



Recomputation of Ambient Water Quality in the Santa Ana River Watershed

BMPTF: March 24, 2020

Ambient Water Quality Phases

1: Data Gathering

- ✓ Data Compilation
- ✓ QA/QC, Process, and Upload recent data

2: Point Statistics

- ✓ Calculate Water Quality Point Statistics
- ✓ Shapiro-Wilk Test for Normality

3: Computations

- ✓ Groundwater Elevation Contours
- ✓ Nitrate, TDS Concentrations
- ✓ Compute ambient water quality for GMZ's

4: Interpretive Tools

- ✓ Innovative Interpretive Tools

2018 Ambient Water Quality
TDS

Explanation

440 Groundwater Management Zone
1999-2018 TDS AWQ (mg/L)

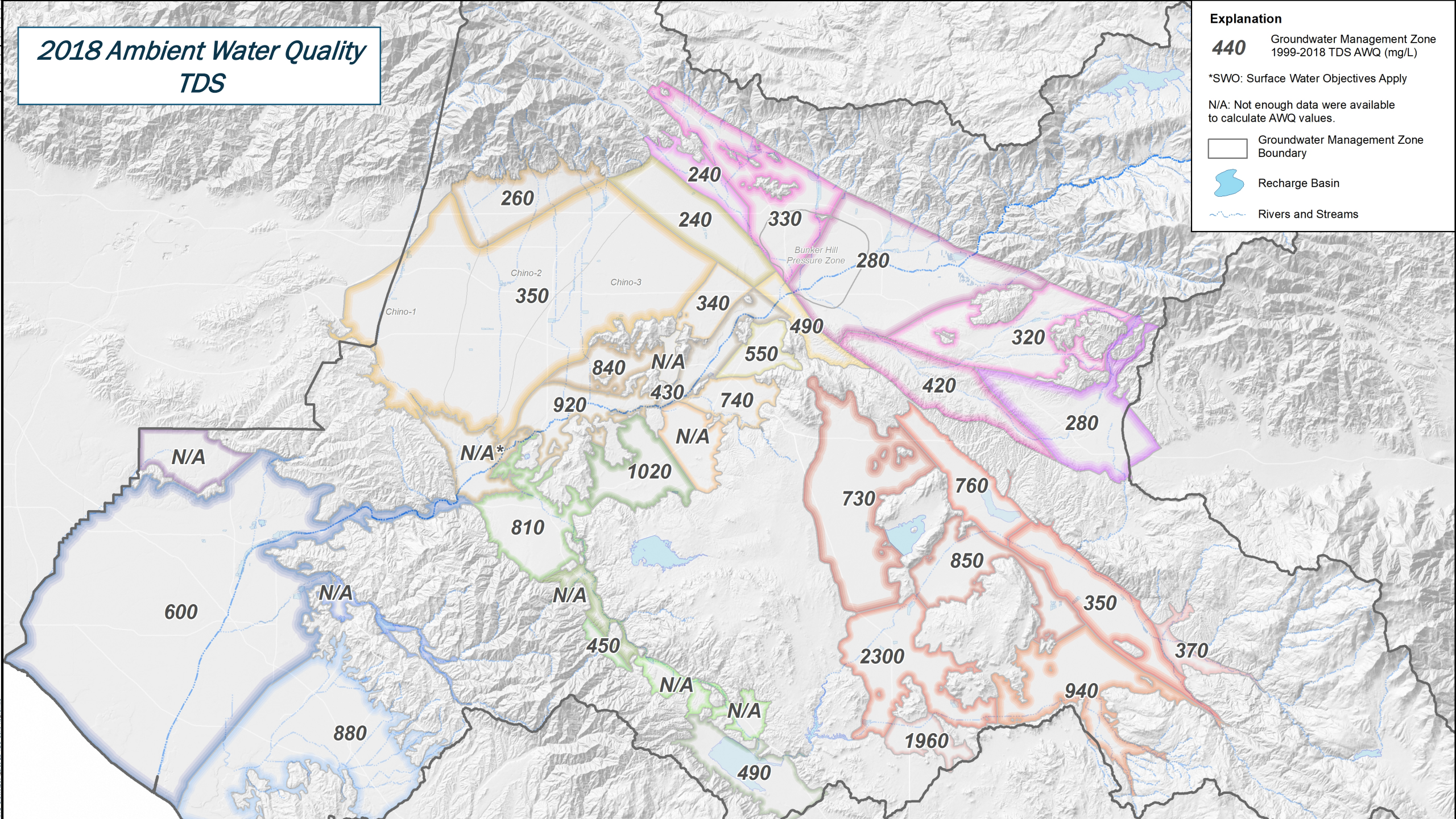
*SWO: Surface Water Objectives Apply

N/A: Not enough data were available
to calculate AWQ values.

Groundwater Management Zone
Boundary

Recharge Basin

Rivers and Streams



**2018 Ambient Water Quality
Nitrate as N**

Explanation

10.4 Groundwater Management Zone 1999-2018 NO₃-N AWQ (mg/L)

*SWO: Surface Water Objectives Apply

N/A: Not enough data were available to calculate AWQ values.

Groundwater Management Zone Boundary

Recharge Basin


Rivers and Streams

Map Data (Nitrate as N in mg/L):

- Chino-1: 4.7
- Chino-2: 10.3
- Chino-3: 6.5
- Bunker Hill Pressure Zone: 2.4, 3.5, 3.8, 5.8
- Central Valley: 22.0, 27.8, 10.2, 16.6, 10.2
- San Joaquin Hills: 3.0, 6.4, 2.3, 2.8
- Other Zones: 5.7, 10.3, 3.3, 5.9, 1.5, 2.7, 7.8, 1.7, 2.9, 1.1, 5.5, 4.8, 1.7
- N/A locations: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100

10.4 Groundwater Management Zone 1999-2018 NO₃-N AWQ (mg/L)

N/A: Not enough data were available to calculate AWQ values.

 Recharge Basin Rivers and Streams

Interpretive Tools

Well Attrition

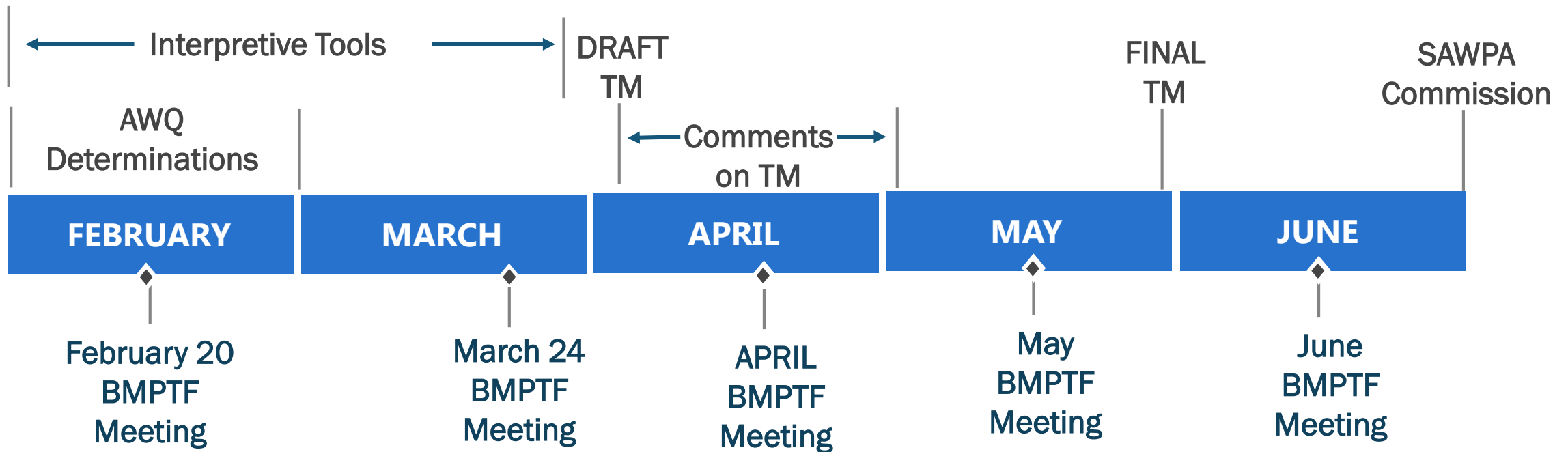
- [AWQ Draft TDS Nitrate Data Loss Risk](#) – Two slides
 - Nitrate Data Loss Risk
 - TDS Data Loss Risk
- [AWQ Draft TDS and Nitrate Well Attrition Analysis](#) – 13 slides
 - Nitrate Well Attrition Analysis
 - TDS Well Attrition Analysis

Interpretive Tools

Well Trends

- [AWQ Draft Nitrate Key Well Trends](#) – one slide: key wells symbolized by trend in Nitrate over the computation period.
- [AWQ Draft TDS Key Well Trends](#) – one slide: key wells symbolized by trend in TDS over the computation period.
- [AWQ Draft Nitrate Well Trends](#) – one slide: All wells symbolized by trend in nitrate over the computation period.
- [AWQ Draft TDS Well Trends](#) – one slide: All wells symbolized by trend in TDS over the computation period
- [AWQ Draft Point Statistics Percent Rank](#) – four slides:
 - Nitrate Point Statistics and Averages
 - TDS Point Statistics and
 - Nitrate Point Statistics and Averages Percent Difference from 2015 – 2018
 - TDS Point Statistics and Averages Percent Difference from 2015 – 2018

Proposed Near-Term Schedule



A photograph of two people kayaking on a calm body of water. The person in the foreground is on the left, wearing a green shirt, with their arms and a black paddle visible. The person in the background is further away, also in a kayak, with a yellow paddle. The water is still, reflecting the light. A white horizontal line with a central dot is positioned above the text.

QUESTIONS?