City of Del Rey Oaks

District's 2022 Supply and Demand Forecast

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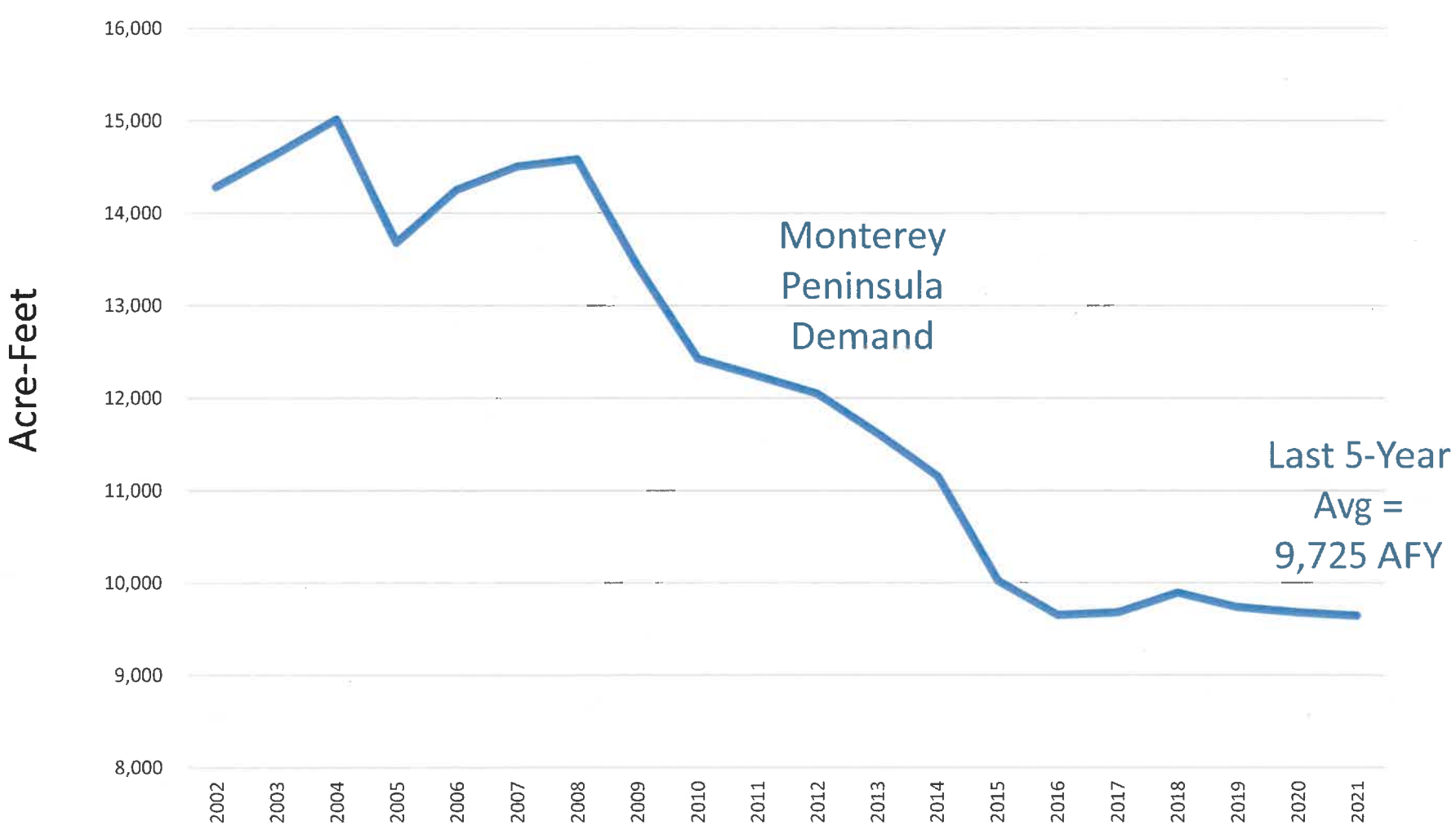
MONTEREY PENINSULA WATER MANAGEMENT DISTRICT

Our Water Supply Needs: *Where Should We Be Going?*

Water Supply Planning – *3 Easy Questions*

- How much water do we use today?
- How much will we need in the future?
- How soon will we get there?

How Much Do We Use Today? *Demand – Last 20 Years*



Back to the Future – *Where Does Our Current Demand Rank?*

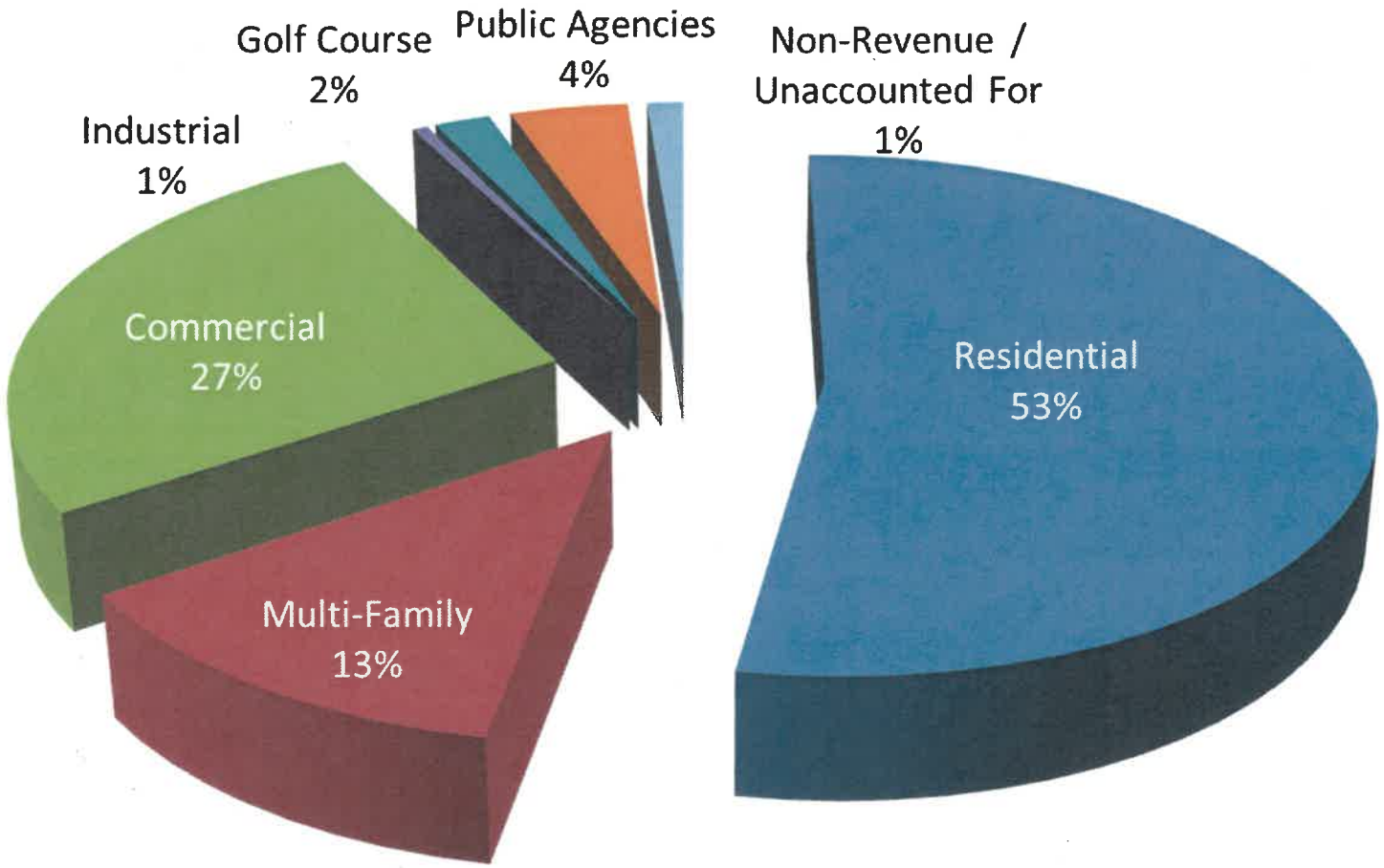
- Lowest annual demand since 1958
- 54% of the Peninsula peak of 18,117 AFY in 1987
- 28% reduction since the CDO in 2009

How Does MPWMD Forecast Water Use?

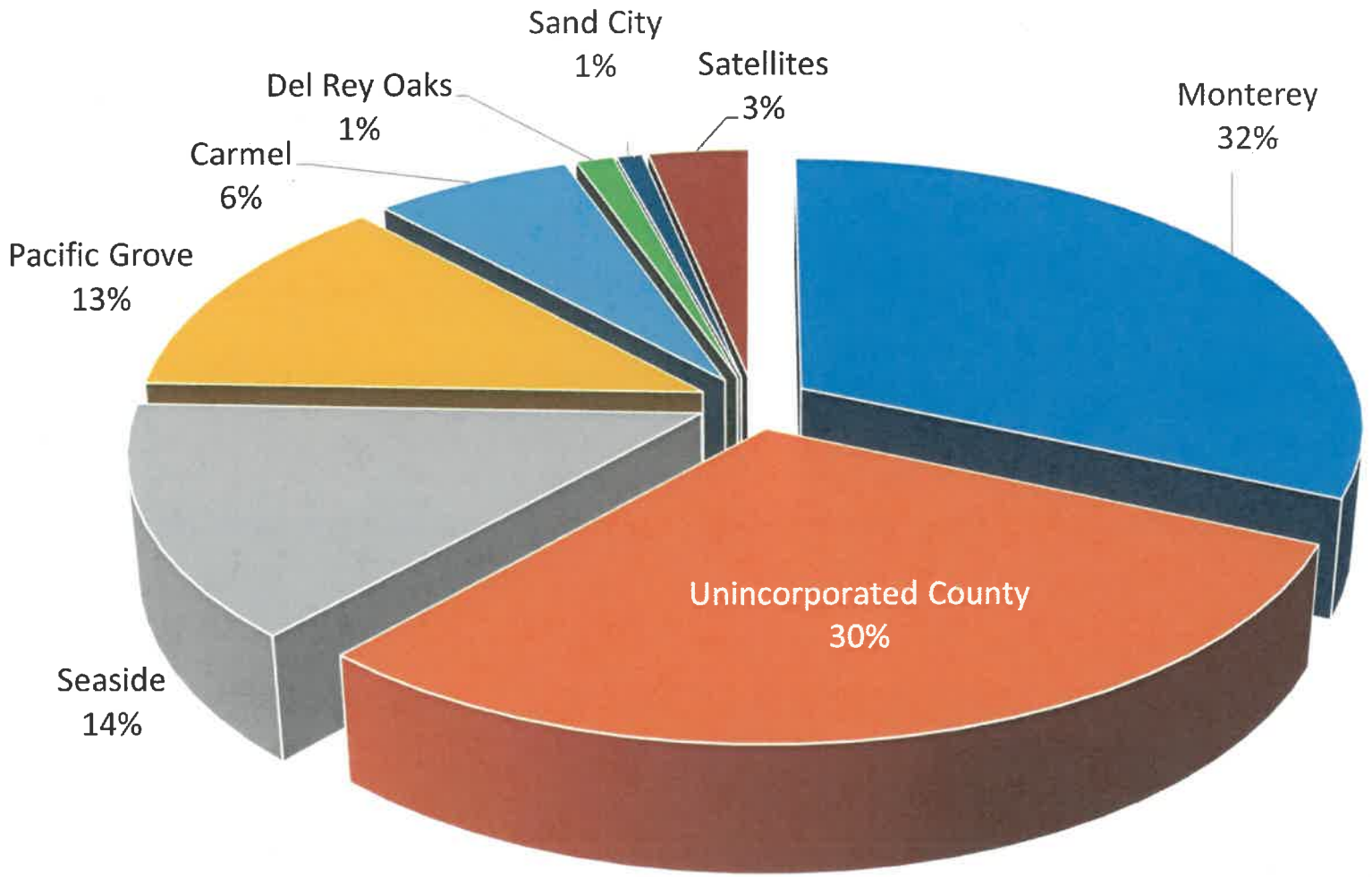
Concept: Objective 3rd-Party Forecast

- We looked at pre-CDO growth, but city managers said "No"; We asked for their input, but city managers said "Really don't know"....
- So looked for an outside 3rd-Party forecast of growth. Found it in AMBAG.
- District maps/correlates consumption (pre-COVID) by use and by jurisdiction to 'production' history – the total water needed to feed the system.
- Then applies AMBAG population and non-residential growth to water use.

Water Demand by Use – 2021



Water Demand by Jurisdiction – 2021



AMBAG Regional Growth Forecast

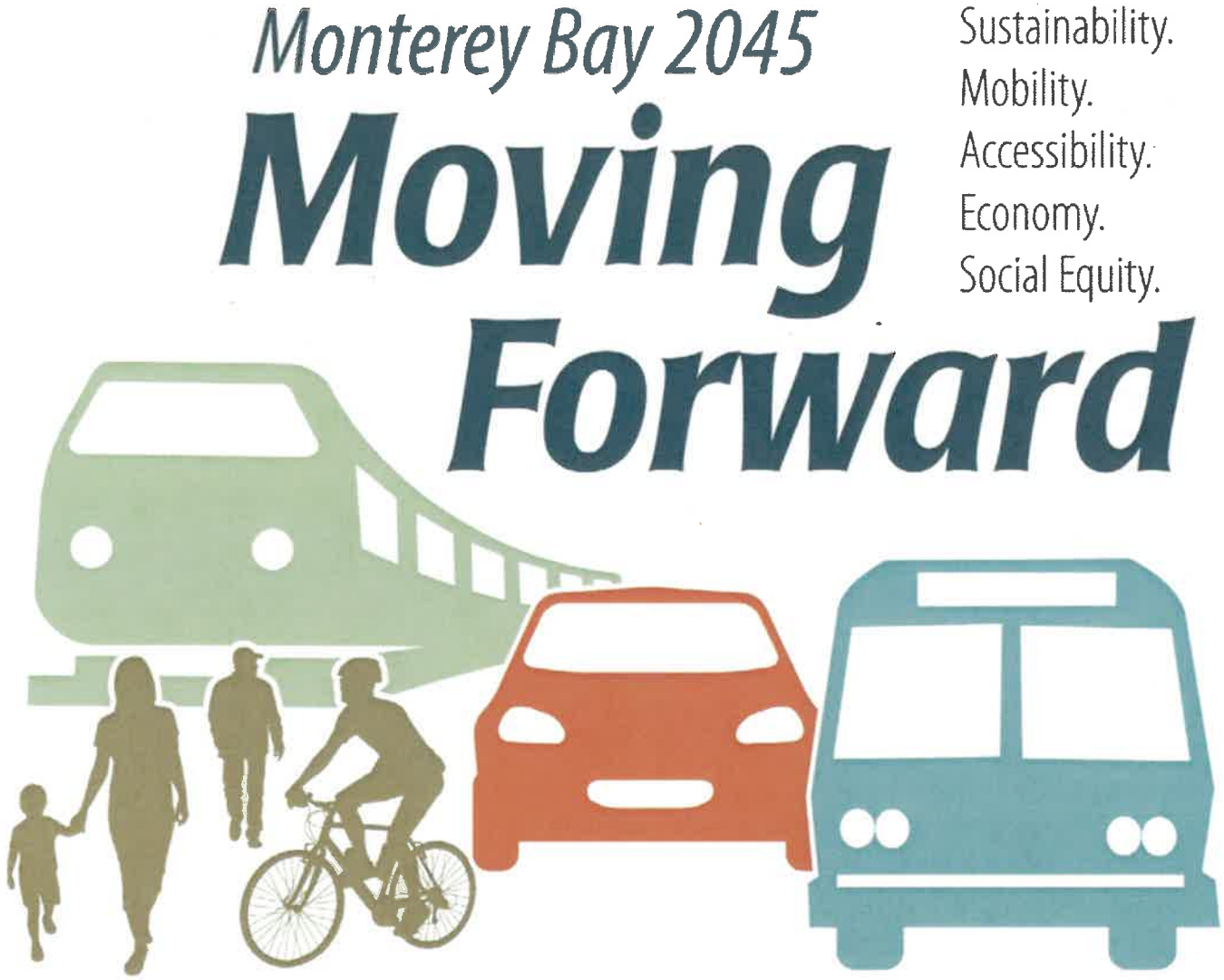
- Use of a fully-vetted third-party growth forecast is a very objective way for projecting water demand increase without bias.

- AMBAG implemented an employment-driven forecast model for the first time in the 2014 forecast and contracted with the Population Reference Bureau (PRB) to test and apply the model again for the 2018 Regional Growth Forecast (RGF).

- To ensure the reliability of the population projections, PRB compared results with a cohort-component forecast, a growth trend forecast, and the most recent forecast published by the California Department of Finance (DOF). **All four models** resulted in similar population growth trends. As a result of these reliability tests, AMBAG and PRB chose to implement the employment-driven model again for the 2022 Regional Growth Forecast.

- AMBAG has undergone a very vigorous testing regime of its models.

AMBAG Regional Growth Forecast



What is in the AMBAG Growth Forecast for DRO?

Del Rey Oaks	2020	2045	Growth	Growth Rate
Population	1,662	2,650	1,452	59.4%
Housing Units	741	1,195	454	61.3%
Jobs	748	834	86	11.5%

6th Cycle RHNA #: 184

AMBAG 3rd - Party Forecast

- Are future population numbers in there? Yes, included.
- Are Legal Lots of Record in there? Yes, where houses for people get built.
- What about new RHNA numbers? Yup! In there… just look at the reports.
- Pebble Beach entitlements, Tourism economic rebound? Yep, and yep….
- All population and business growth on the Peninsula? Yep

Residential Demand by Jurisdiction

	Monterey	Pacific Grove	Carmel-by-the-Sea	Seaside	Del Rey Oaks	Sand City	County	TOTAL
Population in 2020	28,170	15,265	3,949	33,537	1,662	385	8,916	91,884
Population in 2045	29,639	15,817	3,984	38,316	2,650	1,198	9,916	101,520
Increase	5.2%	3.6%	0.9%	14.2%	59.4%	211.2%	11.2%	10.5%
Acre-Feet in 2020	1,675	908	413	1,015	92	21	2,221	6,345
Acre-Feet by 2045	1,762	941	417	1,160	146	65	2,471	6,961
AF Served by Others	9	-	-	72	11	-	75	167
Net AF in 2045	1,753	941	417	1,087	135	65	2,396	6,795

Non-Residential Demand by Jurisdiction

	Monterey	Pacific Grove	Carmel-by-the-Sea	Seaside	Del Rey Oaks	Sand City	County	TOTAL
Jobs in 2020	40,989	8,016	3,566	10,476	748	2,092	4,300	70,187
Jobs in 2045	45,509	8,445	3,915	11,543	834	2,259	4,721	77,226
Increase	11.0%	5.4%	9.8%	10.2%	11.5%	8.0%	9.8%	10.0%
Non-Residential AF in 2020	1,547	332	225	336	22	66	853	3,380
Non-Residential AF in 2045	1,718	349	247	370	24	71	936	3,716
Increase	171	18	22	34	3	5	83	336

Overall Summary of Demand

Present & Future Water Needs

	Base Year (2020)	Estimate For 2045 AMBAG	AF per Year
Net Water for Population	6,345 AF	6,795 AF	18.00
Water for Non-Residential	3,380 AF	3,716 AF	13.44
Total	9,725 AF	10,511 AF	31.44

Demand Forecast

	2020	2025	2030	2035	2040	2045	2050	2055
Water Demand - AF	9,725	9,882	10,039	10,196	10,353	10,511	10,668	10,825

Supply v. Demand

Supply Available

Supply Source	Today	w/ PWM Expansion
Pure Water Monterey	3,500	3,500
PWM Expansion		2,250
Carmel River	3,376	3,376
Seaside Basin	1,474	774
Aquifer Storage & Recovery (ASR)	1,300	1,300
Sand City Desalination Plant	210	210
Table 13 Water Rights	0	0
Malpaso Water Rights	58	58
Total Available Supply	**9,918**	**11,468**

Demand Forecast

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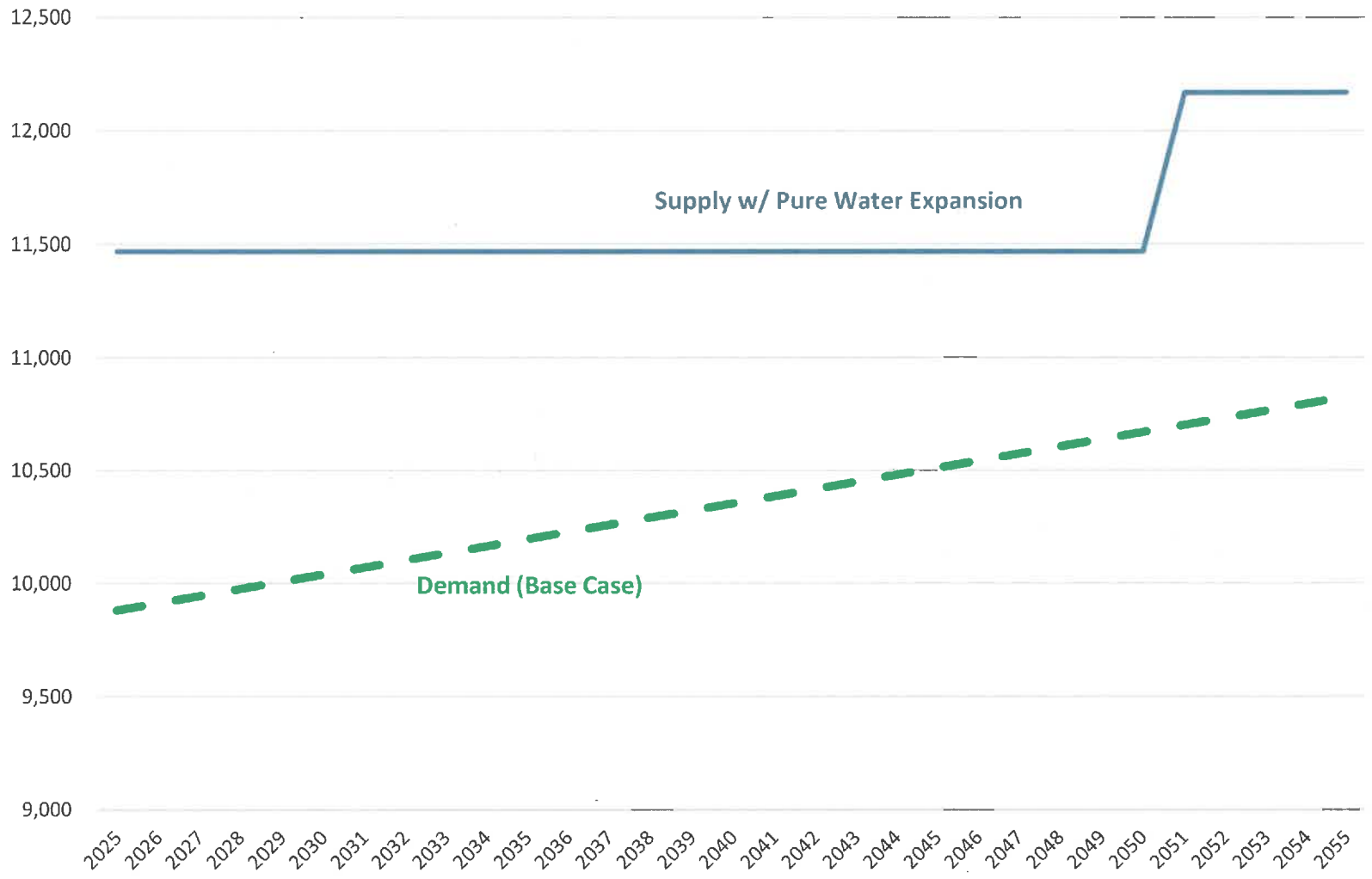
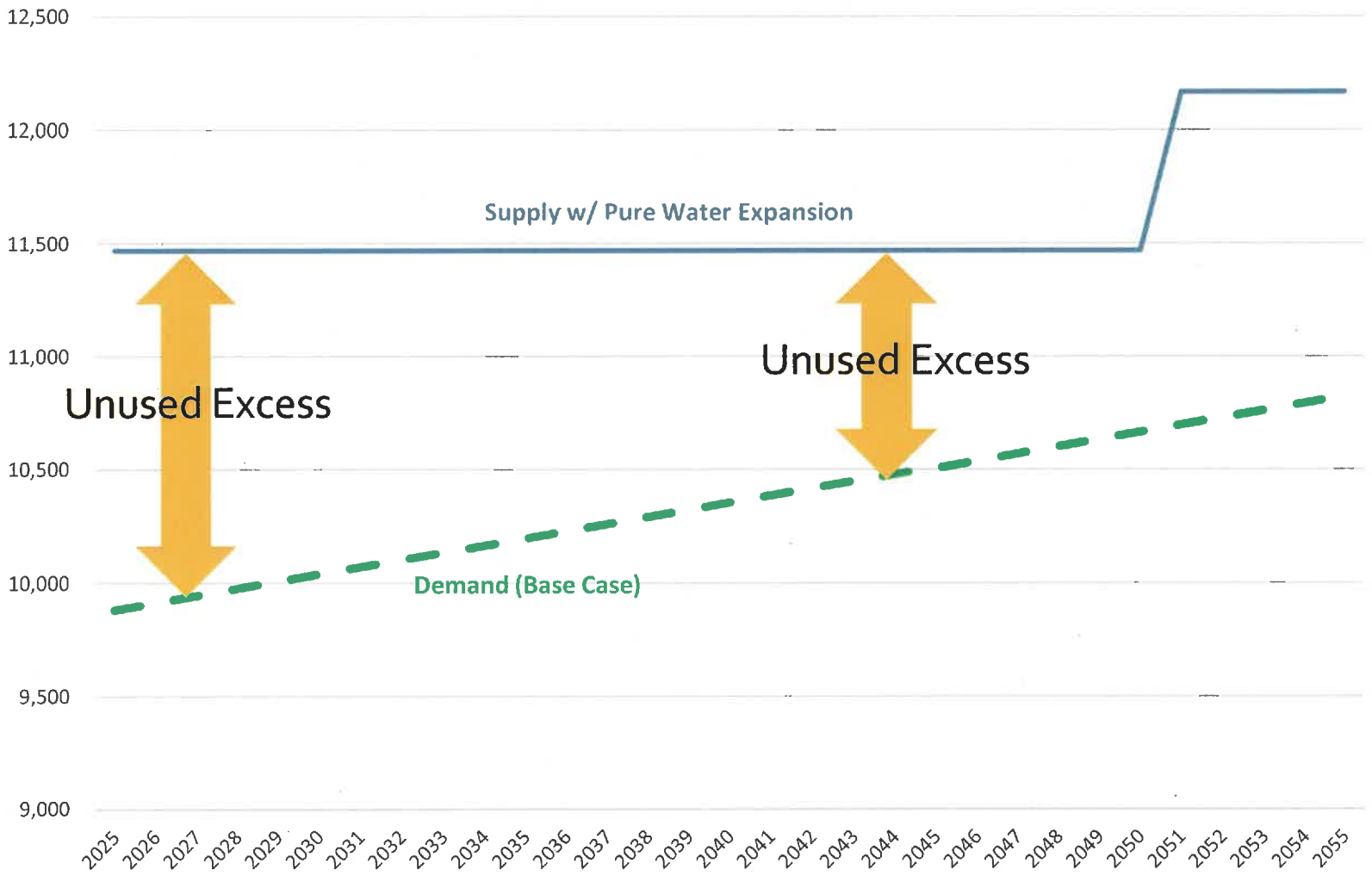
Supply v Demand



What About Peak Days, Drought, and Contingency?



Questions?