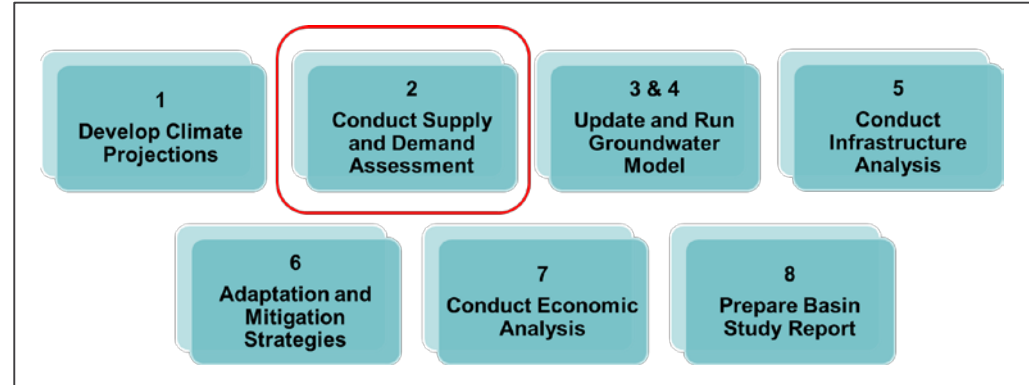


# Goals of Today's Supply and Demand Meeting

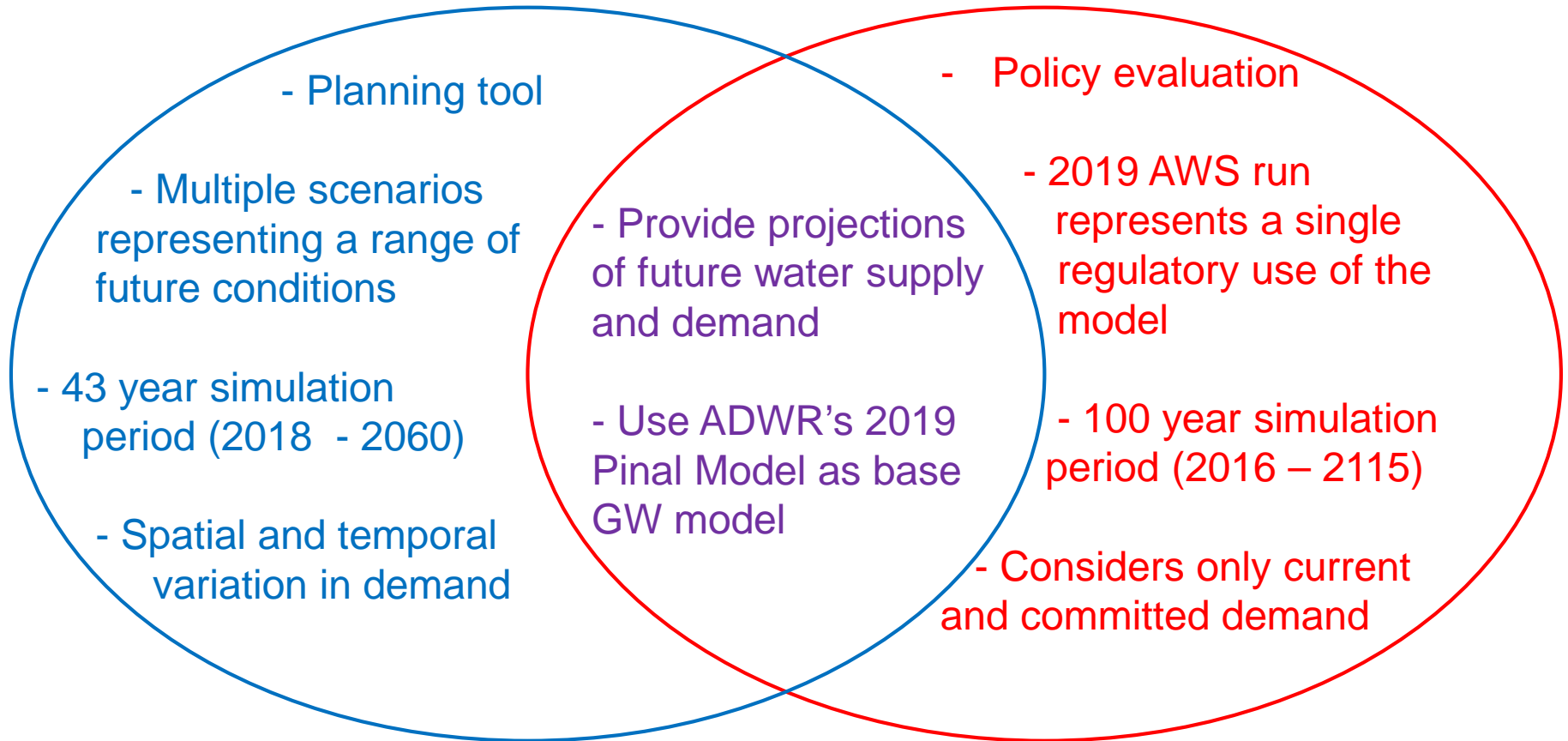
- 2019 ADWR Pinal GW Model vs. Basin Study Model
- Supply and demand updates
  - Ag groundwater pumping
  - AWBA recovery
  - Mining activity
  - Effluent production
- Satisfying the AWS rules
- Discussion – CAP:SAM ★





## Basin Study Modeling

## ADWR Pinal Model



# Study Participant Feedback

1. Agriculture pumping rates
2. AWBA recovery volumes
3. Future mining activity
4. Effluent production
5. Others...



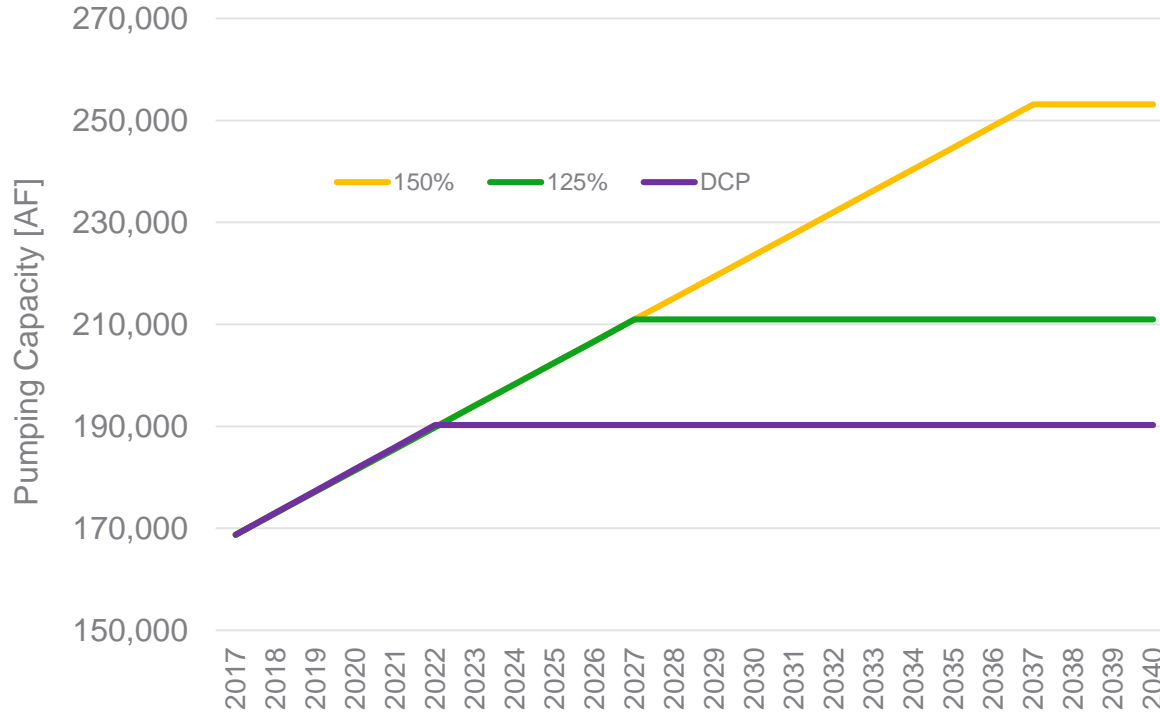
Scenario ID	Pumping Capacity ID	Description
A, B and C	“Unlimited”	No limit on Ag pumping
D	“Increased”	150% of the max GW use from 2003 - 2013
E and F	“Current”	Max GW use from 2003 – 2013 + DCP capacity

## Initial AG Pumping Scenarios

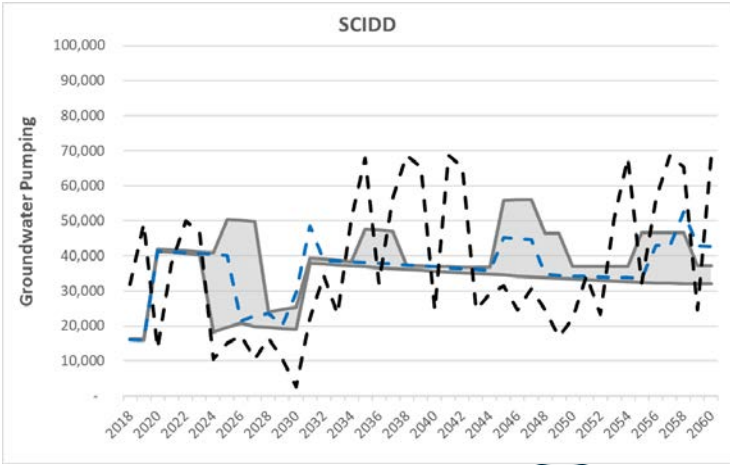
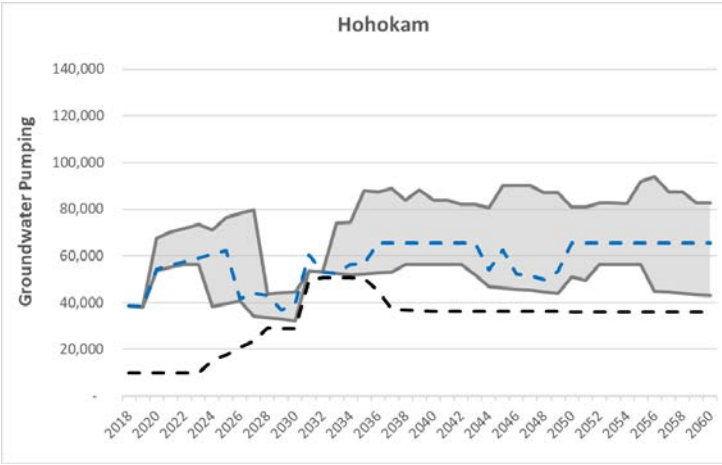
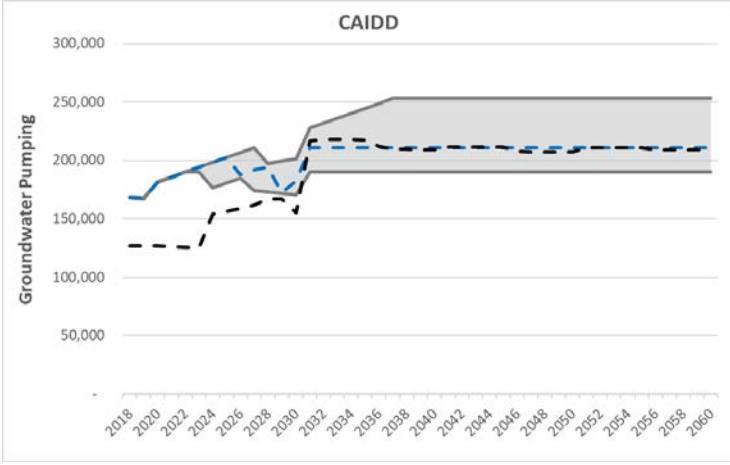
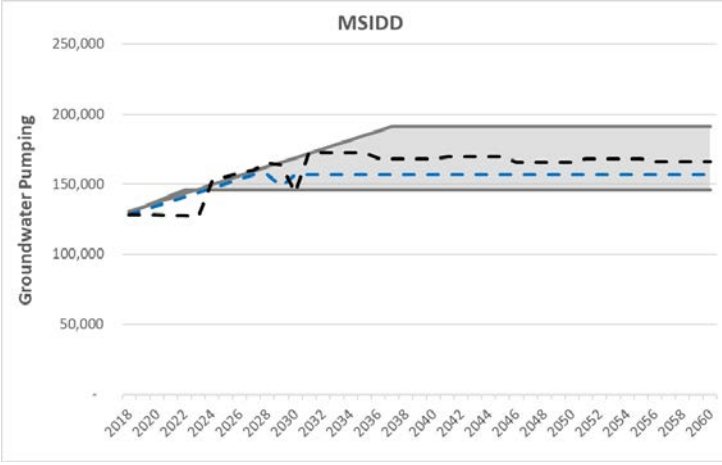
Scenario ID	Pumping Capacity ID	Description
A, B and C	“Increased - 150% of Max”	150% of the max GW use from 2010 - 2015
D	“Increased - 125% of Max”	125% of the max GW use from 2010 - 2015
E and F	“Current”	Max GW use from 2010 - 2015 + DCP capacity

## Updated AG Pumping Scenarios

### Ag Pumping Capacity Ramp Up - Example



# Modeled Ag District GW Pumping 2018 - 2060



- CAP:SAM Scenario A
- - - ADWR Model
- - - CAP:SAM Scenario D
- CAP:SAM Scenario F
- Range of Scenarios

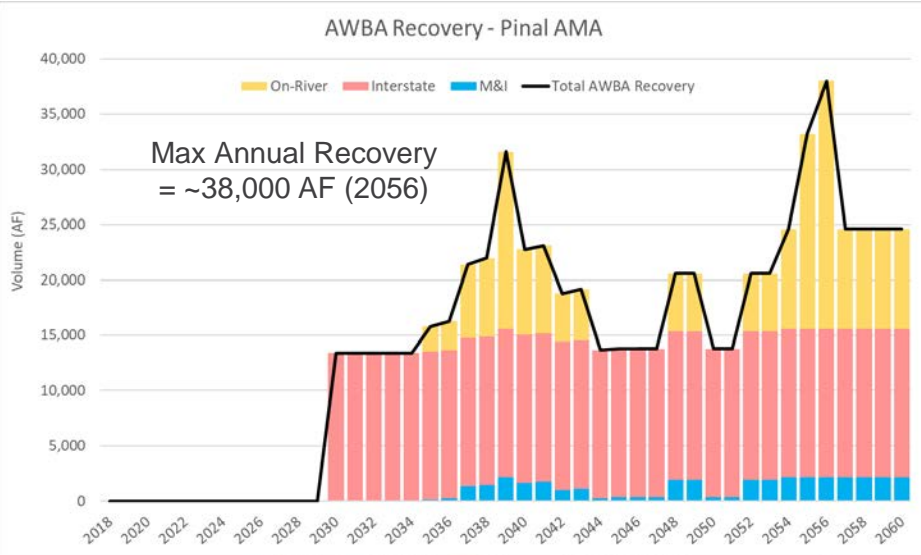


# Revised AWBA Recovery Volumes

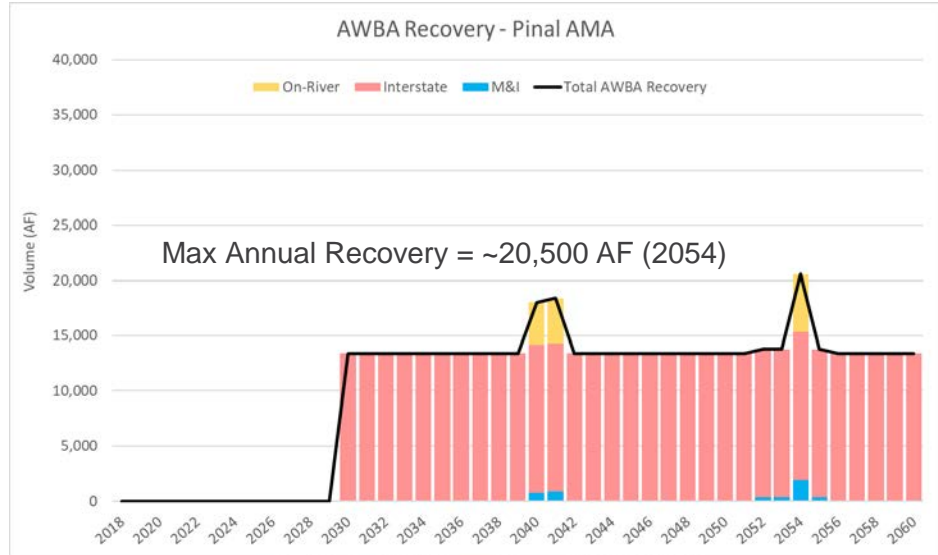
## Scenario A

## Scenario F

AWBA Recovery - Pinal AMA



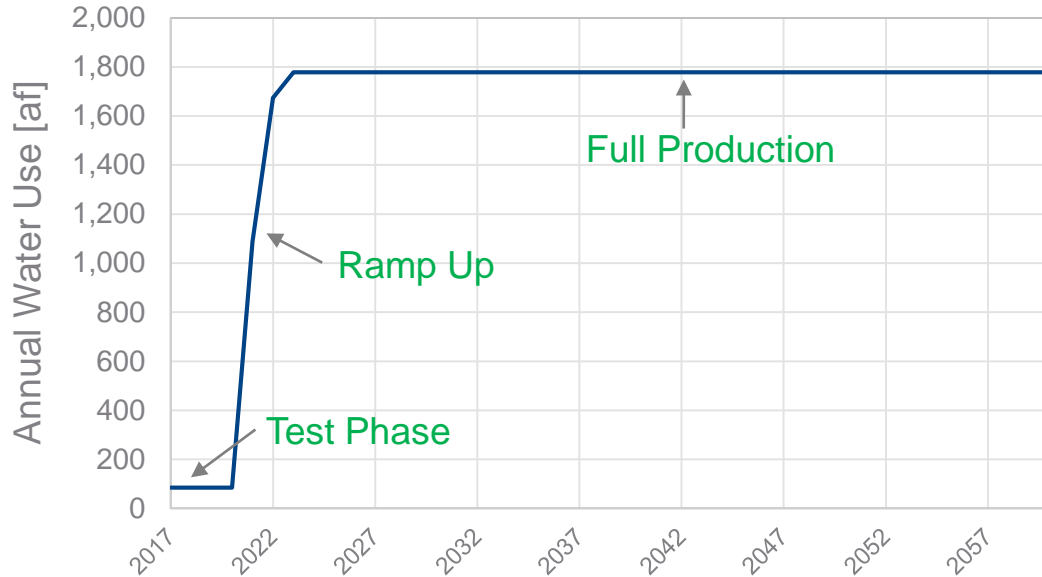
AWBA Recovery - Pinal AMA



\* Assumes a steady request of 18,600 AF from Nevada starting in 2030 that persists through the simulation period

# Future Mining Activity

## Florence Copper Projection



\* Based on Florence Copper website and 2017 Taseko Technical Report

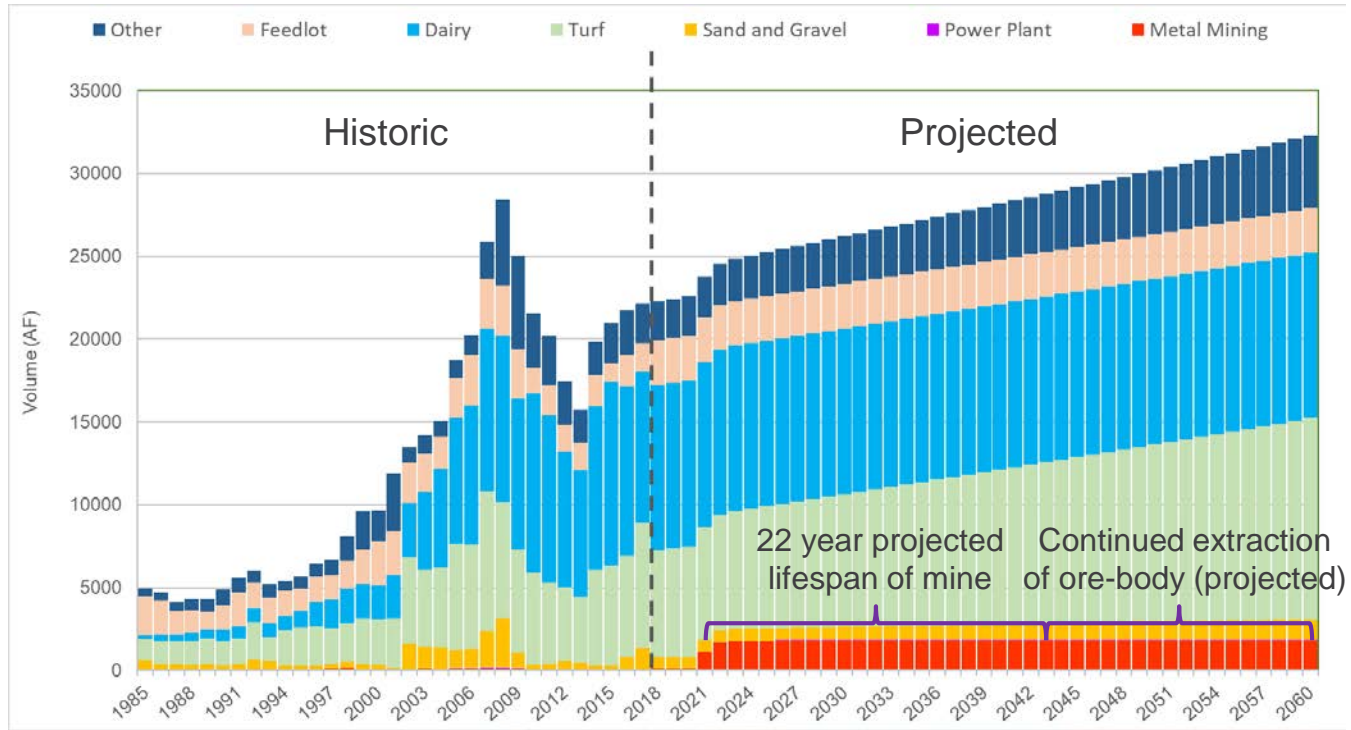
Table 16-1: Copper Extraction Plan Flow and Production Summary

Year	Copper Extracted (000,000's lbs)	Flowrate to SX/FW (gpm)	PLS Grade (gpl)	Hydraulic Control Flowrate (gpm)	Rinsing Flowrate (gpm)
-2	0	0	0	0	0
-1	0	0	4.2	170	0
1	52	2,800	2.1	350	0
2	80	5,900	2.1	570	0
3	86	9,400	1.8	640	1,000
4	86	10,700	1.7	740	1,100
5	86	11,200	1.8	700	1,100
6	85	10,600	1.9	670	1,600
7	86	10,100	1.9	710	1,700
8	85	9,900	2.0	680	1,600
9	85	9,700	2.0	660	1,700
10	86	9,300	2.1	700	1,900
11	85	9,800	2.0	700	1,700
12	85	10,000	1.9	700	1,600
13	85	10,100	1.8	740	1,600
14	85	10,700	1.7	780	1,700
15	86	11,300	1.7	810	1,700
16	86	11,700	1.7	800	1,700
17	85	11,700	1.7	810	1,600
18	85	11,700	1.7	770	1,600
19	85	11,200	1.7	600	2,000
20	84	8,300	1.0	480	2,100
21	36	6,100	0.5	280	2,000
22	13	2,700	0.3	120	2,000
23	4	0	0	0	0
24	0	0	0	0	0

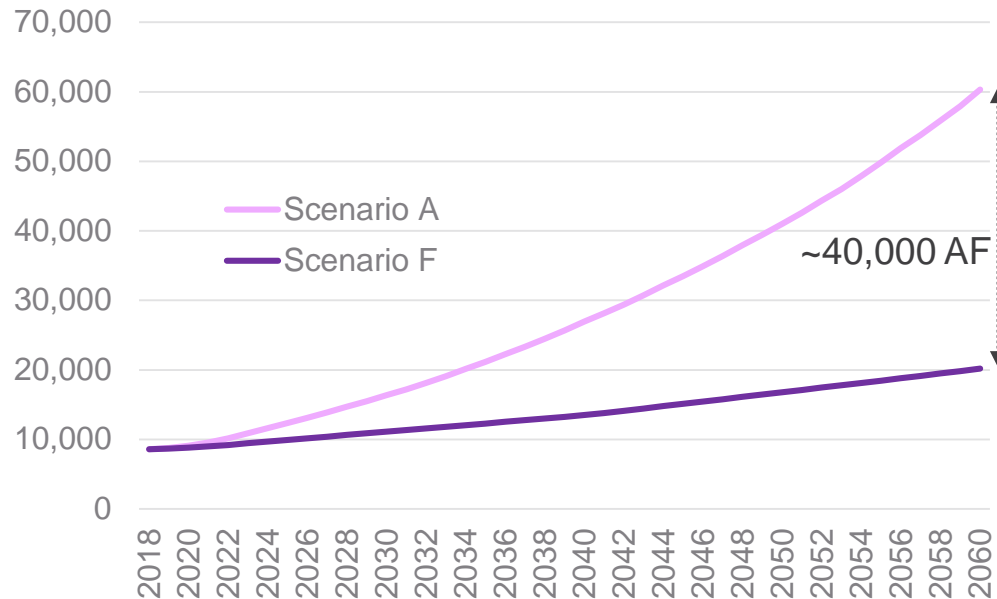
- Florence Copper In-situ mine
- Max of 1,778 AF/yr during full commercial production
- Does not include the Elim Cactus Mine (formerly Sacaton Mine)



# Future Mining Activity

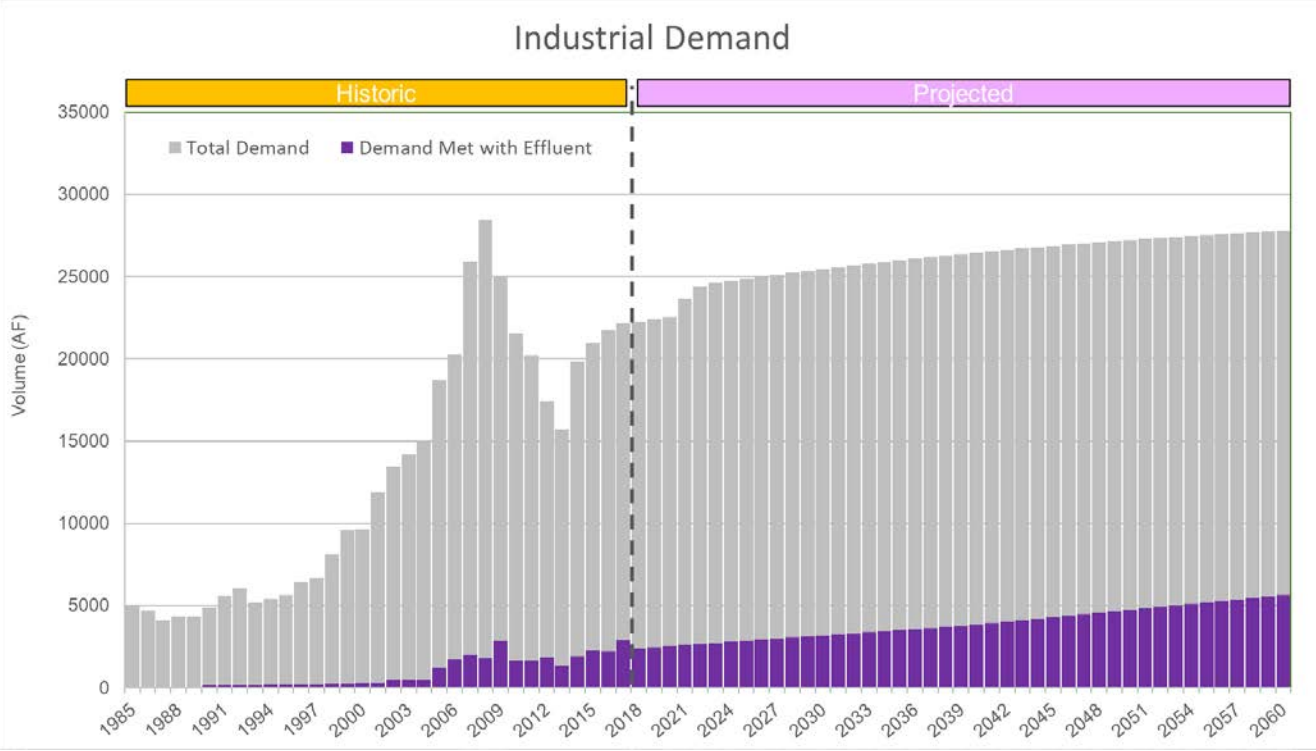


# Effluent Production



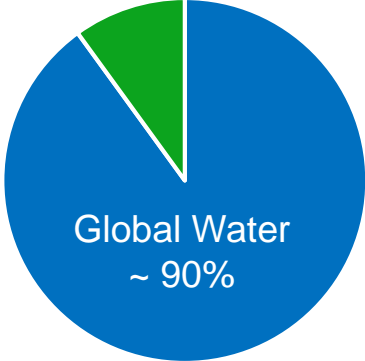
- Interior use ratio initially set to a default of 0.4 (unless data suggests otherwise)
- Increases by 1% annually
- Interior use ratio multiplied by total demand to produce effluent
- Example: A water provider with a demand of 6,500 AF in 2018 produces 2,600 AF of effluent

# Effluent Production

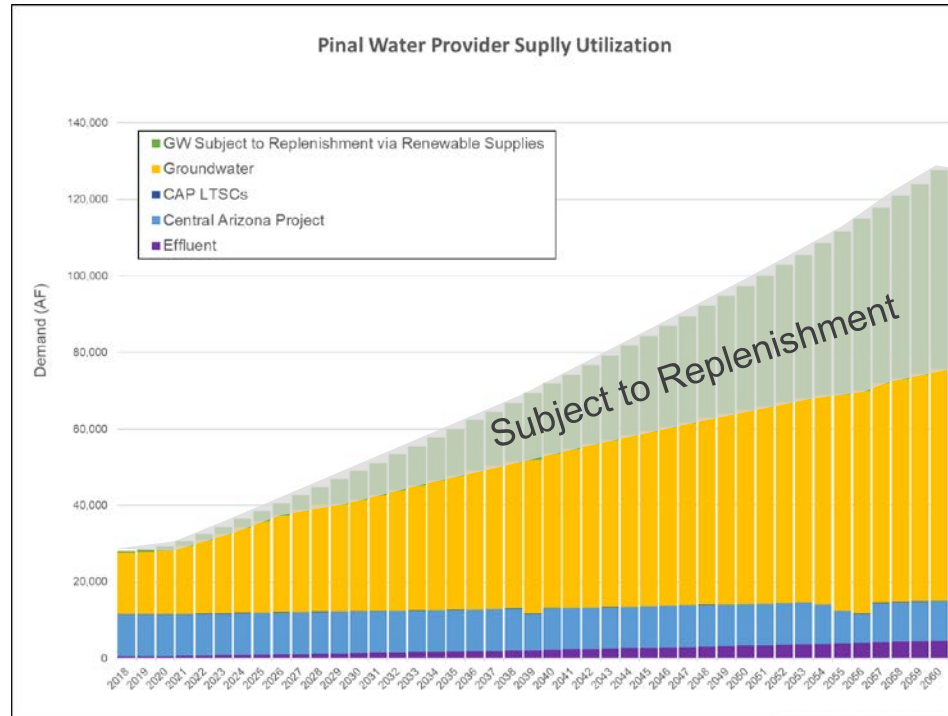


## Effluent Used to Meet Industrial Demands

Johnson Utilities  
~ 10%

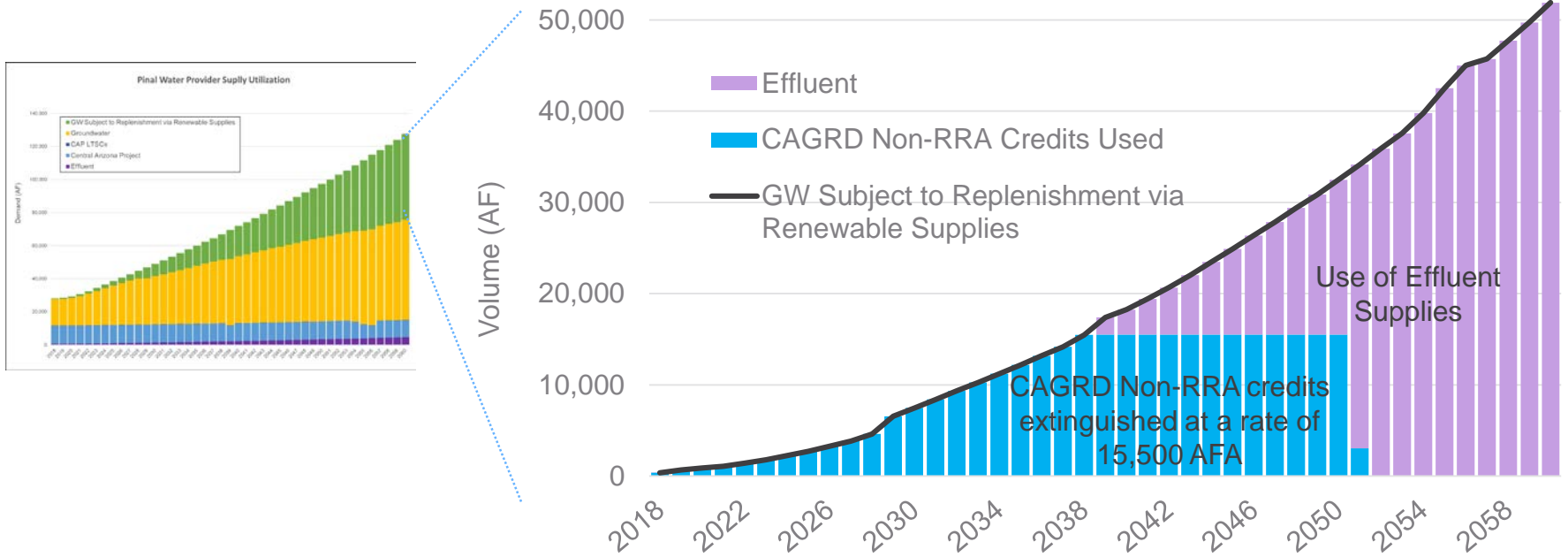


# Satisfying the Assured Water Supply Rules



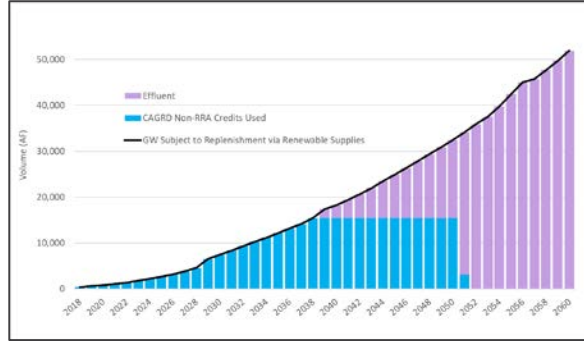
# Satisfying the Assured Water Supply Rules

## Scenario A

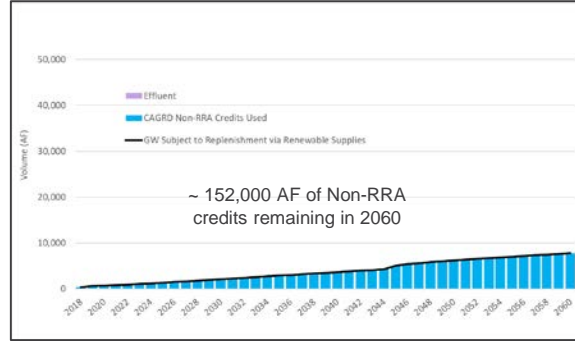


# “Unused” Effluent

### Scenario A

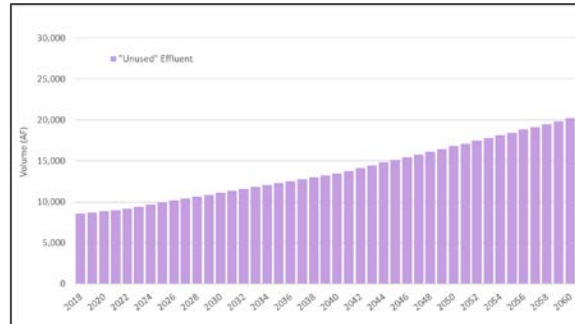
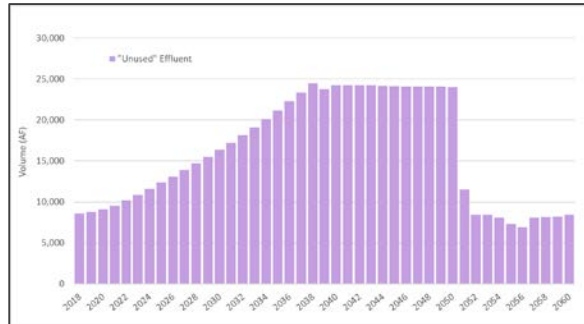


### Scenario F



Used

Unused



## Future Uses (?)

- Irrigate crops
- DPR
- Exchanges
- Storage



# Discussion

1. Thoughts about CAP:SAM updates?
2. Additional questions about your individual results?
3. What questions do you still have about the modeling assumptions?
4. Others...

