BUILDING A WORLD OF DIFFERENCE

12 July, 2017

2021 REGIONAL WATER PLAN

SARA EATMAN

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AGENDA

7.A Status Reports on TWDB Contract

1. Population and Municipal Demand Projections
2. Demand Projections for Non-Municipal Water Users
3. GMA 16 Availability Projections

TIMELINE FOR REVIEW OF DRAFT DATA

- List WUGs with the Utility-based approach (June, 2016)
- **Review draft projections from TWDB**
  - Population and Municipal Demand (received in December)
  - Other Demand Projections
    - Irrigation (received 6/2/2017)
    - Manufacturing (received 6/2/2017)
    - Steam-Electric (received 6/2/2017)
    - Livestock (received 6/2/2017)
    - Mining (received 12/22/2016)
- **Sub-WUG request due September 1, 2017**
- **Request changes if needed by January 12, 2018**

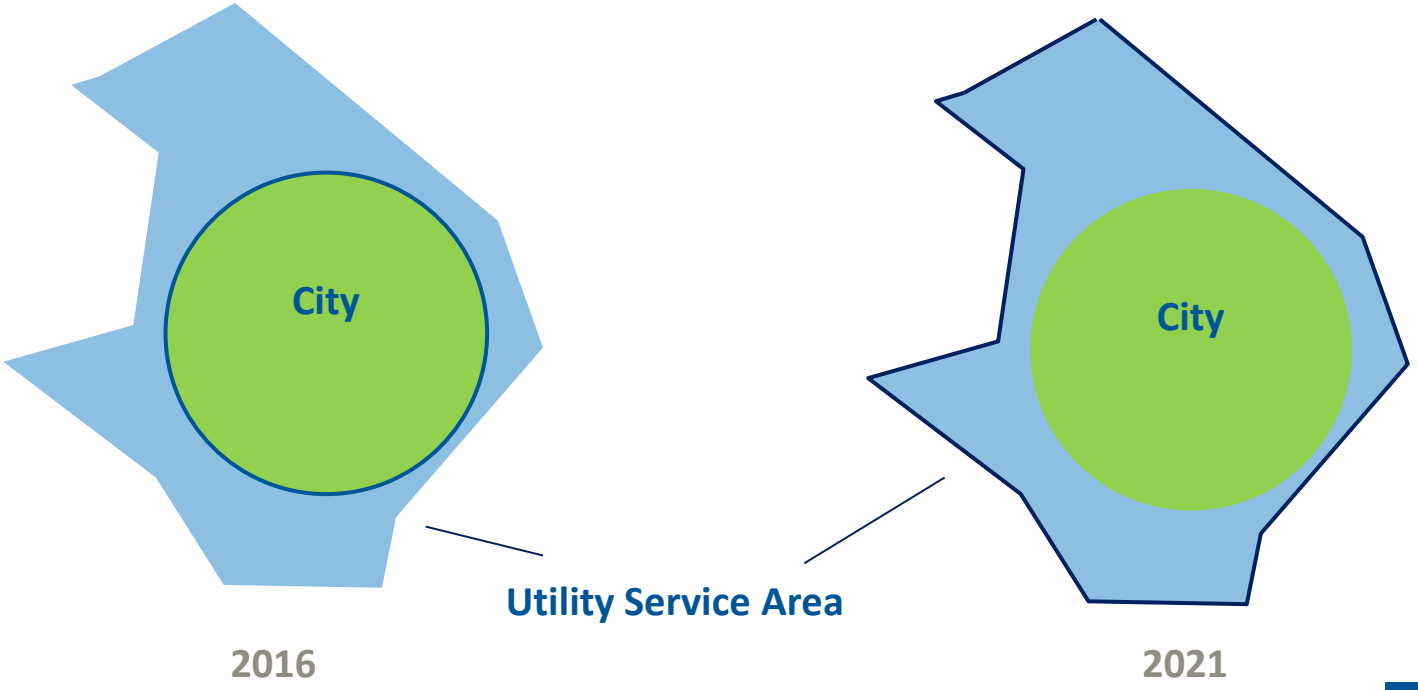
7.A.1. POPULATION AND MUNICIPAL DEMAND PROJECTIONS

a. REVIEW OF PROJECTIONS
b. SUMMARY OF SURVEY RESULTS
c. OPTION TO ESTABLISH SUB-WUGS

UTILITY-BASED PROJECTIONS

In previous plans, City boundaries were used to define WUGs.

2021 Plan: WUGs are defined by utility service areas

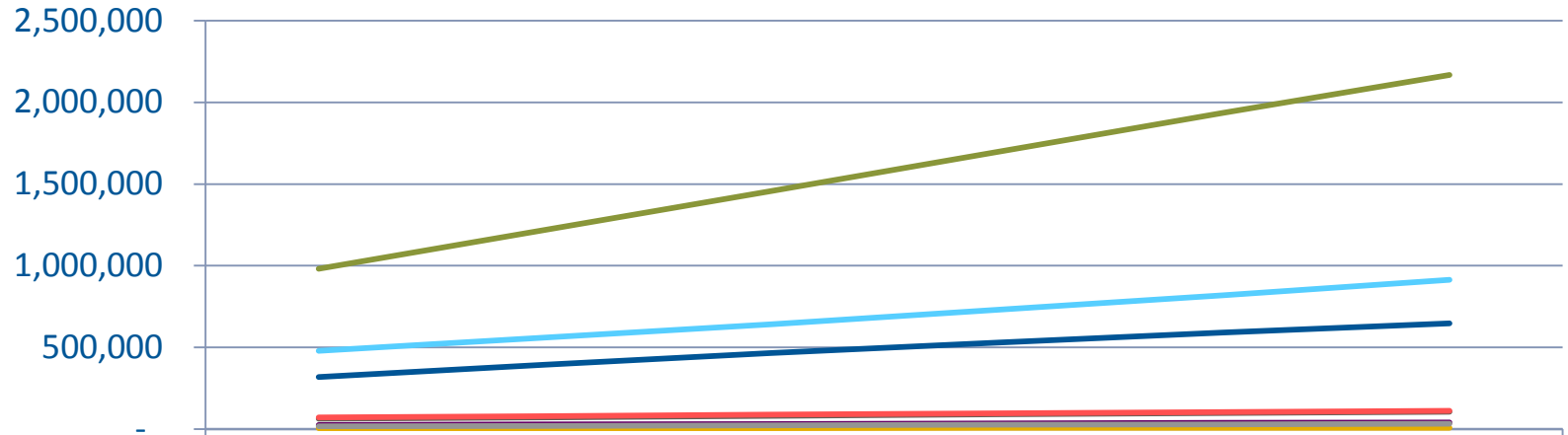


UTILITY-BASED PROJECTIONS

- **County-wide population is distributed differently among the newly-defined WUGs**
  - 2016: 500+ people or utilities providing 280+ acre-ft.
  - 2021: utilities providing 100+ acre-ft. for municipal use
- **In most counties, the WUG populations & demands have increased slightly, and the 'County-Other' has decreased as a result of utility boundaries extending beyond municipal boundaries**

Utility-based planning should show a clearer link between demands and service areas.

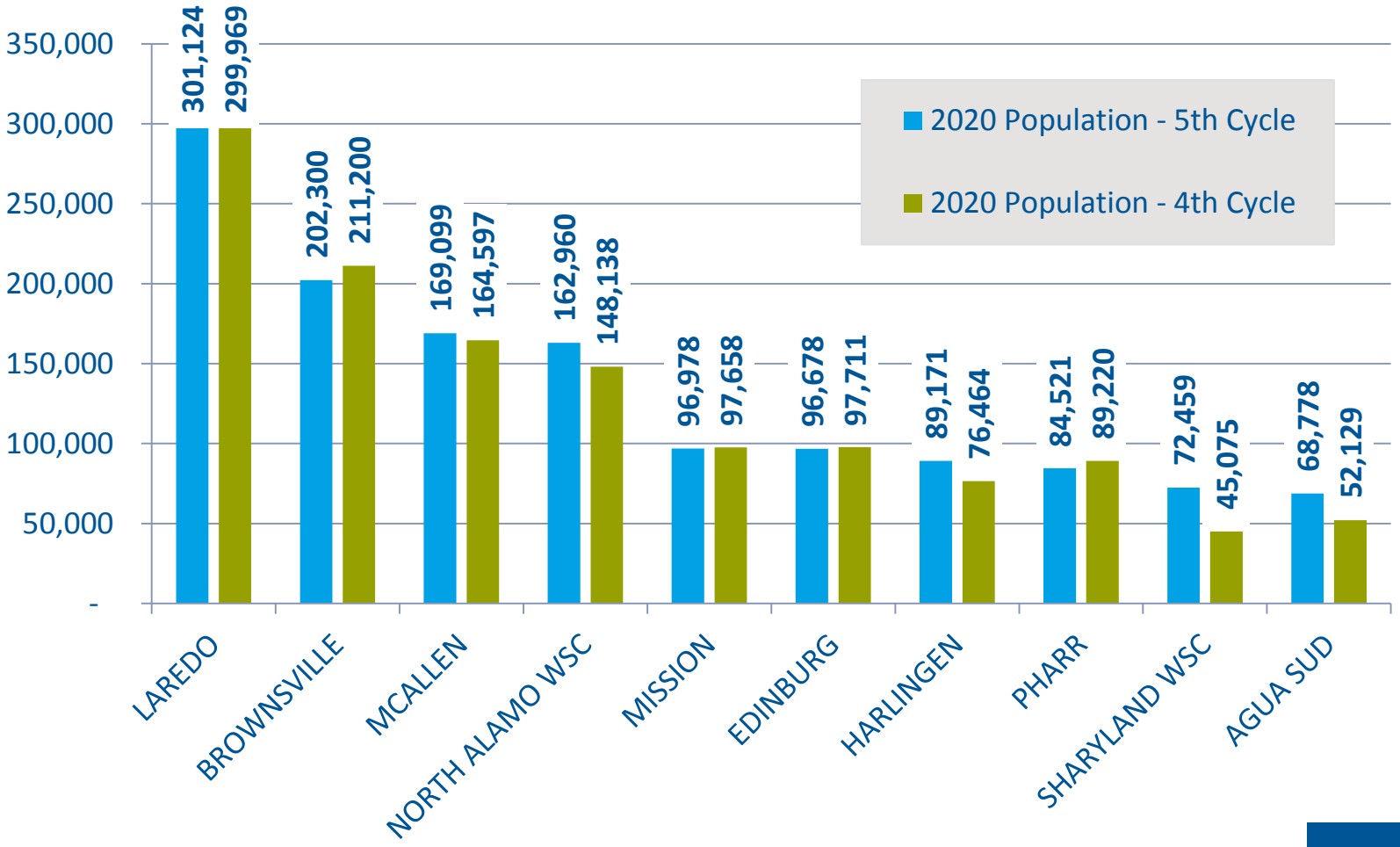
POPULATION PROJECTIONS



	2020	2030	2040	2050	2060	2070
Cameron	478,974	559,593	641,376	729,461	820,068	912,941
Hidalgo	981,890	1,219,225	1,457,502	1,696,257	1,935,015	2,167,137
Jim Hogg	5,853	6,356	6,790	7,274	7,694	8,082
Maverick	63,107	72,491	81,243	90,304	98,988	107,327
Star	70,803	80,085	88,633	97,107	104,687	111,555
Webb	318,028	393,284	464,960	530,330	591,945	647,433
Willacy	25,264	28,479	31,559	34,840	38,012	41,121
Zapata	16,819	19,709	22,876	26,365	29,976	33,742

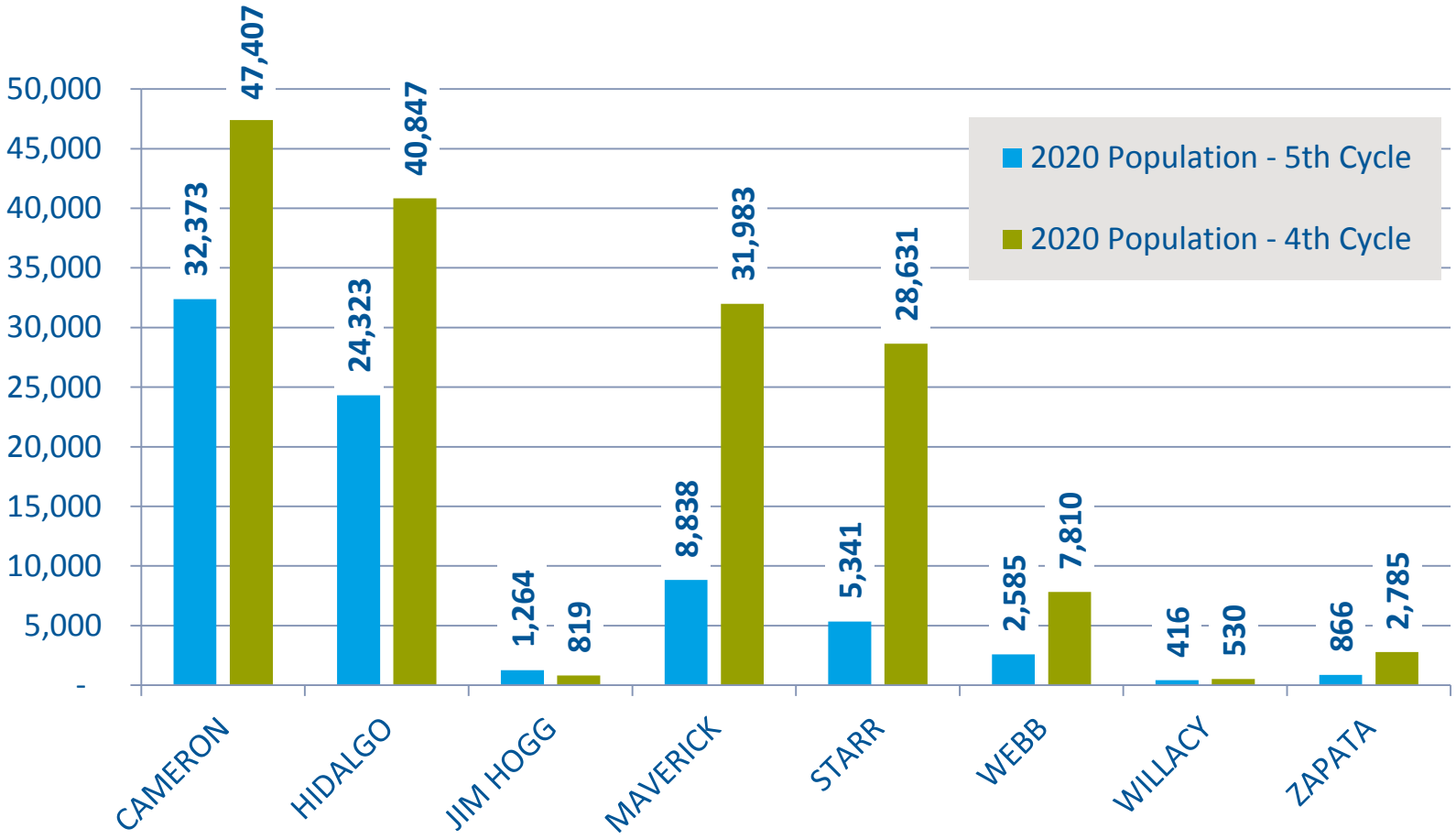
County-wide population projections are exactly the same as the 2016 RWP

POPULATION PROJECTIONS: 10 LARGEST WUGS (2020)



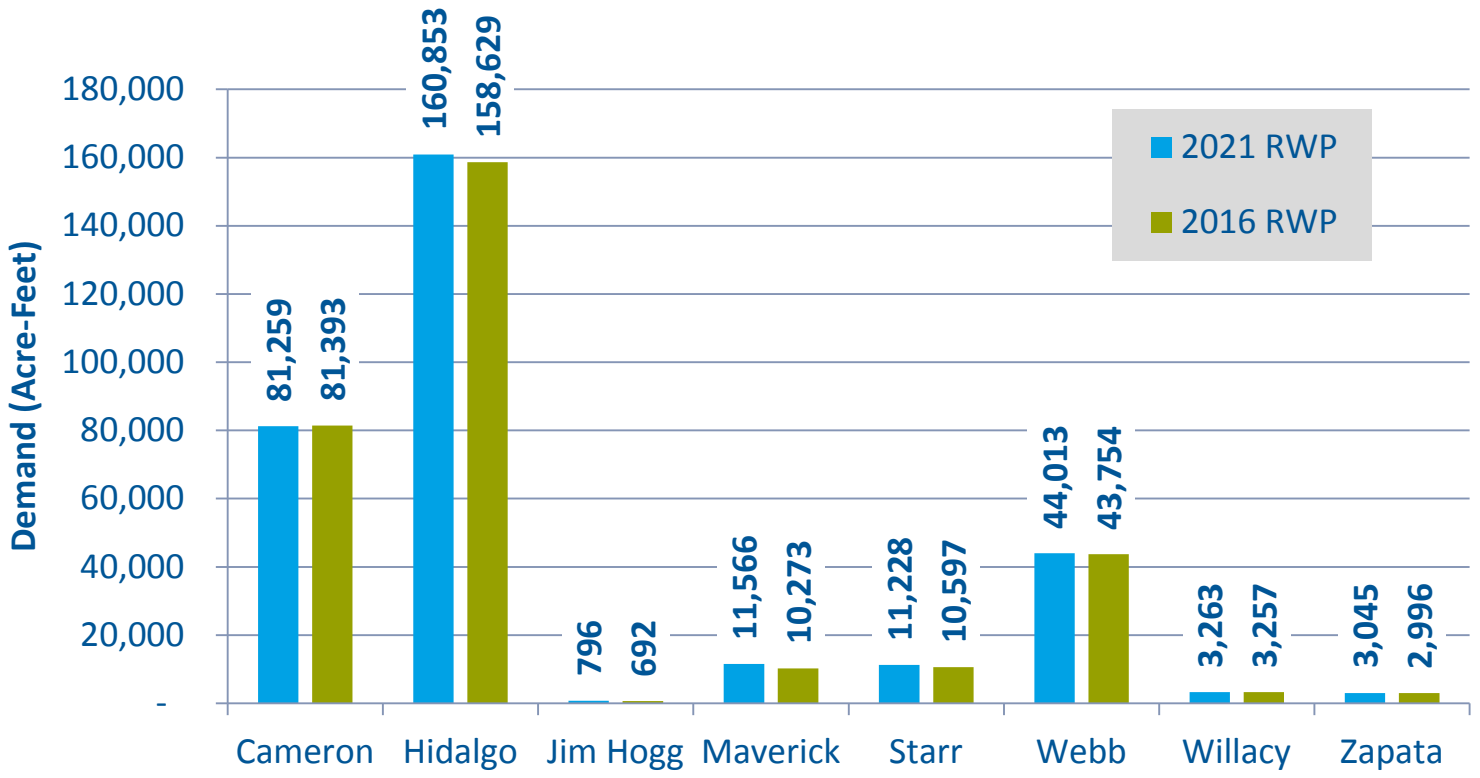
5% increase in population of 10 largest WUGs

POPULATION PROJECTIONS: COUNTY-OTHER (2020)



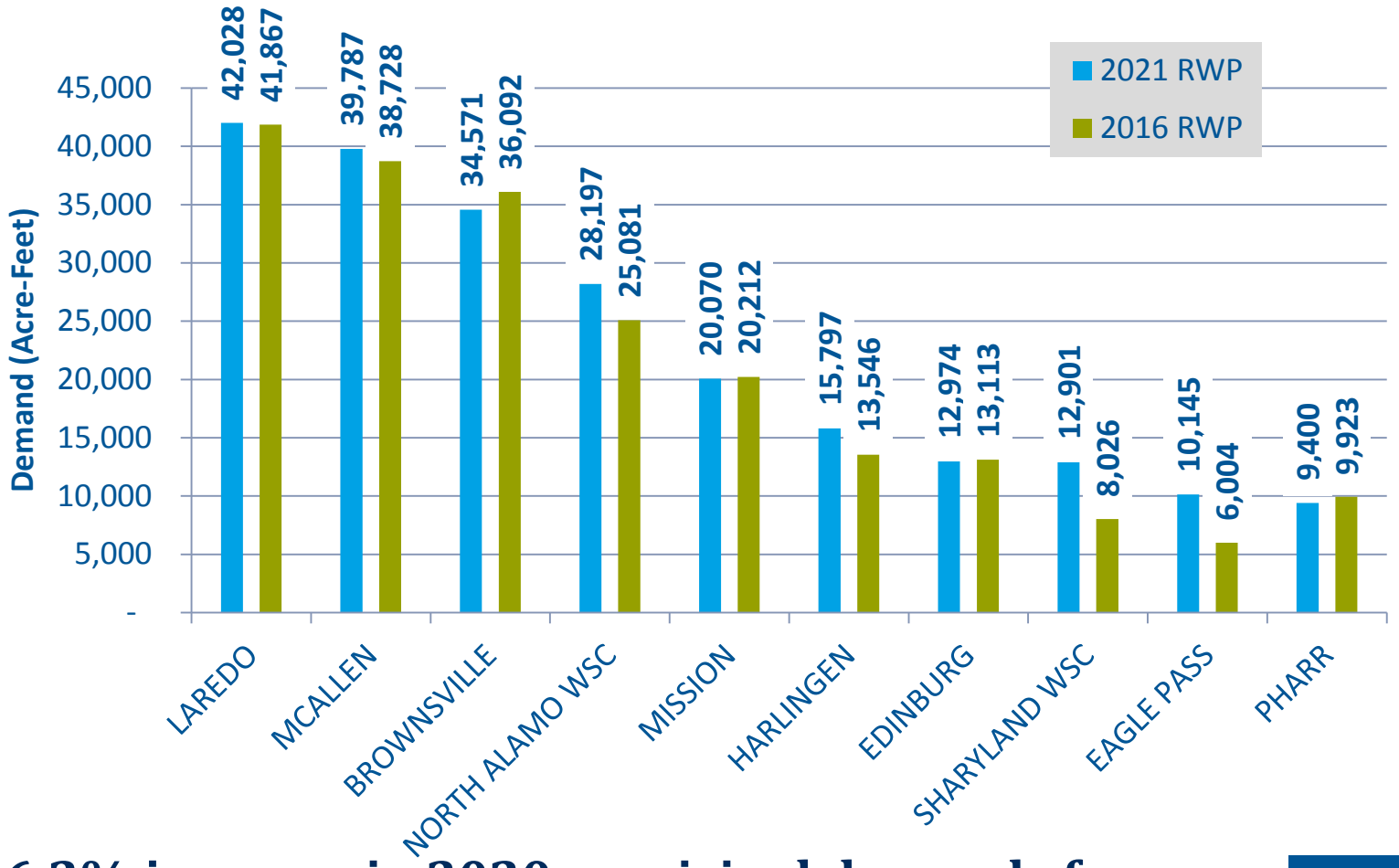
53% reduction in population of County-Other

MUNICIPAL DEMAND PROJECTIONS, COUNTY TOTALS (2020)



1.4% increase in total 2020 municipal demands

MUNICIPAL DEMAND: 10 LARGEST WATER USERS (2020)



6.2% increase in 2020 municipal demands for top 10 utilities by water demand

SURVEY REQUEST

- **Surveys were emailed to 95 representatives of the 63 municipal WUGs**
  - Follow-up phone calls
  - Reminder emails

	% of WUGs	Population of WUGs (2020)
Approved	27.0%	66.0%
No Reponse	12.7%	12.4%
Comments	60.3%	21.5%

Dear Mr. Bearden,

As the technical consultant to the Rio Grande Regional Water Planning Group, Black & Veatch is contracted by the Lower Rio Grande Development Council to assist the Region M planning group in the preparation of the 2021 Rio Grande Regional Water Plan. As part of this effort, we seek your assistance in reviewing the draft projections, prepared by the Texas Water Development Board (TWDB) for your utility. Below are the draft population and water demand projections for Combes for the decades 2020 through 2070, along with associated per capita water use data, as calculated from the draft projections.

As you review the data, please keep in mind that these are projections of water demand under drought conditions, and are estimated based on best available data.

Population projection data comes from the Texas State Demographer on a county-wide basis (which analyzes county birth rates, mortality rates, and net migration rates). TWDB then uses this information, along with CCN information and other census data, to develop population projections at the utility level. Water demand projections are estimated using these population projections and a Base per capita water use, which then declines over time assuming implementation of plumbing codes in new construction.

Combes **Base GPCD = 94**

	Year 2020	Year 2030	Year 2040	Year 2050	Year 2060	Year 2070
Population	3,411	3,986	4,567	5,195	5,840	6,501
Water Demand (acft/yr)	321	357	396	444	497	553
GPCD	84	80	77	76	76	76

**GPCD = Gallons Per Capita Per Day*

If you find the projections adequate, please reply to this email to indicate so. If you feel the population and/or water demand projections do not adequately approximate the future of your utility, please let us know so that we may follow up and work with TWDB to request adjustments. Final population and water demand projections for your utility will be made by TWDB in January 2018. Supplies associated with Combes from the 2016 Regional Water Plan will be sent to you shortly for you to review and update. We appreciate your assistance.

Sincerely,
Sara Eatman
Engineer – 2021 Region M Water Plan
Black & Veatch

List of responses is in your meeting packet

SUB-WUG OPTION

		# of Total Connections						Net Use in ACFT					
County	PWS Name or Water Use Survey Name	2010	2011	2012	2013	2014	2015	2010	2011	2012	2013	2014	2015
CAMERON	BROWNSVILLE NAVIGATION DISTRICT	-	-	-	-	-	228	456	566	517	522	513	337
HIDALGO	LLANO GRANDE LAKE PARK EAST	-	650	430	430	430	430	-	66	114	73	55	72
WEBB	BRUNI RURAL WSC	215	216	217	217	217	217	40	55	54	51	54	55
WEBB	OILTON RURAL WSC	143	135	139	138	138	138	42	50	45	49	41	38
STARR	IBWC FALCON VILLAGE	37	37	37	37	37	37	63	80	58	61	75	36
CAMERON	TOWN OF INDIAN LAKE	363	363	360	360	363	363	45	49	40	43	46	32
HIDALGO	QUIET VILLAGE II	-	176	176	176	176	172	-	9	9	9	9	9
HIDALGO	LLANO GRANDE LAKE PARK WEST	196	196	133	133	133	133	8	11	8	8	8	7
CAMERON	LA MIRADA COUNTRY ESTATES	100	100	100	-	-	-	9	-	-	-	-	-
HIDALGO	TRAILS END MOBILE HOME PARK	-	-	-	-	-	-	18	26	17	-	-	-

Systems which will be lumped into County-Other

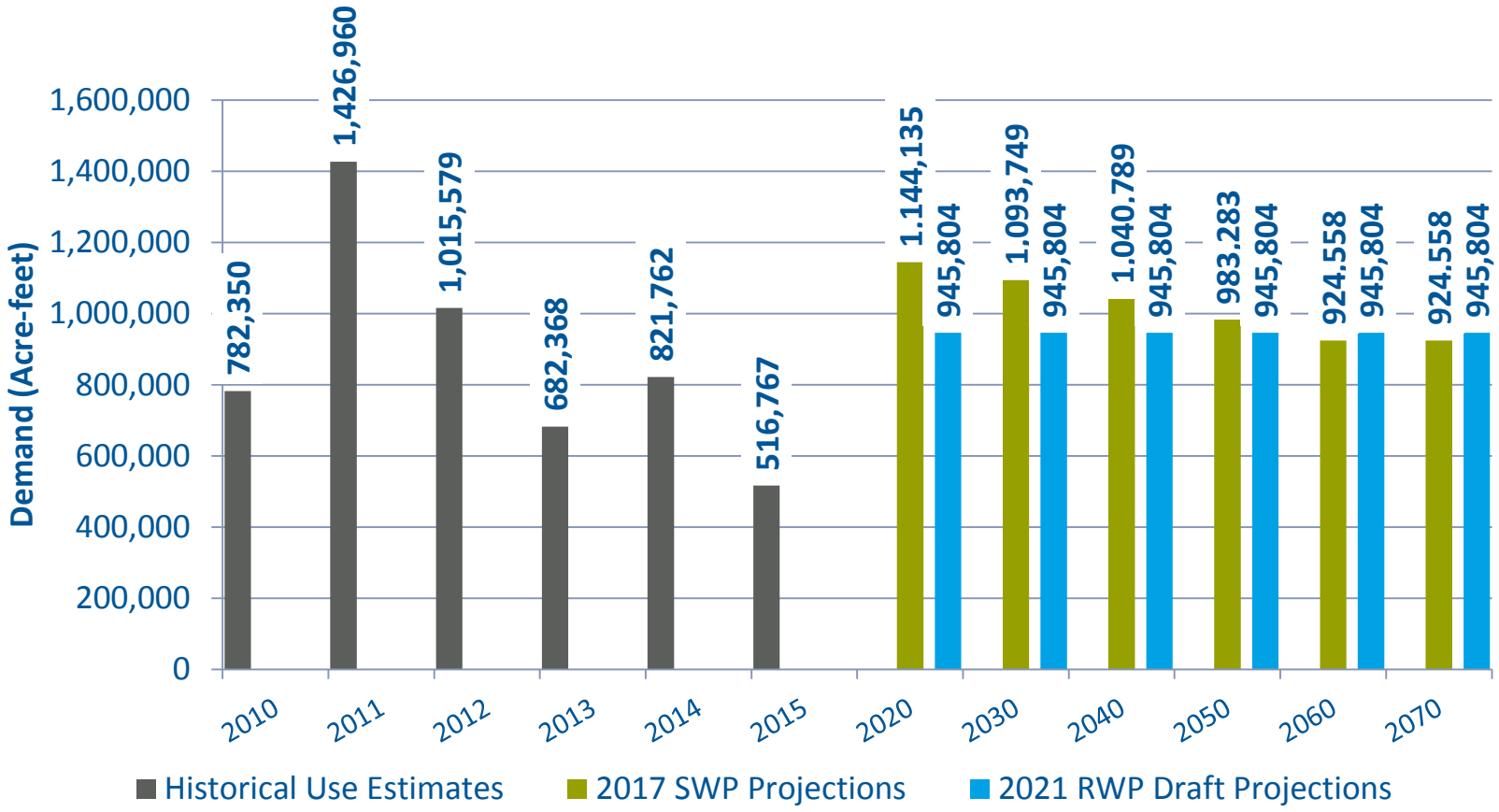
7.A.2. NON-POPULATION DEMAND PROJECTIONS

NON-MUNICIPAL DEMAND PROJECTION METHODOLOGY

- Irrigation: average of last 5 years, may be constrained by supplies (per RWPG)
- Manufacturing: average of last 5 years reported (Water Use Survey and TCEQ records), including demands met by reuse
- Steam-Electric: from TWDB Water Use Survey and ERCOT projections (with projected use per generation type)
- Livestock: calculated with per-head demands

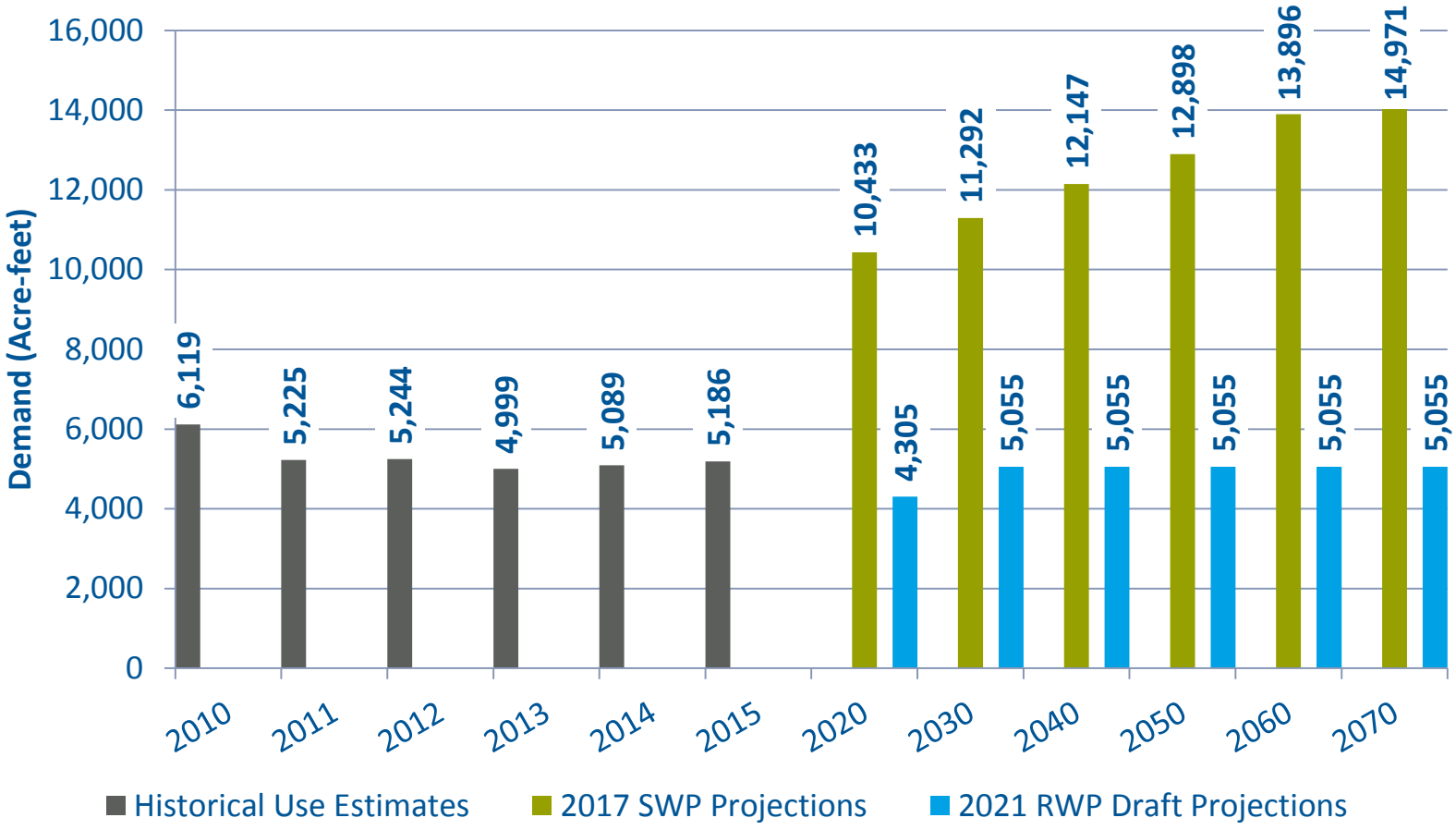
As projections are released, we will review and compare with other data sources.

IRRIGATION DEMAND PROJECTIONS



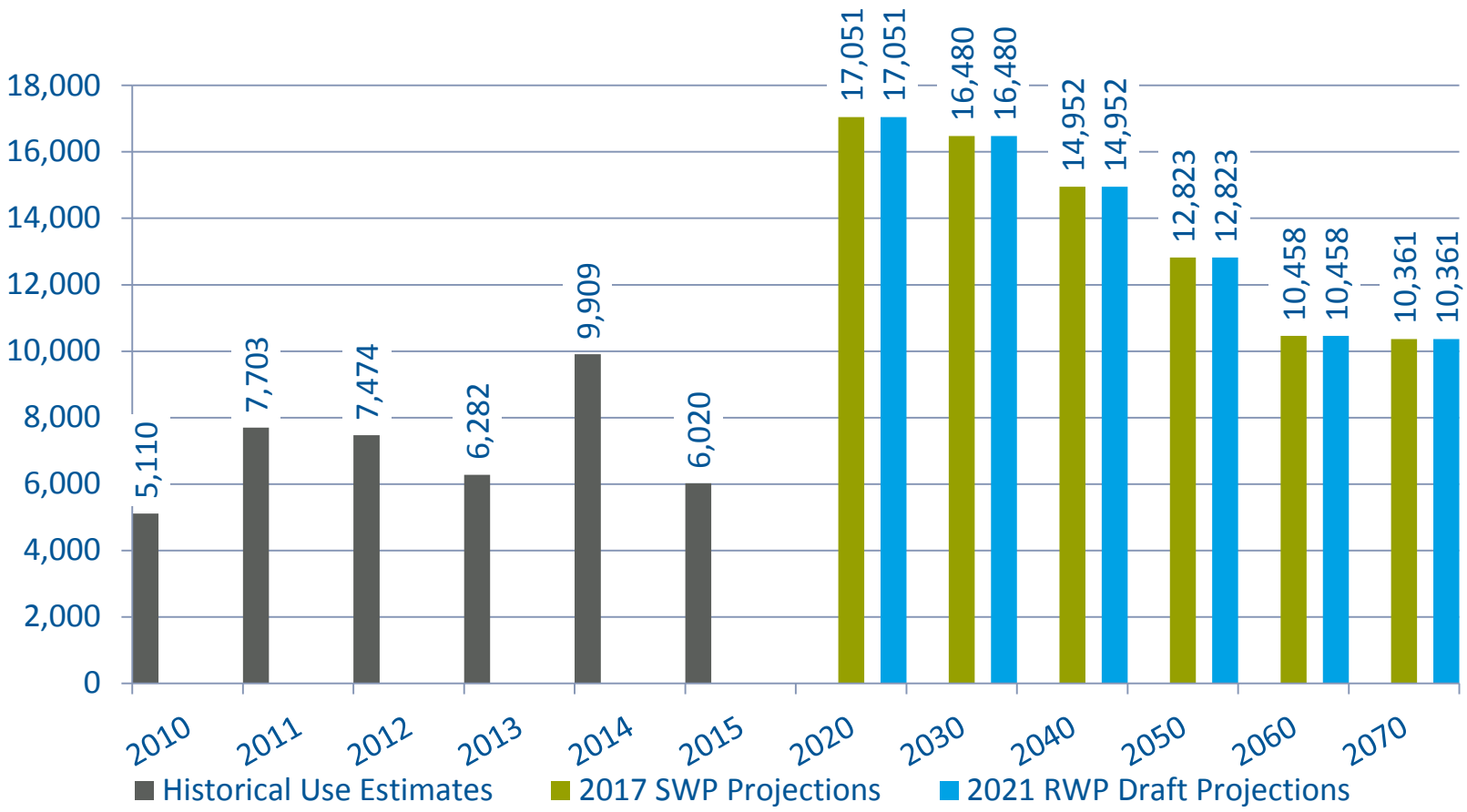
Irrigation demand projections are based on the average of 2010-2015 annual usage, held constant 2020-2070

MANUFACTURING DEMAND PROJECTIONS



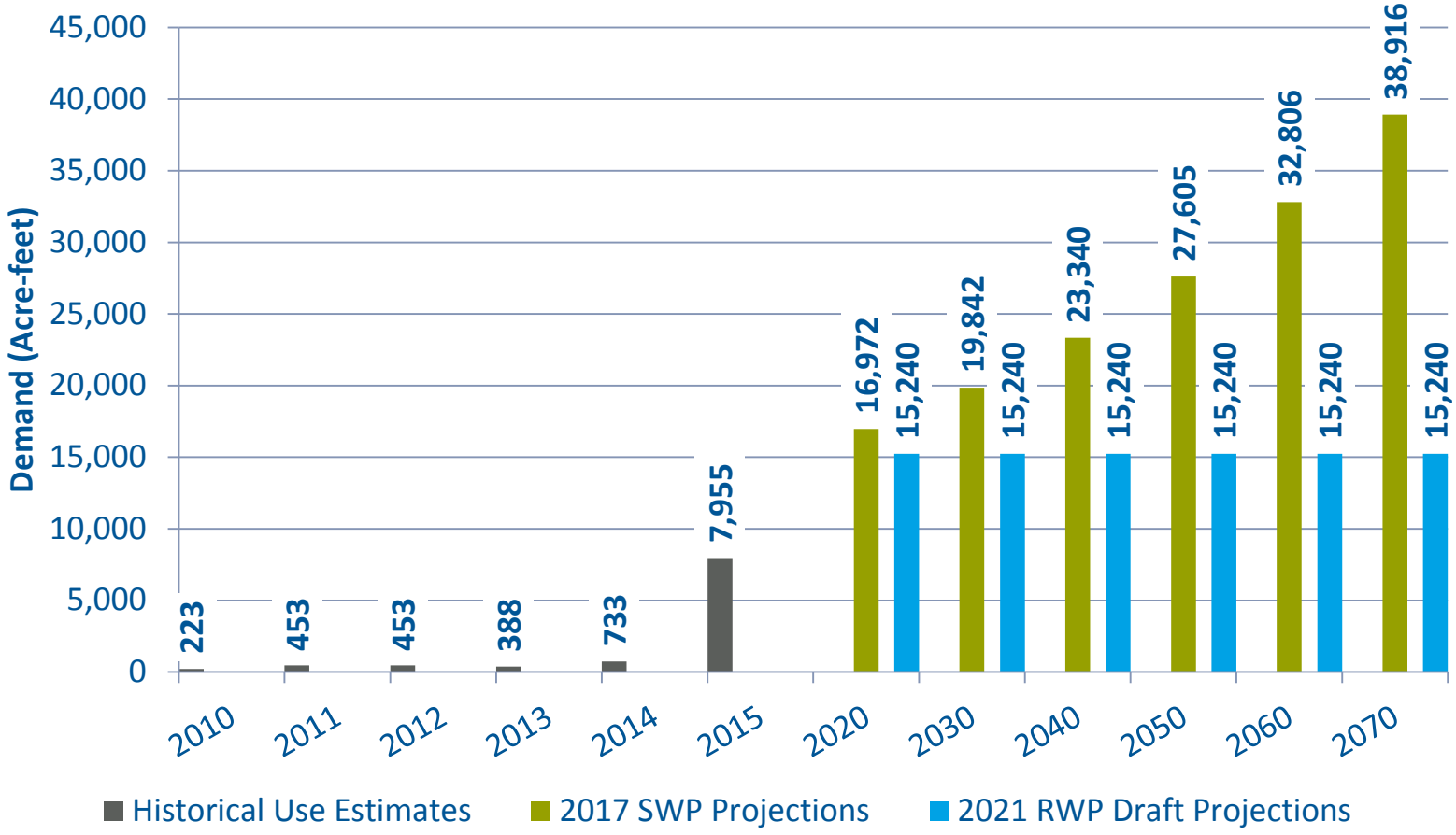
Manufacturing projections are based on highest historical use year (2010-2014) and TWC employment projections

MINING DEMAND PROJECTIONS



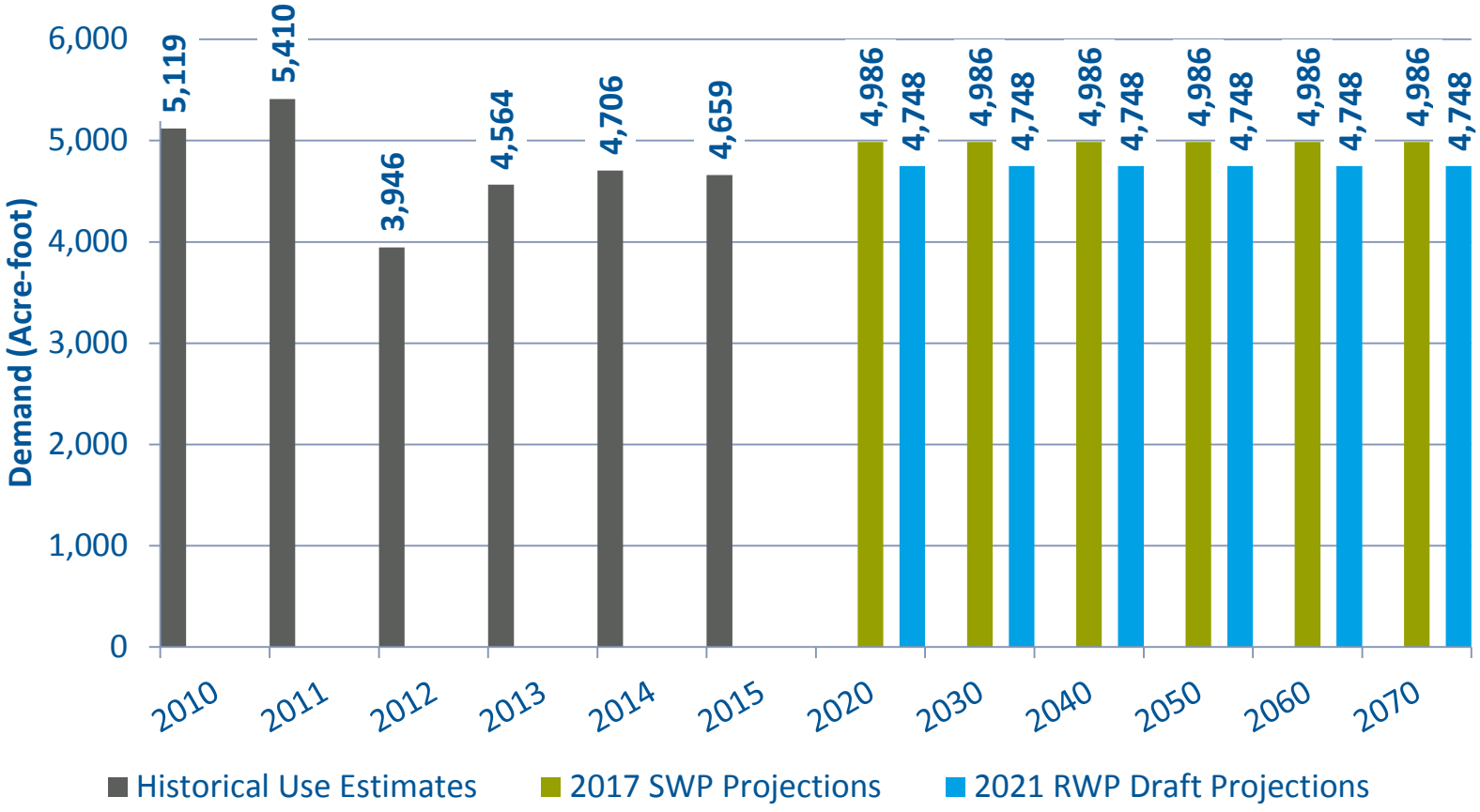
Mining demands are the same as the (BEG revised) 2016 RWP projections

STEAM ELECTRIC DEMAND PROJECTIONS



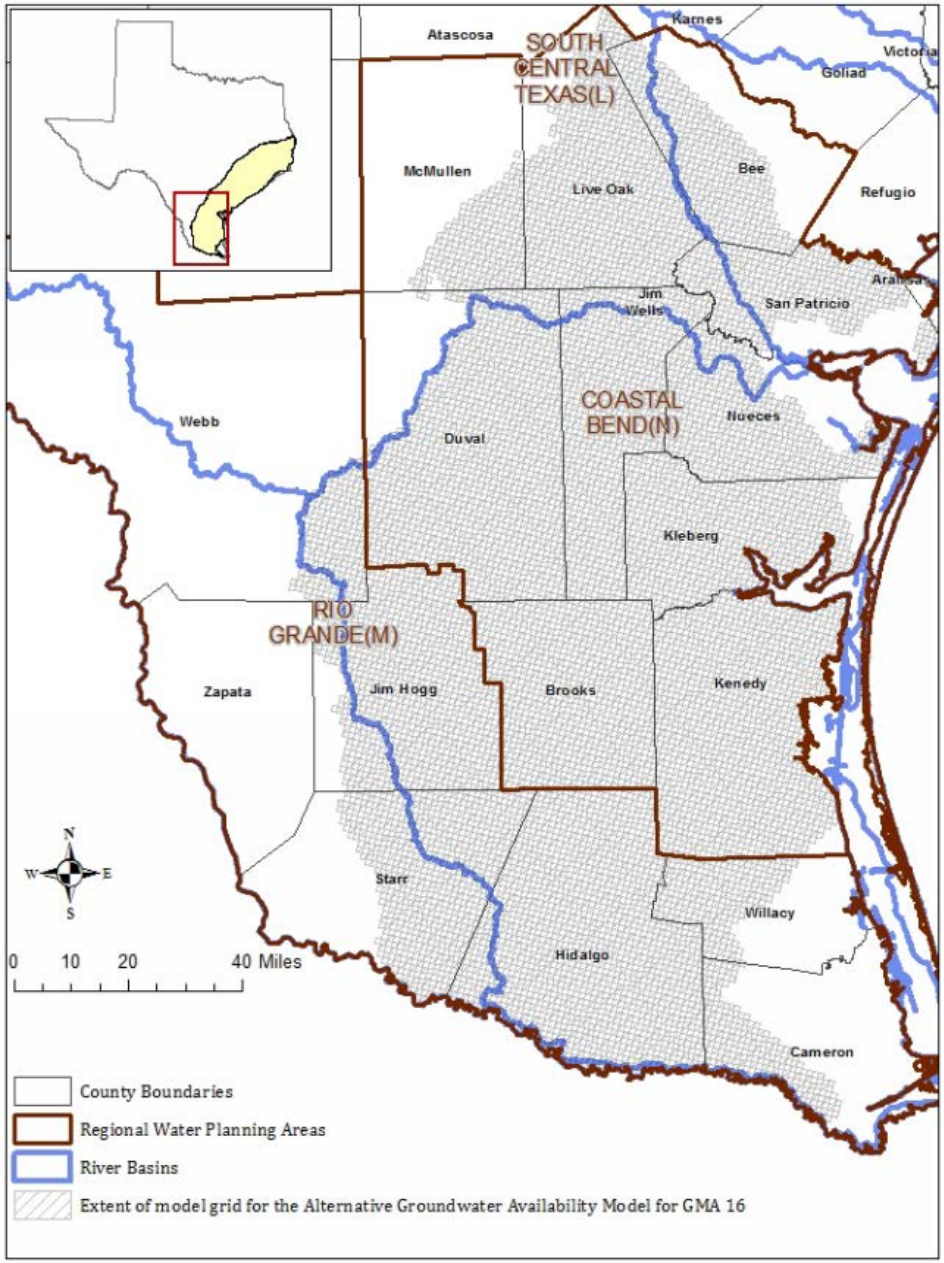
Steam electric demands are based on highest use year (2010-2014) and US EIA plant information

LIVESTOCK DEMAND PROJECTIONS



Livestock demands are based on average of 2010-2014.

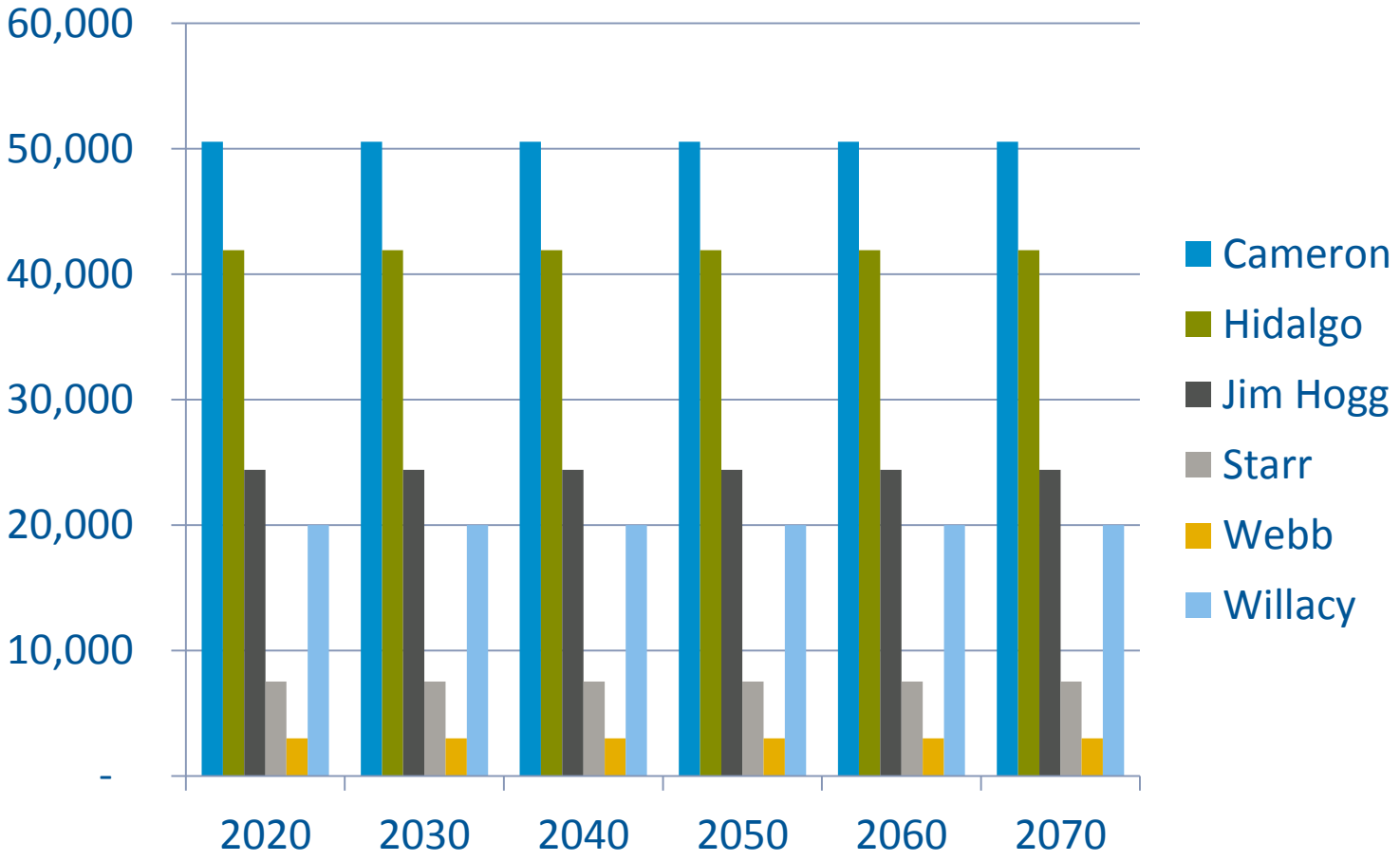
7.A.3. GMA 16 GULF COAST AQUIFER MAG PROJECTIONS



GMA 16

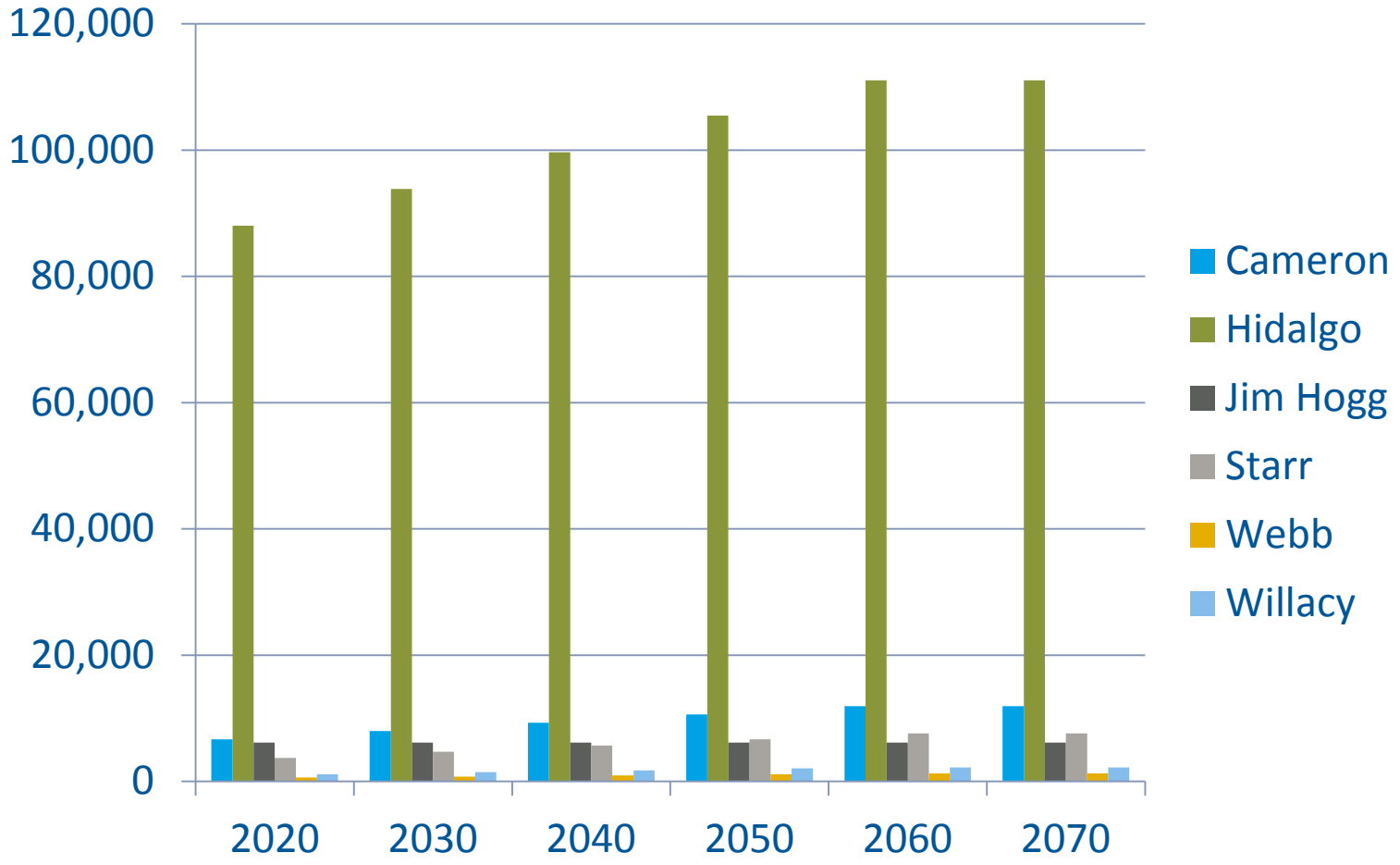
- GMA – Groundwater Management Area
- MAG – Managed Available Groundwater
- DFC – Desired Future Conditions
- GAM – Groundwater Availability Model

GULF COAST MAG USED IN 2016 RWP



	2020	2030	2040	2050	2060	2070
2016 RWP	147,441	147,441	147,441	147,441	147,441	147,441

GMA 16 GULF COAST AQUIFER REVISIONS



	2020	2030	2040	2050	2060	2070
Revised MAG	106,389	114,973	123,560	132,140	140,293	140,293

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