

# Brazos Valley Groundwater Conservation District

May 8, 2025

# PS4-1 Bridge 2060

# April 23 GMA 12 Meeting

- **Sustainability**

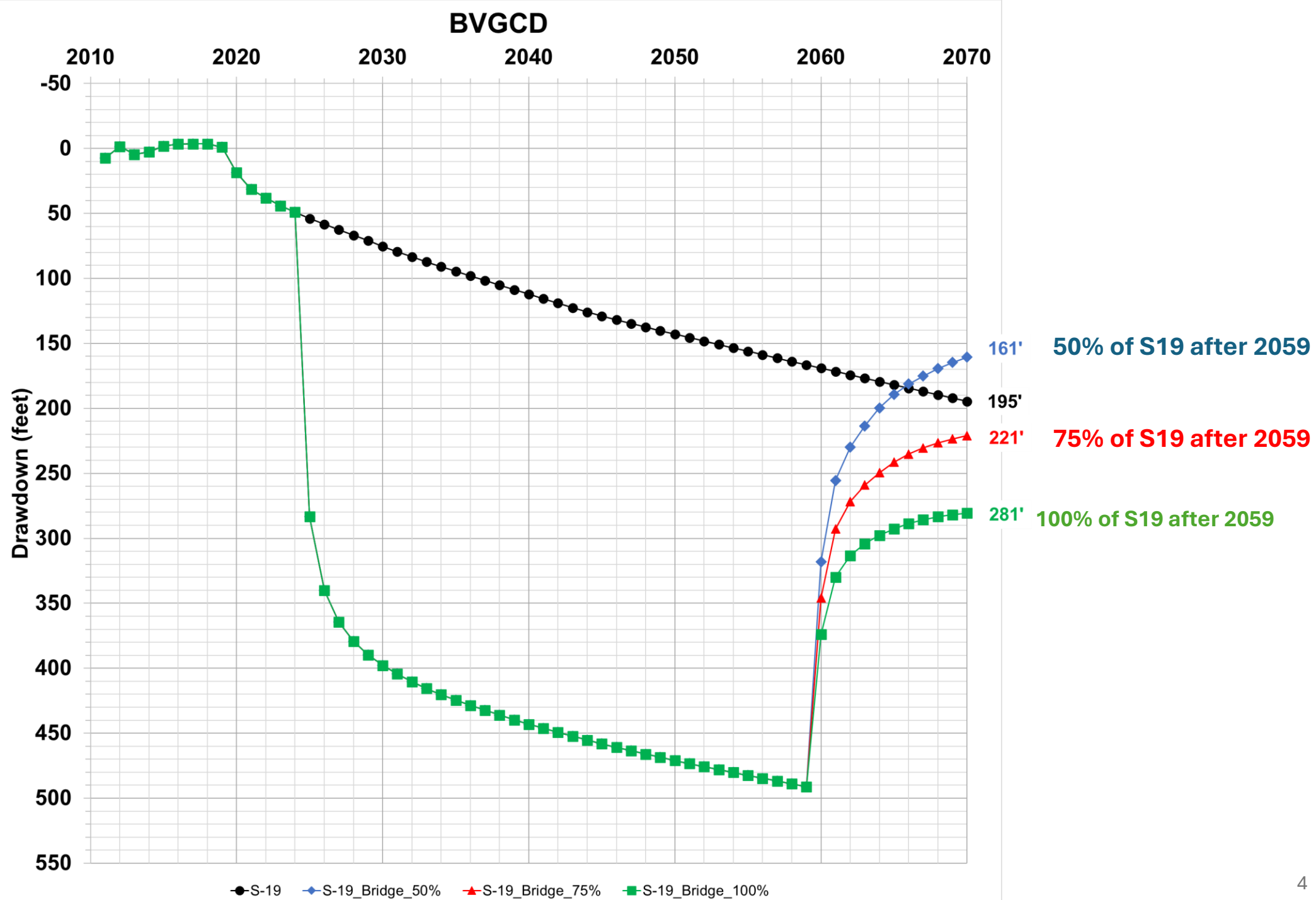
- POSGCD provided results of long-term modeling assessments to estimate sustainable production

- **Bridges**

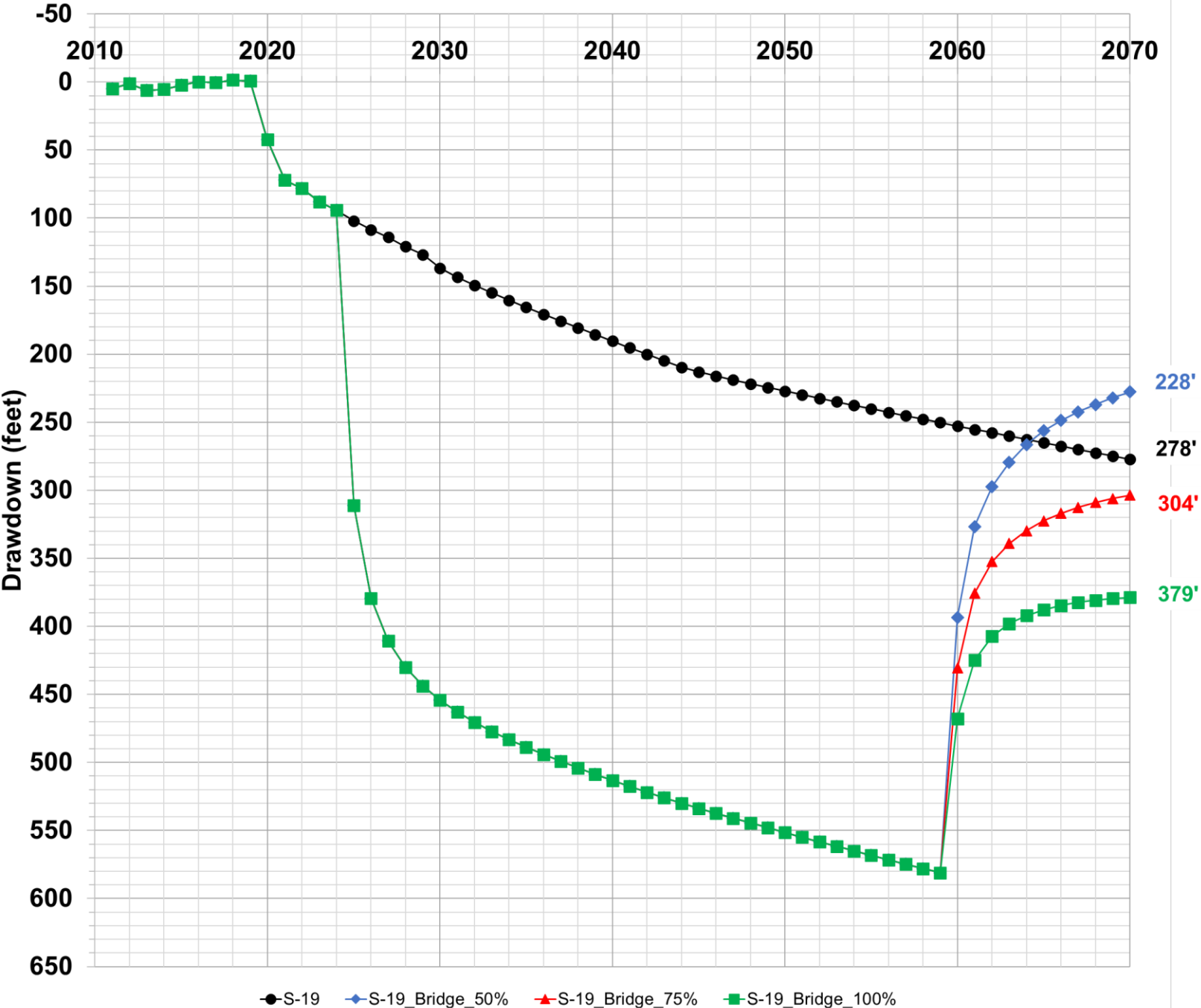
- District representatives indicated that large projects should be seen as a “bridge” and not a permanent “solution”

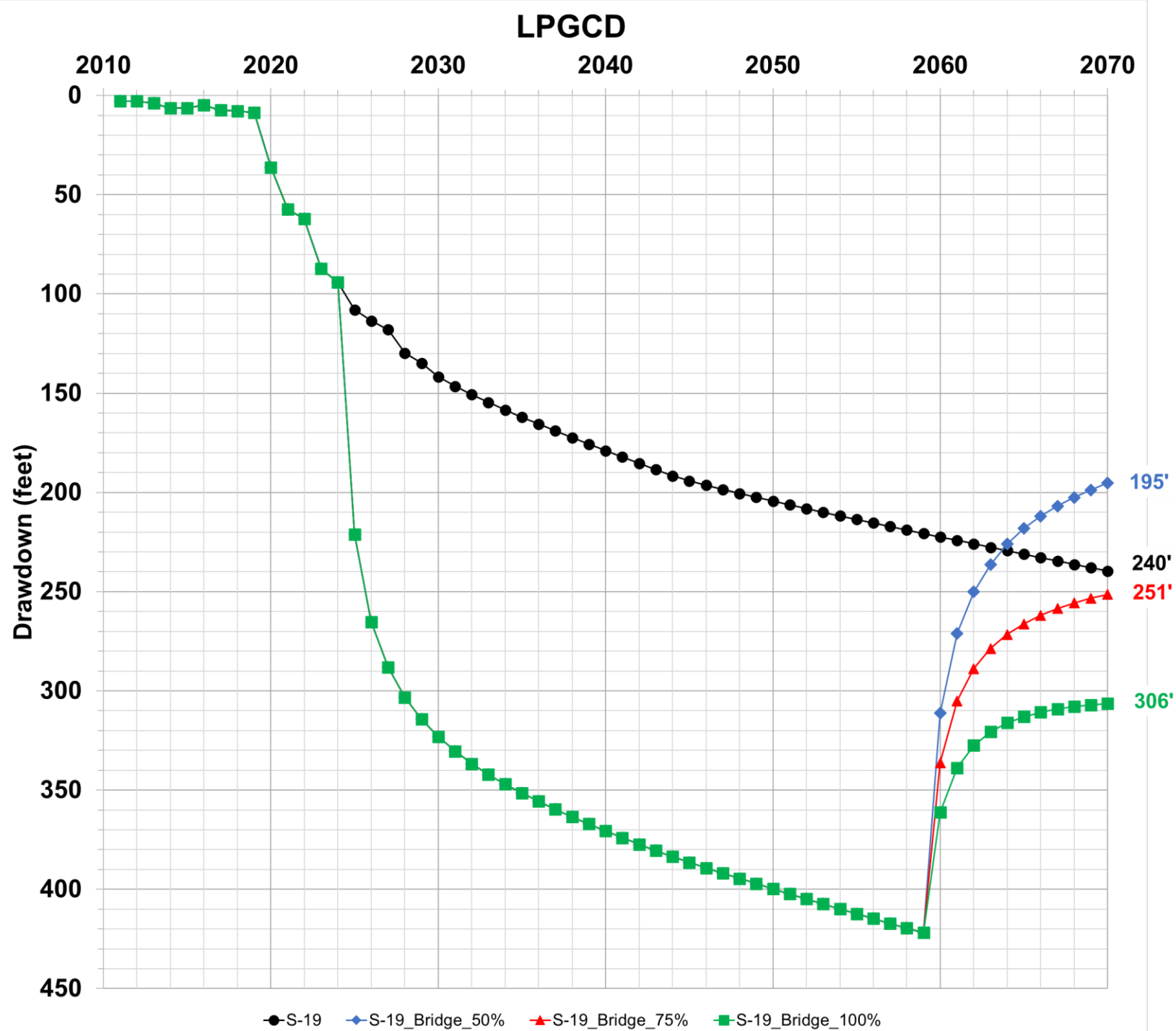
- **Thought experiment**

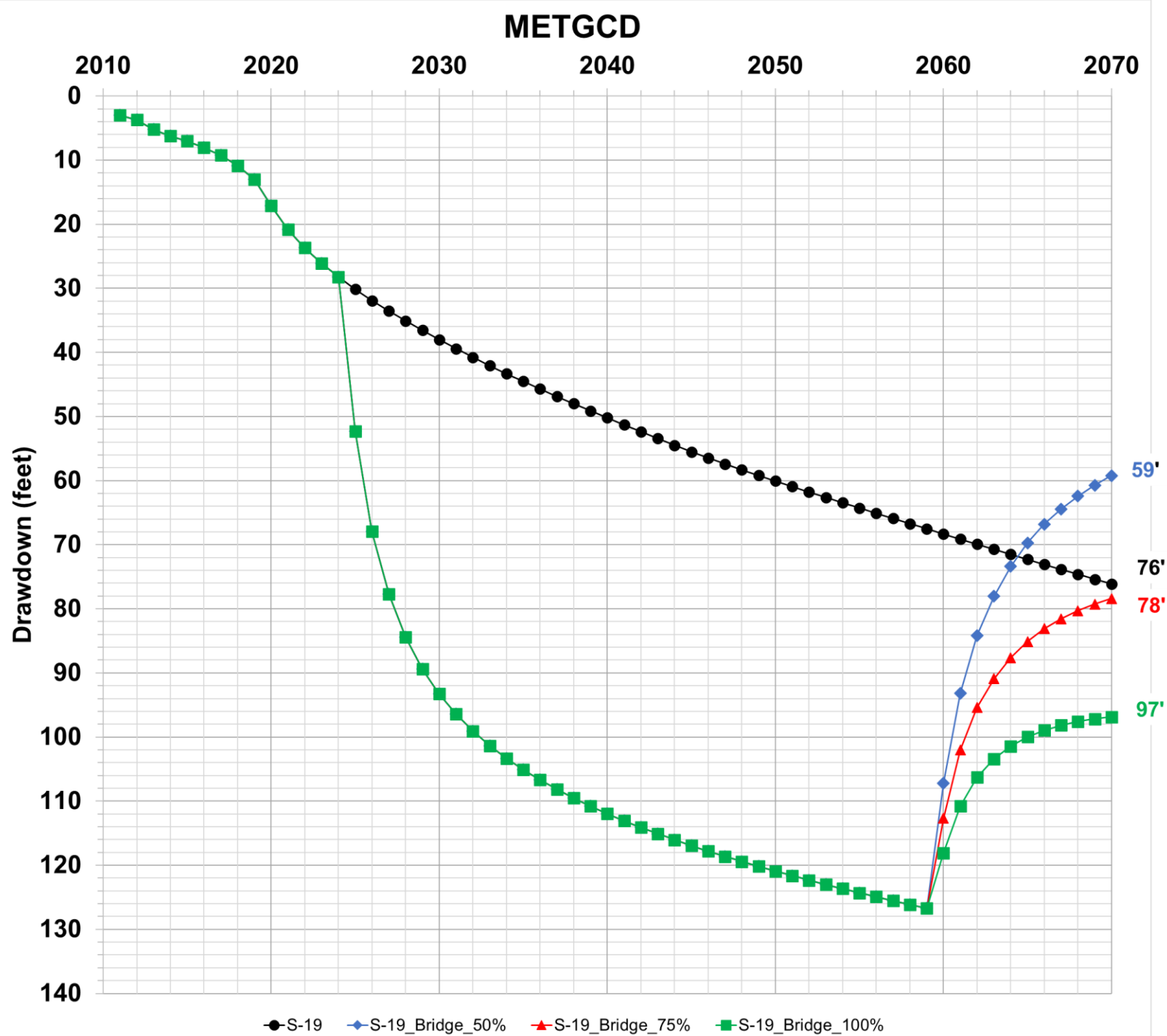
- What if a 35-year “bridge” is allowed for all permits until other water supplies are developed
- What is the 2070 drawdown if all permits were reduced after 35 years (2060)?
- What is the worst-case status of the Simsboro in 2060?



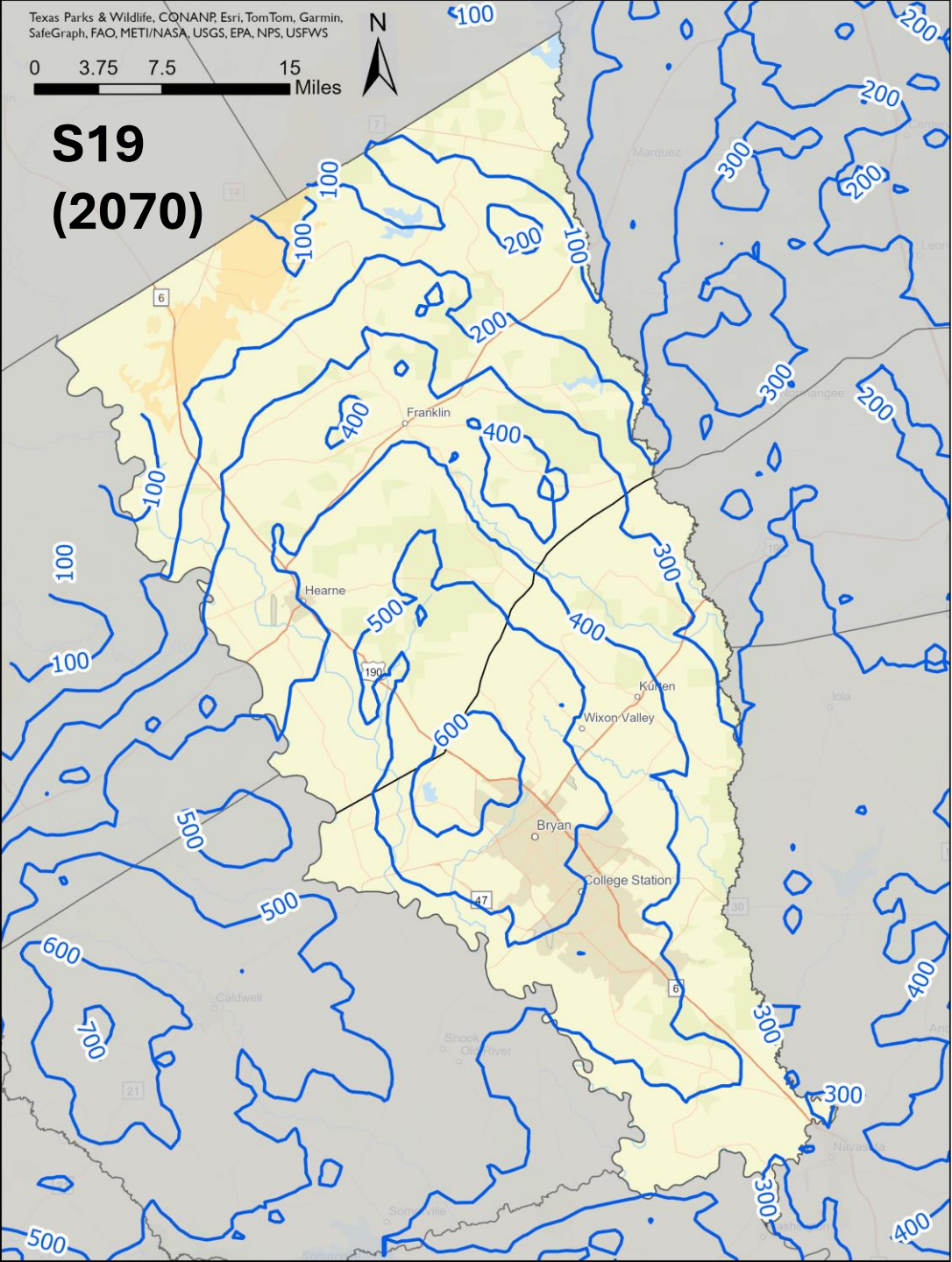
POSGCD



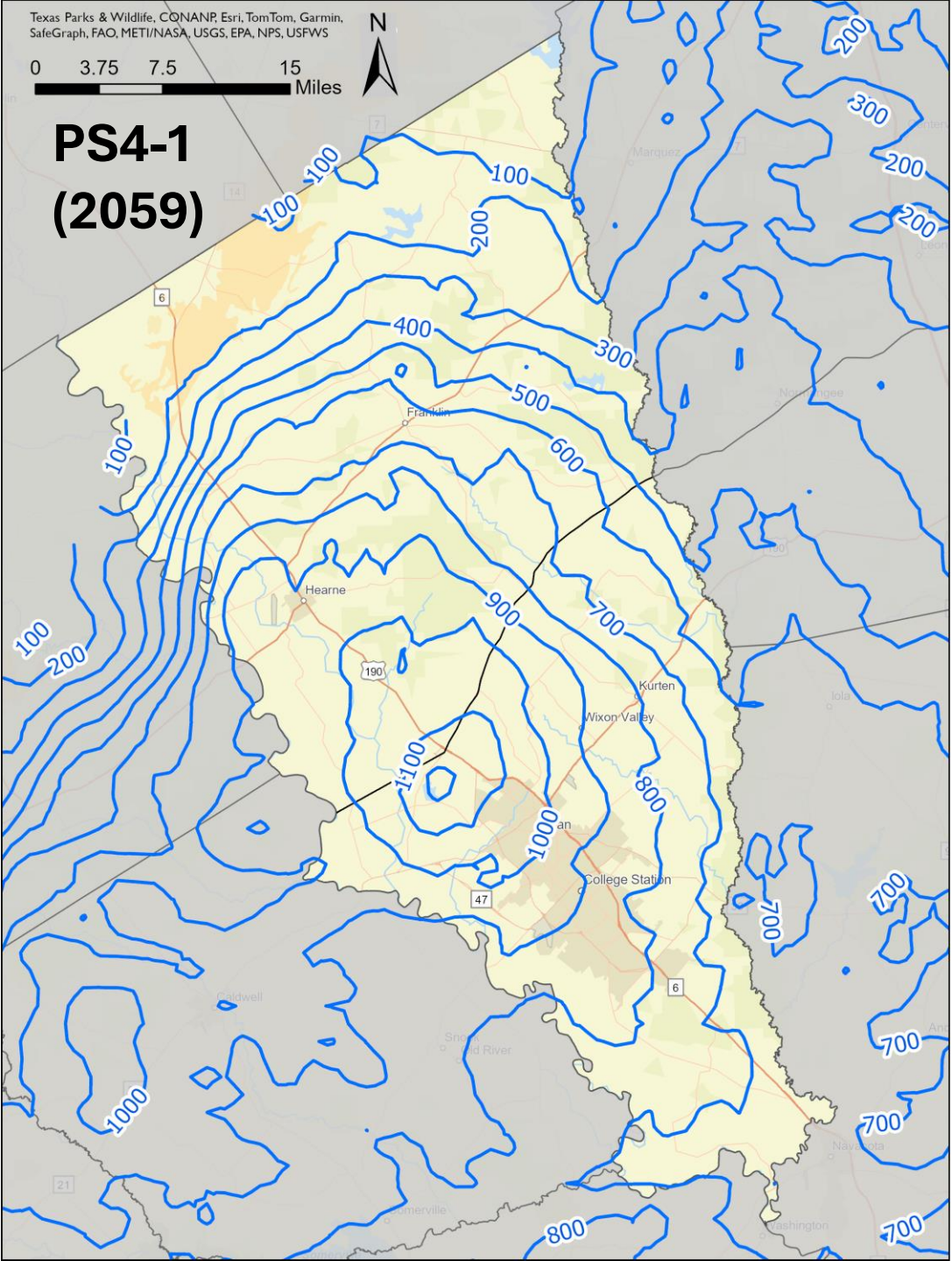




# Simulated Depth to Water in Simsboro (feet)



# Simulated Depth to Water in Simsboro (feet)

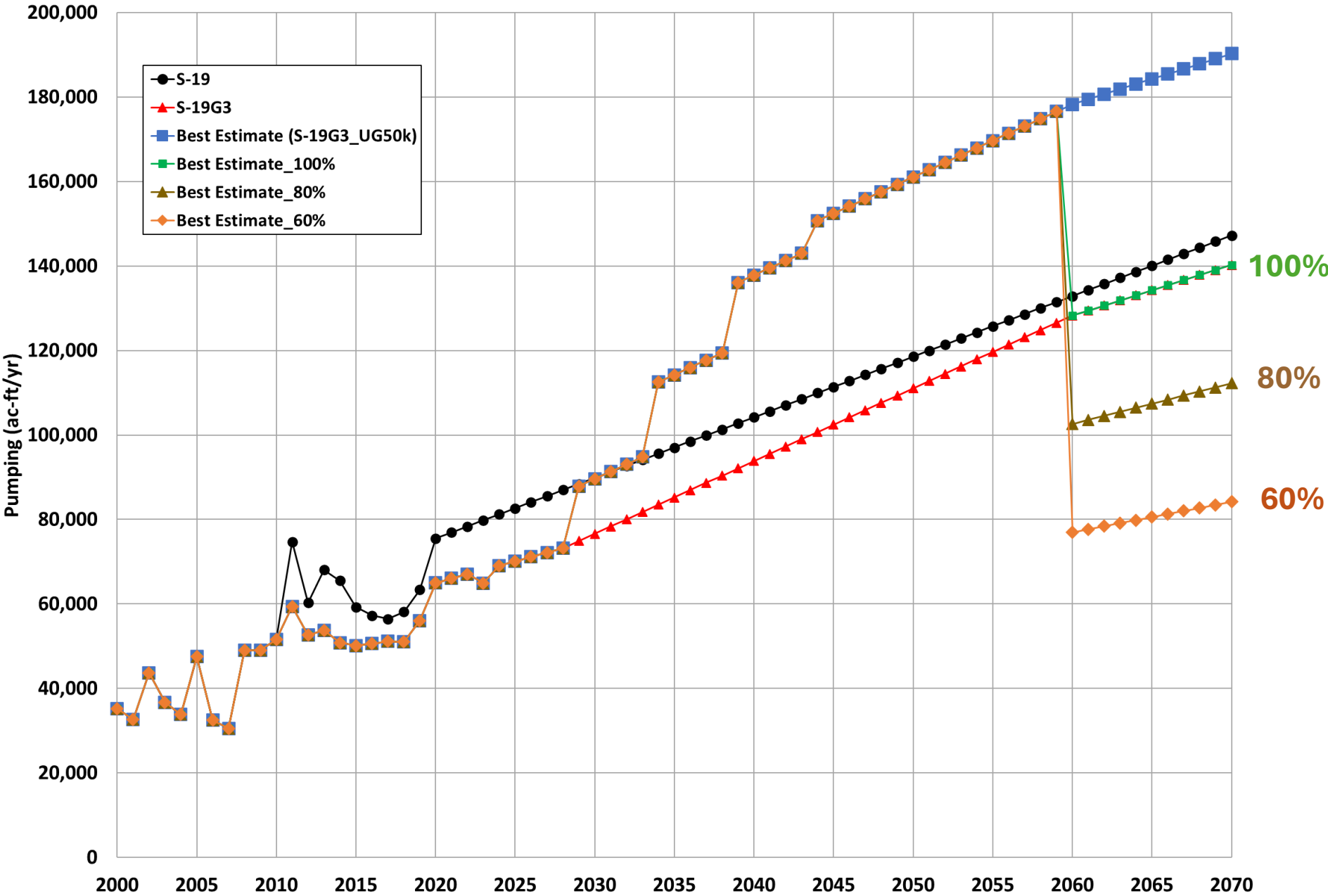


# Observations from PS4-1 Bridge run

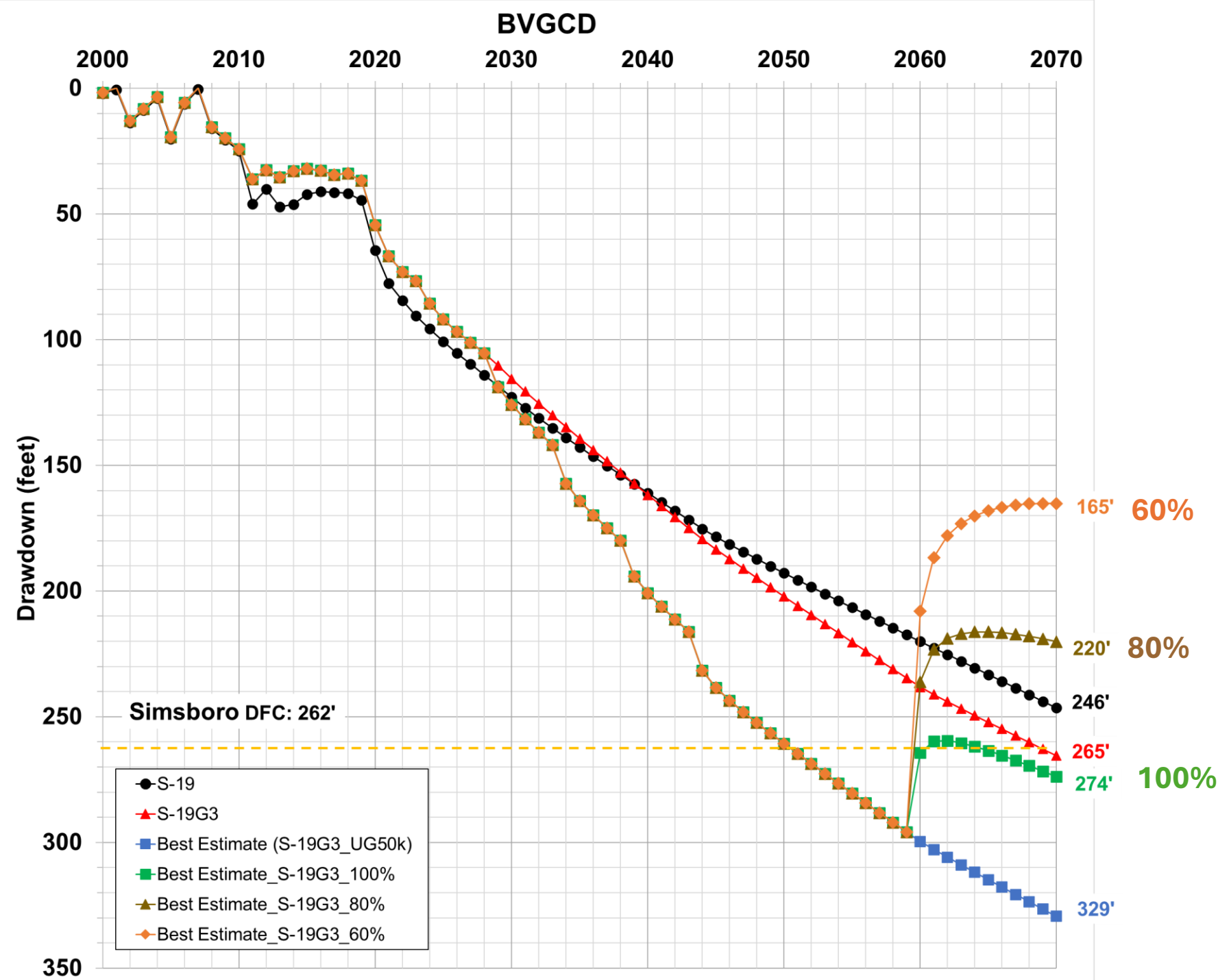
- After a 35-year “bridge” of pumping all permits, reducing pumping to 60-70% of S19 between 2060 and 2070 may be sufficient to match current DFCs
- In other words, a 30-40% reduction of S19 in pumping between 2060 and 2070 would approximately accommodate current DFCs

# BVGCD “Best Estimate” as Bridge

# BVGCD Simsboro Best Estimate Pumping

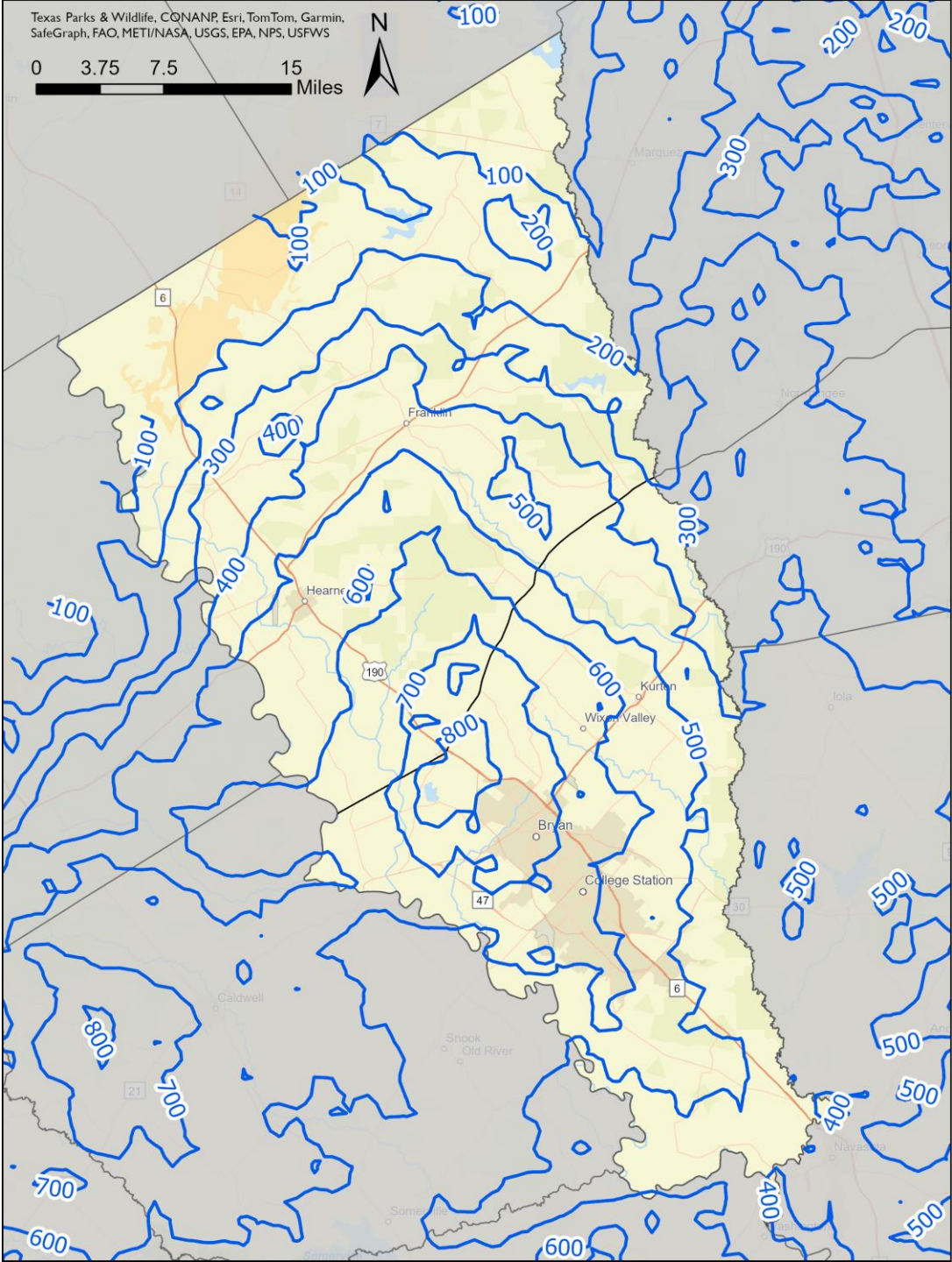


# Simsboro Drawdown



# BVGCD Best Estimate: Simsboro

## Simulated Depth to Water in 2070



# Observations from “Best Estimate” as a Bridge

- Reducing pumping to 90% of S-19G3 between 2060 and 2070 may be sufficient to match current DFCs

# Support slides

# 2070 Drawdown: S-19 & PS4-1 Bridge 2060 (25% reduction)

**S-19**

| S-19   | Sparta | Queen City | Carrizo | Calvert Bluff | Simsboro | Hooper |
|--------|--------|------------|---------|---------------|----------|--------|
| LPGCD  | 22     | 28         | 134     | 132           | 240      | 138    |
| POSGCD | 32     | 30         | 162     | 156           | 278      | 178    |
| BVGCD  | 47     | 40         | 72      | 89            | 195      | 136    |
| METGCD | 25     | 21         | 48      | 57            | 76       | 69     |
| FCGCD  | 43     | 73         | 140     | -             | -        | -      |

**PS4-1 Bridge  
(reduce to 75%  
of S19 in 2060)**

| S-19_Bridge_75% | Sparta | Queen City | Carrizo | Calvert Bluff | Simsboro | Hooper |
|-----------------|--------|------------|---------|---------------|----------|--------|
| LPGCD           | 20     | 28         | 137     | 152           | 251      | 178    |
| POSGCD          | 28     | 28         | 173     | 204           | 304      | 251    |
| BVGCD           | 46     | 41         | 84      | 127           | 221      | 202    |
| METGCD          | 24     | 21         | 49      | 63            | 78       | 86     |
| FCGCD           | 36     | 65         | 130     |               |          |        |

**Difference**

| Difference | Sparta | Queen City | Carrizo | Calvert Bluff | Simsboro | Hooper |
|------------|--------|------------|---------|---------------|----------|--------|
| LPGCD      | -2     | 0          | 3       | 20            | 12       | 39     |
| POSGCD     | -4     | -2         | 10      | 47            | 26       | 73     |
| BVGCD      | -1     | 1          | 12      | 38            | 26       | 65     |
| METGCD     | -1     | 1          | 1       | 6             | 2        | 17     |
| FCGCD      | -6     | -7         | -10     | -             | -        | -      |

# 2070 Drawdown: S-19 & PS4-1 Bridge 2060 (50% reduction)

S-19

| S-19   | Sparta | Queen City | Carrizo | Calvert Bluff | Simsboro | Hooper |
|--------|--------|------------|---------|---------------|----------|--------|
| LPGCD  | 22     | 28         | 134     | 132           | 240      | 138    |
| POSGCD | 32     | 30         | 162     | 156           | 278      | 178    |
| BVGCD  | 47     | 40         | 72      | 89            | 195      | 136    |
| METGCD | 25     | 21         | 48      | 57            | 76       | 69     |
| FCGCD  | 43     | 73         | 140     | -             | -        | -      |

PS4-1 Bridge  
(reduce to 50% of  
S19 in 2060)

| S-19_Bridge_50% | Sparta | Queen City | Carrizo | Calvert Bluff | Simsboro | Hooper |
|-----------------|--------|------------|---------|---------------|----------|--------|
| LPGCD           | 16     | 23         | 110     | 128           | 195      | 154    |
| POSGCD          | 19     | 21         | 141     | 174           | 228      | 215    |
| BVGCD           | 34     | 31         | 68      | 107           | 161      | 171    |
| METGCD          | 18     | 16         | 39      | 51            | 59       | 73     |
| FCGCD           | 28     | 51         | 100     |               |          |        |

Difference

| Difference | Sparta | Queen City | Carrizo | Calvert Bluff | Simsboro | Hooper |
|------------|--------|------------|---------|---------------|----------|--------|
| LPGCD      | -6     | -5         | -24     | -4            | -44      | 16     |
| POSGCD     | -13    | -9         | -22     | 17            | -50      | 38     |
| BVGCD      | -13    | -9         | -4      | 19            | -34      | 35     |
| METGCD     | -7     | -4         | -9      | -6            | -17      | 4      |
| FCGCD      | -14    | -21        | -40     | -             | -        | -      |

# 2070 Drawdown

## BVGCD Best Estimate Scenario

Best Estimate

Best Estimate thru 2059  
100% of S19G3 after 2060

Best Estimate thru 2059  
80% of S19G3 after 2060

Best Estimate thru 2059  
60% of S19G3 after 2060

| Best Estimate (S-19G3_UG50k) | Sparta | Queen City | Carrizo | Calvert Bluff | Simsboro | Hooper |
|------------------------------|--------|------------|---------|---------------|----------|--------|
| LPGCD                        | 27     | 35         | 135     | 151           | 290      | 166    |
| POSGCD                       | 36     | 35         | 158     | 195           | 387      | 244    |
| BVGCD                        | 55     | 49         | 92      | 137           | 329      | 215    |
| METGCD                       | 32     | 30         | 60      | 75            | 103      | 90     |
| FCGCD                        | 46     | 80         | 148     |               |          |        |

| Best Estimat_100% | Sparta | Queen City | Carrizo | Calvert Bluff | Simsboro | Hooper |
|-------------------|--------|------------|---------|---------------|----------|--------|
| LPGCD             | 27     | 35         | 133     | 146           | 277      | 160    |
| POSGCD            | 36     | 35         | 153     | 182           | 346      | 221    |
| BVGCD             | 54     | 48         | 87      | 121           | 274      | 183    |
| METGCD            | 31     | 30         | 58      | 70            | 94       | 85     |
| FCGCD             | 46     | 79         | 147     |               |          |        |

| Best Estimat_80% | Sparta | Queen City | Carrizo | Calvert Bluff | Simsboro | Hooper |
|------------------|--------|------------|---------|---------------|----------|--------|
| LPGCD            | 23     | 31         | 113     | 126           | 227      | 138    |
| POSGCD           | 30     | 30         | 130     | 156           | 278      | 189    |
| BVGCD            | 45     | 41         | 74      | 104           | 220      | 157    |
| METGCD           | 26     | 26         | 50      | 61            | 78       | 74     |
| FCGCD            | 40     | 68         | 124     |               |          |        |

| Best Estimate_60% | Sparta | Queen City | Carrizo | Calvert Bluff | Simsboro | Hooper |
|-------------------|--------|------------|---------|---------------|----------|--------|
| LPGCD             | 20     | 27         | 93      | 105           | 177      | 117    |
| POSGCD            | 23     | 24         | 106     | 129           | 209      | 157    |
| BVGCD             | 36     | 32         | 61      | 86            | 165      | 130    |
| METGCD            | 21     | 22         | 42      | 51            | 61       | 63     |
| FCGCD             | 33     | 57         | 100     |               |          |        |