Alameda County Water District

Stage Rates Review

December 9, 2021

Stage Rates Overview

Agenda

- Provide an overview of stage rates
- Review stage rate design options
- Review draft rates for each design option
- Discuss the relative benefits of the proposed approach and comparison with alternatives
- Next Steps

Stage Rates Overview

- Stage rates are commonly called drought surcharges and function as follows:
  - They are an additional charge assessed on water bills during a water shortage emergency, such as a drought
  - There is typically a schedule of stage rates based on the severity of the drought (more severe drought = more expensive stage rate)
  - The term ‘stage’ references the different ‘stages’ of the District’s water shortage contingency plan. A new stage rate would be charged if the District declares a different stage water shortage emergency
- Stage rates can be designed to either fully or partially offset revenue losses during a water shortage emergency
- The Board can include stage rates on a Proposition 218 notice and still choose not to implement them

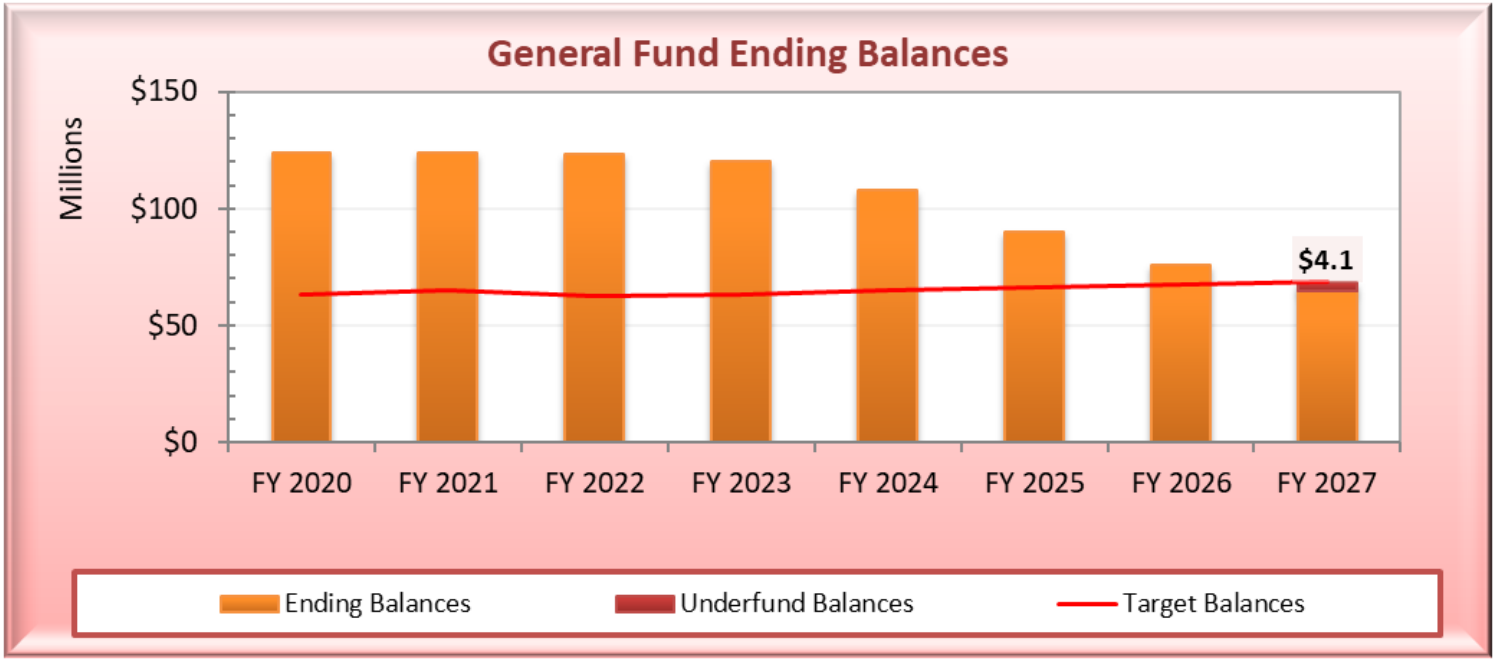
Stage Rates Overview

Why Utilize Stage Rates?

- Sends a signal to customers the drought is serious, and conservation is needed; conversely ending stage rates may signal a return to ‘normal’, efficient water use
- Aligns the cost of the drought with the drought period
- Mitigates the risk of a larger rate increase after the drought
  - Need to rebuild reserves if they are used in lieu of full cost recovery stage rates; rate stabilization reserve is designed for temporary relief
  - Water demands may stay low following the drought
- Sends a positive signal to rating agencies and investors

Financial Planning Model Scenarios

Status Quo

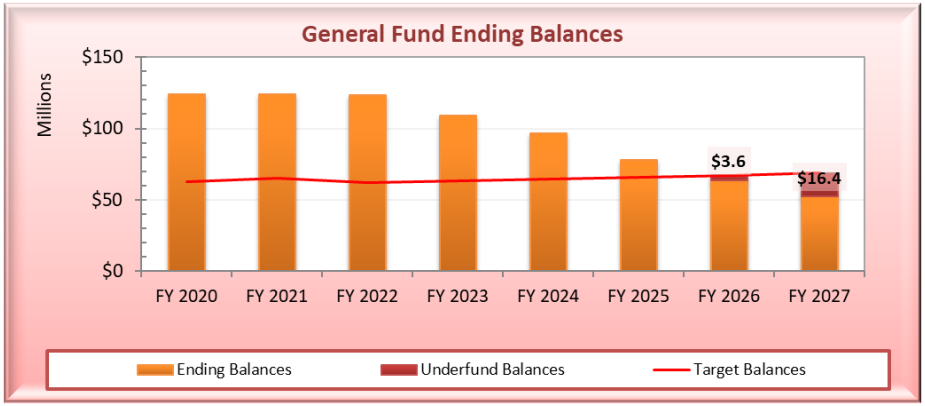


- Status Quo low balance of $64.6 million in FY 2026/27 based on proposed one-year rate increase and annual 3% increases in the future ($4.1 million below reserve target)
- Assumes financial sufficiency during any period of water shortage emergency by implementing stage rates
- Planned spenddown of reserves over several years allows for consistent, modest rate increases

Financial Planning Model Scenarios

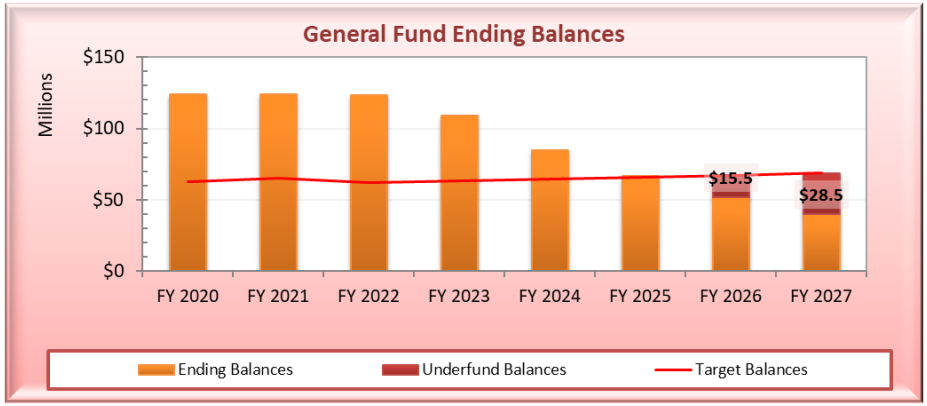
1-Year & 2-Year Drought (15% Conservation)

1-Year Drought
No Stage Rates



- Low balance of $52.3 million in FY 2026/27 ($16.4 million below reserve target)
- Current rate stabilization reserve target is $8.1 million
- Maintains status quo rate increases

2-Year Drought
No Stage Rates

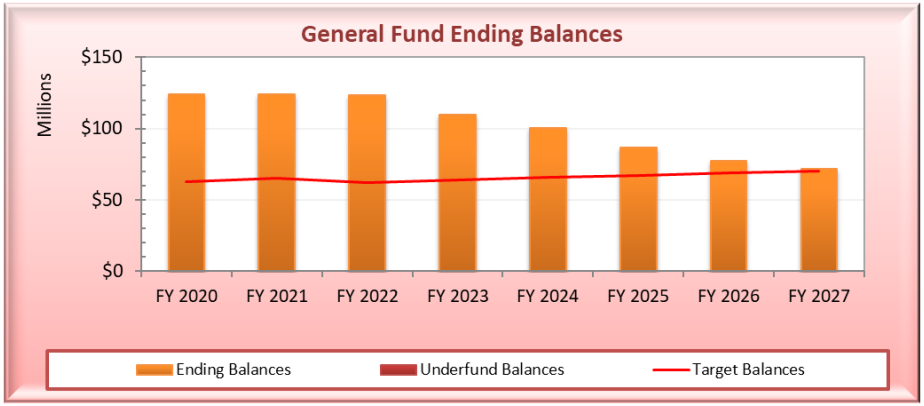


- Low balance of $40.1 million in FY 2026/27 ($28.5 million below reserve target)
- Current rate stabilization reserve target is $8.1 million
- Maintains status quo rate increases

Financial Planning Model Scenarios

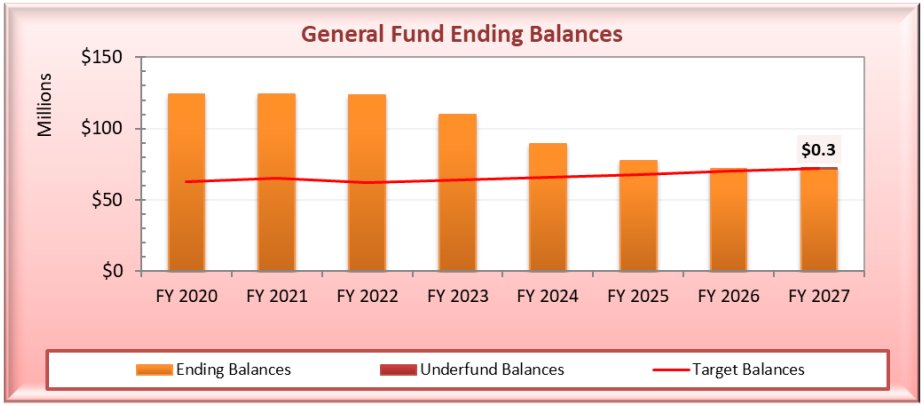
1-Year & 2-Year Drought (Maintain Reserves at Target)

1-Year Drought
No Stage Rates



- Low balance of $71.9 million in FY 2026/27 ($1.6 million above reserve target)
- Rate Increases:
  - FY 2023 – 5%
  - FY 2024 – 4%
  - FY 2025 – 4%
  - FY 2026 – 3%

2-Year Drought
No Stage Rates



- Low balance of $71.8 million in FY 2026/27 ($0.3 million below reserve target; higher reserve target due to higher revenues)
- Rate Increases
  - FY 2023 – 5%
  - FY 2024 – 5%
  - FY 2025 – 5%
  - FY 2026 – 5%

Stage Rate Design Options

- Stage rates are typically designed according to one of the following methodologies:
  - A fixed charge based on the customer's meter size
  - A fixed amount per unit of consumption (each unit of consumption is 100 cubic feet or about 748 gallons). *Rates shown for this approach are final while rates shown for other approaches are preliminary*
  - A tiered rate that charges less (or not at all) per unit for a baseline level of consumption and more per unit for consumption above that level. More than two tiers can also be considered

Stage Rate Design Options

- The current proposal previously reviewed with the Board is a fixed amount per unit of consumption (consistent with stage rates adopted in 2019 – although those stage rates were never imposed)
- Stage rates implemented from 2014-2016 were tiered for single-family residential customers and fixed per unit of consumption for all other customers
- Rates presented here are based on full revenue recovery; whereas stage rates implemented from 2014-2016 were designed for partial revenue recovery

Stage Rate Design Options

- Effect of stage rates shown for single-family residential customers at 8, 16, and 32 units, respectively. Amounts selected for following reasons:
  - 8 Units: lowest reasonably expected consumption on an account - 50 gallons per person per day for a two-person household and no outdoor watering
  - 16 Units: typical residential bill
  - 32 Units: higher end of possibly reasonable/efficient consumption - 50 gallons per person per day for a six-person household and 8 units for efficient outdoor watering consistent with the proposed drought ordinance
- Scenarios also shown for a typical commercial customer and/or various meter sizes

Stage Rate Design Options

- Fixed Charge approach: Revenue loss due to conservation is divided by 'equivalent meters'

Drought Level	Conservation	3/4" Meter	1" Meter	1.5" Meter	2" Meter
Stage 1	10%	$10.84	$18.10	$36.10	$57.78
Stage 2a	15%	$16.24	$27.13	$54.09	$86.58
Stage 2b	20%	$21.66	$36.17	$72.13	$115.45
Stage 3a	25%	$27.06	$45.20	$90.12	$144.25
Stage 3b	30%	$32.64	$54.50	$108.68	$173.95
Stage 4	40%	$43.71	$72.99	$145.55	$232.97
Stage 5	50%	$53.94	$90.09	$179.64	$287.53
Stage 6	57%	$61.10	$102.05	$203.48	$325.69
Typical Consumption		16	50	125	200
Base Bill		$130.15	$317.09	$738.47	$1,175.19
% Increase @ Stage 2a		12.5%	8.6%	7.3%	7.4%

*Estimated rates and cost per bimonthly bill; increase percentage assumes no customer conservation

Stage Rate Design Options

- Fixed per unit of consumption: Revenue loss due to conservation is divided by all remaining units of consumption

Drought Level	Conservation	Cost per Unit	8 Units	16 Units	32 Units
Stage 1	10%	$0.50	$3.97	$7.94	$15.87
Stage 2a	15%	$0.79	$6.30	$12.59	$25.18
Stage 2b	20%	$1.12	$8.92	$17.84	$35.68
Stage 3a	25%	$1.49	$11.89	$23.78	$47.55
Stage 3b	30%	$1.92	$15.36	$30.72	$61.44
Stage 4	40%	$3.00	$24.00	$48.00	$96.00
Stage 5	50%	$4.44	$35.54	$71.09	$142.18
Stage 6	57%	$5.85	$46.82	$93.63	$187.26
Base Bill with 3/4" Meter		$4.60	$93.38	$130.15	$203.68
% Increase @ Stage 2a			6.7%	9.7%	12.4%

*Proposed rate and cost per bimonthly bill; increase percentage assumes no customer conservation

Stage Rate Design Options

- Tiered: Revenue loss due to conservation allocated to remaining consumption in upper tier(s) for single-family residential
- Modeled here with the first 13 units exempt (13 units provides 50 gallons per person per day for the average household size)
- Max conservation is about 42% if first 13 units exempt

Drought Level	Conservation	Cost per Unit	8 Units	16 Units	32 Units
Stage 1	10%	$1.37	$0.00	$4.12	$26.12
Stage 2a	15%	$2.44	$0.00	$7.31	$46.27
Stage 2b	20%	$3.97	$0.00	$11.91	$75.42
Stage 3a	25%	$6.38	$0.00	$19.14	$121.21
Stage 3b	30%	$10.78	$0.00	$32.33	$204.78
Stage 4	40%	$72.87	$0.00	$218.61	$1,384.56
Stage 5	50%	N/A	N/A	N/A	N/A
Stage 6	57%	N/A	N/A	N/A	N/A
Base Bill with 3/4" Meter		$4.60	$93.38	$130.15	$203.68
% Increase @ Stage 2a			0.0%	5.6%	22.7%

*Estimated single-family rates and cost per bimonthly bill; increase percentage assumes no customer conservation

Stage Rate Design Options

- Stage rate cost comparisons for different drought stages assuming no customer conservation:

Comparison at Stage 2a				
Design	SFR - 8 Units	SFR - 16 Units	SFR - 32 Units	Comm - 125 Units
Fixed	$16.24	$16.24	$16.24	$54.09
Per Unit	$6.30	$12.59	$25.18	$98.38
Tiered	$0.00	$7.31	$46.27	$98.38
Base Bill	$93.38	$130.15	$203.68	$738.47

Comparison at Stage 3b				
Design	SFR - 8 Units	SFR - 16 Units	SFR - 32 Units	Comm - 125 Units
Fixed	$32.64	$32.64	$32.64	$108.68
Per Unit	$15.36	$30.72	$61.44	$240.00
Tiered	$0.00	$32.33	$204.78	$240.00
Base Bill	$93.38	$130.15	$203.68	$738.47

Current Stage Rates Proposal

Evaluation of current proposal

- Charges customers according to water use – customers who use less pay less and customers who use more pay more
- Recognizes the value of each drop of water during a drought
- No exemption for lower water users
- Provides reasonably stable revenue recovery during a somewhat unstable period, but less stable than a fixed charge
- Recognizes that higher levels of water use can still be efficient and consistent with the ordinance due to 1) larger household sizes, and 2) supporting tree health and maintaining other landscapes

Current Stage Rates Proposal

Evaluation of current proposal

- Easy for customers to understand
- Full cost recovery, which is consistent with current planning to spend down rate stabilization reserve over time. Allows for consistent, modest rate increases in the future
- Recognizes there is less inefficient water use in our system today than there was before the last drought:
  - Metered consumption was 10% lower in FY 2020/21 than it was in FY 2013/14 despite a 6% increase in the number of connections

Conclusions

	Fixed Charge	Per Unit Charge	Tiered
Revenue Stability	✓✓✓	✓✓	✓
Supports Conservation	✓	✓✓✓	✓✓✓
Customer Control	✓	✓✓	✓✓
Cost for Lowest Water Users	✓	✓✓	✓✓✓
Timeliness/Administrative Ease	✓✓	✓✓✓	✓✓
Customer Understanding	✓✓	✓✓✓	✓✓
Available for All Stages	✓	✓	X

Conclusions

- Staff Recommendation: Implement a uniform per unit of water stage rate for the following reasons:
  - The drought is the result of historically low rainfall the past two years and asking customers to share in the cost proportional to water use is equitable
  - Many customers implemented permanent water savings measures and/or maintain behavioral changes to keep water use low since the last drought – therefore there is less inefficient water use in the system today than before
  - Recognizes that some households will have higher consumption despite efficient water use consistent with the adopted ordinance
  - Balances revenue stability and customer control
  - Promotes conservation by all customers
  - Charges less to lower water users compared to higher users in terms of both total cost and as a percentage of their base bill

Next Steps

- If the Board maintains the current direction of a uniform charge per unit of water:
  - Include stage rates on the Proposition 218 notice that will be issued in December
  - Identify the stage rate proposed for March 1, 2022 on the notice (if there is a Board declared water shortage emergency)
- If the Board prefers to pursue an alternative stage rate design:
  - Staff will work with Raftelis to develop the alternative rates and supporting documentation for the January Board meeting (new rates effective April 1st).
  - Staff suggests deferring the Proposition 218 notice for the general water rate increase to avoid multiple notices and potential customer confusion

Alameda County Water District

Questions?