

- Exempt Groundwater (GW_Exempt)
- Excess Groundwater (GW_Excess)
- Groundwater Allowance (GW_Allowance)
- Recovered LTSCs (LTSCs_CAP)
- Unknown.

Other inputs to the groundwater flow model include effluent and CAP storage (all priorities) at Underground Storage Facilities (USFs) and incidental recharge associated with irrigated agriculture (see GW model documentation for process of calculating Ag IR).

11.0 Supply and Demand Scenario Results

11.1 Scenario Descriptions

- A. “Baseline” is intended to represent “business as usual” in which the future hews closely to the official rate and spatial distribution of growth, and both observed and expected trends with respect to supply and demand. GPHUD rates continue to decline (with a maximum change of -15% and 200 GPHUD floor), irrigation efficiencies gradually increase, and projected growth in agricultural areas is split between active Ag land and

¹⁰ USFs: Agua Fria Recharge Project (constructed), Agua Fria Recharge Project (managed), Heiroglyphic Mountain Recharge Project and Tonopah Desert Recharge Project; GSFs: Maricopa Water District, Roosevelt Water Conservation District and Tonopah Irrigation District.

- adjacent desert land. Shortages on the CAP system are simulated using the “Historic Climate” series described in Section 8.1. No reductions in surface water are simulated.
- B. “Dry Baseline” holds the growth rate and pattern identical to the “Baseline,” but adjusts factors that reflect a hotter, drier future. This includes a lesser rate of decline in GPHUD (to account for higher evapotranspiration rates for outdoor water use), a gradual increase in agricultural consumptive use (0.1%/yr), the “Dry Climate” CAP shortage sequences, and the “Deep Reduction” sequence for surface water.
 - C. “Rapid Outward Growth” scenario simulates an aggressive rate of growth (matching the ADOA “High” series), coupled with a regional growth pattern that is weighted more heavily towards suburban and exurban areas. A somewhat higher proportion of the housing units in agricultural areas are placed on active Ag land compared to the Baseline. The Historic Climate sequence is used for CAP shortages, and there are no modeled reductions in surface water.
 - D. “Dry, and Rapid Outward Growth” holds the growth rate and pattern identical to the “Rapid Outward Growth” scenario, but adjusts factors that reflect a hotter, drier future. Similar to the Dry Baseline, this includes lesser declines in GPHUD, increased crop consumptive sue, and very deep CAP and surface water supply shortages. For the Study Area, this scenario is the most aggressive in terms of housing unit growth and climate impacts.
 - E. “Wet, and Rapid Outward Growth” maintains the high rates of growth from scenarios C & D, but simulates the effects of a wetter climate. GPHUD rates decrease more rapidly, with a larger maximum change (-20%) and a lower floor (150 GPHUD) to reflect lower outdoor water requirements. CAP shortages are simulated using the “Wet Climate” series, and no surface water shortages are projected. To simulate the effect of additional precipitation on agriculture, crop consumptive use was projected to decrease, and the rate of efficiency improvement was increased.
 - F. “Slow, and Compact Growth” simulates a less aggressive rate of growth (matching the ADOA “Low” series”) and spatial pattern of growth that places a greater proportion of housing units within the existing urban core. To reflect an associated “new urbanism” ethic, the scenario includes a more aggressive rate of decline in GPHUD (along with a larger maximum change and lower floor), higher irrigation efficiencies, and greater preservation of existing agricultural land. This scenario used the “normal climate.”

As previously mentioned, scenarios A, D and F were chosen as key scenarios and are discussed in the following results section. The CAP:SAM modeling parameters used for these scenarios are provided in detail in Table 4.

Table 4. Primary CAP:SAM modeling parameters used in Scenarios A, D and F

Parameter	A.) Baseline	D.) Dry, Rapid Outward Growth	F.) Slow, Compact Growth
CAP Shortages	Frequent	Deep & Increasing	Frequent
Surface Water Reduction	None	Occasional	None
Growth Rate (ADOA Series)	Medium	High	Low
Growth Pattern (Applied Economics)	Baseline	Suburban Growth	Max Redevelopment
Existing GPHUD, Rate of Change	-0.5%	-0.3%	-0.7%
Existing GPHUD, Max Rate of Change	-15%	-15%	-20%
Existing & New GPHUD, Min	200 GPHUD	220 GPHUD	150 GPHUD
New GPHUD, Rate of Change	-0.1%	0%	-0.3%
New GPHUD, Max Rate of Change	-5%	-5%	-10%
New GPHUD, Min	200 GPHUD	220 GPHUD	150 GPHUD
Ag Efficiency, Rate of Change	0.1%	0.1%	0.2%
Ag Efficiency, Max	80%	80%	90%
Ag Climate CU Change Rate	0.0%	0.1%	0.0%

All Scenarios: 2045 CAP Buildup; Medium HU Recovery; No crop type replacement; No reinvestment in underutilized Ag; Max 20% AWBA firming for M&I

11.2 Scenario Results

Detailed descriptions of the scenario results for individual entities are included in Appendix B, however there are several key findings from the CAP:SAM results for the West Valley Study Area as a whole. First, the rate and distribution of population growth has a large effect, particularly in the western portion of the Study Area. As expected, the impact of differing growth assumptions is most apparent when comparing “outward growth” and “compact.” The number of projected housing units in Buckeye, for instance, varies by a factor of nearly three between those scenarios. There is also a generally higher reliance on groundwater in the outward growth scenarios (Table 5), as more of the growth occurs in newer communities that have smaller and less diverse renewable supply portfolios. As noted earlier, much of that groundwater reliance would generate an AWS requirement for replenishment, either by the CAGR D or the water provider themselves.¹¹ However, because CAGR D supplies have been constrained in the model runs, much of the new growth results in a large net pumping stress. Under the “outward growth” scenario, the utilization of CAP and surface supplies are reduced

¹¹ In the higher demand scenarios of this Study, the City of Peoria, which has a Designation of Assured Supply but is no longer a Member Service Area of the CAGR D, demands exceed the City’s current portfolio of supplies. This is also true of many of the other providers in the Study Area, but the City’s lack of a relationship with the CAGR D does not allow the assumption that the CAGR D will acquire supplies to replenish on their behalf. Under these scenarios, to stay in compliance with the AWS Rules, Peoria would need to acquire additional renewable supplies, or rejoin the CAGR D.

due to less availability of these resources in times of shortage. This scenario also results in an increased use of Effluent, as larger volumes are produced with rapid development.

Table 5. Supply Utilization Summary (in AF) for Key Scenarios, 2060

Scenario	Housing Units	Effluent	Surface	CAP	Groundwater (Subject to AWS) ¹	Groundwater (Exempt from AWS)	Total
A. Baseline	1.82 M	36,918	206,947	304,472	86,820	68,007	703,164
D. Dry, Rapid	2.23 M	56,238	166,398	294,127	263,687 ²	97,025	877,476
F. Slow, Compact	1.68 M	30,817	193,237	309,649	47,151	45,635	626,489

¹ The majority of the "Groundwater (Subject to AWS)" value represents the volume of additional supplies needed in order to stay in compliance with AWS rules. This value was reduced by the CAGR's available supply at the end of simulation (2060).

² Value includes 49,744 AF of "Unknown" water for Peoria in the Dry, Rapid scenario. The City's lack of a relationship with the CAGR does not allow for the assumption that the CAGR will acquire supplies to replenish on their behalf.

The impact of shortages to the CAP supply are also evident in the model results, particularly shortages to the NIA-priority supply that a number of the West Valley cities hold. NIA-priority is lower than Indian and M&I priority, and as a consequence those entitlements are subject to more frequent reductions due to shortage. For water providers with NIA-priority water, the availability of the supply is greatly diminished under the more aggressive shortage assumptions used in the "Dry" scenarios. Those CAP reductions, along with the surface water reductions, result in higher utilization of other supplies in the provider's portfolio to satisfy the remaining demand. Because of the sequence of supplies described in section 5.4, those other supplies (recovered CAP LTSCs; groundwater allowance; replenished groundwater; exempt groundwater (CAWS); unknown) all result in pumping stresses.

Variations in the CAP supply availability is also evident in the utilization of recharge facilities (Appendix C). In each scenario there is a general modest upward trend in Annual Storage and Recovery, as existing supply portfolios are fully utilized, and there is a general downward trajectory to other recharge (i.e., accrual of LTSCs). However, there is a pronounced difference in the recharge activity between "Dry" and the other scenarios due to the availability of Other Excess. In the "Historic Climate" trace there are periods with low or even zero supply reduction. In those period there is a significant amount of Other Excess CAP water available, which is presumed to be put to use by underground storage by either the AWBA or CAGR. In the Dry climate trace, there is a period of relatively low reduction (200 KAF in the late 2020s), but

deeper shortages for the remaining time periods. Those shortages are deep enough that there is little if any Excess CAP water available, so storage activity is suppressed.

In addition to reduced availability of renewable supplies in the “Dry” scenario, there are noticeable differences in the municipal and agricultural demands. For agriculture, the higher rates of evapotranspiration associated with the “Dry” scenario largely offset the effects of increased efficiency. Likewise, municipal demands are somewhat higher under the Dry scenario because of a lower rate of GPHUD decline due to higher evapotranspiration affecting outdoor water use.

The rate and distribution of population growth also significantly impacts the recovery burden placed on the AWBA. Under the “Dry” scenario, the total volume of recovery performed during the study period is 441,155 AF. This is in contrast to 265,838 AF and 249,194 AF for the “Baseline” and “Slow and Compact” scenarios, respectively. The “Dry” scenario therefore represents more than a one-and-a-half fold difference in recovery compared to the other two scenarios. This larger recovery volume under the “Dry” scenario is not surprisingly a result of a drier climate and subsequently deeper and more frequent shortages to the CAP supply (see Section 8.1). While the spatial distribution of AWBA recovery is not specified, it was presumed to have the same pattern as the M&I pumping and is represented in the groundwater model as such.

Appendix A

List of Abbreviations

<u>Abbreviation</u>	<u>Description</u>
ADOA	Arizona Department of Administration
ADWR	Arizona Department of Water Resources
AF	Acre-Feet
AMA	Active Management Area
AWBA	Arizona Water Banking Authority
AWS	Assured Water Supply
CAGR	Central Arizona Groundwater Replenishment District
CAP	Central Arizona Project
CAP:SAM	Central Arizona Project: Service-Area Model
CAWS	Certificate of Assured Water Supply
CRSS	Colorado River Simulation System
DAWS	Designation of Assured Water Supply
GIS	Geographical Information System
GPHUD	Gallons Per Housing Unit Per Day
GSF	Groundwater Savings Facility
HU	Housing Units
KAF	Thousand Acre-Feet
LTSA	Long-Term Storage Account
LTSC	Long-Term Storage Credit
M&I	Municipal and Industrial
MAF	Million Acre-Feet
MAG	Maricopa Association of Governments
ML	Member Land
MSA	Member Service Area
NIA	Non-Indian Agricultural
P3	Priority Three
PAG	Pima Association of Governments
SCSAM	Sun Corridor Socioeconomic Allocation Model
SRP	Salt River Project
TAZ	Transportation Analysis Zone
USBR	United States Bureau of Reclamation
USF	Underground Storage Facility
WVWA	Western Valley Water Association

Appendix B

Water Provider Summaries for Model Scenarios A, D and F

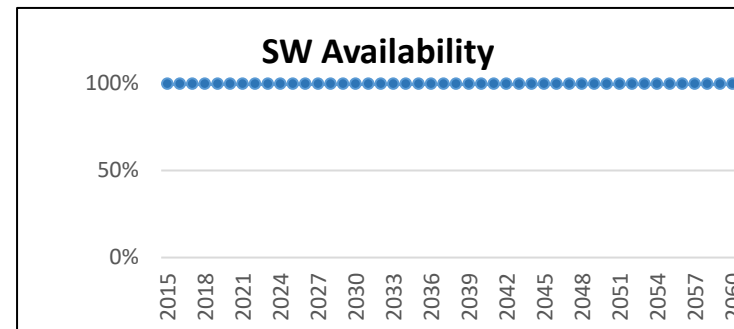
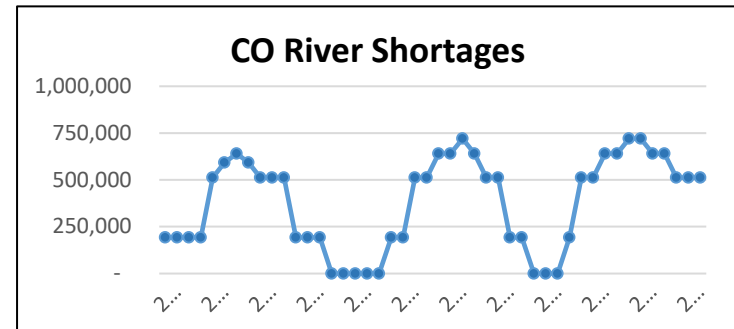
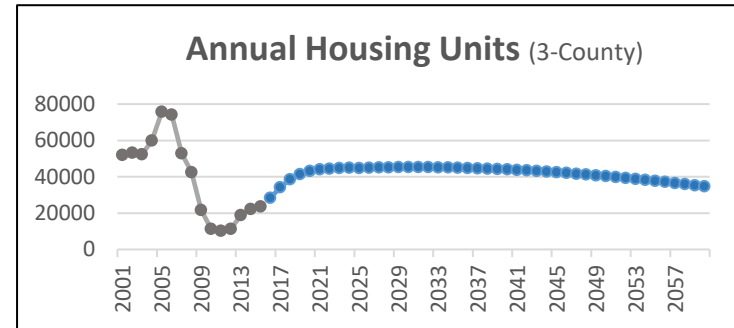
A. Baseline [WVWA]

Growth rate based on Medium growth series from the State, and growth pattern from MAG.

Allow Shortages	Yes	
Select CRSS Array	3	3=Synthetic
Use Specific Trace	Yes	
Selected Trace	1	1=Moderate; 2=Deep; 3=Slight
AWBA Max M&I	80%	
Surface Water Scenario	1	1=No Reduction; 2=Occational; 3=Frequent
Use CAP Buildup	Yes	
CAP Buildup Scenario	2	1=2035; 2=2045
HU Growth Pattern	1	1=Baseline
HU Forecast	2	1=Use Curve; 2=Eller Forecast
HU Curve	2	
HU Growth Start Rate	0%	
HU Ordinary Level	45,000	
HU Rate @ 50 yrs	-2%	
GPHUD Change Existing	-0.5%	per year
GPHUD Max Change Existing	-15%	
GPHUD Min Existing	200	
GPHUD Scenario New	1	
GPHUD Change New	-0.1%	per year
Ag Climate Adjustment	0	
Ag Efficiency Increase	0.1%	per year
Ag Efficiency Goal	80%	
Ag Replace Crop CU	2.66	
Ag Intensity Scenario	2	
Ag Develop on Crops	50%	Perecent of max on active Ag
Ag Acres Replace Percent	7000%	
Ag Replace Crop Year	2025	

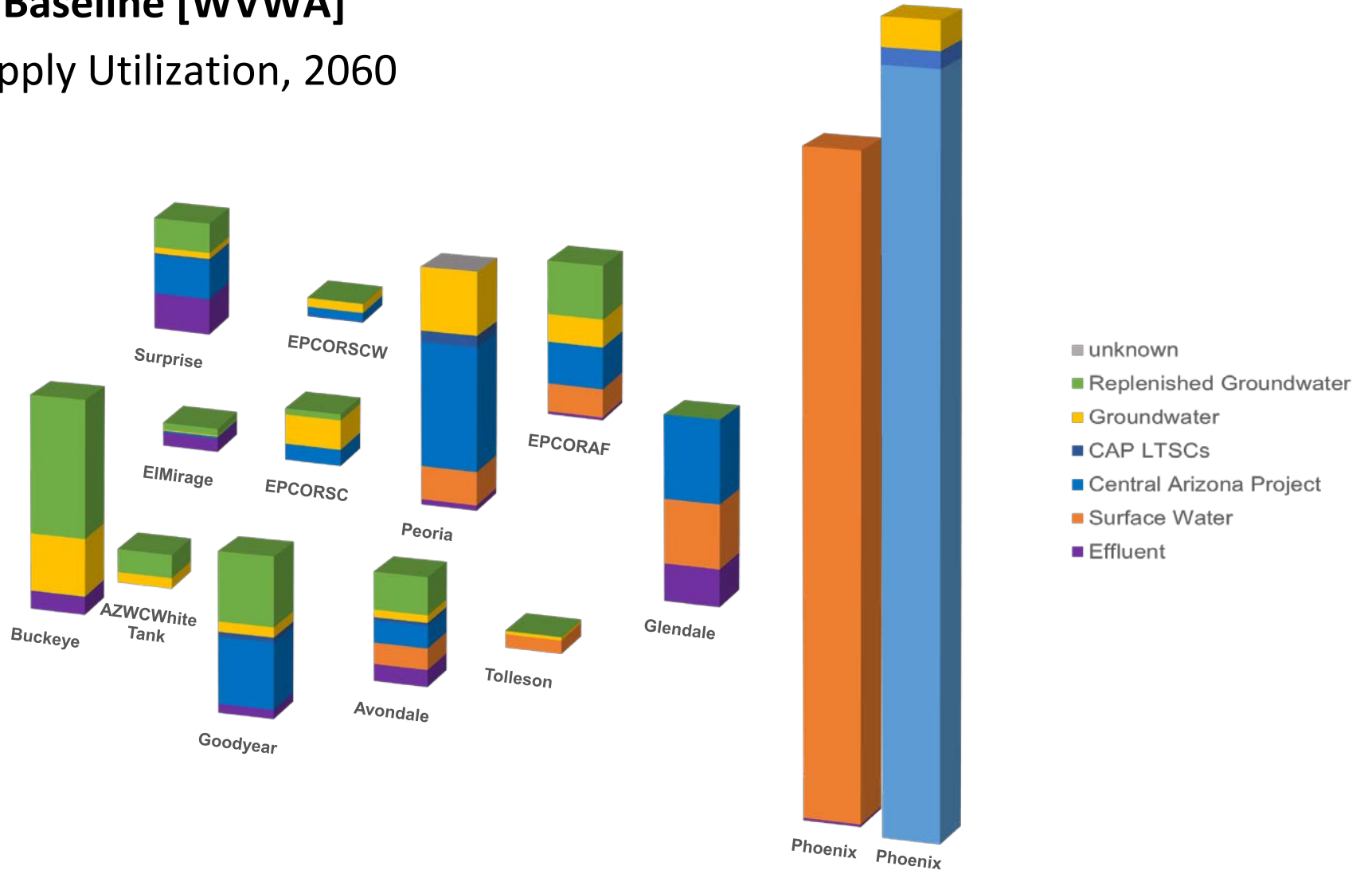
Run Date: 4/11/2018

Filename: CAPServiceArea_v3.22.gsm



A. Baseline [WVWA]

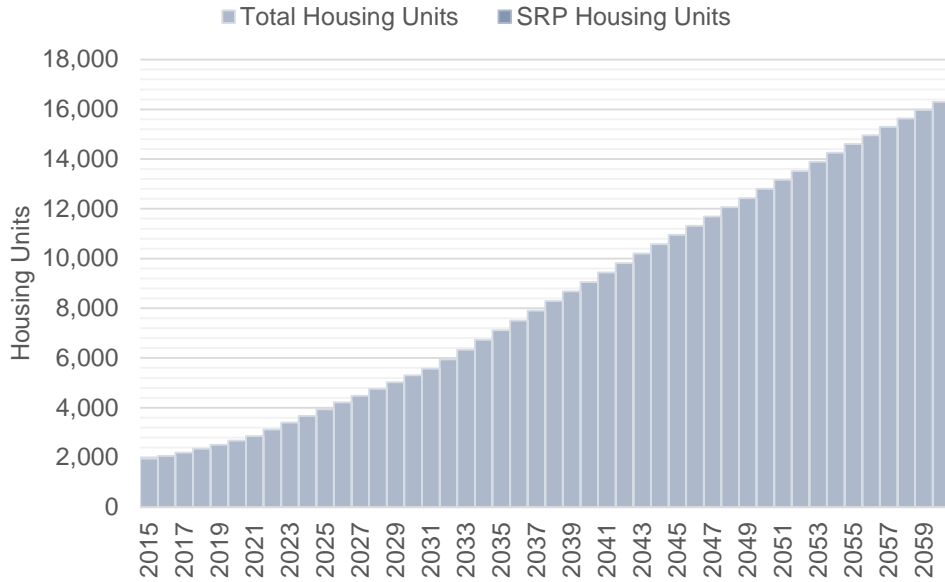
Supply Utilization, 2060



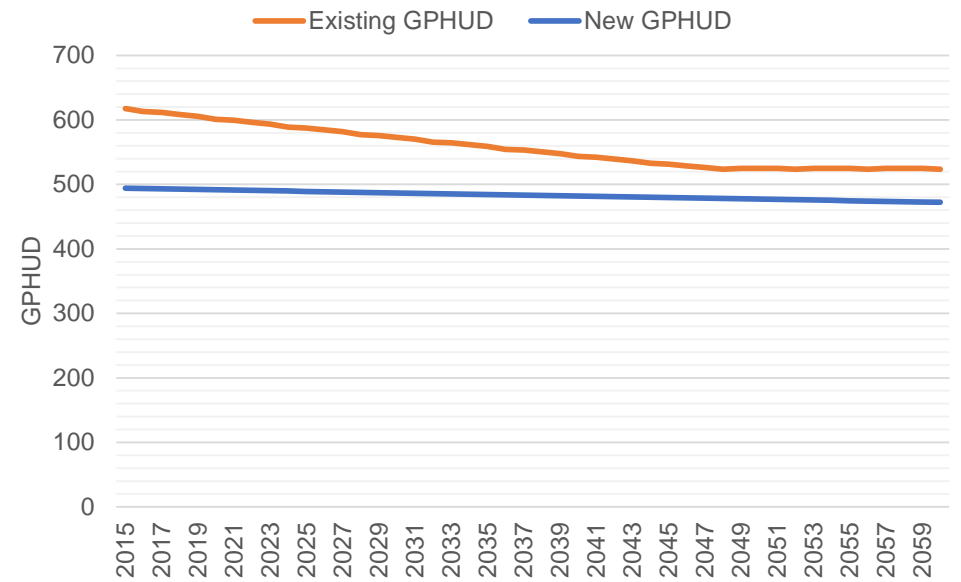
Central Arizona Project Service Area Model

A. Baseline [WVWA]

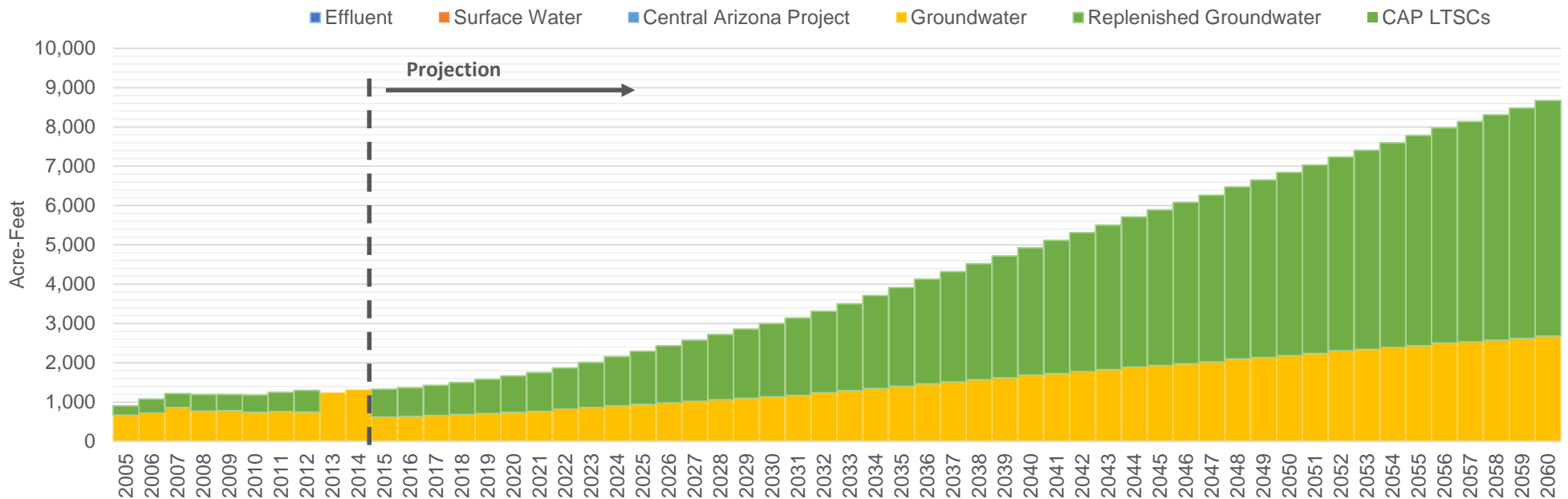
Housing Unit Projection



Gallons Per Housing Unit Per Day



Water Supply Projections



Central Arizona Project Service Area Model

A. Baseline [WVWA]

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AZWCWhiteTank

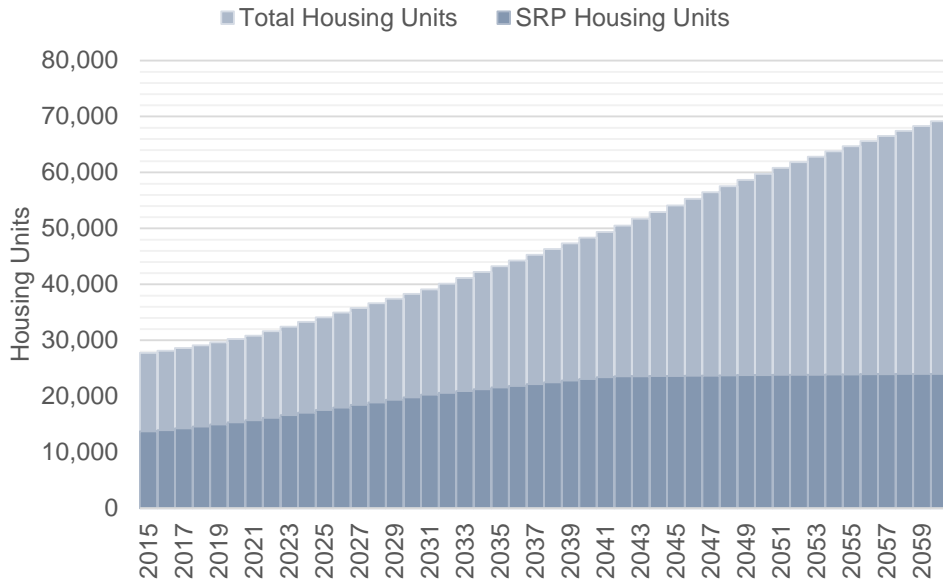
Date	Demand Assumptions				Water Supply Projections (Acre-Feet)									
	Housing Units		GPHUD		Effluent	Surface Water		Central Arizona Project				Groundwater		Unknown
	Total	SRP	Existing	New		SRP	Non-SRP	Direct	ASR	Storage	Recovery	Non-Repl.	Replenished	
2015	1,947	0	618	494	0	0	0	0	0	0	0	615	716	0
2016	2,059	0	613	494	0	0	0	0	0	0	0	636	730	0
2017	2,194	0	612	493	0	0	0	0	0	0	0	660	768	0
2018	2,347	0	608	493	0	0	0	0	0	0	0	685	815	0
2019	2,511	0	605	492	0	0	0	0	0	0	0	712	869	0
2020	2,682	0	601	492	0	0	0	0	0	0	0	740	928	0
2021	2,861	0	599	491	0	0	0	0	0	0	0	767	989	0
2022	3,129	0	596	491	0	0	0	0	0	0	0	817	1,055	0
2023	3,399	0	593	490	0	0	0	0	0	0	0	860	1,152	0
2024	3,670	0	589	490	0	0	0	0	0	0	0	904	1,253	0
2025	3,939	0	587	489	0	0	0	0	0	0	0	941	1,353	0
2026	4,210	0	585	489	0	0	0	0	0	0	0	980	1,455	0
2027	4,482	0	582	488	0	0	0	0	0	0	0	1,019	1,557	0
2028	4,754	0	577	488	0	0	0	0	0	0	0	1,061	1,660	0
2029	5,027	0	576	487	0	0	0	0	0	0	0	1,095	1,763	0
2030	5,299	0	573	487	0	0	0	0	0	0	0	1,132	1,867	0
2031	5,572	0	570	486	0	0	0	0	0	0	0	1,169	1,970	0
2032	5,941	0	566	486	0	0	0	0	0	0	0	1,238	2,074	0
2033	6,335	0	564	485	0	0	0	0	0	0	0	1,291	2,214	0
2034	6,727	0	562	485	0	0	0	0	0	0	0	1,347	2,363	0
2035	7,119	0	559	484	0	0	0	0	0	0	0	1,403	2,512	0
2036	7,510	0	554	484	0	0	0	0	0	0	0	1,466	2,660	0
2037	7,899	0	553	483	0	0	0	0	0	0	0	1,512	2,808	0
2038	8,287	0	550	483	0	0	0	0	0	0	0	1,567	2,955	0
2039	8,673	0	548	482	0	0	0	0	0	0	0	1,620	3,102	0
2040	9,057	0	543	482	0	0	0	0	0	0	0	1,683	3,247	0
2041	9,438	0	542	481	0	0	0	0	0	0	0	1,725	3,392	0
2042	9,817	0	539	481	0	0	0	0	0	0	0	1,776	3,536	0
2043	10,197	0	537	481	0	0	0	0	0	0	0	1,828	3,678	0
2044	10,573	0	533	480	0	0	0	0	0	0	0	1,891	3,821	0
2045	10,947	0	531	480	0	0	0	0	0	0	0	1,928	3,963	0
2046	11,317	0	529	479	0	0	0	0	0	0	0	1,977	4,103	0
2047	11,686	0	526	479	0	0	0	0	0	0	0	2,026	4,242	0
2048	12,062	0	524	478	0	0	0	0	0	0	0	2,094	4,380	0
2049	12,433	0	525	478	0	0	0	0	0	0	0	2,133	4,521	0
2050	12,800	0	525	477	0	0	0	0	0	0	0	2,186	4,660	0
2051	13,162	0	525	477	0	0	0	0	0	0	0	2,237	4,797	0
2052	13,522	0	524	476	0	0	0	0	0	0	0	2,306	4,932	0
2053	13,888	0	525	476	0	0	0	0	0	0	0	2,340	5,068	0
2054	14,249	0	525	475	0	0	0	0	0	0	0	2,390	5,206	0
2055	14,605	0	525	475	0	0	0	0	0	0	0	2,438	5,342	0
2056	14,955	0	524	474	0	0	0	0	0	0	0	2,503	5,476	0
2057	15,300	0	525	474	0	0	0	0	0	0	0	2,530	5,608	0
2058	15,639	0	525	473	0	0	0	0	0	0	0	2,575	5,738	0
2059	15,973	0	525	473	0	0	0	0	0	0	0	2,619	5,865	0
2060	16,301	0	524	472	0	0	0	0	0	0	0	2,682	5,990	0

Central Arizona Project Service Area Model

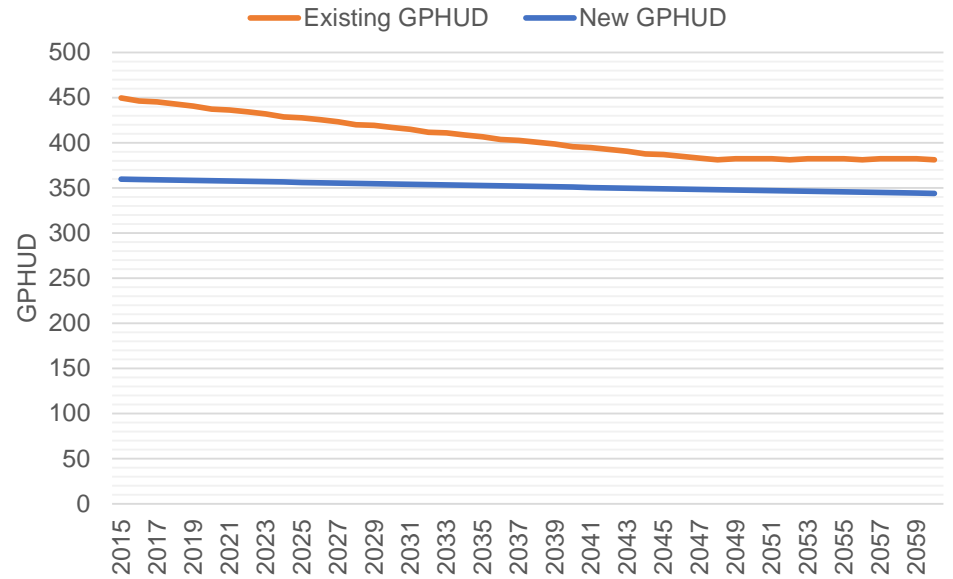
A. Baseline [WVWA]

Avondale

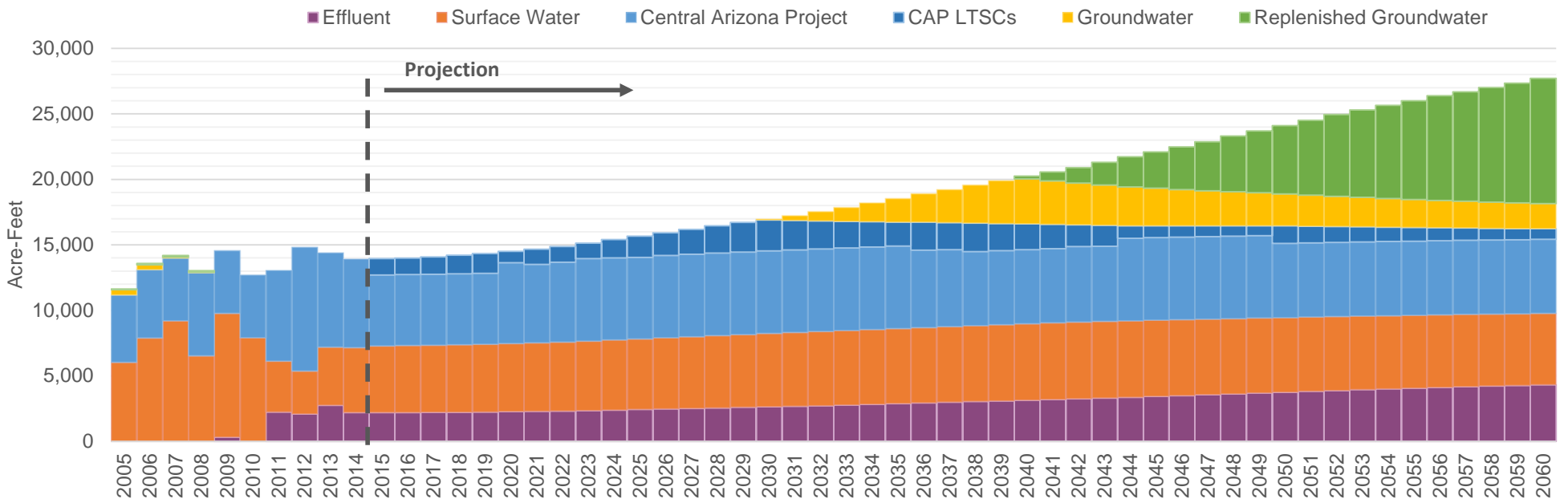
Housing Unit Projection



Gallons Per Housing Unit Per Day



Water Supply Projections



Central Arizona Project Service Area Model

A. Baseline [WVWA]

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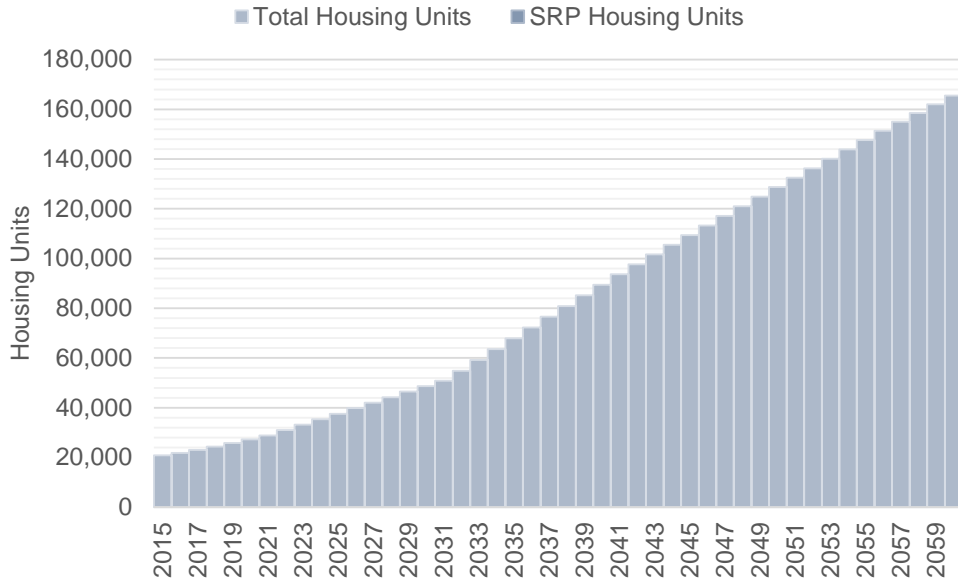
Avondale

Date	Demand Assumptions				Water Supply Projections (Acre-Feet)									
	Housing Units		GPHUD		Effluent	Surface Water		Central Arizona Project				Groundwater		Unknown
	Total	SRP	Existing	New		SRP	Non-SRP	Direct	ASR	Storage	Recovery	Non-Repl.	Replenished	
2015	27,783	13,724	450	360	2,207	5,082	0	3,250	2,166	0	1,247	0	0	0
2016	28,157	13,968	446	359	2,207	5,110	0	3,250	2,166	0	1,252	0	0	0
2017	28,607	14,262	445	359	2,212	5,123	0	3,250	2,166	0	1,329	0	0	0
2018	29,114	14,593	443	359	2,227	5,144	0	3,250	2,166	0	1,417	0	0	0
2019	29,660	14,949	441	358	2,247	5,169	0	3,250	2,166	0	1,514	0	0	0
2020	30,228	15,320	437	358	2,269	5,197	0	3,699	2,466	0	871	0	0	0
2021	30,820	15,702	436	358	2,294	5,226	0	3,594	2,396	0	1,154	0	0	0
2022	31,640	16,154	434	357	2,320	5,262	0	3,656	2,437	0	1,203	0	0	0
2023	32,466	16,610	432	357	2,353	5,303	0	3,779	2,519	0	1,184	0	0	0
2024	33,294	17,066	429	356	2,395	5,346	0	3,758	2,505	0	1,401	0	0	0
2025	34,120	17,522	428	356	2,437	5,385	0	3,729	2,486	0	1,622	0	0	0
2026	34,950	17,980	425	356	2,477	5,427	0	3,779	2,519	0	1,720	0	0	0
2027	35,781	18,439	423	355	2,519	5,469	0	3,779	2,519	0	1,899	0	0	0
2028	36,615	18,898	420	355	2,560	5,512	0	3,779	2,519	0	2,085	0	0	0
2029	37,449	19,358	419	355	2,603	5,552	0	3,779	2,519	0	2,256	0	0	0
2030	38,283	19,819	417	354	2,643	5,594	0	3,779	2,519	0	2,366	70	0	0
2031	39,118	20,279	415	354	2,685	5,636	0	3,779	2,519	0	2,248	368	0	0
2032	40,119	20,624	412	354	2,726	5,672	0	3,779	2,519	0	2,135	710	0	0
2033	41,162	20,938	411	353	2,775	5,692	0	3,779	2,519	0	2,029	1,071	0	0
2034	42,204	21,251	409	353	2,826	5,713	0	3,779	2,519	0	1,927	1,444	0	0
2035	43,242	21,564	407	353	2,880	5,734	0	3,779	2,519	0	1,831	1,807	0	0
2036	44,278	21,876	404	352	2,934	5,758	0	3,540	2,360	0	2,137	2,178	0	0
2037	45,309	22,187	403	352	2,991	5,775	0	3,524	2,350	0	2,056	2,532	0	0
2038	46,337	22,496	401	351	3,042	5,795	0	3,396	2,264	0	2,168	2,900	0	0
2039	47,359	22,804	399	351	3,095	5,816	0	3,396	2,264	0	2,059	3,269	0	0
2040	48,376	23,110	396	351	3,148	5,839	0	3,394	2,263	0	1,959	3,436	212	0
2041	49,386	23,414	395	350	3,203	5,855	0	3,396	2,264	0	1,859	3,308	673	0
2042	50,511	23,557	393	350	3,252	5,864	0	3,455	2,303	0	1,668	3,187	1,179	0
2043	51,723	23,587	391	350	3,307	5,852	0	3,442	2,295	0	1,605	3,074	1,721	0
2044	52,925	23,616	388	349	3,369	5,837	0	3,779	2,519	0	964	2,966	2,291	0
2045	54,117	23,646	387	349	3,437	5,814	0	3,779	2,519	0	915	2,865	2,767	0
2046	55,298	23,675	385	349	3,495	5,795	0	3,779	2,519	0	870	2,770	3,262	0
2047	56,455	23,704	383	348	3,558	5,776	0	3,779	2,519	0	826	2,680	3,737	0
2048	57,563	23,731	381	348	3,619	5,757	0	3,779	2,519	0	785	2,596	4,258	0
2049	58,659	23,758	382	348	3,688	5,726	0	3,779	2,519	0	746	2,517	4,724	0
2050	59,743	23,785	382	347	3,749	5,700	0	3,397	2,265	0	1,345	2,443	5,213	0
2051	60,813	23,812	382	347	3,814	5,674	0	3,397	2,265	0	1,278	2,373	5,717	0
2052	61,861	23,838	381	347	3,878	5,652	0	3,395	2,264	0	1,216	2,308	6,239	0
2053	62,824	23,861	382	346	3,947	5,621	0	3,395	2,264	0	1,155	2,247	6,663	0
2054	63,774	23,885	382	346	4,001	5,595	0	3,394	2,263	0	1,100	2,190	7,107	0
2055	64,710	23,908	382	346	4,057	5,569	0	3,394	2,263	0	1,045	2,136	7,537	0
2056	65,632	23,931	381	345	4,113	5,546	0	3,395	2,264	0	990	2,086	7,991	0
2057	66,540	23,953	382	345	4,174	5,516	0	3,395	2,264	0	941	2,040	8,355	0
2058	67,433	23,976	382	345	4,221	5,490	0	3,397	2,265	0	891	1,996	8,757	0
2059	68,310	23,997	382	344	4,274	5,464	0	3,397	2,265	0	847	1,955	9,142	0
2060	69,172	24,019	381	344	4,325	5,442	0	3,397	2,265	0	805	1,917	9,556	0

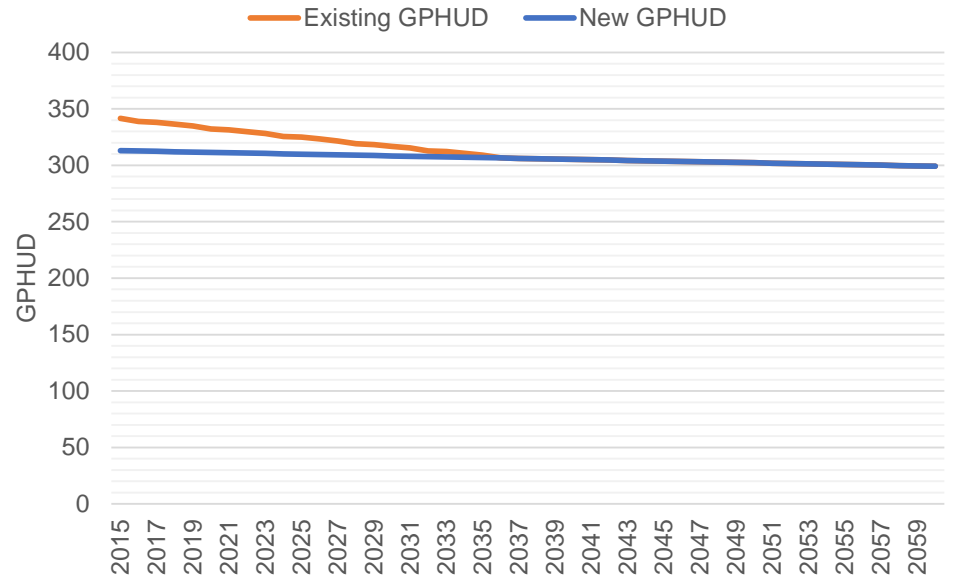
Central Arizona Project Service Area Model

A. Baseline [WVWA]

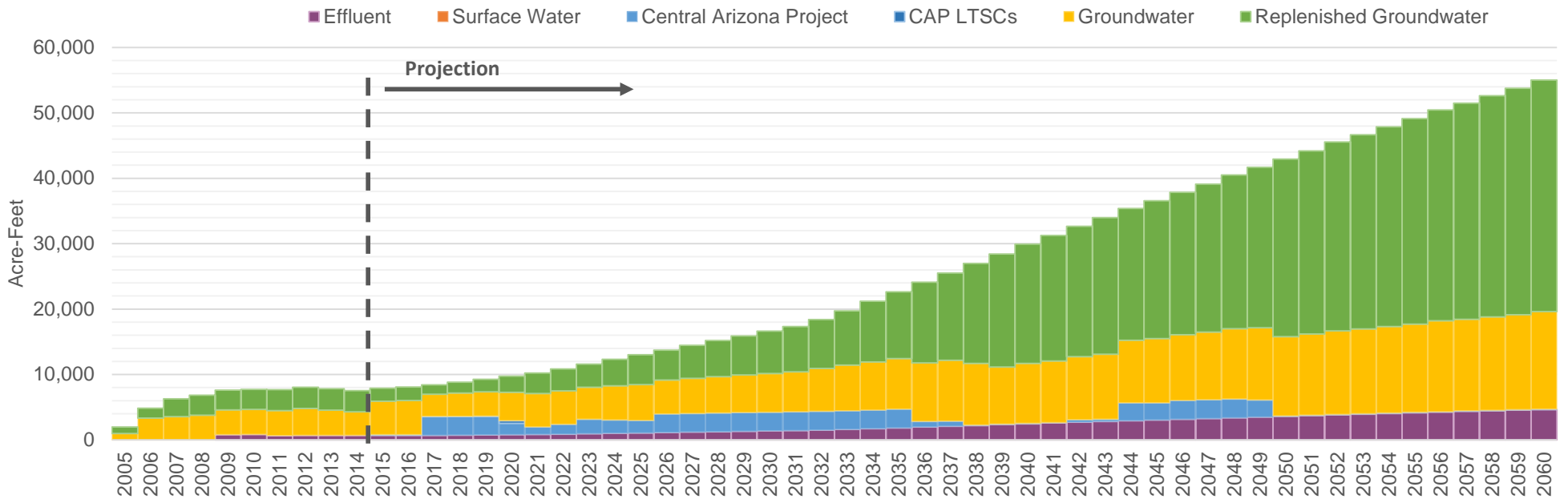
Housing Unit Projection



Gallons Per Housing Unit Per Day



Water Supply Projections



Central Arizona Project Service Area Model

A. Baseline [WVWA]

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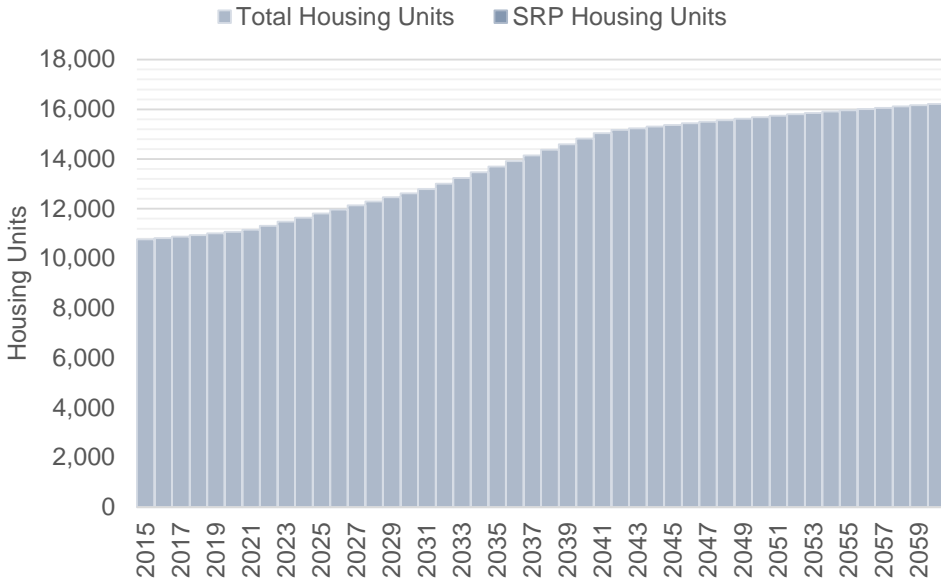


Date	Demand Assumptions				Water Supply Projections (Acre-Feet)									
	Housing Units		GPHUD		Effluent	Surface Water		Central Arizona Project				Groundwater		Unknown
	Total	SRP	Existing	New		SRP	Non-SRP	Direct	ASR	Storage	Recovery	Non-Repl.	Replenished	
2015	20,840	0	342	313	682	0	0	68	0	0	28	5,133	1,991	0
2016	21,822	0	339	313	682	0	0	68	0	0	26	5,246	2,075	0
2017	23,005	0	338	312	699	0	0	2,854	0	0	25	3,397	1,461	0
2018	24,339	0	337	312	728	0	0	2,854	0	0	24	3,555	1,675	0
2019	25,774	0	335	312	763	0	0	2,820	0	0	57	3,719	1,921	0
2020	27,267	0	332	311	801	0	0	1,723	0	0	395	4,372	2,465	0
2021	28,824	0	331	311	842	0	0	1,147	0	0	0	5,119	3,134	0
2022	31,006	0	330	311	884	0	0	1,483	0	0	0	5,142	3,343	0
2023	33,203	0	328	311	937	0	0	2,215	0	0	0	4,915	3,505	0
2024	35,405	0	326	310	999	0	0	2,045	0	0	0	5,227	4,038	0
2025	37,602	0	325	310	1,062	0	0	1,887	0	0	0	5,494	4,573	0
2026	39,809	0	323	310	1,123	0	0	2,854	0	0	0	5,170	4,589	0
2027	42,021	0	322	309	1,186	0	0	2,854	0	0	0	5,369	5,050	0
2028	44,237	0	319	309	1,248	0	0	2,854	0	0	0	5,582	5,518	0
2029	46,456	0	318	309	1,312	0	0	2,854	0	0	0	5,753	5,984	0
2030	48,676	0	317	308	1,373	0	0	2,854	0	0	0	5,941	6,457	0
2031	50,896	0	315	308	1,435	0	0	2,854	0	0	0	6,124	6,931	0
2032	54,828	0	313	308	1,497	0	0	2,854	0	0	0	6,589	7,449	0
2033	59,200	0	312	307	1,587	0	0	2,854	0	0	0	6,982	8,318	0
2034	63,564	0	311	307	1,704	0	0	2,854	0	0	0	7,364	9,273	0
2035	67,917	0	309	307	1,829	0	0	2,854	0	0	0	7,735	10,225	0
2036	72,257	0	307	306	1,954	0	0	850	0	0	0	8,985	12,343	0
2037	76,581	0	306	306	2,083	0	0	765	0	0	0	9,316	13,361	0
2038	80,886	0	306	306	2,203	0	0	68	0	0	0	9,411	15,294	0
2039	85,171	0	306	306	2,328	0	0	68	0	0	0	8,754	17,269	0
2040	89,432	0	305	305	2,453	0	0	68	0	0	0	9,174	18,239	0
2041	93,668	0	305	305	2,584	0	0	68	0	0	0	9,430	19,192	0
2042	97,716	0	305	305	2,699	0	0	383	0	0	0	9,638	19,936	0
2043	101,659	0	304	304	2,819	0	0	314	0	0	0	9,964	20,889	0
2044	105,571	0	304	304	2,933	0	0	2,715	0	0	0	9,586	20,152	0
2045	109,449	0	304	304	3,054	0	0	2,595	0	0	0	9,839	21,091	0
2046	113,292	0	303	303	3,157	0	0	2,854	0	0	0	10,060	21,783	0
2047	117,134	0	303	303	3,267	0	0	2,854	0	0	0	10,362	22,639	0
2048	121,051	0	303	303	3,377	0	0	2,854	0	0	0	10,772	23,507	0
2049	124,924	0	303	303	3,496	0	0	2,595	0	0	0	11,046	24,541	0
2050	128,753	0	302	302	3,597	0	0	68	0	0	0	12,120	27,155	0
2051	132,536	0	302	302	3,706	0	0	68	0	0	0	12,401	28,009	0
2052	136,289	0	302	302	3,814	0	0	68	0	0	0	12,797	28,859	0
2053	140,135	0	301	301	3,930	0	0	68	0	0	0	12,968	29,684	0
2054	143,927	0	301	301	4,026	0	0	68	0	0	0	13,249	30,549	0
2055	147,664	0	301	301	4,134	0	0	68	0	0	0	13,519	31,391	0
2056	151,345	0	300	300	4,239	0	0	68	0	0	0	13,912	32,229	0
2057	154,967	0	300	300	4,354	0	0	68	0	0	0	14,034	33,031	0
2058	158,530	0	300	300	4,444	0	0	68	0	0	0	14,289	33,842	0
2059	162,033	0	300	300	4,544	0	0	68	0	0	0	14,533	34,631	0
2060	165,474	0	299	299	4,641	0	0	68	0	0	0	14,912	35,415	0

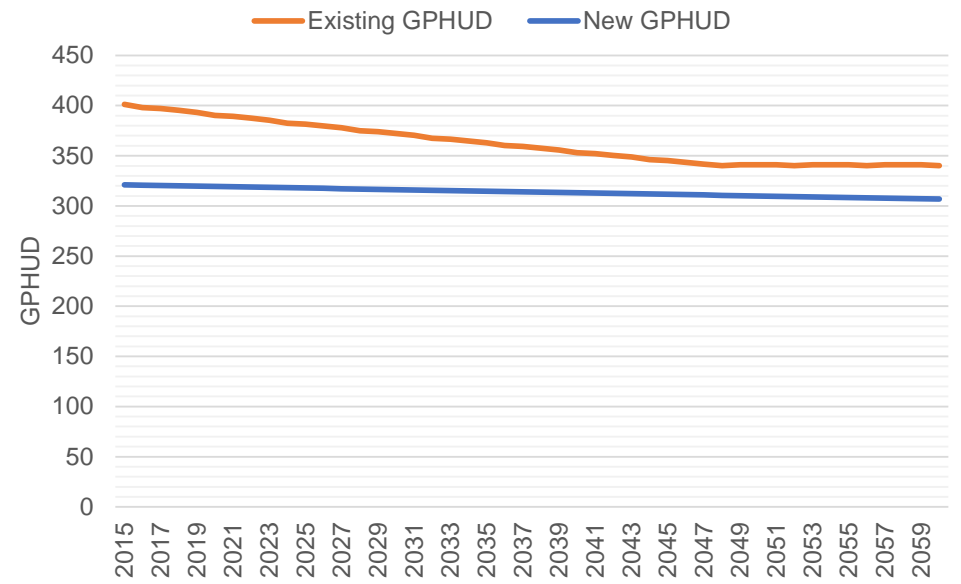
Central Arizona Project Service Area Model

A. Baseline [WVWA]

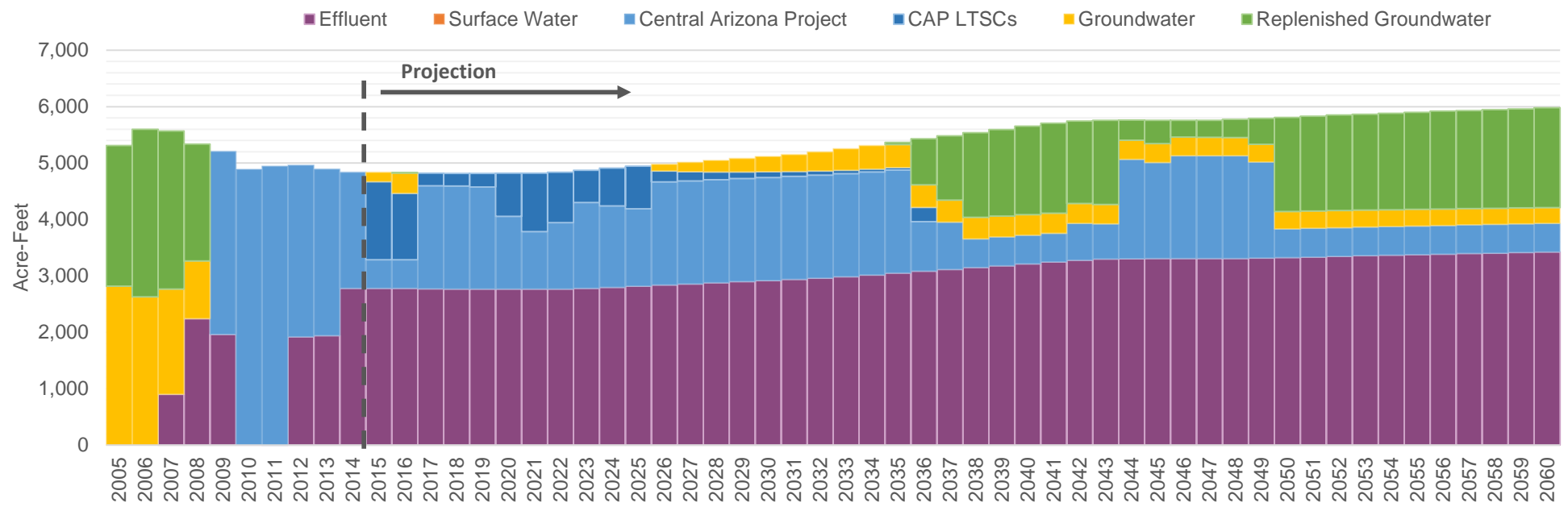
Housing Unit Projection



Gallons Per Housing Unit Per Day



Water Supply Projections



Central Arizona Project Service Area Model

A. Baseline [WVWA]

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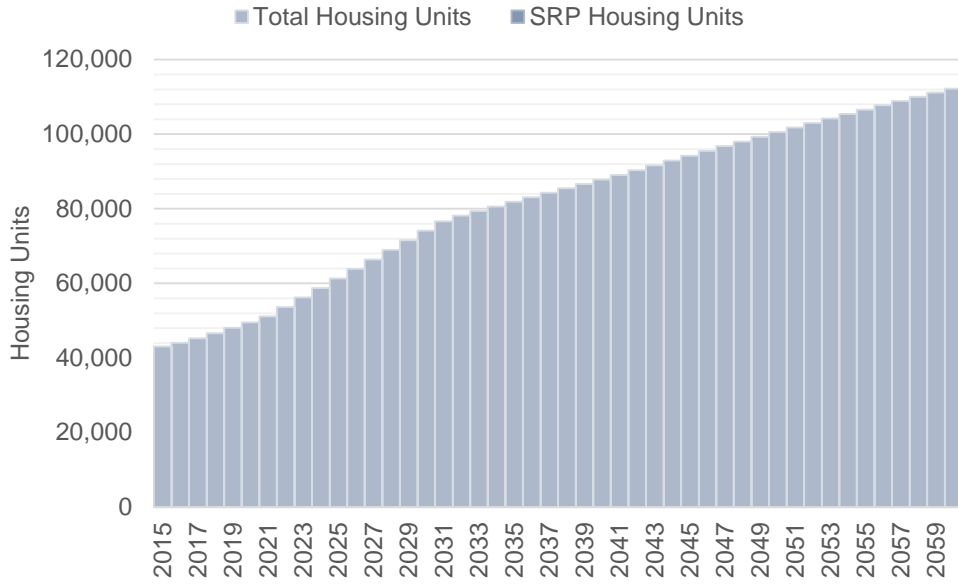


Date	Demand Assumptions				Water Supply Projections (Acre-Feet)									
	Housing Units		GPHUD		Effluent	Surface Water		Central Arizona Project				Groundwater		Unknown
	Total	SRP	Existing	New		SRP	Non-SRP	Direct	ASR	Storage	Recovery	Non-Repl.	Replenished	
2015	10,776	0	401	321	2,778	0	0	0	508	0	1,385	168	0	0
2016	10,822	0	398	321	2,778	0	0	0	508	0	1,177	361	2	0
2017	10,878	0	397	320	2,771	0	0	0	1,826	0	224	0	0	0
2018	10,941	0	395	320	2,767	0	0	0	1,826	0	225	0	0	0
2019	11,008	0	393	320	2,766	0	0	0	1,810	0	241	0	0	0
2020	11,079	0	390	319	2,765	0	0	0	1,291	0	762	0	0	0
2021	11,155	0	389	319	2,766	0	0	0	1,018	0	1,036	0	0	0
2022	11,317	0	387	319	2,767	0	0	0	1,178	0	895	0	0	0
2023	11,479	0	385	318	2,778	0	0	0	1,524	0	572	0	0	0
2024	11,643	0	383	318	2,798	0	0	0	1,443	0	668	0	0	0
2025	11,805	0	382	318	2,818	0	0	0	1,368	0	757	0	0	0
2026	11,969	0	380	318	2,838	0	0	0	1,826	0	193	120	0	0
2027	12,133	0	378	317	2,858	0	0	0	1,826	0	164	165	0	0
2028	12,297	0	375	317	2,878	0	0	0	1,826	0	140	206	0	0
2029	12,461	0	374	317	2,899	0	0	0	1,826	0	119	239	0	0
2030	12,626	0	372	316	2,918	0	0	0	1,826	0	101	273	0	0
2031	12,790	0	370	316	2,938	0	0	0	1,826	0	86	303	0	0
2032	13,006	0	367	316	2,958	0	0	0	1,826	0	73	342	0	0
2033	13,235	0	367	315	2,985	0	0	0	1,826	0	62	380	0	0
2034	13,464	0	365	315	3,016	0	0	0	1,826	0	53	416	0	0
2035	13,692	0	363	315	3,049	0	0	0	1,826	0	45	409	40	0
2036	13,920	0	360	314	3,082	0	0	0	878	0	254	399	816	0
2037	14,146	0	359	314	3,116	0	0	0	838	0	0	390	1,139	0
2038	14,371	0	358	314	3,148	0	0	0	508	0	0	381	1,503	0
2039	14,595	0	356	313	3,180	0	0	0	508	0	0	373	1,534	0
2040	14,818	0	353	313	3,212	0	0	0	508	0	0	365	1,569	0
2041	15,040	0	352	313	3,246	0	0	0	508	0	0	358	1,594	0
2042	15,170	0	350	312	3,276	0	0	0	657	0	0	352	1,461	0
2043	15,237	0	349	312	3,298	0	0	0	624	0	0	346	1,489	0
2044	15,303	0	346	312	3,305	0	0	0	1,760	0	0	340	357	0
2045	15,370	0	345	312	3,308	0	0	0	1,703	0	0	334	413	0
2046	15,435	0	344	311	3,306	0	0	0	1,826	0	0	329	298	0
2047	15,499	0	342	311	3,306	0	0	0	1,826	0	0	324	303	0
2048	15,561	0	340	311	3,306	0	0	0	1,826	0	0	319	324	0
2049	15,622	0	341	310	3,315	0	0	0	1,703	0	0	315	457	0
2050	15,682	0	341	310	3,324	0	0	0	508	0	0	311	1,667	0
2051	15,742	0	341	310	3,335	0	0	0	508	0	0	307	1,679	0
2052	15,800	0	340	309	3,346	0	0	0	508	0	0	303	1,695	0
2053	15,854	0	341	309	3,360	0	0	0	508	0	0	300	1,698	0
2054	15,907	0	341	309	3,367	0	0	0	508	0	0	296	1,710	0
2055	15,960	0	341	308	3,377	0	0	0	508	0	0	293	1,720	0
2056	16,011	0	340	308	3,386	0	0	0	508	0	0	290	1,735	0
2057	16,062	0	341	308	3,398	0	0	0	508	0	0	288	1,737	0
2058	16,112	0	341	308	3,404	0	0	0	508	0	0	285	1,749	0
2059	16,161	0	341	307	3,413	0	0	0	508	0	0	283	1,757	0
2060	16,209	0	340	307	3,422	0	0	0	508	0	0	280	1,770	0

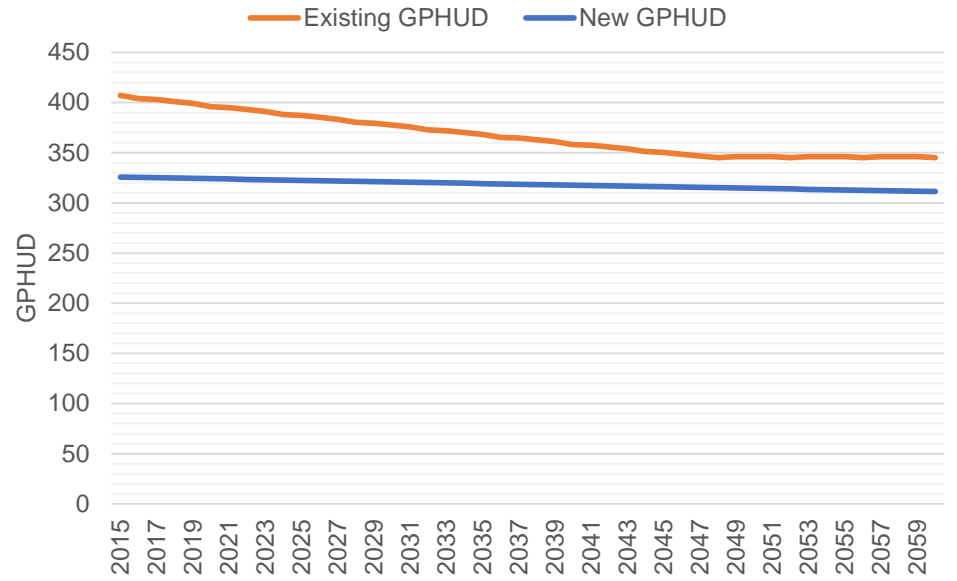
Central Arizona Project Service Area Model

A. Baseline [WVWA]

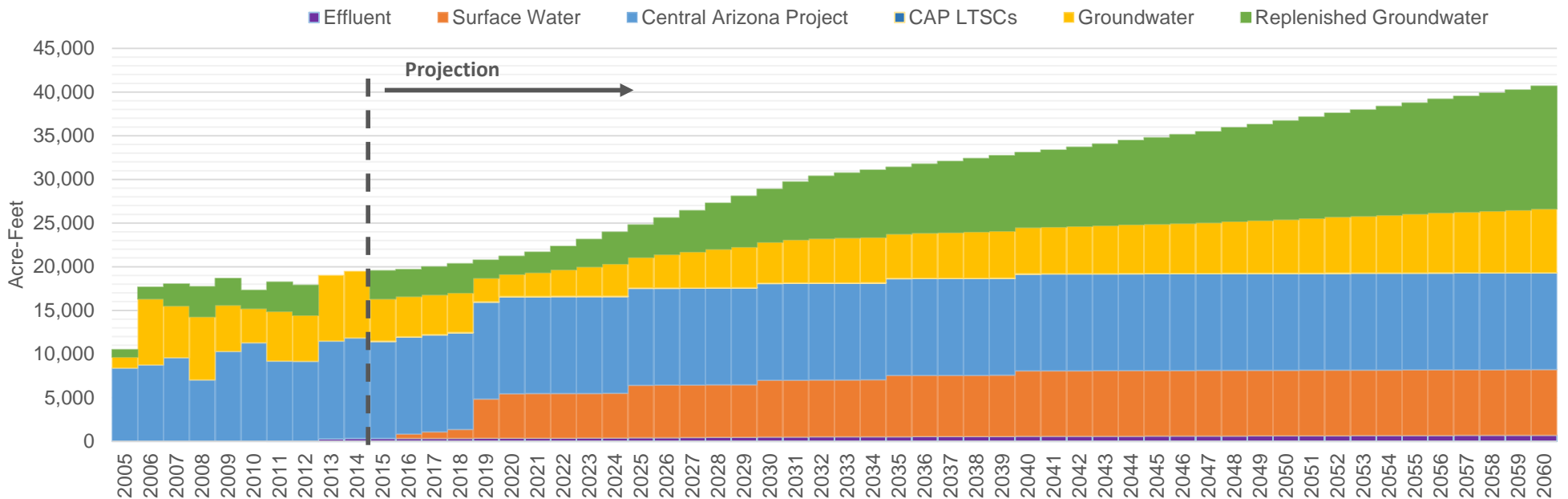
Housing Unit Projection



Gallons Per Housing Unit Per Day



Water Supply Projections



Central Arizona Project Service Area Model

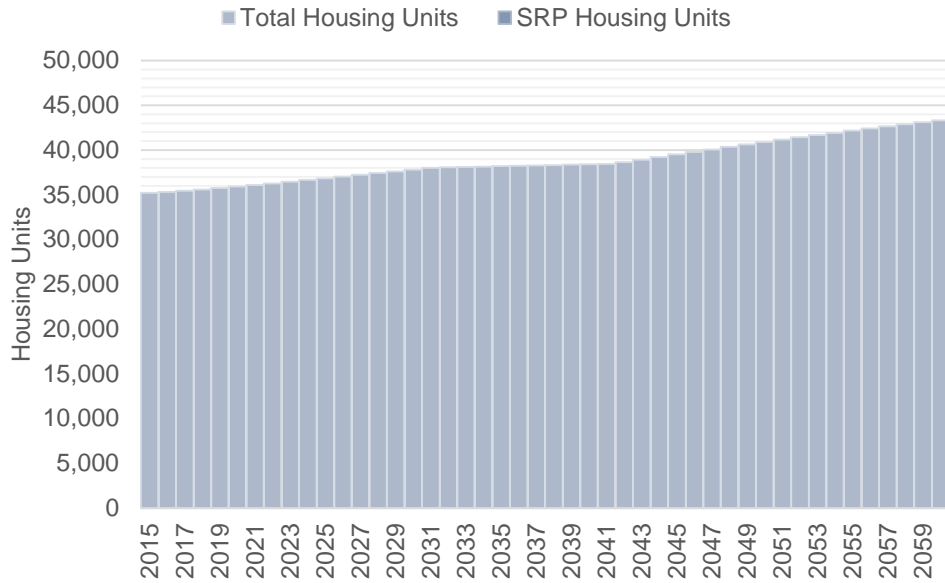
A. Baseline [WVWA]

Date	Demand Assumptions				Water Supply Projections (Acre-Feet)									
	Housing Units		GPHUD		Effluent	Surface Water		Central Arizona Project				Groundwater		Unknown
	Total	SRP	Existing	New		SRP	Non-SRP	Direct	ASR	Storage	Recovery	Non-Repl.	Replenished	
2015	43,071	0	407	326	348	0	0	11,093	0	0	45	4,836	3,225	0
2016	44,064	0	404	325	348	0	500	11,093	0	0	42	4,603	3,109	0
2017	45,260	0	403	325	351	0	750	11,093	0	0	40	4,550	3,212	0
2018	46,609	0	401	325	356	0	1,000	11,093	0	0	38	4,529	3,346	0
2019	48,060	0	399	324	363	0	4,500	11,093	0	0	36	2,692	2,090	0
2020	49,570	0	396	324	370	0	5,100	11,093	0	0	34	2,549	2,074	0
2021	51,160	0	395	324	378	0	5,100	11,093	0	0	33	2,738	2,338	0
2022	53,683	0	393	323	386	0	5,100	11,093	0	0	31	3,039	2,679	0
2023	56,224	0	391	323	397	0	5,100	11,093	0	0	30	3,364	3,163	0
2024	58,770	0	388	323	412	0	5,100	11,093	0	0	28	3,686	3,663	0
2025	61,311	0	387	323	427	0	6,000	11,093	0	0	27	3,534	3,708	0
2026	63,863	0	385	322	441	0	6,000	11,093	0	0	25	3,832	4,217	0
2027	66,421	0	383	322	456	0	6,000	11,093	0	0	24	4,118	4,739	0
2028	68,983	0	380	322	471	0	6,000	11,093	0	0	23	4,410	5,280	0
2029	71,549	0	380	321	486	0	6,000	11,093	0	0	22	4,659	5,815	0
2030	74,116	0	378	321	500	0	6,500	11,093	0	0	21	4,698	6,085	0
2031	76,683	0	376	321	514	0	6,500	11,093	0	0	20	4,949	6,641	0
2032	78,185	0	373	320	529	0	6,500	11,093	0	0	19	5,089	7,150	0
2033	79,410	0	372	320	541	0	6,500	11,093	0	0	18	5,143	7,438	0
2034	80,632	0	370	320	547	0	6,500	11,093	0	0	17	5,218	7,693	0
2035	81,851	0	368	319	553	0	7,000	11,093	0	0	16	5,092	7,650	0
2036	83,066	0	365	319	559	0	7,000	11,093	0	0	15	5,190	7,918	0
2037	84,277	0	365	319	566	0	7,000	11,093	0	0	14	5,239	8,155	0
2038	85,482	0	363	318	571	0	7,000	11,093	0	0	14	5,316	8,403	0
2039	86,681	0	361	318	577	0	7,000	11,093	0	0	13	5,391	8,649	0
2040	87,874	0	358	318	583	0	7,500	11,093	0	0	12	5,301	8,601	0
2041	89,059	0	357	317	589	0	7,500	11,093	0	0	12	5,344	8,829	0
2042	90,315	0	356	317	594	0	7,500	11,093	0	0	11	5,423	9,078	0
2043	91,628	0	354	317	600	0	7,500	11,093	0	0	11	5,507	9,342	0
2044	92,931	0	351	316	606	0	7,500	11,093	0	0	10	5,619	9,635	0
2045	94,223	0	350	316	614	0	7,500	11,093	0	0	10	5,666	9,891	0
2046	95,503	0	349	316	619	0	7,500	11,093	0	0	9	5,742	10,163	0
2047	96,776	0	347	315	625	0	7,500	11,093	0	0	9	5,815	10,433	0
2048	98,051	0	345	315	632	0	7,500	11,093	0	0	8	5,954	10,737	0
2049	99,312	0	346	315	640	0	7,500	11,093	0	0	8	6,043	11,015	0
2050	100,558	0	346	315	646	0	7,500	11,093	0	0	7	6,168	11,306	0
2051	101,789	0	346	314	654	0	7,500	11,093	0	0	7	6,290	11,593	0
2052	103,006	0	345	314	661	0	7,500	11,093	0	0	7	6,447	11,896	0
2053	104,219	0	346	314	669	0	7,500	11,093	0	0	6	6,526	12,158	0
2054	105,414	0	346	313	676	0	7,500	11,093	0	0	6	6,641	12,437	0
2055	106,592	0	346	313	683	0	7,500	11,093	0	0	6	6,753	12,712	0
2056	107,753	0	345	313	690	0	7,500	11,093	0	0	5	6,905	13,003	0
2057	108,894	0	346	312	698	0	7,500	11,093	0	0	5	6,969	13,250	0
2058	110,018	0	346	312	703	0	7,500	11,093	0	0	5	7,073	13,513	0
2059	111,122	0	346	312	710	0	7,500	11,093	0	0	5	7,174	13,771	0
2060	112,207	0	345	311	717	0	7,500	11,093	0	0	4	7,318	14,045	0

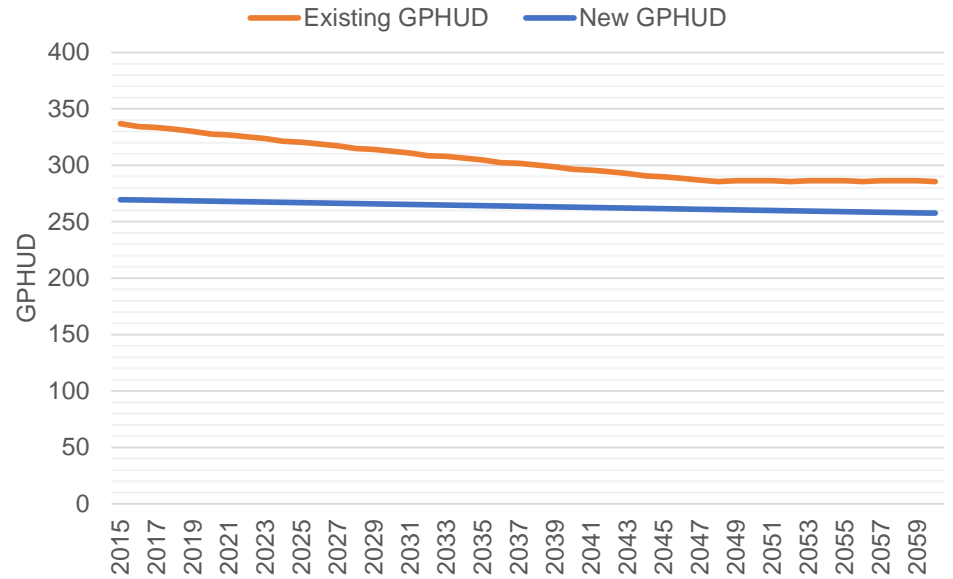
Central Arizona Project Service Area Model

A. Baseline [WVWA]

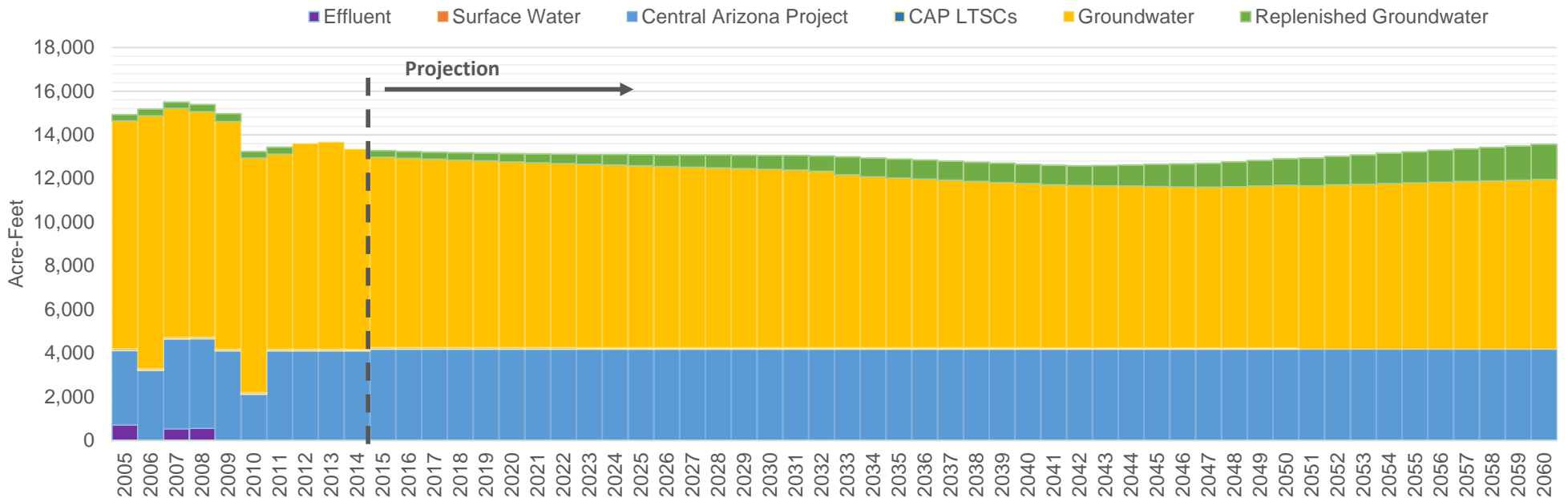
Housing Unit Projection



Gallons Per Housing Unit Per Day



Water Supply Projections



Central Arizona Project Service Area Model

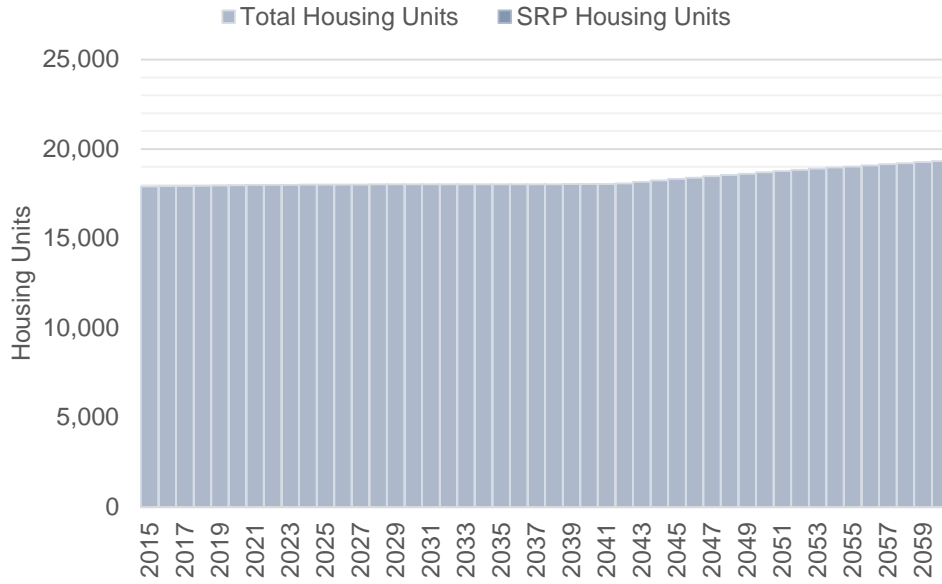
A. Baseline [WVWA]

Date	Demand Assumptions				Water Supply Projections (Acre-Feet)									
	Housing Units		GPHUD		Effluent	Surface Water		Central Arizona Project				Groundwater		Unknown
	Total	SRP	Existing	New		SRP	Non-SRP	Direct	ASR	Storage	Recovery	Non-Repl.	Replenished	
2015	35,221	0	337	270	0	0	0	4,189	0	0	79	8,709	306	0
2016	35,328	0	334	269	0	0	0	4,189	0	0	79	8,662	309	0
2017	35,456	0	334	269	0	0	0	4,189	0	0	78	8,621	320	0
2018	35,602	0	332	269	0	0	0	4,189	0	0	77	8,582	335	0
2019	35,758	0	330	268	0	0	0	4,189	0	0	76	8,542	356	0
2020	35,920	0	328	268	0	0	0	4,189	0	0	75	8,503	379	0
2021	36,087	0	327	268	0	0	0	4,189	0	0	75	8,464	402	0
2022	36,278	0	325	268	0	0	0	4,189	0	0	74	8,429	427	0
2023	36,469	0	324	267	0	0	0	4,189	0	0	73	8,395	454	0
2024	36,661	0	321	267	0	0	0	4,189	0	0	73	8,362	482	0
2025	36,852	0	320	267	0	0	0	4,189	0	0	72	8,328	510	0
2026	37,044	0	319	267	0	0	0	4,189	0	0	71	8,294	538	0
2027	37,237	0	317	266	0	0	0	4,189	0	0	70	8,261	565	0
2028	37,430	0	315	266	0	0	0	4,189	0	0	70	8,230	593	0
2029	37,623	0	314	266	0	0	0	4,189	0	0	69	8,196	621	0
2030	37,817	0	312	266	0	0	0	4,189	0	0	68	8,164	649	0
2031	38,010	0	311	265	0	0	0	4,189	0	0	68	8,132	677	0
2032	38,083	0	309	265	0	0	0	4,189	0	0	67	8,085	704	0
2033	38,124	0	308	265	0	0	0	4,189	0	0	66	7,911	831	0
2034	38,166	0	306	264	0	0	0	4,189	0	0	66	7,826	867	0
2035	38,207	0	305	264	0	0	0	4,189	0	0	65	7,774	872	0
2036	38,248	0	302	264	0	0	0	4,189	0	0	64	7,724	876	0
2037	38,289	0	302	264	0	0	0	4,189	0	0	64	7,669	880	0
2038	38,330	0	300	263	0	0	0	4,189	0	0	63	7,617	885	0
2039	38,372	0	299	263	0	0	0	4,189	0	0	62	7,566	889	0
2040	38,412	0	296	263	0	0	0	4,189	0	0	62	7,517	893	0
2041	38,453	0	296	263	0	0	0	4,189	0	0	61	7,463	897	0
2042	38,642	0	294	262	0	0	0	4,189	0	0	61	7,434	902	0
2043	38,935	0	293	262	0	0	0	4,189	0	0	60	7,419	929	0
2044	39,225	0	291	262	0	0	0	4,189	0	0	59	7,407	971	0
2045	39,513	0	290	262	0	0	0	4,189	0	0	59	7,389	1,013	0
2046	39,799	0	288	261	0	0	0	4,189	0	0	58	7,374	1,054	0
2047	40,081	0	287	261	0	0	0	4,189	0	0	58	7,358	1,096	0
2048	40,357	0	286	261	0	0	0	4,189	0	0	57	7,377	1,138	0
2049	40,630	0	286	261	0	0	0	4,189	0	0	56	7,409	1,180	0
2050	40,901	0	286	260	0	0	0	4,189	0	0	56	7,446	1,222	0
2051	41,168	0	286	260	0	0	0	4,189	0	0	55	7,481	1,264	0
2052	41,430	0	286	260	0	0	0	4,189	0	0	55	7,520	1,306	0
2053	41,682	0	286	259	0	0	0	4,189	0	0	54	7,548	1,347	0
2054	41,931	0	286	259	0	0	0	4,189	0	0	54	7,580	1,386	0
2055	42,175	0	286	259	0	0	0	4,189	0	0	53	7,611	1,425	0
2056	42,417	0	286	259	0	0	0	4,189	0	0	53	7,647	1,463	0
2057	42,654	0	286	258	0	0	0	4,189	0	0	52	7,672	1,501	0
2058	42,887	0	286	258	0	0	0	4,189	0	0	52	7,701	1,539	0
2059	43,117	0	286	258	0	0	0	4,189	0	0	51	7,729	1,575	0
2060	43,342	0	286	258	0	0	0	4,189	0	0	51	7,763	1,612	0

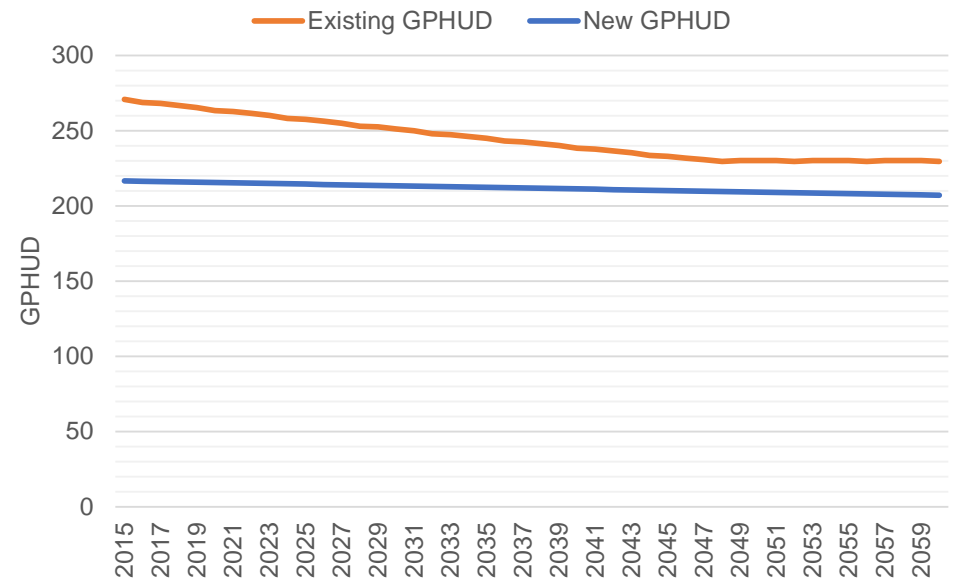
Central Arizona Project Service Area Model

A. Baseline [WVWA]

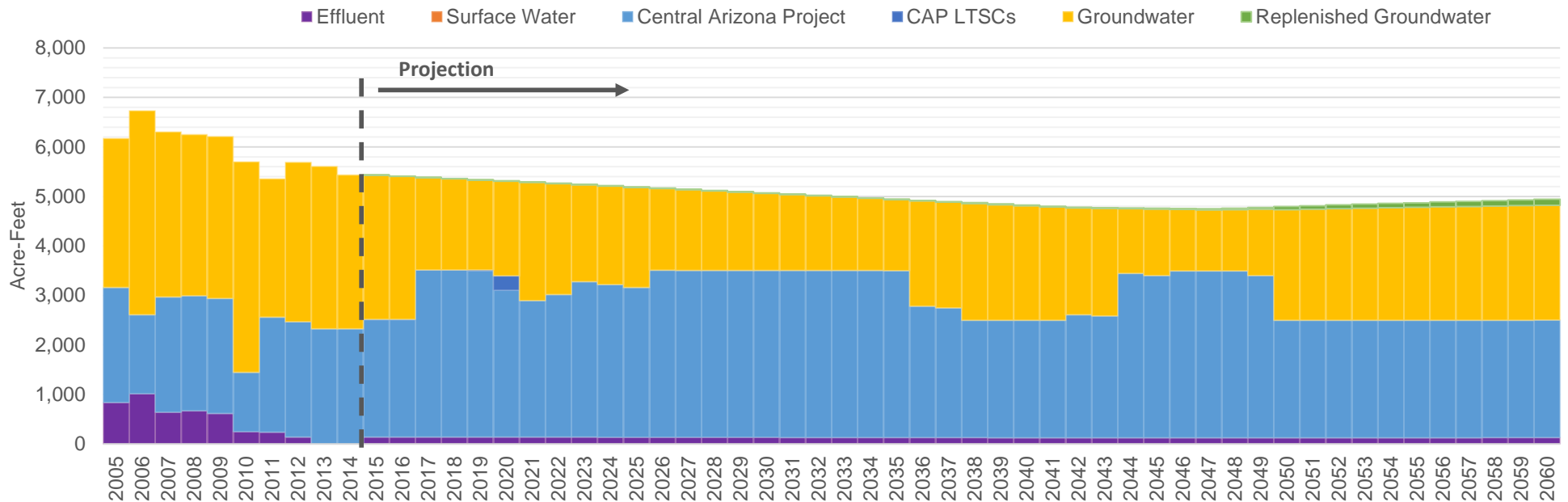
Housing Unit Projection



Gallons Per Housing Unit Per Day



Water Supply Projections



Central Arizona Project Service Area Model

A. Baseline [WVWA]

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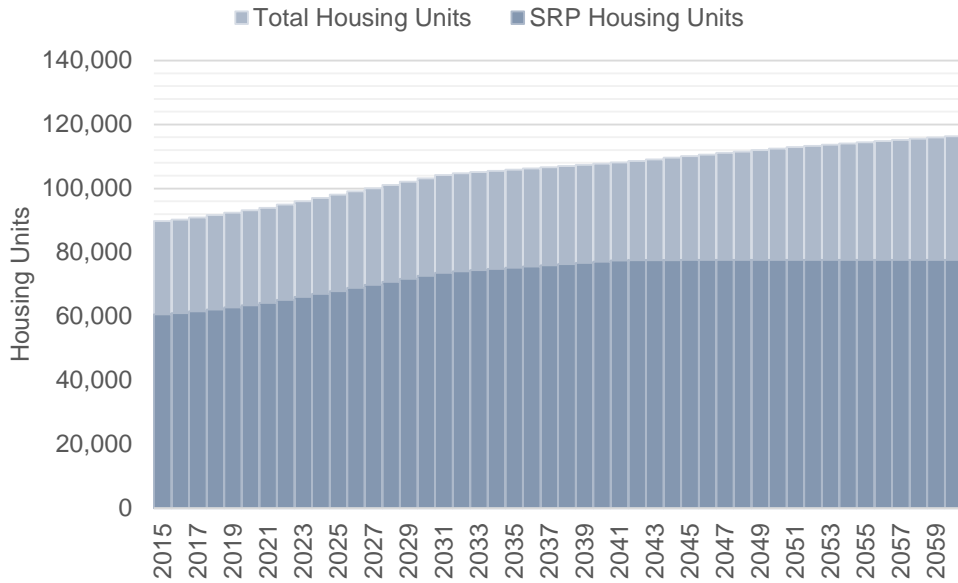
Date	Demand Assumptions				Water Supply Projections (Acre-Feet)									
	Housing Units		GPHUD		Effluent	Surface Water		Central Arizona Project				Groundwater		Unknown
	Total	SRP	Existing	New		SRP	Non-SRP	Direct	ASR	Storage	Recovery	Non-Repl.	Replenished	
2015	17,916	0	271	217	142	0	0	2,372	0	0	3	2,912	5	0
2016	17,927	0	269	216	142	0	0	2,372	0	0	3	2,886	5	0
2017	17,939	0	268	216	141	0	0	3,372	0	0	3	1,864	4	0
2018	17,954	0	267	216	141	0	0	3,372	0	0	3	1,840	5	0
2019	17,969	0	265	216	140	0	0	3,360	0	0	15	1,817	6	0
2020	17,985	0	263	216	139	0	0	2,966	0	0	290	1,913	7	0
2021	18,000	0	263	215	139	0	0	2,759	0	0	0	2,384	10	0
2022	18,004	0	261	215	138	0	0	2,880	0	0	0	2,240	11	0
2023	18,008	0	260	215	138	0	0	3,143	0	0	0	1,953	10	0
2024	18,012	0	258	215	137	0	0	3,082	0	0	0	1,989	10	0
2025	18,016	0	258	214	136	0	0	3,025	0	0	0	2,021	11	0
2026	18,021	0	256	214	136	0	0	3,372	0	0	0	1,651	9	0
2027	18,025	0	255	214	135	0	0	3,372	0	0	0	1,627	9	0
2028	18,029	0	253	214	134	0	0	3,372	0	0	0	1,603	9	0
2029	18,033	0	252	214	134	0	0	3,372	0	0	0	1,579	9	0
2030	18,037	0	251	213	133	0	0	3,372	0	0	0	1,555	9	0
2031	18,041	0	250	213	132	0	0	3,372	0	0	0	1,532	10	0
2032	18,042	0	248	213	132	0	0	3,372	0	0	0	1,507	10	0
2033	18,042	0	247	213	131	0	0	3,372	0	0	0	1,483	10	0
2034	18,042	0	246	213	131	0	0	3,372	0	0	0	1,459	9	0
2035	18,042	0	245	212	130	0	0	3,372	0	0	0	1,435	9	0
2036	18,042	0	243	212	129	0	0	2,653	0	0	0	2,126	14	0
2037	18,042	0	243	212	129	0	0	2,622	0	0	0	2,133	14	0
2038	18,042	0	241	212	128	0	0	2,372	0	0	0	2,357	16	0
2039	18,043	0	240	212	127	0	0	2,372	0	0	0	2,334	16	0
2040	18,043	0	238	211	127	0	0	2,372	0	0	0	2,311	16	0
2041	18,043	0	238	211	126	0	0	2,372	0	0	0	2,287	15	0
2042	18,090	0	237	211	125	0	0	2,485	0	0	0	2,158	15	0
2043	18,171	0	235	211	125	0	0	2,460	0	0	0	2,170	18	0
2044	18,250	0	234	210	125	0	0	3,322	0	0	0	1,307	15	0
2045	18,329	0	233	210	125	0	0	3,279	0	0	0	1,341	19	0
2046	18,407	0	232	210	124	0	0	3,372	0	0	0	1,242	21	0
2047	18,484	0	231	210	124	0	0	3,372	0	0	0	1,233	25	0
2048	18,557	0	230	210	124	0	0	3,372	0	0	0	1,238	28	0
2049	18,630	0	230	209	124	0	0	3,279	0	0	0	1,341	34	0
2050	18,702	0	230	209	125	0	0	2,372	0	0	0	2,235	63	0
2051	18,773	0	230	209	125	0	0	2,372	0	0	0	2,246	69	0
2052	18,842	0	230	209	126	0	0	2,372	0	0	0	2,256	75	0
2053	18,907	0	230	209	126	0	0	2,372	0	0	0	2,264	81	0
2054	18,970	0	230	208	127	0	0	2,372	0	0	0	2,273	87	0
2055	19,033	0	230	208	127	0	0	2,372	0	0	0	2,282	92	0
2056	19,094	0	230	208	127	0	0	2,372	0	0	0	2,291	98	0
2057	19,155	0	230	208	128	0	0	2,372	0	0	0	2,298	103	0
2058	19,214	0	230	208	128	0	0	2,372	0	0	0	2,306	108	0
2059	19,273	0	230	207	128	0	0	2,372	0	0	0	2,315	113	0
2060	19,330	0	230	207	129	0	0	2,372	0	0	0	2,323	118	0

Central Arizona Project Service Area Model

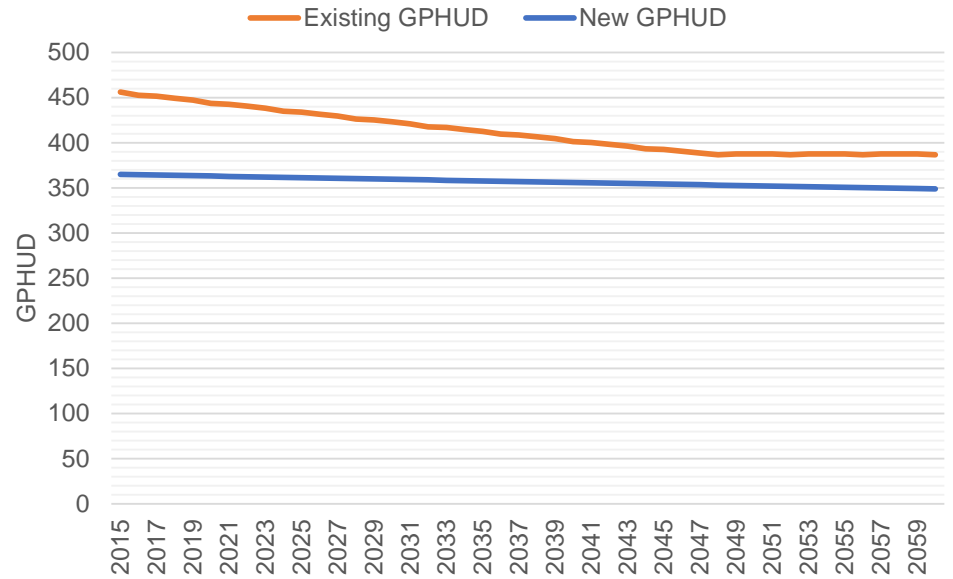
A. Baseline [WVWA]

Glendale

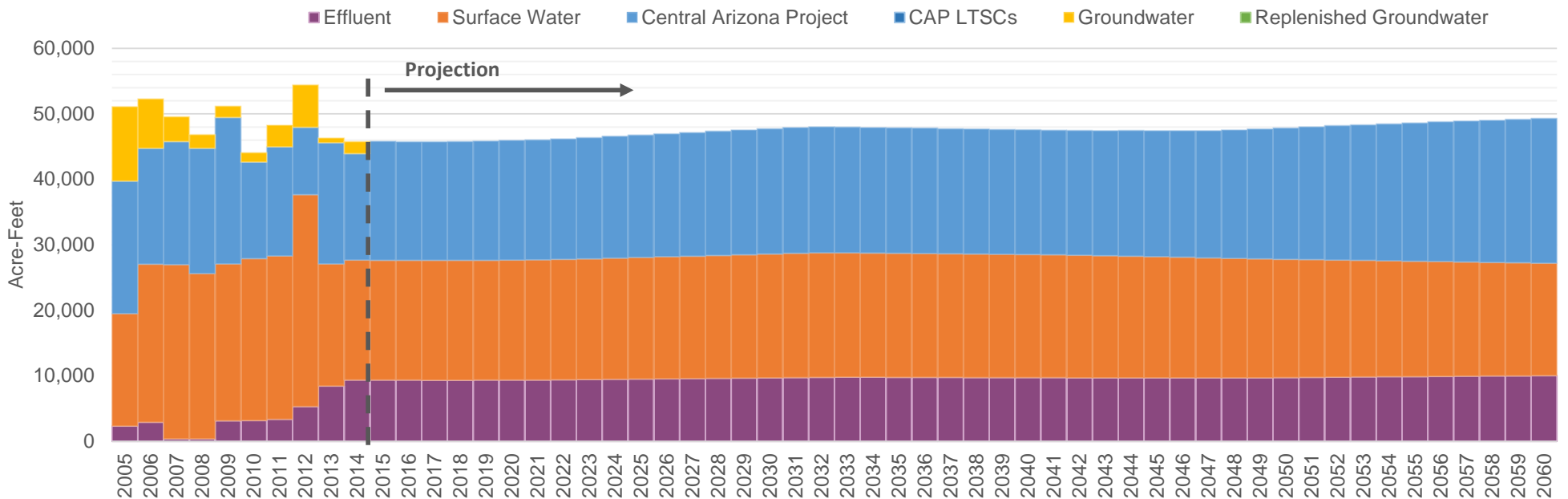
Housing Unit Projection



Gallons Per Housing Unit Per Day



Water Supply Projections



Central Arizona Project Service Area Model

A. Baseline [WVWA]

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Glendale

Demand Assumptions

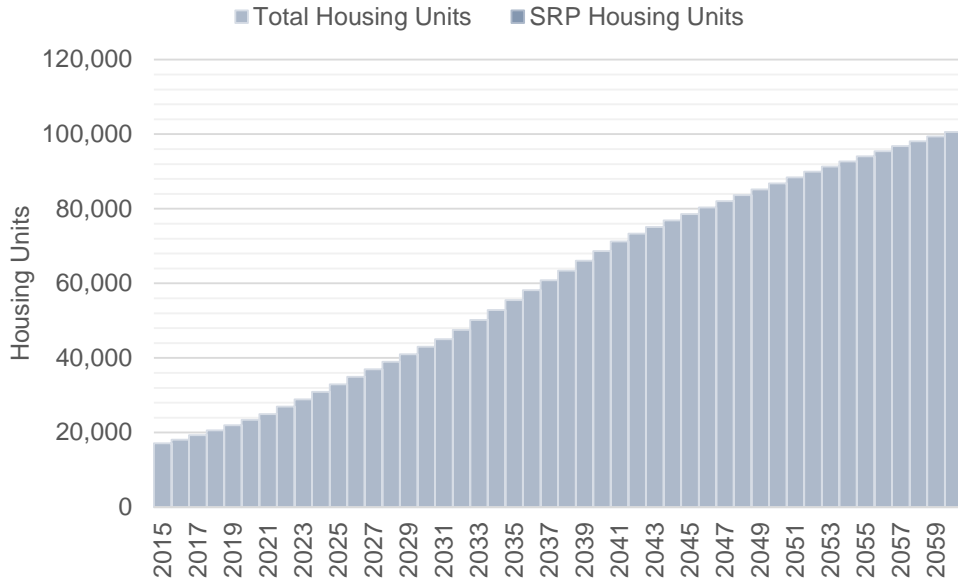
Water Supply Projections (Acre-Feet)

Date	Housing Units		GPHUD		Effluent	Surface Water		Central Arizona Project				Groundwater		Unknown
	Total	SRP	Existing	New		SRP	Non-SRP	Direct	ASR	Storage	Recovery	Non-Repl.	Replenished	
2015	89,796	60,586	456	365	9,367	18,285	0	18,174	0	0	0	0	0	0
2016	90,311	61,027	453	365	9,367	18,301	0	18,072	0	0	0	0	0	0
2017	90,931	61,558	452	364	9,349	18,288	0	18,106	0	0	0	0	0	0
2018	91,630	62,157	449	364	9,350	18,289	0	18,146	0	0	0	0	0	0
2019	92,383	62,801	447	364	9,359	18,300	0	18,196	0	0	0	0	0	0
2020	93,166	63,471	444	363	9,373	18,318	0	18,254	0	0	0	0	0	0
2021	93,975	64,168	443	363	9,391	18,338	0	18,312	0	0	0	0	0	0
2022	94,987	65,100	440	362	9,411	18,380	0	18,395	0	0	0	0	0	0
2023	96,005	66,039	438	362	9,441	18,442	0	18,492	0	0	0	0	0	0
2024	97,026	66,980	435	362	9,479	18,508	0	18,586	0	0	0	0	0	0
2025	98,044	67,919	434	361	9,520	18,569	0	18,668	0	0	0	0	0	0
2026	99,067	68,862	432	361	9,557	18,632	0	18,759	0	0	0	0	0	0
2027	100,092	69,807	430	361	9,596	18,696	0	18,849	0	0	0	0	0	0
2028	101,120	70,754	426	360	9,636	18,765	0	18,947	0	0	0	0	0	0
2029	102,148	71,702	425	360	9,678	18,826	0	19,028	0	0	0	0	0	0
2030	103,177	72,651	423	360	9,716	18,891	0	19,121	0	0	0	0	0	0
2031	104,206	73,600	421	359	9,756	18,956	0	19,212	0	0	0	0	0	0
2032	104,726	74,094	418	359	9,796	18,992	0	19,247	0	0	0	0	0	0
2033	105,113	74,471	417	358	9,818	18,969	0	19,197	0	0	0	0	0	0
2034	105,499	74,847	415	358	9,808	18,944	0	19,172	0	0	0	0	0	0
2035	105,885	75,223	413	358	9,796	18,918	0	19,150	0	0	0	0	0	0
2036	106,269	75,597	409	357	9,784	18,900	0	19,139	0	0	0	0	0	0
2037	106,652	75,969	409	357	9,775	18,868	0	19,102	0	0	0	0	0	0
2038	107,033	76,340	406	357	9,759	18,843	0	19,084	0	0	0	0	0	0
2039	107,412	76,709	404	356	9,747	18,818	0	19,062	0	0	0	0	0	0
2040	107,790	77,077	401	356	9,735	18,801	0	19,052	0	0	0	0	0	0
2041	108,165	77,442	400	356	9,727	18,768	0	19,013	0	0	0	0	0	0
2042	108,616	77,594	398	355	9,711	18,726	0	19,027	0	0	0	0	0	0
2043	109,124	77,600	396	355	9,702	18,656	0	19,089	0	0	0	0	0	0
2044	109,628	77,606	393	355	9,699	18,583	0	19,182	0	0	0	0	0	0
2045	110,127	77,612	392	354	9,702	18,495	0	19,239	0	0	0	0	0	0
2046	110,622	77,618	391	354	9,696	18,415	0	19,317	0	0	0	0	0	0
2047	111,106	77,623	389	353	9,694	18,335	0	19,388	0	0	0	0	0	0
2048	111,564	77,628	387	353	9,692	18,255	0	19,589	0	0	0	0	0	0
2049	112,016	77,634	388	353	9,717	18,154	0	19,813	0	0	0	0	0	0
2050	112,464	77,639	388	352	9,747	18,061	0	20,044	0	0	0	0	0	0
2051	112,905	77,644	388	352	9,781	17,969	0	20,269	0	0	0	0	0	0
2052	113,337	77,649	387	352	9,815	17,884	0	20,507	0	0	0	0	0	0
2053	113,726	77,653	388	351	9,854	17,785	0	20,695	0	0	0	0	0	0
2054	114,110	77,658	388	351	9,880	17,695	0	20,902	0	0	0	0	0	0
2055	114,488	77,662	388	351	9,909	17,604	0	21,104	0	0	0	0	0	0
2056	114,860	77,666	387	350	9,937	17,521	0	21,322	0	0	0	0	0	0
2057	115,226	77,671	388	350	9,971	17,424	0	21,493	0	0	0	0	0	0
2058	115,587	77,675	388	350	9,993	17,335	0	21,693	0	0	0	0	0	0
2059	115,941	77,679	388	349	10,020	17,247	0	21,884	0	0	0	0	0	0
2060	116,289	77,683	387	349	10,047	17,165	0	22,094	0	0	0	0	0	0

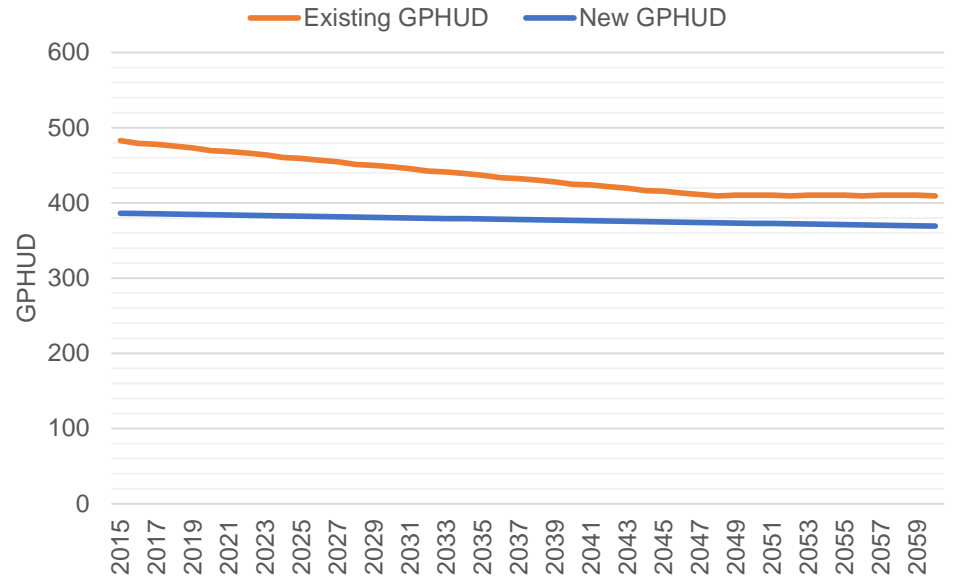
Central Arizona Project Service Area Model

A. Baseline [WVWA]

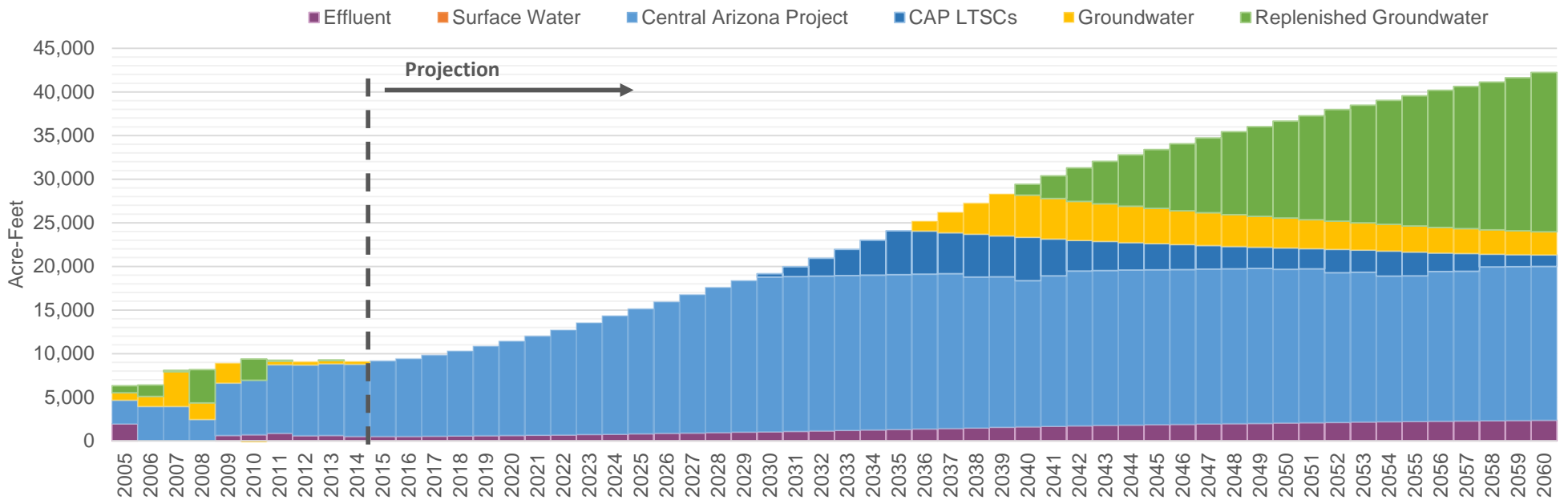
Housing Unit Projection



Gallons Per Housing Unit Per Day



Water Supply Projections





Central Arizona Project Service Area Model

A. Baseline [WVWA]

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Demand Assumptions

Water Supply Projections (Acre-Feet)

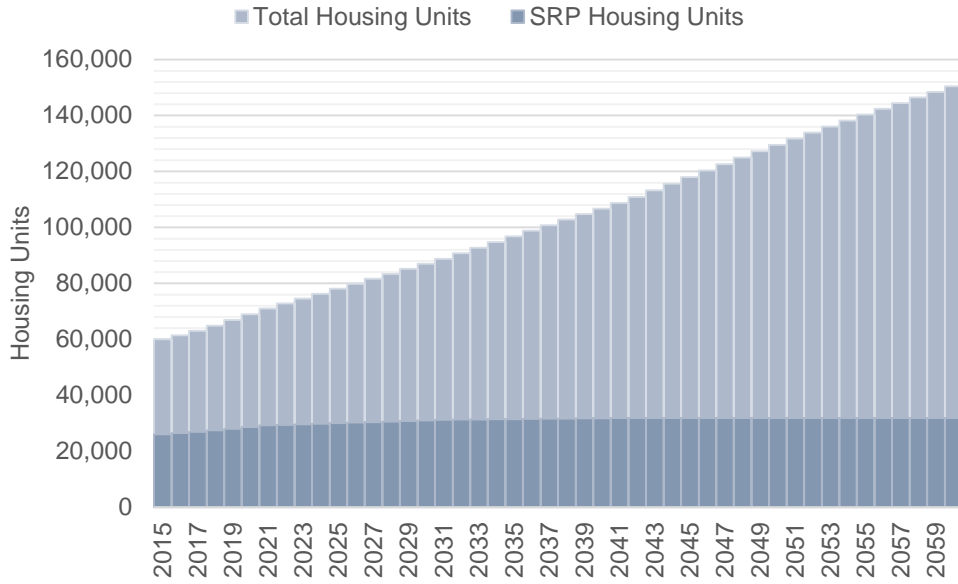
Date	Housing Units		GPHUD		Effluent	Surface Water		Central Arizona Project				Groundwater		Unknown
	Total	SRP	Existing	New		SRP	Non-SRP	Direct	ASR	Storage	Recovery	Non-Repl.	Replenished	
2015	17,166	0	483	386	522	0	0	0	8,650	0	0	0	0	0
2016	18,125	0	479	386	522	0	0	0	8,887	0	0	0	0	0
2017	19,281	0	478	385	535	0	0	0	9,284	0	0	0	0	0
2018	20,585	0	476	385	559	0	0	0	9,745	0	0	0	0	0
2019	21,987	0	473	385	586	0	0	0	10,255	0	0	0	0	0
2020	23,446	0	470	384	617	0	0	0	10,800	6,942	0	0	0	0
2021	24,960	0	469	384	650	0	0	0	11,353	6,188	0	0	0	0
2022	26,944	0	466	384	683	0	0	0	12,024	5,718	0	0	0	0
2023	28,942	0	464	383	723	0	0	0	12,790	4,952	0	0	0	0
2024	30,944	0	460	383	769	0	0	0	13,569	4,173	0	0	0	0
2025	32,942	0	459	382	816	0	0	0	14,314	3,428	0	0	0	0
2026	34,949	0	457	382	861	0	0	0	15,076	2,666	0	0	0	0
2027	36,960	0	455	382	907	0	0	0	15,839	1,903	0	0	0	0
2028	38,975	0	451	381	953	0	0	0	16,626	1,116	0	0	0	0
2029	40,993	0	450	381	1,000	0	0	0	17,363	379	0	0	0	0
2030	43,012	0	448	380	1,045	0	0	0	17,742	0	384	0	0	0
2031	45,030	0	446	380	1,091	0	0	0	17,742	0	1,144	0	0	0
2032	47,564	0	442	380	1,137	0	0	0	17,742	0	2,047	0	0	0
2033	50,228	0	441	379	1,191	0	0	0	17,742	0	3,009	0	0	0
2034	52,887	0	439	379	1,249	0	0	0	17,742	0	4,026	0	0	0
2035	55,539	0	437	379	1,310	0	0	0	17,742	0	5,035	0	0	0
2036	58,184	0	433	378	1,371	0	0	0	17,742	0	4,929	1,156	0	0
2037	60,819	0	432	378	1,434	0	0	0	17,742	0	4,683	2,352	0	0
2038	63,442	0	430	377	1,492	0	0	0	17,278	0	4,913	3,581	0	0
2039	66,053	0	428	377	1,552	0	0	0	17,265	0	4,680	4,813	0	0
2040	68,650	0	425	377	1,611	0	0	0	16,744	0	4,967	4,842	1,242	0
2041	71,231	0	424	376	1,673	0	0	0	17,239	0	4,224	4,656	2,586	0
2042	73,326	0	422	376	1,729	0	0	0	17,742	0	3,510	4,482	3,837	0
2043	75,095	0	420	376	1,781	0	0	0	17,742	0	3,334	4,319	4,874	0
2044	76,851	0	416	375	1,824	0	0	0	17,742	0	3,167	4,166	5,896	0
2045	78,592	0	415	375	1,866	0	0	0	17,742	0	3,009	4,021	6,758	0
2046	80,317	0	413	374	1,901	0	0	0	17,742	0	2,859	3,886	7,672	0
2047	82,008	0	411	374	1,938	0	0	0	17,742	0	2,716	3,758	8,555	0
2048	83,628	0	409	374	1,975	0	0	0	17,742	0	2,580	3,639	9,499	0
2049	85,231	0	410	373	2,017	0	0	0	17,742	0	2,451	3,526	10,270	0
2050	86,815	0	410	373	2,049	0	0	0	17,620	0	2,450	3,421	11,102	0
2051	88,381	0	410	373	2,085	0	0	0	17,620	0	2,328	3,322	11,916	0
2052	89,912	0	409	372	2,121	0	0	0	17,158	0	2,673	3,229	12,788	0
2053	91,324	0	410	372	2,161	0	0	0	17,158	0	2,540	3,142	13,469	0
2054	92,716	0	410	371	2,189	0	0	0	16,684	0	2,887	3,061	14,202	0
2055	94,088	0	410	371	2,221	0	0	0	16,684	0	2,743	2,985	14,934	0
2056	95,439	0	409	371	2,252	0	0	0	17,158	0	2,131	2,913	15,733	0
2057	96,769	0	410	370	2,287	0	0	0	17,158	0	2,025	2,847	16,306	0
2058	98,077	0	410	370	2,312	0	0	0	17,620	0	1,461	2,785	16,958	0
2059	99,362	0	410	370	2,341	0	0	0	17,620	0	1,388	2,727	17,563	0
2060	100,626	0	409	369	2,370	0	0	0	17,620	0	1,319	2,673	18,246	0

Peoria

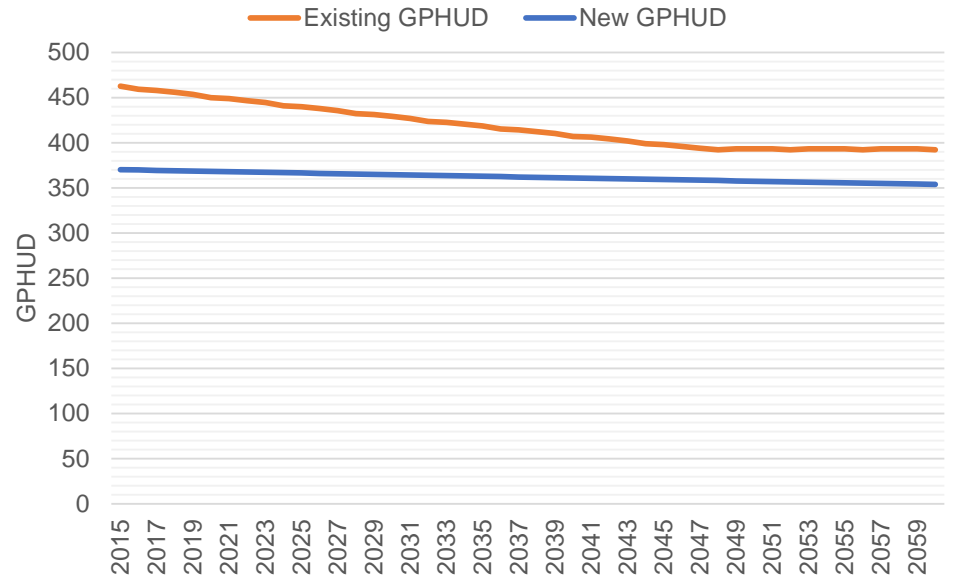
Central Arizona Project Service Area Model

A. Baseline [WVWA]

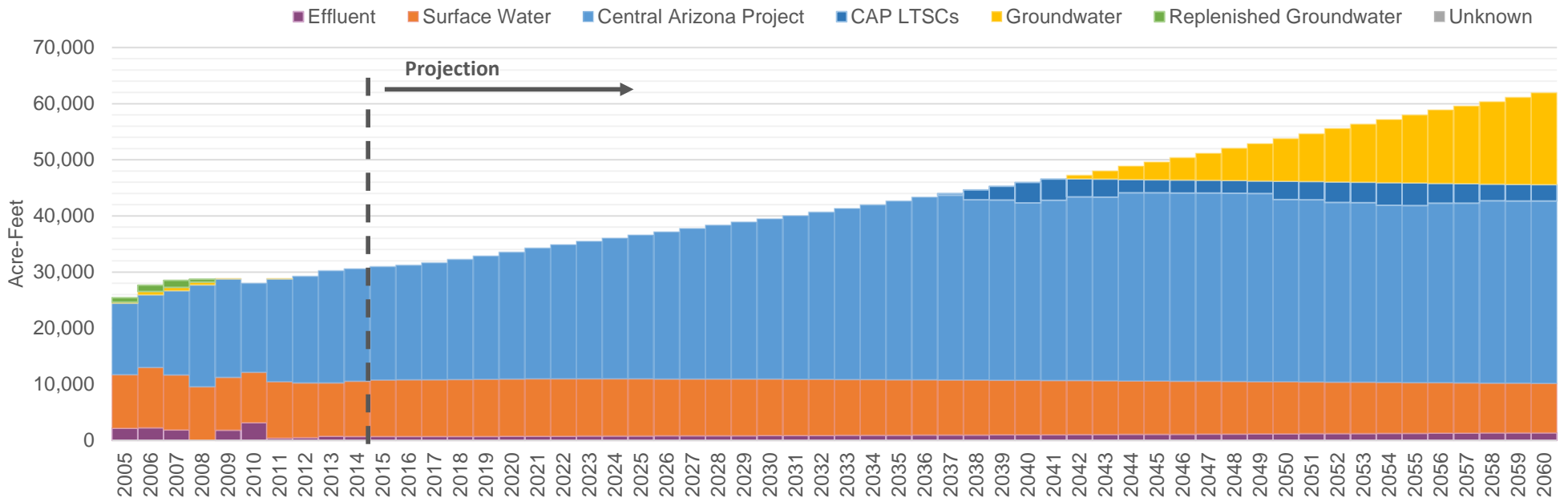
Housing Unit Projection



Gallons Per Housing Unit Per Day



Water Supply Projections



Central Arizona Project Service Area Model

A. Baseline [WVWA]

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Peoria

Demand Assumptions

Water Supply Projections (Acre-Feet)

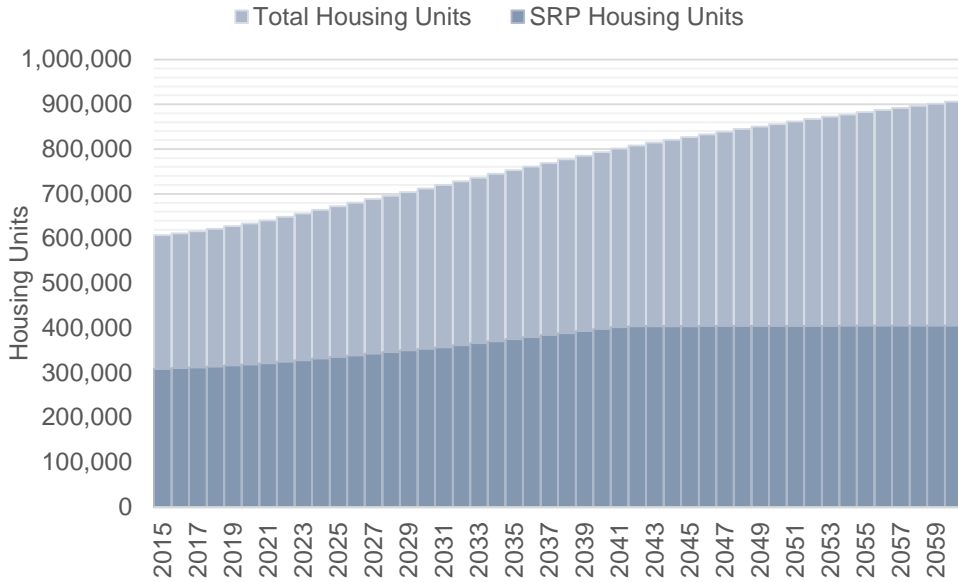
Date	Housing Units		GPHUD		Effluent	Surface Water		Central Arizona Project				Groundwater		Unknown
	Total	SRP	Existing	New		SRP	Non-SRP	Direct	ASR	Storage	Recovery	Non-Repl.	Replenished	
2015	60,068	26,073	463	370	694	10,083	0	14,142	6,061	12,033	0	0	0	0
2016	61,426	26,466	459	370	694	10,112	0	14,282	6,121	11,833	0	0	0	0
2017	63,061	26,940	458	369	699	10,120	0	14,598	6,256	11,382	0	0	0	0
2018	64,907	27,475	456	369	710	10,137	0	14,974	6,417	10,845	0	0	0	0
2019	66,891	28,051	453	369	722	10,162	0	15,393	6,597	10,245	0	0	0	0
2020	68,957	28,649	450	368	736	10,193	0	15,846	6,791	10,694	0	0	0	0
2021	71,046	29,240	449	368	752	10,222	0	16,299	6,985	9,587	0	0	0	0
2022	72,799	29,433	447	368	767	10,225	0	16,732	7,171	9,321	0	0	0	0
2023	74,563	29,628	444	367	782	10,202	0	17,137	7,344	9,044	0	0	0	0
2024	76,331	29,824	441	367	794	10,181	0	17,555	7,524	8,396	0	0	0	0
2025	78,096	30,019	440	366	808	10,157	0	17,950	7,693	7,762	0	0	0	0
2026	79,868	30,214	438	366	820	10,135	0	18,357	7,867	7,301	0	0	0	0
2027	81,645	30,411	436	366	833	10,113	0	18,764	8,042	6,719	0	0	0	0
2028	83,424	30,607	432	365	846	10,093	0	19,189	8,224	6,113	0	0	0	0
2029	85,206	30,804	431	365	859	10,069	0	19,580	8,391	5,554	0	0	0	0
2030	86,989	31,001	429	365	871	10,048	0	19,988	8,566	4,971	0	0	0	0
2031	88,772	31,198	427	364	884	10,027	0	20,395	8,741	4,389	0	0	0	0
2032	90,747	31,289	424	364	897	10,001	0	20,856	8,938	3,731	0	0	0	0
2033	92,770	31,353	423	364	912	9,962	0	21,311	9,133	3,080	0	0	0	0
2034	94,789	31,416	421	363	926	9,924	0	21,796	9,341	2,388	0	0	0	0
2035	96,803	31,479	419	363	941	9,886	0	22,278	9,548	1,700	0	0	0	0
2036	98,811	31,542	415	362	955	9,850	0	22,786	9,765	392	0	0	0	0
2037	100,812	31,604	414	362	971	9,810	0	23,034	9,872	0	286	0	0	0
2038	102,805	31,667	412	362	985	9,773	0	22,489	9,638	0	1,742	0	0	0
2039	104,787	31,729	410	361	1,000	9,735	0	22,480	9,634	0	2,427	0	0	0
2040	106,759	31,791	407	361	1,014	9,700	0	22,113	9,477	0	3,668	0	0	0
2041	108,719	31,852	406	361	1,030	9,661	0	22,462	9,627	0	3,781	0	0	0
2042	110,923	31,878	404	360	1,043	9,622	0	22,915	9,821	0	3,210	636	0	0
2043	113,309	31,881	402	360	1,058	9,579	0	22,893	9,811	0	3,209	1,466	0	0
2044	115,677	31,883	399	360	1,076	9,537	0	23,468	10,058	0	2,356	2,385	0	0
2045	118,025	31,886	398	359	1,095	9,491	0	23,468	10,058	0	2,333	3,168	0	0
2046	120,351	31,888	396	359	1,111	9,447	0	23,468	10,058	0	2,309	4,002	0	0
2047	122,661	31,890	394	358	1,129	9,404	0	23,468	10,058	0	2,286	4,826	0	0
2048	124,967	31,892	392	358	1,146	9,360	0	23,468	10,058	0	2,263	5,791	0	0
2049	127,247	31,895	393	358	1,167	9,311	0	23,468	10,058	0	2,241	6,665	0	0
2050	129,501	31,897	393	357	1,185	9,264	0	22,731	9,742	0	3,271	7,597	0	0
2051	131,727	31,899	393	357	1,205	9,217	0	22,731	9,742	0	3,238	8,525	0	0
2052	133,926	31,901	392	357	1,224	9,172	0	22,405	9,602	0	3,671	9,519	0	0
2053	136,100	31,903	393	356	1,245	9,124	0	22,405	9,602	0	3,635	10,346	0	0
2054	138,244	31,904	393	356	1,262	9,077	0	22,070	9,459	0	4,076	11,243	0	0
2055	140,357	31,906	393	356	1,281	9,031	0	22,070	9,459	0	4,035	12,128	0	0
2056	142,437	31,908	392	355	1,299	8,988	0	22,405	9,602	0	3,517	13,085	0	0
2057	144,485	31,910	393	355	1,319	8,940	0	22,405	9,602	0	3,482	13,847	0	0
2058	146,499	31,911	393	355	1,335	8,895	0	22,731	9,742	0	2,982	14,684	0	0
2059	148,479	31,913	393	354	1,352	8,850	0	22,731	9,742	0	2,952	15,501	0	0
2060	150,425	31,915	392	354	1,369	8,807	0	22,731	9,742	0	2,922	16,396	0	0

Phoenix

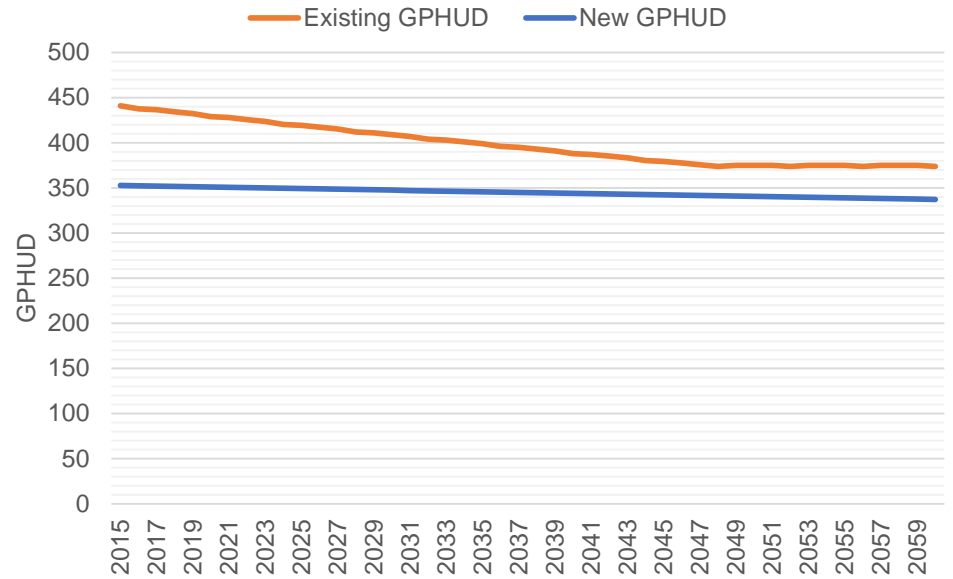
Central Arizona Project Service Area Model

A. Baseline [WVWA]

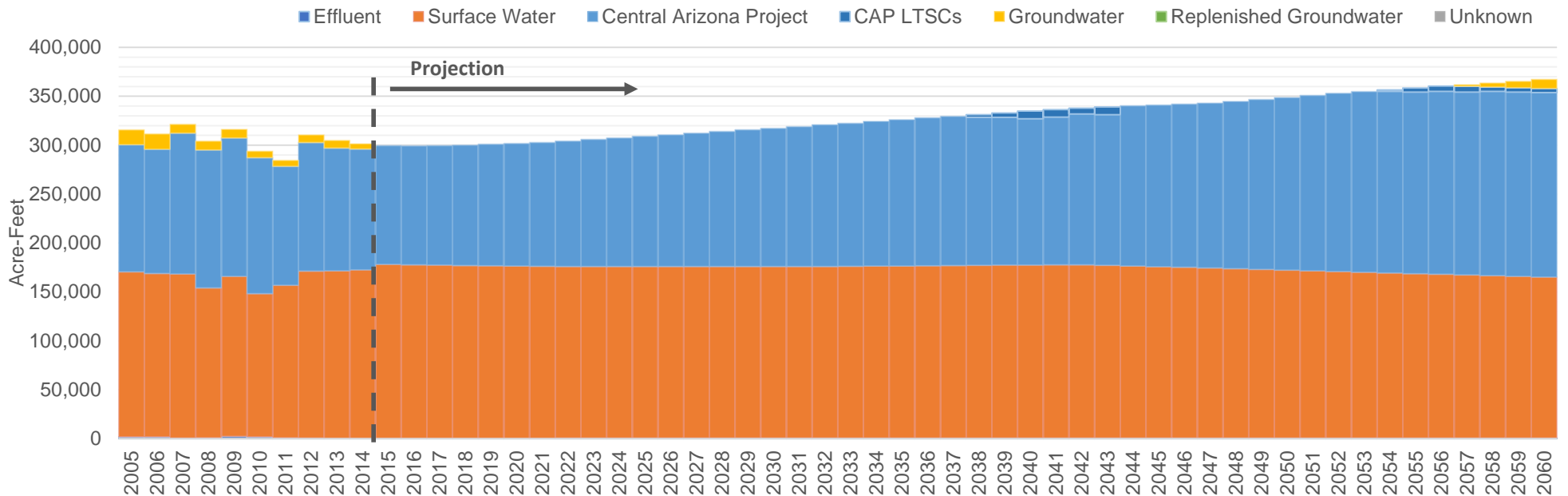
Housing Unit Projection



Gallons Per Housing Unit Per Day



Water Supply Projections



Central Arizona Project Service Area Model

A. Baseline [WVWA]

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Phoenix

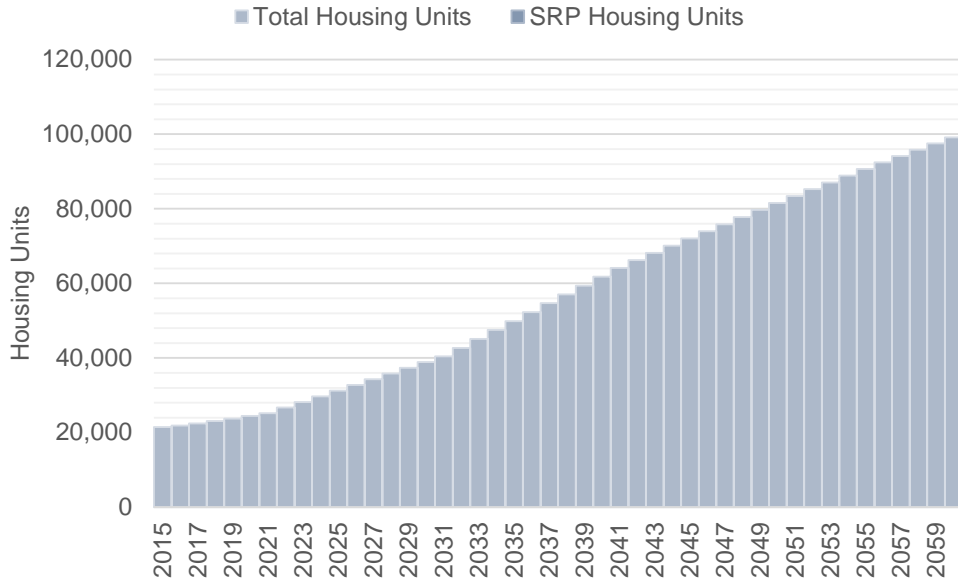
Date	Demand Assumptions				Water Supply Projections (Acre-Feet)									
	Housing Units		GPHUD		Effluent	Surface Water		Central Arizona Project				Groundwater		Unknown
	Total	SRP	Existing	New		SRP	Non-SRP	Direct	ASR	Storage	Recovery	Non-Repl.	Replenished	
2015	607,474	308,962	441	353	492	152,125	25,500	121,491	0	6,507	0	0	0	0
2016	611,576	310,491	438	352	492	151,821	25,500	121,401	0	6,516	0	0	0	0
2017	616,515	312,332	437	352	491	151,400	25,500	122,112	0	6,445	0	0	0	0
2018	622,091	314,409	434	352	492	151,038	25,500	123,058	0	6,350	0	0	0	0
2019	628,085	316,643	432	351	493	150,719	25,500	124,173	0	6,193	0	0	0	0
2020	634,325	318,969	429	351	494	150,435	25,500	125,414	0	6,465	0	0	0	0
2021	640,765	321,400	428	351	496	150,159	25,500	126,681	0	6,272	0	0	0	0
2022	648,591	324,957	426	350	497	150,016	25,500	128,158	0	6,190	0	0	0	0
2023	656,470	328,538	424	350	499	149,989	25,500	129,800	0	6,026	0	0	0	0
2024	664,367	332,127	420	350	502	149,981	25,500	131,496	0	5,857	0	0	0	0
2025	672,247	335,709	419	349	505	149,948	25,500	133,101	0	5,696	0	0	0	0
2026	680,161	339,306	417	349	508	149,932	25,500	134,753	0	5,531	0	0	0	0
2027	688,094	342,911	415	349	510	149,921	25,500	136,411	0	5,365	0	0	0	0
2028	696,042	346,524	412	348	513	149,934	25,500	138,144	0	5,192	0	0	0	0
2029	703,999	350,140	411	348	516	149,908	25,500	139,737	0	5,032	0	0	0	0
2030	711,960	353,758	409	347	518	149,906	25,500	141,403	0	4,866	0	0	0	0
2031	719,921	357,377	407	347	521	149,907	25,500	143,067	0	4,699	0	0	0	0
2032	728,110	361,751	404	347	524	150,013	25,500	144,797	0	4,527	0	0	0	0
2033	736,349	366,316	403	346	527	150,156	25,500	146,292	0	4,377	0	0	0	0
2034	744,572	370,872	401	346	530	150,347	25,500	147,872	0	4,219	0	0	0	0
2035	752,776	375,418	399	346	532	150,539	25,500	149,446	0	4,062	0	0	0	0
2036	760,954	379,950	396	345	535	150,768	25,500	151,134	0	3,125	0	0	0	0
2037	769,103	384,465	395	345	539	150,919	25,500	152,569	0	1,851	0	0	0	0
2038	777,217	388,961	393	345	541	151,107	25,500	151,269	0	0	2,848	0	0	0
2039	785,291	393,435	391	344	544	151,292	25,500	151,227	0	0	4,426	0	0	0
2040	793,321	397,885	388	344	547	151,522	25,500	149,531	0	0	7,790	0	0	0
2041	801,303	402,307	387	344	550	151,653	25,500	151,143	0	0	7,541	0	0	0
2042	808,235	404,171	385	343	552	151,582	25,500	154,301	0	0	5,934	0	0	0
2043	814,479	404,263	383	343	555	151,090	25,500	154,100	0	0	7,770	0	0	0
2044	820,674	404,354	380	343	557	150,482	25,500	163,707	0	2,636	0	0	0	0
2045	826,816	404,444	379	342	559	149,771	25,500	165,183	0	2,488	0	0	0	0
2046	832,902	404,534	377	342	560	149,117	25,500	166,807	0	2,326	0	0	0	0
2047	838,887	404,622	376	342	562	148,465	25,500	168,400	0	2,166	0	0	0	0
2048	844,675	404,706	374	341	563	147,813	25,500	170,920	0	1,914	0	0	0	0
2049	850,401	404,790	375	341	566	147,019	25,500	173,573	0	1,649	0	0	0	0
2050	856,060	404,872	375	341	569	146,281	25,500	176,387	0	1,328	0	0	0	0
2051	861,651	404,954	375	340	573	145,546	25,500	179,168	0	1,050	0	0	0	0
2052	867,138	405,034	374	340	576	144,866	25,500	182,126	0	603	0	0	0	0
2053	872,305	405,108	375	340	580	144,087	25,500	184,560	0	360	0	0	0	0
2054	877,400	405,181	375	339	583	143,361	25,500	185,477	0	0	1,655	0	0	0
2055	882,422	405,253	375	339	586	142,640	25,500	185,477	0	0	4,192	0	0	0
2056	887,367	405,323	374	339	589	141,971	25,500	187,023	0	0	5,387	0	0	0
2057	892,234	405,393	375	338	592	141,206	25,500	187,023	0	0	5,856	1,756	0	0
2058	897,021	405,461	375	338	594	140,495	25,500	188,529	0	0	4,292	4,243	0	0
2059	901,727	405,529	375	338	597	139,786	25,500	188,529	0	0	4,249	6,676	0	0
2060	906,351	405,595	374	337	600	139,131	25,500	188,529	0	0	4,206	9,331	0	0

Surprise

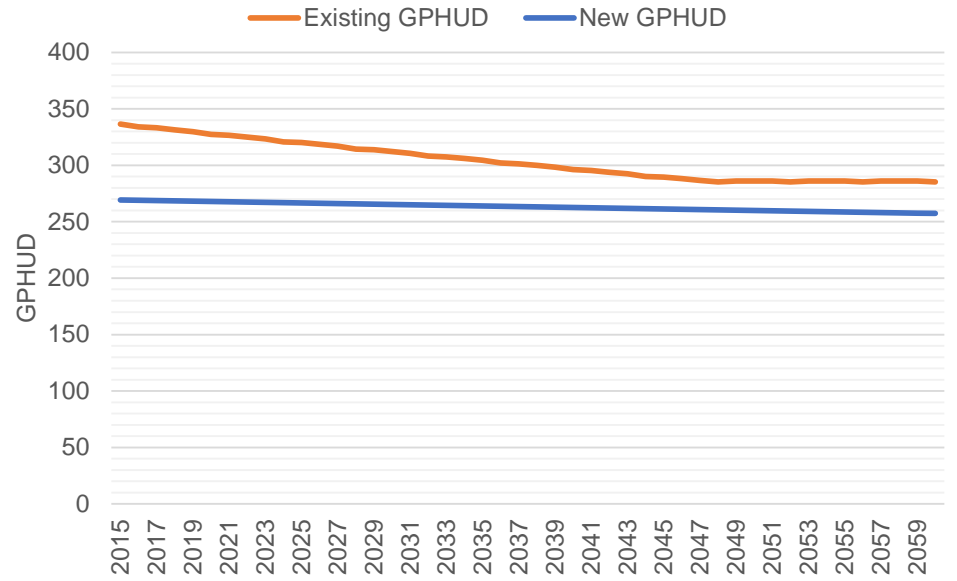
Central Arizona Project Service Area Model

A. Baseline [WVWA]

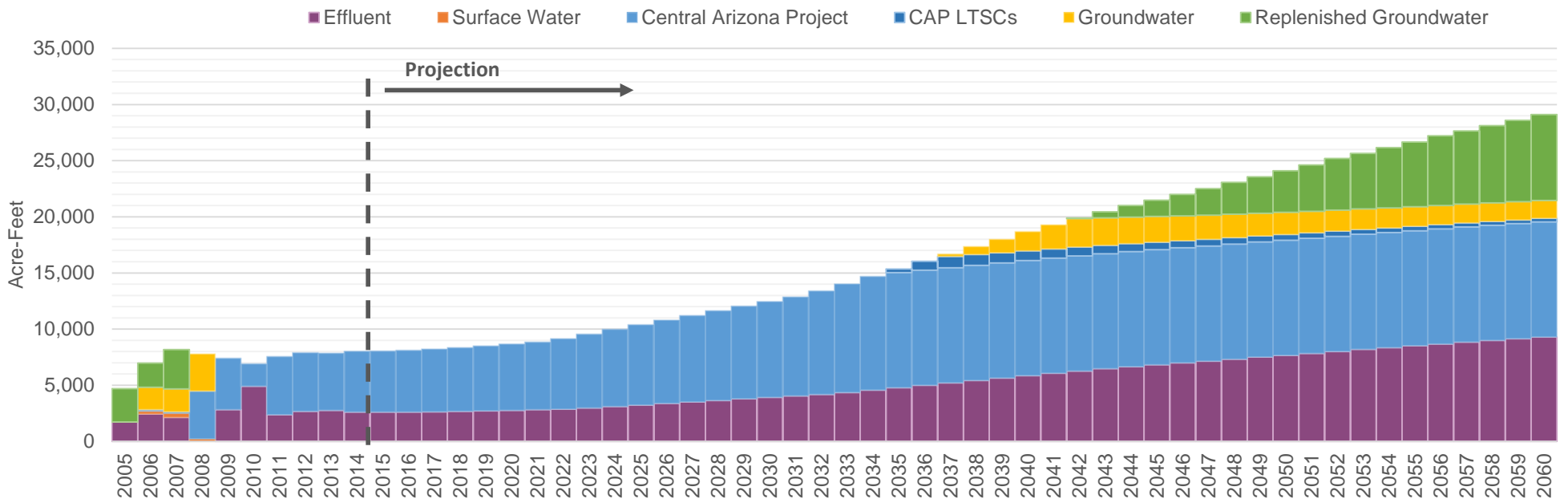
Housing Unit Projection



Gallons Per Housing Unit Per Day



Water Supply Projections



Central Arizona Project Service Area Model

Surprise

A. Baseline [WVWA]

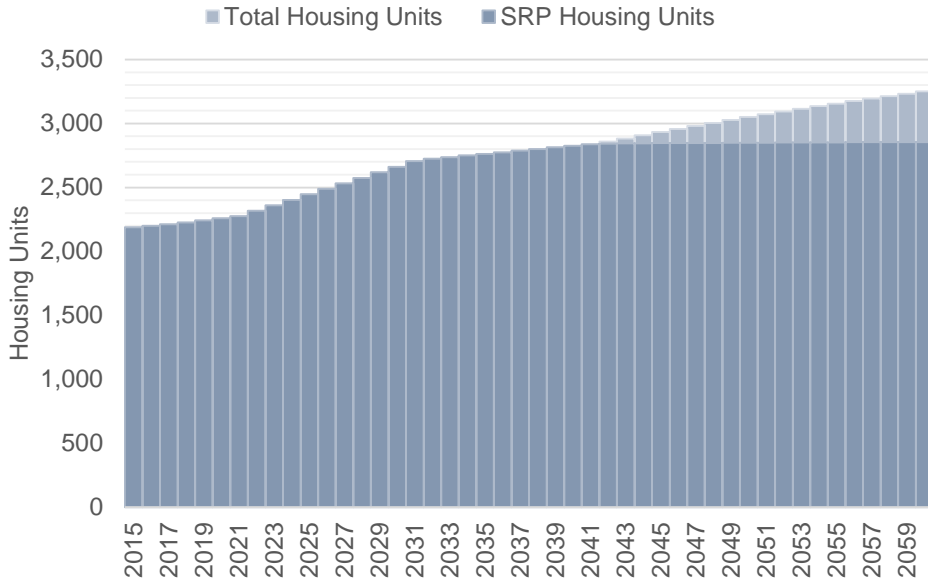
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Date	Demand Assumptions				Water Supply Projections (Acre-Feet)									
	Housing Units		GPHUD		Effluent	Surface Water		Central Arizona Project				Groundwater		Unknown
	Total	SRP	Existing	New		SRP	Non-SRP	Direct	ASR	Storage	Recovery	Non-Repl.	Replenished	
2015	21,453	0	337	269	2,619	0	0	0	5,432	0	0	0	0	0
2016	21,909	0	334	269	2,619	0	0	0	5,485	0	0	0	0	0
2017	22,458	0	333	269	2,636	0	0	0	5,579	0	0	0	0	0
2018	23,078	0	332	268	2,672	0	0	0	5,679	0	0	0	0	0
2019	23,744	0	330	268	2,717	0	0	0	5,787	0	0	0	0	0
2020	24,438	0	327	268	2,766	0	0	0	5,904	0	0	0	0	0
2021	25,185	0	327	268	2,821	0	0	0	6,023	0	0	0	0	0
2022	26,695	0	325	267	2,877	0	0	0	6,265	0	0	0	0	0
2023	28,214	0	323	267	2,974	0	0	0	6,581	0	0	0	0	0
2024	29,737	0	321	267	3,108	0	0	0	6,868	0	0	0	0	0
2025	31,257	0	320	267	3,245	0	0	0	7,138	0	0	0	0	0
2026	32,783	0	318	266	3,378	0	0	0	7,419	0	0	0	0	0
2027	34,313	0	317	266	3,512	0	0	0	7,699	0	0	0	0	0
2028	35,846	0	314	266	3,647	0	0	0	7,990	0	0	0	0	0
2029	37,381	0	314	266	3,786	0	0	0	8,254	0	0	0	0	0
2030	38,916	0	312	265	3,917	0	0	0	8,537	0	0	0	0	0
2031	40,452	0	311	265	4,052	0	0	0	8,816	0	0	0	0	0
2032	42,685	0	308	265	4,186	0	0	0	9,214	0	0	0	0	0
2033	45,097	0	308	264	4,359	0	0	0	9,670	0	0	0	0	0
2034	47,504	0	306	264	4,564	0	0	0	10,135	0	0	0	0	0
2035	49,905	0	304	264	4,782	0	0	0	10,249	0	335	0	0	0
2036	52,299	0	302	264	4,999	0	0	0	10,249	0	806	0	0	0
2037	54,685	0	301	263	5,222	0	0	0	10,249	0	1,008	210	0	0
2038	57,060	0	300	263	5,429	0	0	0	10,249	0	958	710	0	0
2039	59,424	0	298	263	5,643	0	0	0	10,249	0	910	1,196	0	0
2040	61,775	0	296	263	5,855	0	0	0	10,249	0	865	1,708	0	0
2041	64,112	0	295	262	6,076	0	0	0	10,249	0	821	2,141	0	0
2042	66,219	0	294	262	6,274	0	0	0	10,249	0	780	2,535	54	0
2043	68,181	0	292	262	6,471	0	0	0	10,249	0	741	2,447	533	0
2044	70,127	0	290	262	6,650	0	0	0	10,249	0	704	2,364	1,036	0
2045	72,056	0	290	261	6,833	0	0	0	10,249	0	669	2,287	1,446	0
2046	73,968	0	288	261	6,989	0	0	0	10,249	0	636	2,214	1,908	0
2047	75,871	0	287	261	7,156	0	0	0	10,249	0	604	2,147	2,348	0
2048	77,787	0	285	261	7,321	0	0	0	10,249	0	574	2,083	2,848	0
2049	79,681	0	286	260	7,507	0	0	0	10,249	0	545	2,024	3,245	0
2050	81,554	0	286	260	7,668	0	0	0	10,249	0	518	1,969	3,698	0
2051	83,404	0	286	260	7,841	0	0	0	10,249	0	492	1,918	4,127	0
2052	85,235	0	285	259	8,011	0	0	0	10,249	0	467	1,870	4,596	0
2053	87,070	0	286	259	8,196	0	0	0	10,249	0	444	1,826	4,943	0
2054	88,880	0	286	259	8,347	0	0	0	10,249	0	422	1,785	5,365	0
2055	90,664	0	286	259	8,512	0	0	0	10,249	0	401	1,747	5,760	0
2056	92,420	0	285	258	8,676	0	0	0	10,249	0	381	1,712	6,199	0
2057	94,149	0	286	258	8,854	0	0	0	10,249	0	361	1,680	6,500	0
2058	95,850	0	286	258	8,993	0	0	0	10,249	0	343	1,650	6,884	0
2059	97,521	0	286	258	9,148	0	0	0	10,249	0	326	1,623	7,239	0
2060	99,164	0	285	257	9,299	0	0	0	10,249	0	310	1,598	7,645	0

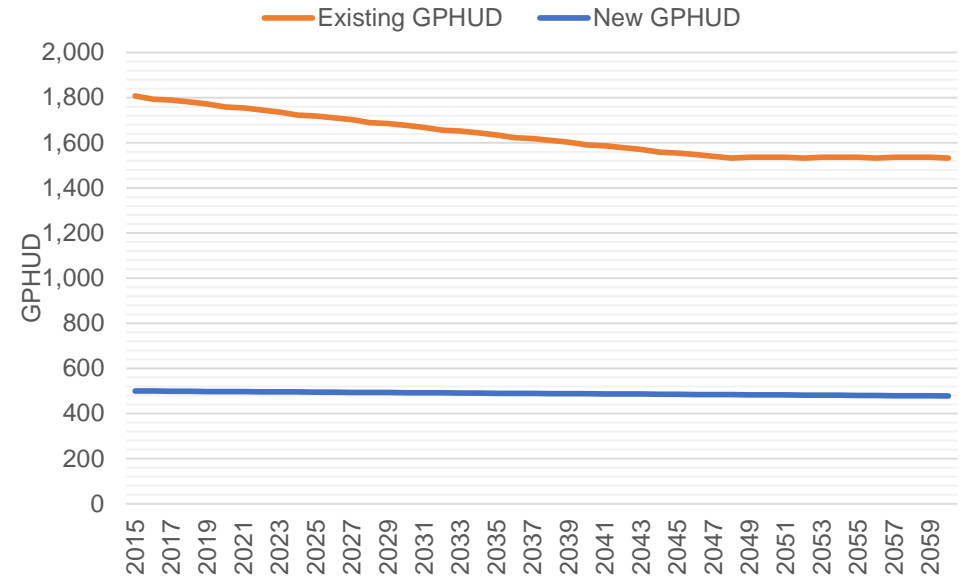
Central Arizona Project Service Area Model

A. Baseline [WVWA]

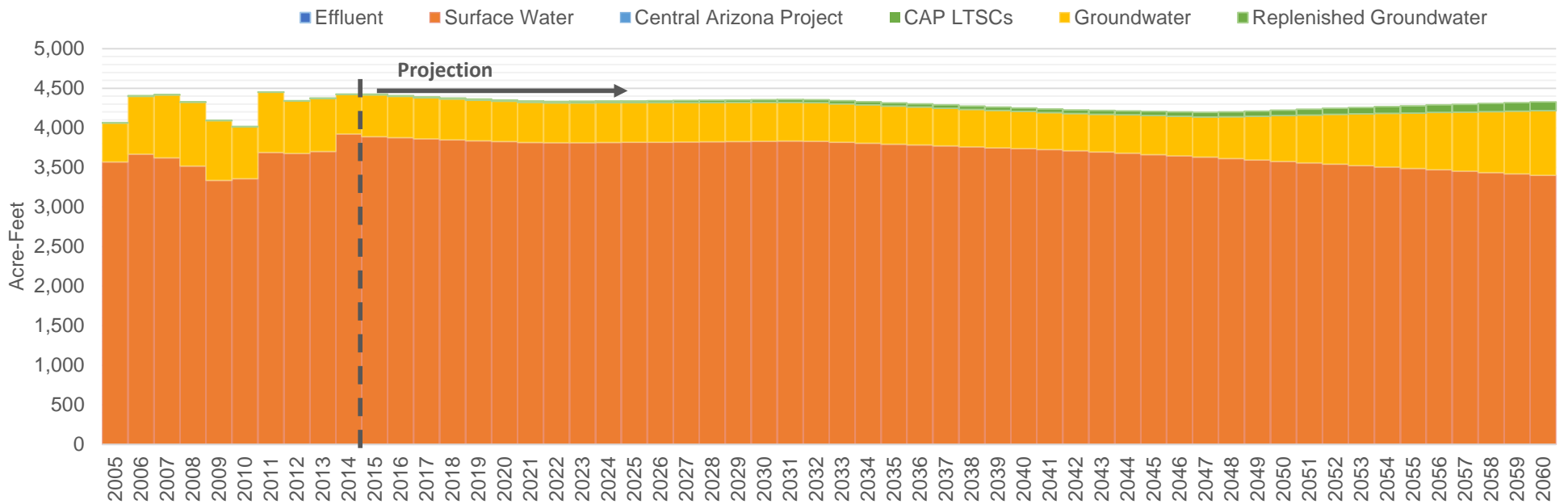
Housing Unit Projection



Gallons Per Housing Unit Per Day



Water Supply Projections



Central Arizona Project Service Area Model

A. Baseline [WVWA]

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Date	Demand Assumptions				Water Supply Projections (Acre-Feet)									
	Housing Units		GPHUD		Effluent	Surface Water		Central Arizona Project				Groundwater		Unknown
	Total	SRP	Existing	New		SRP	Non-SRP	Direct	ASR	Storage	Recovery	Non-Repl.	Replenished	
2015	2,189	2,189	1,807	500	0	3,887	0	0	0	0	0	529	10	0
2016	2,200	2,200	1,793	500	0	3,875	0	0	0	0	0	522	11	0
2017	2,212	2,212	1,789	499	0	3,861	0	0	0	0	0	518	13	0
2018	2,227	2,227	1,780	499	0	3,849	0	0	0	0	0	514	15	0
2019	2,242	2,242	1,771	498	0	3,837	0	0	0	0	0	512	16	0
2020	2,258	2,258	1,758	498	0	3,826	0	0	0	0	0	509	16	0
2021	2,275	2,275	1,754	497	0	3,815	0	0	0	0	0	507	17	0
2022	2,318	2,318	1,745	497	0	3,810	0	0	0	0	0	506	18	0
2023	2,360	2,360	1,736	496	0	3,812	0	0	0	0	0	504	20	0
2024	2,403	2,403	1,723	496	0	3,815	0	0	0	0	0	502	22	0
2025	2,446	2,446	1,719	495	0	3,816	0	0	0	0	0	500	24	0
2026	2,489	2,489	1,710	495	0	3,819	0	0	0	0	0	499	26	0
2027	2,532	2,532	1,702	494	0	3,821	0	0	0	0	0	497	28	0
2028	2,575	2,575	1,689	494	0	3,824	0	0	0	0	0	495	30	0
2029	2,619	2,619	1,685	493	0	3,826	0	0	0	0	0	494	32	0
2030	2,662	2,662	1,676	493	0	3,829	0	0	0	0	0	492	35	0
2031	2,705	2,705	1,668	492	0	3,832	0	0	0	0	0	490	37	0
2032	2,724	2,724	1,655	492	0	3,829	0	0	0	0	0	488	39	0
2033	2,737	2,737	1,651	491	0	3,818	0	0	0	0	0	485	40	0
2034	2,750	2,750	1,643	491	0	3,806	0	0	0	0	0	483	40	0
2035	2,763	2,763	1,635	490	0	3,795	0	0	0	0	0	481	41	0
2036	2,775	2,775	1,622	490	0	3,784	0	0	0	0	0	479	41	0
2037	2,788	2,788	1,619	489	0	3,771	0	0	0	0	0	476	42	0
2038	2,800	2,800	1,611	489	0	3,759	0	0	0	0	0	474	43	0
2039	2,813	2,813	1,603	488	0	3,748	0	0	0	0	0	472	43	0
2040	2,826	2,826	1,590	488	0	3,737	0	0	0	0	0	470	44	0
2041	2,838	2,838	1,587	487	0	3,725	0	0	0	0	0	468	44	0
2042	2,858	2,843	1,579	487	0	3,712	0	0	0	0	0	469	45	0
2043	2,883	2,844	1,571	486	0	3,696	0	0	0	0	0	475	47	0
2044	2,908	2,845	1,559	486	0	3,680	0	0	0	0	0	484	49	0
2045	2,933	2,846	1,555	485	0	3,663	0	0	0	0	0	492	52	0
2046	2,957	2,846	1,547	485	0	3,646	0	0	0	0	0	501	54	0
2047	2,982	2,847	1,540	484	0	3,629	0	0	0	0	0	509	56	0
2048	3,005	2,848	1,532	484	0	3,613	0	0	0	0	0	528	60	0
2049	3,028	2,849	1,536	483	0	3,594	0	0	0	0	0	553	64	0
2050	3,051	2,849	1,536	483	0	3,576	0	0	0	0	0	579	68	0
2051	3,073	2,850	1,536	482	0	3,558	0	0	0	0	0	604	73	0
2052	3,095	2,851	1,532	482	0	3,541	0	0	0	0	0	629	77	0
2053	3,116	2,851	1,536	481	0	3,522	0	0	0	0	0	653	82	0
2054	3,136	2,852	1,536	481	0	3,505	0	0	0	0	0	677	86	0
2055	3,156	2,852	1,536	480	0	3,487	0	0	0	0	0	701	90	0
2056	3,176	2,853	1,532	480	0	3,470	0	0	0	0	0	724	95	0
2057	3,195	2,854	1,536	479	0	3,452	0	0	0	0	0	747	99	0
2058	3,214	2,854	1,536	479	0	3,435	0	0	0	0	0	769	104	0
2059	3,233	2,855	1,536	478	0	3,418	0	0	0	0	0	792	108	0
2060	3,251	2,855	1,532	478	0	3,401	0	0	0	0	0	814	113	0

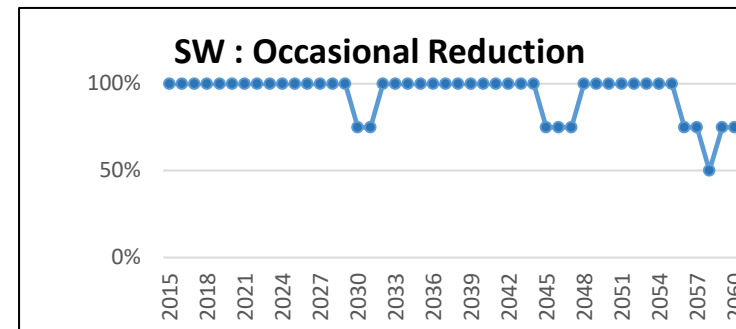
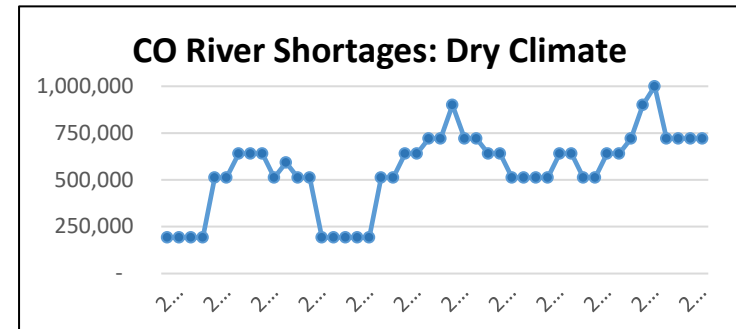
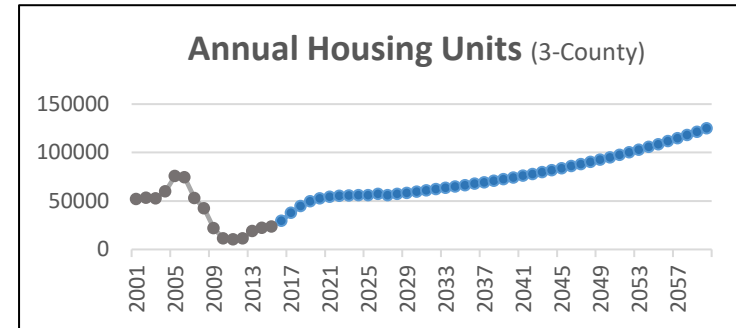
D. Dry, Rapid Outward [WVWA]

Faster growth rate, with an outward (sprawling) growth pattern, plus hotter and drier due to climate change.

Allow Shortages	Yes	
Select CRSS Array	3	3=Synthetic
Use Specific Trace	Yes	
Selected Trace	2	1=Moderate; 2=Deep; 3=Slight
AWBA Max M&I	20%	
Surface Water Scenario	2	1=No Reduction; 2=Occantional; 3=Frequent
Use CAP Buildup	Yes	
CAP Buildup Scenario	2	1=2035; 2=2045
HU Growth Pattern	3	1=Baseline
HU Forecast	2	1=Use Curve; 2=Eller Forecast
HU Curve	2	
HU Growth Start Rate	2%	
HU Ordinary Level	56,000	
HU Rate @ 50 yrs	3%	
GPHUD Change Existing	-0.3%	per year
GPHUD Max Change Existing	-12%	
GPHUD Min Existing	220	
GPHUD Scenario New	1	
GPHUD Change New	0.0%	per year
Ag Climate Adjustment	0.1	
Ag Efficiency Increase	0.1%	per year
Ag Efficiency Goal	80%	
Ag Replace Crop CU	2.66	
Ag Intensity Scenario	2	
Ag Develop on Crops	70%	Perecent of max on active Ag
Ag Acres Replace Percent	0%	
Ag Replace Crop Year	2025	

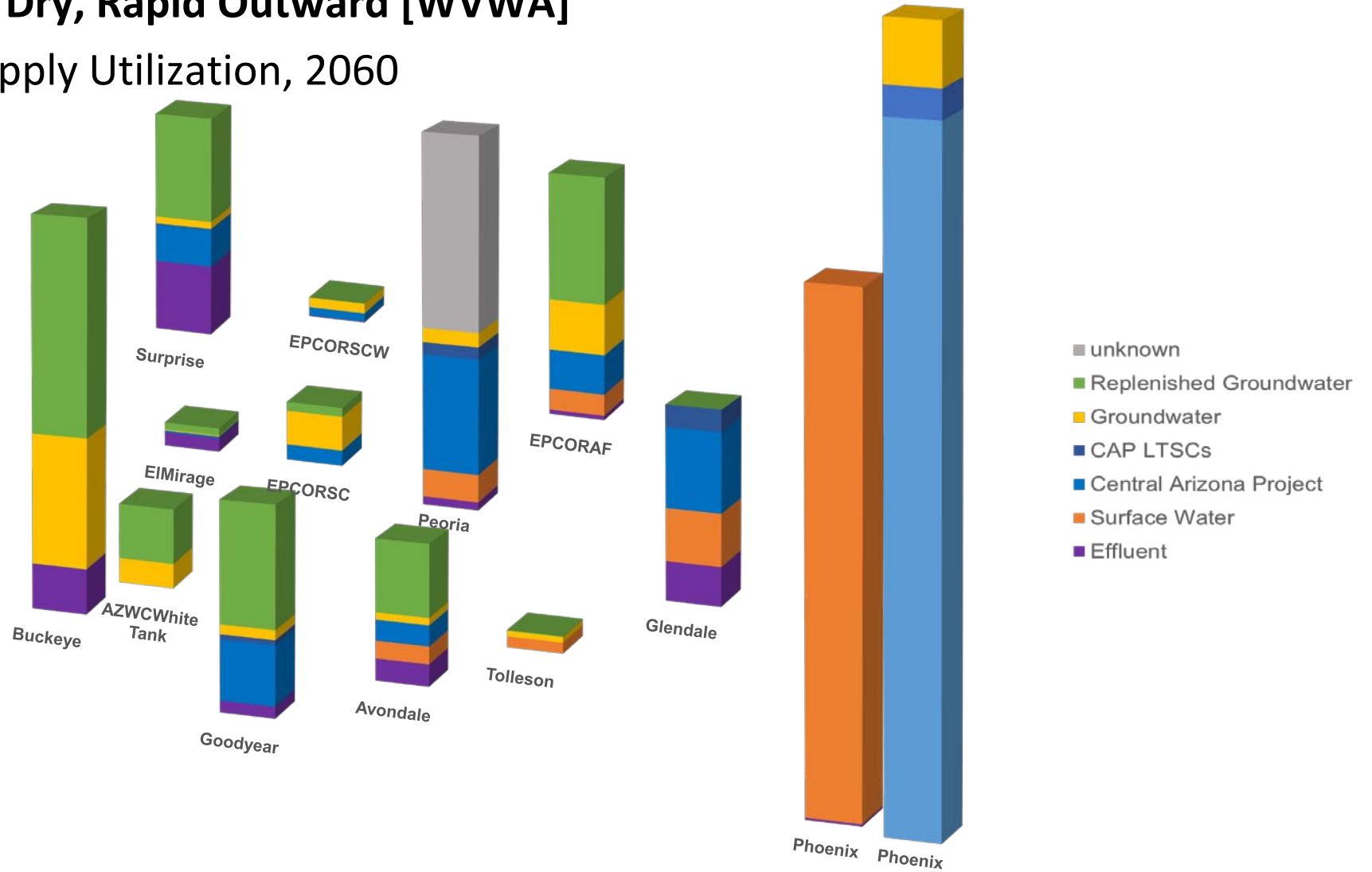
Run Date: 4/11/2018

Filename: CAPServiceArea_v3.22.gsm



D. Dry, Rapid Outward [WVWA]

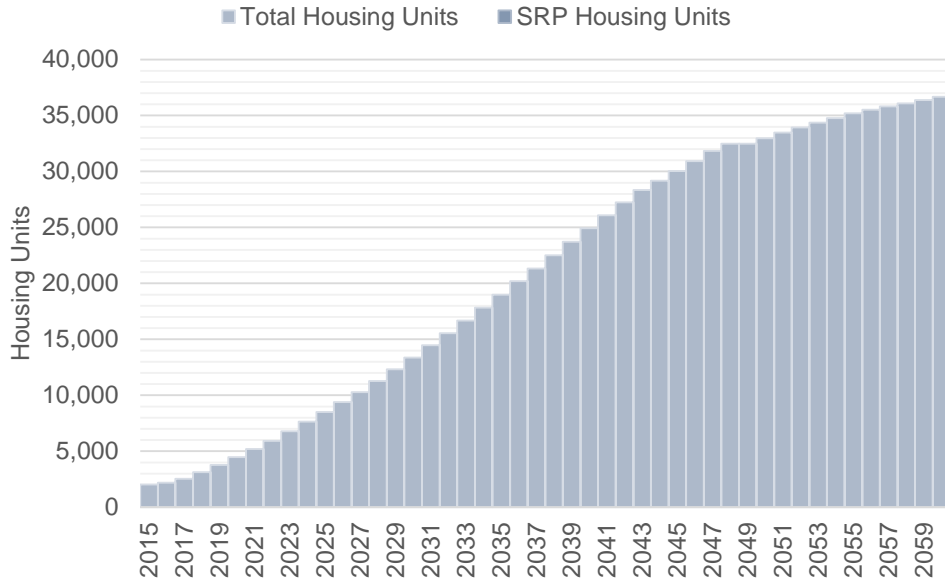
Supply Utilization, 2060



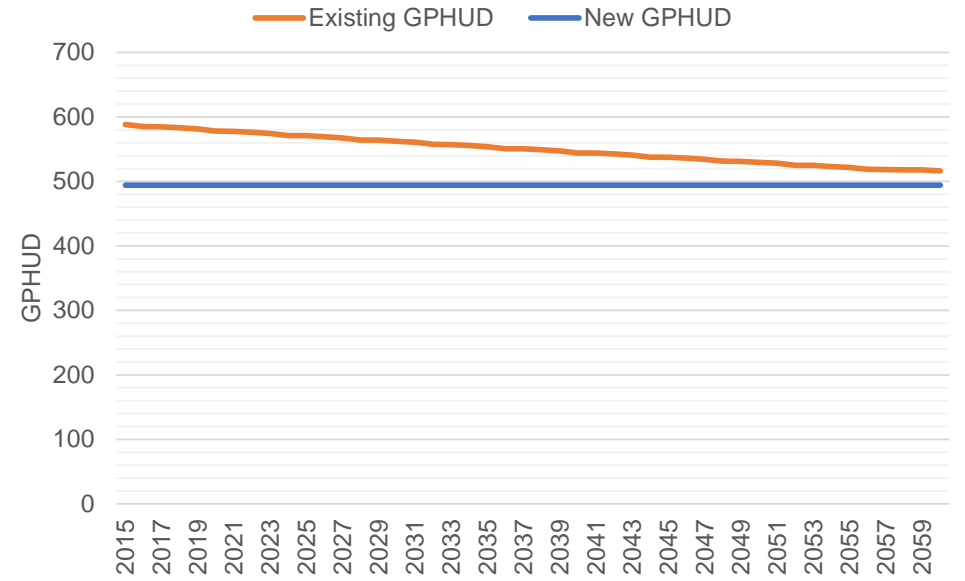
Central Arizona Project Service Area Model

D. Dry, Rapid Outward [WVWA]

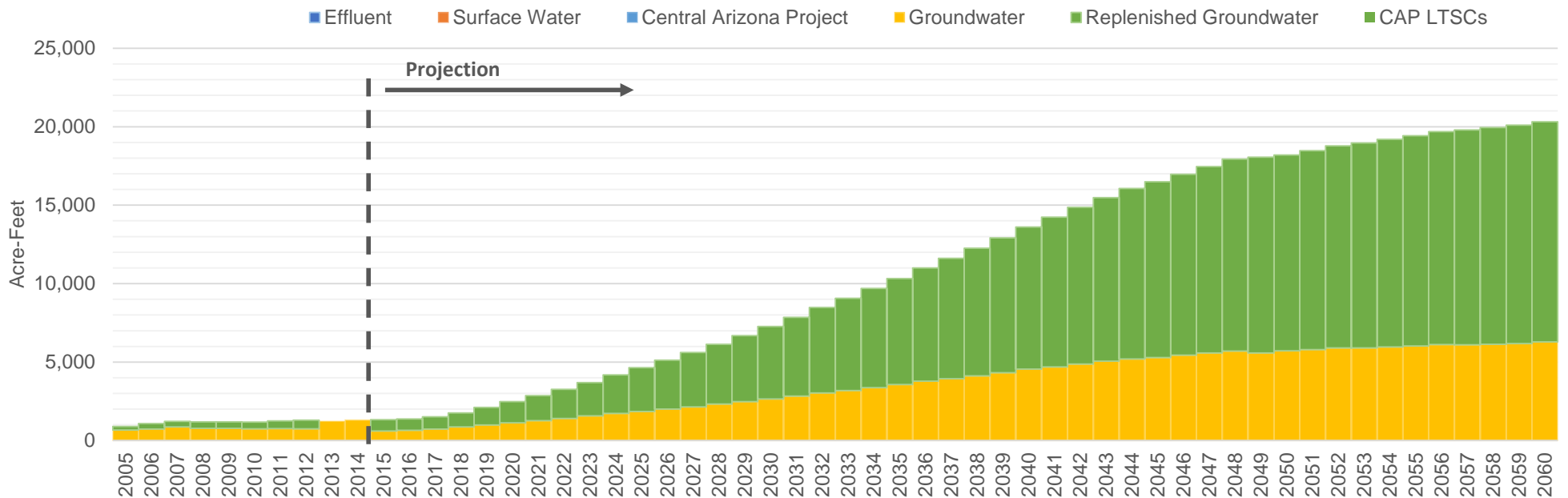
Housing Unit Projection



Gallons Per Housing Unit Per Day



Water Supply Projections



Central Arizona Project Service Area Model

AZWCWhiteTank

D. Dry, Rapid Outward [WVWA]

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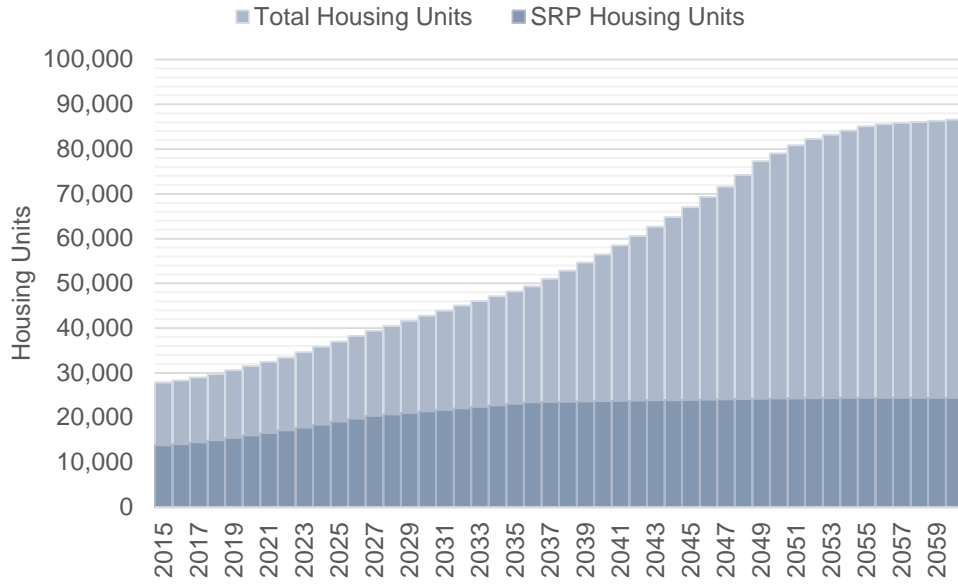
Date	Demand Assumptions				Water Supply Projections (Acre-Feet)									
	Housing Units		GPHUD		Effluent	Surface Water		Central Arizona Project				Groundwater		Unknown
	Total	SRP	Existing	New		SRP	Non-SRP	Direct	ASR	Storage	Recovery	Non-Repl.	Replenished	
2015	2,029	0	588	494	0	0	0	0	0	0	0	611	716	0
2016	2,184	0	585	494	0	0	0	0	0	0	0	648	725	0
2017	2,529	0	585	494	0	0	0	0	0	0	0	729	778	0
2018	3,122	0	583	494	0	0	0	0	0	0	0	864	900	0
2019	3,780	0	581	494	0	0	0	0	0	0	0	997	1,108	0
2020	4,477	0	578	494	0	0	0	0	0	0	0	1,136	1,344	0
2021	5,198	0	578	494	0	0	0	0	0	0	0	1,271	1,594	0
2022	5,930	0	576	494	0	0	0	0	0	0	0	1,405	1,859	0
2023	6,786	0	574	494	0	0	0	0	0	0	0	1,572	2,127	0
2024	7,647	0	571	494	0	0	0	0	0	0	0	1,724	2,454	0
2025	8,510	0	571	494	0	0	0	0	0	0	0	1,854	2,789	0
2026	9,392	0	569	494	0	0	0	0	0	0	0	1,997	3,125	0
2027	10,271	0	567	494	0	0	0	0	0	0	0	2,138	3,469	0
2028	11,286	0	564	494	0	0	0	0	0	0	0	2,328	3,812	0
2029	12,322	0	564	494	0	0	0	0	0	0	0	2,482	4,208	0
2030	13,380	0	562	494	0	0	0	0	0	0	0	2,654	4,613	0
2031	14,460	0	561	494	0	0	0	0	0	0	0	2,829	5,025	0
2032	15,561	0	557	494	0	0	0	0	0	0	0	3,027	5,447	0
2033	16,680	0	557	494	0	0	0	0	0	0	0	3,187	5,878	0
2034	17,824	0	556	494	0	0	0	0	0	0	0	3,373	6,314	0
2035	18,993	0	554	494	0	0	0	0	0	0	0	3,563	6,761	0
2036	20,188	0	551	494	0	0	0	0	0	0	0	3,784	7,217	0
2037	21,338	0	551	494	0	0	0	0	0	0	0	3,935	7,684	0
2038	22,510	0	549	494	0	0	0	0	0	0	0	4,126	8,133	0
2039	23,709	0	547	494	0	0	0	0	0	0	0	4,321	8,590	0
2040	24,937	0	544	494	0	0	0	0	0	0	0	4,555	9,058	0
2041	26,076	0	544	494	0	0	0	0	0	0	0	4,692	9,539	0
2042	27,228	0	542	494	0	0	0	0	0	0	0	4,878	9,983	0
2043	28,347	0	541	494	0	0	0	0	0	0	0	5,053	10,432	0
2044	29,187	0	538	494	0	0	0	0	0	0	0	5,196	10,869	0
2045	30,046	0	538	494	0	0	0	0	0	0	0	5,293	11,198	0
2046	30,928	0	536	494	0	0	0	0	0	0	0	5,436	11,533	0
2047	31,832	0	534	494	0	0	0	0	0	0	0	5,583	11,877	0
2048	32,477	0	531	494	0	0	0	0	0	0	0	5,701	12,230	0
2049	32,477	0	531	494	0	0	0	0	0	0	0	5,578	12,482	0
2050	32,971	0	530	494	0	0	0	0	0	0	0	5,711	12,482	0
2051	33,479	0	528	494	0	0	0	0	0	0	0	5,788	12,678	0
2052	33,946	0	525	494	0	0	0	0	0	0	0	5,900	12,881	0
2053	34,353	0	525	494	0	0	0	0	0	0	0	5,904	13,067	0
2054	34,771	0	523	494	0	0	0	0	0	0	0	5,967	13,230	0
2055	35,200	0	522	494	0	0	0	0	0	0	0	6,031	13,396	0
2056	35,531	0	519	494	0	0	0	0	0	0	0	6,117	13,567	0
2057	35,803	0	519	494	0	0	0	0	0	0	0	6,098	13,700	0
2058	36,083	0	518	494	0	0	0	0	0	0	0	6,140	13,808	0
2059	36,371	0	518	494	0	0	0	0	0	0	0	6,186	13,920	0
2060	36,668	0	516	494	0	0	0	0	0	0	0	6,285	14,034	0

Central Arizona Project Service Area Model

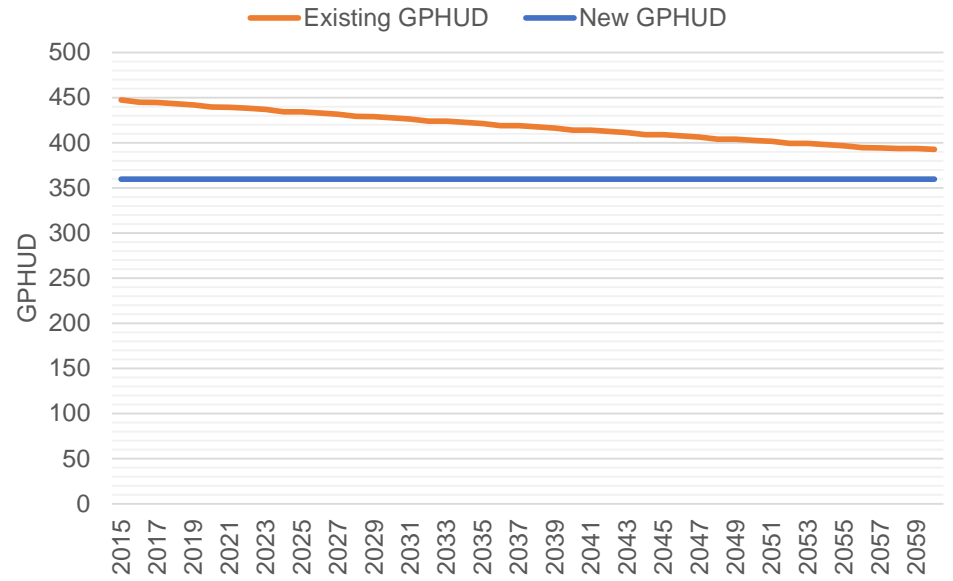
D. Dry, Rapid Outward [WVWA]

Avondale

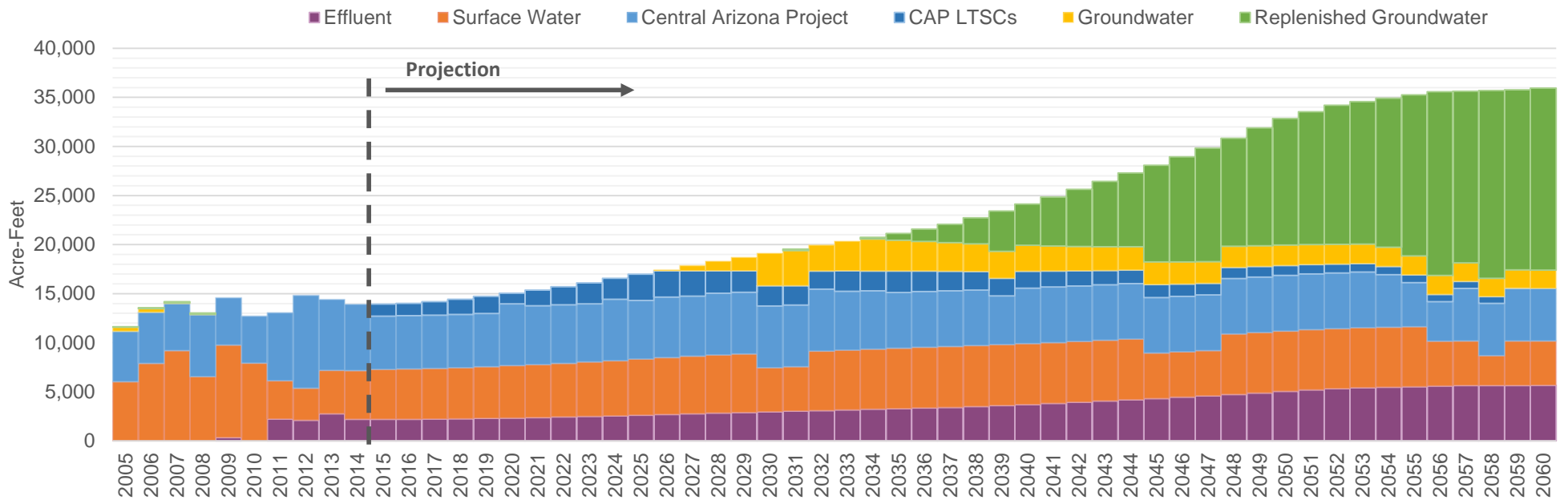
Housing Unit Projection



Gallons Per Housing Unit Per Day



Water Supply Projections



Central Arizona Project Service Area Model

D. Dry, Rapid Outward [WVWA]

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Avondale

Demand Assumptions

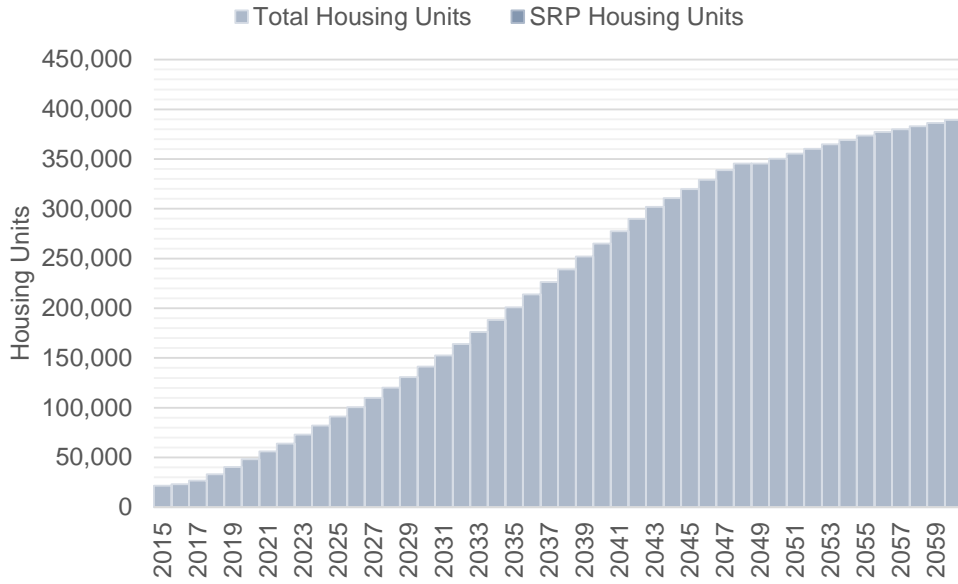
Water Supply Projections (Acre-Feet)

Date	Housing Units		GPHUD		Effluent	Surface Water		Central Arizona Project				Groundwater		Unknown
	Total	SRP	Existing	New		SRP	Non-SRP	Direct	ASR	Storage	Recovery	Non-Repl.	Replenished	
2015	27,868	13,787	447	360	2,207	5,087	0	3,250	2,166	0	1,232	0	0	0
2016	28,339	14,090	445	360	2,207	5,133	0	3,250	2,166	0	1,256	0	0	0
2017	28,966	14,478	445	360	2,218	5,168	0	3,250	2,166	0	1,389	0	0	0
2018	29,745	14,943	443	360	2,246	5,216	0	3,250	2,166	0	1,555	0	0	0
2019	30,609	15,458	442	360	2,285	5,272	0	3,250	2,166	0	1,749	0	0	0
2020	31,525	16,005	440	360	2,331	5,336	0	3,779	2,519	0	1,079	0	0	0
2021	32,471	16,569	439	360	2,381	5,401	0	3,594	2,396	0	1,602	0	0	0
2022	33,433	17,143	438	360	2,434	5,469	0	3,576	2,384	0	1,854	0	0	0
2023	34,619	17,797	437	360	2,488	5,544	0	3,554	2,369	0	2,154	0	0	0
2024	35,813	18,455	434	360	2,550	5,627	0	3,758	2,505	0	2,115	0	0	0
2025	37,010	19,114	434	360	2,621	5,706	0	3,581	2,388	0	2,692	0	0	0
2026	38,233	19,789	433	360	2,689	5,789	0	3,702	2,468	0	2,667	119	0	0
2027	39,418	20,412	432	360	2,760	5,869	0	3,677	2,452	0	2,575	546	0	0
2028	40,503	20,739	429	360	2,830	5,927	0	3,779	2,519	0	2,278	978	0	0
2029	41,611	21,073	429	360	2,899	5,958	0	3,779	2,519	0	2,164	1,380	0	0
2030	42,742	21,413	428	360	2,960	4,494	0	3,779	2,519	0	2,056	3,302	0	0
2031	43,896	21,761	426	360	3,025	4,521	0	3,779	2,519	0	1,953	3,603	130	0
2032	45,020	22,100	424	360	3,092	6,067	0	3,779	2,519	0	1,855	2,655	0	0
2033	46,071	22,416	424	360	3,161	6,097	0	3,585	2,390	0	2,085	3,029	0	0
2034	47,145	22,739	423	360	3,221	6,130	0	3,571	2,380	0	2,005	3,268	161	0
2035	48,243	23,070	421	360	3,283	6,163	0	3,396	2,264	0	2,196	3,150	683	0
2036	49,365	23,408	419	360	3,346	6,202	0	3,396	2,264	0	2,086	3,038	1,233	0
2037	51,060	23,491	419	360	3,414	6,214	0	3,394	2,263	0	1,984	2,933	1,867	0
2038	52,828	23,560	418	360	3,494	6,211	0	3,394	2,263	0	1,885	2,834	2,647	0
2039	54,637	23,630	416	360	3,598	6,207	0	2,982	1,988	0	1,797	2,741	4,097	0
2040	56,488	23,702	414	360	3,706	6,208	0	3,394	2,263	0	1,701	2,655	4,213	0
2041	58,493	23,754	414	360	3,821	6,198	0	3,394	2,263	0	1,616	2,574	4,980	0
2042	60,559	23,805	413	360	3,933	6,192	0	3,396	2,264	0	1,533	2,499	5,812	0
2043	62,672	23,858	411	360	4,057	6,186	0	3,396	2,264	0	1,456	2,429	6,644	0
2044	64,821	23,911	409	360	4,184	6,184	0	3,397	2,265	0	1,382	2,364	7,517	0
2045	67,023	23,965	409	360	4,320	4,630	0	3,397	2,265	0	1,313	2,304	9,861	0
2046	69,281	24,021	408	360	4,447	4,626	0	3,397	2,265	0	1,247	2,250	10,720	0
2047	71,596	24,079	406	360	4,583	4,622	0	3,397	2,265	0	1,185	2,199	11,583	0
2048	74,192	24,143	404	360	4,723	6,162	0	3,395	2,264	0	1,128	2,154	11,010	0
2049	77,342	24,221	404	360	4,881	6,154	0	3,395	2,264	0	1,071	2,112	12,027	0
2050	79,087	24,264	403	360	5,051	6,149	0	3,397	2,265	0	1,015	2,075	12,902	0
2051	80,878	24,308	402	360	5,201	6,142	0	3,397	2,265	0	965	2,042	13,517	0
2052	82,304	24,344	399	360	5,307	6,138	0	3,395	2,264	0	919	2,012	14,162	0
2053	83,210	24,366	399	360	5,414	6,125	0	3,395	2,264	0	873	1,986	14,514	0
2054	84,140	24,389	398	360	5,473	6,114	0	3,207	2,138	0	831	1,962	15,178	0
2055	85,097	24,413	397	360	5,525	6,104	0	2,696	1,797	0	796	1,941	16,387	0
2056	85,602	24,425	394	360	5,580	4,574	0	2,412	1,608	0	759	1,921	18,713	0
2057	85,830	24,431	394	360	5,630	4,561	0	3,207	2,138	0	712	1,903	17,463	0
2058	86,065	24,437	394	360	5,638	3,033	0	3,207	2,138	0	676	1,887	19,108	0
2059	86,306	24,443	394	360	5,649	4,537	0	3,207	2,138	0	30	1,871	18,351	0
2060	86,554	24,449	393	360	5,665	4,528	0	3,207	2,138	0	0	1,857	18,553	0

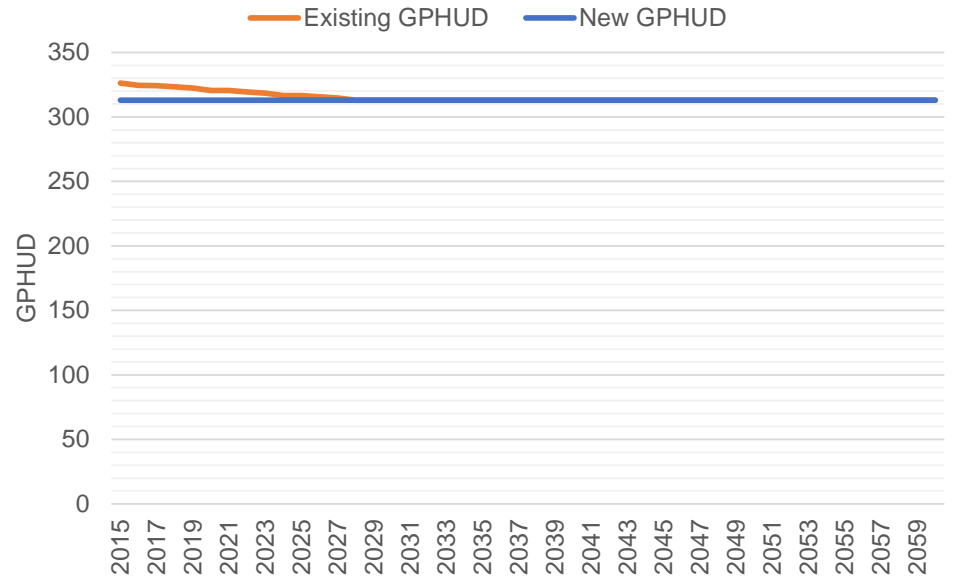
Central Arizona Project Service Area Model

D. Dry, Rapid Outward [WVWA]

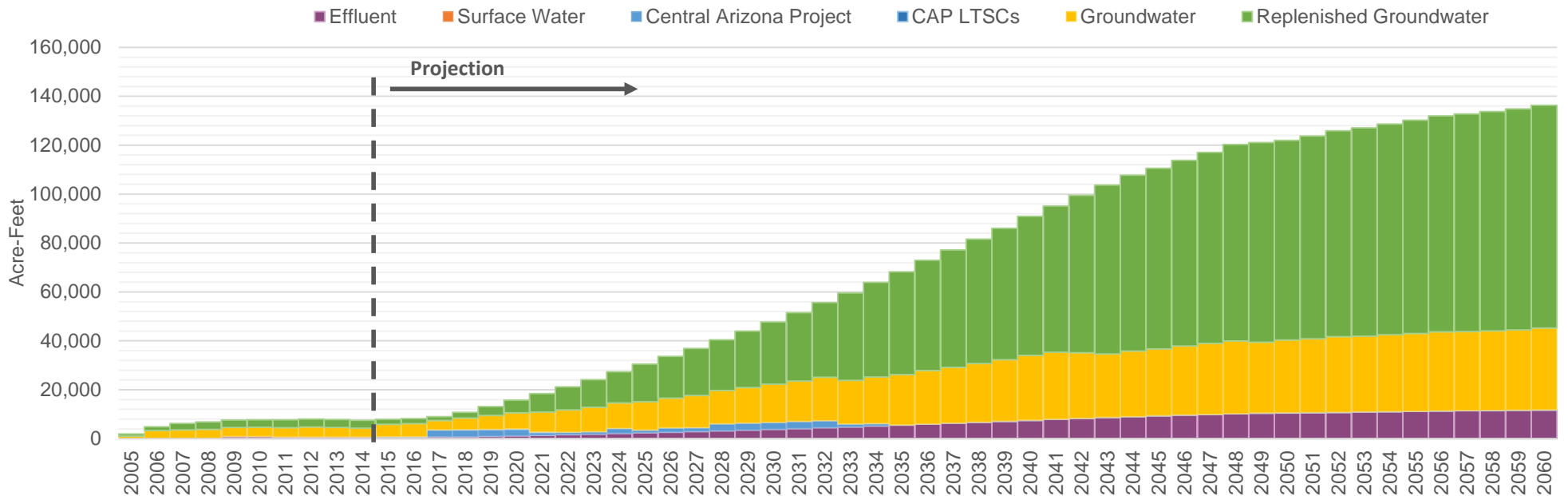
Housing Unit Projection



Gallons Per Housing Unit Per Day



Water Supply Projections





Central Arizona Project Service Area Model

D. Dry, Rapid Outward [WVWA]

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Demand Assumptions

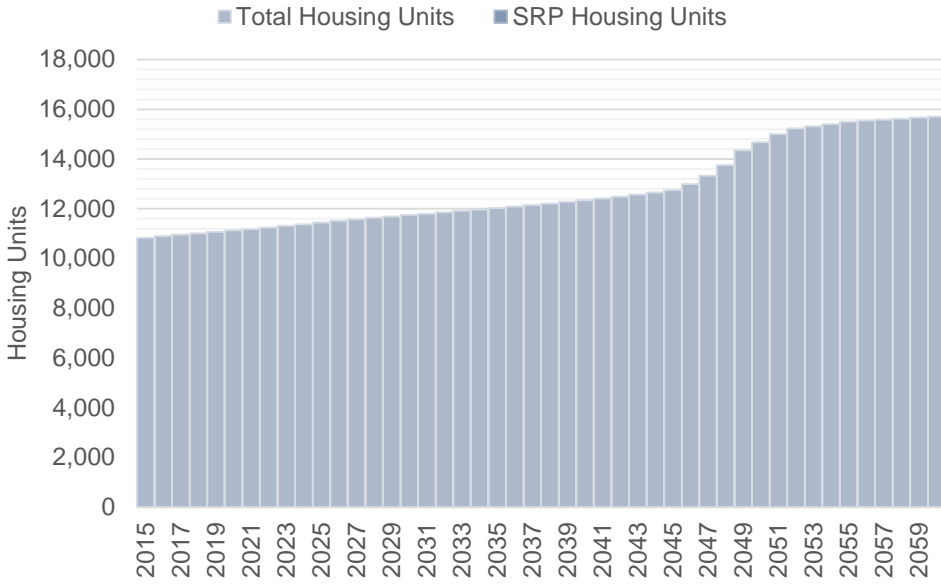
Water Supply Projections (Acre-Feet)

Date	Housing Units		GPHUD		Effluent	Surface Water		Central Arizona Project				Groundwater		Unknown
	Total	SRP	Existing	New		SRP	Non-SRP	Direct	ASR	Storage	Recovery	Non-Repl.	Replenished	
2015	21,704	0	326	313	682	0	0	68	0	0	28	5,116	1,990	0
2016	23,143	0	324	313	682	0	0	68	0	0	26	5,327	2,054	0
2017	26,742	0	324	313	706	0	0	2,854	0	0	25	3,850	1,582	0
2018	33,228	0	323	313	780	0	0	2,854	0	0	24	4,782	2,322	0
2019	40,426	0	322	313	931	0	0	2,819	0	0	58	5,690	3,640	0
2020	48,061	0	321	313	1,136	0	0	2,663	0	0	211	6,573	5,153	0
2021	55,942	0	320	313	1,361	0	0	1,146	0	0	183	8,190	7,530	0
2022	63,955	0	319	313	1,593	0	0	1,051	0	0	0	9,093	9,436	0
2023	72,998	0	319	313	1,832	0	0	929	0	0	0	10,054	11,326	0
2024	82,100	0	317	313	2,088	0	0	2,044	0	0	0	10,435	12,786	0
2025	91,219	0	317	313	2,366	0	0	1,077	0	0	0	11,633	15,394	0
2026	100,541	0	316	313	2,636	0	0	1,739	0	0	0	12,207	17,098	0
2027	109,785	0	315	313	2,913	0	0	1,603	0	0	0	13,090	19,306	0
2028	120,137	0	313	313	3,193	0	0	2,854	0	0	0	13,679	20,690	0
2029	130,700	0	313	313	3,496	0	0	2,854	0	0	0	14,563	23,059	0
2030	141,484	0	313	313	3,804	0	0	2,854	0	0	0	15,572	25,485	0
2031	152,495	0	313	313	4,127	0	0	2,854	0	0	0	16,595	27,959	0
2032	163,949	0	313	313	4,458	0	0	2,854	0	0	0	17,811	30,503	0
2033	176,018	0	313	313	4,812	0	0	1,097	0	0	0	17,917	35,771	0
2034	188,352	0	313	313	5,155	0	0	1,017	0	0	0	19,078	38,625	0
2035	200,959	0	313	313	5,525	0	0	68	0	0	0	20,543	42,111	0
2036	213,848	0	313	313	5,904	0	0	68	0	0	0	21,909	45,036	0
2037	226,271	0	313	313	6,307	0	0	68	0	0	0	22,786	47,993	0
2038	238,931	0	313	313	6,674	0	0	68	0	0	0	23,942	50,867	0
2039	251,886	0	313	313	7,054	0	0	59	0	0	0	25,129	53,799	0
2040	265,145	0	313	313	7,443	0	0	68	0	0	0	26,574	56,801	0
2041	277,419	0	313	313	7,862	0	0	68	0	0	0	27,351	59,832	0
2042	289,828	0	313	313	8,228	0	0	68	0	0	0	26,865	64,279	0
2043	301,854	0	313	313	8,602	0	0	68	0	0	0	25,977	69,076	0
2044	310,746	0	313	313	8,972	0	0	68	0	0	0	26,815	71,830	0
2045	319,858	0	313	313	9,315	0	0	68	0	0	0	27,347	73,816	0
2046	329,200	0	313	313	9,563	0	0	68	0	0	0	28,210	75,941	0
2047	338,779	0	313	313	9,842	0	0	68	0	0	0	29,088	78,101	0
2048	345,353	0	313	313	10,129	0	0	68	0	0	0	29,762	80,300	0
2049	345,353	0	313	313	10,403	0	0	68	0	0	0	28,939	81,672	0
2050	350,410	0	313	313	10,474	0	0	68	0	0	0	29,751	81,676	0
2051	355,601	0	313	313	10,551	0	0	68	0	0	0	30,247	82,900	0
2052	360,422	0	313	313	10,706	0	0	68	0	0	0	30,974	84,116	0
2053	364,687	0	313	313	10,888	0	0	68	0	0	0	30,980	85,177	0
2054	369,068	0	313	313	10,996	0	0	64	0	0	0	31,389	86,181	0
2055	373,570	0	313	313	11,127	0	0	53	0	0	0	31,805	87,201	0
2056	377,097	0	313	313	11,261	0	0	48	0	0	0	32,388	88,257	0
2057	380,051	0	313	313	11,414	0	0	64	0	0	0	32,254	88,998	0
2058	383,089	0	313	313	11,482	0	0	64	0	0	0	32,538	89,696	0
2059	386,213	0	313	313	11,572	0	0	64	0	0	0	32,825	90,399	0
2060	389,429	0	313	313	11,666	0	0	64	0	0	0	33,470	91,145	0

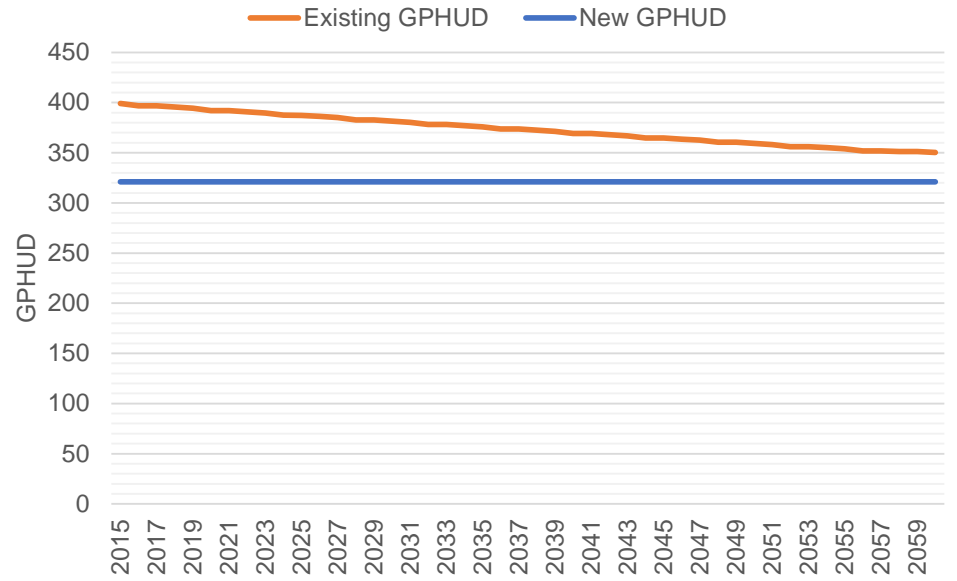
Central Arizona Project Service Area Model

D. Dry, Rapid Outward [WVWA]

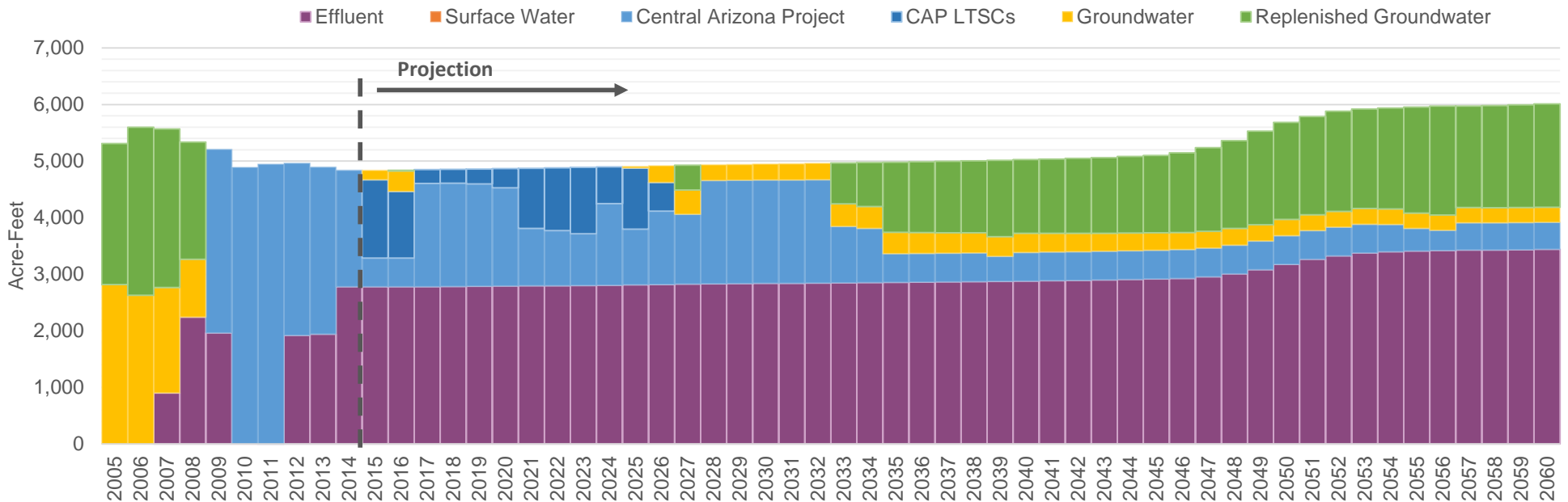
Housing Unit Projection



Gallons Per Housing Unit Per Day



Water Supply Projections



Central Arizona Project Service Area Model

D. Dry, Rapid Outward [WVWA]

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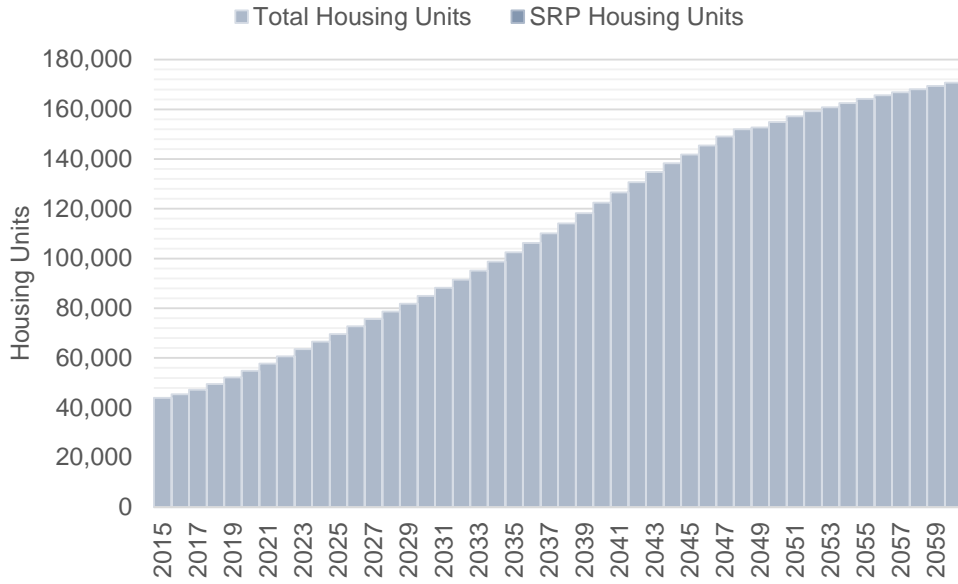


Date	Demand Assumptions				Water Supply Projections (Acre-Feet)									
	Housing Units		GPHUD		Effluent	Surface Water		Central Arizona Project				Groundwater		Unknown
	Total	SRP	Existing	New		SRP	Non-SRP	Direct	ASR	Storage	Recovery	Non-Repl.	Replenished	
2015	10,829	0	399	321	2,778	0	0	0	508	0	1,385	168	0	0
2016	10,903	0	397	321	2,778	0	0	0	508	0	1,177	361	16	0
2017	10,970	0	397	321	2,779	0	0	0	1,826	0	246	0	0	0
2018	11,018	0	396	321	2,785	0	0	0	1,826	0	246	0	0	0
2019	11,071	0	394	321	2,789	0	0	0	1,809	0	262	0	0	0
2020	11,128	0	392	321	2,791	0	0	0	1,736	0	340	0	0	0
2021	11,186	0	392	321	2,794	0	0	0	1,018	0	1,060	0	0	0
2022	11,245	0	391	321	2,797	0	0	0	973	0	1,109	0	0	0
2023	11,312	0	390	321	2,801	0	0	0	915	0	1,171	0	0	0
2024	11,381	0	387	321	2,806	0	0	0	1,443	0	650	0	0	0
2025	11,449	0	387	321	2,812	0	0	0	985	0	1,079	32	0	0
2026	11,518	0	386	321	2,818	0	0	0	1,299	0	507	295	0	0
2027	11,585	0	385	321	2,824	0	0	0	1,234	0	0	433	438	0
2028	11,638	0	383	321	2,830	0	0	0	1,826	0	0	282	0	0
2029	11,692	0	383	321	2,835	0	0	0	1,826	0	0	281	0	0
2030	11,747	0	382	321	2,838	0	0	0	1,826	0	0	284	0	0
2031	11,804	0	380	321	2,841	0	0	0	1,826	0	0	287	0	0
2032	11,860	0	378	321	2,844	0	0	0	1,826	0	0	292	0	0
2033	11,916	0	378	321	2,849	0	0	0	995	0	0	400	724	0
2034	11,973	0	377	321	2,852	0	0	0	957	0	0	390	775	0
2035	12,031	0	376	321	2,856	0	0	0	508	0	0	380	1,237	0
2036	12,091	0	374	321	2,860	0	0	0	508	0	0	371	1,251	0
2037	12,152	0	374	321	2,865	0	0	0	508	0	0	362	1,261	0
2038	12,215	0	373	321	2,869	0	0	0	508	0	0	354	1,274	0
2039	12,279	0	371	321	2,874	0	0	0	444	0	0	347	1,350	0
2040	12,344	0	369	321	2,879	0	0	0	508	0	0	339	1,299	0
2041	12,417	0	369	321	2,885	0	0	0	508	0	0	332	1,310	0
2042	12,492	0	368	321	2,891	0	0	0	508	0	0	326	1,324	0
2043	12,570	0	367	321	2,899	0	0	0	508	0	0	320	1,336	0
2044	12,659	0	365	321	2,907	0	0	0	508	0	0	314	1,353	0
2045	12,749	0	365	321	2,917	0	0	0	508	0	0	308	1,365	0
2046	12,996	0	364	321	2,927	0	0	0	508	0	0	303	1,408	0
2047	13,335	0	363	321	2,954	0	0	0	508	0	0	298	1,478	0
2048	13,753	0	361	321	3,007	0	0	0	508	0	0	293	1,555	0
2049	14,351	0	360	321	3,079	0	0	0	508	0	0	289	1,654	0
2050	14,676	0	359	321	3,175	0	0	0	508	0	0	285	1,715	0
2051	15,010	0	358	321	3,263	0	0	0	508	0	0	282	1,735	0
2052	15,240	0	356	321	3,323	0	0	0	508	0	0	279	1,771	0
2053	15,323	0	356	321	3,377	0	0	0	508	0	0	277	1,758	0
2054	15,409	0	355	321	3,399	0	0	0	479	0	0	275	1,785	0
2055	15,497	0	354	321	3,409	0	0	0	399	0	0	273	1,875	0
2056	15,553	0	352	321	3,420	0	0	0	355	0	0	271	1,927	0
2057	15,590	0	352	321	3,430	0	0	0	479	0	0	270	1,795	0
2058	15,627	0	351	321	3,429	0	0	0	479	0	0	268	1,803	0
2059	15,666	0	351	321	3,433	0	0	0	479	0	0	267	1,815	0
2060	15,705	0	350	321	3,441	0	0	0	479	0	0	265	1,827	0

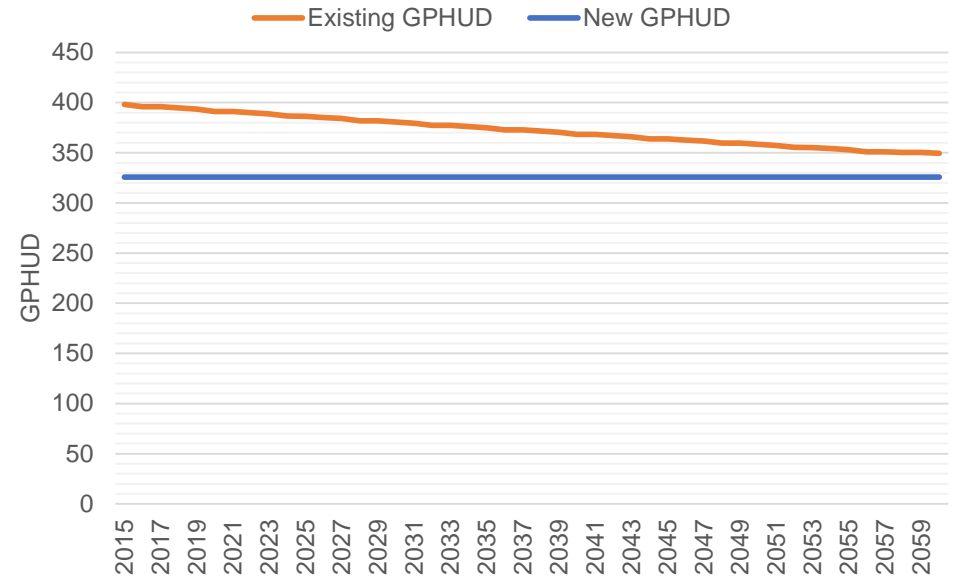
Central Arizona Project Service Area Model

D. Dry, Rapid Outward [WVWA]

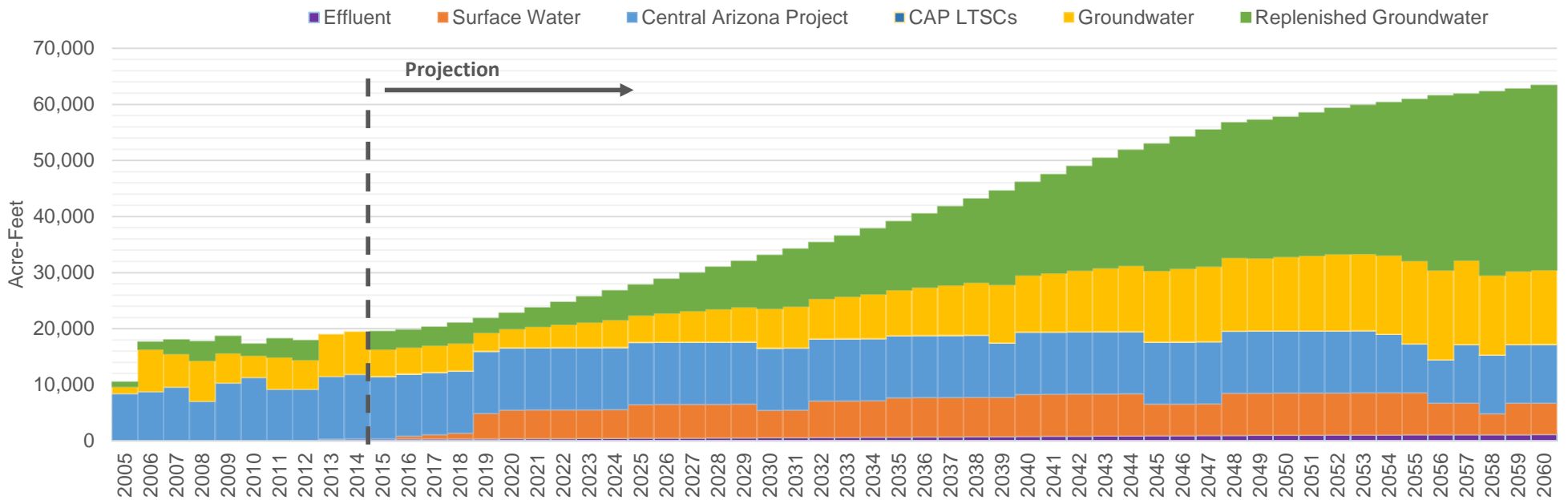
Housing Unit Projection



Gallons Per Housing Unit Per Day



Water Supply Projections



Central Arizona Project Service Area Model

D. Dry, Rapid Outward [WVWA]

Demand Assumptions

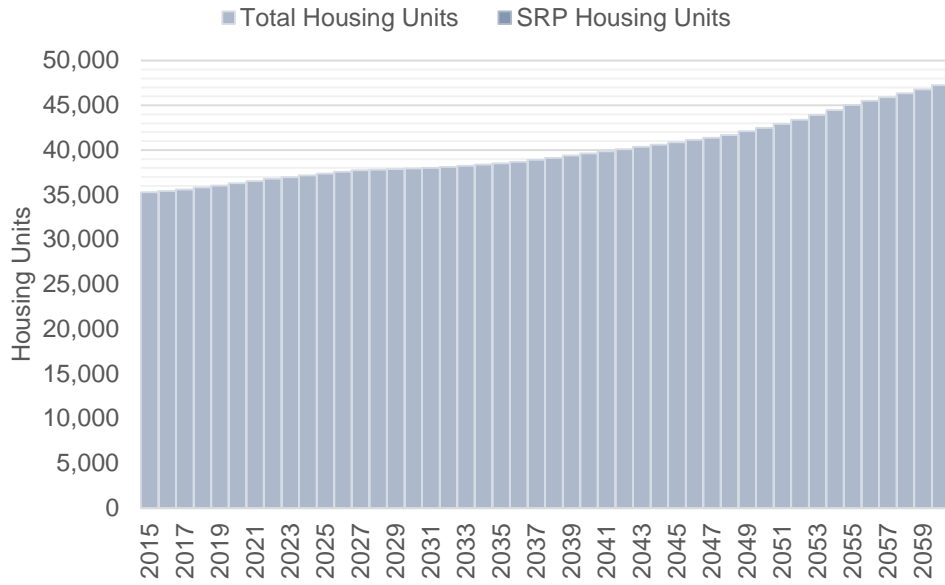
Water Supply Projections (Acre-Feet)

Date	Housing Units		GPHUD		Effluent	Surface Water		Central Arizona Project				Groundwater		Unknown
	Total	SRP	Existing	New		SRP	Non-SRP	Direct	ASR	Storage	Recovery	Non-Repl.	Replenished	
2015	43,929	0	398	326	348	0	0	11,093	0	0	45	4,821	3,221	0
2016	45,364	0	396	326	348	0	500	11,093	0	0	42	4,679	3,116	0
2017	47,254	0	396	326	352	0	750	11,093	0	0	40	4,751	3,339	0
2018	49,579	0	395	326	362	0	1,000	11,093	0	0	38	4,894	3,649	0
2019	52,160	0	393	326	375	0	4,500	11,093	0	0	36	3,261	2,608	0
2020	54,897	0	391	326	390	0	5,100	11,093	0	0	34	3,330	2,848	0
2021	57,722	0	391	326	406	0	5,100	11,093	0	0	33	3,712	3,399	0
2022	60,595	0	390	326	423	0	5,100	11,093	0	0	31	4,093	3,986	0
2023	63,587	0	389	326	441	0	5,100	11,093	0	0	30	4,469	4,606	0
2024	66,597	0	387	326	459	0	5,100	11,093	0	0	28	4,857	5,261	0
2025	69,612	0	386	326	478	0	6,000	11,093	0	0	27	4,780	5,442	0
2026	72,695	0	385	326	496	0	6,000	11,093	0	0	25	5,148	6,113	0
2027	75,709	0	384	326	515	0	6,000	11,093	0	0	24	5,495	6,804	0
2028	78,736	0	382	326	533	0	6,000	11,093	0	0	23	5,857	7,503	0
2029	81,824	0	382	326	553	0	6,000	11,093	0	0	22	6,170	8,198	0
2030	84,977	0	381	326	571	0	4,875	11,093	0	0	21	7,010	9,548	0
2031	88,197	0	380	326	590	0	4,875	11,093	0	0	20	7,373	10,274	0
2032	91,557	0	377	326	610	0	6,500	11,093	0	0	19	7,110	10,084	0
2033	95,119	0	377	326	631	0	6,500	11,093	0	0	18	7,480	10,856	0
2034	98,759	0	376	326	652	0	6,500	11,093	0	0	17	7,886	11,688	0
2035	102,479	0	375	326	674	0	7,000	11,093	0	0	16	8,097	12,243	0
2036	106,283	0	373	326	697	0	7,000	11,093	0	0	15	8,558	13,138	0
2037	110,185	0	373	326	722	0	7,000	11,093	0	0	14	8,937	14,027	0
2038	114,177	0	372	326	745	0	7,000	11,093	0	0	14	9,366	14,960	0
2039	118,263	0	370	326	769	0	7,000	9,696	0	0	13	10,334	16,784	0
2040	122,444	0	368	326	795	0	7,500	11,093	0	0	12	10,112	16,615	0
2041	126,542	0	368	326	822	0	7,500	11,093	0	0	12	10,480	17,601	0
2042	130,715	0	367	326	847	0	7,500	11,093	0	0	11	10,915	18,597	0
2043	134,832	0	366	326	873	0	7,500	11,093	0	0	11	11,336	19,609	0
2044	138,260	0	364	326	899	0	7,500	11,093	0	0	10	11,730	20,605	0
2045	141,773	0	364	326	924	0	5,625	11,093	0	0	10	12,682	22,624	0
2046	145,389	0	363	326	944	0	5,625	11,093	0	0	9	13,039	23,494	0
2047	149,106	0	362	326	966	0	5,625	11,093	0	0	9	13,406	24,390	0
2048	152,024	0	360	326	989	0	7,500	11,093	0	0	8	13,076	24,087	0
2049	152,706	0	360	326	1,011	0	7,500	11,093	0	0	8	12,949	24,689	0
2050	154,935	0	358	326	1,020	0	7,500	11,093	0	0	7	13,200	24,908	0
2051	157,223	0	357	326	1,029	0	7,500	11,093	0	0	7	13,410	25,461	0
2052	159,236	0	355	326	1,043	0	7,500	11,093	0	0	7	13,667	26,038	0
2053	160,850	0	355	326	1,058	0	7,500	11,093	0	0	6	13,694	26,491	0
2054	162,507	0	354	326	1,066	0	7,500	10,453	0	0	6	14,050	27,311	0
2055	164,210	0	353	326	1,076	0	7,500	8,721	0	0	6	14,779	28,865	0
2056	165,616	0	351	326	1,086	0	5,625	7,759	0	0	5	15,932	31,176	0
2057	166,851	0	351	326	1,097	0	5,625	10,453	0	0	5	15,002	29,711	0
2058	168,121	0	350	326	1,103	0	3,750	10,453	0	0	5	14,177	32,834	0
2059	169,428	0	350	326	1,111	0	5,625	10,453	0	0	5	13,026	32,573	0
2060	170,772	0	349	326	1,119	0	5,625	10,453	0	0	4	13,265	32,935	0

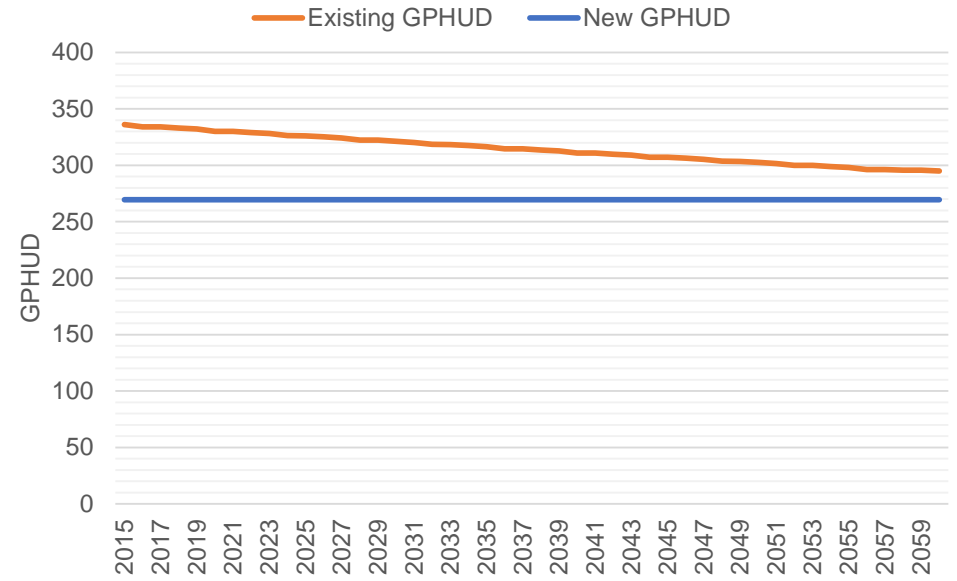
Central Arizona Project Service Area Model

D. Dry, Rapid Outward [WVWA]

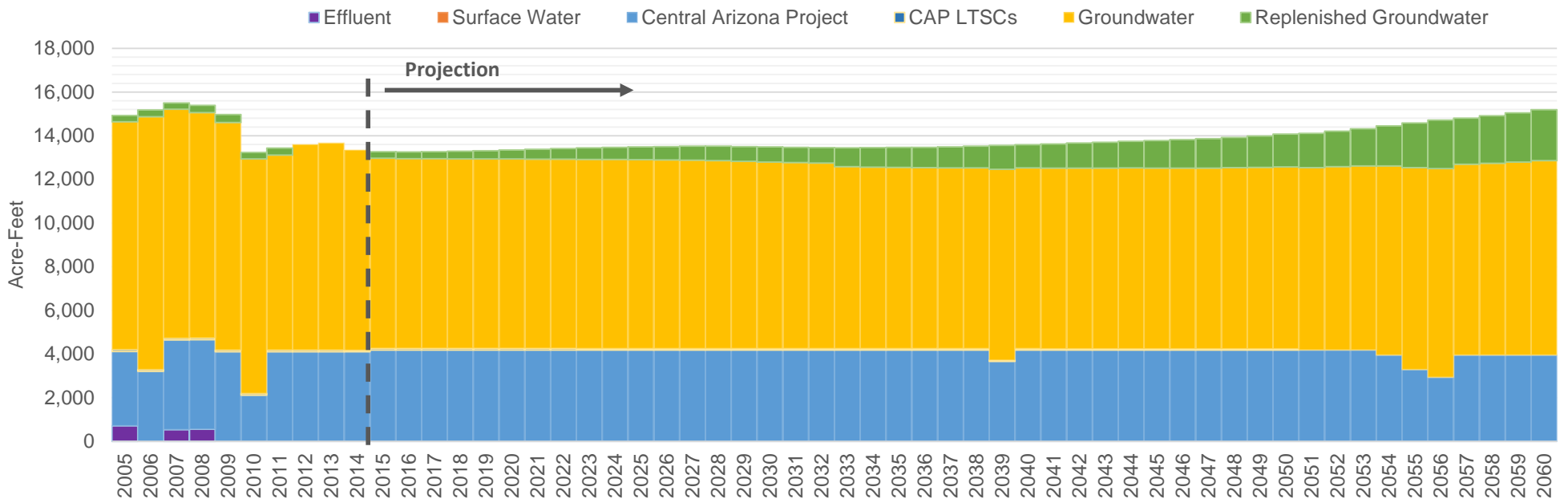
Housing Unit Projection



Gallons Per Housing Unit Per Day



Water Supply Projections



Central Arizona Project Service Area Model

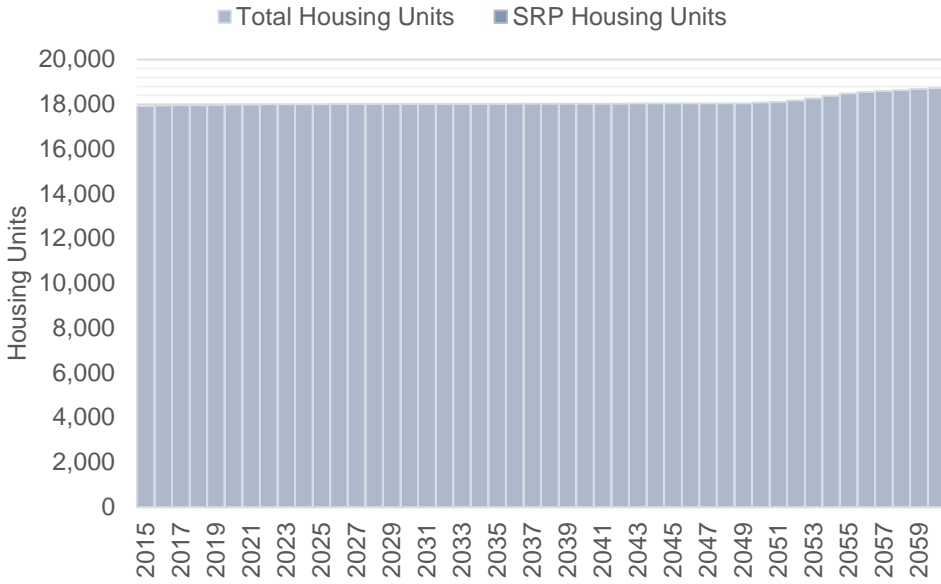
D. Dry, Rapid Outward [WVWA]

Date	Demand Assumptions				Water Supply Projections (Acre-Feet)									
	Housing Units		GPHUD		Effluent	Surface Water		Central Arizona Project				Groundwater		Unknown
	Total	SRP	Existing	New		SRP	Non-SRP	Direct	ASR	Storage	Recovery	Non-Repl.	Replenished	
2015	35,289	0	336	270	0	0	0	4,189	0	0	79	8,707	306	0
2016	35,433	0	334	270	0	0	0	4,189	0	0	79	8,691	308	0
2017	35,611	0	334	270	0	0	0	4,189	0	0	78	8,686	323	0
2018	35,816	0	333	270	0	0	0	4,189	0	0	77	8,680	347	0
2019	36,045	0	332	270	0	0	0	4,189	0	0	76	8,676	378	0
2020	36,287	0	330	270	0	0	0	4,189	0	0	75	8,675	412	0
2021	36,537	0	330	270	0	0	0	4,189	0	0	75	8,674	449	0
2022	36,791	0	329	270	0	0	0	4,189	0	0	74	8,674	486	0
2023	36,984	0	328	270	0	0	0	4,189	0	0	73	8,665	525	0
2024	37,178	0	326	270	0	0	0	4,189	0	0	73	8,657	554	0
2025	37,371	0	326	270	0	0	0	4,189	0	0	72	8,647	583	0
2026	37,569	0	325	270	0	0	0	4,189	0	0	71	8,639	612	0
2027	37,749	0	324	270	0	0	0	4,189	0	0	70	8,628	642	0
2028	37,812	0	322	270	0	0	0	4,189	0	0	70	8,602	669	0
2029	37,877	0	322	270	0	0	0	4,189	0	0	69	8,573	678	0
2030	37,943	0	321	270	0	0	0	4,189	0	0	68	8,546	687	0
2031	38,010	0	320	270	0	0	0	4,189	0	0	68	8,519	697	0
2032	38,105	0	319	270	0	0	0	4,189	0	0	67	8,499	707	0
2033	38,246	0	318	270	0	0	0	4,189	0	0	66	8,333	868	0
2034	38,390	0	317	270	0	0	0	4,189	0	0	66	8,314	894	0
2035	38,537	0	317	270	0	0	0	4,189	0	0	65	8,299	915	0
2036	38,688	0	315	270	0	0	0	4,189	0	0	64	8,288	937	0
2037	38,910	0	315	270	0	0	0	4,189	0	0	64	8,282	961	0
2038	39,142	0	314	270	0	0	0	4,189	0	0	63	8,279	995	0
2039	39,379	0	313	270	0	0	0	3,662	0	0	62	8,747	1,089	0
2040	39,622	0	311	270	0	0	0	4,189	0	0	62	8,281	1,067	0
2041	39,861	0	311	270	0	0	0	4,189	0	0	61	8,276	1,105	0
2042	40,104	0	310	270	0	0	0	4,189	0	0	61	8,275	1,142	0
2043	40,354	0	309	270	0	0	0	4,189	0	0	60	8,276	1,180	0
2044	40,609	0	307	270	0	0	0	4,189	0	0	59	8,281	1,220	0
2045	40,871	0	307	270	0	0	0	4,189	0	0	59	8,279	1,260	0
2046	41,126	0	306	270	0	0	0	4,189	0	0	58	8,280	1,301	0
2047	41,380	0	305	270	0	0	0	4,189	0	0	58	8,280	1,341	0
2048	41,681	0	304	270	0	0	0	4,189	0	0	57	8,293	1,382	0
2049	42,101	0	303	270	0	0	0	4,189	0	0	56	8,313	1,430	0
2050	42,500	0	303	270	0	0	0	4,189	0	0	56	8,333	1,498	0
2051	42,910	0	302	270	0	0	0	4,189	0	0	55	8,355	1,563	0
2052	43,376	0	300	270	0	0	0	4,189	0	0	55	8,391	1,630	0
2053	43,917	0	300	270	0	0	0	4,189	0	0	54	8,425	1,707	0
2054	44,473	0	299	270	0	0	0	3,947	0	0	54	8,665	1,839	0
2055	45,044	0	298	270	0	0	0	3,293	0	0	53	9,241	2,053	0
2056	45,515	0	296	270	0	0	0	2,930	0	0	53	9,565	2,223	0
2057	45,928	0	296	270	0	0	0	3,947	0	0	52	8,750	2,110	0
2058	46,353	0	296	270	0	0	0	3,947	0	0	52	8,787	2,182	0
2059	46,790	0	296	270	0	0	0	3,947	0	0	51	8,842	2,257	0
2060	47,240	0	295	270	0	0	0	3,947	0	0	51	8,909	2,335	0

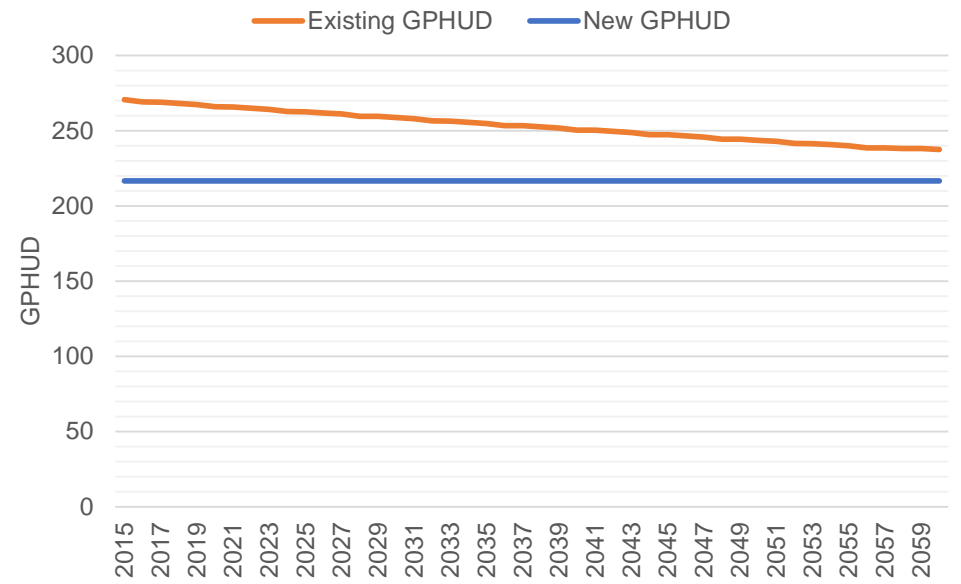
Central Arizona Project Service Area Model

D. Dry, Rapid Outward [WVWA]

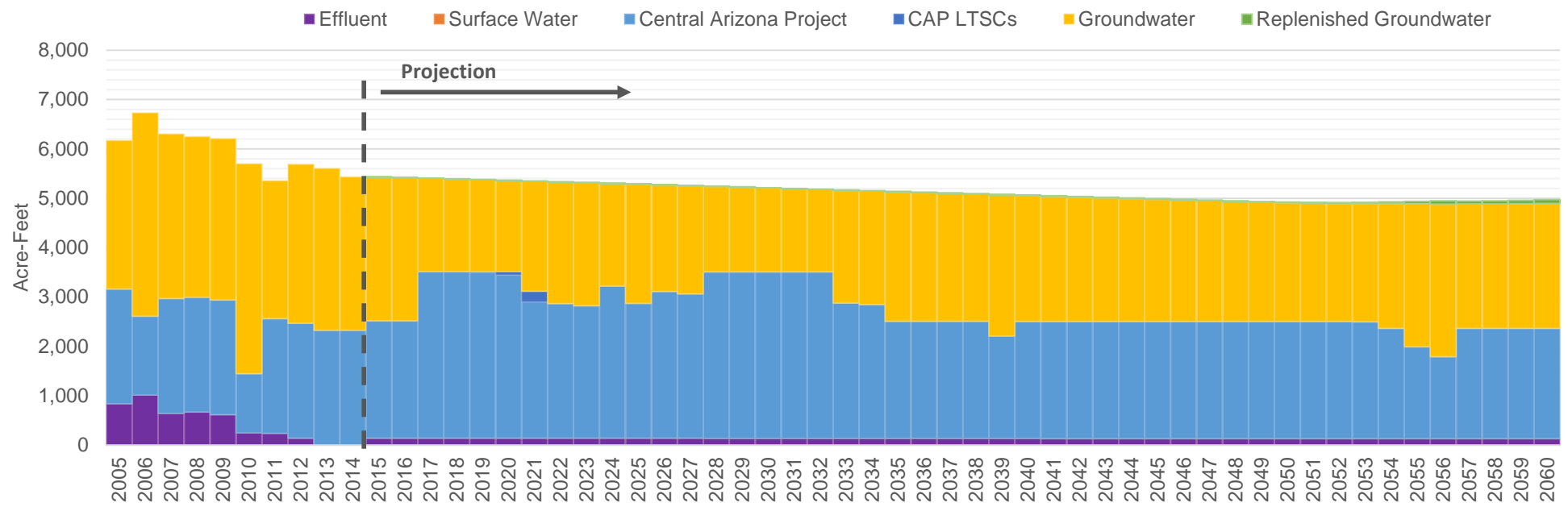
Housing Unit Projection



Gallons Per Housing Unit Per Day



Water Supply Projections



Central Arizona Project Service Area Model

EPCORSCW

D. Dry, Rapid Outward [WVWA]

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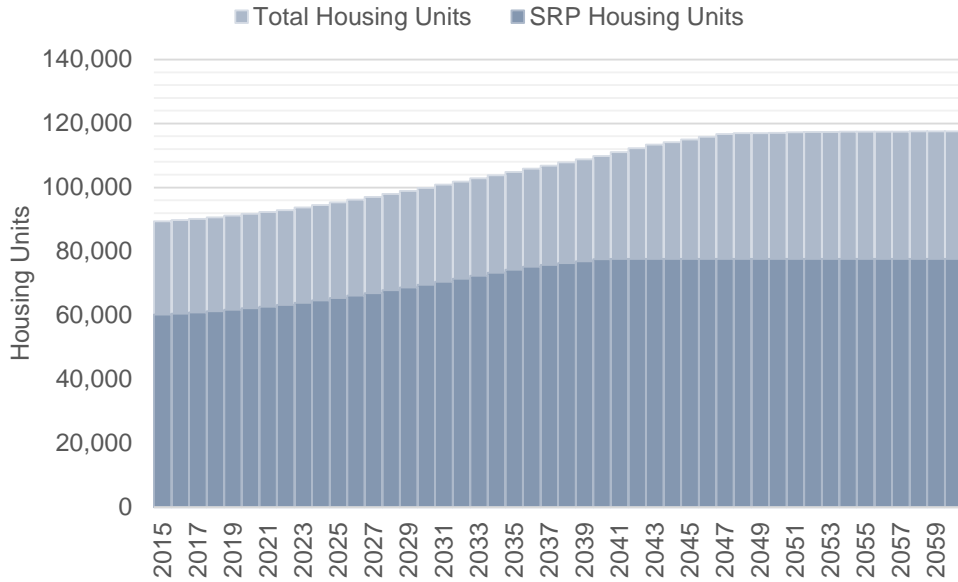
Date	Demand Assumptions				Water Supply Projections (Acre-Feet)									
	Housing Units		GPHUD		Effluent	Surface Water		Central Arizona Project				Groundwater		Unknown
	Total	SRP	Existing	New		SRP	Non-SRP	Direct	ASR	Storage	Recovery	Non-Repl.	Replenished	
2015	17,928	0	271	217	142	0	0	2,372	0	0	3	2,912	5	0
2016	17,945	0	269	217	142	0	0	2,372	0	0	3	2,898	5	0
2017	17,959	0	269	217	142	0	0	3,372	0	0	3	1,887	5	0
2018	17,966	0	268	217	141	0	0	3,372	0	0	3	1,873	5	0
2019	17,975	0	267	217	141	0	0	3,359	0	0	16	1,858	6	0
2020	17,984	0	266	217	141	0	0	3,304	0	0	71	1,844	6	0
2021	17,993	0	266	217	140	0	0	2,759	0	0	218	2,227	8	0
2022	18,002	0	265	217	140	0	0	2,725	0	0	0	2,464	10	0
2023	18,004	0	264	217	139	0	0	2,681	0	0	0	2,493	11	0
2024	18,006	0	263	217	139	0	0	3,081	0	0	0	2,079	9	0
2025	18,008	0	263	217	139	0	0	2,734	0	0	0	2,409	11	0
2026	18,009	0	262	217	138	0	0	2,972	0	0	0	2,158	10	0
2027	18,011	0	261	217	138	0	0	2,923	0	0	0	2,191	10	0
2028	18,012	0	260	217	138	0	0	3,372	0	0	0	1,729	8	0
2029	18,014	0	259	217	137	0	0	3,372	0	0	0	1,714	8	0
2030	18,015	0	259	217	137	0	0	3,372	0	0	0	1,699	8	0
2031	18,016	0	258	217	136	0	0	3,372	0	0	0	1,685	8	0
2032	18,018	0	256	217	136	0	0	3,372	0	0	0	1,670	8	0
2033	18,019	0	256	217	136	0	0	2,741	0	0	0	2,282	12	0
2034	18,021	0	256	217	135	0	0	2,713	0	0	0	2,296	12	0
2035	18,022	0	255	217	135	0	0	2,372	0	0	0	2,620	14	0
2036	18,024	0	253	217	134	0	0	2,372	0	0	0	2,606	14	0
2037	18,025	0	253	217	134	0	0	2,372	0	0	0	2,591	14	0
2038	18,027	0	253	217	134	0	0	2,372	0	0	0	2,576	14	0
2039	18,028	0	252	217	133	0	0	2,073	0	0	0	2,859	16	0
2040	18,030	0	250	217	133	0	0	2,372	0	0	0	2,547	14	0
2041	18,032	0	250	217	132	0	0	2,372	0	0	0	2,533	14	0
2042	18,034	0	250	217	132	0	0	2,372	0	0	0	2,519	14	0
2043	18,036	0	249	217	132	0	0	2,372	0	0	0	2,504	14	0
2044	18,038	0	247	217	131	0	0	2,372	0	0	0	2,490	15	0
2045	18,040	0	247	217	131	0	0	2,372	0	0	0	2,476	15	0
2046	18,041	0	247	217	130	0	0	2,372	0	0	0	2,462	15	0
2047	18,042	0	246	217	130	0	0	2,372	0	0	0	2,447	15	0
2048	18,042	0	244	217	130	0	0	2,372	0	0	0	2,433	15	0
2049	18,044	0	244	217	129	0	0	2,372	0	0	0	2,419	15	0
2050	18,078	0	244	217	129	0	0	2,372	0	0	0	2,409	15	0
2051	18,112	0	243	217	129	0	0	2,372	0	0	0	2,400	18	0
2052	18,174	0	242	217	129	0	0	2,372	0	0	0	2,394	21	0
2053	18,274	0	241	217	128	0	0	2,372	0	0	0	2,394	26	0
2054	18,376	0	241	217	129	0	0	2,235	0	0	0	2,530	37	0
2055	18,481	0	240	217	129	0	0	1,865	0	0	0	2,894	53	0
2056	18,548	0	239	217	129	0	0	1,659	0	0	0	3,091	68	0
2057	18,592	0	239	217	129	0	0	2,235	0	0	0	2,520	62	0
2058	18,636	0	238	217	129	0	0	2,235	0	0	0	2,519	66	0
2059	18,682	0	238	217	129	0	0	2,235	0	0	0	2,526	70	0
2060	18,729	0	238	217	130	0	0	2,235	0	0	0	2,533	74	0

Central Arizona Project Service Area Model

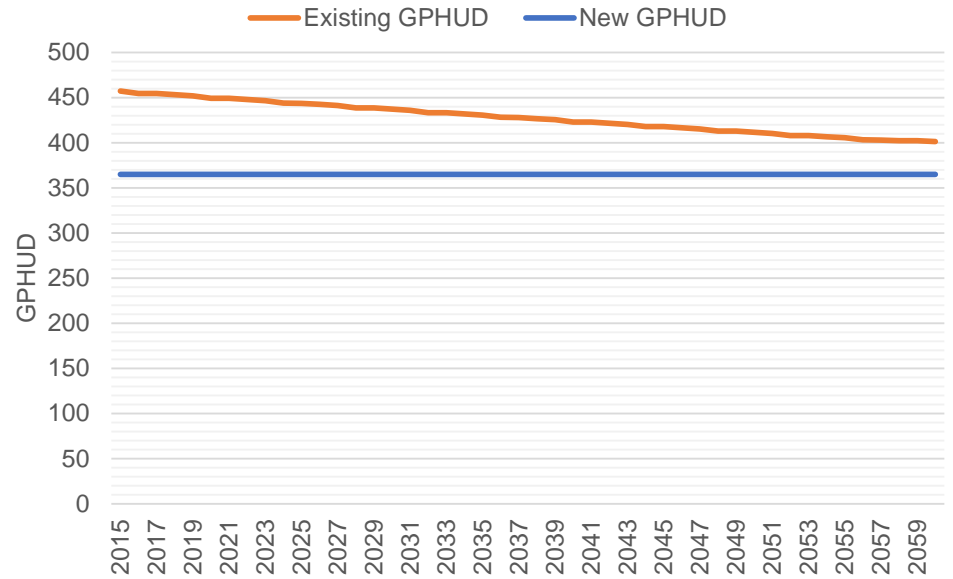
D. Dry, Rapid Outward [WVWA]

Glendale

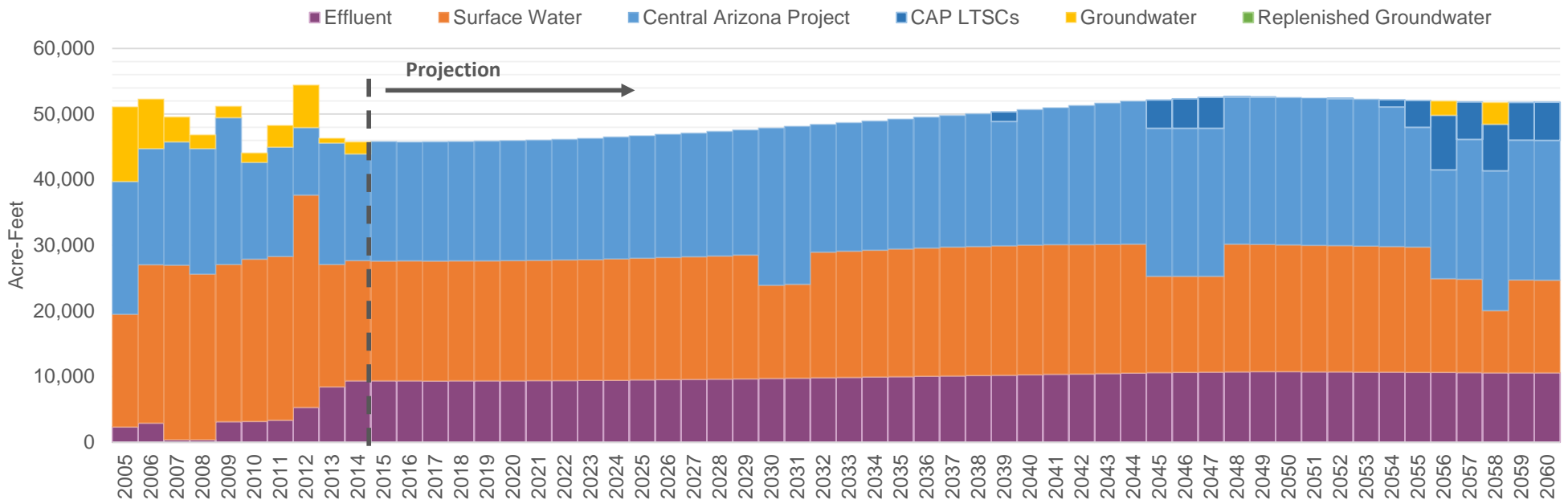
Housing Unit Projection



Gallons Per Housing Unit Per Day



Water Supply Projections



Central Arizona Project Service Area Model

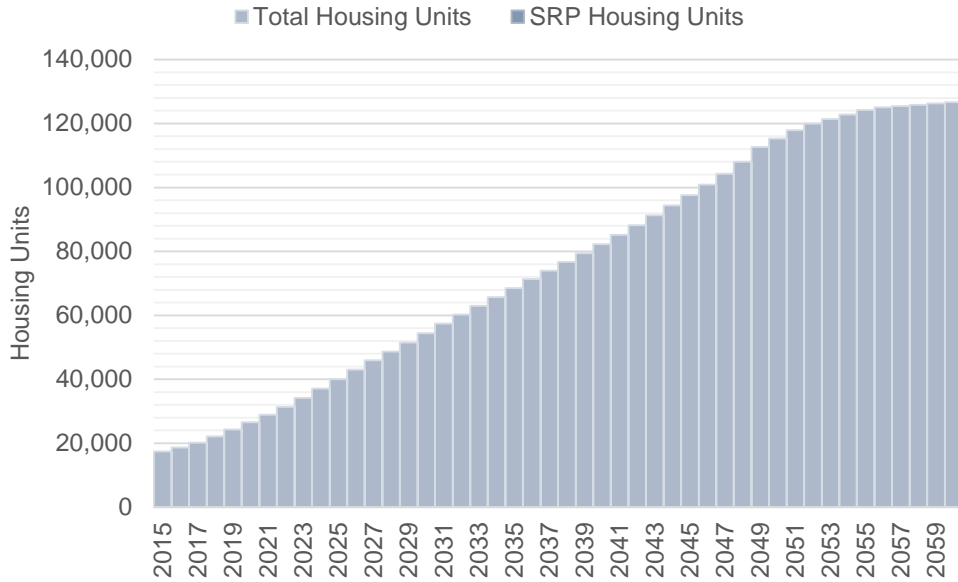
D. Dry, Rapid Outward [WVWA]

Date	Demand Assumptions				Water Supply Projections (Acre-Feet)									
	Housing Units		GPHUD		Effluent	Surface Water		Central Arizona Project				Groundwater		Unknown
	Total	SRP	Existing	New		SRP	Non-SRP	Direct	ASR	Storage	Recovery	Non-Repl.	Replenished	
2015	89,448	60,278	457	365	9,367	18,260	0	18,173	0	0	0	0	0	0
2016	89,785	60,561	455	365	9,367	18,274	0	18,103	0	0	0	0	0	0
2017	90,198	60,911	455	365	9,356	18,271	0	18,134	0	0	0	0	0	0
2018	90,667	61,313	453	365	9,359	18,278	0	18,167	0	0	0	0	0	0
2019	91,188	61,761	452	365	9,368	18,293	0	18,210	0	0	0	0	0	0
2020	91,740	62,235	449	365	9,381	18,315	0	18,260	0	0	0	0	0	0
2021	92,311	62,725	449	365	9,399	18,338	0	18,311	0	0	0	0	0	0
2022	92,890	63,223	448	365	9,418	18,365	0	18,365	0	0	0	0	0	0
2023	93,702	63,959	446	365	9,438	18,412	0	18,448	0	0	0	0	0	0
2024	94,519	64,702	444	365	9,469	18,481	0	18,552	0	0	0	0	0	0
2025	95,339	65,446	444	365	9,511	18,546	0	18,641	0	0	0	0	0	0
2026	96,176	66,207	442	365	9,551	18,616	0	18,737	0	0	0	0	0	0
2027	97,007	66,963	441	365	9,593	18,686	0	18,832	0	0	0	0	0	0
2028	97,944	67,827	439	365	9,635	18,769	0	18,945	0	0	0	0	0	0
2029	98,899	68,709	438	365	9,684	18,855	0	19,056	0	0	0	0	0	0
2030	99,874	69,609	437	365	9,734	14,210	0	23,913	0	0	0	0	0	0
2031	100,870	70,528	436	365	9,788	14,282	0	24,059	0	0	0	0	0	0
2032	101,860	71,448	433	365	9,843	19,145	0	19,429	0	0	0	0	0	0
2033	102,826	72,356	433	365	9,902	19,237	0	19,534	0	0	0	0	0	0
2034	103,813	73,283	432	365	9,955	19,334	0	19,653	0	0	0	0	0	0
2035	104,821	74,231	431	365	10,010	19,435	0	19,775	0	0	0	0	0	0
2036	105,852	75,200	428	365	10,066	19,546	0	19,913	0	0	0	0	0	0
2037	106,828	75,785	428	365	10,129	19,615	0	20,045	0	0	0	0	0	0
2038	107,822	76,358	427	365	10,183	19,658	0	20,223	0	0	0	0	0	0
2039	108,839	76,944	425	365	10,239	19,701	0	18,926	0	0	1,480	0	0	0
2040	109,880	77,544	423	365	10,297	19,754	0	20,610	0	0	0	0	0	0
2041	111,040	77,622	423	365	10,361	19,751	0	20,849	0	0	0	0	0	0
2042	112,240	77,636	422	365	10,423	19,708	0	21,186	0	0	0	0	0	0
2043	113,392	77,650	420	365	10,495	19,660	0	21,516	0	0	0	0	0	0
2044	114,182	77,659	418	365	10,568	19,619	0	21,782	0	0	0	0	0	0
2045	114,991	77,668	418	365	10,629	14,672	0	22,526	0	0	4,316	0	0	0
2046	115,820	77,678	417	365	10,664	14,636	0	22,526	0	0	4,526	0	0	0
2047	116,670	77,687	415	365	10,707	14,600	0	22,526	0	0	4,737	0	0	0
2048	117,010	77,691	413	365	10,752	19,426	0	22,400	0	0	142	0	0	0
2049	117,010	77,691	413	365	10,782	19,368	0	22,400	0	0	83	0	0	0
2050	117,121	77,692	412	365	10,765	19,319	0	22,448	0	0	0	0	0	0
2051	117,235	77,693	410	365	10,744	19,270	0	22,440	0	0	0	0	0	0
2052	117,320	77,694	408	365	10,728	19,229	0	22,400	0	0	46	0	0	0
2053	117,367	77,695	408	365	10,717	19,173	0	22,386	0	0	0	0	0	0
2054	117,415	77,695	407	365	10,691	19,124	0	21,276	0	0	1,082	0	0	0
2055	117,464	77,696	406	365	10,670	19,075	0	18,246	0	0	4,079	0	0	0
2056	117,487	77,696	403	365	10,649	14,276	0	16,562	0	0	8,350	2,157	0	0
2057	117,495	77,696	403	365	10,634	14,234	0	21,276	0	0	5,704	0	0	0
2058	117,503	77,696	402	365	10,604	9,463	0	21,276	0	0	7,119	3,323	0	0
2059	117,512	77,696	402	365	10,591	14,152	0	21,276	0	0	5,769	0	0	0
2060	117,520	77,696	401	365	10,592	14,116	0	21,276	0	0	5,840	0	0	0

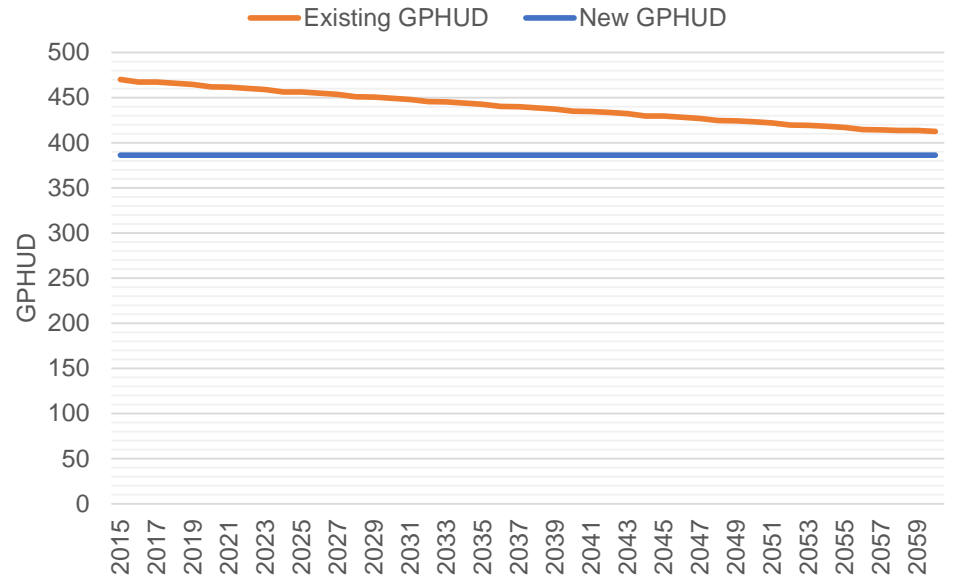
Central Arizona Project Service Area Model

D. Dry, Rapid Outward [WVWA]

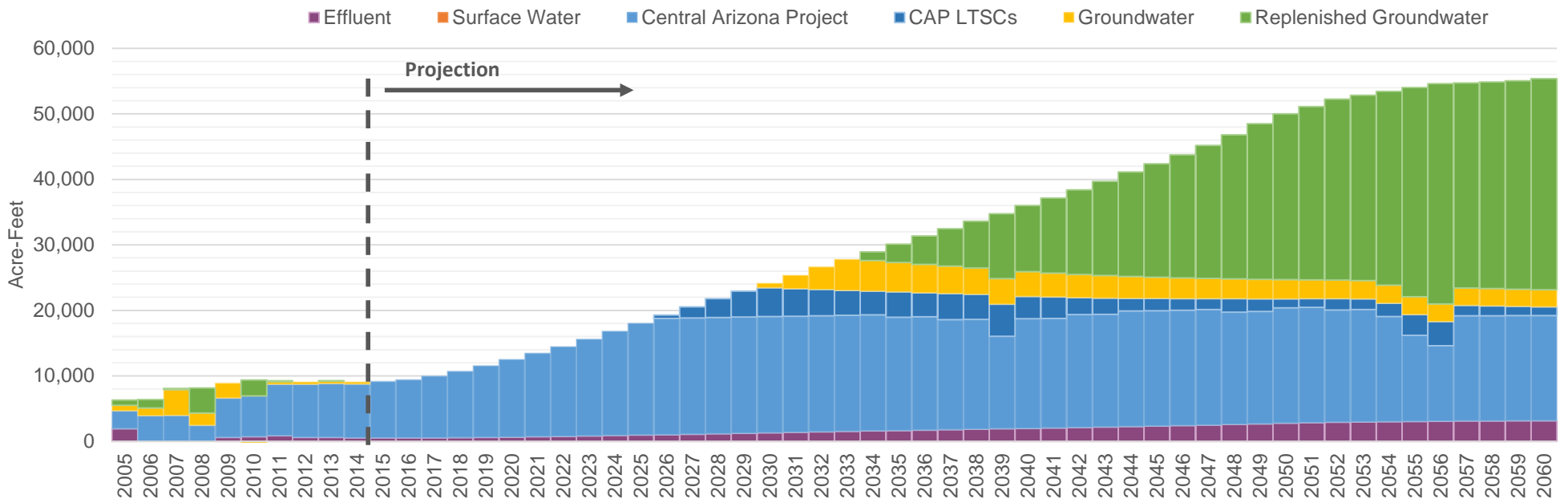
Housing Unit Projection



Gallons Per Housing Unit Per Day



Water Supply Projections





Central Arizona Project Service Area Model

D. Dry, Rapid Outward [WVWA]

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Demand Assumptions

Water Supply Projections (Acre-Feet)

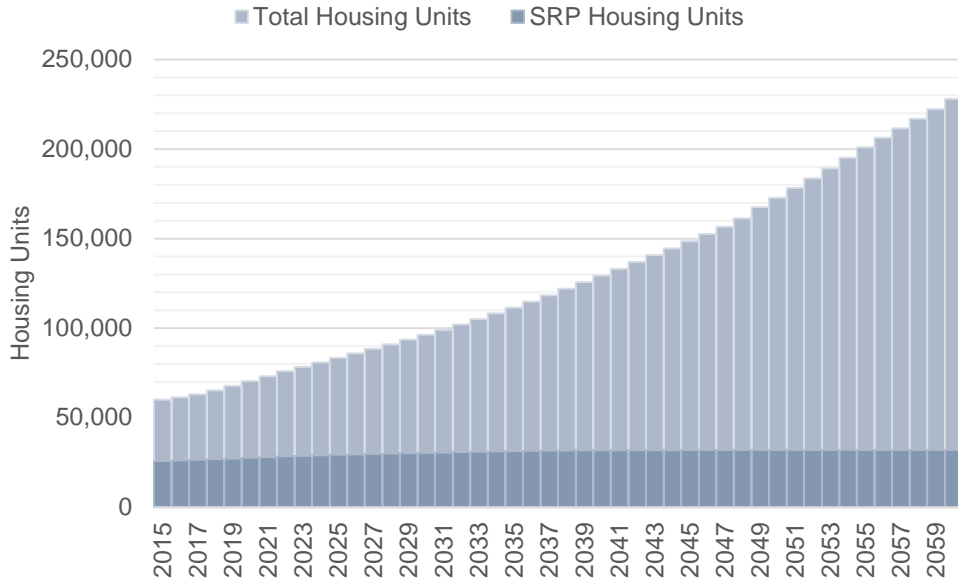
Date	Housing Units		GPHUD		Effluent	Surface Water		Central Arizona Project				Groundwater		Unknown
	Total	SRP	Existing	New		SRP	Non-SRP	Direct	ASR	Storage	Recovery	Non-Repl.	Replenished	
2015	17,480	0	470	386	522	0	0	0	8,620	0	0	0	0	0
2016	18,633	0	467	386	522	0	0	0	8,886	0	0	0	0	0
2017	20,182	0	467	386	537	0	0	0	9,428	0	0	0	0	0
2018	22,124	0	466	386	569	0	0	0	10,124	0	0	0	0	0
2019	24,280	0	464	386	611	0	0	0	10,942	0	0	0	0	0
2020	26,566	0	462	386	660	0	0	0	11,836	5,906	0	0	0	0
2021	28,926	0	462	386	714	0	0	0	12,751	4,789	0	0	0	0
2022	31,326	0	460	386	769	0	0	0	13,698	3,823	0	0	0	0
2023	34,216	0	459	386	826	0	0	0	14,759	2,745	0	0	0	0
2024	37,127	0	456	386	890	0	0	0	15,945	1,797	0	0	0	0
2025	40,042	0	456	386	961	0	0	0	17,086	640	0	0	0	0
2026	43,023	0	455	386	1,030	0	0	0	17,742	0	524	0	0	0
2027	45,923	0	453	386	1,102	0	0	0	17,742	0	1,698	0	0	0
2028	48,700	0	451	386	1,173	0	0	0	17,742	0	2,864	0	0	0
2029	51,535	0	451	386	1,244	0	0	0	17,742	0	3,945	0	0	0
2030	54,428	0	449	386	1,309	0	0	0	17,742	0	4,416	677	0	0
2031	57,383	0	448	386	1,379	0	0	0	17,742	0	4,196	2,067	0	0
2032	60,258	0	445	386	1,449	0	0	0	17,742	0	3,986	3,490	0	0
2033	62,945	0	445	386	1,523	0	0	0	17,742	0	3,786	4,744	0	0
2034	65,690	0	444	386	1,587	0	0	0	17,742	0	3,597	4,682	1,336	0
2035	68,496	0	443	386	1,653	0	0	0	17,316	0	3,843	4,504	2,803	0
2036	71,366	0	440	386	1,720	0	0	0	17,303	0	3,664	4,337	4,360	0
2037	74,005	0	440	386	1,792	0	0	0	16,781	0	4,003	4,180	5,732	0
2038	76,687	0	439	386	1,855	0	0	0	16,769	0	3,815	4,034	7,141	0
2039	79,431	0	437	386	1,919	0	0	0	14,141	0	4,900	3,897	9,905	0
2040	82,240	0	435	386	1,985	0	0	0	16,744	0	3,404	3,769	10,110	0
2041	85,175	0	435	386	2,056	0	0	0	16,731	0	3,246	3,651	11,470	0
2042	88,187	0	433	386	2,122	0	0	0	17,226	0	2,589	3,540	12,939	0
2043	91,269	0	432	386	2,194	0	0	0	17,214	0	2,472	3,437	14,392	0
2044	94,403	0	430	386	2,267	0	0	0	17,634	0	1,928	3,342	15,946	0
2045	97,616	0	430	386	2,348	0	0	0	17,620	0	1,846	3,255	17,308	0
2046	100,910	0	428	386	2,420	0	0	0	17,620	0	1,754	3,174	18,791	0
2047	104,287	0	427	386	2,499	0	0	0	17,620	0	1,666	3,100	20,292	0
2048	108,079	0	425	386	2,580	0	0	0	17,158	0	2,045	3,033	21,994	0
2049	112,691	0	424	386	2,673	0	0	0	17,158	0	1,943	2,971	23,752	0
2050	115,262	0	423	386	2,769	0	0	0	17,620	0	1,384	2,916	25,337	0
2051	117,902	0	422	386	2,857	0	0	0	17,620	0	1,314	2,868	26,470	0
2052	120,016	0	419	386	2,920	0	0	0	17,158	0	1,711	2,824	27,641	0
2053	121,383	0	419	386	2,984	0	0	0	17,158	0	1,625	2,785	28,309	0
2054	122,788	0	418	386	3,018	0	0	0	16,063	0	2,019	2,751	29,586	0
2055	124,231	0	417	386	3,051	0	0	0	13,137	0	3,167	2,719	31,954	0
2056	125,028	0	414	386	3,085	0	0	0	11,511	0	3,703	2,690	33,627	0
2057	125,428	0	414	386	3,119	0	0	0	16,063	0	1,574	2,663	31,304	0
2058	125,840	0	414	386	3,125	0	0	0	16,063	0	1,495	2,639	31,563	0
2059	126,263	0	414	386	3,134	0	0	0	16,063	0	1,421	2,617	31,832	0
2060	126,698	0	413	386	3,144	0	0	0	16,063	0	1,350	2,596	32,229	0

Peoria

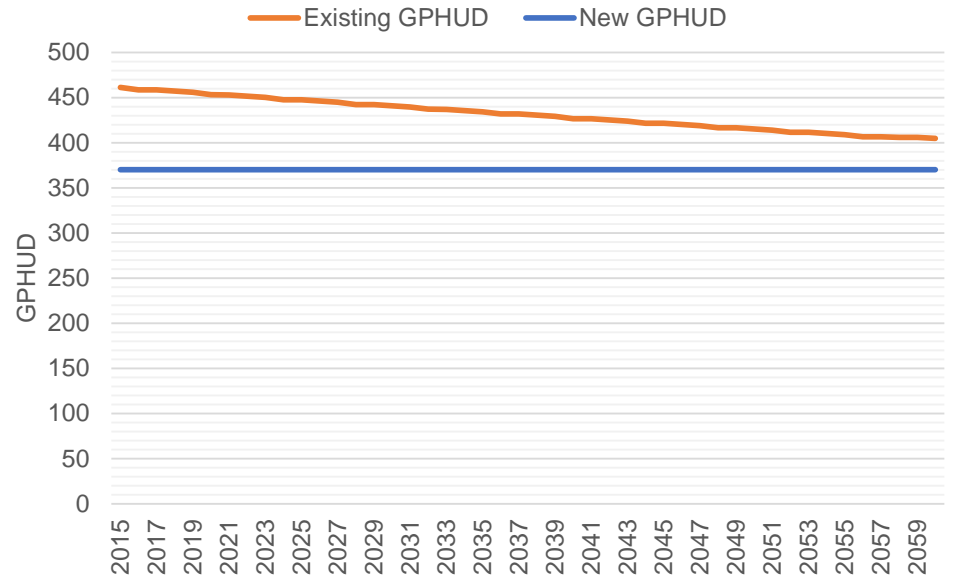
Central Arizona Project Service Area Model

D. Dry, Rapid Outward [WVWA]

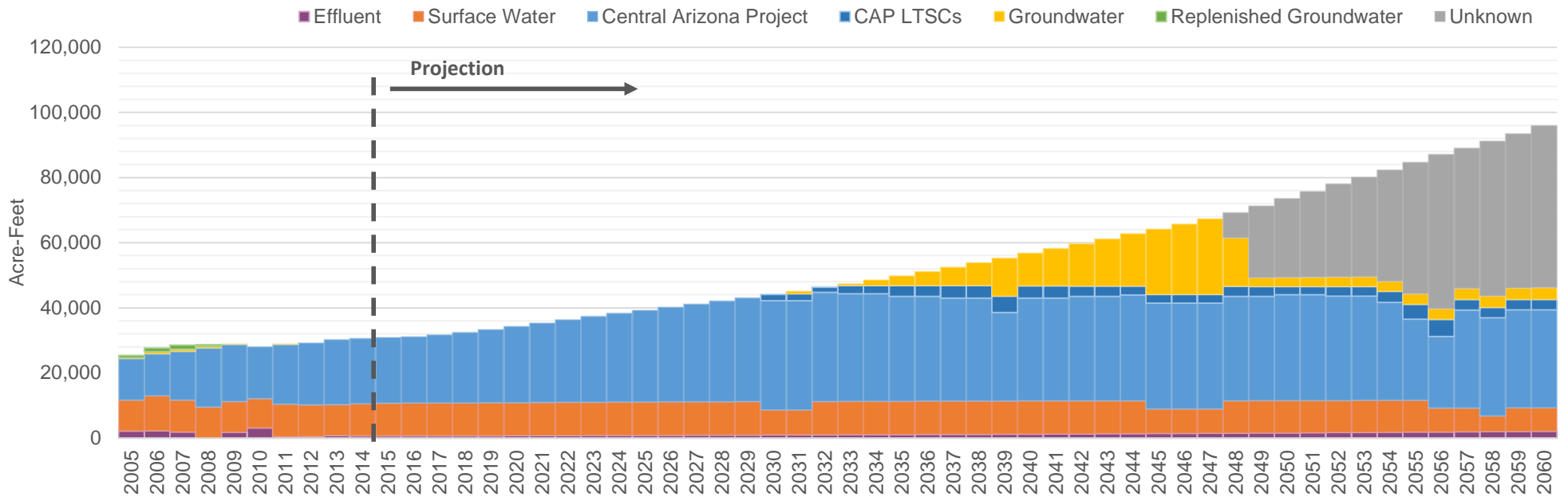
Housing Unit Projection



Gallons Per Housing Unit Per Day



Water Supply Projections



Central Arizona Project Service Area Model

D. Dry, Rapid Outward [WVWA]

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Peoria

Demand Assumptions

Water Supply Projections (Acre-Feet)

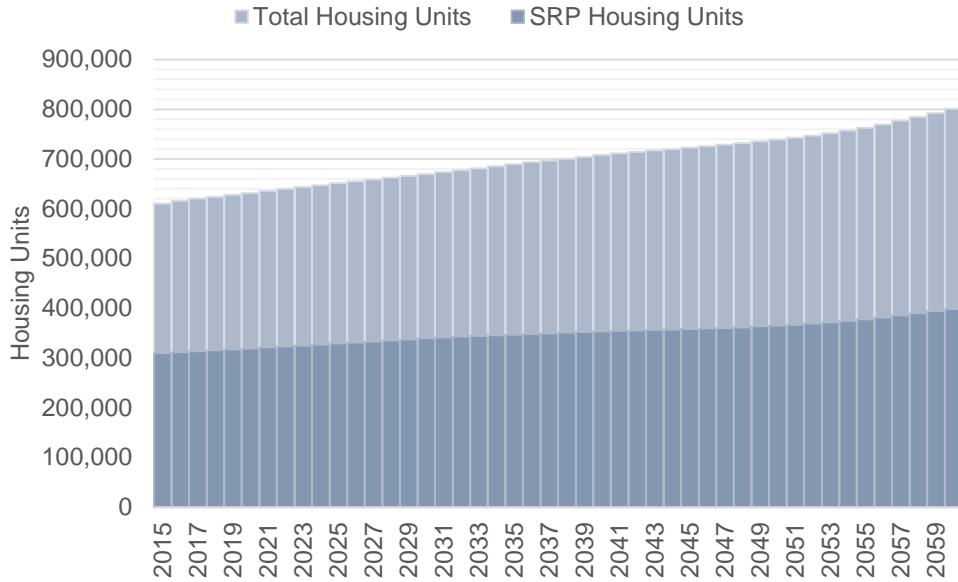
Date	Housing Units		GPHUD		Effluent	Surface Water		Central Arizona Project				Groundwater		Unknown
	Total	SRP	Existing	New		SRP	Non-SRP	Direct	ASR	Storage	Recovery	Non-Repl.	Replenished	
2015	59,993	25,797	461	370	694	10,064	0	14,118	6,051	12,067	0	0	0	0
2016	61,313	26,050	459	370	694	10,085	0	14,265	6,113	11,858	0	0	0	0
2017	63,093	26,362	459	370	699	10,093	0	14,640	6,274	11,322	0	0	0	0
2018	65,333	26,722	457	370	711	10,108	0	15,140	6,489	10,608	0	0	0	0
2019	67,818	27,122	456	370	728	10,130	0	15,735	6,743	9,758	0	0	0	0
2020	70,454	27,545	453	370	748	10,156	0	16,389	7,024	10,113	0	0	0	0
2021	73,176	27,983	453	370	770	10,184	0	17,060	7,311	8,500	0	0	0	0
2022	75,943	28,428	452	370	793	10,214	0	17,756	7,610	7,445	0	0	0	0
2023	78,402	28,707	450	370	816	10,233	0	18,421	7,895	6,422	0	0	0	0
2024	80,870	28,986	448	370	838	10,242	0	19,067	8,171	6,236	0	0	0	0
2025	83,344	29,266	448	370	860	10,249	0	19,685	8,436	4,906	0	0	0	0
2026	85,872	29,551	446	370	880	10,258	0	20,327	8,712	4,300	0	0	0	0
2027	88,357	29,820	445	370	902	10,266	0	20,971	8,988	3,319	0	0	0	0
2028	90,952	30,000	442	370	923	10,269	0	21,653	9,280	2,592	0	0	0	0
2029	93,600	30,183	442	370	945	10,263	0	22,316	9,564	1,644	0	0	0	0
2030	96,303	30,370	441	370	967	7,694	0	23,468	10,058	0	1,923	0	0	0
2031	99,063	30,561	440	370	990	7,692	0	23,468	10,058	0	2,079	867	0	0
2032	101,968	30,747	437	370	1,013	10,255	0	23,468	10,058	0	1,493	0	0	0
2033	105,088	30,923	437	370	1,039	10,248	0	23,137	9,916	0	2,516	545	0	0
2034	108,276	31,102	436	370	1,064	10,244	0	23,112	9,905	0	2,526	1,769	0	0
2035	111,534	31,286	434	370	1,091	10,240	0	22,517	9,650	0	3,352	3,020	0	0
2036	114,866	31,474	432	370	1,119	10,239	0	22,507	9,646	0	3,332	4,366	0	0
2037	118,376	31,575	432	370	1,149	10,228	0	22,139	9,488	0	3,824	5,652	0	0
2038	121,973	31,672	430	370	1,178	10,213	0	22,130	9,484	0	3,798	7,063	0	0
2039	125,653	31,772	429	370	1,209	10,198	0	19,007	8,146	0	5,045	11,684	0	0
2040	129,420	31,874	427	370	1,241	10,186	0	22,113	9,477	0	3,735	10,072	0	0
2041	133,140	31,890	427	370	1,275	10,164	0	22,104	9,473	0	3,710	11,486	0	0
2042	136,933	31,896	425	370	1,306	10,137	0	22,453	9,623	0	3,175	12,991	0	0
2043	140,795	31,901	424	370	1,339	10,110	0	22,444	9,619	0	3,156	14,518	0	0
2044	144,637	31,905	422	370	1,373	10,086	0	22,740	9,746	0	2,701	16,146	0	0
2045	148,573	31,909	422	370	1,409	7,542	0	22,730	9,742	0	2,688	20,114	0	0
2046	152,565	31,913	420	370	1,441	7,522	0	22,730	9,742	0	2,661	21,688	0	0
2047	156,634	31,917	419	370	1,476	7,502	0	22,730	9,742	0	2,635	23,287	0	0
2048	161,346	31,918	417	370	1,512	9,978	0	22,405	9,602	0	3,074	14,927	0	7,723
2049	167,561	31,918	416	370	1,553	9,948	0	22,405	9,602	0	3,043	2,695	0	22,044
2050	172,834	31,919	415	370	1,600	9,921	0	22,730	9,742	0	2,547	2,769	0	24,278
2051	178,246	31,919	414	370	1,651	9,894	0	22,730	9,742	0	2,522	2,852	0	26,329
2052	183,748	31,920	412	370	1,699	9,870	0	22,405	9,602	0	2,962	2,943	0	28,556
2053	189,326	31,920	412	370	1,751	9,840	0	22,405	9,602	0	2,932	3,029	0	30,554
2054	195,056	31,920	410	370	1,798	9,814	0	21,051	9,022	0	3,381	3,121	0	34,189
2055	200,944	31,921	409	370	1,848	9,787	0	17,412	7,462	0	4,605	3,205	0	40,381
2056	206,363	31,921	407	370	1,901	7,322	0	15,391	6,596	0	5,258	3,295	0	47,363
2057	211,548	31,921	407	370	1,955	7,300	0	21,051	9,022	0	3,248	3,388	0	43,115
2058	216,880	31,921	406	370	1,999	4,853	0	21,051	9,022	0	3,216	3,485	0	47,590
2059	222,364	31,921	406	370	2,047	7,258	0	21,051	9,022	0	3,184	3,563	0	47,333
2060	228,007	31,921	405	370	2,097	7,238	0	21,051	9,022	0	3,152	3,649	0	49,744

Phoenix

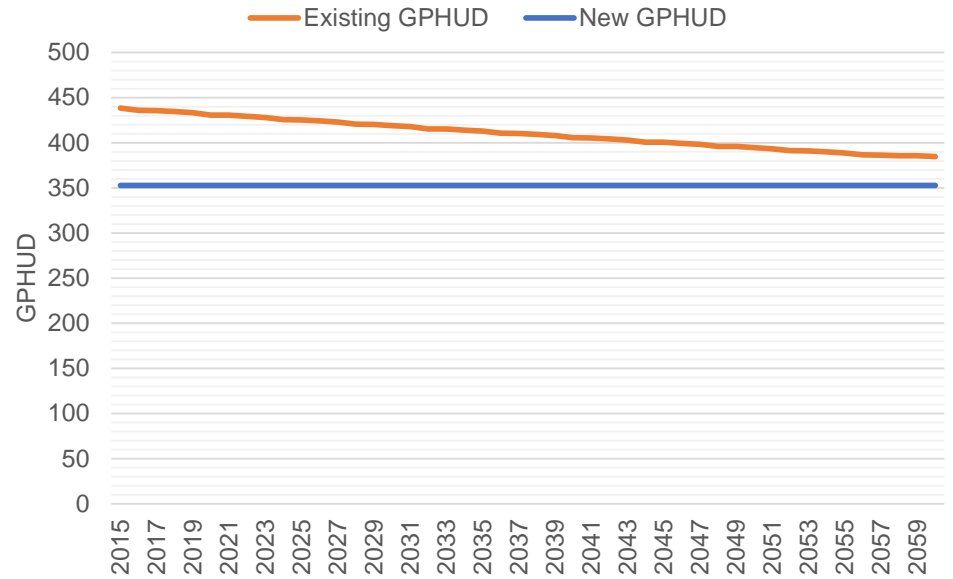
Central Arizona Project Service Area Model

D. Dry, Rapid Outward [WVWA]

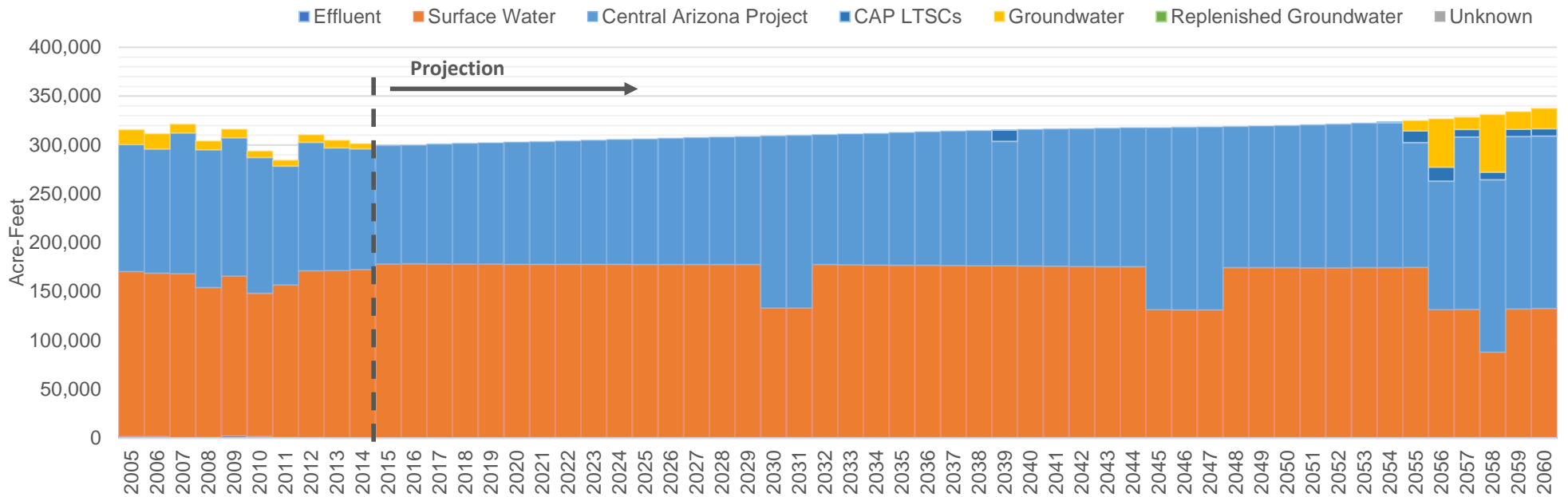
Housing Unit Projection



Gallons Per Housing Unit Per Day



Water Supply Projections



Central Arizona Project Service Area Model

D. Dry, Rapid Outward [WVWA]

4/11/18 9:47 AM

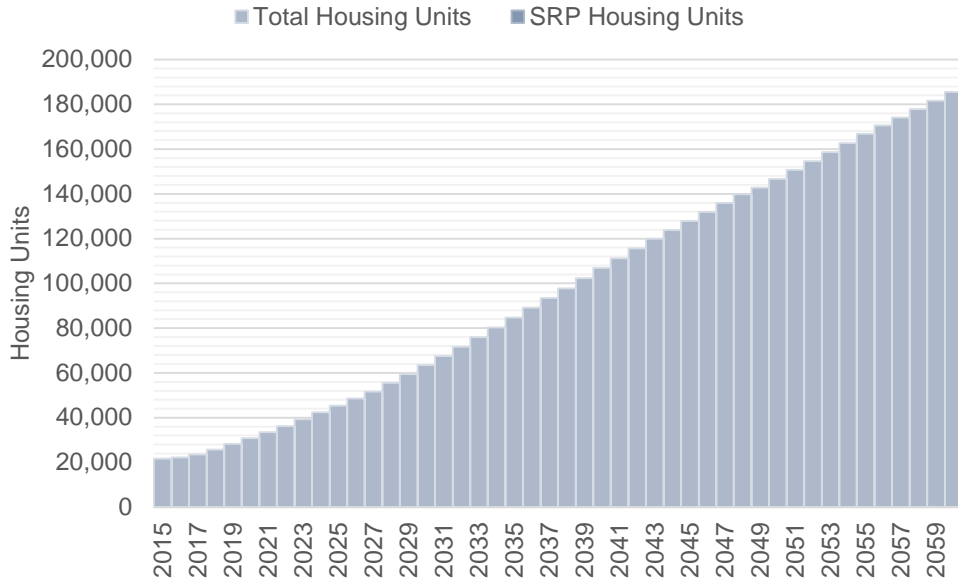
Date	Demand Assumptions				Water Supply Projections (Acre-Feet)									
	Housing Units		GPHUD		Effluent	Surface Water		Central Arizona Project				Groundwater		Unknown
	Total	SRP	Existing	New		SRP	Non-SRP	Direct	ASR	Storage	Recovery	Non-Repl.	Replenished	
2015	610,483	309,831	438	353	492	152,212	25,500	121,297	0	6,526	0	0	0	0
2016	615,799	311,794	436	353	492	152,343	25,500	121,506	0	6,505	0	0	0	0
2017	620,650	313,747	436	353	493	152,279	25,500	122,679	0	6,388	0	0	0	0
2018	624,024	315,386	434	353	494	152,186	25,500	123,502	0	6,305	0	0	0	0
2019	627,769	317,204	433	353	496	152,081	25,500	124,122	0	6,197	0	0	0	0
2020	631,741	319,134	431	353	496	152,014	25,500	124,849	0	6,521	0	0	0	0
2021	635,841	321,125	431	353	498	151,951	25,500	125,598	0	6,381	0	0	0	0
2022	640,010	323,150	429	353	499	151,906	25,500	126,393	0	6,295	0	0	0	0
2023	643,798	325,139	428	353	500	151,862	25,500	127,128	0	6,216	0	0	0	0
2024	647,604	327,139	426	353	501	151,828	25,500	127,824	0	6,224	0	0	0	0
2025	651,415	329,142	425	353	502	151,775	25,500	128,468	0	6,154	0	0	0	0
2026	655,313	331,191	424	353	503	151,739	25,500	129,154	0	6,091	0	0	0	0
2027	659,094	333,192	423	353	504	151,704	25,500	129,836	0	6,023	0	0	0	0
2028	662,640	335,192	420	353	505	151,681	25,500	130,495	0	5,957	0	0	0	0
2029	666,258	337,234	420	353	506	151,633	25,500	131,039	0	5,902	0	0	0	0
2030	669,952	339,317	419	353	507	113,707	19,125	175,922	0	1,414	0	0	0	0
2031	673,724	341,445	418	353	508	113,697	19,125	176,548	0	1,351	0	0	0	0
2032	677,570	343,245	415	353	509	151,576	25,500	133,014	0	5,705	0	0	0	0
2033	681,488	344,427	415	353	510	151,422	25,500	133,776	0	5,629	0	0	0	0
2034	685,491	345,635	414	353	511	151,230	25,500	134,681	0	5,538	0	0	0	0
2035	689,584	346,869	413	353	512	151,044	25,500	135,616	0	4,291	0	0	0	0
2036	693,768	348,131	410	353	514	150,888	25,500	136,649	0	4,184	0	0	0	0
2037	697,300	349,448	410	353	515	150,696	25,500	137,432	0	3,935	0	0	0	0
2038	700,865	350,798	409	353	516	150,537	25,500	138,152	0	3,859	0	0	0	0
2039	704,514	352,179	408	353	517	150,386	25,500	127,275	0	0	11,614	0	0	0
2040	708,248	353,592	406	353	518	150,268	25,500	139,734	0	3,693	0	0	0	0
2041	711,322	354,506	405	353	519	150,053	25,500	140,355	0	3,627	0	0	0	0
2042	714,377	355,376	404	353	520	149,810	25,500	140,977	0	3,726	0	0	0	0
2043	717,439	356,276	403	353	520	149,567	25,500	141,600	0	3,659	0	0	0	0
2044	720,240	357,235	401	353	521	149,363	25,500	142,255	0	4,746	0	0	0	0
2045	723,110	358,219	401	353	522	111,834	19,125	186,337	0	333	0	0	0	0
2046	726,053	359,227	399	353	522	111,672	19,125	186,827	0	284	0	0	0	0
2047	729,070	360,260	398	353	523	111,514	19,125	187,343	0	232	0	0	0	0
2048	732,223	361,555	396	353	523	148,535	25,500	144,481	0	4,368	0	0	0	0
2049	735,622	363,497	396	353	524	148,417	25,500	144,949	0	4,321	0	0	0	0
2050	739,162	365,157	395	353	525	148,366	25,500	145,558	0	4,411	0	0	0	0
2051	742,795	366,860	393	353	526	148,293	25,500	146,239	0	4,342	0	0	0	0
2052	747,106	369,053	391	353	527	148,309	25,500	147,132	0	4,103	0	0	0	0
2053	752,316	371,904	391	353	528	148,373	25,500	147,998	0	4,016	0	0	0	0
2054	757,668	374,833	390	353	530	148,546	25,500	148,053	0	0	1,056	0	0	0
2055	763,167	377,842	389	353	532	148,735	25,500	127,646	0	0	12,181	10,435	0	0
2056	769,796	381,475	387	353	534	111,778	19,125	131,554	0	0	14,321	49,486	0	0
2057	777,206	385,539	386	353	537	112,024	19,125	176,336	0	0	7,845	12,741	0	0
2058	784,827	389,718	386	353	540	74,884	12,750	176,336	0	0	7,766	58,868	0	0
2059	792,667	394,018	386	353	544	112,623	19,125	176,336	0	0	7,689	17,881	0	0
2060	800,732	398,441	385	353	549	112,973	19,125	176,336	0	0	7,612	20,948	0	0

Surprise

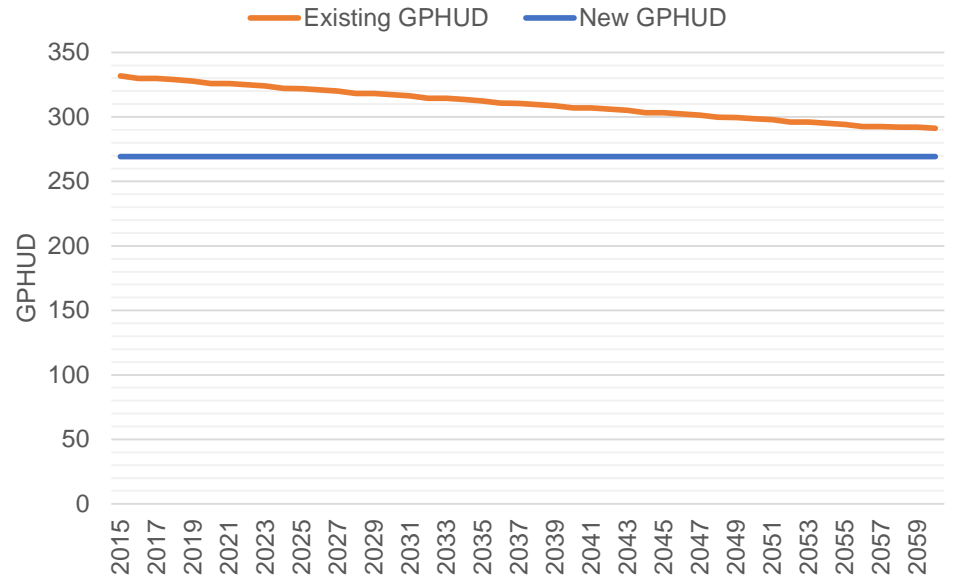
Central Arizona Project Service Area Model

D. Dry, Rapid Outward [WVWA]

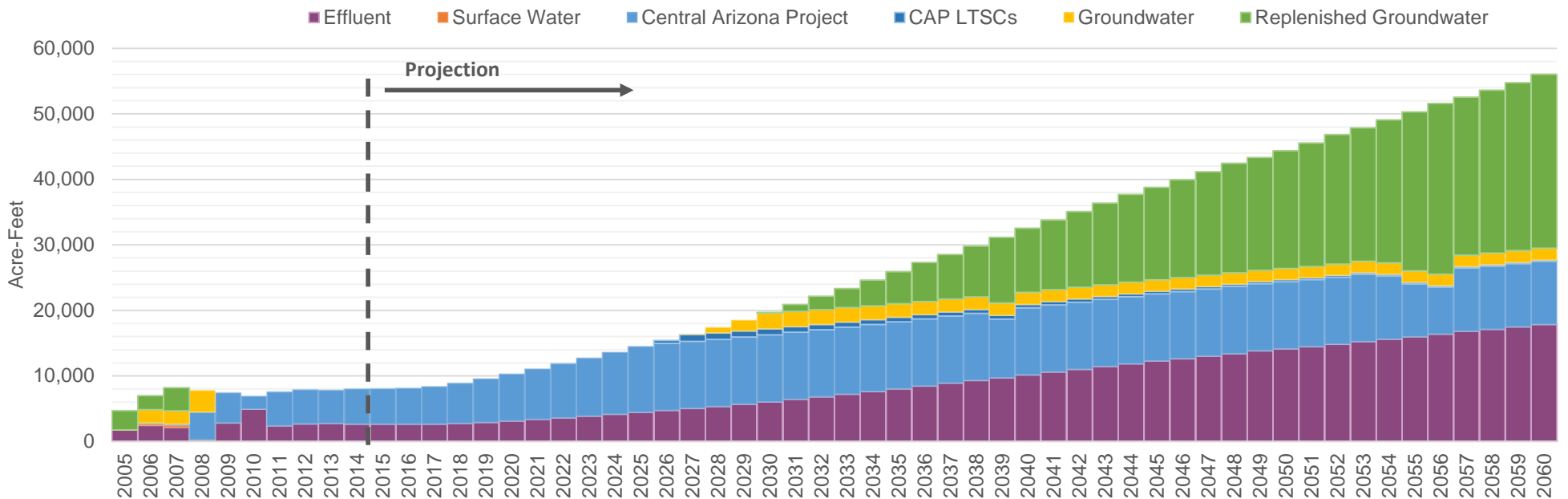
Housing Unit Projection



Gallons Per Housing Unit Per Day



Water Supply Projections



Central Arizona Project Service Area Model

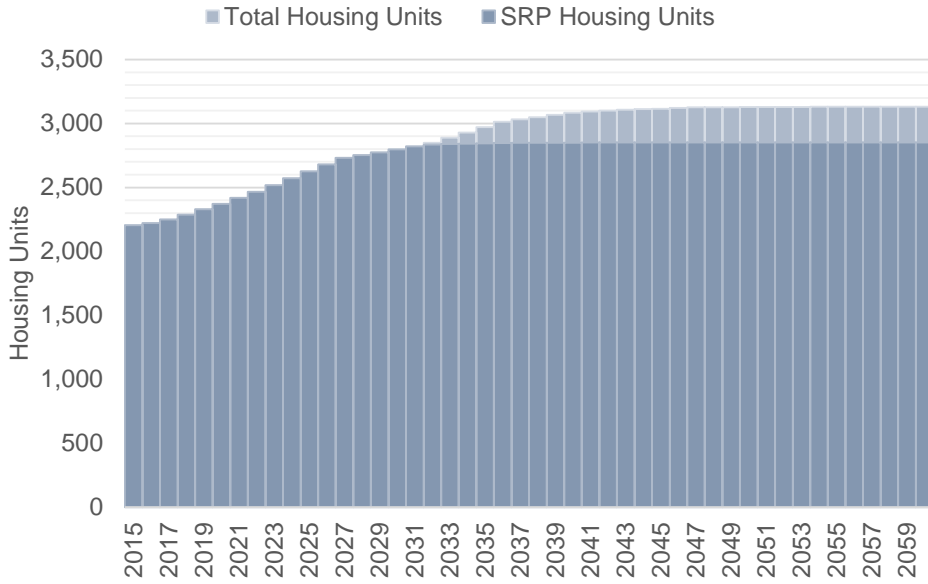
D. Dry, Rapid Outward [WVWA]

Date	Demand Assumptions				Water Supply Projections (Acre-Feet)									
	Housing Units		GPHUD		Effluent	Surface Water		Central Arizona Project				Groundwater		Unknown
	Total	SRP	Existing	New		SRP	Non-SRP	Direct	ASR	Storage	Recovery	Non-Repl.	Replenished	
2015	21,693	0	332	269	2,619	0	0	0	5,422	0	0	0	0	0
2016	22,273	0	330	269	2,619	0	0	0	5,501	0	0	0	0	0
2017	23,559	0	330	269	2,645	0	0	0	5,733	0	0	0	0	0
2018	25,770	0	329	269	2,728	0	0	0	6,153	0	0	0	0	0
2019	28,225	0	328	269	2,892	0	0	0	6,669	0	0	0	0	0
2020	30,829	0	326	269	3,114	0	0	0	7,193	0	0	0	0	0
2021	33,516	0	326	269	3,357	0	0	0	7,717	0	0	0	0	0
2022	36,249	0	325	269	3,607	0	0	0	8,261	0	0	0	0	0
2023	39,288	0	324	269	3,865	0	0	0	8,850	0	0	0	0	0
2024	42,347	0	322	269	4,141	0	0	0	9,486	0	0	0	0	0
2025	45,411	0	322	269	4,438	0	0	0	10,073	0	0	0	0	0
2026	48,544	0	321	269	4,726	0	0	0	10,249	0	447	0	0	0
2027	51,689	0	320	269	5,023	0	0	0	10,249	0	1,043	31	0	0
2028	55,529	0	318	269	5,324	0	0	0	10,249	0	991	839	0	0
2029	59,448	0	318	269	5,668	0	0	0	10,249	0	941	1,665	0	0
2030	63,448	0	317	269	6,033	0	0	0	10,249	0	894	2,413	106	0
2031	67,533	0	316	269	6,414	0	0	0	10,249	0	850	2,329	1,049	0
2032	71,694	0	314	269	6,804	0	0	0	10,249	0	807	2,252	2,039	0
2033	75,928	0	314	269	7,214	0	0	0	10,249	0	767	2,181	2,944	0
2034	80,255	0	313	269	7,606	0	0	0	10,249	0	728	2,116	3,923	0
2035	84,678	0	312	269	8,020	0	0	0	10,249	0	692	2,057	4,902	0
2036	89,200	0	311	269	8,442	0	0	0	10,249	0	657	2,004	5,948	0
2037	93,478	0	311	269	8,891	0	0	0	10,249	0	625	1,955	6,831	0
2038	97,833	0	310	269	9,299	0	0	0	10,249	0	593	1,912	7,777	0
2039	102,290	0	309	269	9,716	0	0	0	8,959	0	564	1,874	10,025	0
2040	106,851	0	307	269	10,141	0	0	0	10,249	0	535	1,840	9,778	0
2041	111,192	0	307	269	10,599	0	0	0	10,249	0	509	1,810	10,628	0
2042	115,598	0	306	269	11,007	0	0	0	10,249	0	483	1,784	11,568	0
2043	119,986	0	305	269	11,429	0	0	0	10,249	0	459	1,763	12,496	0
2044	123,849	0	303	269	11,854	0	0	0	10,249	0	436	1,745	13,417	0
2045	127,809	0	303	269	12,279	0	0	0	10,249	0	414	1,730	14,103	0
2046	131,846	0	302	269	12,629	0	0	0	10,249	0	394	1,719	14,969	0
2047	135,973	0	301	269	13,015	0	0	0	10,249	0	374	1,711	15,820	0
2048	139,829	0	300	269	13,408	0	0	0	10,249	0	355	1,705	16,730	0
2049	142,822	0	300	269	13,825	0	0	0	10,249	0	337	1,702	17,249	0
2050	146,701	0	299	269	14,123	0	0	0	10,249	0	321	1,702	17,982	0
2051	150,683	0	298	269	14,453	0	0	0	10,249	0	305	1,704	18,830	0
2052	154,662	0	296	269	14,832	0	0	0	10,249	0	289	1,707	19,750	0
2053	158,601	0	296	269	15,252	0	0	0	10,249	0	275	1,713	20,404	0
2054	162,647	0	295	269	15,598	0	0	0	9,658	0	261	1,721	21,837	0
2055	166,805	0	294	269	15,984	0	0	0	8,058	0	248	1,731	24,271	0
2056	170,582	0	293	269	16,380	0	0	0	7,169	0	236	1,742	26,061	0
2057	174,164	0	293	269	16,802	0	0	0	9,658	0	224	1,756	24,116	0
2058	177,847	0	292	269	17,117	0	0	0	9,658	0	213	1,771	24,881	0
2059	181,635	0	292	269	17,470	0	0	0	9,658	0	202	1,788	25,648	0
2060	185,533	0	291	269	17,837	0	0	0	9,658	0	192	1,806	26,567	0

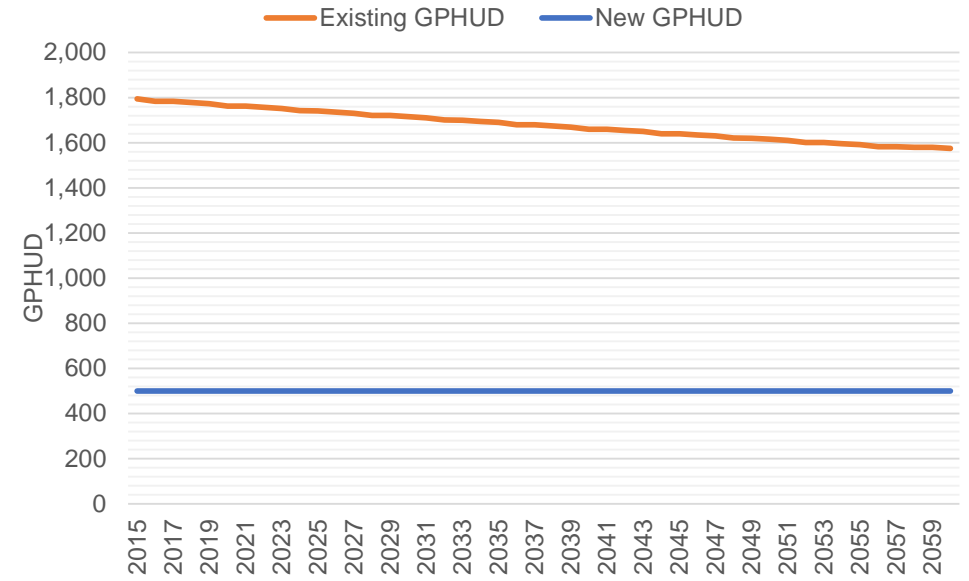
Central Arizona Project Service Area Model

D. Dry, Rapid Outward [WVWA]

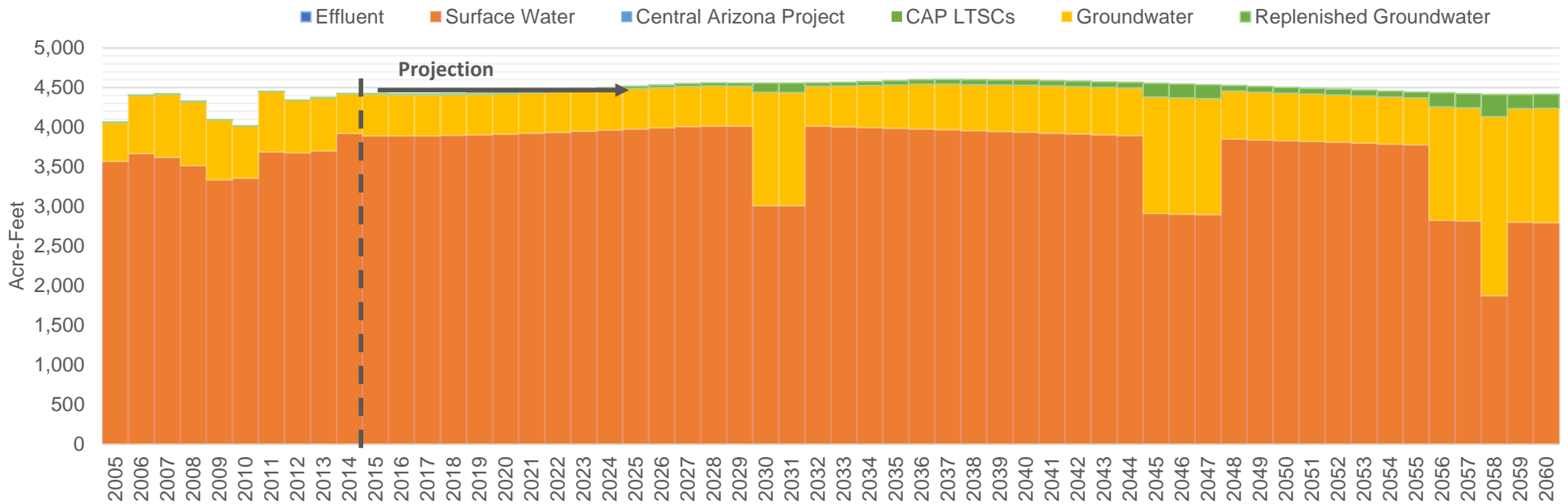
Housing Unit Projection



Gallons Per Housing Unit Per Day



Water Supply Projections



Central Arizona Project Service Area Model

D. Dry, Rapid Outward [WVWA]

Date	Demand Assumptions				Water Supply Projections (Acre-Feet)									
	Housing Units		GPHUD		Effluent	Surface Water		Central Arizona Project				Groundwater		Unknown
	Total	SRP	Existing	New		SRP	Non-SRP	Direct	ASR	Storage	Recovery	Non-Repl.	Replenished	
2015	2,204	2,204	1,795	500	0	3,891	0	0	0	0	0	525	10	0
2016	2,222	2,222	1,784	500	0	3,892	0	0	0	0	0	516	10	0
2017	2,250	2,250	1,784	500	0	3,892	0	0	0	0	0	512	14	0
2018	2,287	2,287	1,778	500	0	3,896	0	0	0	0	0	511	16	0
2019	2,329	2,329	1,773	500	0	3,904	0	0	0	0	0	510	18	0
2020	2,373	2,373	1,763	500	0	3,914	0	0	0	0	0	510	20	0
2021	2,418	2,418	1,762	500	0	3,924	0	0	0	0	0	509	22	0
2022	2,465	2,465	1,757	500	0	3,935	0	0	0	0	0	509	24	0
2023	2,518	2,518	1,752	500	0	3,948	0	0	0	0	0	508	26	0
2024	2,572	2,572	1,742	500	0	3,964	0	0	0	0	0	508	29	0
2025	2,626	2,626	1,741	500	0	3,978	0	0	0	0	0	507	31	0
2026	2,681	2,681	1,736	500	0	3,994	0	0	0	0	0	507	34	0
2027	2,731	2,731	1,731	500	0	4,008	0	0	0	0	0	506	36	0
2028	2,753	2,753	1,721	500	0	4,016	0	0	0	0	0	505	39	0
2029	2,775	2,775	1,721	500	0	4,014	0	0	0	0	0	503	40	0
2030	2,797	2,797	1,715	500	0	3,011	0	0	0	0	0	1,430	117	0
2031	2,820	2,820	1,710	500	0	3,011	0	0	0	0	0	1,427	120	0
2032	2,849	2,836	1,701	500	0	4,013	0	0	0	0	0	503	43	0
2033	2,889	2,839	1,700	500	0	4,006	0	0	0	0	0	514	46	0
2034	2,930	2,842	1,695	500	0	3,997	0	0	0	0	0	530	49	0
2035	2,972	2,845	1,690	500	0	3,987	0	0	0	0	0	547	53	0
2036	3,015	2,848	1,680	500	0	3,978	0	0	0	0	0	564	57	0
2037	3,033	2,849	1,680	500	0	3,968	0	0	0	0	0	574	61	0
2038	3,050	2,849	1,675	500	0	3,957	0	0	0	0	0	581	63	0
2039	3,068	2,850	1,670	500	0	3,946	0	0	0	0	0	587	64	0
2040	3,085	2,850	1,660	500	0	3,937	0	0	0	0	0	593	66	0
2041	3,093	2,851	1,660	500	0	3,925	0	0	0	0	0	597	68	0
2042	3,100	2,851	1,655	500	0	3,915	0	0	0	0	0	598	69	0
2043	3,107	2,851	1,650	500	0	3,904	0	0	0	0	0	600	70	0
2044	3,112	2,851	1,640	500	0	3,894	0	0	0	0	0	601	70	0
2045	3,116	2,851	1,640	500	0	2,912	0	0	0	0	0	1,470	173	0
2046	3,121	2,851	1,635	500	0	2,904	0	0	0	0	0	1,467	174	0
2047	3,126	2,851	1,630	500	0	2,896	0	0	0	0	0	1,465	175	0
2048	3,128	2,852	1,621	500	0	3,852	0	0	0	0	0	603	72	0
2049	3,128	2,852	1,620	500	0	3,841	0	0	0	0	0	601	73	0
2050	3,129	2,852	1,615	500	0	3,830	0	0	0	0	0	600	73	0
2051	3,130	2,852	1,611	500	0	3,820	0	0	0	0	0	599	73	0
2052	3,130	2,852	1,601	500	0	3,810	0	0	0	0	0	598	73	0
2053	3,130	2,852	1,601	500	0	3,799	0	0	0	0	0	596	73	0
2054	3,131	2,852	1,596	500	0	3,788	0	0	0	0	0	595	73	0
2055	3,131	2,852	1,591	500	0	3,778	0	0	0	0	0	593	73	0
2056	3,131	2,852	1,582	500	0	2,826	0	0	0	0	0	1,431	177	0
2057	3,131	2,852	1,582	500	0	2,818	0	0	0	0	0	1,426	177	0
2058	3,131	2,852	1,579	500	0	1,873	0	0	0	0	0	2,261	281	0
2059	3,131	2,852	1,579	500	0	2,802	0	0	0	0	0	1,435	178	0
2060	3,131	2,852	1,575	500	0	2,794	0	0	0	0	0	1,443	179	0

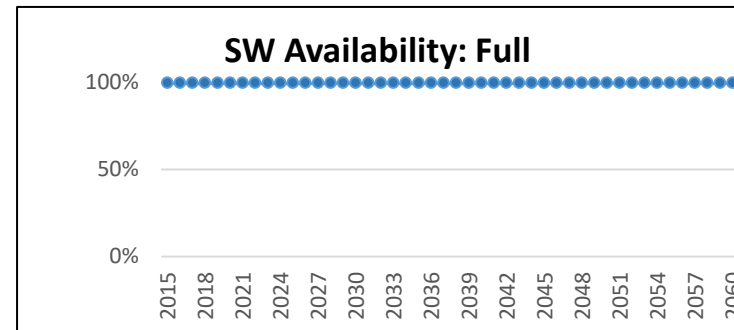
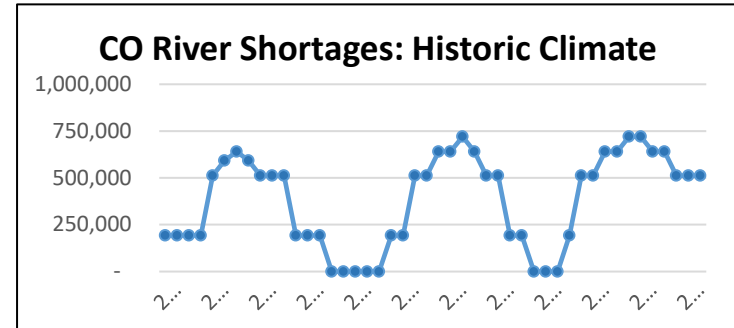
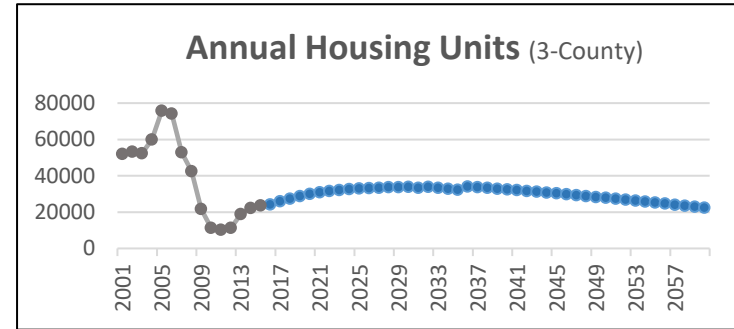
F. Slow, Compact Growth [WVWA]

Lower growth rate, with an inward (redevelopment) growth pattern.

Run Date: 4/11/2018

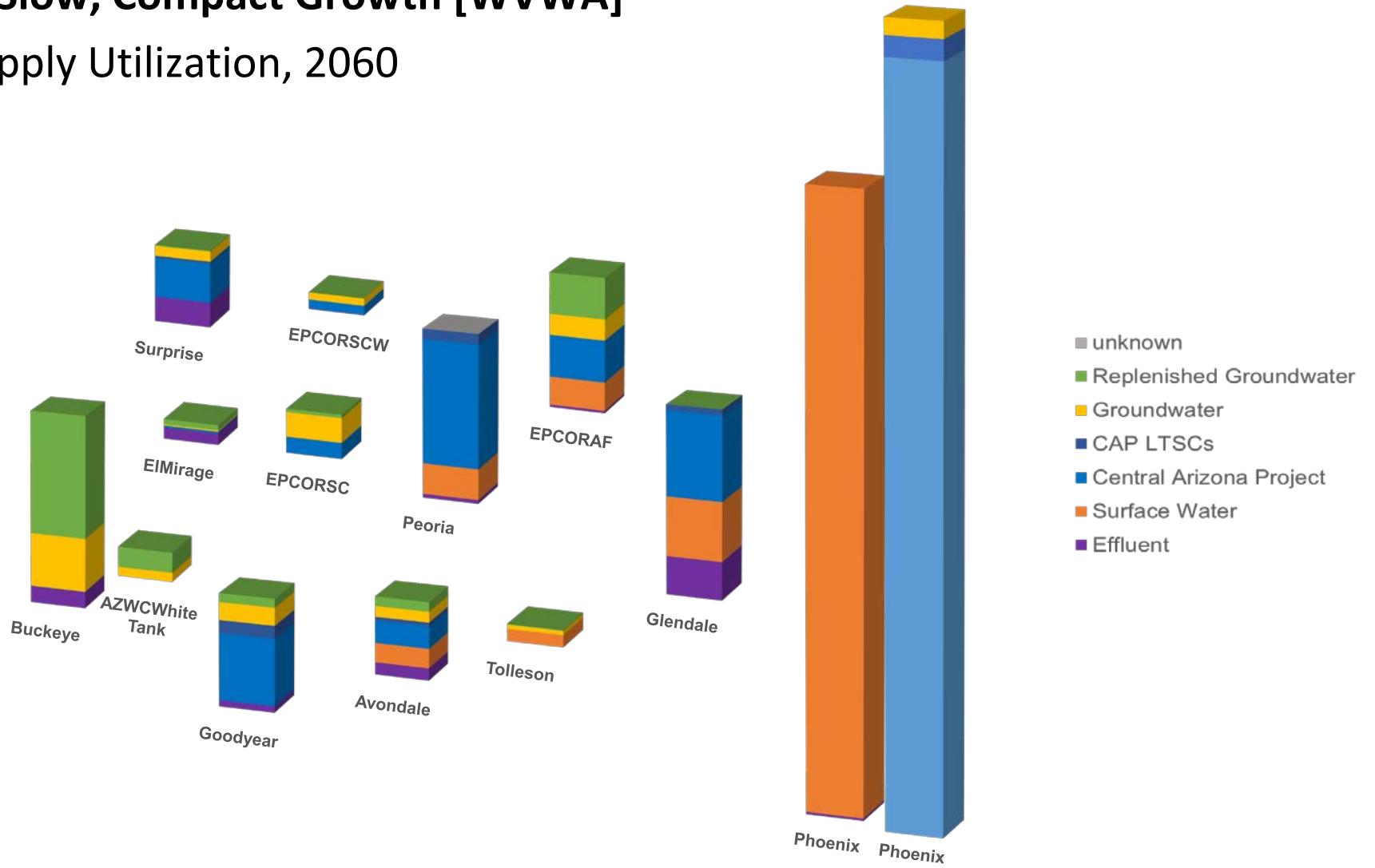
Filename: CAPServiceArea_v3.22.gsm

Allow Shortages	Yes	
Select CRSS Array	3	3=Synthetic
Use Specific Trace	Yes	
Selected Trace	1	1=Moderate; 2=Deep; 3=Slight
AWBA Max M&I	80%	
Surface Water Scenario	1	1=No Reduction; 2=Occasional; 3=Frequent
Use CAP Buildup	Yes	
CAP Buildup Scenario	2	1=2035; 2=2045
HU Growth Pattern	5	1=Baseline
HU Forecast	2	1=Use Curve; 2=Eller Forecast
HU Curve	3	
HU Growth Start Rate	-1%	
HU Ordinary Level	34,000	
HU Rate @ 50 yrs	-3%	
GPHUD Change Existing	-0.7%	per year
GPHUD Max Change Existing	-20%	
GPHUD Min Existing	150	
GPHUD Scenario New	1	
GPHUD Change New	-0.3%	per year
Ag Climate Adjustment	-0.1	
Ag Efficiency Increase	0.1%	per year
Ag Efficiency Goal	90%	
Ag Replace Crop CU	2.66	
Ag Intensity Scenario	2	
Ag Develop on Crops	40%	Perecent of max on active Ag
Ag Acres Replace Percent	0%	
Ag Replace Crop Year	2025	



F. Slow, Compact Growth [WVWA]

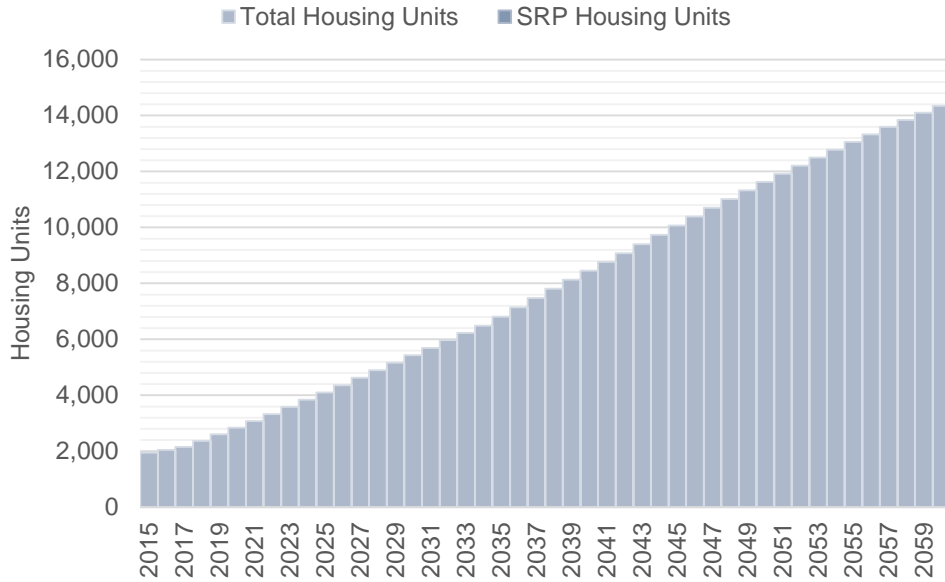
Supply Utilization, 2060



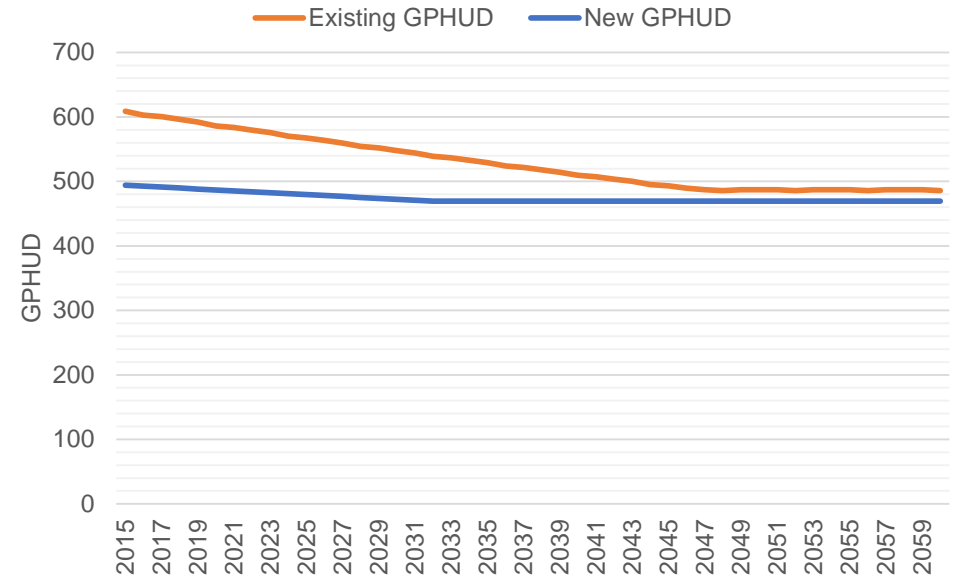
Central Arizona Project Service Area Model

F. Slow, Compact Growth [WVWA]

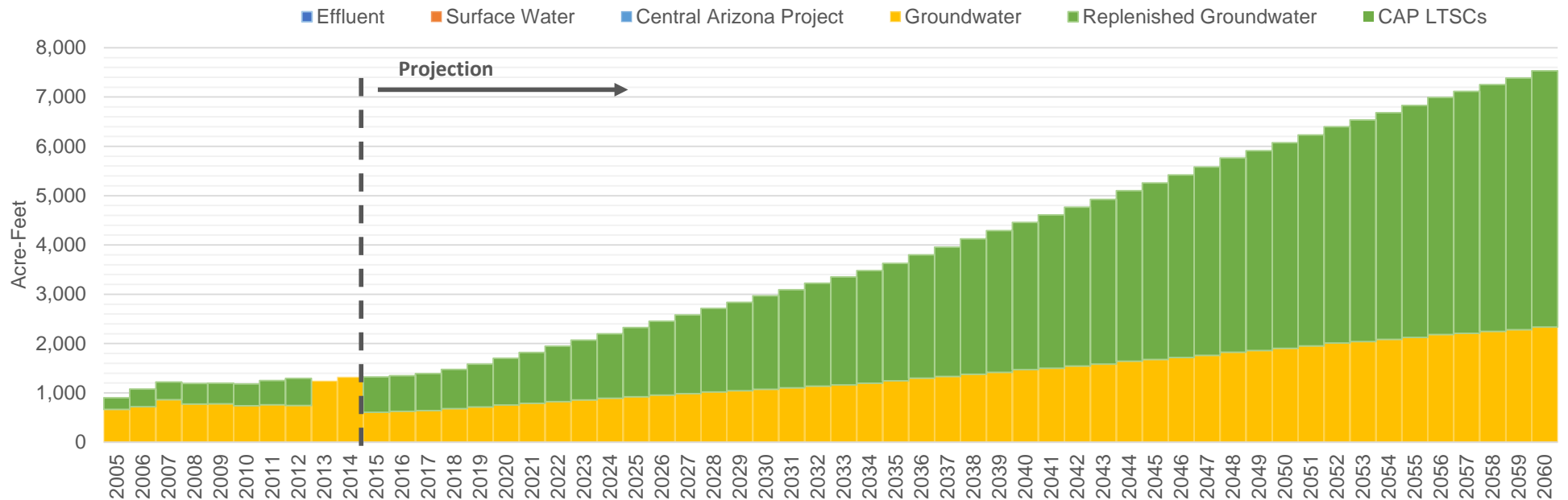
Housing Unit Projection



Gallons Per Housing Unit Per Day



Water Supply Projections



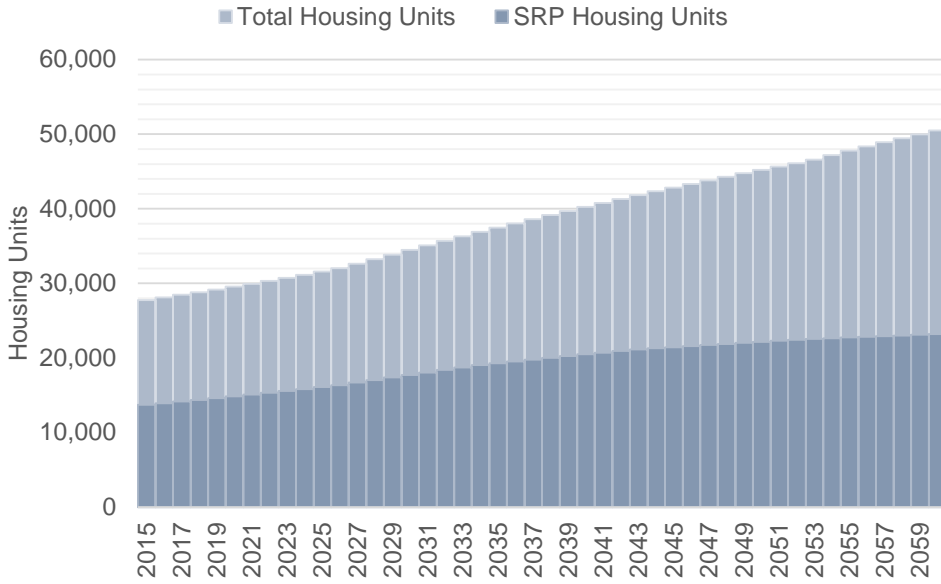
Date	Demand Assumptions				Water Supply Projections (Acre-Feet)									
	Housing Units		GPHUD		Effluent	Surface Water		Central Arizona Project				Groundwater		Unknown
	Total	SRP	Existing	New		SRP	Non-SRP	Direct	ASR	Storage	Recovery	Non-Repl.	Replenished	
2015	1,955	0	609	494	0	0	0	0	0	0	0	609	716	0
2016	2,051	0	603	493	0	0	0	0	0	0	0	625	723	0
2017	2,159	0	600	491	0	0	0	0	0	0	0	639	756	0
2018	2,375	0	596	490	0	0	0	0	0	0	0	680	794	0
2019	2,602	0	592	488	0	0	0	0	0	0	0	716	869	0
2020	2,838	0	586	487	0	0	0	0	0	0	0	753	950	0
2021	3,082	0	584	485	0	0	0	0	0	0	0	788	1,035	0
2022	3,331	0	580	484	0	0	0	0	0	0	0	822	1,123	0
2023	3,584	0	576	482	0	0	0	0	0	0	0	857	1,214	0
2024	3,842	0	570	481	0	0	0	0	0	0	0	893	1,307	0
2025	4,102	0	568	480	0	0	0	0	0	0	0	923	1,401	0
2026	4,364	0	564	478	0	0	0	0	0	0	0	954	1,498	0
2027	4,630	0	560	477	0	0	0	0	0	0	0	986	1,595	0
2028	4,897	0	554	475	0	0	0	0	0	0	0	1,020	1,694	0
2029	5,164	0	552	474	0	0	0	0	0	0	0	1,045	1,794	0
2030	5,433	0	548	472	0	0	0	0	0	0	0	1,075	1,893	0
2031	5,697	0	544	471	0	0	0	0	0	0	0	1,102	1,992	0
2032	5,967	0	539	470	0	0	0	0	0	0	0	1,136	2,090	0
2033	6,232	0	537	469	0	0	0	0	0	0	0	1,163	2,190	0
2034	6,492	0	533	469	0	0	0	0	0	0	0	1,195	2,288	0
2035	6,811	0	529	469	0	0	0	0	0	0	0	1,243	2,384	0
2036	7,147	0	524	469	0	0	0	0	0	0	0	1,297	2,501	0
2037	7,479	0	522	469	0	0	0	0	0	0	0	1,333	2,626	0
2038	7,808	0	518	469	0	0	0	0	0	0	0	1,376	2,748	0
2039	8,133	0	514	469	0	0	0	0	0	0	0	1,419	2,869	0
2040	8,453	0	509	469	0	0	0	0	0	0	0	1,470	2,989	0
2041	8,770	0	507	469	0	0	0	0	0	0	0	1,503	3,108	0
2042	9,083	0	504	469	0	0	0	0	0	0	0	1,544	3,225	0
2043	9,402	0	500	469	0	0	0	0	0	0	0	1,587	3,340	0
2044	9,736	0	495	469	0	0	0	0	0	0	0	1,644	3,458	0
2045	10,064	0	493	469	0	0	0	0	0	0	0	1,676	3,581	0
2046	10,387	0	490	469	0	0	0	0	0	0	0	1,719	3,702	0
2047	10,705	0	487	469	0	0	0	0	0	0	0	1,762	3,821	0
2048	11,018	0	486	469	0	0	0	0	0	0	0	1,824	3,939	0
2049	11,325	0	487	469	0	0	0	0	0	0	0	1,858	4,055	0
2050	11,626	0	487	469	0	0	0	0	0	0	0	1,905	4,168	0
2051	11,922	0	487	469	0	0	0	0	0	0	0	1,951	4,279	0
2052	12,212	0	486	469	0	0	0	0	0	0	0	2,010	4,388	0
2053	12,498	0	487	469	0	0	0	0	0	0	0	2,040	4,495	0
2054	12,780	0	487	469	0	0	0	0	0	0	0	2,084	4,601	0
2055	13,056	0	487	469	0	0	0	0	0	0	0	2,126	4,705	0
2056	13,326	0	486	469	0	0	0	0	0	0	0	2,183	4,807	0
2057	13,590	0	487	469	0	0	0	0	0	0	0	2,207	4,908	0
2058	13,848	0	487	469	0	0	0	0	0	0	0	2,246	5,007	0
2059	14,100	0	487	469	0	0	0	0	0	0	0	2,284	5,103	0
2060	14,346	0	486	469	0	0	0	0	0	0	0	2,338	5,197	0

Avondale

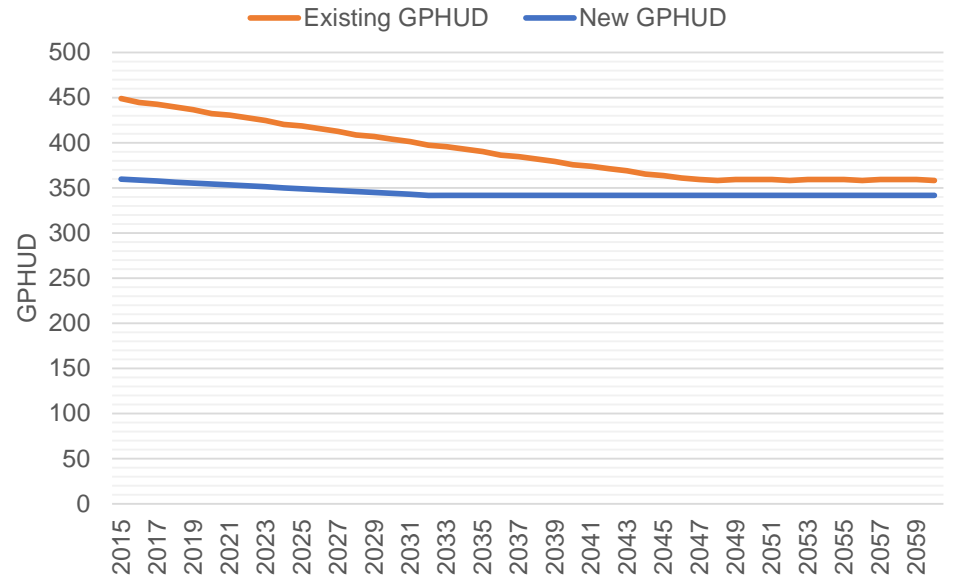
Central Arizona Project Service Area Model

F. Slow, Compact Growth [WVWA]

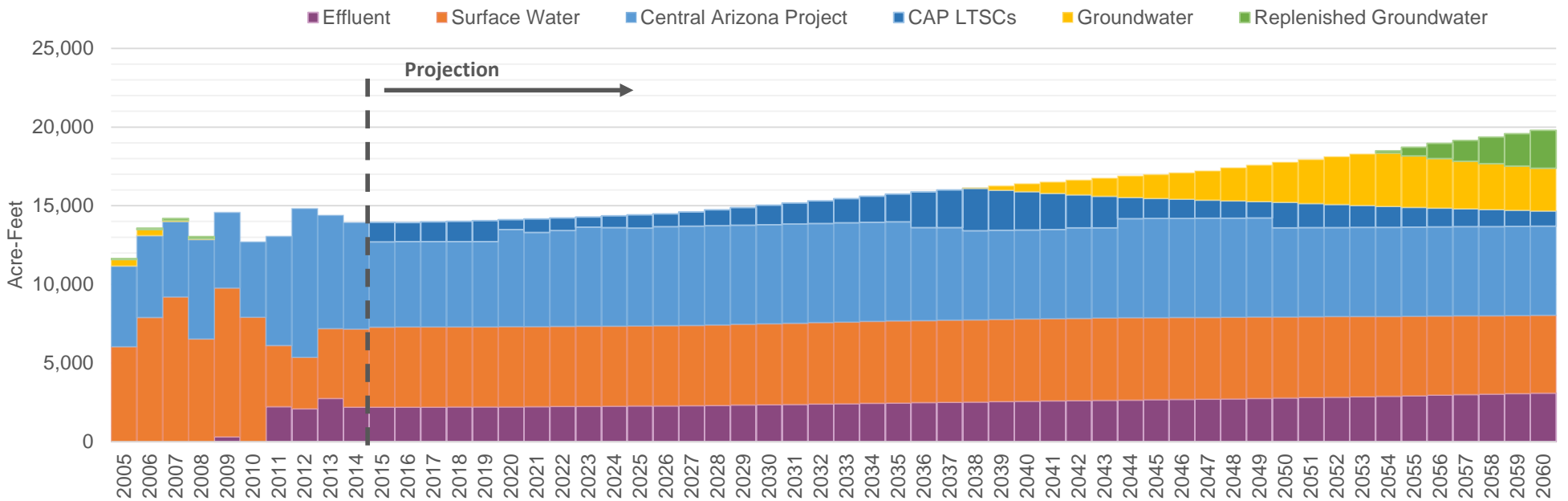
Housing Unit Projection



Gallons Per Housing Unit Per Day



Water Supply Projections



Central Arizona Project Service Area Model

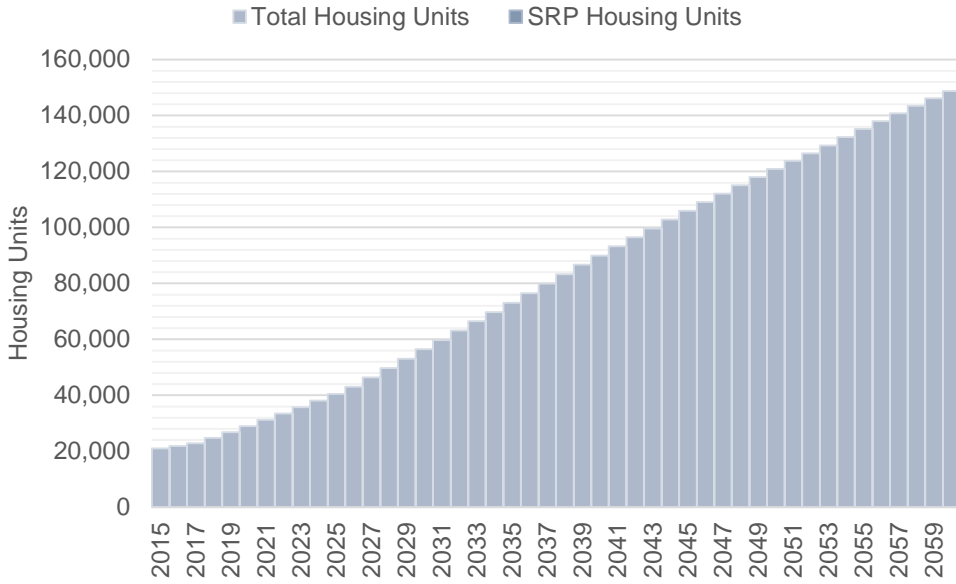
F. Slow, Compact Growth [WVWA]

Date	Demand Assumptions				Water Supply Projections (Acre-Feet)									
	Housing Units		GPHUD		Effluent	Surface Water		Central Arizona Project				Groundwater		Unknown
	Total	SRP	Existing	New		SRP	Non-SRP	Direct	ASR	Storage	Recovery	Non-Repl.	Replenished	
2015	27,763	13,719	449	360	2,207	5,082	0	3,250	2,166	0	1,235	0	0	0
2016	28,104	13,938	445	359	2,207	5,097	0	3,250	2,166	0	1,206	0	0	0
2017	28,468	14,170	443	358	2,205	5,094	0	3,250	2,166	0	1,255	0	0	0
2018	28,813	14,385	440	356	2,212	5,091	0	3,250	2,166	0	1,296	0	0	0
2019	29,176	14,609	437	355	2,219	5,088	0	3,250	2,166	0	1,337	0	0	0
2020	29,553	14,843	432	354	2,226	5,086	0	3,699	2,466	0	633	0	0	0
2021	29,942	15,083	430	353	2,234	5,085	0	3,594	2,396	0	857	0	0	0
2022	30,339	15,330	427	352	2,243	5,085	0	3,656	2,437	0	804	0	0	0
2023	30,745	15,581	424	351	2,252	5,086	0	3,779	2,519	0	650	0	0	0
2024	31,156	15,835	420	350	2,262	5,089	0	3,758	2,505	0	740	0	0	0
2025	31,571	16,093	419	349	2,273	5,090	0	3,729	2,486	0	839	0	0	0
2026	32,022	16,365	416	348	2,283	5,093	0	3,779	2,519	0	817	0	0	0
2027	32,632	16,701	413	347	2,294	5,102	0	3,779	2,519	0	908	0	0	0
2028	33,246	17,040	409	346	2,312	5,117	0	3,779	2,519	0	1,023	0	0	0
2029	33,862	17,380	407	345	2,335	5,129	0	3,779	2,519	0	1,124	0	0	0
2030	34,479	17,720	404	344	2,357	5,143	0	3,779	2,519	0	1,231	0	0	0
2031	35,087	18,056	401	343	2,379	5,156	0	3,779	2,519	0	1,335	0	0	0
2032	35,707	18,397	397	342	2,402	5,172	0	3,779	2,519	0	1,445	0	0	0
2033	36,316	18,733	396	342	2,425	5,185	0	3,779	2,519	0	1,548	0	0	0
2034	36,915	19,064	393	342	2,447	5,201	0	3,779	2,519	0	1,656	0	0	0
2035	37,457	19,296	390	342	2,470	5,209	0	3,779	2,519	0	1,758	0	0	0
2036	38,028	19,540	386	342	2,491	5,213	0	3,540	2,360	0	2,269	0	0	0
2037	38,592	19,781	385	342	2,513	5,214	0	3,524	2,350	0	2,395	0	0	0
2038	39,151	20,019	382	342	2,533	5,217	0	3,396	2,264	0	2,694	25	0	0
2039	39,703	20,255	379	342	2,553	5,220	0	3,396	2,264	0	2,559	266	0	0
2040	40,248	20,487	376	342	2,574	5,225	0	3,394	2,263	0	2,434	508	0	0
2041	40,786	20,717	374	342	2,596	5,225	0	3,396	2,264	0	2,310	720	0	0
2042	41,316	20,944	371	342	2,614	5,227	0	3,455	2,303	0	2,096	939	0	0
2043	41,837	21,141	369	342	2,633	5,227	0	3,442	2,295	0	2,012	1,145	0	0
2044	42,344	21,294	365	342	2,653	5,226	0	3,779	2,519	0	1,350	1,359	0	0
2045	42,845	21,444	364	342	2,673	5,215	0	3,779	2,519	0	1,283	1,516	0	0
2046	43,337	21,593	361	342	2,689	5,207	0	3,779	2,519	0	1,219	1,683	0	0
2047	43,821	21,739	359	342	2,707	5,197	0	3,779	2,519	0	1,158	1,863	0	0
2048	44,297	21,882	358	342	2,727	5,184	0	3,779	2,519	0	1,100	2,115	0	0
2049	44,765	22,023	359	342	2,758	5,164	0	3,779	2,519	0	1,045	2,322	0	0
2050	45,225	22,161	359	342	2,784	5,146	0	3,397	2,265	0	1,629	2,543	0	0
2051	45,676	22,297	359	342	2,812	5,129	0	3,397	2,265	0	1,548	2,788	0	0
2052	46,118	22,430	358	342	2,840	5,114	0	3,395	2,264	0	1,473	3,042	0	0
2053	46,606	22,551	359	342	2,870	5,092	0	3,395	2,264	0	1,399	3,267	0	0
2054	47,202	22,648	359	342	2,895	5,071	0	3,394	2,263	0	1,331	3,400	141	0
2055	47,785	22,744	359	342	2,928	5,048	0	3,394	2,263	0	1,265	3,270	553	0
2056	48,355	22,837	358	342	2,964	5,028	0	3,395	2,264	0	1,199	3,148	964	0
2057	48,913	22,928	359	342	3,002	5,002	0	3,395	2,264	0	1,139	3,032	1,323	0
2058	49,458	23,017	359	342	3,033	4,978	0	3,397	2,265	0	1,080	2,922	1,693	0
2059	49,991	23,104	359	342	3,066	4,954	0	3,397	2,265	0	1,026	2,818	2,048	0
2060	50,511	23,189	358	342	3,099	4,934	0	3,397	2,265	0	975	2,720	2,410	0

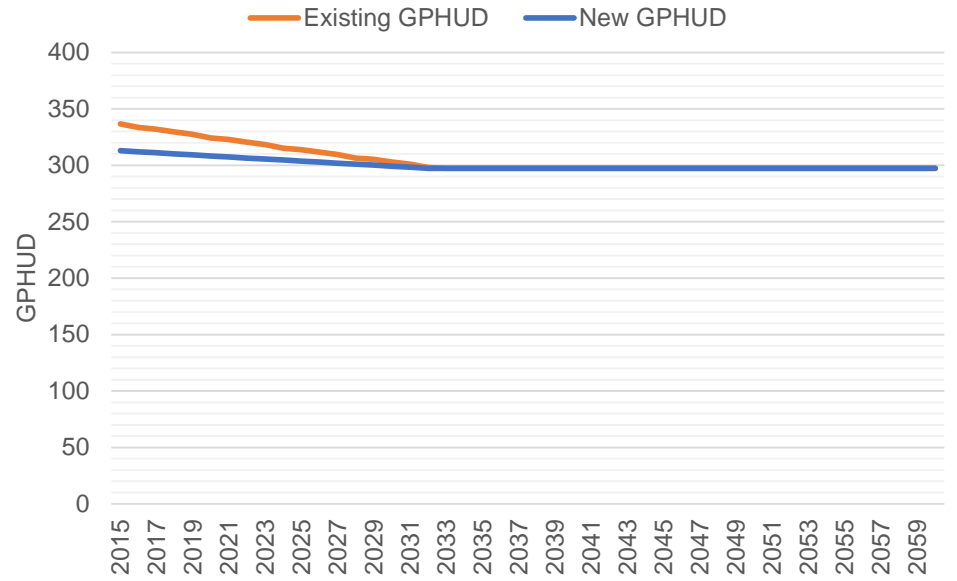
Central Arizona Project Service Area Model

F. Slow, Compact Growth [WVWA]

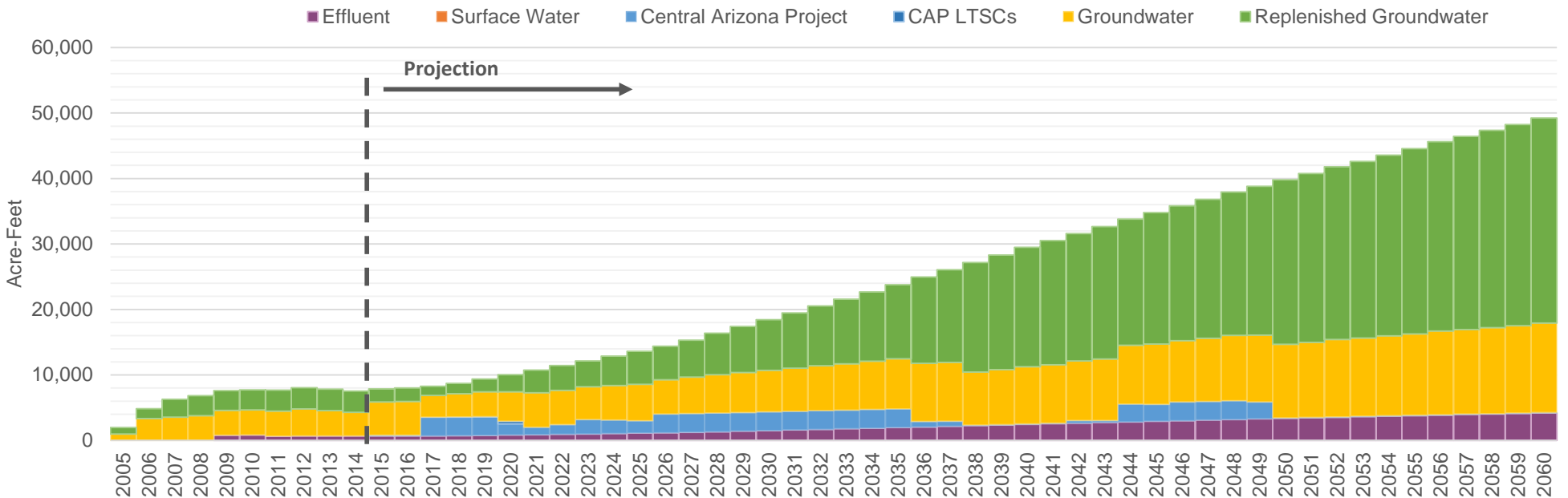
Housing Unit Projection



Gallons Per Housing Unit Per Day



Water Supply Projections





Central Arizona Project Service Area Model

F. Slow, Compact Growth [WVWA]

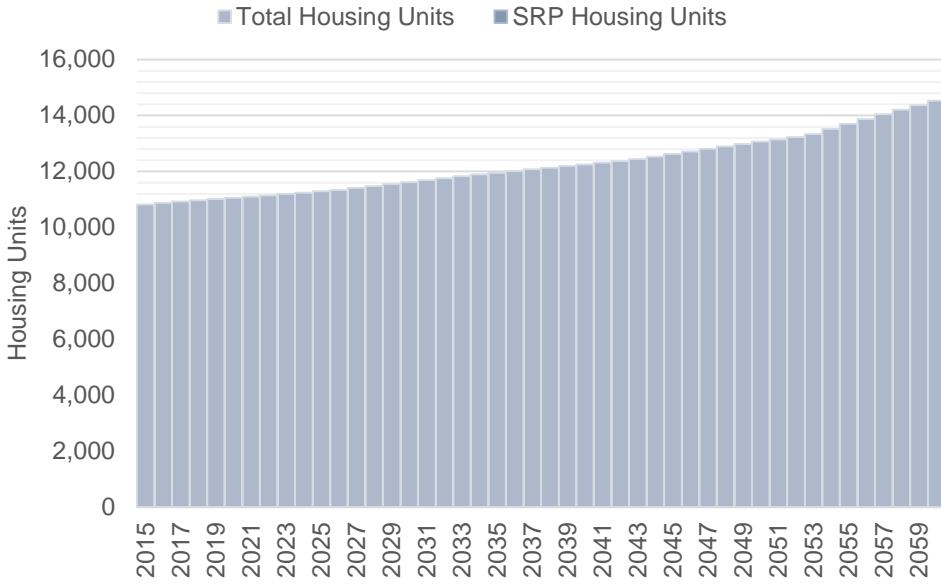
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Date	Demand Assumptions				Water Supply Projections (Acre-Feet)									
	Housing Units		GPHUD		Effluent	Surface Water		Central Arizona Project				Groundwater		Unknown
	Total	SRP	Existing	New		SRP	Non-SRP	Direct	ASR	Storage	Recovery	Non-Repl.	Replenished	
2015	20,977	0	337	313	682	0	0	68	0	0	28	5,105	1,990	0
2016	21,849	0	333	312	682	0	0	68	0	0	26	5,192	2,036	0
2017	22,828	0	332	311	693	0	0	2,854	0	0	25	3,296	1,403	0
2018	24,796	0	330	310	716	0	0	2,854	0	0	24	3,538	1,595	0
2019	26,858	0	327	309	756	0	0	2,820	0	0	57	3,777	1,959	0
2020	29,007	0	324	308	812	0	0	1,723	0	0	395	4,487	2,628	0
2021	31,220	0	323	307	870	0	0	1,147	0	0	0	5,266	3,445	0
2022	33,483	0	321	306	929	0	0	1,483	0	0	0	5,243	3,779	0
2023	35,789	0	318	306	990	0	0	2,215	0	0	0	5,010	3,937	0
2024	38,131	0	315	305	1,053	0	0	2,045	0	0	0	5,302	4,495	0
2025	40,495	0	314	304	1,117	0	0	1,887	0	0	0	5,547	5,060	0
2026	43,037	0	312	303	1,179	0	0	2,854	0	0	0	5,252	5,088	0
2027	46,366	0	309	302	1,245	0	0	2,854	0	0	0	5,562	5,632	0
2028	49,716	0	306	301	1,325	0	0	2,854	0	0	0	5,856	6,335	0
2029	53,075	0	305	300	1,418	0	0	2,854	0	0	0	6,089	7,034	0
2030	56,444	0	303	299	1,507	0	0	2,854	0	0	0	6,340	7,741	0
2031	59,761	0	301	298	1,597	0	0	2,854	0	0	0	6,574	8,450	0
2032	63,140	0	298	297	1,687	0	0	2,854	0	0	0	6,844	9,156	0
2033	66,465	0	297	297	1,779	0	0	2,854	0	0	0	7,079	9,872	0
2034	69,736	0	297	297	1,870	0	0	2,854	0	0	0	7,372	10,587	0
2035	73,023	0	297	297	1,965	0	0	2,854	0	0	0	7,667	11,289	0
2036	76,489	0	297	297	2,059	0	0	850	0	0	0	8,850	13,209	0
2037	79,918	0	297	297	2,163	0	0	765	0	0	0	8,984	14,136	0
2038	83,309	0	297	297	2,256	0	0	68	0	0	0	8,118	16,741	0
2039	86,660	0	297	297	2,355	0	0	68	0	0	0	8,397	17,486	0
2040	89,970	0	297	297	2,452	0	0	68	0	0	0	8,748	18,228	0
2041	93,237	0	297	297	2,555	0	0	68	0	0	0	8,939	18,948	0
2042	96,461	0	297	297	2,643	0	0	383	0	0	0	9,109	19,457	0
2043	99,661	0	297	297	2,737	0	0	314	0	0	0	9,399	20,212	0
2044	102,848	0	297	297	2,829	0	0	2,715	0	0	0	8,989	19,285	0
2045	105,986	0	297	297	2,929	0	0	2,595	0	0	0	9,205	20,050	0
2046	109,076	0	297	297	3,013	0	0	2,854	0	0	0	9,385	20,564	0
2047	112,115	0	297	297	3,102	0	0	2,854	0	0	0	9,640	21,240	0
2048	115,102	0	297	297	3,191	0	0	2,854	0	0	0	9,983	21,916	0
2049	118,038	0	297	297	3,287	0	0	2,595	0	0	0	10,212	22,732	0
2050	120,921	0	297	297	3,363	0	0	68	0	0	0	11,237	25,127	0
2051	123,750	0	297	297	3,447	0	0	68	0	0	0	11,471	25,761	0
2052	126,525	0	297	297	3,530	0	0	68	0	0	0	11,808	26,389	0
2053	129,339	0	297	297	3,620	0	0	68	0	0	0	11,935	26,988	0
2054	132,294	0	297	297	3,691	0	0	68	0	0	0	12,197	27,616	0
2055	135,187	0	297	297	3,774	0	0	68	0	0	0	12,436	28,267	0
2056	138,018	0	297	297	3,859	0	0	68	0	0	0	12,787	28,910	0
2057	140,787	0	297	297	3,952	0	0	68	0	0	0	12,893	29,519	0
2058	143,494	0	297	297	4,022	0	0	68	0	0	0	13,119	30,134	0
2059	146,137	0	297	297	4,101	0	0	68	0	0	0	13,337	30,729	0
2060	148,718	0	297	297	4,178	0	0	68	0	0	0	13,675	31,318	0

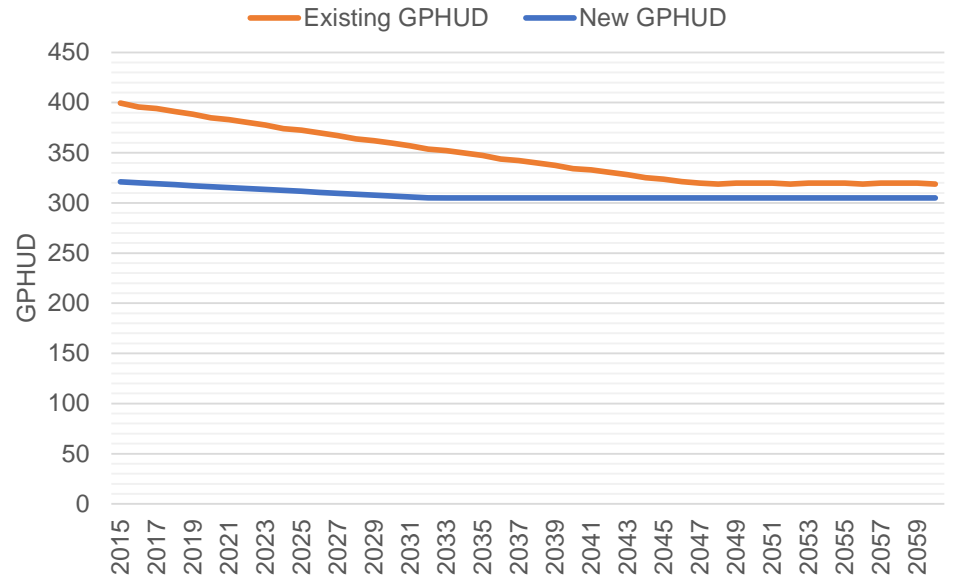
Central Arizona Project Service Area Model

F. Slow, Compact Growth [WVWA]

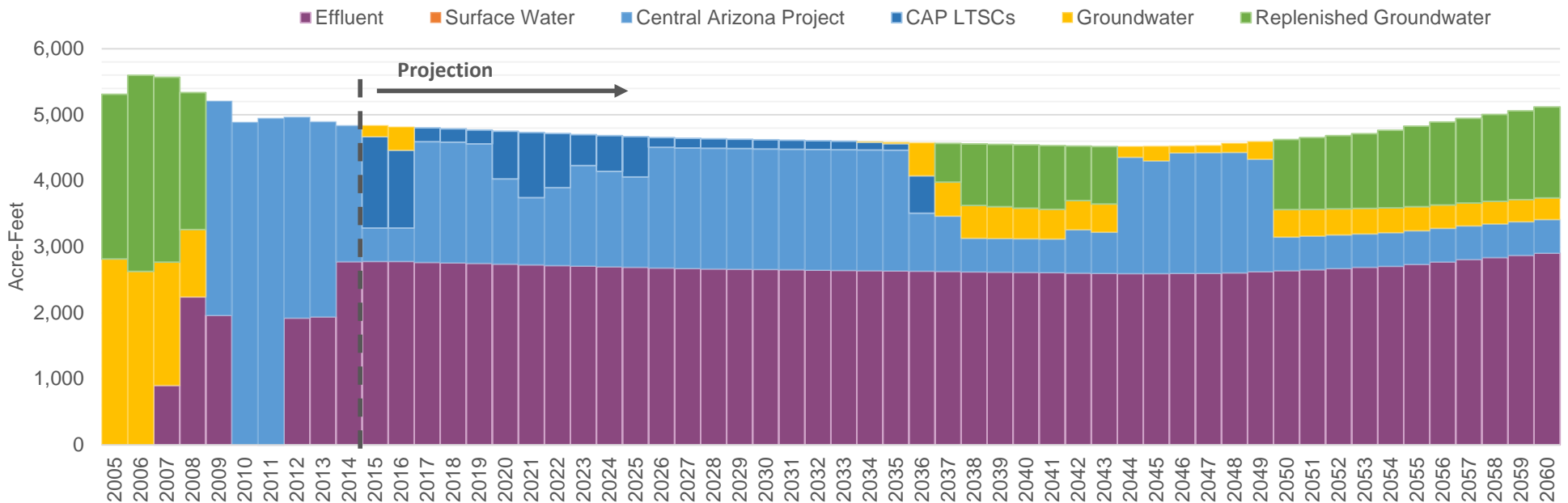
Housing Unit Projection



Gallons Per Housing Unit Per Day



Water Supply Projections





Central Arizona Project Service Area Model

F. Slow, Compact Growth [WVWA]

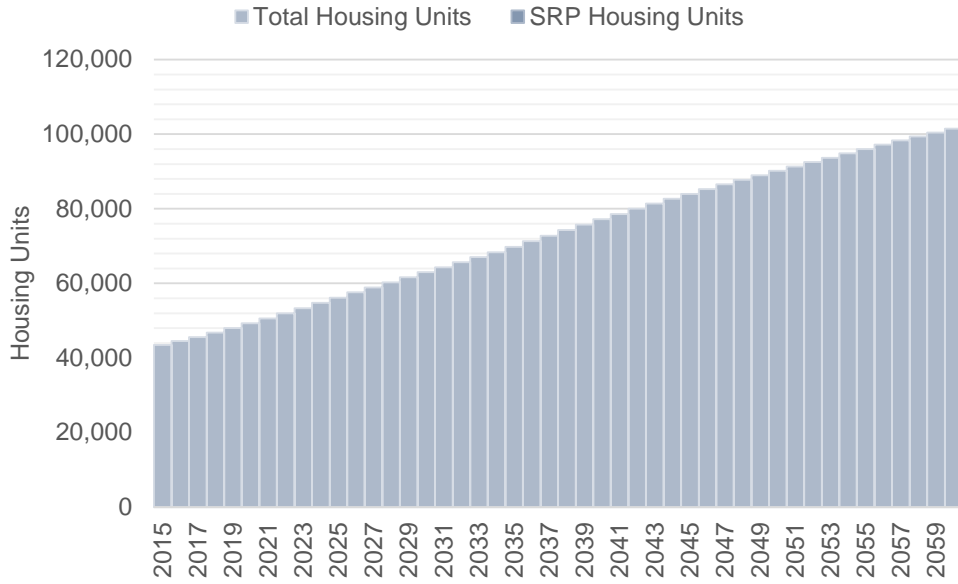
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Date	Demand Assumptions				Water Supply Projections (Acre-Feet)									
	Housing Units		GPHUD		Effluent	Surface Water		Central Arizona Project				Groundwater		Unknown
	Total	SRP	Existing	New		SRP	Non-SRP	Direct	ASR	Storage	Recovery	Non-Repl.	Replenished	
2015	10,817	0	400	321	2,778	0	0	0	508	0	1,385	167	0	0
2016	10,872	0	396	320	2,778	0	0	0	508	0	1,177	353	0	0
2017	10,930	0	394	319	2,765	0	0	0	1,826	0	212	0	0	0
2018	10,970	0	391	318	2,758	0	0	0	1,826	0	203	0	0	0
2019	11,012	0	389	317	2,749	0	0	0	1,810	0	210	0	0	0
2020	11,056	0	385	316	2,738	0	0	0	1,291	0	722	0	0	0
2021	11,101	0	383	315	2,728	0	0	0	1,018	0	987	0	0	0
2022	11,147	0	380	314	2,718	0	0	0	1,178	0	821	0	0	0
2023	11,194	0	378	313	2,708	0	0	0	1,524	0	468	0	0	0
2024	11,241	0	374	312	2,699	0	0	0	1,443	0	543	0	0	0
2025	11,289	0	372	312	2,690	0	0	0	1,368	0	610	0	0	0
2026	11,341	0	370	311	2,681	0	0	0	1,826	0	147	0	0	0
2027	11,411	0	367	310	2,672	0	0	0	1,826	0	145	0	0	0
2028	11,480	0	364	309	2,666	0	0	0	1,826	0	144	0	0	0
2029	11,550	0	362	308	2,662	0	0	0	1,826	0	140	0	0	0
2030	11,620	0	360	307	2,657	0	0	0	1,826	0	138	0	0	0
2031	11,689	0	357	306	2,653	0	0	0	1,826	0	134	0	0	0
2032	11,759	0	354	305	2,649	0	0	0	1,826	0	132	0	0	0
2033	11,828	0	352	305	2,645	0	0	0	1,826	0	128	0	0	0
2034	11,896	0	350	305	2,641	0	0	0	1,826	0	118	8	0	0
2035	11,955	0	347	305	2,637	0	0	0	1,826	0	100	22	0	0
2036	12,017	0	344	305	2,633	0	0	0	878	0	567	500	0	0
2037	12,078	0	342	305	2,628	0	0	0	838	0	0	513	589	0
2038	12,138	0	340	305	2,623	0	0	0	508	0	0	497	932	0
2039	12,198	0	338	305	2,618	0	0	0	508	0	0	481	944	0
2040	12,256	0	334	305	2,613	0	0	0	508	0	0	466	957	0
2041	12,315	0	333	305	2,609	0	0	0	508	0	0	452	966	0
2042	12,372	0	331	305	2,604	0	0	0	657	0	0	439	827	0
2043	12,443	0	328	305	2,599	0	0	0	624	0	0	426	871	0
2044	12,536	0	325	305	2,595	0	0	0	1,760	0	0	167	0	0
2045	12,628	0	324	305	2,596	0	0	0	1,703	0	0	225	0	0
2046	12,718	0	321	305	2,598	0	0	0	1,826	0	0	104	0	0
2047	12,807	0	320	305	2,600	0	0	0	1,826	0	0	112	0	0
2048	12,894	0	319	305	2,605	0	0	0	1,826	0	0	139	0	0
2049	12,979	0	320	305	2,624	0	0	0	1,703	0	0	270	0	0
2050	13,064	0	320	305	2,640	0	0	0	508	0	0	417	1,061	0
2051	13,146	0	320	305	2,656	0	0	0	508	0	0	405	1,085	0
2052	13,227	0	319	305	2,673	0	0	0	508	0	0	394	1,110	0
2053	13,340	0	320	305	2,690	0	0	0	508	0	0	384	1,134	0
2054	13,522	0	320	305	2,708	0	0	0	508	0	0	374	1,176	0
2055	13,699	0	320	305	2,737	0	0	0	508	0	0	365	1,218	0
2056	13,873	0	319	305	2,772	0	0	0	508	0	0	356	1,254	0
2057	14,044	0	320	305	2,808	0	0	0	508	0	0	348	1,282	0
2058	14,210	0	320	305	2,840	0	0	0	508	0	0	340	1,315	0
2059	14,372	0	320	305	2,873	0	0	0	508	0	0	333	1,346	0
2060	14,531	0	319	305	2,905	0	0	0	508	0	0	327	1,378	0

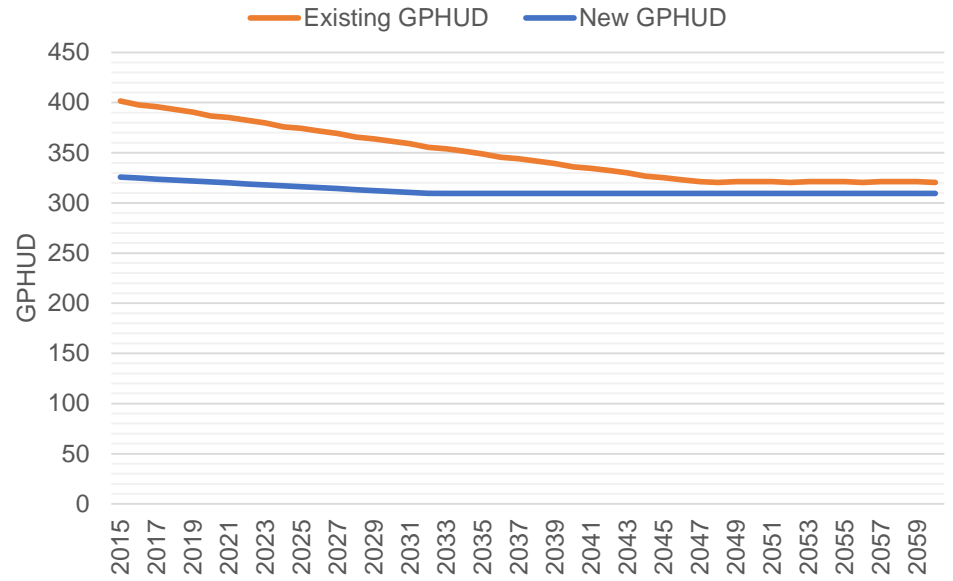
Central Arizona Project Service Area Model

F. Slow, Compact Growth [WVWA]

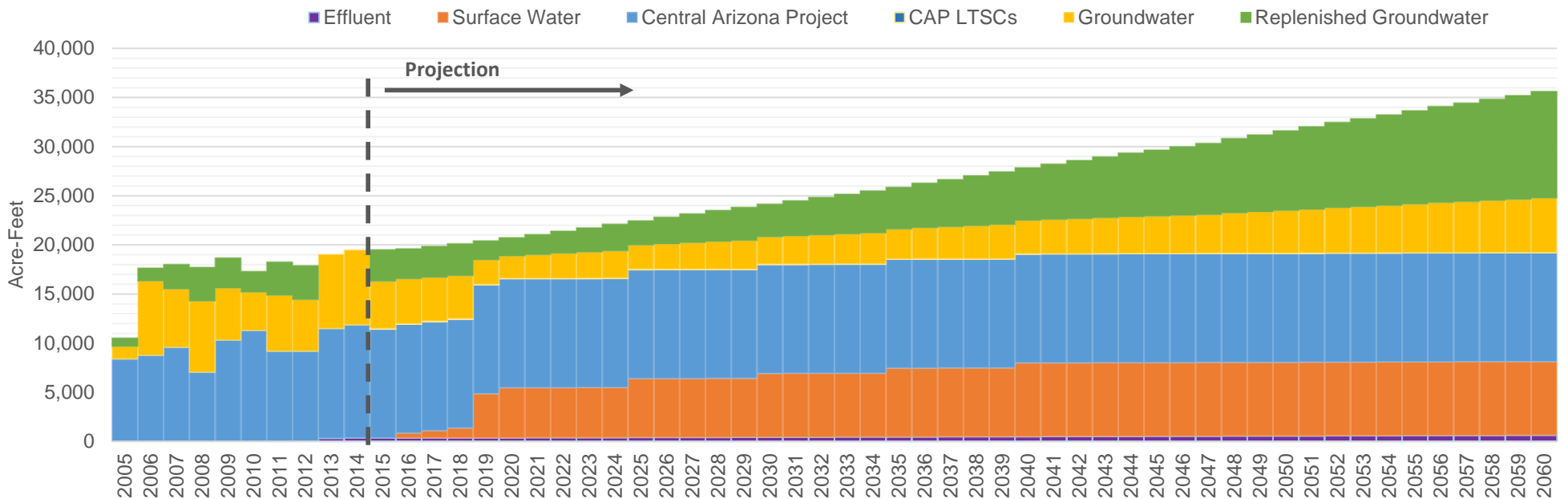
Housing Unit Projection



Gallons Per Housing Unit Per Day



Water Supply Projections



Central Arizona Project Service Area Model

F. Slow, Compact Growth [WVWA]

Demand Assumptions

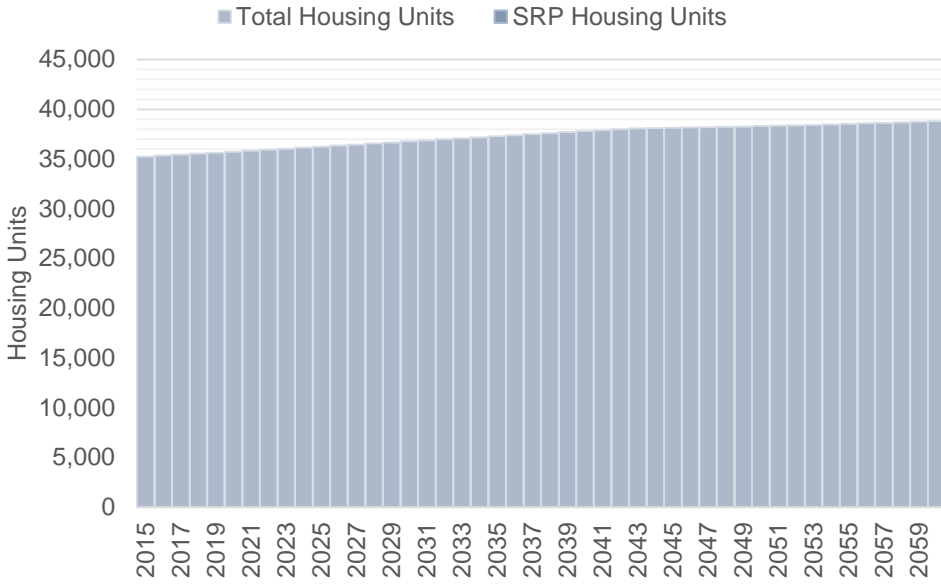
Water Supply Projections (Acre-Feet)

Date	Housing Units		GPHUD		Effluent	Surface Water		Central Arizona Project				Groundwater		Unknown
	Total	SRP	Existing	New		SRP	Non-SRP	Direct	ASR	Storage	Recovery	Non-Repl.	Replenished	
2015	43,526	0	402	326	348	0	0	11,093	0	0	45	4,817	3,220	0
2016	44,530	0	398	325	348	0	500	11,093	0	0	42	4,555	3,070	0
2017	45,605	0	396	324	350	0	750	11,093	0	0	40	4,457	3,159	0
2018	46,782	0	393	323	354	0	1,000	11,093	0	0	38	4,382	3,252	0
2019	48,015	0	390	322	359	0	4,500	11,093	0	0	36	2,489	1,940	0
2020	49,299	0	387	321	364	0	5,100	11,093	0	0	34	2,283	1,863	0
2021	50,622	0	385	320	370	0	5,100	11,093	0	0	33	2,407	2,059	0
2022	51,975	0	382	319	375	0	5,100	11,093	0	0	31	2,535	2,268	0
2023	53,354	0	380	318	382	0	5,100	11,093	0	0	30	2,660	2,486	0
2024	54,755	0	376	317	388	0	5,100	11,093	0	0	28	2,792	2,715	0
2025	56,168	0	374	316	394	0	6,000	11,093	0	0	27	2,459	2,492	0
2026	57,579	0	372	315	400	0	6,000	11,093	0	0	25	2,584	2,720	0
2027	58,925	0	369	314	407	0	6,000	11,093	0	0	24	2,696	2,947	0
2028	60,279	0	366	313	413	0	6,000	11,093	0	0	23	2,811	3,176	0
2029	61,636	0	364	312	419	0	6,000	11,093	0	0	22	2,903	3,396	0
2030	62,998	0	361	311	425	0	6,500	11,093	0	0	21	2,774	3,352	0
2031	64,339	0	359	310	431	0	6,500	11,093	0	0	20	2,869	3,580	0
2032	65,705	0	355	310	437	0	6,500	11,093	0	0	19	2,973	3,818	0
2033	67,049	0	354	309	443	0	6,500	11,093	0	0	18	3,060	4,052	0
2034	68,371	0	351	309	449	0	6,500	11,093	0	0	17	3,154	4,294	0
2035	69,803	0	349	309	455	0	7,000	11,093	0	0	16	3,048	4,253	0
2036	71,313	0	346	309	461	0	7,000	11,093	0	0	15	3,176	4,537	0
2037	72,808	0	344	309	469	0	7,000	11,093	0	0	14	3,271	4,813	0
2038	74,285	0	342	309	475	0	7,000	11,093	0	0	14	3,376	5,100	0
2039	75,745	0	339	309	482	0	7,000	11,093	0	0	13	3,476	5,387	0
2040	77,188	0	336	309	489	0	7,500	11,093	0	0	12	3,396	5,380	0
2041	78,612	0	335	309	497	0	7,500	11,093	0	0	12	3,471	5,649	0
2042	80,016	0	332	309	503	0	7,500	11,093	0	0	11	3,561	5,930	0
2043	81,384	0	330	309	510	0	7,500	11,093	0	0	11	3,644	6,208	0
2044	82,703	0	327	309	516	0	7,500	11,093	0	0	10	3,742	6,495	0
2045	84,002	0	325	309	523	0	7,500	11,093	0	0	10	3,791	6,745	0
2046	85,280	0	323	309	529	0	7,500	11,093	0	0	9	3,860	7,007	0
2047	86,538	0	321	309	535	0	7,500	11,093	0	0	9	3,944	7,273	0
2048	87,774	0	320	309	541	0	7,500	11,093	0	0	8	4,103	7,582	0
2049	88,989	0	321	309	550	0	7,500	11,093	0	0	8	4,209	7,852	0
2050	90,183	0	321	309	556	0	7,500	11,093	0	0	7	4,337	8,135	0
2051	91,354	0	321	309	564	0	7,500	11,093	0	0	7	4,461	8,413	0
2052	92,502	0	320	309	571	0	7,500	11,093	0	0	7	4,611	8,704	0
2053	93,658	0	321	309	579	0	7,500	11,093	0	0	6	4,704	8,957	0
2054	94,856	0	321	309	585	0	7,500	11,093	0	0	6	4,831	9,232	0
2055	96,028	0	321	309	593	0	7,500	11,093	0	0	6	4,954	9,513	0
2056	97,176	0	320	309	600	0	7,500	11,093	0	0	5	5,105	9,807	0
2057	98,298	0	321	309	608	0	7,500	11,093	0	0	5	5,189	10,058	0
2058	99,394	0	321	309	614	0	7,500	11,093	0	0	5	5,303	10,323	0
2059	100,466	0	321	309	621	0	7,500	11,093	0	0	5	5,414	10,582	0
2060	101,512	0	320	309	628	0	7,500	11,093	0	0	4	5,556	10,854	0

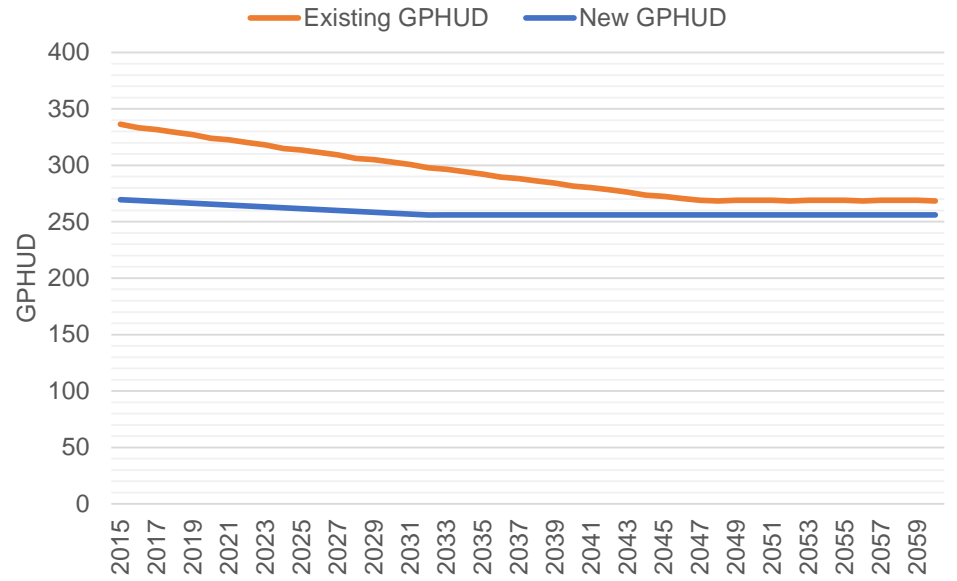
Central Arizona Project Service Area Model

F. Slow, Compact Growth [WVWA]

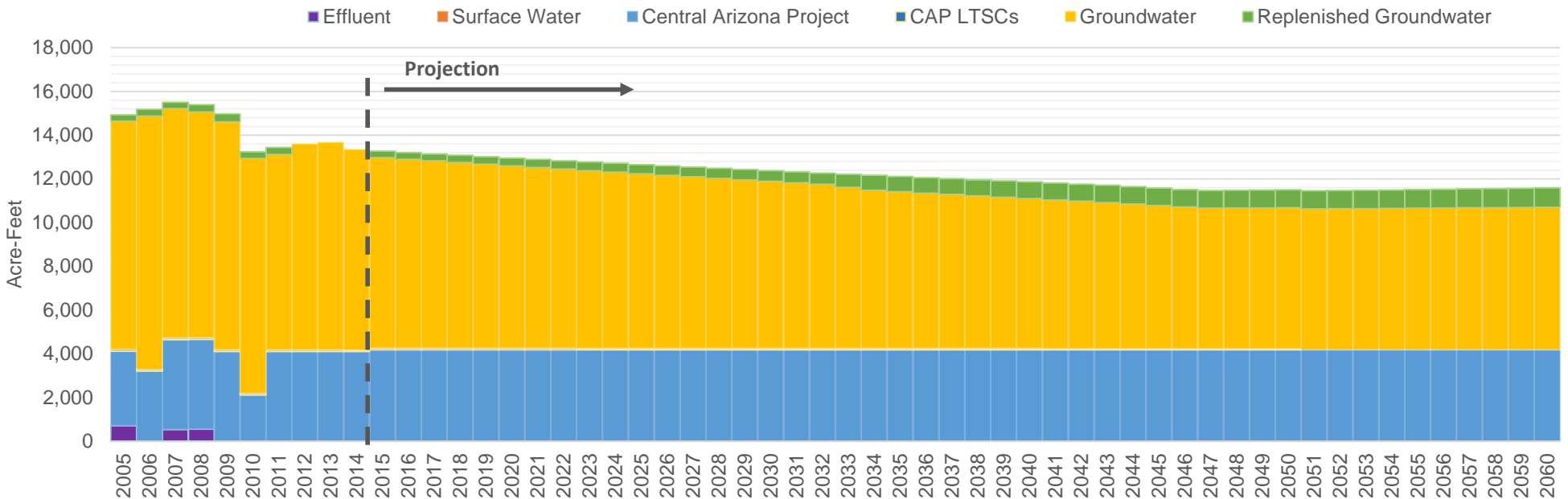
Housing Unit Projection



Gallons Per Housing Unit Per Day



Water Supply Projections



Central Arizona Project Service Area Model

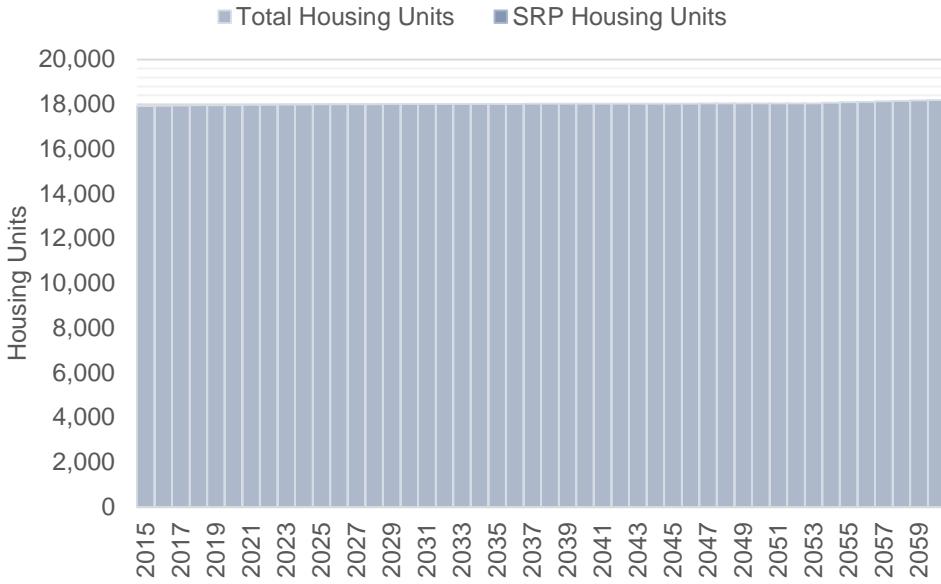
F. Slow, Compact Growth [WVWA]

Date	Demand Assumptions				Water Supply Projections (Acre-Feet)									
	Housing Units		GPHUD		Effluent	Surface Water		Central Arizona Project				Groundwater		Unknown
	Total	SRP	Existing	New		SRP	Non-SRP	Direct	ASR	Storage	Recovery	Non-Repl.	Replenished	
2015	35,255	0	336	270	0	0	0	4,189	0	0	79	8,706	306	0
2016	35,358	0	333	269	0	0	0	4,189	0	0	79	8,632	307	0
2017	35,466	0	332	268	0	0	0	4,189	0	0	78	8,562	317	0
2018	35,554	0	329	267	0	0	0	4,189	0	0	77	8,489	328	0
2019	35,645	0	327	266	0	0	0	4,189	0	0	76	8,413	340	0
2020	35,741	0	324	266	0	0	0	4,189	0	0	75	8,339	352	0
2021	35,839	0	323	265	0	0	0	4,189	0	0	75	8,265	365	0
2022	35,939	0	320	264	0	0	0	4,189	0	0	74	8,193	378	0
2023	36,042	0	318	263	0	0	0	4,189	0	0	73	8,121	392	0
2024	36,146	0	315	262	0	0	0	4,189	0	0	73	8,050	405	0
2025	36,251	0	314	262	0	0	0	4,189	0	0	72	7,979	419	0
2026	36,356	0	311	261	0	0	0	4,189	0	0	71	7,909	433	0
2027	36,460	0	309	260	0	0	0	4,189	0	0	70	7,840	447	0
2028	36,565	0	306	259	0	0	0	4,189	0	0	70	7,772	460	0
2029	36,670	0	305	258	0	0	0	4,189	0	0	69	7,703	473	0
2030	36,776	0	303	258	0	0	0	4,189	0	0	68	7,635	487	0
2031	36,879	0	301	257	0	0	0	4,189	0	0	68	7,568	500	0
2032	36,985	0	298	256	0	0	0	4,189	0	0	67	7,503	513	0
2033	37,089	0	296	256	0	0	0	4,189	0	0	66	7,362	600	0
2034	37,191	0	294	256	0	0	0	4,189	0	0	66	7,227	683	0
2035	37,292	0	292	256	0	0	0	4,189	0	0	65	7,164	695	0
2036	37,398	0	289	256	0	0	0	4,189	0	0	64	7,103	707	0
2037	37,503	0	288	256	0	0	0	4,189	0	0	64	7,039	720	0
2038	37,606	0	286	256	0	0	0	4,189	0	0	63	6,978	732	0
2039	37,709	0	284	256	0	0	0	4,189	0	0	62	6,917	744	0
2040	37,810	0	281	256	0	0	0	4,189	0	0	62	6,858	756	0
2041	37,910	0	280	256	0	0	0	4,189	0	0	61	6,796	768	0
2042	38,009	0	278	256	0	0	0	4,189	0	0	61	6,736	779	0
2043	38,082	0	276	256	0	0	0	4,189	0	0	60	6,674	791	0
2044	38,117	0	274	256	0	0	0	4,189	0	0	59	6,608	798	0
2045	38,151	0	272	256	0	0	0	4,189	0	0	59	6,539	800	0
2046	38,184	0	271	256	0	0	0	4,189	0	0	58	6,472	802	0
2047	38,217	0	269	256	0	0	0	4,189	0	0	58	6,422	804	0
2048	38,250	0	268	256	0	0	0	4,189	0	0	57	6,430	809	0
2049	38,282	0	269	256	0	0	0	4,189	0	0	56	6,432	814	0
2050	38,313	0	269	256	0	0	0	4,189	0	0	56	6,437	818	0
2051	38,344	0	269	256	0	0	0	4,189	0	0	55	6,442	823	0
2052	38,374	0	268	256	0	0	0	4,189	0	0	55	6,450	827	0
2053	38,413	0	269	256	0	0	0	4,189	0	0	54	6,453	832	0
2054	38,472	0	269	256	0	0	0	4,189	0	0	54	6,462	837	0
2055	38,530	0	269	256	0	0	0	4,189	0	0	53	6,471	846	0
2056	38,586	0	268	256	0	0	0	4,189	0	0	53	6,482	854	0
2057	38,642	0	269	256	0	0	0	4,189	0	0	52	6,488	862	0
2058	38,696	0	269	256	0	0	0	4,189	0	0	52	6,496	870	0
2059	38,749	0	269	256	0	0	0	4,189	0	0	51	6,504	878	0
2060	38,800	0	268	256	0	0	0	4,189	0	0	51	6,515	886	0

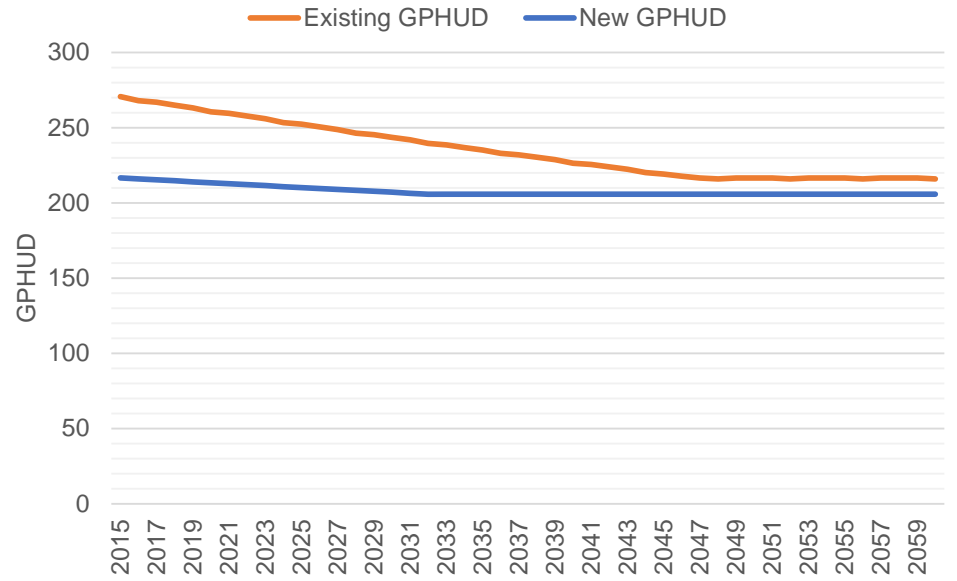
Central Arizona Project Service Area Model

F. Slow, Compact Growth [WVWA]

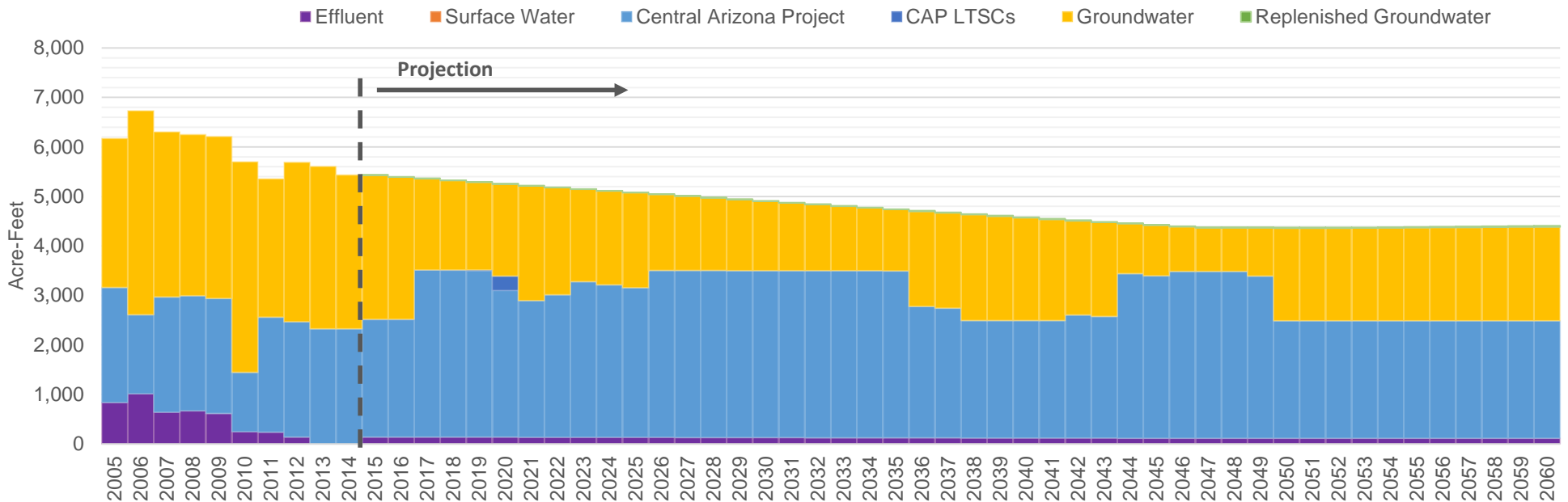
Housing Unit Projection



Gallons Per Housing Unit Per Day



Water Supply Projections



Central Arizona Project Service Area Model

F. Slow, Compact Growth [WVWA]

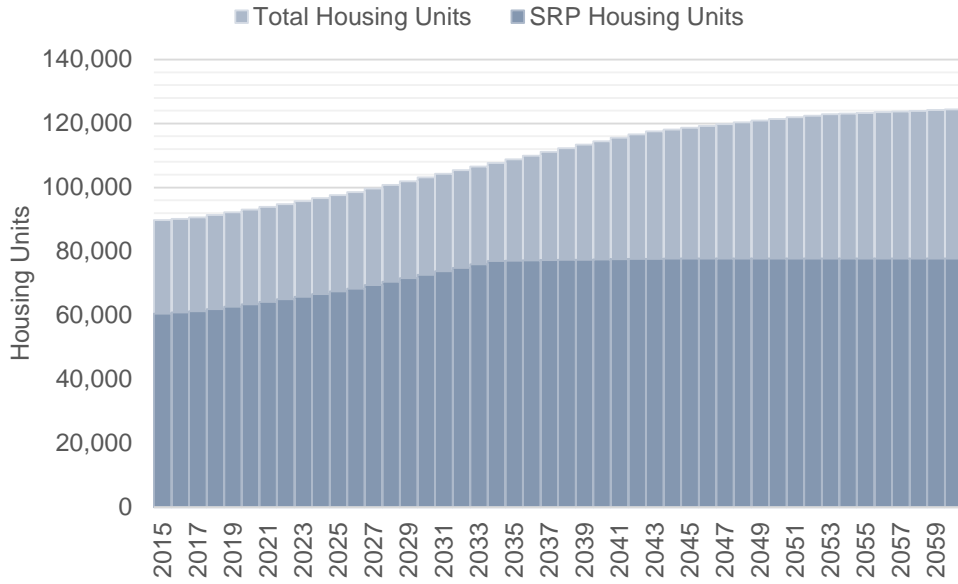
Date	Demand Assumptions				Water Supply Projections (Acre-Feet)									
	Housing Units		GPHUD		Effluent	Surface Water		Central Arizona Project				Groundwater		Unknown
	Total	SRP	Existing	New		SRP	Non-SRP	Direct	ASR	Storage	Recovery	Non-Repl.	Replenished	
2015	17,925	0	271	217	142	0	0	2,372	0	0	3	2,912	5	0
2016	17,938	0	268	216	142	0	0	2,372	0	0	3	2,876	5	0
2017	17,951	0	267	215	141	0	0	3,372	0	0	3	1,843	4	0
2018	17,956	0	265	215	140	0	0	3,372	0	0	3	1,808	5	0
2019	17,962	0	263	214	139	0	0	3,360	0	0	15	1,773	5	0
2020	17,968	0	261	213	138	0	0	2,966	0	0	290	1,857	6	0
2021	17,974	0	260	213	137	0	0	2,759	0	0	0	2,317	8	0
2022	17,980	0	258	212	136	0	0	2,880	0	0	0	2,162	8	0
2023	17,986	0	256	211	136	0	0	3,143	0	0	0	1,866	7	0
2024	17,993	0	253	211	135	0	0	3,082	0	0	0	1,893	8	0
2025	17,999	0	252	210	134	0	0	3,025	0	0	0	1,916	8	0
2026	18,005	0	251	210	133	0	0	3,372	0	0	0	1,537	7	0
2027	18,007	0	249	209	132	0	0	3,372	0	0	0	1,503	7	0
2028	18,008	0	246	208	131	0	0	3,372	0	0	0	1,470	7	0
2029	18,010	0	245	208	130	0	0	3,372	0	0	0	1,436	7	0
2030	18,012	0	244	207	129	0	0	3,372	0	0	0	1,403	7	0
2031	18,014	0	242	206	128	0	0	3,372	0	0	0	1,370	7	0
2032	18,015	0	240	206	127	0	0	3,372	0	0	0	1,338	7	0
2033	18,017	0	239	206	127	0	0	3,372	0	0	0	1,305	7	0
2034	18,019	0	237	206	126	0	0	3,372	0	0	0	1,272	7	0
2035	18,020	0	235	206	125	0	0	3,372	0	0	0	1,240	7	0
2036	18,022	0	233	206	124	0	0	2,653	0	0	0	1,924	11	0
2037	18,023	0	232	206	123	0	0	2,622	0	0	0	1,923	11	0
2038	18,025	0	230	206	122	0	0	2,372	0	0	0	2,140	12	0
2039	18,026	0	229	206	121	0	0	2,372	0	0	0	2,109	13	0
2040	18,028	0	226	206	121	0	0	2,372	0	0	0	2,078	12	0
2041	18,029	0	225	206	120	0	0	2,372	0	0	0	2,047	13	0
2042	18,031	0	224	206	119	0	0	2,485	0	0	0	1,904	12	0
2043	18,032	0	222	206	118	0	0	2,460	0	0	0	1,899	12	0
2044	18,033	0	220	206	117	0	0	3,322	0	0	0	1,012	6	0
2045	18,034	0	219	206	116	0	0	3,279	0	0	0	1,025	7	0
2046	18,035	0	218	206	116	0	0	3,372	0	0	0	903	6	0
2047	18,036	0	217	206	115	0	0	3,372	0	0	0	881	6	0
2048	18,037	0	216	206	114	0	0	3,372	0	0	0	882	6	0
2049	18,038	0	217	206	114	0	0	3,279	0	0	0	974	7	0
2050	18,039	0	217	206	114	0	0	2,372	0	0	0	1,875	13	0
2051	18,040	0	217	206	114	0	0	2,372	0	0	0	1,875	13	0
2052	18,041	0	216	206	114	0	0	2,372	0	0	0	1,876	13	0
2053	18,049	0	217	206	114	0	0	2,372	0	0	0	1,877	13	0
2054	18,071	0	217	206	114	0	0	2,372	0	0	0	1,879	13	0
2055	18,093	0	217	206	114	0	0	2,372	0	0	0	1,883	15	0
2056	18,114	0	216	206	115	0	0	2,372	0	0	0	1,886	17	0
2057	18,134	0	217	206	115	0	0	2,372	0	0	0	1,889	18	0
2058	18,154	0	217	206	115	0	0	2,372	0	0	0	1,892	20	0
2059	18,174	0	217	206	115	0	0	2,372	0	0	0	1,895	21	0
2060	18,193	0	216	206	115	0	0	2,372	0	0	0	1,898	23	0

Central Arizona Project Service Area Model

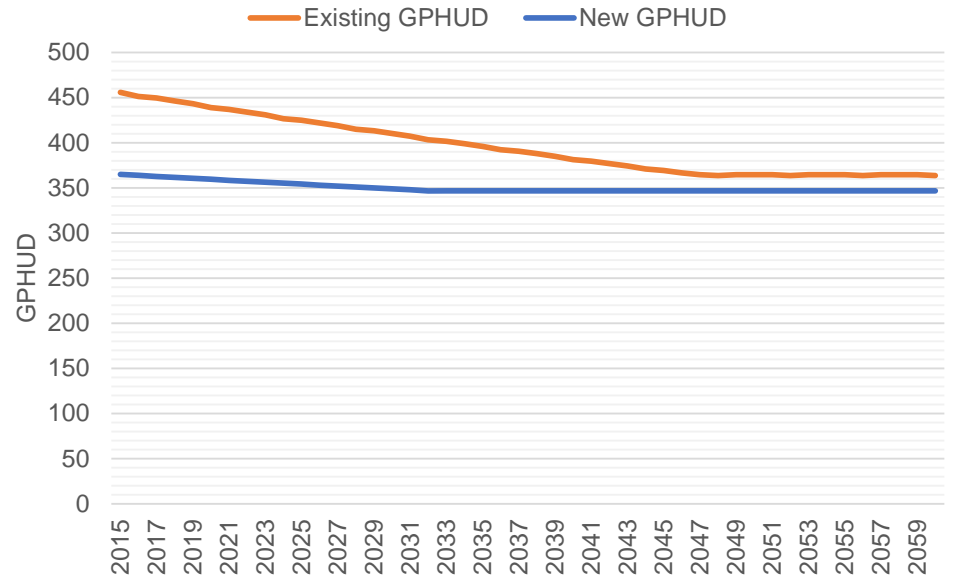
F. Slow, Compact Growth [WVWA]

Glendale

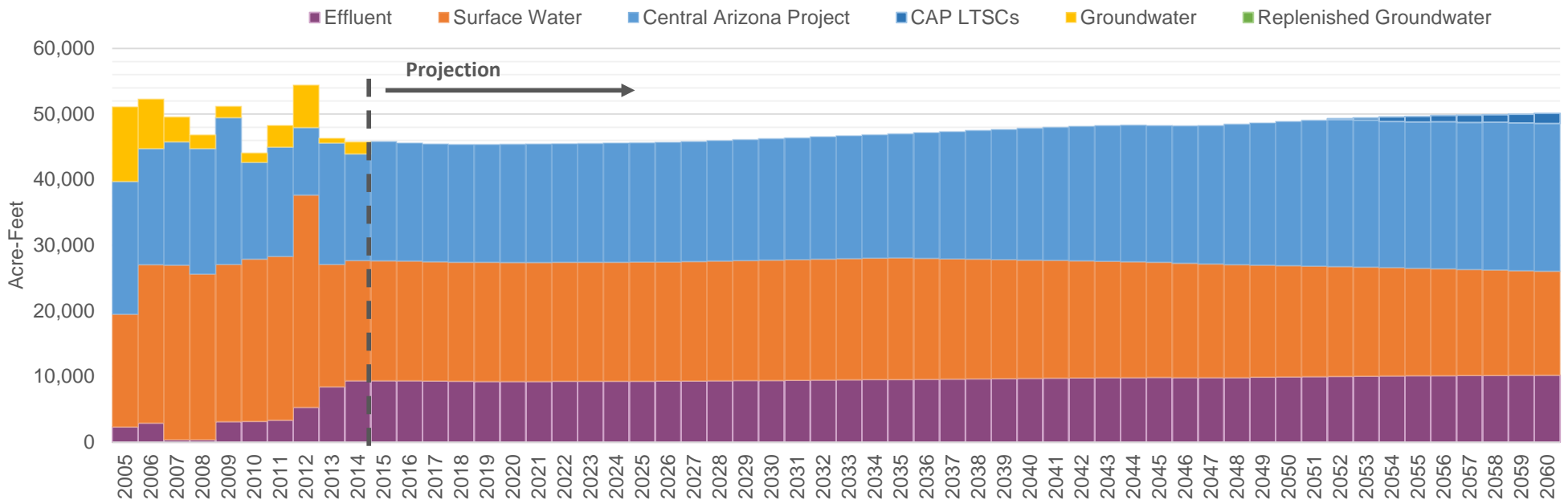
Housing Unit Projection



Gallons Per Housing Unit Per Day



Water Supply Projections



Central Arizona Project Service Area Model

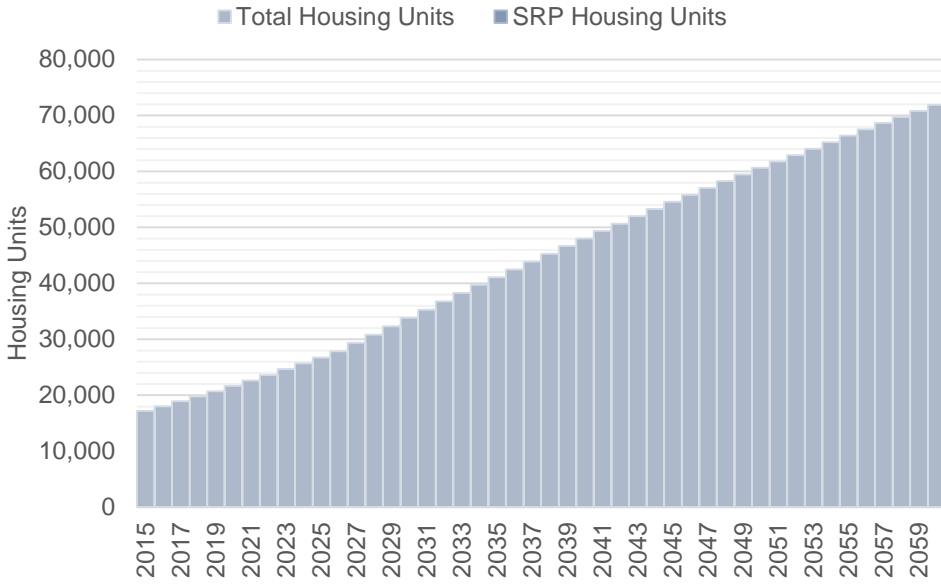
F. Slow, Compact Growth [WVWA]

Date	Demand Assumptions				Water Supply Projections (Acre-Feet)									
	Housing Units		GPHUD		Effluent	Surface Water		Central Arizona Project				Groundwater		Unknown
	Total	SRP	Existing	New		SRP	Non-SRP	Direct	ASR	Storage	Recovery	Non-Repl.	Replenished	
2015	89,769	60,558	456	365	9,367	18,283	0	18,156	0	0	0	0	0	0
2016	90,179	60,906	451	364	9,367	18,252	0	17,969	0	0	0	0	0	0
2017	90,631	61,292	449	363	9,322	18,184	0	17,938	0	0	0	0	0	0
2018	91,403	61,983	446	362	9,293	18,144	0	17,938	0	0	0	0	0	0
2019	92,211	62,707	443	361	9,279	18,132	0	17,968	0	0	0	0	0	0
2020	93,053	63,462	439	360	9,280	18,127	0	17,994	0	0	0	0	0	0
2021	93,921	64,239	437	358	9,284	18,123	0	18,020	0	0	0	0	0	0
2022	94,809	65,033	434	357	9,289	18,124	0	18,054	0	0	0	0	0	0
2023	95,713	65,843	431	356	9,297	18,127	0	18,089	0	0	0	0	0	0
2024	96,631	66,666	427	355	9,307	18,136	0	18,130	0	0	0	0	0	0
2025	97,558	67,496	425	354	9,319	18,141	0	18,163	0	0	0	0	0	0
2026	98,527	68,373	422	353	9,330	18,153	0	18,208	0	0	0	0	0	0
2027	99,670	69,447	419	352	9,343	18,184	0	18,273	0	0	0	0	0	0
2028	100,820	70,529	415	351	9,366	18,235	0	18,356	0	0	0	0	0	0
2029	101,973	71,613	413	350	9,398	18,279	0	18,415	0	0	0	0	0	0
2030	103,130	72,701	410	349	9,425	18,327	0	18,487	0	0	0	0	0	0
2031	104,268	73,772	407	348	9,455	18,373	0	18,554	0	0	0	0	0	0
2032	105,428	74,862	403	347	9,485	18,426	0	18,631	0	0	0	0	0	0
2033	106,570	75,936	402	347	9,517	18,474	0	18,697	0	0	0	0	0	0
2034	107,692	76,991	399	347	9,547	18,526	0	18,772	0	0	0	0	0	0
2035	108,795	77,079	396	347	9,579	18,502	0	18,914	0	0	0	0	0	0
2036	109,957	77,163	392	347	9,610	18,412	0	19,156	0	0	0	0	0	0
2037	111,107	77,246	391	347	9,648	18,308	0	19,374	0	0	0	0	0	0
2038	112,244	77,329	388	347	9,679	18,211	0	19,609	0	0	0	0	0	0
2039	113,367	77,410	385	347	9,713	18,116	0	19,837	0	0	0	0	0	0
2040	114,477	77,490	381	347	9,747	18,028	0	20,079	0	0	0	0	0	0
2041	115,573	77,569	380	347	9,786	17,926	0	20,276	0	0	0	0	0	0
2042	116,654	77,647	377	347	9,813	17,831	0	20,499	0	0	0	0	0	0
2043	117,538	77,697	374	347	9,845	17,736	0	20,679	0	0	0	0	0	0
2044	118,122	77,704	371	347	9,869	17,643	0	20,800	0	0	0	0	0	0
2045	118,697	77,711	369	347	9,879	17,533	0	20,833	0	0	0	0	0	0
2046	119,262	77,717	367	347	9,866	17,430	0	20,911	0	0	0	0	0	0
2047	119,819	77,724	365	347	9,858	17,324	0	21,045	0	0	0	0	0	0
2048	120,366	77,730	364	347	9,862	17,212	0	21,400	0	0	0	0	0	0
2049	120,904	77,736	365	347	9,913	17,084	0	21,655	0	0	0	0	0	0
2050	121,432	77,742	365	347	9,949	16,966	0	21,944	0	0	0	0	0	0
2051	121,951	77,748	365	347	9,991	16,848	0	22,224	0	0	0	0	0	0
2052	122,459	77,754	364	347	10,033	16,738	0	22,400	0	0	125	0	0	0
2053	122,874	77,759	365	347	10,081	16,615	0	22,400	0	0	346	0	0	0
2054	123,105	77,762	365	347	10,110	16,499	0	22,271	0	0	687	0	0	0
2055	123,331	77,764	365	347	10,136	16,384	0	22,271	0	0	865	0	0	0
2056	123,552	77,767	364	347	10,154	16,277	0	22,400	0	0	947	0	0	0
2057	123,769	77,769	365	347	10,179	16,156	0	22,400	0	0	1,092	0	0	0
2058	123,980	77,772	365	347	10,189	16,043	0	22,526	0	0	1,152	0	0	0
2059	124,187	77,774	365	347	10,206	15,931	0	22,526	0	0	1,328	0	0	0
2060	124,388	77,776	364	347	10,223	15,827	0	22,526	0	0	1,532	0	0	0

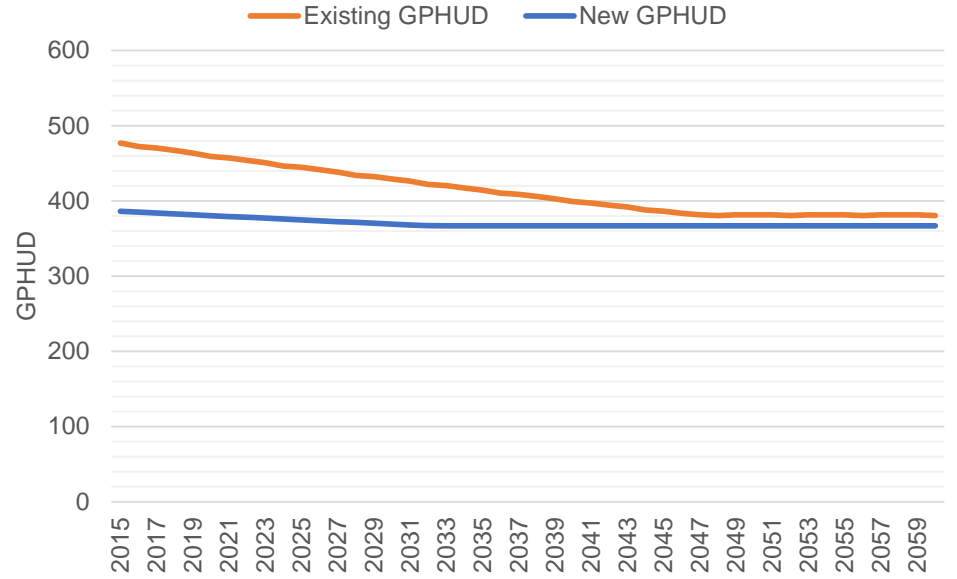
Central Arizona Project Service Area Model

F. Slow, Compact Growth [WVWA]

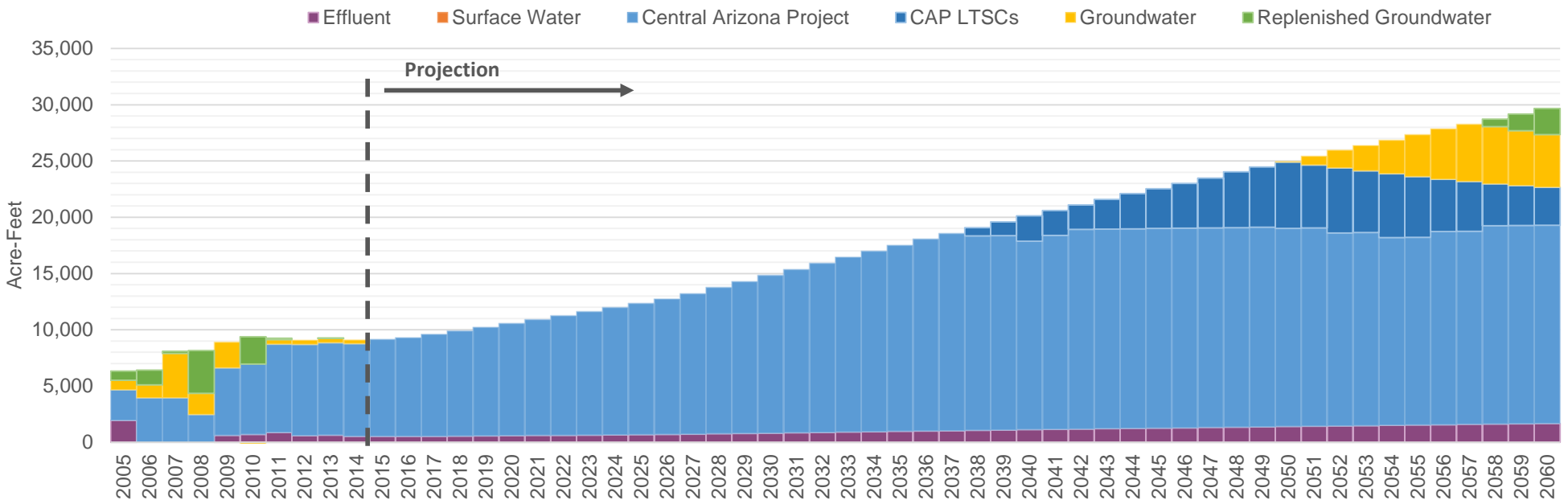
Housing Unit Projection



Gallons Per Housing Unit Per Day



Water Supply Projections





Central Arizona Project Service Area Model

F. Slow, Compact Growth [WVWA]

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Demand Assumptions

Water Supply Projections (Acre-Feet)

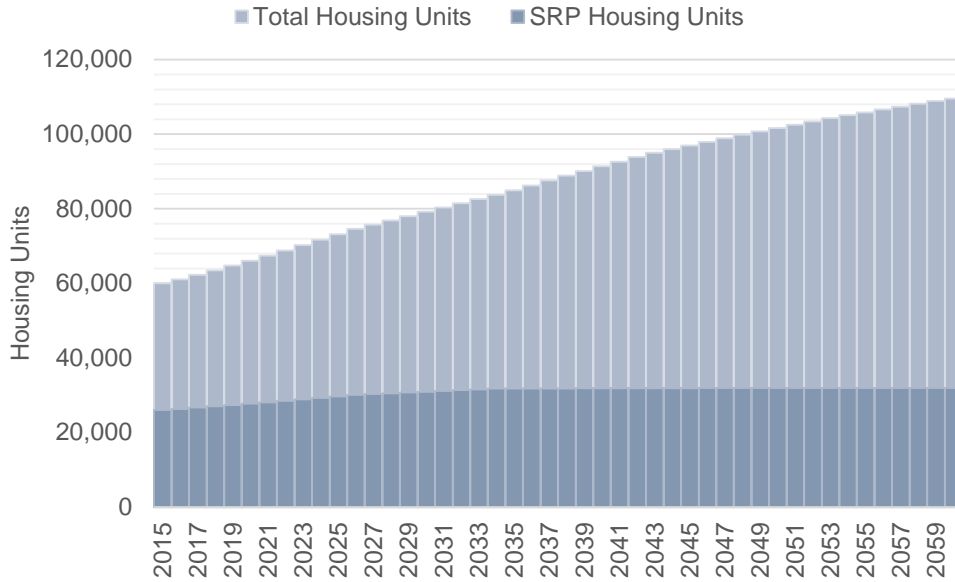
Date	Housing Units		GPHUD		Effluent	Surface Water		Central Arizona Project				Groundwater		Unknown
	Total	SRP	Existing	New		SRP	Non-SRP	Direct	ASR	Storage	Recovery	Non-Repl.	Replenished	
2015	17,210	0	477	386	522	0	0	0	8,615	0	0	0	0	0
2016	18,039	0	472	385	522	0	0	0	8,769	0	0	0	0	0
2017	18,923	0	470	384	531	0	0	0	9,064	0	0	0	0	0
2018	19,796	0	467	383	548	0	0	0	9,359	0	0	0	0	0
2019	20,711	0	464	382	566	0	0	0	9,658	0	0	0	0	0
2020	21,663	0	459	380	584	0	0	0	9,977	7,765	0	0	0	0
2021	22,645	0	457	379	603	0	0	0	10,297	7,244	0	0	0	0
2022	23,649	0	454	378	623	0	0	0	10,630	7,112	0	0	0	0
2023	24,672	0	451	377	643	0	0	0	10,970	6,772	0	0	0	0
2024	25,710	0	446	376	663	0	0	0	11,324	6,418	0	0	0	0
2025	26,759	0	445	375	685	0	0	0	11,660	6,082	0	0	0	0
2026	27,886	0	441	374	705	0	0	0	12,025	5,717	0	0	0	0
2027	29,363	0	438	373	727	0	0	0	12,474	5,268	0	0	0	0
2028	30,850	0	434	371	754	0	0	0	13,006	4,736	0	0	0	0
2029	32,340	0	432	370	786	0	0	0	13,502	4,240	0	0	0	0
2030	33,835	0	429	369	816	0	0	0	14,013	3,729	0	0	0	0
2031	35,307	0	426	368	847	0	0	0	14,517	3,225	0	0	0	0
2032	36,807	0	422	367	878	0	0	0	15,040	2,702	0	0	0	0
2033	38,282	0	420	367	909	0	0	0	15,540	2,202	0	0	0	0
2034	39,733	0	417	367	940	0	0	0	16,055	1,687	0	0	0	0
2035	41,082	0	414	367	971	0	0	0	16,543	1,199	0	0	0	0
2036	42,503	0	410	367	1,001	0	0	0	17,055	687	0	0	0	0
2037	43,909	0	409	367	1,032	0	0	0	17,522	220	0	0	0	0
2038	45,299	0	406	367	1,060	0	0	0	17,278	0	736	0	0	0
2039	46,673	0	403	367	1,090	0	0	0	17,265	0	1,233	0	0	0
2040	48,030	0	399	367	1,119	0	0	0	16,744	0	2,266	0	0	0
2041	49,370	0	397	367	1,150	0	0	0	17,239	0	2,207	0	0	0
2042	50,692	0	395	367	1,177	0	0	0	17,742	0	2,171	0	0	0
2043	52,000	0	392	367	1,205	0	0	0	17,742	0	2,631	0	0	0
2044	53,296	0	388	367	1,233	0	0	0	17,742	0	3,126	0	0	0
2045	54,572	0	386	367	1,263	0	0	0	17,742	0	3,533	0	0	0
2046	55,829	0	384	367	1,288	0	0	0	17,742	0	3,977	0	0	0
2047	57,065	0	382	367	1,314	0	0	0	17,742	0	4,423	0	0	0
2048	58,280	0	381	367	1,341	0	0	0	17,742	0	4,946	0	0	0
2049	59,474	0	382	367	1,373	0	0	0	17,742	0	5,363	0	0	0
2050	60,646	0	382	367	1,398	0	0	0	17,620	0	5,881	65	0	0
2051	61,797	0	382	367	1,426	0	0	0	17,620	0	5,587	808	0	0
2052	62,925	0	381	367	1,453	0	0	0	17,158	0	5,770	1,580	0	0
2053	64,066	0	382	367	1,483	0	0	0	17,158	0	5,481	2,254	0	0
2054	65,258	0	382	367	1,507	0	0	0	16,684	0	5,682	2,984	0	0
2055	66,424	0	382	367	1,534	0	0	0	16,684	0	5,398	3,725	0	0
2056	67,566	0	381	367	1,562	0	0	0	17,158	0	4,653	4,498	0	0
2057	68,683	0	382	367	1,592	0	0	0	17,158	0	4,421	5,108	0	0
2058	69,774	0	382	367	1,616	0	0	0	17,620	0	3,738	5,077	682	0
2059	70,840	0	382	367	1,642	0	0	0	17,620	0	3,551	4,880	1,483	0
2060	71,881	0	381	367	1,667	0	0	0	17,620	0	3,373	4,694	2,316	0

Peoria

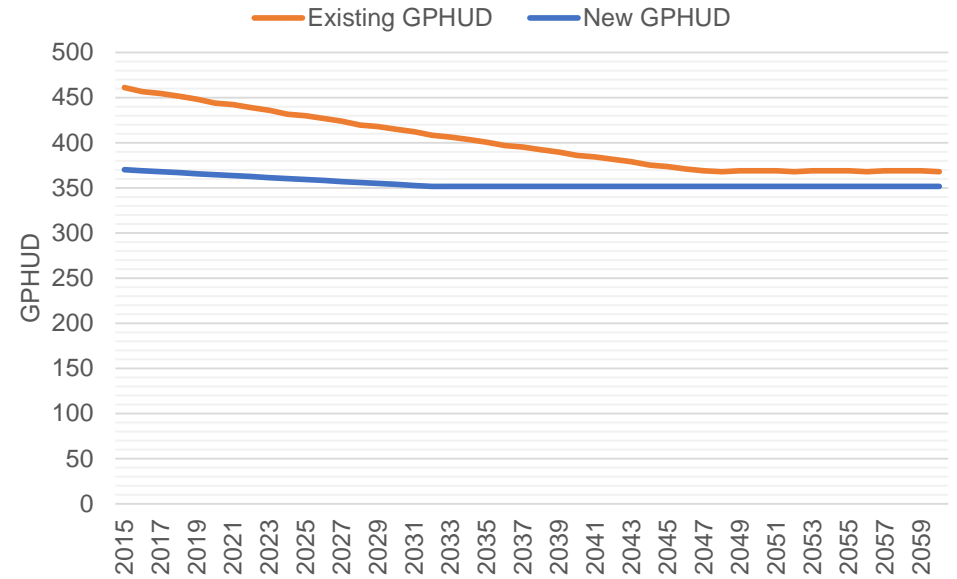
Central Arizona Project Service Area Model

F. Slow, Compact Growth [WVWA]

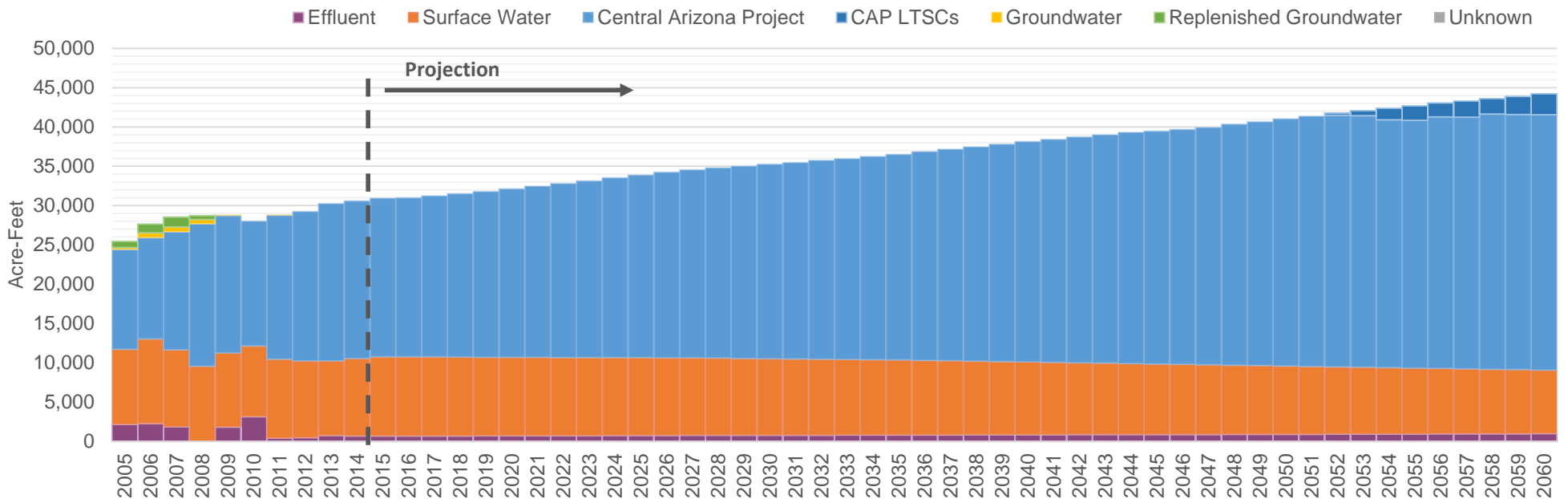
Housing Unit Projection



Gallons Per Housing Unit Per Day



Water Supply Projections



Central Arizona Project Service Area Model

Peoria

F. Slow, Compact Growth [WVWA]

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Demand Assumptions

Water Supply Projections (Acre-Feet)

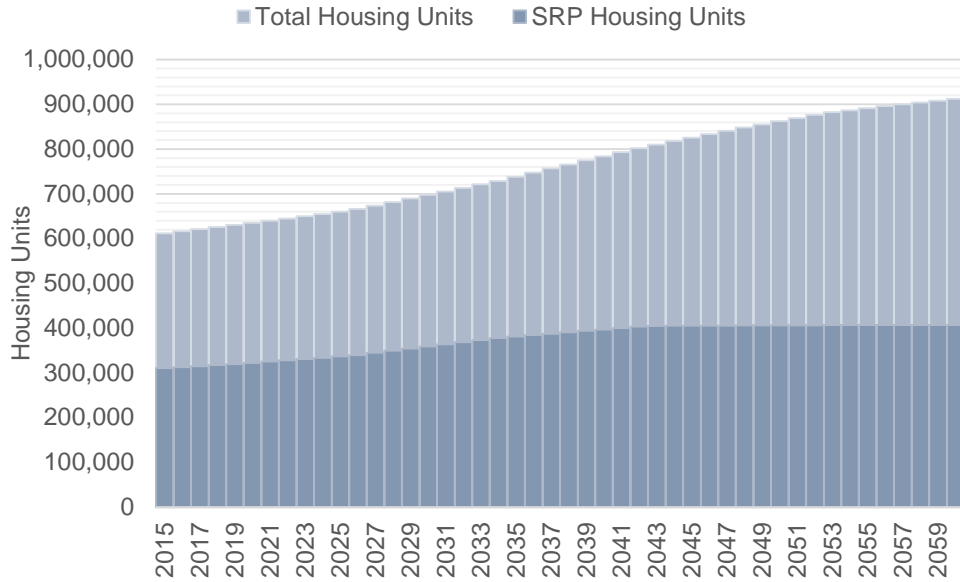
Date	Housing Units		GPHUD		Effluent	Surface Water		Central Arizona Project				Groundwater		Unknown
	Total	SRP	Existing	New		SRP	Non-SRP	Direct	ASR	Storage	Recovery	Non-Repl.	Replenished	
2015	60,014	26,048	461	370	694	10,081	0	14,107	6,046	12,083	0	0	0	0
2016	61,101	26,358	457	369	694	10,082	0	14,147	6,063	12,026	0	0	0	0
2017	62,264	26,690	455	368	695	10,055	0	14,338	6,145	11,753	0	0	0	0
2018	63,483	27,029	452	367	701	10,030	0	14,543	6,233	11,460	0	0	0	0
2019	64,759	27,385	448	366	707	10,007	0	14,762	6,327	11,147	0	0	0	0
2020	66,089	27,755	444	365	714	9,987	0	14,998	6,428	11,906	0	0	0	0
2021	67,459	28,136	442	364	721	9,967	0	15,236	6,530	11,107	0	0	0	0
2022	68,860	28,526	439	362	728	9,949	0	15,486	6,637	11,102	0	0	0	0
2023	70,287	28,923	436	361	736	9,933	0	15,741	6,746	11,037	0	0	0	0
2024	71,737	29,327	432	360	744	9,919	0	16,009	6,861	10,605	0	0	0	0
2025	73,200	29,734	430	359	752	9,903	0	16,265	6,971	10,169	0	0	0	0
2026	74,618	30,110	427	358	760	9,887	0	16,523	7,081	9,921	0	0	0	0
2027	75,752	30,318	424	357	769	9,859	0	16,742	7,175	9,607	0	0	0	0
2028	76,892	30,527	420	356	775	9,821	0	16,942	7,261	9,322	0	0	0	0
2029	78,037	30,737	418	355	781	9,780	0	17,120	7,337	9,068	0	0	0	0
2030	79,184	30,947	415	354	786	9,741	0	17,310	7,418	8,797	0	0	0	0
2031	80,314	31,154	412	353	791	9,703	0	17,496	7,498	8,530	0	0	0	0
2032	81,465	31,365	408	352	796	9,667	0	17,697	7,584	8,244	0	0	0	0
2033	82,598	31,572	406	352	802	9,629	0	17,882	7,664	7,979	0	0	0	0
2034	83,712	31,776	404	352	807	9,593	0	18,080	7,749	7,696	0	0	0	0
2035	84,961	31,794	401	352	813	9,546	0	18,303	7,844	7,379	0	0	0	0
2036	86,279	31,811	397	352	819	9,490	0	18,580	7,963	6,400	0	0	0	0
2037	87,583	31,828	395	352	827	9,429	0	18,828	8,069	6,008	0	0	0	0
2038	88,873	31,845	392	352	834	9,371	0	19,092	8,182	4,853	0	0	0	0
2039	90,147	31,861	390	352	841	9,313	0	19,352	8,294	4,469	0	0	0	0
2040	91,406	31,878	386	352	848	9,258	0	19,630	8,413	3,547	0	0	0	0
2041	92,649	31,894	384	352	856	9,199	0	19,861	8,512	3,716	0	0	0	0
2042	93,875	31,910	381	352	862	9,143	0	20,110	8,619	4,006	0	0	0	0
2043	95,009	31,921	379	352	869	9,086	0	20,345	8,719	3,640	0	0	0	0
2044	96,007	31,923	375	352	876	9,032	0	20,575	8,818	4,132	0	0	0	0
2045	96,991	31,926	374	352	882	8,973	0	20,735	8,886	3,903	0	0	0	0
2046	97,959	31,929	371	352	886	8,916	0	20,918	8,965	3,641	0	0	0	0
2047	98,911	31,932	369	352	891	8,859	0	21,127	9,054	3,344	0	0	0	0
2048	99,848	31,934	368	352	896	8,799	0	21,455	9,195	2,875	0	0	0	0
2049	100,768	31,937	369	352	905	8,736	0	21,719	9,308	2,498	0	0	0	0
2050	101,671	31,939	369	352	913	8,675	0	22,008	9,432	1,032	0	0	0	0
2051	102,558	31,942	369	352	921	8,614	0	22,291	9,553	628	0	0	0	0
2052	103,427	31,944	368	352	929	8,557	0	22,405	9,602	0	280	0	0	0
2053	104,271	31,946	369	352	937	8,495	0	22,405	9,602	0	624	0	0	0
2054	105,079	31,947	369	352	944	8,436	0	22,070	9,459	0	1,480	0	0	0
2055	105,870	31,948	369	352	951	8,377	0	22,070	9,459	0	1,846	0	0	0
2056	106,644	31,949	368	352	958	8,320	0	22,405	9,602	0	1,776	0	0	0
2057	107,401	31,950	369	352	966	8,260	0	22,405	9,602	0	2,080	0	0	0
2058	108,141	31,951	369	352	972	8,202	0	22,731	9,742	0	1,961	0	0	0
2059	108,864	31,952	369	352	979	8,145	0	22,731	9,742	0	2,300	0	0	0
2060	109,570	31,953	368	352	985	8,090	0	22,731	9,742	0	2,683	0	0	0

Phoenix

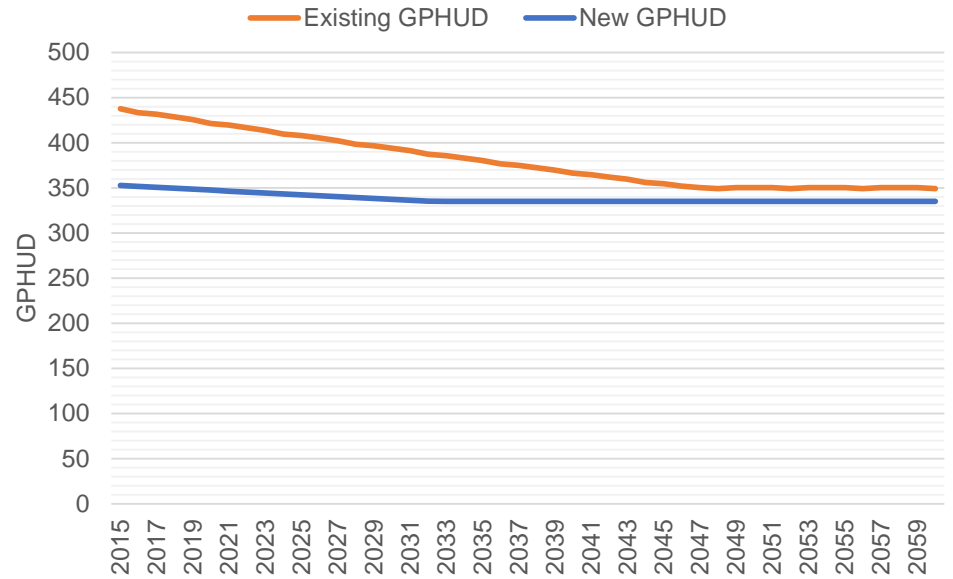
Central Arizona Project Service Area Model

F. Slow, Compact Growth [WVWA]

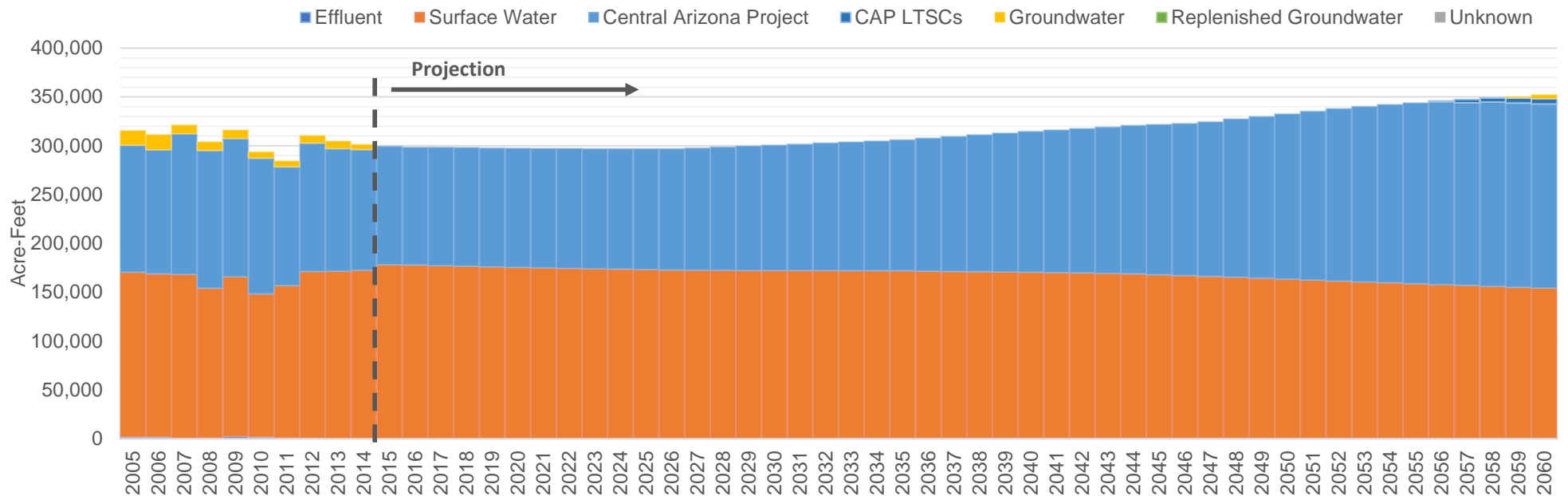
Housing Unit Projection



Gallons Per Housing Unit Per Day



Water Supply Projections



Central Arizona Project Service Area Model

F. Slow, Compact Growth [WVWA]

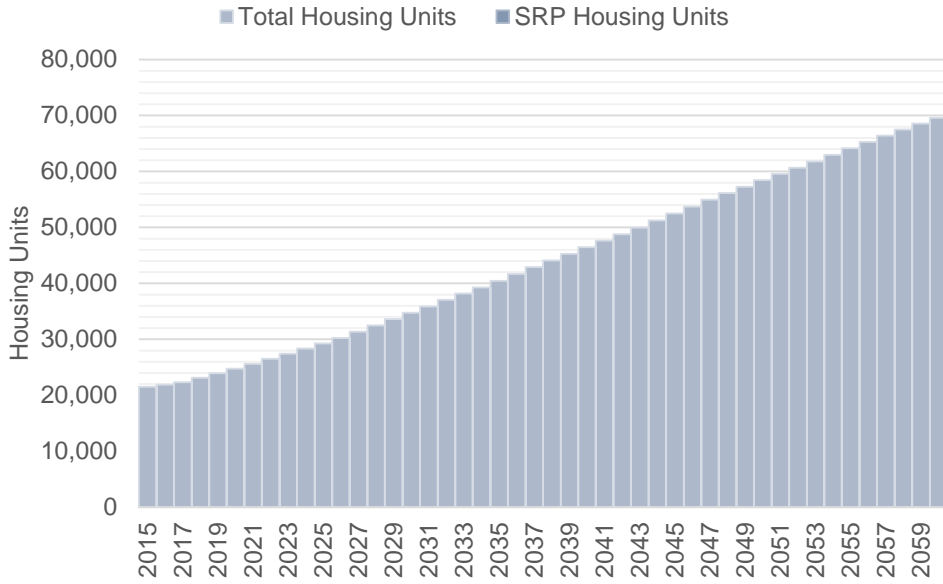
Date	Demand Assumptions				Water Supply Projections (Acre-Feet)									
	Housing Units		GPHUD		Effluent	Surface Water		Central Arizona Project				Groundwater		Unknown
	Total	SRP	Existing	New		SRP	Non-SRP	Direct	ASR	Storage	Recovery	Non-Repl.	Replenished	
2015	611,579	310,720	438	353	492	152,301	25,500	121,231	0	6,533	0	0	0	0
2016	616,375	312,693	433	352	492	151,912	25,500	120,677	0	6,588	0	0	0	0
2017	621,457	314,815	432	351	490	151,258	25,500	121,185	0	6,537	0	0	0	0
2018	625,785	317,253	429	350	490	150,659	25,500	121,551	0	6,501	0	0	0	0
2019	630,318	319,808	426	349	490	150,106	25,500	121,766	0	6,434	0	0	0	0
2020	635,041	322,469	421	347	489	149,589	25,500	122,052	0	6,801	0	0	0	0
2021	639,906	325,210	420	346	489	149,077	25,500	122,351	0	6,705	0	0	0	0
2022	644,881	328,014	417	345	489	148,592	25,500	122,700	0	6,736	0	0	0	0
2023	649,952	330,871	414	344	488	148,121	25,500	123,077	0	6,699	0	0	0	0
2024	655,101	333,773	410	343	488	147,679	25,500	123,505	0	6,656	0	0	0	0
2025	660,298	336,701	408	342	488	147,218	25,500	123,890	0	6,617	0	0	0	0
2026	665,976	339,953	405	341	488	146,810	25,500	124,369	0	6,569	0	0	0	0
2027	673,830	344,695	402	340	488	146,580	25,500	125,178	0	6,488	0	0	0	0
2028	681,732	349,464	398	339	489	146,520	25,500	126,306	0	6,376	0	0	0	0
2029	689,657	354,248	397	338	491	146,422	25,500	127,341	0	6,272	0	0	0	0
2030	697,606	359,046	394	337	492	146,351	25,500	128,425	0	6,164	0	0	0	0
2031	705,432	363,770	391	336	494	146,274	25,500	129,490	0	6,057	0	0	0	0
2032	713,404	368,582	387	335	496	146,232	25,500	130,622	0	5,944	0	0	0	0
2033	721,248	373,317	386	335	497	146,164	25,500	131,688	0	5,837	0	0	0	0
2034	728,964	377,975	383	335	499	146,122	25,500	132,802	0	5,726	0	0	0	0
2035	737,917	381,087	380	335	501	145,931	25,500	134,285	0	5,578	0	0	0	0
2036	747,366	384,355	377	335	503	145,655	25,500	136,328	0	5,373	0	0	0	0
2037	756,715	387,588	375	335	506	145,317	25,500	138,248	0	5,174	0	0	0	0
2038	765,960	390,785	372	335	509	145,018	25,500	140,238	0	3,817	0	0	0	0
2039	775,097	393,945	370	335	511	144,719	25,500	142,202	0	3,616	0	0	0	0
2040	784,121	397,065	366	335	514	144,466	25,500	144,264	0	3,240	0	0	0	0
2041	793,029	400,146	365	335	517	144,118	25,500	146,043	0	3,224	0	0	0	0
2042	801,818	403,185	362	335	519	143,815	25,500	147,919	0	3,655	0	0	0	0
2043	810,211	405,092	360	335	522	143,407	25,500	149,816	0	3,326	0	0	0	0
2044	818,049	405,248	356	335	524	142,782	25,500	151,973	0	3,809	0	0	0	0
2045	825,769	405,401	355	335	527	141,893	25,500	153,861	0	3,620	0	0	0	0
2046	833,367	405,552	352	335	529	141,061	25,500	155,869	0	3,419	0	0	0	0
2047	840,842	405,700	350	335	530	140,203	25,500	158,262	0	3,180	0	0	0	0
2048	848,190	405,846	349	335	533	139,301	25,500	162,183	0	2,788	0	0	0	0
2049	855,411	405,989	350	335	538	138,302	25,500	165,671	0	2,439	0	0	0	0
2050	862,501	406,130	350	335	542	137,360	25,500	169,294	0	2,037	0	0	0	0
2051	869,460	406,268	350	335	546	136,425	25,500	172,863	0	1,680	0	0	0	0
2052	876,286	406,403	349	335	551	135,545	25,500	176,594	0	1,156	0	0	0	0
2053	882,340	406,520	350	335	556	134,569	25,500	179,713	0	845	0	0	0	0
2054	886,915	406,601	350	335	559	133,645	25,500	182,628	0	398	0	0	0	0
2055	891,394	406,680	350	335	562	132,724	25,500	185,245	0	137	0	0	0	0
2056	895,778	406,758	349	335	565	131,858	25,500	187,023	0	0	1,040	0	0	0
2057	900,065	406,834	350	335	568	130,900	25,500	187,023	0	0	3,331	0	0	0
2058	904,256	406,908	350	335	571	129,997	25,500	188,529	0	0	4,317	0	0	0
2059	908,349	406,980	350	335	573	129,100	25,500	188,529	0	0	5,241	1,526	0	0
2060	912,345	407,051	349	335	576	128,256	25,500	188,529	0	0	5,189	4,245	0	0

Surprise

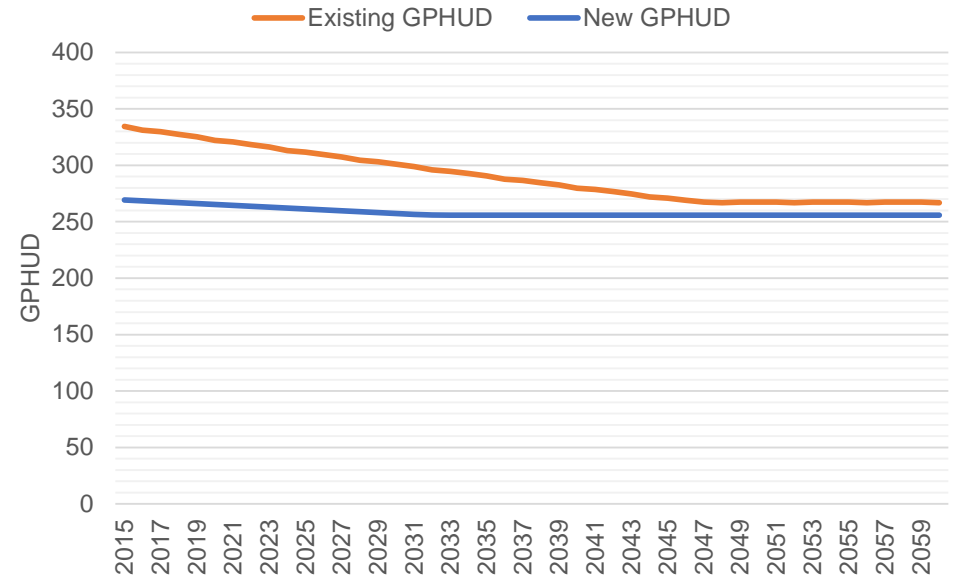
Central Arizona Project Service Area Model

F. Slow, Compact Growth [WVWA]

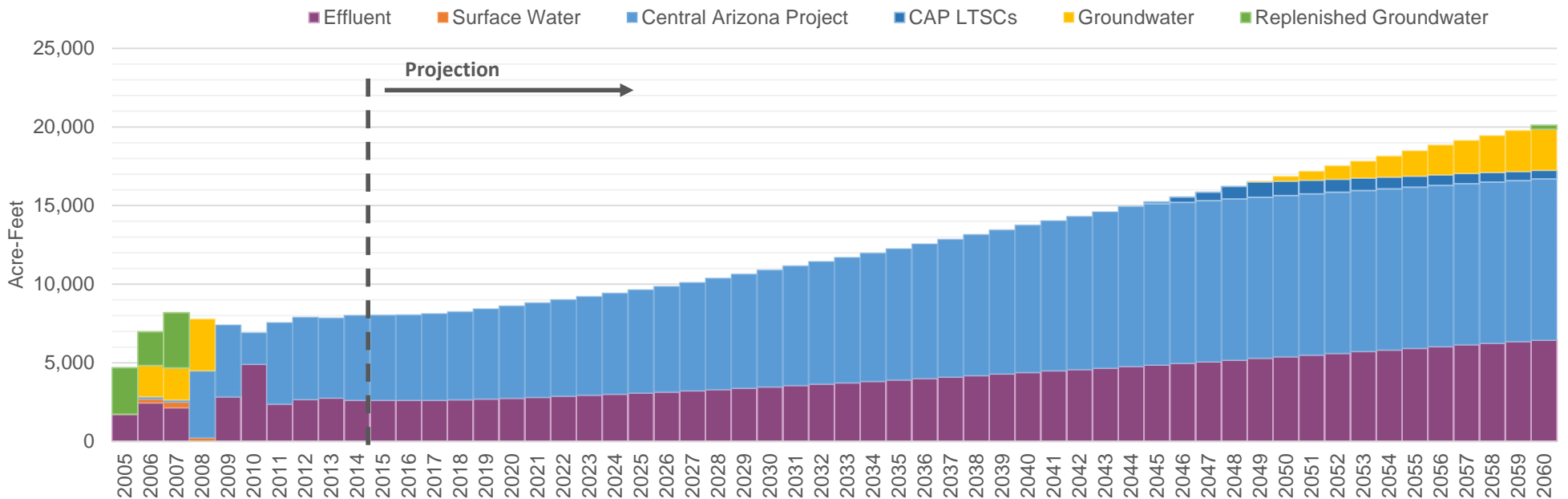
Housing Unit Projection



Gallons Per Housing Unit Per Day



Water Supply Projections



Central Arizona Project Service Area Model

F. Slow, Compact Growth [WVWA]

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Surprise

Demand Assumptions

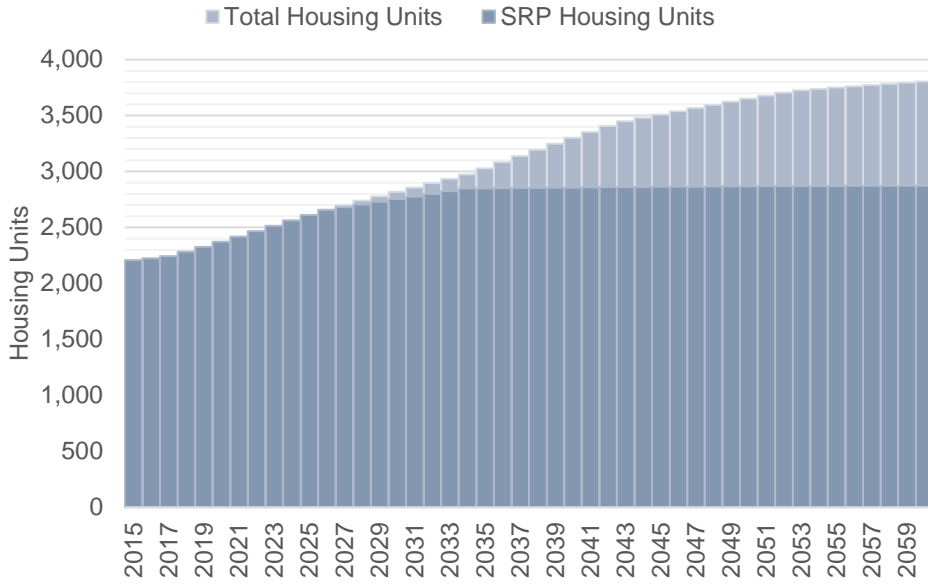
Water Supply Projections (Acre-Feet)

Date	Housing Units		GPHUD		Effluent	Surface Water		Central Arizona Project				Groundwater		Unknown
	Total	SRP	Existing	New		SRP	Non-SRP	Direct	ASR	Storage	Recovery	Non-Repl.	Replenished	
2015	21,509	0	334	269	2,619	0	0	0	5,420	0	0	0	0	0
2016	21,906	0	331	268	2,619	0	0	0	5,437	0	0	0	0	0
2017	22,346	0	330	268	2,624	0	0	0	5,501	0	0	0	0	0
2018	23,117	0	327	267	2,647	0	0	0	5,603	0	0	0	0	0
2019	23,925	0	325	266	2,688	0	0	0	5,741	0	0	0	0	0
2020	24,767	0	322	265	2,746	0	0	0	5,874	0	0	0	0	0
2021	25,634	0	321	264	2,808	0	0	0	6,006	0	0	0	0	0
2022	26,520	0	318	264	2,871	0	0	0	6,144	0	0	0	0	0
2023	27,424	0	316	263	2,937	0	0	0	6,284	0	0	0	0	0
2024	28,341	0	313	262	3,004	0	0	0	6,432	0	0	0	0	0
2025	29,268	0	312	261	3,074	0	0	0	6,568	0	0	0	0	0
2026	30,234	0	310	261	3,141	0	0	0	6,719	0	0	0	0	0
2027	31,362	0	307	260	3,212	0	0	0	6,893	0	0	0	0	0
2028	32,496	0	304	259	3,292	0	0	0	7,089	0	0	0	0	0
2029	33,634	0	303	258	3,382	0	0	0	7,259	0	0	0	0	0
2030	34,775	0	301	257	3,467	0	0	0	7,442	0	0	0	0	0
2031	35,899	0	299	257	3,554	0	0	0	7,619	0	0	0	0	0
2032	37,044	0	296	256	3,640	0	0	0	7,808	0	0	0	0	0
2033	38,170	0	295	256	3,729	0	0	0	7,981	0	0	0	0	0
2034	39,278	0	293	256	3,815	0	0	0	8,166	0	0	0	0	0
2035	40,449	0	291	256	3,903	0	0	0	8,355	0	0	0	0	0
2036	41,684	0	288	256	3,994	0	0	0	8,576	0	0	0	0	0
2037	42,906	0	287	256	4,095	0	0	0	8,763	0	0	0	0	0
2038	44,114	0	285	256	4,189	0	0	0	8,969	0	0	0	0	0
2039	45,308	0	283	256	4,287	0	0	0	9,167	0	0	0	0	0
2040	46,487	0	280	256	4,383	0	0	0	9,383	0	0	0	0	0
2041	47,652	0	279	256	4,485	0	0	0	9,551	0	0	0	0	0
2042	48,800	0	277	256	4,573	0	0	0	9,747	0	0	0	0	0
2043	49,991	0	275	256	4,665	0	0	0	9,943	0	0	0	0	0
2044	51,258	0	272	256	4,759	0	0	0	10,178	0	0	0	0	0
2045	52,505	0	271	256	4,866	0	0	0	10,249	0	114	0	0	0
2046	53,733	0	269	256	4,961	0	0	0	10,249	0	328	0	0	0
2047	54,941	0	268	256	5,062	0	0	0	10,249	0	541	0	0	0
2048	56,128	0	267	256	5,164	0	0	0	10,249	0	809	0	0	0
2049	57,295	0	268	256	5,285	0	0	0	10,249	0	976	23	0	0
2050	58,440	0	268	256	5,386	0	0	0	10,249	0	927	302	0	0
2051	59,565	0	268	256	5,494	0	0	0	10,249	0	881	566	0	0
2052	60,668	0	267	256	5,600	0	0	0	10,249	0	837	853	0	0
2053	61,791	0	268	256	5,714	0	0	0	10,249	0	795	1,070	0	0
2054	62,980	0	268	256	5,808	0	0	0	10,249	0	755	1,347	0	0
2055	64,144	0	268	256	5,916	0	0	0	10,249	0	717	1,614	0	0
2056	65,284	0	267	256	6,026	0	0	0	10,249	0	681	1,904	0	0
2057	66,398	0	268	256	6,144	0	0	0	10,249	0	647	2,108	0	0
2058	67,487	0	268	256	6,238	0	0	0	10,249	0	615	2,362	0	0
2059	68,551	0	268	256	6,341	0	0	0	10,249	0	584	2,599	0	0
2060	69,590	0	267	256	6,442	0	0	0	10,249	0	555	2,615	251	0

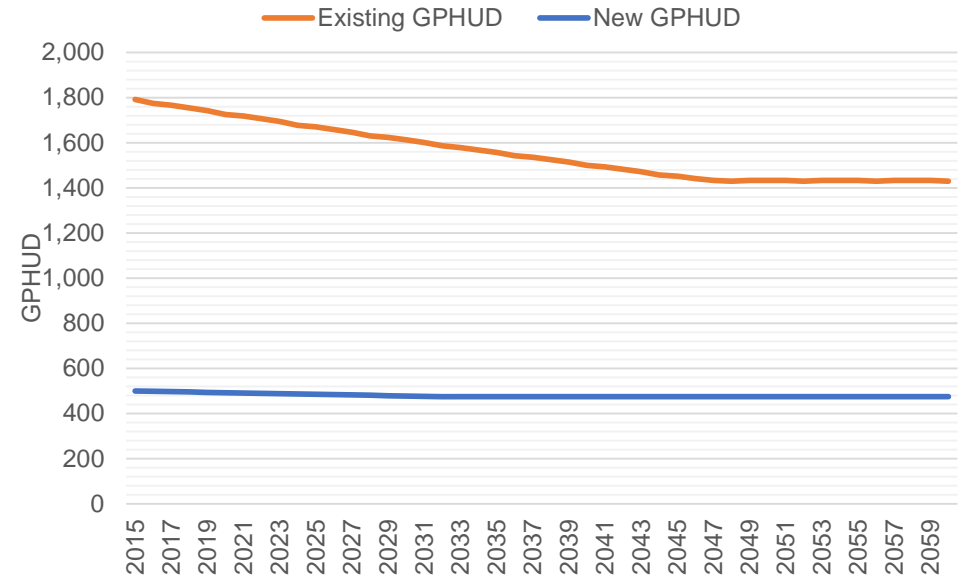
Central Arizona Project Service Area Model

F. Slow, Compact Growth [WVWA]

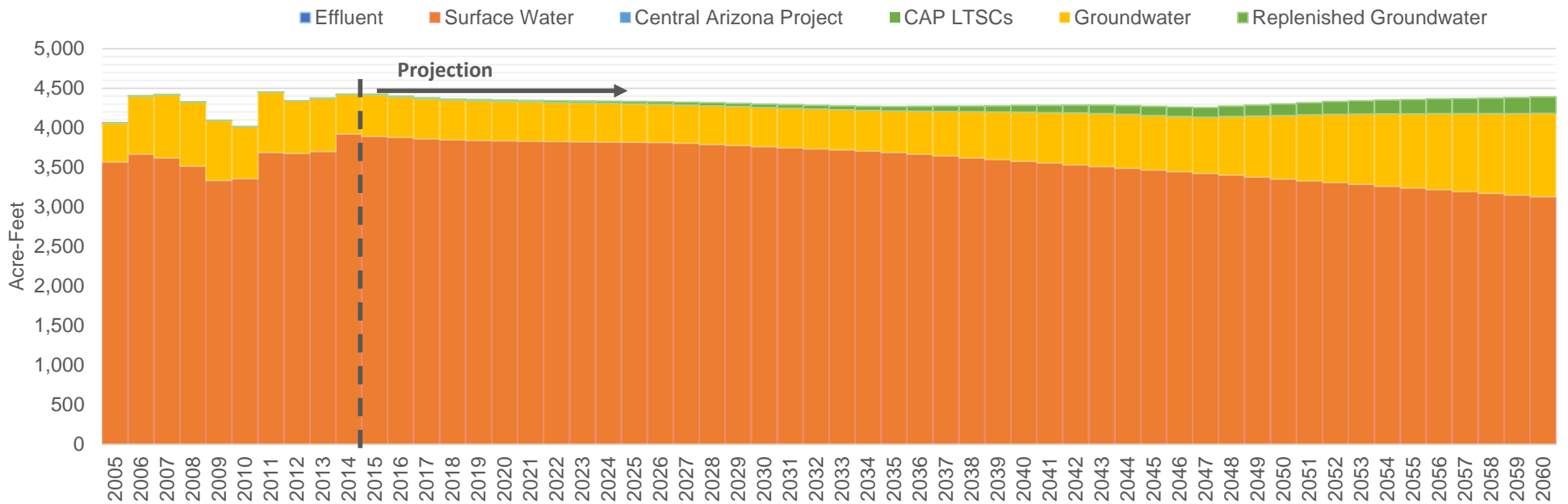
Housing Unit Projection



Gallons Per Housing Unit Per Day



Water Supply Projections



Central Arizona Project Service Area Model

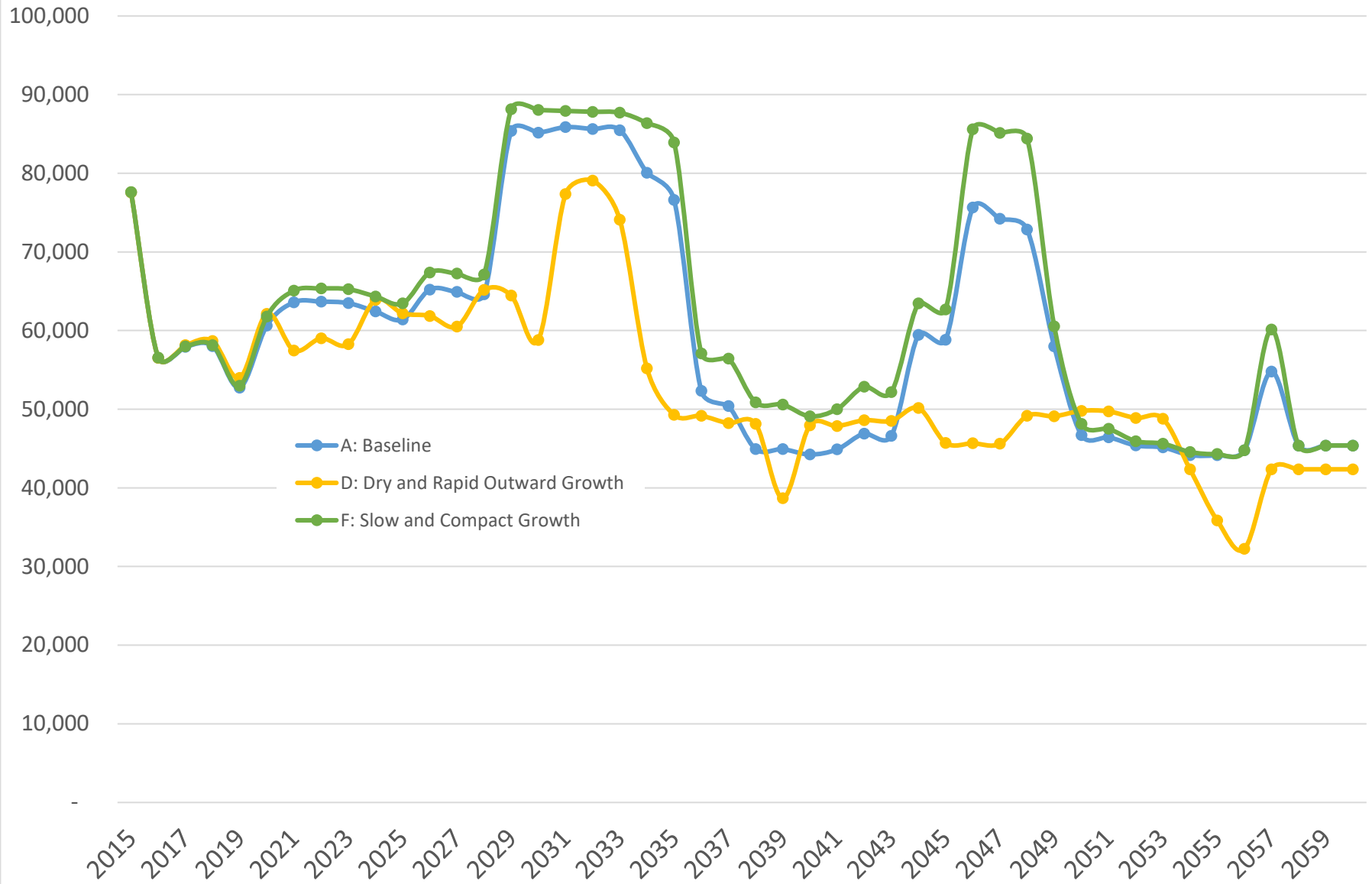
F. Slow, Compact Growth [WVWA]

Date	Demand Assumptions				Water Supply Projections (Acre-Feet)									
	Housing Units		GPHUD		Effluent	Surface Water		Central Arizona Project				Groundwater		Unknown
	Total	SRP	Existing	New		SRP	Non-SRP	Direct	ASR	Storage	Recovery	Non-Repl.	Replenished	
2015	2,208	2,208	1,792	500	0	3,892	0	0	0	0	0	525	10	0
2016	2,224	2,224	1,774	499	0	3,878	0	0	0	0	0	512	10	0
2017	2,243	2,243	1,767	497	0	3,859	0	0	0	0	0	506	14	0
2018	2,284	2,284	1,755	496	0	3,847	0	0	0	0	0	503	15	0
2019	2,327	2,327	1,742	494	0	3,841	0	0	0	0	0	500	17	0
2020	2,372	2,372	1,725	493	0	3,836	0	0	0	0	0	498	19	0
2021	2,418	2,418	1,718	491	0	3,831	0	0	0	0	0	495	21	0
2022	2,466	2,466	1,706	490	0	3,827	0	0	0	0	0	492	23	0
2023	2,514	2,514	1,694	488	0	3,824	0	0	0	0	0	490	26	0
2024	2,563	2,563	1,678	487	0	3,821	0	0	0	0	0	487	28	0
2025	2,612	2,612	1,670	485	0	3,818	0	0	0	0	0	484	30	0
2026	2,660	2,658	1,659	484	0	3,815	0	0	0	0	0	482	33	0
2027	2,699	2,681	1,647	482	0	3,805	0	0	0	0	0	483	35	0
2028	2,739	2,705	1,631	481	0	3,791	0	0	0	0	0	488	37	0
2029	2,778	2,729	1,624	479	0	3,777	0	0	0	0	0	492	40	0
2030	2,818	2,753	1,613	478	0	3,762	0	0	0	0	0	495	42	0
2031	2,857	2,776	1,601	477	0	3,748	0	0	0	0	0	499	45	0
2032	2,896	2,800	1,586	475	0	3,735	0	0	0	0	0	503	47	0
2033	2,935	2,824	1,579	475	0	3,721	0	0	0	0	0	507	50	0
2034	2,974	2,847	1,568	475	0	3,708	0	0	0	0	0	510	53	0
2035	3,027	2,849	1,557	475	0	3,690	0	0	0	0	0	522	56	0
2036	3,083	2,850	1,542	475	0	3,668	0	0	0	0	0	542	61	0
2037	3,139	2,852	1,535	475	0	3,644	0	0	0	0	0	562	67	0
2038	3,194	2,854	1,525	475	0	3,622	0	0	0	0	0	582	73	0
2039	3,248	2,855	1,514	475	0	3,600	0	0	0	0	0	600	79	0
2040	3,302	2,857	1,499	475	0	3,578	0	0	0	0	0	620	85	0
2041	3,354	2,858	1,493	475	0	3,555	0	0	0	0	0	637	92	0
2042	3,407	2,860	1,482	475	0	3,533	0	0	0	0	0	655	98	0
2043	3,450	2,861	1,472	475	0	3,512	0	0	0	0	0	670	105	0
2044	3,480	2,862	1,458	475	0	3,491	0	0	0	0	0	681	110	0
2045	3,510	2,863	1,451	475	0	3,468	0	0	0	0	0	688	114	0
2046	3,539	2,864	1,441	475	0	3,447	0	0	0	0	0	696	118	0
2047	3,568	2,865	1,434	475	0	3,425	0	0	0	0	0	710	123	0
2048	3,596	2,866	1,430	475	0	3,402	0	0	0	0	0	742	131	0
2049	3,624	2,866	1,434	475	0	3,378	0	0	0	0	0	772	138	0
2050	3,652	2,867	1,434	475	0	3,354	0	0	0	0	0	802	146	0
2051	3,678	2,868	1,434	475	0	3,331	0	0	0	0	0	832	154	0
2052	3,705	2,869	1,430	475	0	3,309	0	0	0	0	0	863	162	0
2053	3,726	2,869	1,434	475	0	3,285	0	0	0	0	0	890	169	0
2054	3,738	2,870	1,434	475	0	3,263	0	0	0	0	0	914	176	0
2055	3,750	2,870	1,434	475	0	3,240	0	0	0	0	0	938	181	0
2056	3,761	2,871	1,430	475	0	3,218	0	0	0	0	0	962	187	0
2057	3,772	2,871	1,434	475	0	3,195	0	0	0	0	0	983	192	0
2058	3,783	2,871	1,434	475	0	3,173	0	0	0	0	0	1,006	198	0
2059	3,794	2,872	1,434	475	0	3,151	0	0	0	0	0	1,029	203	0
2060	3,804	2,872	1,430	475	0	3,130	0	0	0	0	0	1,052	209	0

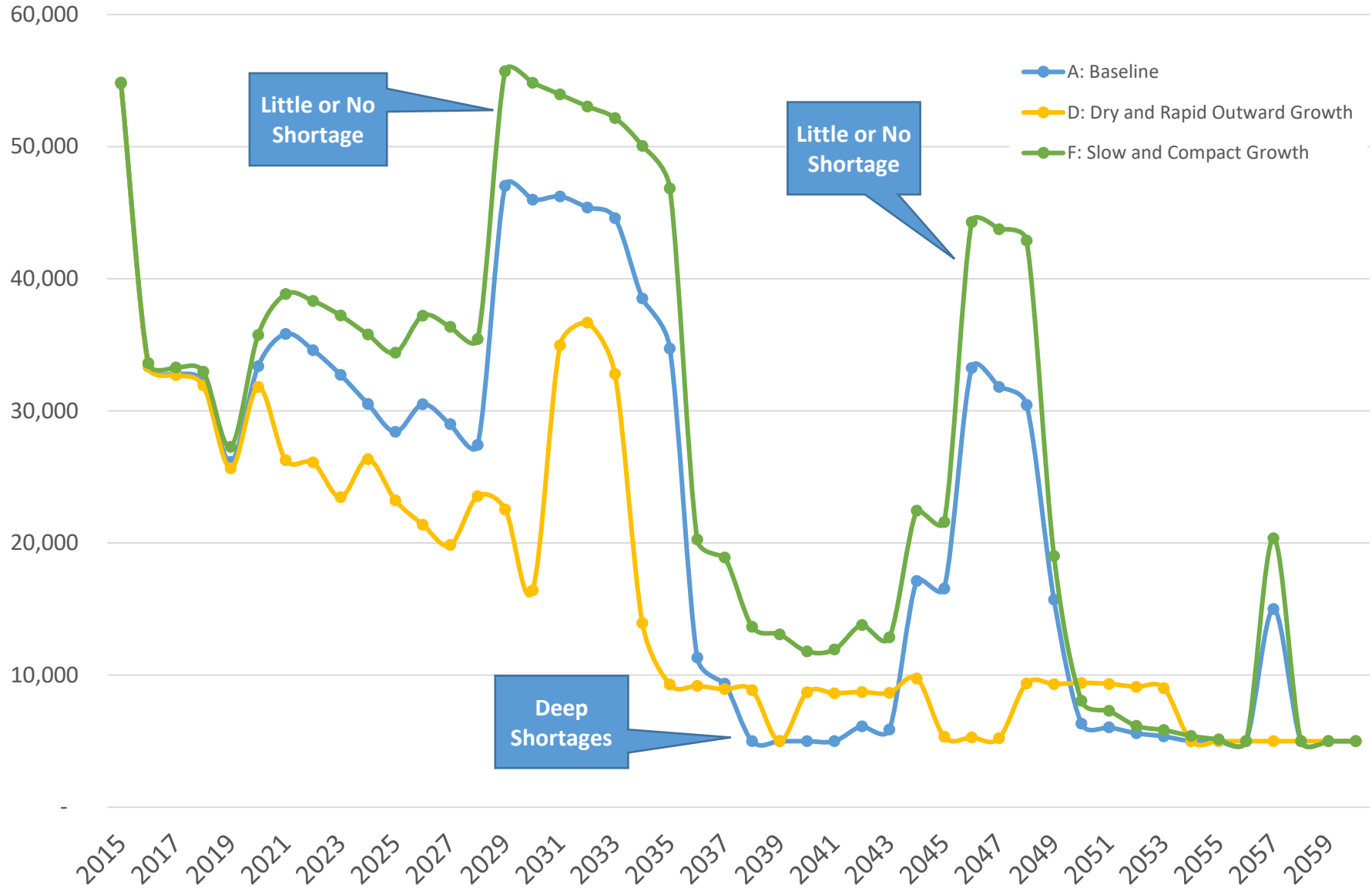
Appendix C

Recharge Distribution Results

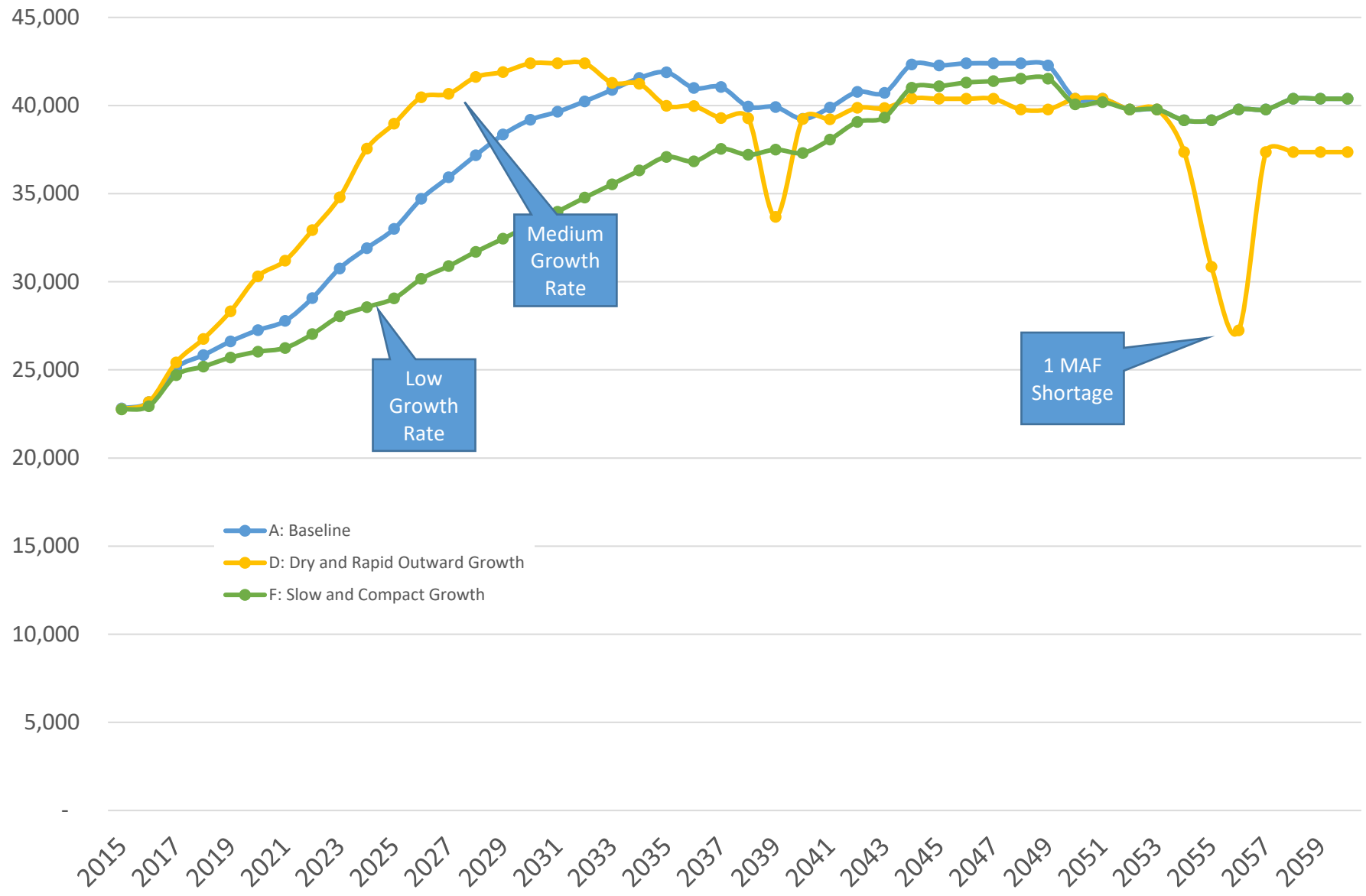
Total Annual CAP Recharge



CAP LTSC Accrual & CAGR D Replenishment



CAP Annual Storage & Recovery

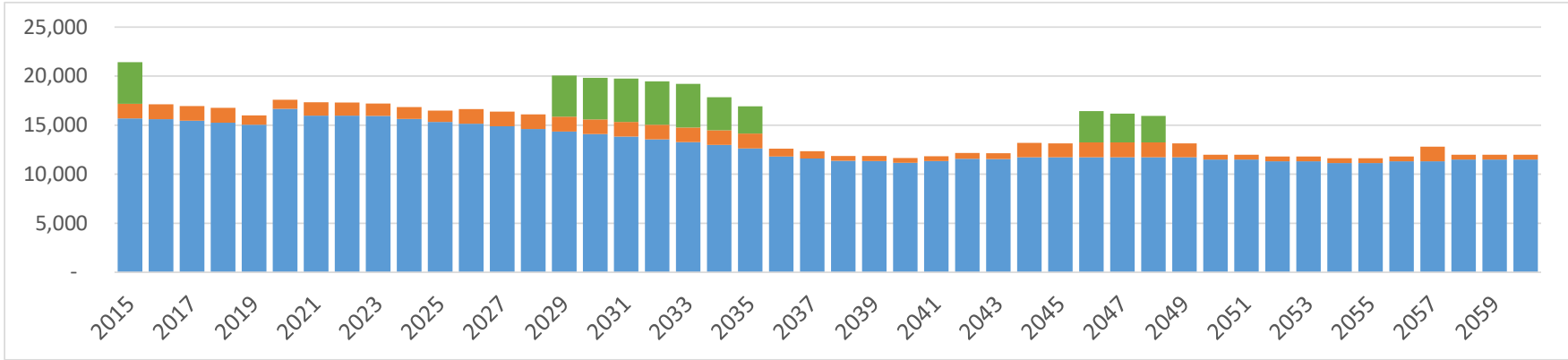


CAP Storage by Scenario & Type

	A: Baseline			D: Dry and Rapid Outward Growth			F: Slow and Compact Growth		
	ASR & CAGR	LTS	Total	ASR & CAGR	LTS	Total	ASR & CAGR	LTS	Total
2015	22,817	54,764	77,581	22,767	54,818	77,585	22,755	54,840	77,595
2016	23,168	33,349	56,516	23,175	33,363	56,539	22,943	33,614	56,558
2017	25,112	32,827	57,939	25,427	32,709	58,136	24,703	33,290	57,992
2018	25,834	32,195	58,029	26,758	31,913	58,671	25,187	32,960	58,147
2019	26,616	26,131	52,747	28,330	25,645	53,974	25,702	27,273	52,975
2020	27,253	33,377	60,630	30,307	31,814	62,121	26,035	35,749	61,784
2021	27,776	35,824	63,600	31,193	26,278	57,471	26,247	38,832	65,079
2022	29,075	34,598	63,672	32,927	26,093	59,020	27,026	38,318	65,344
2023	30,759	32,728	63,487	34,788	23,473	58,261	28,043	37,215	65,258
2024	31,909	30,521	62,430	37,550	26,349	63,900	28,565	35,774	64,339
2025	33,000	28,414	61,414	38,968	23,225	62,193	29,054	34,397	63,451
2026	34,707	30,498	65,205	40,470	21,390	61,859	30,170	37,207	67,377
2027	35,924	28,987	64,912	40,664	19,850	60,514	30,888	36,363	67,251
2028	37,185	27,420	64,605	41,616	23,549	65,165	31,701	35,434	67,135
2029	38,354	47,030	85,384	41,900	22,547	64,447	32,443	55,710	88,154
2030	39,191	45,977	85,168	42,394	16,414	58,808	33,219	54,820	88,038
2031	39,644	46,224	85,868	42,394	34,956	77,350	33,979	53,943	87,922
2032	40,240	45,393	85,633	42,394	36,681	79,075	34,777	53,040	87,816
2033	40,891	44,593	85,484	41,292	32,790	74,082	35,530	52,167	87,698
2034	41,563	38,508	80,071	41,233	13,944	55,178	36,314	50,043	86,357
2035	41,884	34,726	76,610	39,987	9,291	49,279	37,087	46,839	83,926
2036	40,994	11,324	52,318	39,970	9,184	49,154	36,832	20,268	57,099
2037	41,050	9,351	50,401	39,290	8,935	48,225	37,541	18,902	56,443
2038	39,937	5,000	44,937	39,273	8,859	48,132	37,201	13,670	50,870
2039	39,920	5,000	44,920	33,677	5,000	38,677	37,498	13,085	50,582
2040	39,241	5,000	44,241	39,241	8,693	47,933	37,311	11,787	49,098
2041	39,887	5,000	44,887	39,224	8,627	47,851	38,073	11,940	50,013
2042	40,771	6,129	46,901	39,870	8,726	48,595	39,068	13,790	52,858
2043	40,722	5,883	46,605	39,853	8,659	48,513	39,324	12,850	52,174
2044	42,328	17,136	59,463	40,401	9,746	50,147	41,018	22,441	63,458
2045	42,271	16,558	58,829	40,383	5,333	45,716	41,100	21,594	62,694
2046	42,394	33,242	75,635	40,383	5,284	45,667	41,301	44,282	85,583
2047	42,394	31,808	74,202	40,383	5,232	45,615	41,391	43,745	85,135
2048	42,394	30,455	72,849	39,780	9,368	49,148	41,531	42,884	84,415
2049	42,271	15,719	57,990	39,780	9,321	49,101	41,522	19,007	60,529
2050	40,383	6,328	46,711	40,383	9,411	49,793	40,074	8,069	48,143
2051	40,383	6,050	46,433	40,383	9,342	49,725	40,195	7,308	47,503
2052	39,781	5,603	45,384	39,780	9,103	48,883	39,781	6,156	45,937
2053	39,781	5,360	45,141	39,780	9,016	48,796	39,781	5,845	45,625
2054	39,162	5,000	44,162	37,359	5,000	42,359	39,162	5,398	44,561
2055	39,162	5,000	44,162	30,854	5,000	35,854	39,162	5,137	44,299
2056	39,781	5,000	44,781	27,240	5,000	32,240	39,781	5,000	44,781
2057	39,781	15,000	54,781	37,359	5,000	42,359	39,781	20,359	60,140
2058	40,383	5,000	45,383	37,359	5,000	42,359	40,383	5,000	45,383
2059	40,383	5,000	45,383	37,359	5,000	42,359	40,383	5,000	45,383
2060	40,383	5,000	45,383	37,359	5,000	42,359	40,383	5,000	45,383

AFRP

Scenario A: Baseline

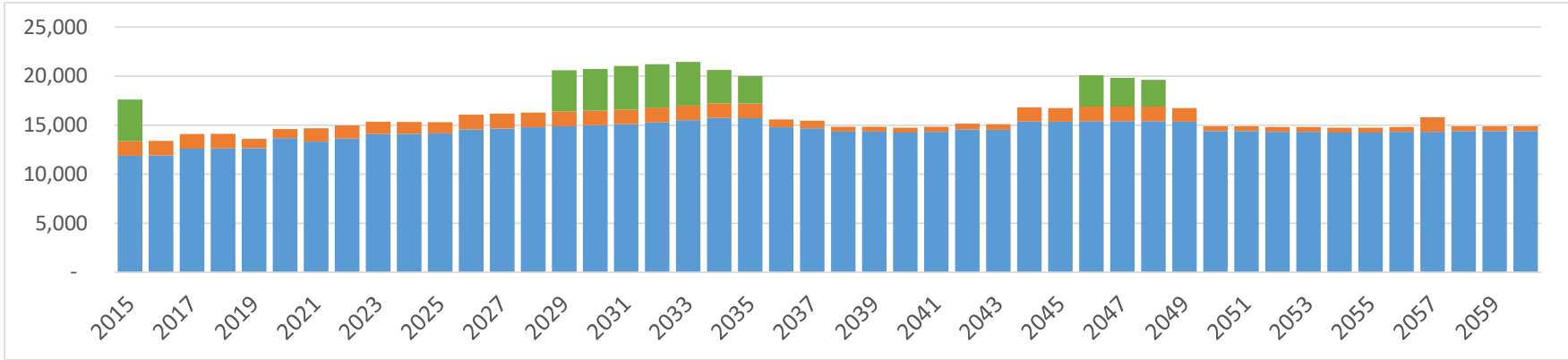


Selected Years

Name	2015	2020	2025	2030	2035	2040	2045	2050	2055	2060	Total (2015-60)
0% Avondale	-	-	-	-	-	-	-	-	-	-	-
0% ElMirage	-	-	-	-	-	-	-	-	-	-	-
15% Goodyear	1,298	2,661	2,661	2,661	2,661	2,512	2,661	2,643	2,503	2,643	114,981
75% Peoria	13,571	13,114	11,591	10,153	8,435	7,108	7,543	7,306	7,094	7,306	422,443
15% Surprise	815	886	1,071	1,281	1,537	1,537	1,537	1,537	1,537	1,537	61,642
Total Muni	15,683	16,661	15,323	14,095	12,634	11,157	11,742	11,487	11,134	11,487	599,067
10% CAGR	1,500	928	1,153	1,500	1,500	500	1,407	500	500	500	49,240
20% AWBA	4,245	-	-	4,228	2,793	-	-	-	-	-	40,960
Total	21,428	17,589	16,476	19,823	16,927	11,657	13,149	11,987	11,634	11,987	689,267

HMRP

Scenario A: Baseline

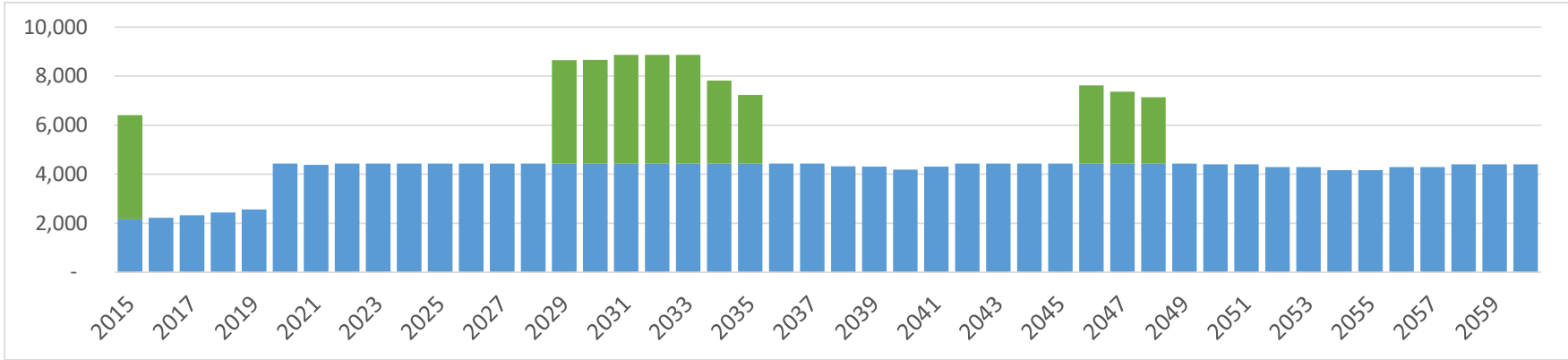


Selected Years

	Name	2015	2020	2025	2030	2035	2040	2045	2050	2055	2060	Total (2015-60)
100%	Avondale	2,166	2,466	2,486	2,519	2,519	2,263	2,519	2,265	2,263	2,265	109,214
50%	ElMirage	254	646	684	913	913	254	852	254	254	254	26,911
10%	Goodyear	865	1,774	1,774	1,774	1,774	1,674	1,774	1,762	1,668	1,762	76,654
25%	Peoria	4,524	4,371	3,864	3,384	2,812	2,369	2,514	2,435	2,365	2,435	140,814
75%	Surprise	4,074	4,428	5,354	6,403	7,687	7,687	7,687	7,687	7,687	7,687	308,212
	Total Muni	11,883	13,686	14,162	14,994	15,705	14,247	15,346	14,403	14,237	14,403	661,806
10%	CAGR	1,500	928	1,153	1,500	1,500	500	1,407	500	500	500	49,240
20%	AWBA	4,245	-	-	4,228	2,793	-	-	-	-	-	40,960
	Total	17,628	14,613	15,315	20,722	19,998	14,747	16,753	14,903	14,737	14,903	752,006

MWD

Scenario A: Baseline

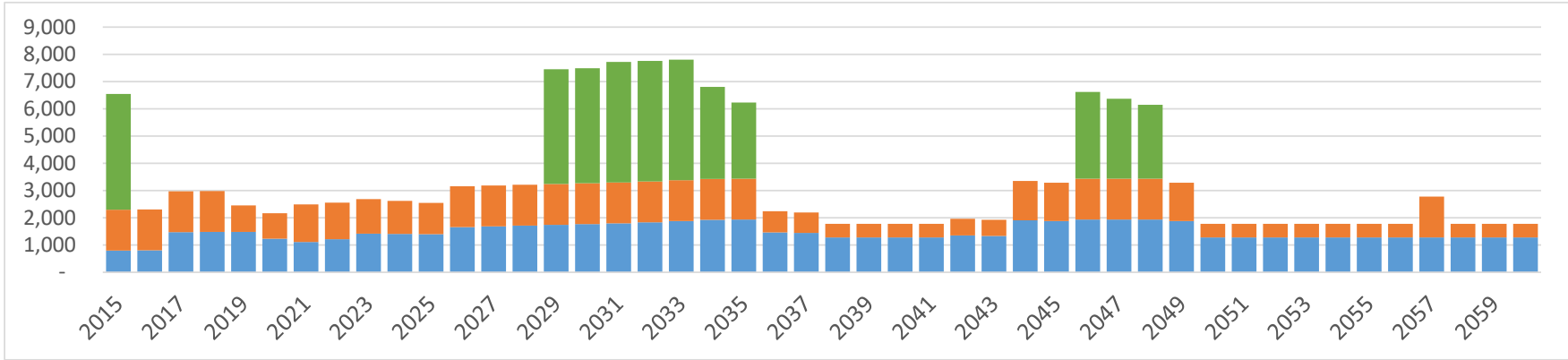


Selected Years

Name	2015	2020	2025	2030	2035	2040	2045	2050	2055	2060	Total (2015-60)
Avondale	-	-	-	-	-	-	-	-	-	-	-
ElMirage	-	-	-	-	-	-	-	-	-	-	-
Goodyear	2,163	4,436	4,436	4,436	4,436	4,186	4,436	4,405	4,171	4,405	191,635
Peoria	-	-	-	-	-	-	-	-	-	-	-
Surprise	-	-	-	-	-	-	-	-	-	-	-
Total Muni	2,163	4,436	4,436	4,436	4,436	4,186	4,436	4,405	4,171	4,405	191,635
CAGRD	-	-	-	-	-	-	-	-	-	-	-
AWBA	4,245	-	-	4,228	2,793	-	-	-	-	-	40,960
Total	6,407	4,436	4,436	8,664	7,228	4,186	4,436	4,405	4,171	4,405	232,595

TDRP

Scenario A: Baseline

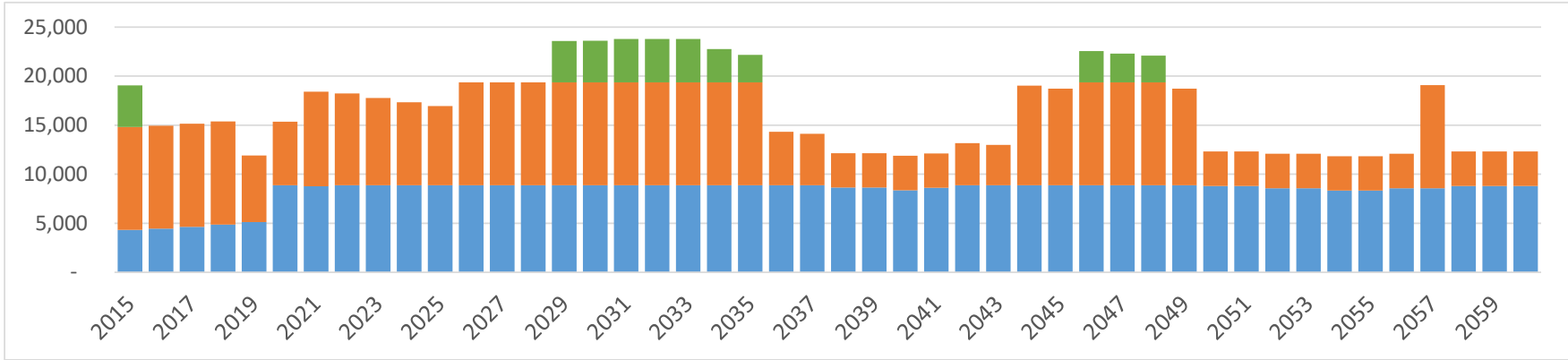


Selected Years

Name	2015	2020	2025	2030	2035	2040	2045	2050	2055	2060	Total (2015-60)
0% Avondale	-	-	-	-	-	-	-	-	-	-	-
50% ElMirage	254	646	684	913	913	254	852	254	254	254	26,911
0% Goodyear	-	-	-	-	-	-	-	-	-	-	-
0% Peoria	-	-	-	-	-	-	-	-	-	-	-
10% Surprise	543	590	714	854	1,025	1,025	1,025	1,025	1,025	1,025	41,095
Total Muni	797	1,236	1,398	1,767	1,938	1,279	1,877	1,279	1,279	1,279	68,006
10% CAGRD	1,500	928	1,153	1,500	1,500	500	1,407	500	500	500	49,240
20% AWBA	4,245	-	-	4,228	2,793	-	-	-	-	-	40,960
Total	6,542	2,164	2,551	7,495	6,231	1,779	3,284	1,779	1,779	1,779	158,206

TID

Scenario A: Baseline

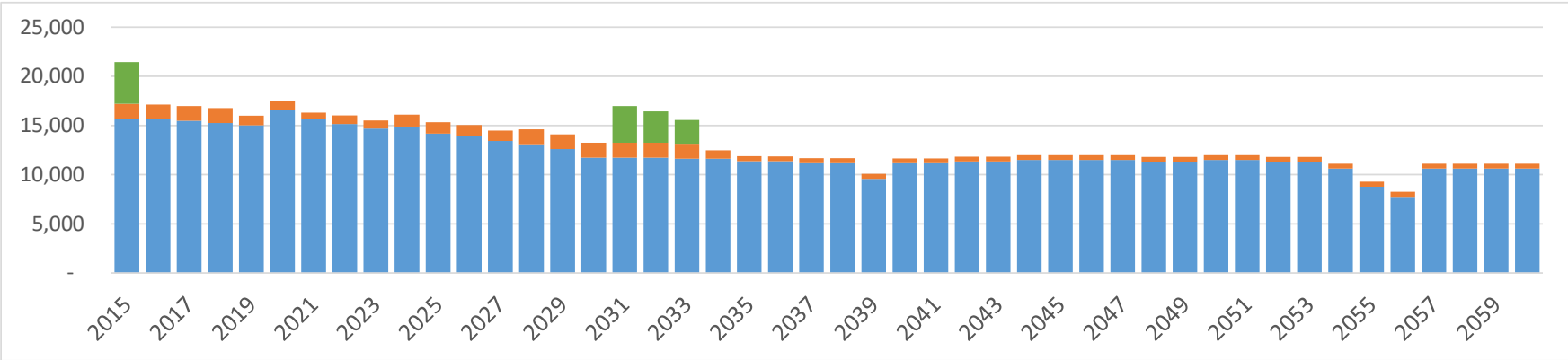


Selected Years

Name	2015	2020	2025	2030	2035	2040	2045	2050	2055	2060	Total (2015-60)
0% Avondale	-	-	-	-	-	-	-	-	-	-	-
0% ElMirage	-	-	-	-	-	-	-	-	-	-	-
50% Goodyear	4,325	8,871	8,871	8,871	8,871	8,372	8,871	8,810	8,342	8,810	383,269
0% Peoria	-	-	-	-	-	-	-	-	-	-	-
0% Surprise	-	-	-	-	-	-	-	-	-	-	-
Total Muni	4,325	8,871	8,871	8,871	8,871	8,372	8,871	8,810	8,342	8,810	383,269
70% CAGR	10,500	6,493	8,070	10,500	10,500	3,500	9,849	3,500	3,500	3,500	344,682
20% AWBA	4,245	-	-	4,228	2,793	-	-	-	-	-	40,960
Total	19,070	15,364	16,941	23,599	22,164	11,872	18,720	12,310	11,842	12,310	768,912

AFRP

Scenario D: Dry, Rapid Outward Growth

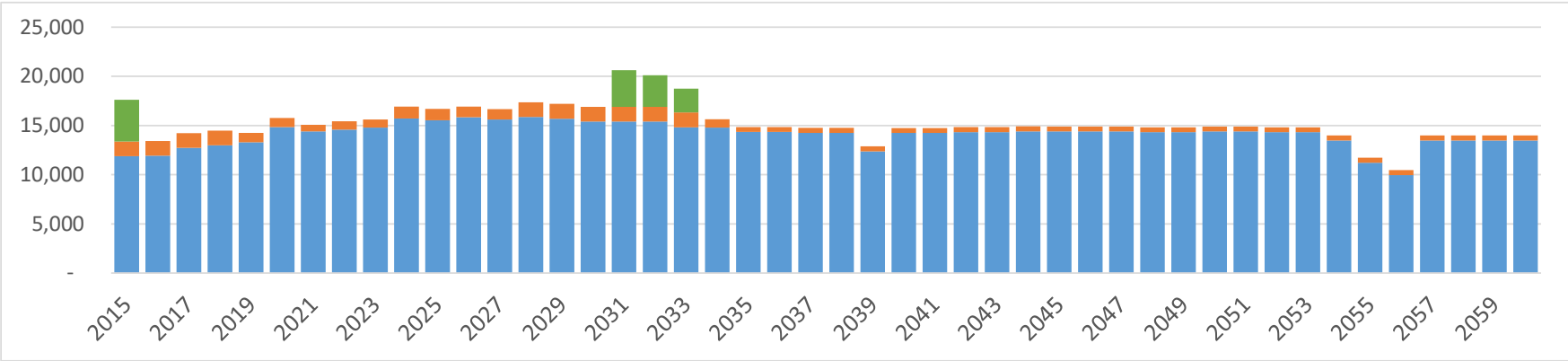


Selected Years

Name	2015	2020	2025	2030	2035	2040	2045	2050	2055	2060	Total (2015-60)
0% Avondale	-	-	-	-	-	-	-	-	-	-	-
0% ElMirage	-	-	-	-	-	-	-	-	-	-	-
15% Goodyear	1,293	2,661	2,659	2,661	2,597	2,512	2,643	2,643	1,971	2,409	111,451
75% Peoria	13,589	12,852	10,007	7,543	7,237	7,108	7,306	7,306	5,597	6,766	387,285
15% Surprise	813	1,079	1,511	1,537	1,537	1,537	1,537	1,537	1,209	1,449	64,538
Total Muni	15,695	16,593	14,177	11,742	11,372	11,157	11,487	11,487	8,776	10,624	563,274
10% CAGR	1,500	927	1,153	1,500	500	500	500	500	500	500	37,572
20% AWBA	4,245	-	-	-	-	-	-	-	-	-	13,593
Total	21,440	17,520	15,329	13,242	11,872	11,657	11,987	11,987	9,276	11,124	614,440

HMRP

Scenario D: Dry, Rapid Outward Growth

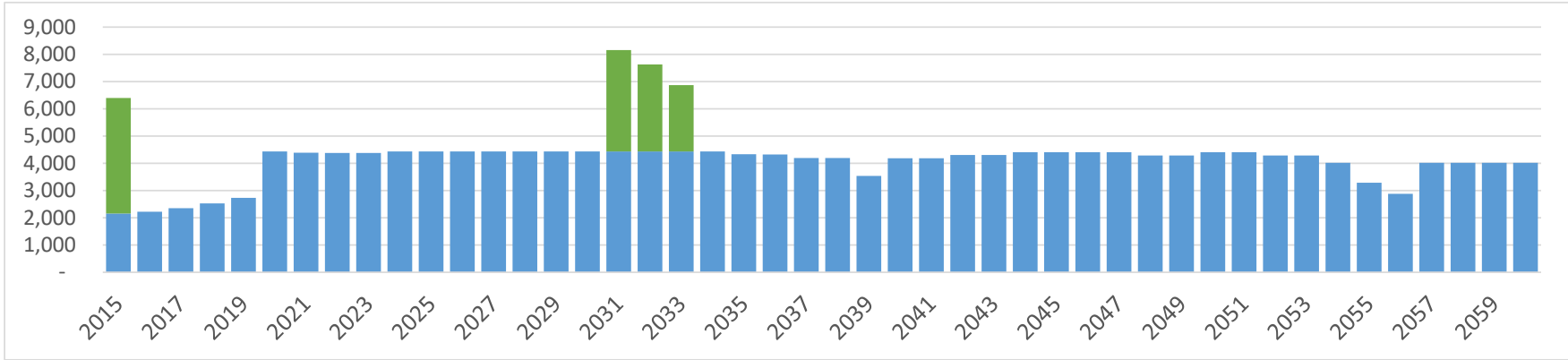


Selected Years

Name	2015	2020	2025	2030	2035	2040	2045	2050	2055	2060	Total (2015-60)
100% Avondale	2,166	2,519	2,388	2,519	2,264	2,263	2,265	2,265	1,797	2,138	104,510
50% ElMirage	254	868	493	913	254	254	254	254	200	239	19,949
10% Goodyear	862	1,774	1,773	1,774	1,732	1,674	1,762	1,762	1,314	1,606	74,300
25% Peoria	4,530	4,284	3,336	2,514	2,412	2,369	2,435	2,435	1,866	2,255	129,095
75% Surprise	4,067	5,394	7,555	7,687	7,687	7,687	7,687	7,687	6,043	7,243	322,690
Total Muni	11,879	14,840	15,543	15,408	14,349	14,247	14,403	14,403	11,219	13,482	650,545
10% CAGR	1,500	927	1,153	1,500	500	500	500	500	500	500	37,572
20% AWBA	4,245	-	-	-	-	-	-	-	-	-	13,593
Total	17,623	15,767	16,696	16,908	14,849	14,747	14,903	14,903	11,719	13,982	701,710

MWD

Scenario D: Dry, Rapid Outward Growth

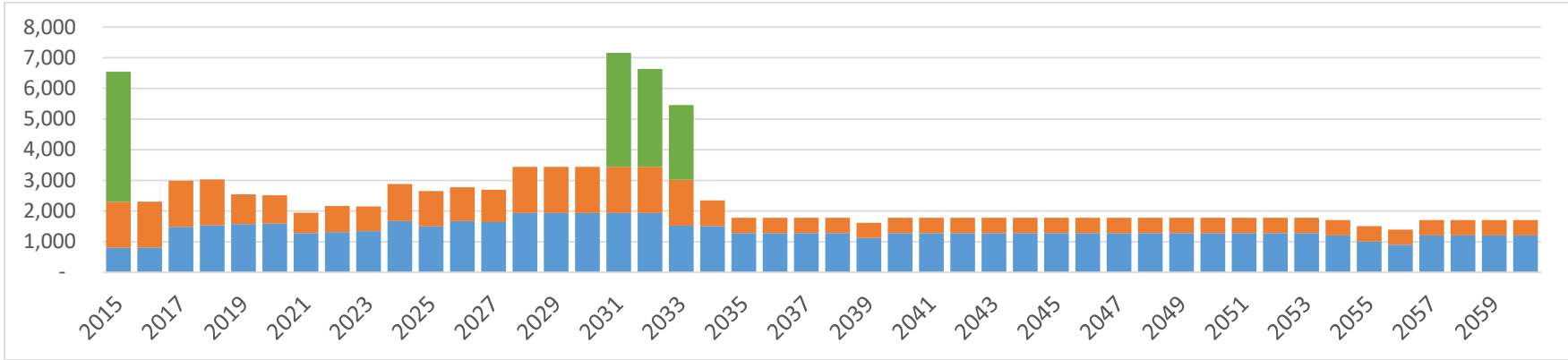


Selected Years

Name	2015	2020	2025	2030	2035	2040	2045	2050	2055	2060	Total (2015-60)
0% Avondale	-	-	-	-	-	-	-	-	-	-	-
0% ElMirage	-	-	-	-	-	-	-	-	-	-	-
25% Goodyear	2,155	4,436	4,431	4,436	4,329	4,186	4,405	4,405	3,284	4,016	185,751
0% Peoria	-	-	-	-	-	-	-	-	-	-	-
0% Surprise	-	-	-	-	-	-	-	-	-	-	-
Total Muni	2,155	4,436	4,431	4,436	4,329	4,186	4,405	4,405	3,284	4,016	185,751
0% CAGR	-	-	-	-	-	-	-	-	-	-	-
20% AWBA	4,245	-	-	-	-	-	-	-	-	-	13,593
Total	6,400	4,436	4,431	4,436	4,329	4,186	4,405	4,405	3,284	4,016	199,344

TDRP

Scenario D: Dry, Rapid Outward Growth

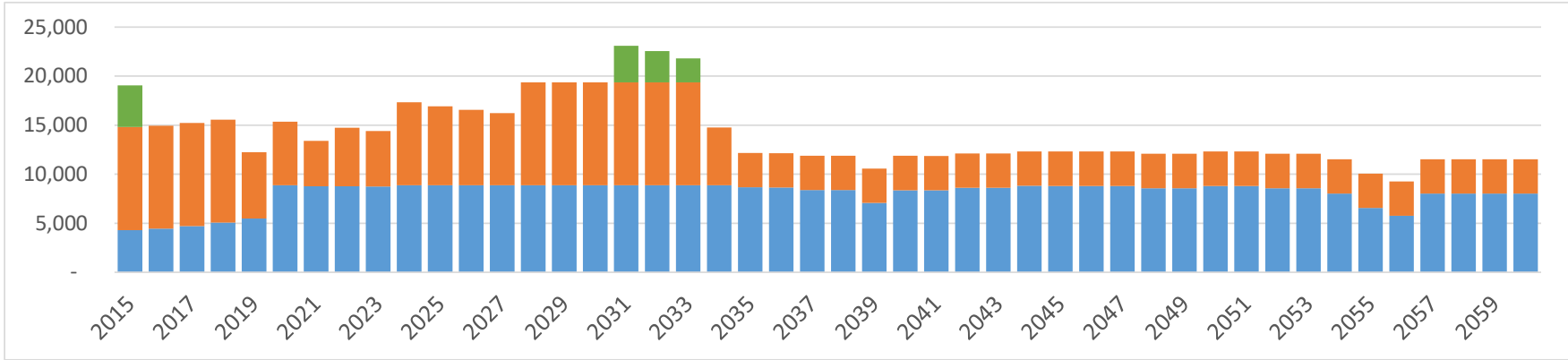


Selected Years

Name	2015	2020	2025	2030	2035	2040	2045	2050	2055	2060	Total (2015-60)
Avondale	-	-	-	-	-	-	-	-	-	-	-
ElMirage	254	868	493	913	254	254	254	254	200	239	19,949
Goodyear	-	-	-	-	-	-	-	-	-	-	-
Peoria	-	-	-	-	-	-	-	-	-	-	-
Surprise	542	719	1,007	1,025	1,025	1,025	1,025	1,025	806	966	43,025
Total Muni	796	1,587	1,500	1,938	1,279	1,279	1,279	1,279	1,005	1,205	62,975
CAGRD	1,500	927	1,153	1,500	500	500	500	500	500	500	37,572
AWBA	4,245	-	-	-	-	-	-	-	-	-	13,593
Total	6,541	2,514	2,653	3,438	1,779	1,779	1,779	1,779	1,505	1,705	114,140

TID

Scenario D: Dry, Rapid Outward Growth

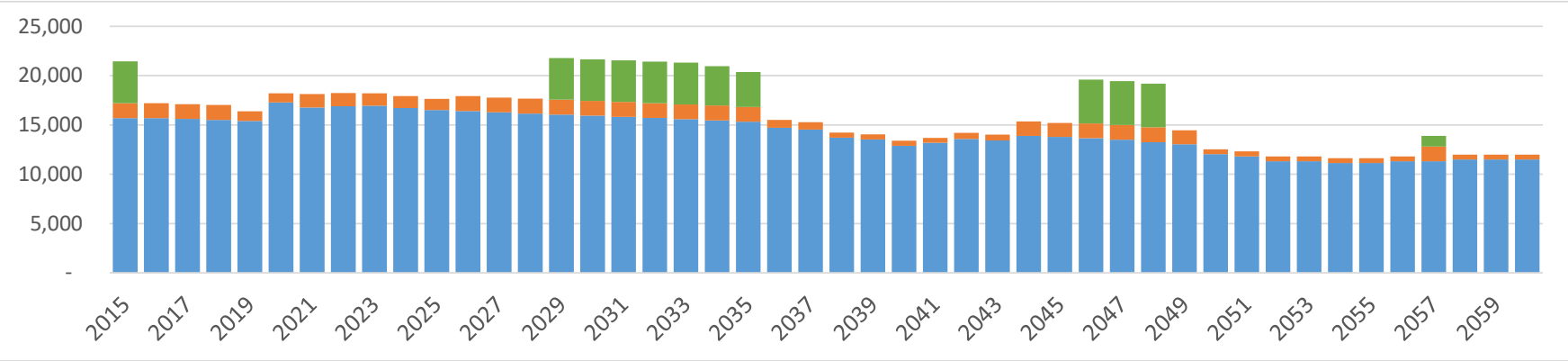


Selected Years

Name	2015	2020	2025	2030	2035	2040	2045	2050	2055	2060	Total (2015-60)
0% Avondale	-	-	-	-	-	-	-	-	-	-	-
0% ElMirage	-	-	-	-	-	-	-	-	-	-	-
50% Goodyear	4,310	8,871	8,863	8,871	8,658	8,372	8,810	8,810	6,568	8,032	371,502
0% Peoria	-	-	-	-	-	-	-	-	-	-	-
0% Surprise	-	-	-	-	-	-	-	-	-	-	-
Total Muni	4,310	8,871	8,863	8,871	8,658	8,372	8,810	8,810	6,568	8,032	371,502
70% CAGR	10,500	6,491	8,068	10,500	3,500	3,500	3,500	3,500	3,500	3,500	263,007
20% AWBA	4,245	-	-	-	-	-	-	-	-	-	13,593
Total	19,055	15,362	16,931	19,371	12,158	11,872	12,310	12,310	10,068	11,532	648,102

AFRP

Scenario F: Slow & Compact

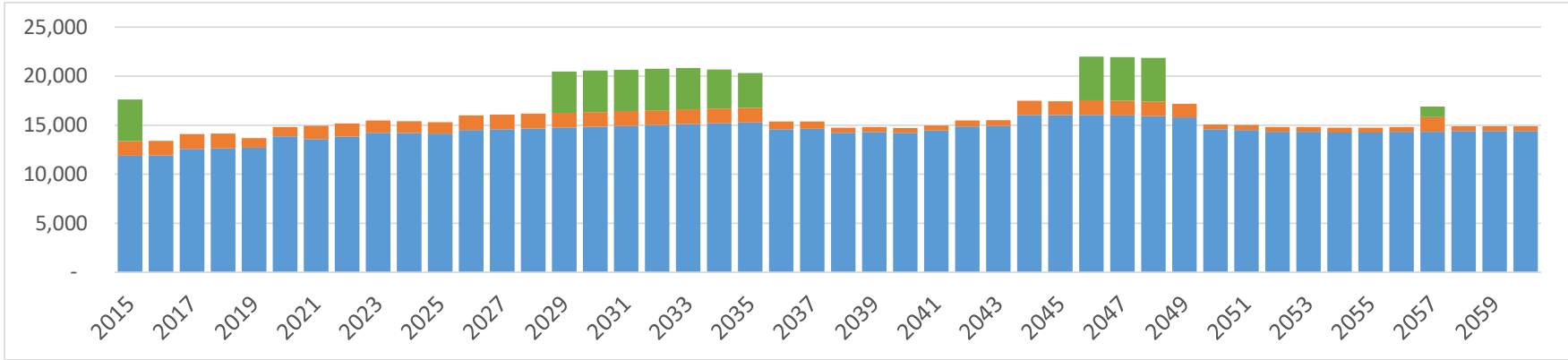


Selected Years

Name	2015	2020	2025	2030	2035	2040	2045	2050	2055	2060	Total (2015-60)
0% Avondale	-	-	-	-	-	-	-	-	-	-	-
0% ElMirage	-	-	-	-	-	-	-	-	-	-	-
15% Goodyear	1,292	2,661	2,661	2,661	2,661	2,512	2,661	2,643	2,503	2,643	114,777
75% Peoria	13,597	13,750	12,855	12,161	11,417	8,970	9,592	7,848	7,094	7,306	481,321
15% Surprise	813	881	985	1,116	1,253	1,407	1,537	1,537	1,537	1,537	58,290
Total Muni	15,702	17,293	16,501	15,939	15,331	12,889	13,791	12,029	11,134	11,487	654,388
10% CAGR	1,500	928	1,153	1,500	1,500	500	1,407	500	500	500	49,240
20% AWBA	4,245	-	-	4,226	3,537	-	-	-	-	-	47,310
Total	21,447	18,220	17,654	21,665	20,368	13,389	15,198	12,529	11,634	11,987	750,939

HMRP

Scenario F: Slow & Compact

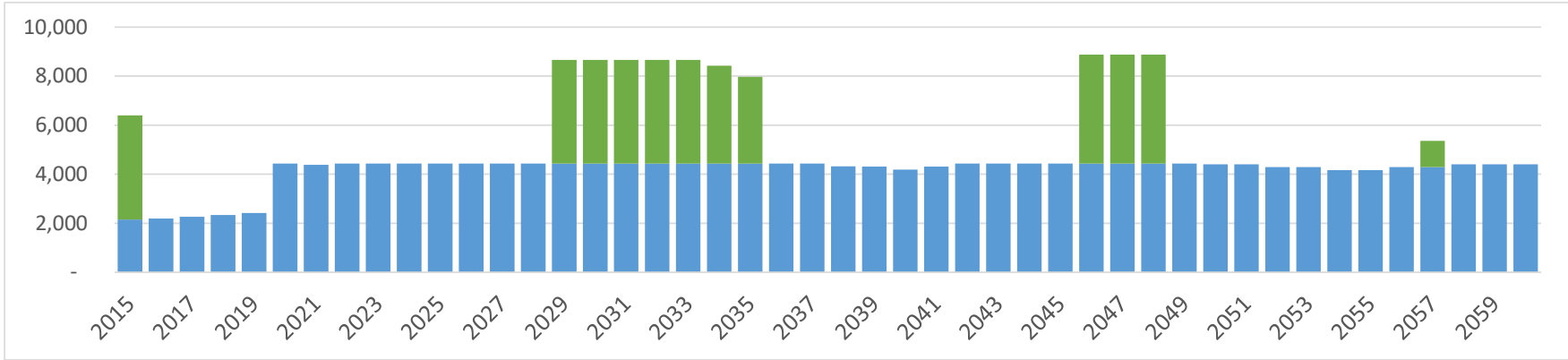


Selected Years

Name	2015	2020	2025	2030	2035	2040	2045	2050	2055	2060	Total (2015-60)
100% Avondale	2,166	2,466	2,486	2,519	2,519	2,263	2,519	2,265	2,263	2,265	109,214
50% ElMirage	254	646	684	913	913	254	852	254	254	254	26,911
10% Goodyear	861	1,774	1,774	1,774	1,774	1,674	1,774	1,762	1,668	1,762	76,518
25% Peoria	4,532	4,583	4,285	4,054	3,806	2,990	3,197	2,616	2,365	2,435	160,440
75% Surprise	4,065	4,405	4,926	5,581	6,266	7,037	7,687	7,687	7,687	7,687	291,452
Total Muni	11,879	13,875	14,156	14,842	15,278	14,218	16,029	14,583	14,237	14,403	664,535
10% CAGR	1,500	928	1,153	1,500	1,500	500	1,407	500	500	500	49,240
20% AWBA	4,245	-	-	4,226	3,537	-	-	-	-	-	47,310
Total	17,624	14,803	15,309	20,568	20,315	14,718	17,436	15,083	14,737	14,903	761,086

MWD

Scenario F: Slow & Compact

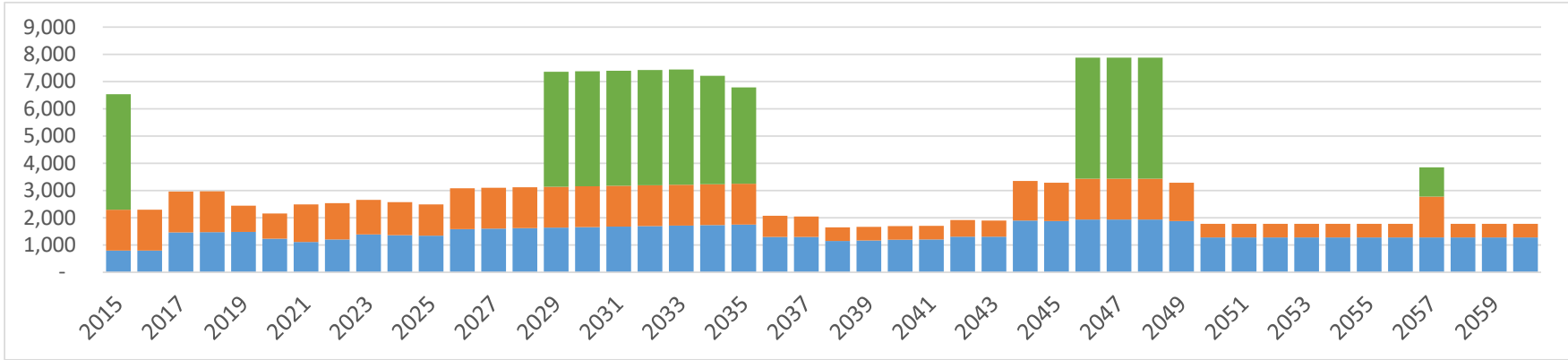


Selected Years

Name	2015	2020	2025	2030	2035	2040	2045	2050	2055	2060	Total (2015-60)
Avondale	-	-	-	-	-	-	-	-	-	-	-
ElMirage	-	-	-	-	-	-	-	-	-	-	-
Goodyear	2,154	4,436	4,436	4,436	4,436	4,186	4,436	4,405	4,171	4,405	191,295
Peoria	-	-	-	-	-	-	-	-	-	-	-
Surprise	-	-	-	-	-	-	-	-	-	-	-
Total Muni	2,154	4,436	4,436	4,436	4,436	4,186	4,436	4,405	4,171	4,405	191,295
CAGRD	-	-	-	-	-	-	-	-	-	-	-
AWBA	4,245	-	-	4,226	3,537	-	-	-	-	-	47,310
Total	6,399	4,436	4,436	8,662	7,972	4,186	4,436	4,405	4,171	4,405	238,606

TDRP

Scenario F: Slow & Compact

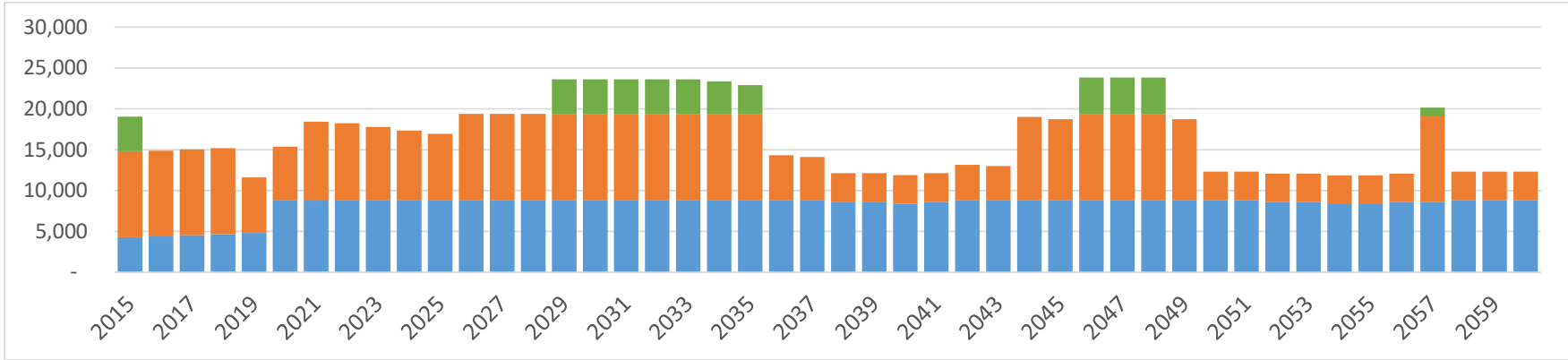


Selected Years

Name	2015	2020	2025	2030	2035	2040	2045	2050	2055	2060	Total (2015-60)
Avondale	-	-	-	-	-	-	-	-	-	-	-
ElMirage	254	646	684	913	913	254	852	254	254	254	26,911
Goodyear	-	-	-	-	-	-	-	-	-	-	-
Peoria	-	-	-	-	-	-	-	-	-	-	-
Surprise	542	587	657	744	836	938	1,025	1,025	1,025	1,025	38,860
Total Muni	796	1,233	1,341	1,657	1,749	1,192	1,877	1,279	1,279	1,279	65,771
CAGRD	1,500	928	1,153	1,500	1,500	500	1,407	500	500	500	49,240
AWBA	4,245	-	-	4,226	3,537	-	-	-	-	-	47,310
Total	6,541	2,161	2,494	7,383	6,785	1,692	3,284	1,779	1,779	1,779	162,322

TID

Scenario F: Slow & Compact



Selected Years

Name	2015	2020	2025	2030	2035	2040	2045	2050	2055	2060	Total (2015-60)
0% Avondale	-	-	-	-	-	-	-	-	-	-	-
0% ElMirage	-	-	-	-	-	-	-	-	-	-	-
50% Goodyear	4,307	8,871	8,871	8,871	8,871	8,372	8,871	8,810	8,342	8,810	382,591
0% Peoria	-	-	-	-	-	-	-	-	-	-	-
0% Surprise	-	-	-	-	-	-	-	-	-	-	-
Total Muni	4,307	8,871	8,871	8,871	8,871	8,372	8,871	8,810	8,342	8,810	382,591
70% CAGR	10,500	6,493	8,070	10,500	10,500	3,500	9,849	3,500	3,500	3,500	344,682
20% AWBA	4,245	-	-	4,226	3,537	-	-	-	-	-	47,310
Total	19,052	15,364	16,941	23,597	22,908	11,872	18,720	12,310	11,842	12,310	774,584