# Use of the SAWS ASR for Springflow Protection

**Optimization through Proposed Adaptive Management**

# Current Program Requirements
## (Three-tiered approach)

leasing 16,667 acre-feet of groundwater for storage in the SAWS ASR **immediately**;

leasing an additional 16,667 acre-feet of groundwater through a lease option that is called when the Ten-year Rolling Average of the Estimated Annual Recharge to the Aquifer falls **below 572,000** acre-feet per annum; and

leasing a final 16,667 acre-feet of groundwater through a lease option that is called when the Ten-year Rolling Average of the Estimated Annual Recharge to the Aquifer falls **below 472,000** acre-feet per annum.)

# Proposed Program Amendments
## (Long-term leases and forbearance)

Three tiers will be replaced by two tiers;

The first tier will be outright leases in a sliding scale from 16,667AF/yr to 10,000 AF/yr over the duration of the ITP;

The second tier will be forbearance agreements on a “sliding scale” from 33,333 AF/yr to 40,000 AF/yr over the duration of the ITP – dependent upon the amount of water contained in the tier one leases; and

Forbearance will be required in the Calendar Year following the year in which the EAA receives the Estimated Annual Recharge to the Aquifer and the Ten-year Rolling Average is ≤ 500,000 AF.

# Trigger Analysis

| Forbearance Triggers | Springflow Achieved (cfs) at Comal Springs |
|---|---|
| | |
| Current EAHCP triggers (three-tiered system):<br><br>10-year rolling recharge average of 572,000 A/F per year; and<br><br>10-year rolling recharge average of 472,000 A/F per year | 29.71 |
| Proposed 10-year rolling recharge average of 500,000 A/F per year (two-tiered system) | 29.80 |

# Additional Trigger Analysis; Intent of Amendment

While not perfect, the proposed amendment provides:

1. Slightly greater springflow protection ***during a repeat of the drought of record*** – which is the intent behind this particular springflow protection measure;

2. Is intended to achieve long-term protection – which is currently lacking in the program and necessary for compliance with the Incidental Take Permit.

Additional "dual" or "either or" triggers were analyzed (comal springs cfs; J-17 levels); however, no reasonably marketable scenario provided additional springflow protection ***during a repeat of the drought of record.***

# Bottom-Up Analyses Results for ASR Lease Trigger Scenarios

| Year | ASR Lease Trigger Scenarios | | | | | |
|---|---|---|---|---|---|---|
| | Original HDR Assumptions | J-17 < 635 ft on Aug. 1 prior year | J-17 < 636 ft on Aug. 1 prior year | J-17 < 637 ft on Aug. 1 prior year | J-17 < 641 ft on Aug. 1 prior year | 10-yr Avg Rechg < 500k Acre-feet two years prior |
| 1947 | ASR2 | VC | VC | VC | VC | VC |
| 1948 | ASR2 | VC | VC | VC | ASR3 | ASR3 |
| 1949 | ASR3 | ASR3 | ASR3 | ASR3 | ASR3 | ASR3 |
| 1950 | ASR2 | VC | ASR3 | ASR3 | ASR3 | ASR3 |
| 1951 | ASR3 | ASR3 | ASR3 | ASR3 | ASR3 | ASR3 |
| 1952 | ASR3 | ASR3 | ASR3 | ASR3 | ASR3 | ASR3 |
| 1953 | ASR3 | ASR3 | ASR3 | ASR3 | ASR3 | ASR3 |
| 1954 | ASR3 | ASR3 | ASR3 | ASR3 | ASR3 | ASR3 |
| 1955 | ASR3 | ASR3 | ASR3 | ASR3 | ASR3 | ASR3 |
| 1956 | ASR3 | ASR3 | ASR3 | ASR3 | ASR3 | ASR3 |
| 1957 | ASR3 | ASR3 | ASR3 | ASR3 | ASR3 | ASR3 |
| 1958 | ASR3 | VC | VC | ASR3 | ASR3 | ASR3 |
| Comal Min. Flow 8/31/1956 | 29.71 | 28.64 cfs | 29.32 cfs | 29.32 cfs | 29.8 cfs | 29.8 cfs |
| San Marcos Min. Flow 8/31/1956 | 48.11 | 47.84 cfs | 47.95 cfs | 47.95 cfs | 48.03 cfs | 48.03 cfs |

VC = VISPO and Conservation implemented in addition to critical period reductions
ASR2 = ASR tiers 1 and 2 triggered in addition to VC and critical period reductions
ASR3 = ASR Tiers 1-3 triggered in addition to VC and critical period reductions

# Budget

**Budgetary Implications:**

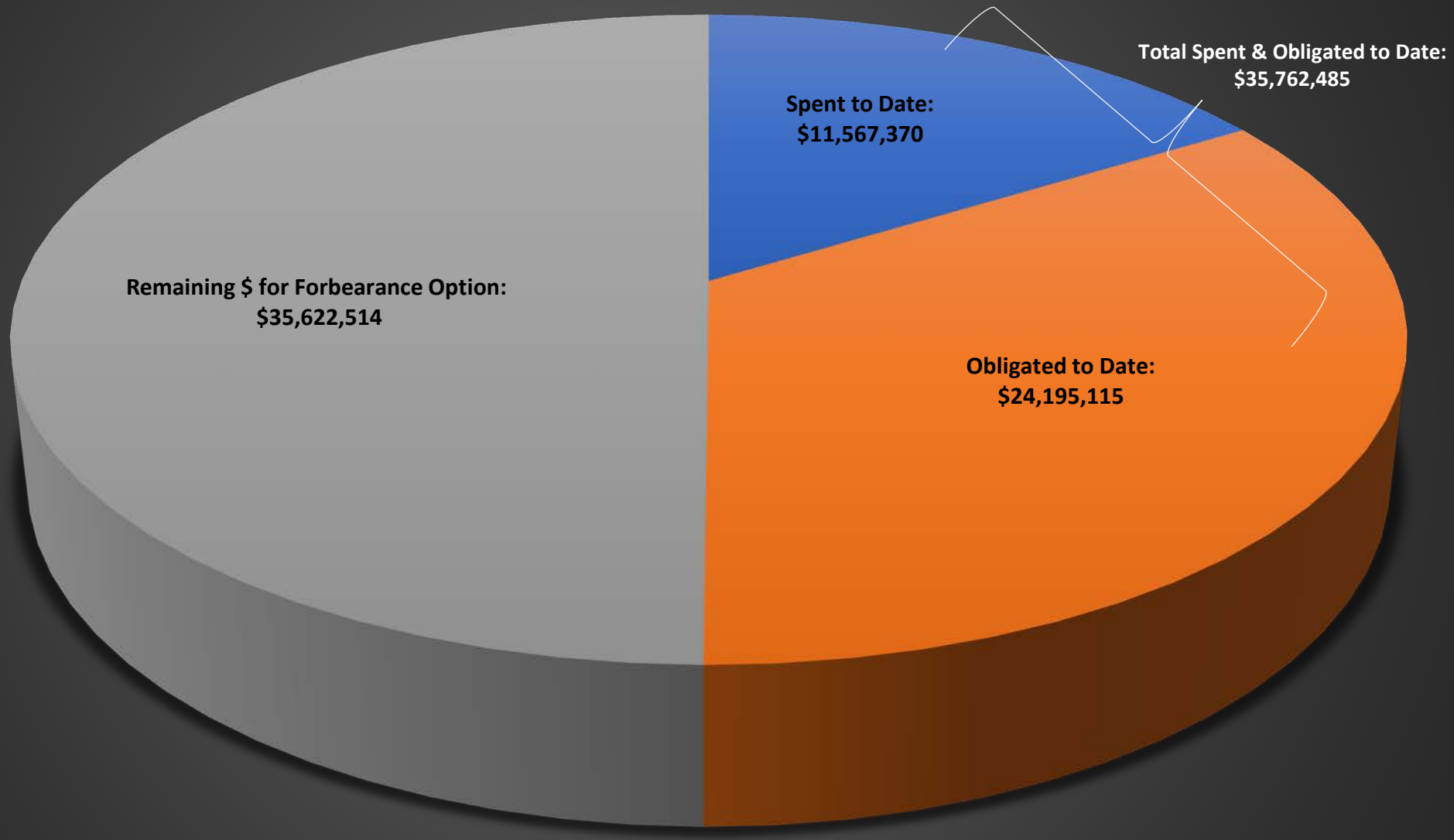
The ASR Program will no longer be “reserve dependent” – meaning that additional money will not be spent following a “trigger year.”

**Fiscal Impact:**

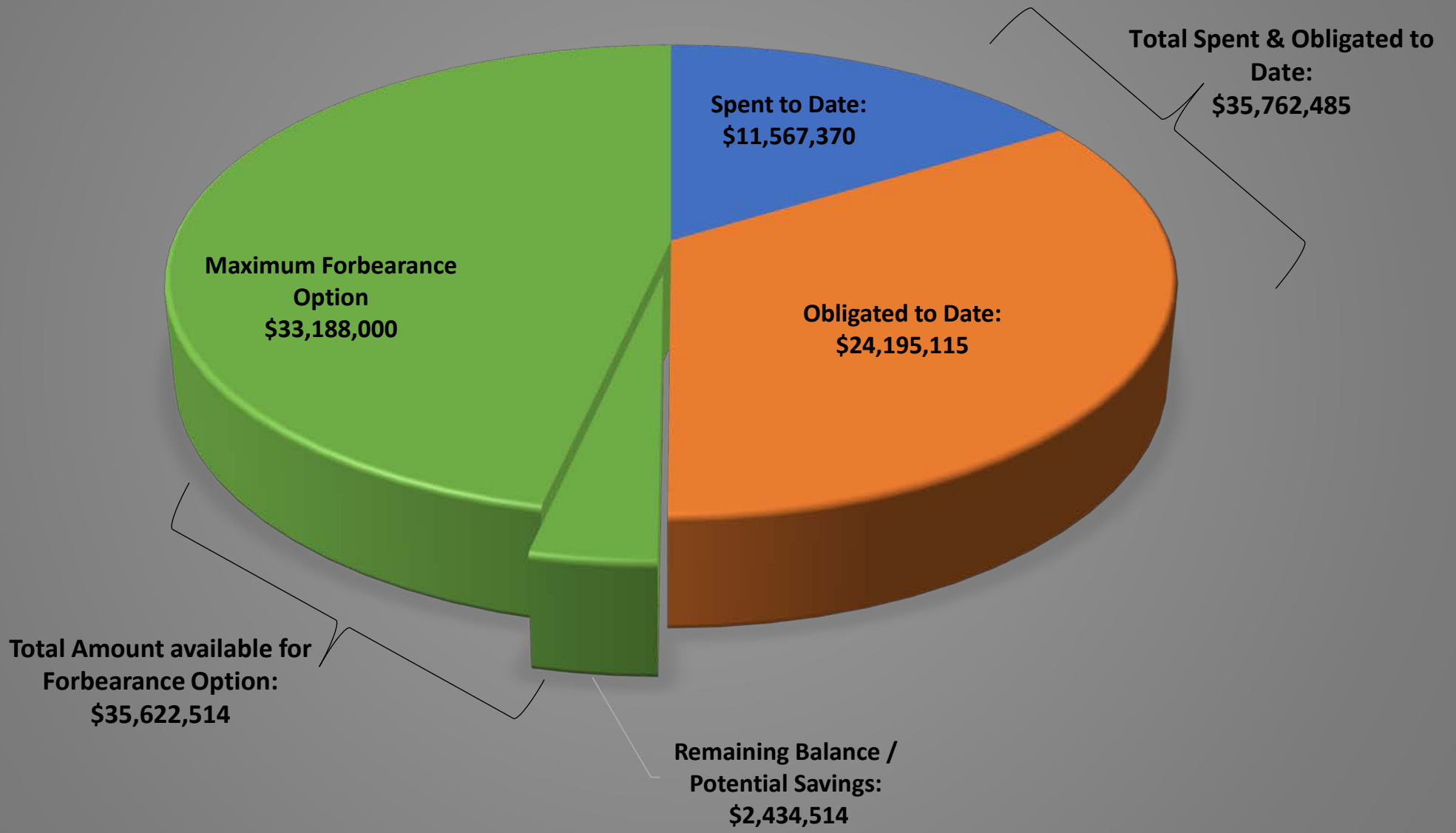
It is anticipated that the program will require the use of most of the annual HCP budget for this mitigation measure through 2027; however, the program will live within the total Table 7.1 estimated budget of $71,385,000 and should realize a slight amount of savings.

The overall EAHCP budget’s reserve “floor” will not be impacted.

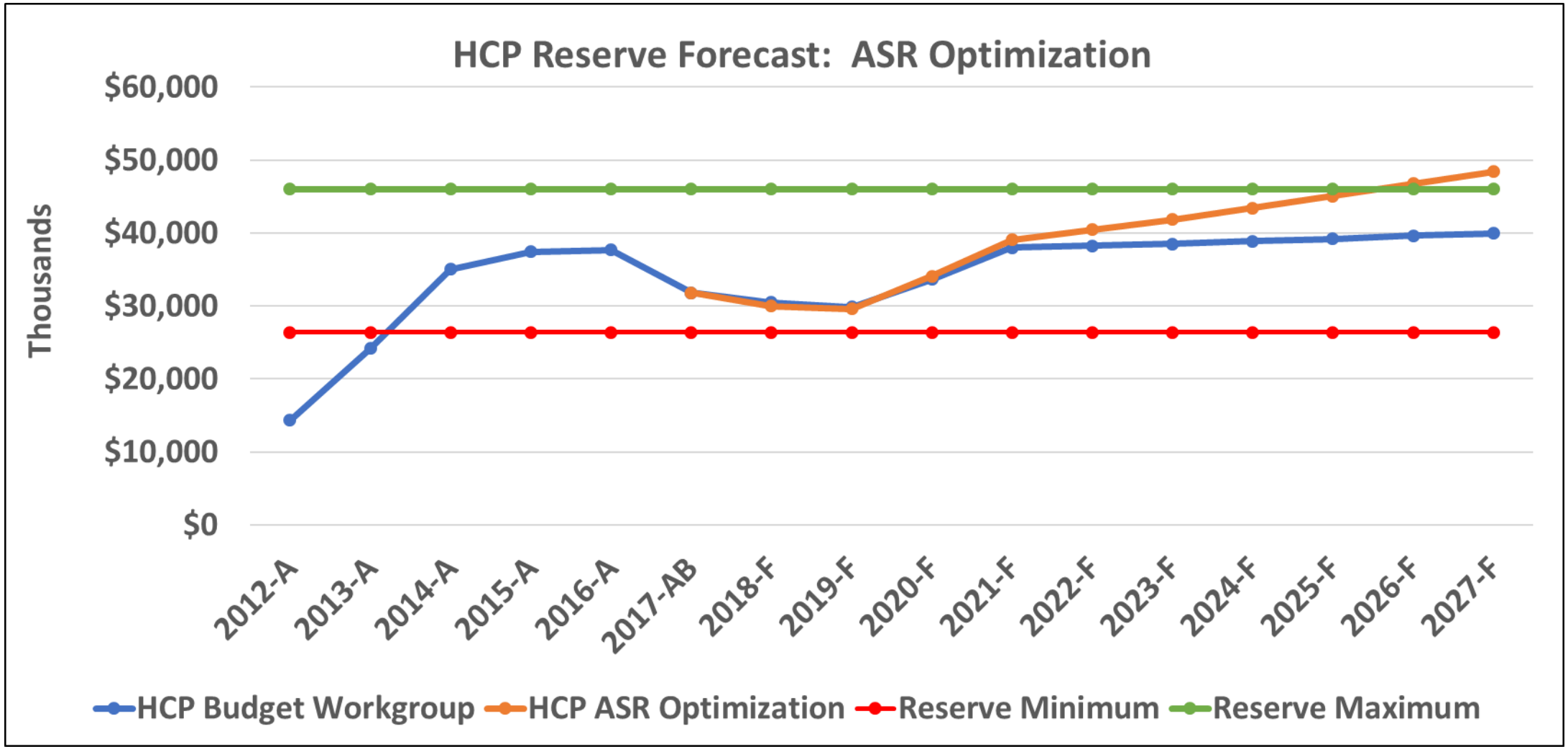
# Total Estimated Budget: $71,385,000



# TOTAL ESTIMATED BUDGET: $71,385,000

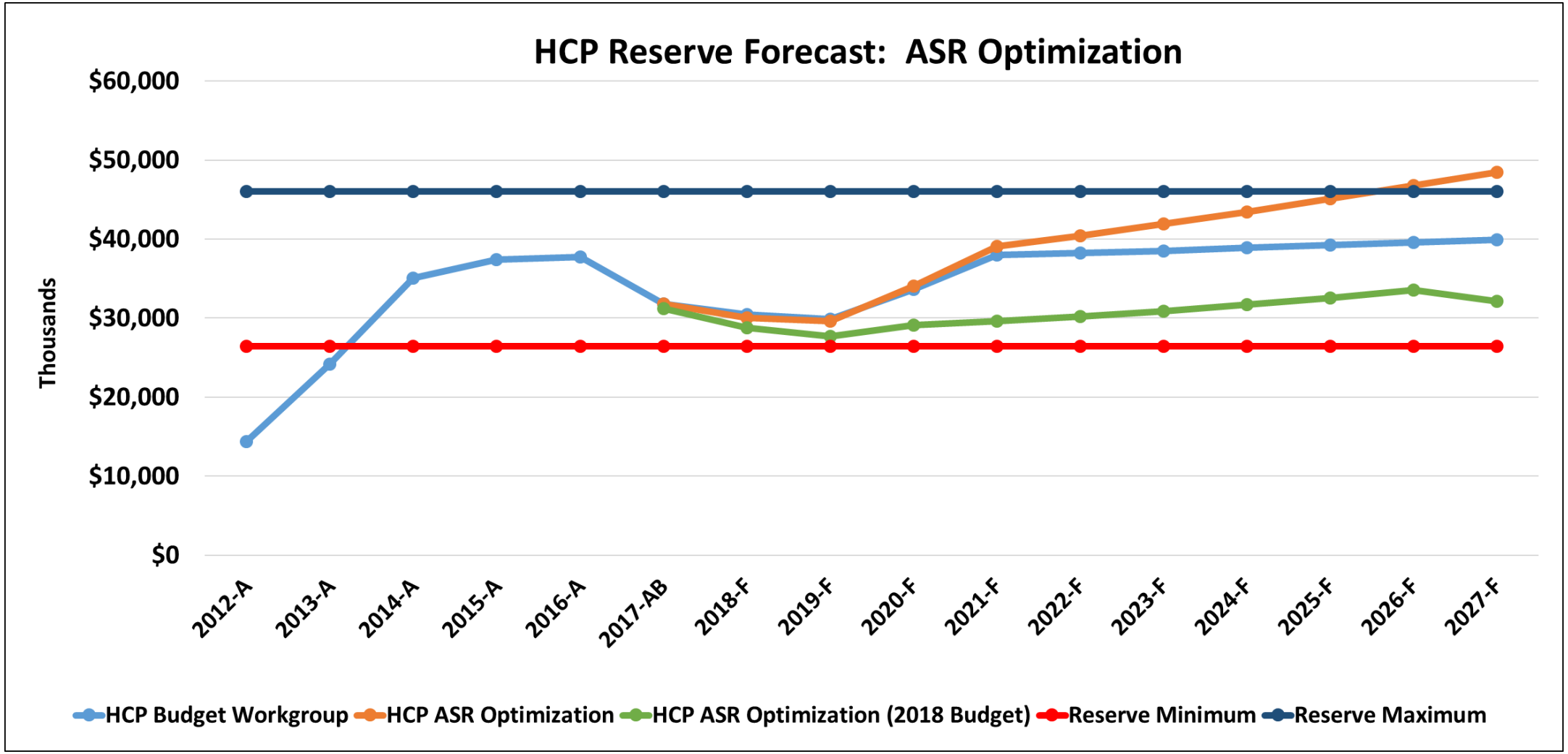


# Questions?




**Assumptions:**

Table 7.1 values used for ASR Leasing & ASR O&M Costs
No injection costs for ASR O&M after 2019
ASR Leasing & ASR O&M costs, combined, result in a net budget decrease.

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