



Edwards Aquifer Habitat Conservation Plan  
**Report of the 2019 Budget Work Group**



To: Edwards Aquifer Habitat Conservation Plan Implementing Committee

From: Edwards Aquifer Habitat Conservation Plan Budget Work Group

Date: September 18, 2019

### **Overview:**

On September 18, 2019, a meeting of the Edwards Aquifer Habitat Conservation Plan (EAHCP) Budget Work Group was held to review and discuss the Edwards Aquifer Authority (EAA) 2020 budget process to monitor the management of EAHCP revenue and expenses. Specifically, the Budget Work Group was charged by the EAHCP Implementing Committee to “collaborate with and inform the EAA Budget Process, as it relates to the EAHCP, EAHCP reserve and EAHCP aquifer management fee and to address fiscal issues.”

Members of this Work Group include:

- Tom Taggart, Implementing Committee (IC) Member (serving as Chair - City of San Marcos)
- Brock Curry, Edwards Aquifer Authority (EAA) designee
- Steve Raabe, EAHCP Stakeholder member
- Myron Hess, EAHCP Stakeholder member
- Mary Bailey, San Antonio Water System (SAWS) designee
- Adam Yablonski, Member-at-Large, Medina County Farm Bureau

### **Work Group Discussions:**

During the meeting, EAA staff presented information on the following items:

- Aquifer Storage Recovery and Voluntary Irrigation Suspension Program Option program updates.
- Updated calculations of the Drought of Record projected expenses, forecasts, and probabilities.
- EAHCP Table 7.1A Analysis and Forecast.
- EAA Aquifer Management Fee and Reserve Forecast.
- EAHCP 2020 Proposed Budget and Reserve Fund.

The discussion concerning these topics is described below. The full set of slides and supporting material (Appendix A), meeting agenda (Appendix B), and meeting minutes (Appendix C) are included as appendices.

### **Aquifer Storage Recovery (ASR) and Voluntary Irrigation Suspension Program Option (VISPO) programs.**

EAA staff provided an update and overview of the ASR and VISPO programs. In 2020, the total costs for the ASR program will be about \$6,299,848. This expenditure comprises forbearance agreements, leases, and operations, and maintenance injection costs. Under the VISPO program, as amended in May 2019, 41,795 acre-feet of water is required in forbearance agreements. The target for 2020 is to achieve the new goal of 41,795 acre-feet and to pursue renewals for the expiring 5-year forbearance agreements. The estimated cost for the VISPO program in 2020 is \$2,508,070.

### **Updated calculations of the Drought of Record projected expenses, forecasts and probabilities.**

EAA staff presented the updated Drought of Record probabilities to the Work Group. Based on the historical J-17 data and current aquifer levels, there is a 0% chance that VISPO forbearance will trigger in 2020. Between 2021-2027, EAA staff forecasts a 40% chance that VISPO forbearance will trigger in one or more years, a 8.1% chance it will trigger in two or more years, a 1% chance it will trigger in three or more years, and a 0.07% chance of it triggering four or more times.

Based on current modeling scenarios, there is about a 1% probability of the recharge trigger for the ASR forbearance program occurring at least once by 2026, considering a rolling 10-year average. Overall, there is about a 16% probability of the 10-year recharge trigger for the ASR forbearance program occurring at least once by 2029.

### **EAA 2019 Aquifer Management Fee (AMF) and Reserve Forecast.**

EAA staff provided detailed charts to the Work Group that illustrated various projections associated with the EAA General Fund and the EAHCP Fund. These charts delineated the progression of both funds from 2012 until 2024, complete with actuals for 2012-18 and budgeted/forecasted estimates beyond 2019.

The EAHCP Reserve Fund has grown from \$14.3 million in 2012 to a projected \$28.7 million at the end of 2019. As presently forecasted, the EAHCP Reserve Fund will decrease to \$27.9 million in 2020, about \$1.5 million above the Reserve Floor of \$26.4 million. Based on current projections, without triggering VISPO or ASR forbearance, or implementing the Adaptive Management Process, the EAHCP Reserve will remain consistent with \$27.2 million in 2024.

Some Work Group members expressed concerns regarding the reserve minimum and management toward the reserve floor with no plans to build it further. Moreover, the Work Group discussed the mechanism and timing the EAA would employ to rebuild the reserve should a portion of it be used to fund a triggering of ASR or VISPO.

Since 2012, the EAA has absorbed several large expense items while maintaining the combined AMF rate of \$84. To ensure adequate reserves for the EAA General Fund while maintaining the \$84 combined AMF rate, the EAA has proposed an adjustment to the AMF between the EAA and the EAHCP in 2020. The 2020 Proposed Budget would reduce

the EAHCP Program AMF from the \$38 rate in 2019 to \$34, and EAA General Fund AMF rate would increase from \$46 to \$50.

Beginning in 2021, EAA staff projects a potential increase of the combined AMF rate to \$88 and a reduction in the EAHCP Program AMF to \$31 by 2024. This reduction in the EAHCP Program AMF rate is consistent with the projected reduction in EAHCP expense requirements. Additionally, this change will allow the EAA to build more capacity in the EAA General Fund Reserves by increasing the EAA General Fund AMF to \$57 by 2024.

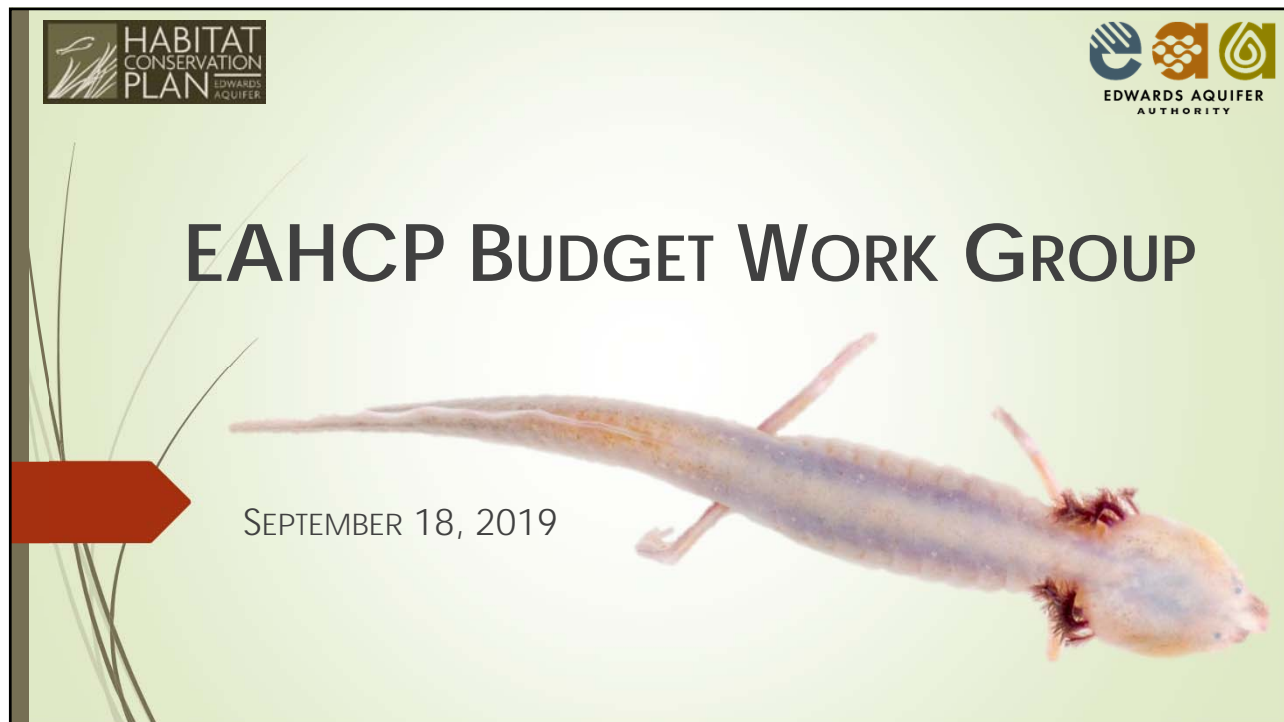
### **Considerations for the Implementing Committee.**

The Work Group recommends the following items for the Implementing Committee to consider in their deliberations related to EAHCP funding and possible comment to the EAA Board as they review the budget for FY 2020.

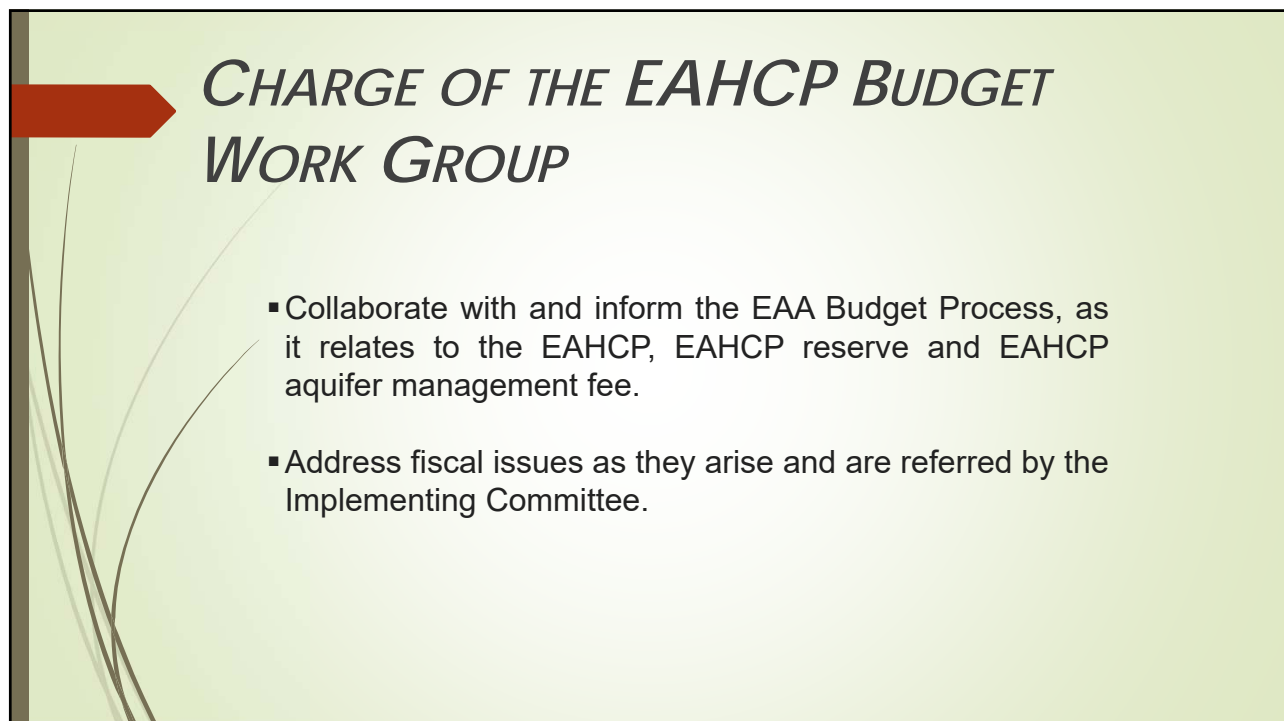
- The current financial projections and cost estimates presented to the Budget Work Group indicate an overall fiscally stable and adequate budget for the EAHCP program.
- The Work Group acknowledges the ASR and VISPO trends and no likelihood of triggering events for either program in 2020.
- The Work Group noted that proposed aquifer management fees (AMF) diverged from previous forecasts in multiple years with continuing declines in the amount of funding devoted to the EAHCP with increasing amounts of the total AMF funding EAA operations.
- Although the EAHCP Reserve is projected to be above the established floor, the Budget Work Group reiterated prior concerns regarding the downward trend of the EAHCP Reserve and the possible fiscal implications should drought conditions trigger ASR or VISPO forbearance. The Work Group recommends the Implementing Committee, EAA Board, and staff continue to monitor the potential Droughts of Record (DOR) and the impact of a DOR on the EAHCP Reserve funds to ensure the continued confidence with the U.S. Fish and Wildlife Service and the EAHCP guarantee of financial security to cover program activities.

# APPENDIX A

## SLIDE PRESENTATIONS



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# AQUIFER STORAGE AND RECOVERY (ASR) & VOLUNTARY IRRIGATION SUSPENSION PROGRAM OPTION (VISPO)

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## *AQUIFER STORAGE AND RECOVERY (ASR)*

### Requirements

- Deliver 126,000 acre-feet to off-set pumping during the Drought of Record (DOR) and acquire an additional 50,000 acre-feet of withdrawal rights to be left unpumped during DOR.

### Objective for 2020

- Continue to implement contract with SAWS and notice 9,957.439 acre-feet for injection bringing total storage to 126,000 acre-feet.
- Secure 34,075.923 acre-feet of ASR Forbearance Water to meet 50,000 acre-feet requirement.

### Estimated 2020 Budget

- \$ 2,484,002 Leases (15,924.077 acre-feet)
- \$ 3,407,591 Forbearance Agreements (34,075.923 acre-feet)
- \$408,255 Operations and Maintenance (9,957.439 acre-feet)

**Total Cost: \$6,299,848**

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# ASR

## 2020 ASR Leases

Lease Terms	Acre-feet	Cost
5 Year	3,085.950	\$432,033
7 Year	0.500	\$60
10 Year	10,585.422	\$1,691,556
15 Year	2,252.205	\$360,353
<b>Totals:</b>	<b>15,924.077</b>	<b>\$2,484,002</b>

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# ASR

## 2020 ASR Program Cost \*

ASR Program Expense	Acre-feet	Cost
Lease Agreements	15,924.077	\$2,484,002
Forbearance – 9 Year Agreements	15,509.061	\$1,550,904
Forbearance – 10 Year Agreements	18,566.862	\$1,856,687
<b>ASR Leasing/Forbearance Totals:</b>	<b>50,000.000</b>	<b>\$5,891,593</b>
Operations & Maintenance (injection)		\$408,255
<b>Total ASR Program Costs</b>		<b>\$6,299,848</b>

\* Includes actual and budgeted forbearance agreements.

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## ASR

### ASR Cumulative Storage

Year	ASR Water Noticed To SAWS (acre-feet)	Cumulative Balance (acre-feet)
2013	1,868.325	1,868.325
2014	4,031.402	5,899.727
2015	12,075.016	17,974.743
2016	33,258.630	51,233.373
2017	31,475.188	82,708.561
2018	16,667.000	99,375.561
2019	16,667.000	116,042.561
2020	9,957.439	126,000.000

Cost of Injection 9,957.439 X \$41 = \$408,255

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## *VOLUNTARY IRRIGATION SUSPENSION PROGRAM OPTION (VISPO)*

### Requirements:

- Secure 41,795 acre-feet of forbearance agreements.

### Target for 2020:

- Enroll 41,795 Acre-feet
- Target new enrollees and expiring 5-year forbearance agreements for renewal (15,812.121 acre-feet).

**Estimated Cost: \$2,508,070**

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## VISPO

### Rates per Acre-foot:

Years	Fee	Beginning Rate	Rate Increase
5-Year	Standby	\$50	1.5%/year
	Forbearance	Plus \$150 ( <u>\$200</u> )	1.5%/year
10-Year	Standby	\$57.50 (years 1-5)	\$70.20 (years 6-10)
	Forbearance	Plus \$172.50 (years 1-5) ( <u>\$230</u> )	\$210.60 (years 6-10)
New 5-Year Rate	Standby	\$54	None
	Forbearance	Plus \$160 ( <u>\$214</u> )	None

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## VISPO

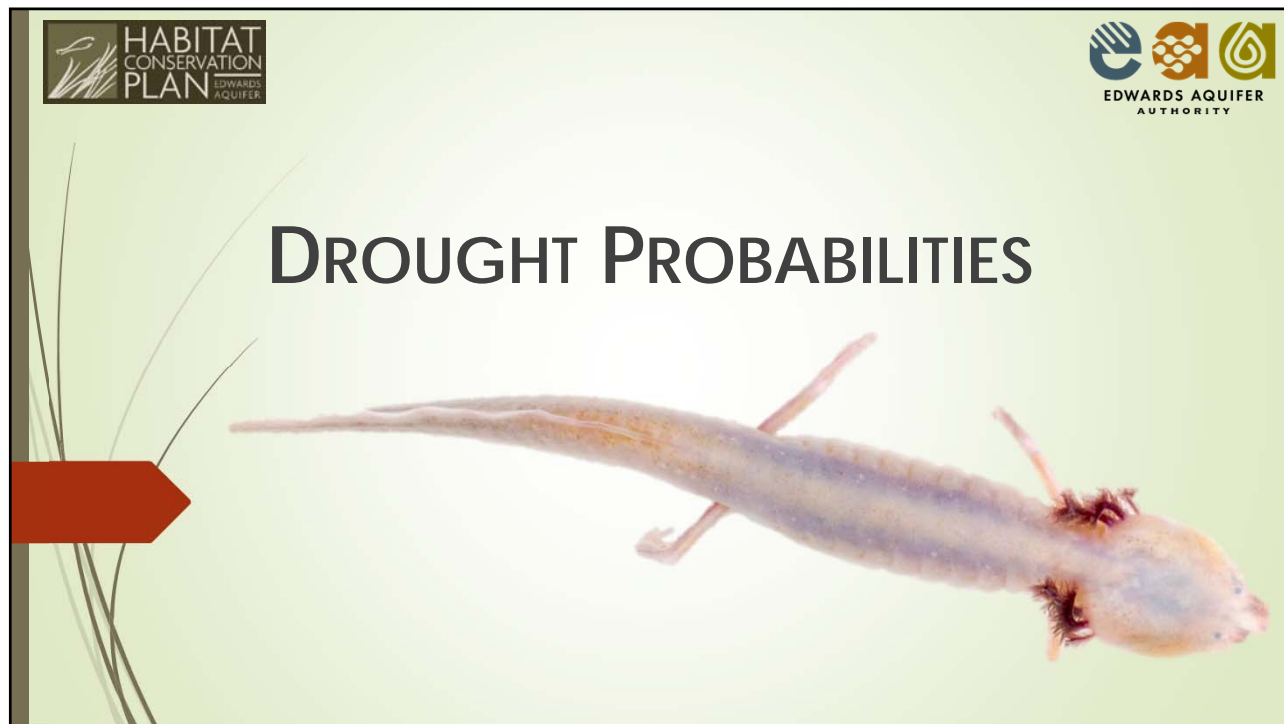
### 2020 VISPO Agreements Expected to be Under Contract

Term	Acre-ft. Enrolled	If Stand-by	If Forbearance
5-Year Renewed/New	26,174.931	\$1,413,446	\$5,601,436
10-Year	15,620.069	\$1,094,624	\$4,378,496
Totals:	41,795.000	\$2,508,070	\$9,979,932

J-17 Index Well Reading is expected to be above 635 ft. msl on October 1<sup>st</sup> therefore permit holders will be paid the standby rate.

Total Cost of 2020 VISPO Program will be \$2,508,070

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## *VISPO TRIGGERING PROBABILITIES*

Based on historical J-17 data and current levels, the probability of VISPO triggering in:

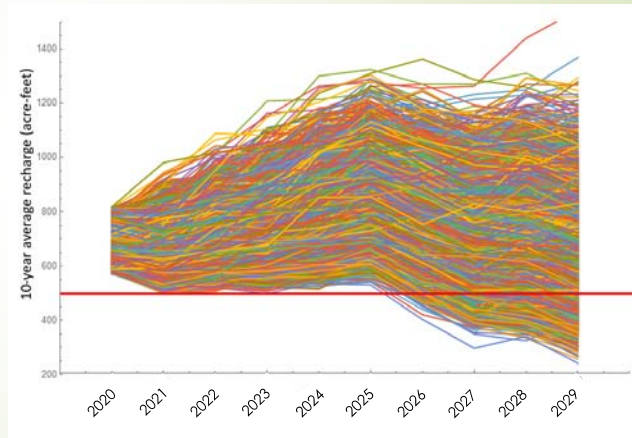
- 2020: 0%
- 2021 – 2027, each year is independent from the previous year:
  - In any individual year = 7%
  - 1 or more VISPO trigger years = 40%
  - 2 or more = 8.1%
  - 3 or more = 1.0%
  - 4 or more = 0.07%

**Note:** These probabilities are for the number of possible occurrences of VISPO years for period 2020-2027. They are not necessarily consecutive years.

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## ASR FORBEARANCE TRIGGERING PROBABILITIES

- 2020: 0%; 2021: near 0%
- Chances of triggering by 2026 or sooner are only about one percent
- Chance of triggering increases to 8 percent by 2027 when the high recharge year 2016 falls out of the average
- Overall chance of triggering during 2029 or sooner are about 16 percent



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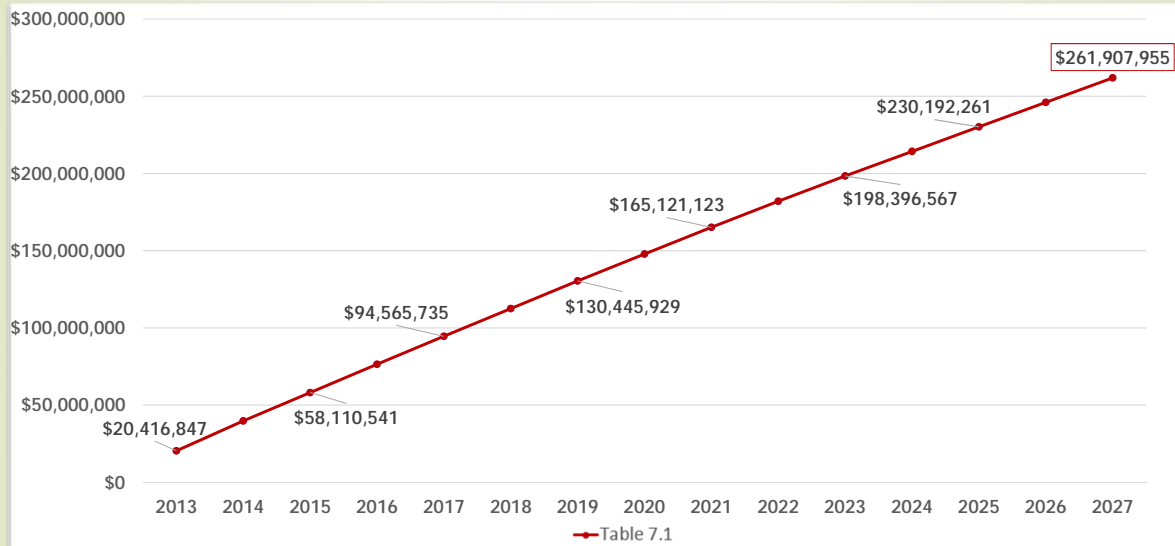


## EAHCP 7.1 ANALYSIS AND FORECAST

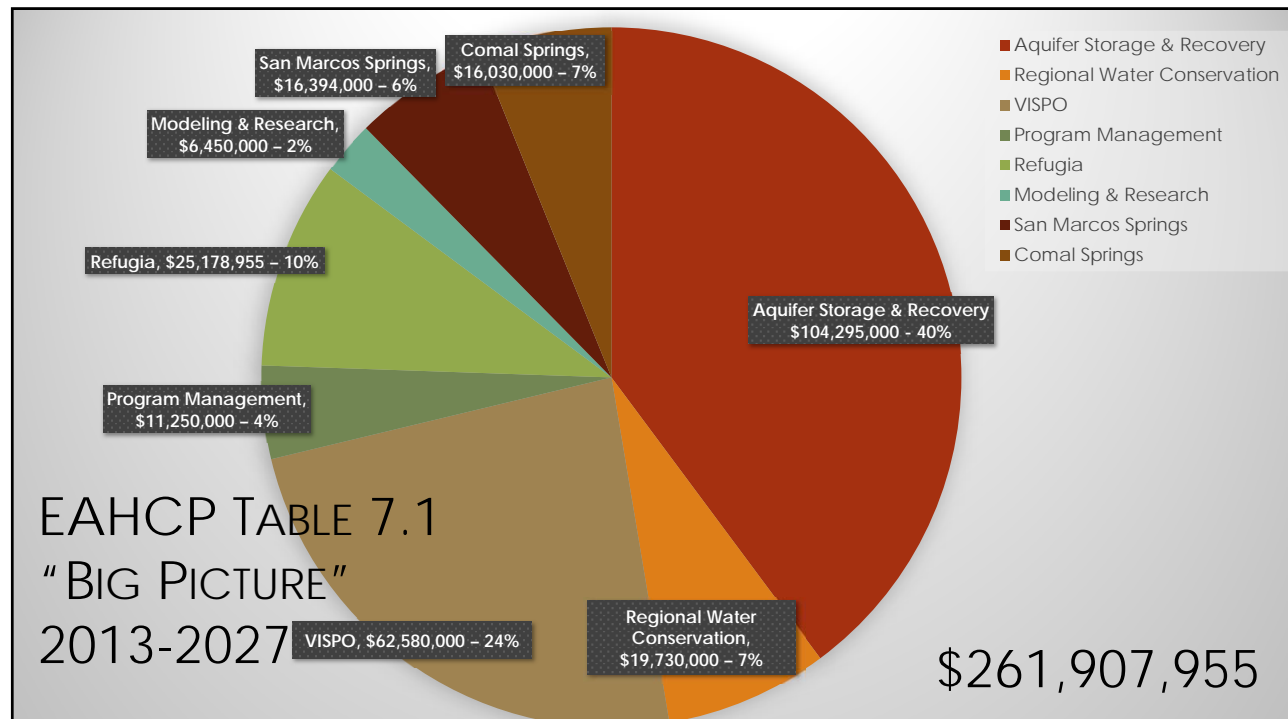


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EAHCP TABLE 7.1



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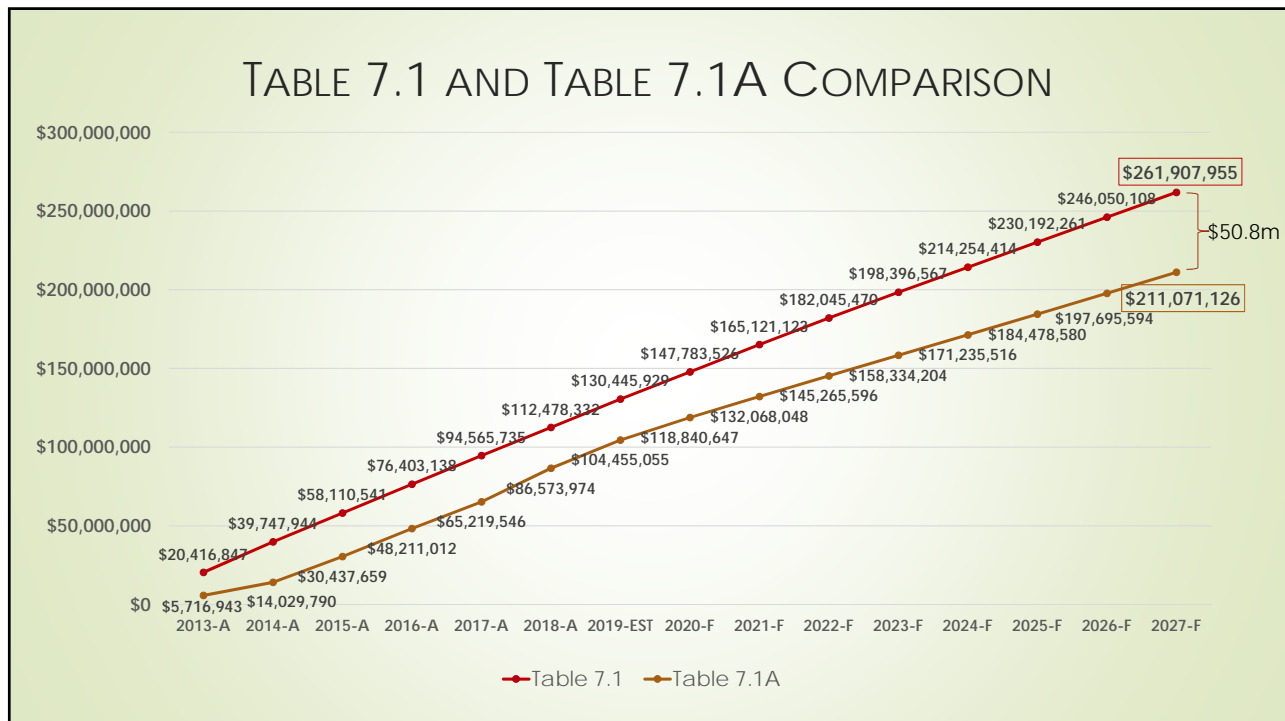


# 7.1 ADJUSTED

## "TABLE 7.1A"

*TRACKS ACTUALS FOR CLOSED YEARS AND  
FORECASTED PERIODS THROUGH THE END OF THE ITP.*

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# PROGRAM TOTALS | TABLE 7.1 AND TABLE 7.1A COMPARISON

EAHCP Measure	Table 7.1 Totals	Table 7.1A Projected Totals	▲ Between Table 7.1 to 7.1A
Program Administration	\$11,250,000	\$15,923,375	(\$4,673,375)
ASR - Leasing/Forbearance	71,385,000	69,377,063	2,007,937
ASR - O & M	32,910,000	4,835,151	28,074,849
Regional Water Conservation	19,730,000	19,414,103	315,897
VISPO	62,580,000	38,051,507	24,528,493
San Marcos Springs	16,394,000	19,313,715	(2,919,715)
Comal Springs	16,030,000	17,681,998	(1,651,998)
Modeling & Research	6,450,000	6,805,622	(355,622)
Refugia	25,178,955	19,668,592	5,510,363
<b>Total</b>	<b>\$261,907,955</b>	<b>\$211,071,126</b>	<b>\$50,836,829</b>

Entity	Table 7.1 Totals	Table 7.1A Projected Totals	▲ Between Table 7.1 to 7.1A
Edwards Aquifer Authority	\$238,483,955	\$187,692,234	\$50,791,721
City of San Marcos - TSU	11,894,000	12,567,167	(673,167)
City of New Braunfels	11,530,000	10,811,726	718,274
<b>Program Totals</b>	<b>\$261,907,955</b>	<b>\$211,071,126</b>	<b>\$50,836,829</b>

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## Edwards Aquifer Authority 7.1A Budget as Compared to Table 7.1

EAHCP Measure	Table 7.1 Totals	Table 7.1A Projected Totals	▲ Between Table 7.1 to 7.1A
ASR - Leasing/Forbearance	\$71,385,000	69,377,063	\$2,007,937
ASR - O & M	32,910,000	4,835,151	28,074,849
Regional Municipal Water Conservation	19,730,000	19,414,103	315,897
VISPO	62,580,000	38,051,507	24,528,493
Biological Monitoring	6,000,000	8,954,388	(2,954,388)
Water Quality Monitoring	3,000,000	4,662,433	(1,662,433)
Ecological Modeling	1,150,000	1,153,780	(3,780)
Applied Research (Research & Facility)	4,750,000	4,293,330	456,670
Refugia	25,178,955	19,668,592	5,510,363
Program Management	11,250,000	15,923,375	(4,673,375)
Science Review Panel	550,000	1,358,513	(808,513)
<b>Program Total</b>	<b>\$238,483,955</b>	<b>\$187,692,234</b>	<b>\$50,791,721</b>

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### City of San Marcos/Texas State University 7.1A Budget as Compared to Table 7.1

EAHCP Measure	Table 7.1 Totals	Table 7.1A Projected Totals	▲Between Table 7.1 to 7.1A
TX Wild Rice Enhancement/Restoration	\$1,850,000	1,321,168	\$528,832
Sediment Removal	850,000	744,292	105,708
Non-Native Plant Species Control	1,375,000	3,033,045	(1,658,045)
Litter Control/Floating Vegetation	1,200,000	687,165	512,835
Non-Native Animal Species Control	525,000	415,417	109,583
Bank Stabilization/Perm Access Points	780,000	1,313,492	(533,492)
Restoration - Riparian Zones	380,000	666,986	(286,986)
Management - Key Public Rec Areas	784,000	846,781	(62,781)
LID/BMP Management	3,600,000	3,008,316	591,684
Household Hazardous Waste Program	450,000	415,157	34,843
Sessom Creek Sand Bar	100,000	100,000	0
Education	0	15,349	(15,349)
<b>Program Total</b>	<b>\$11,894,000</b>	<b>12,567,167</b>	<b>(\$673,167)</b>

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### City of New Braunfels 7.1A Budget as Compared to Table 7.1

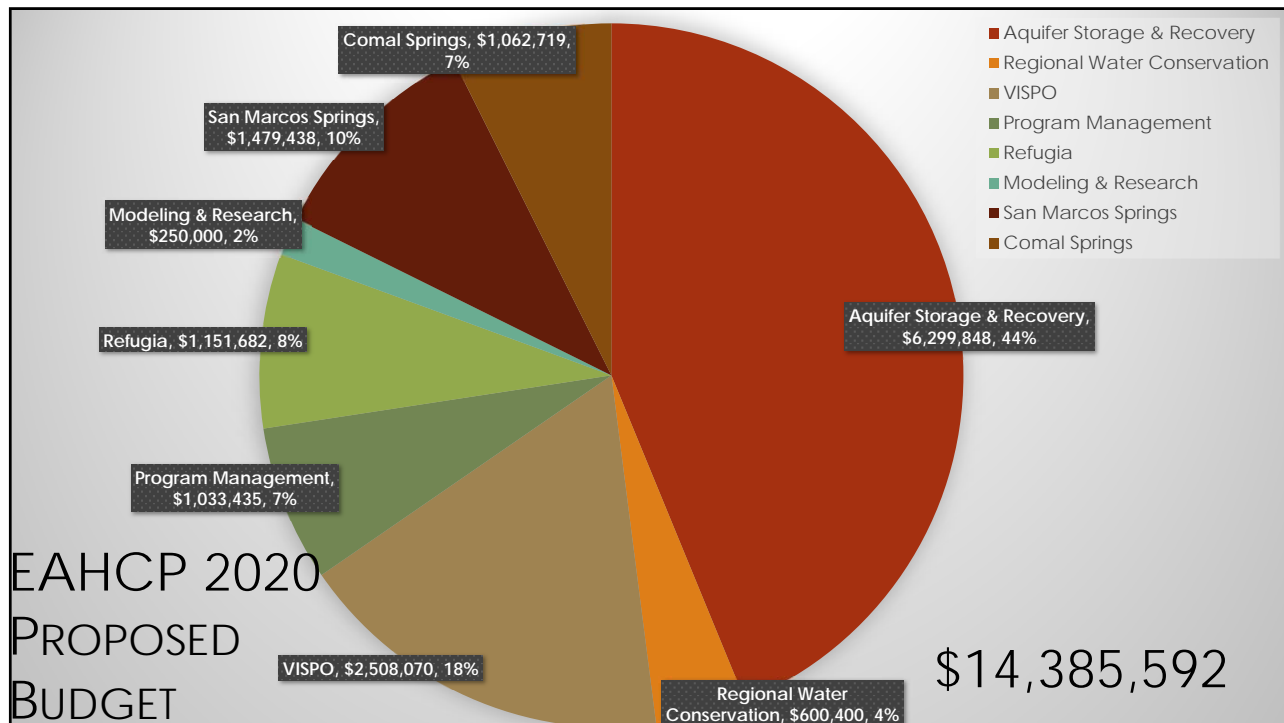
EAHCP Measure	Table 7.1 Totals	Table 7.1A Projected Totals	▲Between Table 7.1 to 7.1A
Old Channel Restoration	\$2,000,000	\$1,859,042	\$140,958
Flow Split Management	270,000	382,878	(112,878)
Aquatic Vegetation Restoration	1,245,000	1,321,643	(76,643)
Non-Native Animal Species Control	1,245,000	1,074,842	170,158
Decaying Vegetation Removal	960,000	435,518	524,482
Riparian Impr - Riffle Beetle	525,000	516,948	8,052
Gill Parasite Control	1,325,000	999,840	325,160
Restoration - Riparian Zones	1,600,000	2,165,655	(565,655)
LID/BMP Management	1,900,000	1,402,380	497,620
Household Hazardous Waste Program	450,000	431,871	18,129
Litter Control/Floating Vegetation	0	217,759	(217,759)
Prohibition - Hazardous Materials Route	10,000	0	10,000
Education	0	3,349	(3,349)
<b>Program Total</b>	<b>\$11,530,000</b>	<b>\$10,811,726</b>	<b>\$718,274</b>

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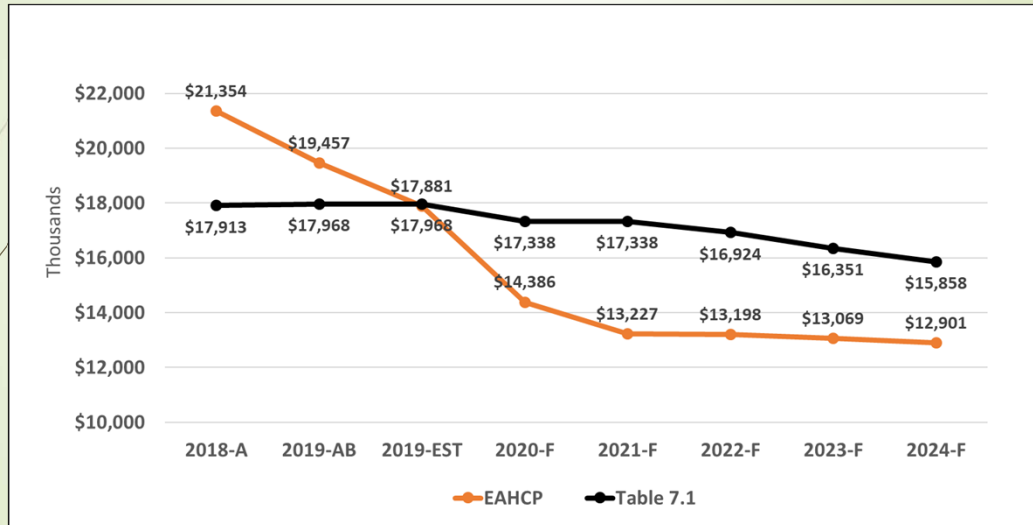


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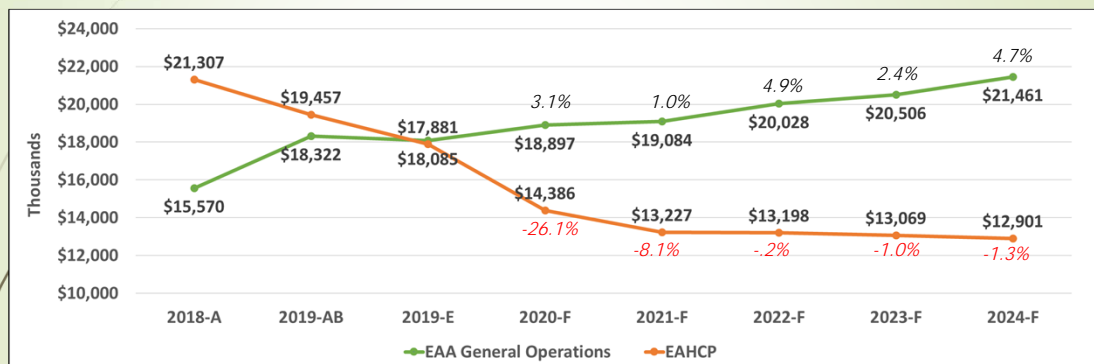
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## EAHCP EXPENSE PROJECTIONS



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## EXPENSE PROJECTIONS

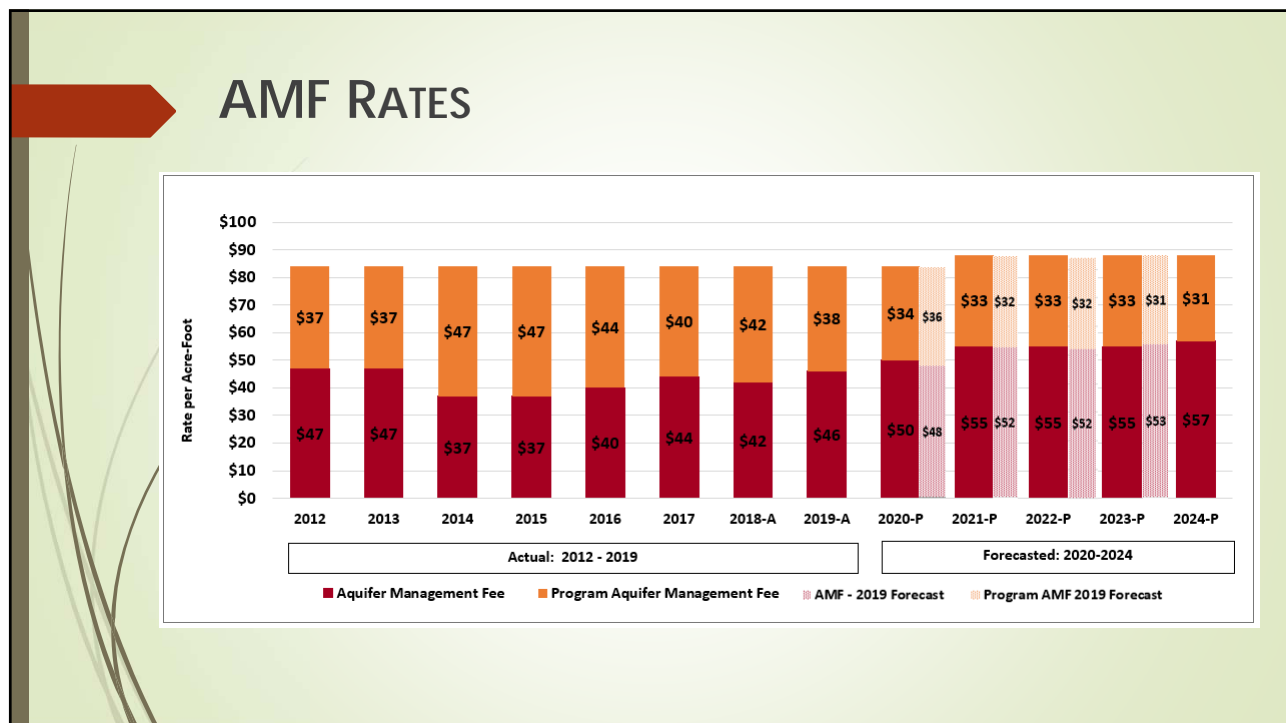


Note: Percentages indicate year-to-year percentage change in forecast.

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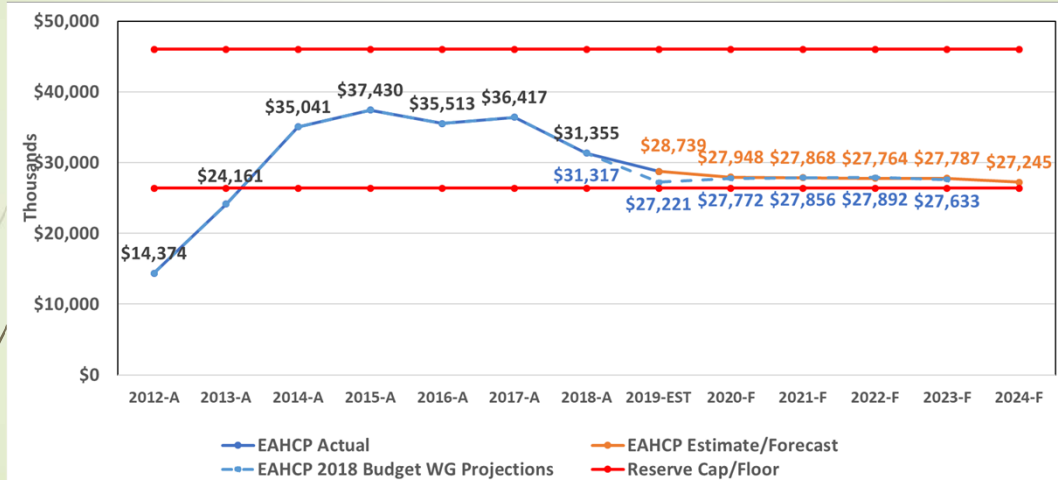


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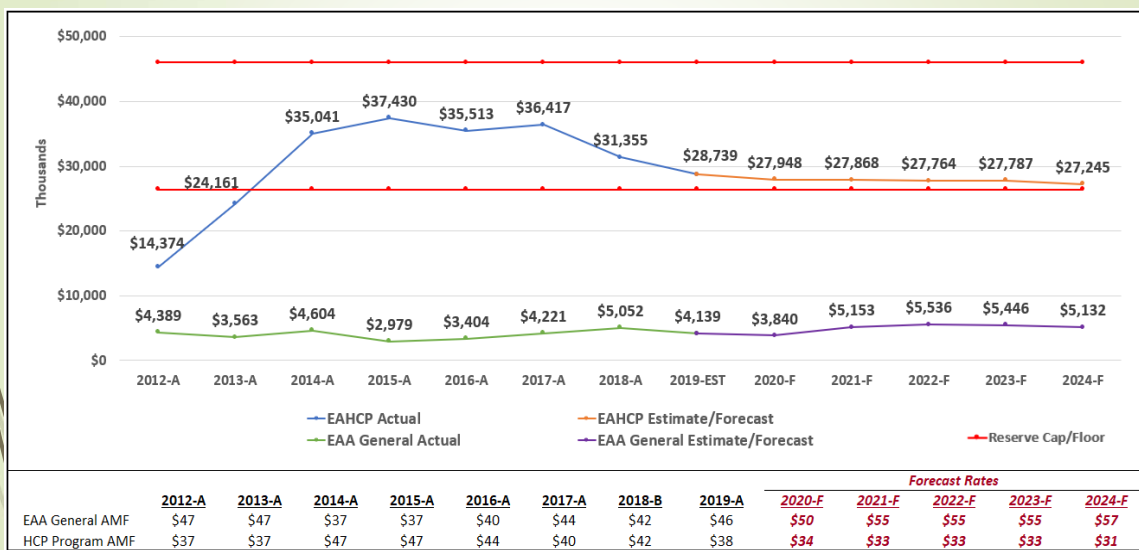
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## EAHCP RESERVE PROJECTIONS

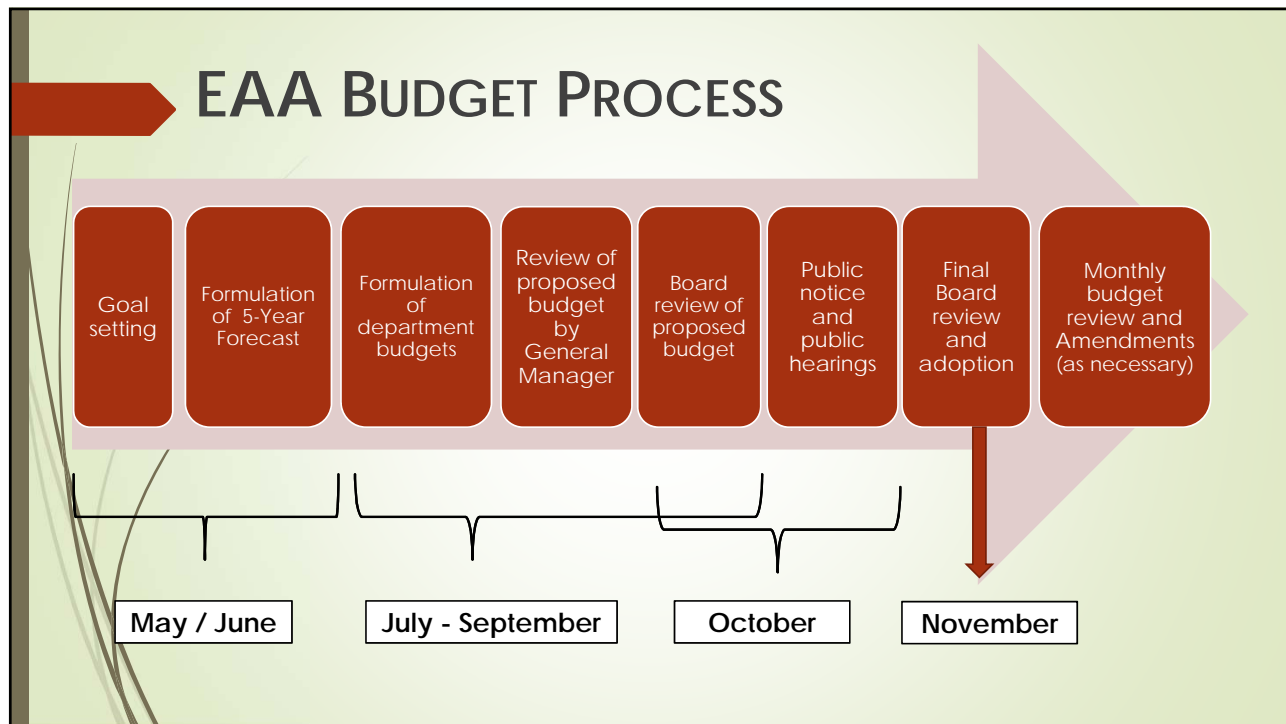


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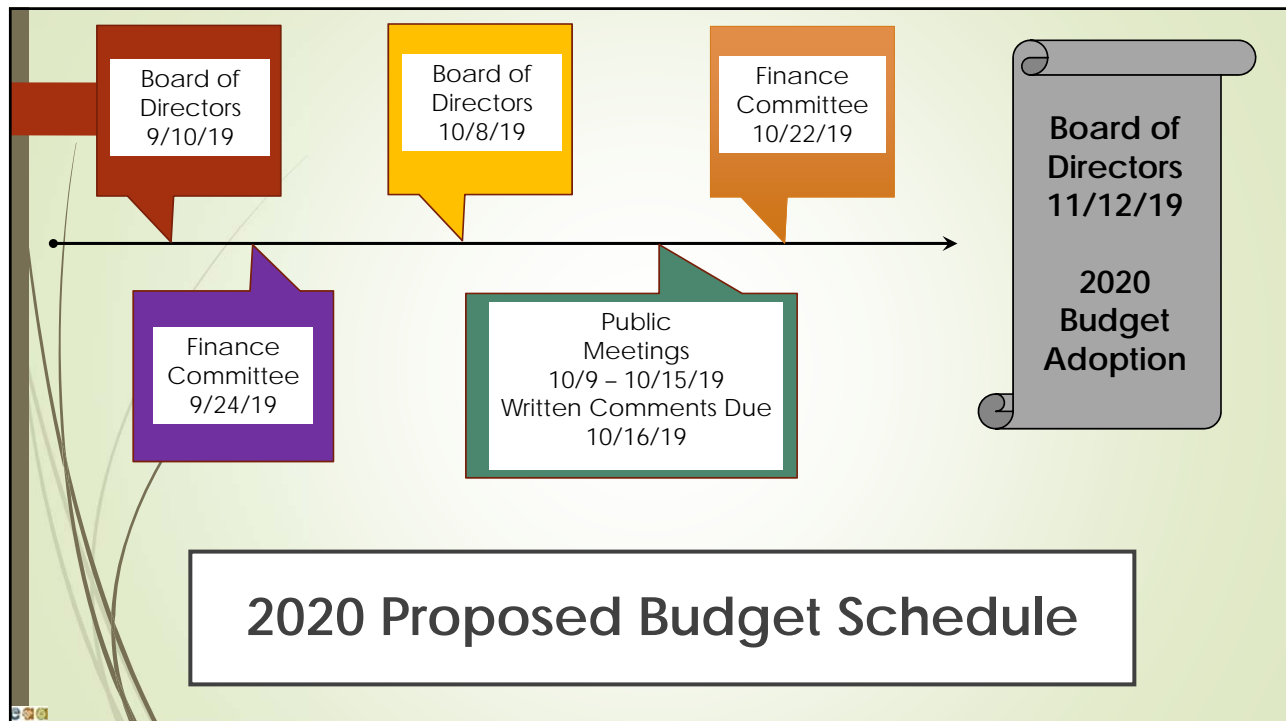
## RESERVE PROJECTIONS



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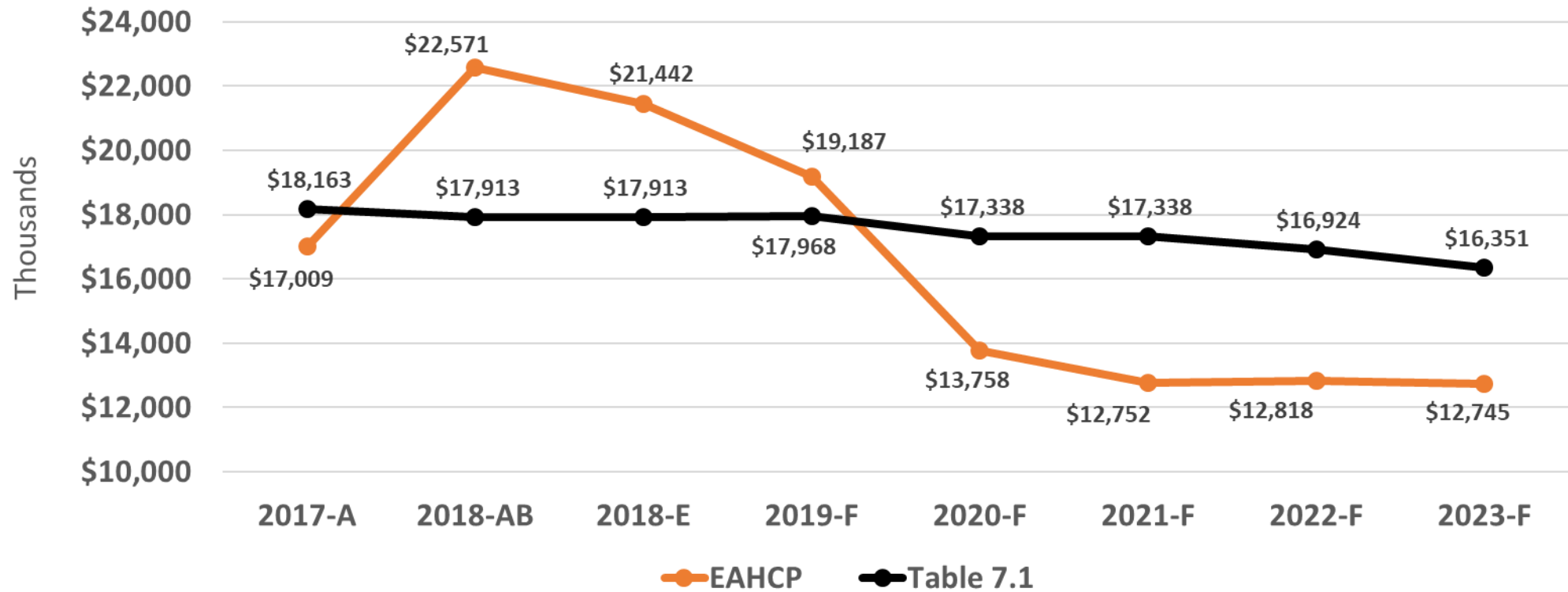


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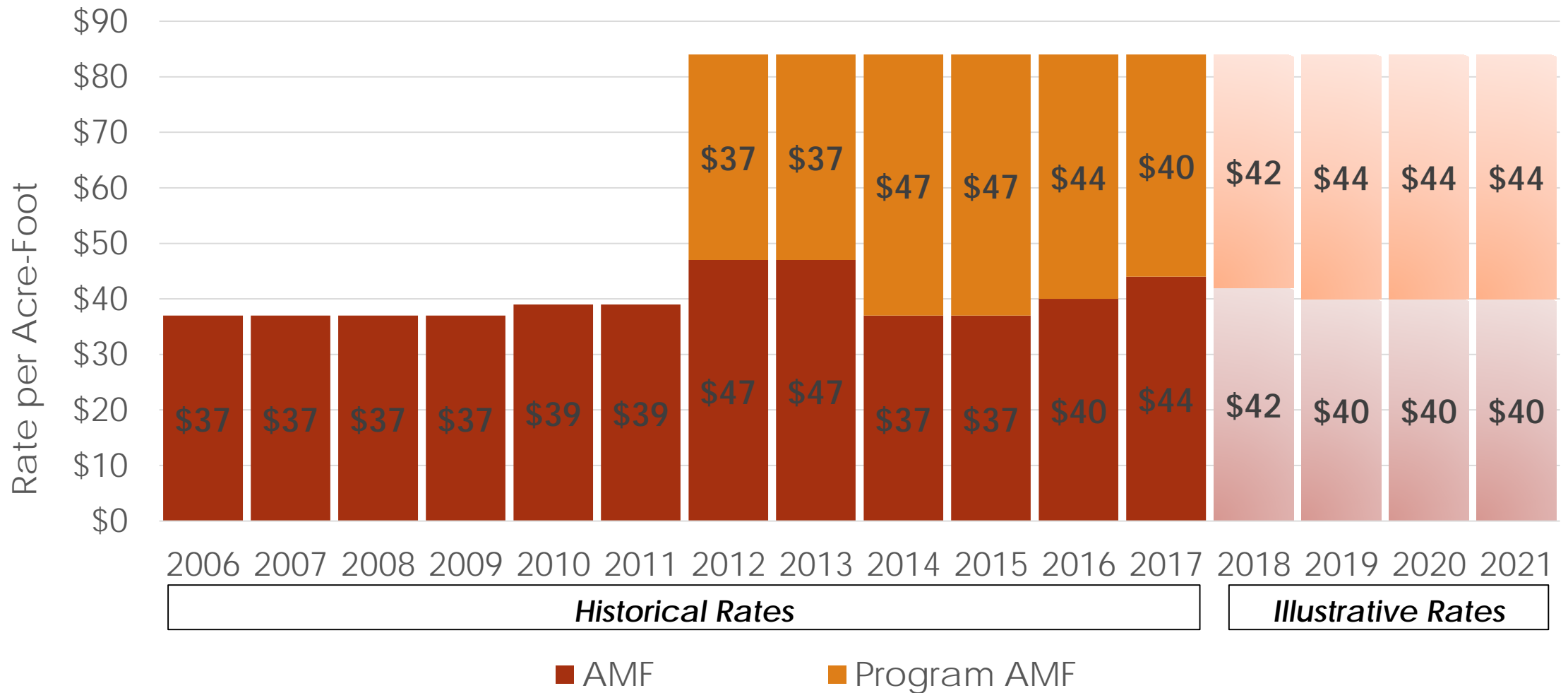
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# EAHCP EXPENSE PROJECTIONS (2018)



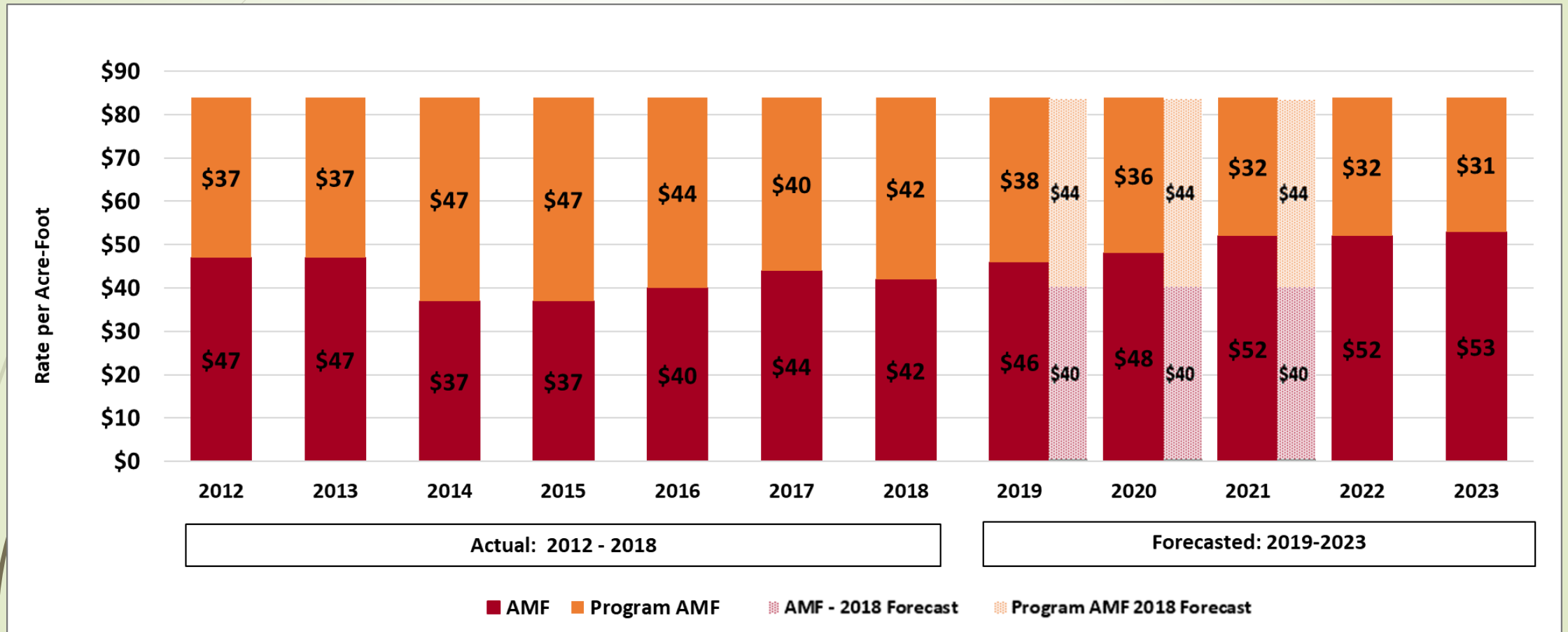
# AMF Rates

2017



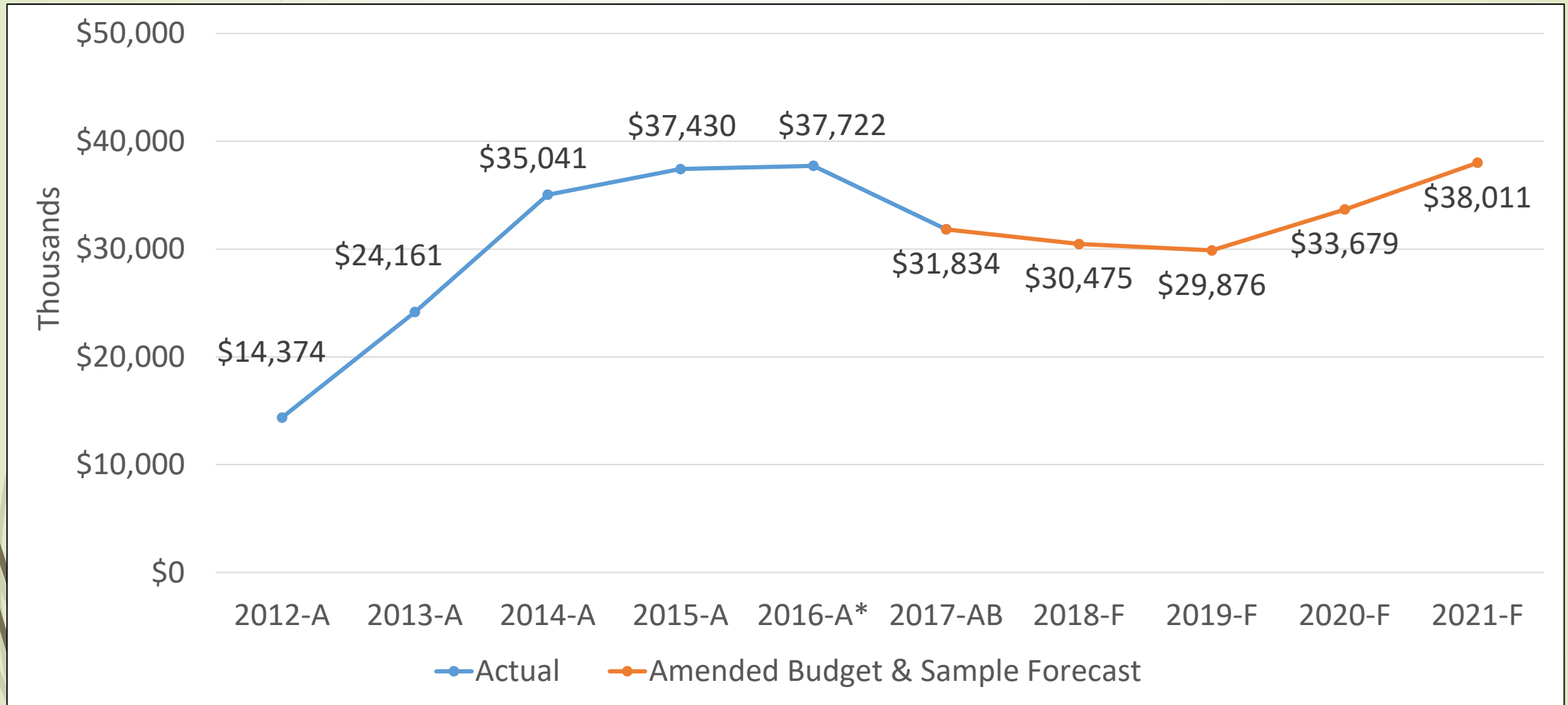


# AMF RATES (2018)

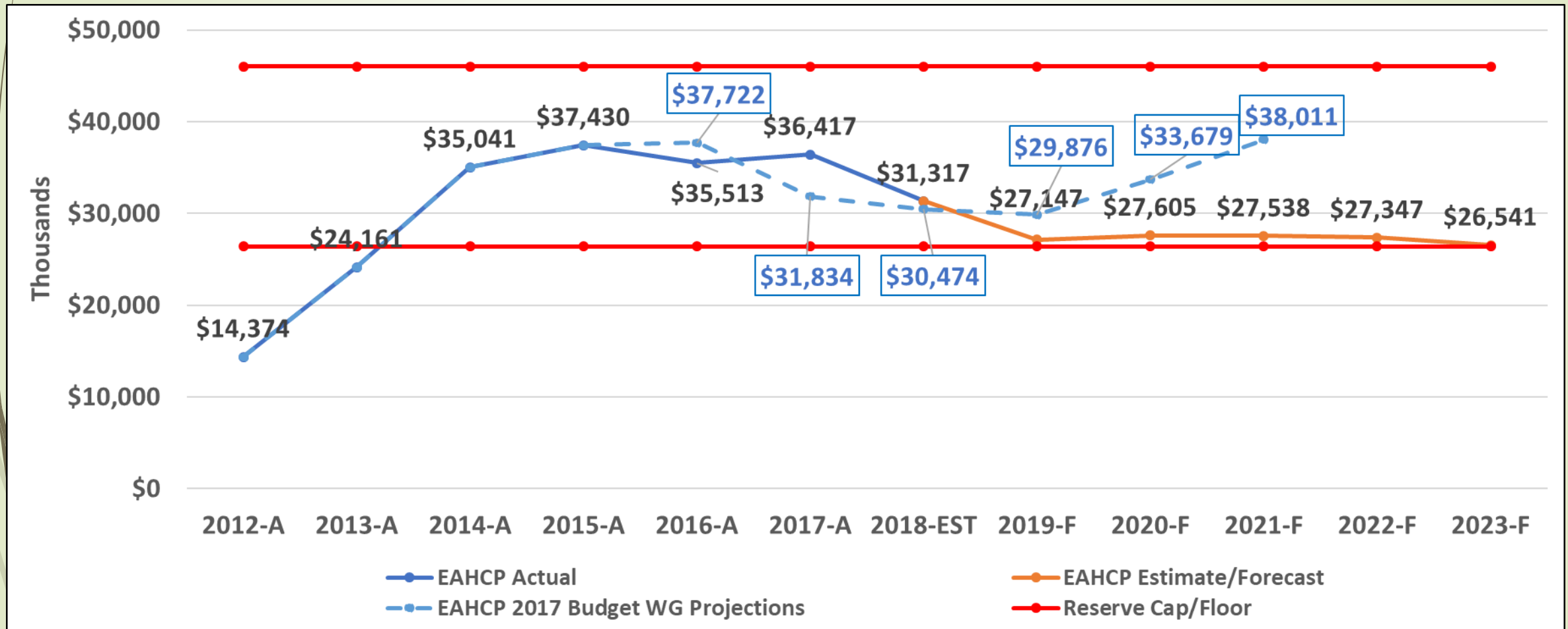


# EAHCP Reserve Projections

2017



# EAHCP RESERVE PROJECTIONS (2018)



	2012-A	2013-A	2014-A	2015-A	2016-A	2017-A	2018-B	2019-F	2020-F	2021-F	2022-F	2023-F
EAA General AMF	\$47	\$47	\$37	\$37	\$40	\$44	\$42	\$46	\$48	\$52	\$52	\$53
HCP Program AMF	\$37	\$37	\$47	\$47	\$44	\$40	\$42	\$38	\$36	\$32	\$32	\$31
HCP Program AMF - 2017 Budget WG							\$42	\$44	\$44	\$44		

## APPENDIX B

### MEETING AGENDA



## **NOTICE OF OPEN MEETING**

**Available at [eaahcp.org](http://eaahcp.org)**

### **2019 EAHCP Budget Work Group**

**Wednesday, September 18, 2019 at 10:00am – 12:00pm**

**Edwards Aquifer Authority, 900 E. Quincy St. San Antonio, TX 78215**

The EAHCP Budget Work Group reviews the EAHCP budget process and makes recommendations to the Implementing Committee regarding any substantive changes to ensure good stewardship of public dollars.

Members of this workgroup include Tom Taggart (Chair - City of San Marcos), Adam Yablonski (Medina County Farm Bureau), Myron Hess (Texas Living Waters Project), Steven Raabe (SARA), Brock Curry (EAA), and Mary Bailey (SAWS).

At this meeting, the following business may be considered and recommended for Budget Work Group action:

1. Call to order - Establish that all members are present or represented
2. Public Comment
3. Presentation of the Aquifer Storage Recovery (ASR) and Voluntary Irrigation Suspension Program Option (VISPO) programs  
**Purpose:** To provide an update on the ASR and VISPO programs  
**Action:** No action required
4. Presentation and discussion of the updated Drought of Record probabilities  
**Purpose:** To provide an overview of the updated Drought of Record projected expenses  
**Action:** No action required
5. Presentation and discussion of the EAHCP Table 7.1A Analysis and Forecast  
**Purpose:** To provide forecasted analysis of the EAHCP 7.1A Budget  
**Action:** No action required
6. Presentation and discussion of the 2020 EAHCP Budget  
**Purpose:** To provide an overview of the EAHCP 2020 Budget and Reserve Fund  
**Action:** Consideration to make recommendations to the Implementing Committee
7. Consider future meetings, dates, locations, and agendas
8. Questions and comments from the public
9. Adjourn

## APPENDIX C

### MEETING MINUTES



**EAHCP Budget Work Group  
Meeting Minutes  
September 18, 2019**

Members of this Work Group include Tom Taggart (Chair - City of San Marcos), Adam Yablonski (Medina County Farm Bureau), Myron Hess (Texas Living Waters Project), Steven Raabe (SARA), Brock Curry (EAA), and Mary Bailey (SAWS).

**1. Call to order – 10:00 a.m.**

Tom Taggart called roll for the Work Group. Myron Hess was absent from the meeting. All other members were present.

**2. Public Comment**

No comment.

**3. Presentation of the Aquifer Storage Recovery (ASR) and Voluntary Irrigation Suspension Program Option (VISPO) programs.**

Javier Hernandez, Edwards Aquifer Authority staff, provided an update and overview of the ASR and VISPO programs. The total cost for the ASR Program is estimated at \$6,299,848. This expenditure comprises forbearance agreements, leases, and operations and maintenance injection costs. By 2020, the cumulative balance of ASR storage is expected to be 126,000 acre-feet. The estimated cost for the VISPO in 2020 is \$2,508,070 with a targeted enrollment of 41,795 acre-feet in forbearance agreements.

**4. Presentation and discussion of the updated Drought of Record probabilities.**

Shelly Hendrix, Edwards Aquifer Authority staff, presented the updated Drought of Record probabilities. Based on historical data from J-17 and current aquifer levels, there is a 0% chance that VISPO and ASR will trigger in 2020. Based on modeling scenarios, there is an overall 16% chance of ASR triggering during the timeframe from 2029 to present.

**5. Presentation and discussion of the EAHCP Table 7.1A Analysis and Forecast.**

Ms. Hendrix presented an overview of EAHCP Table 7.1. Overall, Table 7.1 is budgeted at \$261,907,955 for EAHCP activities from 2013-2028. Ms. Hendrix also presented Table 7.1A. Table 7.1A represents the actual amounts spent per conservation measure per year through 2018 and forecasts expenses through the end of the Incidental Take Permit (2028). A comparison between Table 7.1 and Table 7.1A indicates a \$50,836,829 difference in savings. Mr. Taggart clarified that these projections assume no adaptive management changes to the program would

occur.

**6. Presentation and discussion of the 2020 EAHCP Budget.**

Ms. Hendrix presented the 2020 proposed budget for the EAHCP program. For 2020, the estimated budget to implement EAHCP activities is \$14,385,592, which is less than the projected 2020 expense in Table 7.1. Tom Taggart asked how many job positions are paid by EAHCP funding. Ms. Hendrix answered that, of the nine EAHCP staff, seven are funded by the EAHCP and two are funded by the EAA.

Ms. Hendrix presented the Aquifer Management Fees (AMF) progression since 2012 through projected rates in 2024. Darren Thompson (SAWS) asked what volume of municipal and industrial permits were assumed in the AMF rates. Ms. Hendrix answered that the volume is based on about 365,000 acre-feet. Ms. Hendrix then presented the EAHCP reserve projections from 2012-2024 based on AMF rates. EAHCP budget estimates are projected to remain above the reserve floor.

Mr. Taggart discussed the difference of AMF rates from previous years and the differences in AMF projections. Mary Bailey commented, from a SAWS perspective, increases in AMF rates are not favorable; however, the program was intended to be flexible. Ms. Bailey also noted that the reserve should be at, or around, the floor. Mr. Taggart commented that the reserve floor, though not originally planned, was intended to provide a financial buffer from increasing AMF rates during a trigger event. Brock Curry, noted that if a trigger event was to occur and the reserve was depleted, a strategic plan would be to restore the reserve. Mr. Taggart added that, from a program standpoint, the contract with the U.S. Fish and Wildlife Service (USFWS) guaranteed financial security to cover program activities. Nathan Pence (GBRA) reminded the Work Group that the \$26.4 million floor was presented as financial security to cover years during a drought of record. This would allow the EAA time to review and present strategies to the EAA Board in order to reestablish the \$26.4 million floor.

At the conclusion of the Budget Work Group meeting, Mr. Taggart summarized key areas of consensus to provide to the Implementing Committee for discussion at their next meeting.

**7. Consider future meetings, dates, locations, and agendas.**

No comments.

**8. Questions and comments from the public.**

No comments.

**9. Adjourn: 11:11 a.m.**