

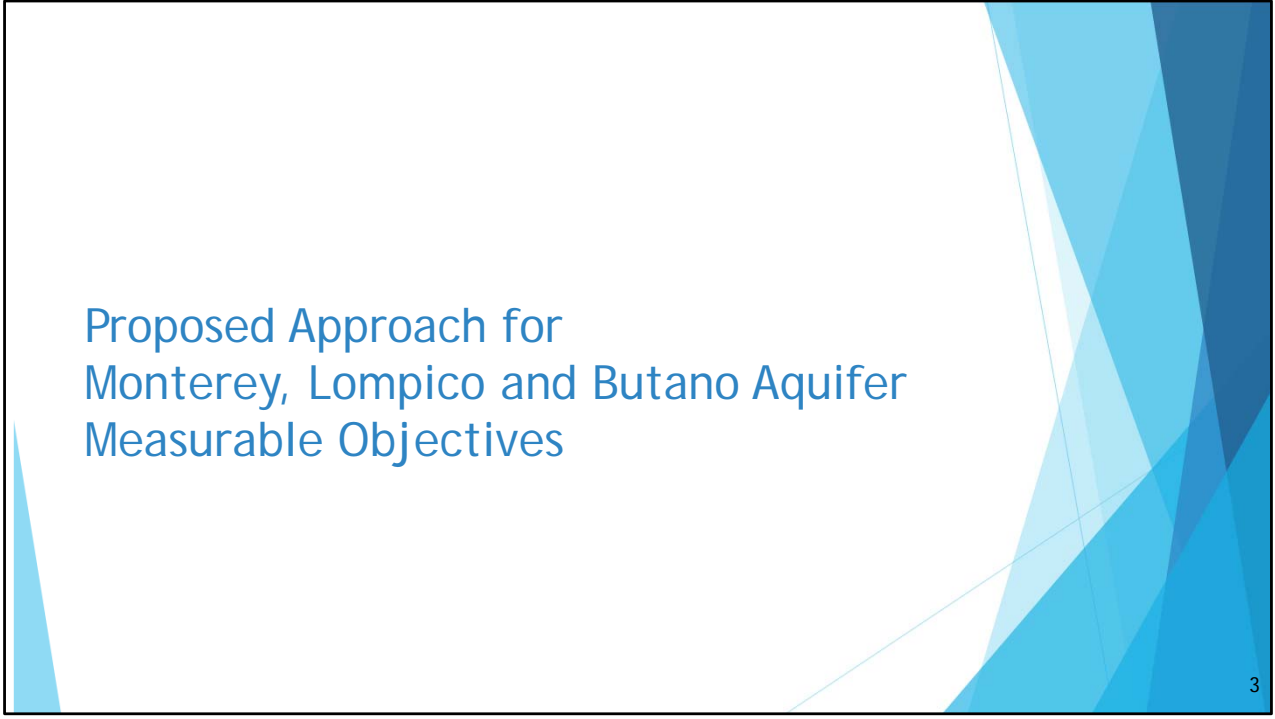
Proposed Measurable Objectives and Undesirable Results for Confined Aquifers Chronic Lowering of Groundwater Levels

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Santa Margarita Groundwater Agency
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Objectives

- ▶ Proposed Approach for Measurable Objectives
- ▶ Proposed Approach for Undesirable Results





Proposed Approach for
Monterey, Lompico and Butano Aquifer
Measurable Objectives

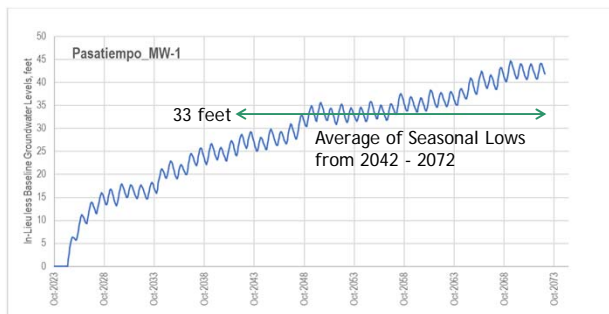
Board Input of Measurable Objectives

- ▶ Using combined projects of In-Lieu & Injection projected groundwater levels at the end of an average period ending in Water Year 2045 is too optimistic and overly aspirational
- ▶ The 6-year wet period at the beginning of the future simulation is unlikely and increases groundwater levels unrealistically
- ▶ Preference to use the In-Lieu projection as basis for Measurable Objectives

Revised Approach for Measurable Objectives

- ▶ Since the projected water level changes are influenced by climate, select a method that removes climate uncertainty
- ▶ Isolate project benefit by:

In-Lieu – Baseline Groundwater Levels



- ▶ Add the average 2042 - 2072 benefit either to:
 1. Average seasonal lows from 2016 - 2020, or
 2. October 2020 groundwater levels

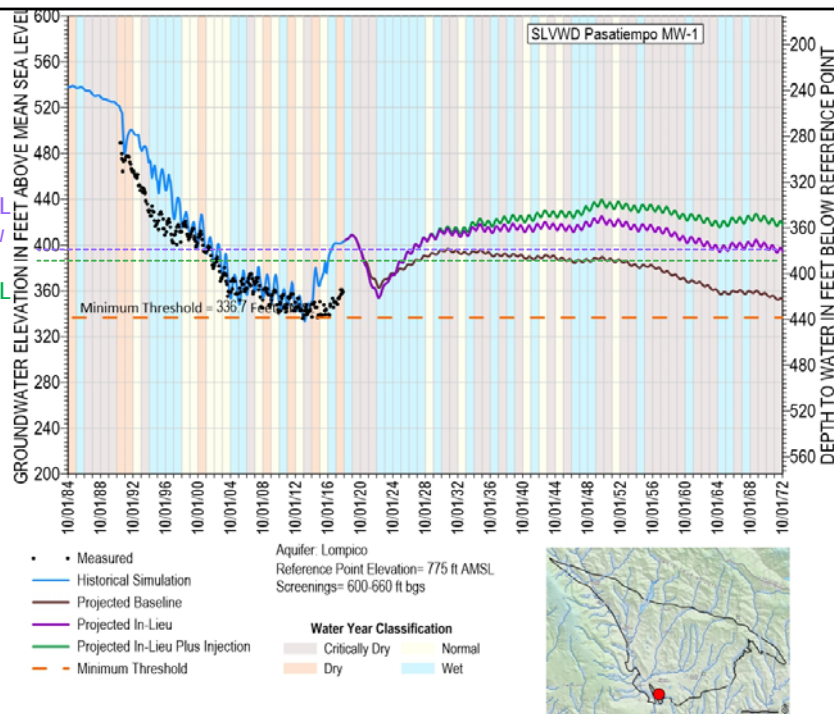
Example of Lompico Aquifer Measurable Objectives

Measurable Objective = 400 Feet AMSL
Average of Last 5 Years Seasonal Low + 33 ft benefit

Measurable Objective = 374 Feet AMSL
October 2020 levels (Seasonal Low) + 33 ft benefit

This well has lower than normal Oct 2020 levels because Pasatiempo wells are being pumped more due to fire impacts on surface water infrastructure

Oct 2020 levels closer to MT than it has been since 2017



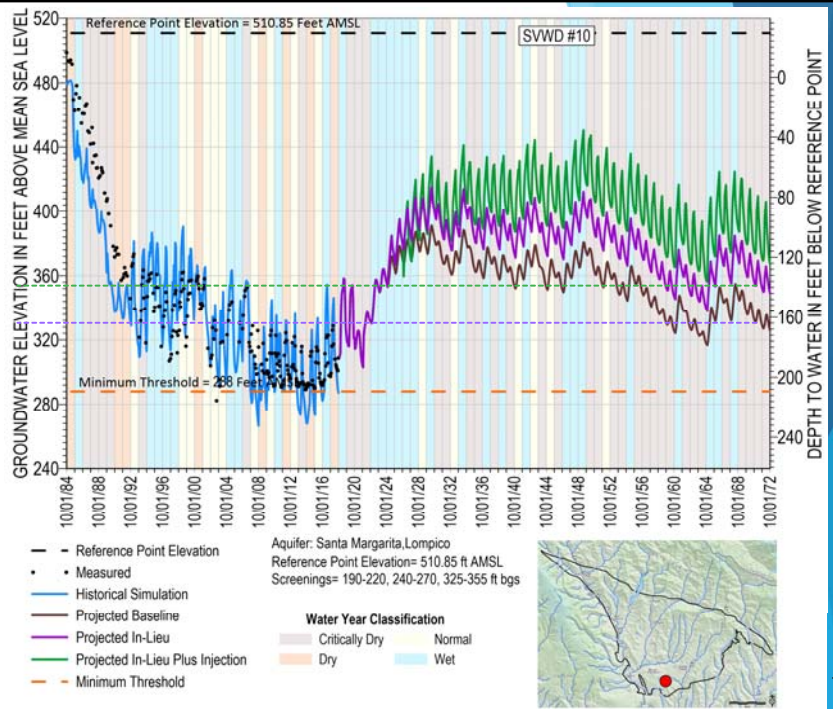
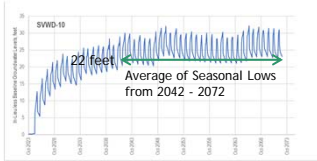
6

Because the Oct 2020 groundwater level is influenced by increased pumping by SLVWD Pasatiempo wellfield due to loss of surface water infrastructure from the fires, the groundwater level of 374 ft amsl is 26 feet lower than the average over the last five years. It may make more sense to use an average of the past five years seasonal low groundwater levels (purple line) to add the in-lieu benefit to.

Example of Lompico Aquifer Measurable Objectives

Measurable Objective = 352 Feet AMSL
 October 2020 levels (Seasonal Low) + 22 ft benefit

Measurable Objective = 333 Feet AMSL
 Average of Last 5 Years Seasonal Low + 22 ft benefit

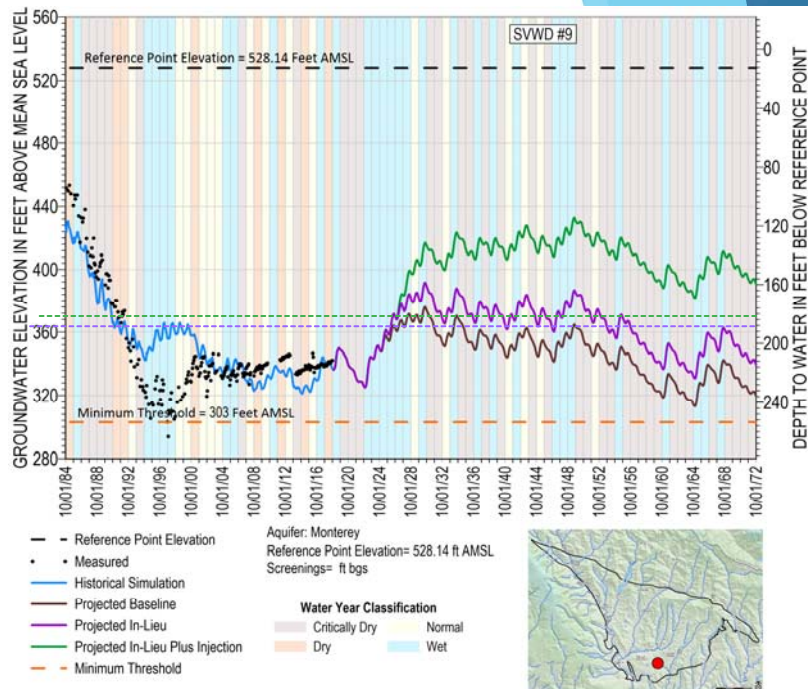
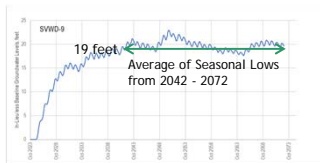


This example shows the Oct 2020 levels are higher than the 5-year seasonal low average

Example of Monterey Formation Measurable Objectives

Measurable Objective = 371 Feet AMSL
 October 2020 levels (Seasonal Low) + 19 ft benefit

Measurable Objective = 364 Feet AMSL
 Average of Last 5 Years Seasonal Low + 19 ft benefit

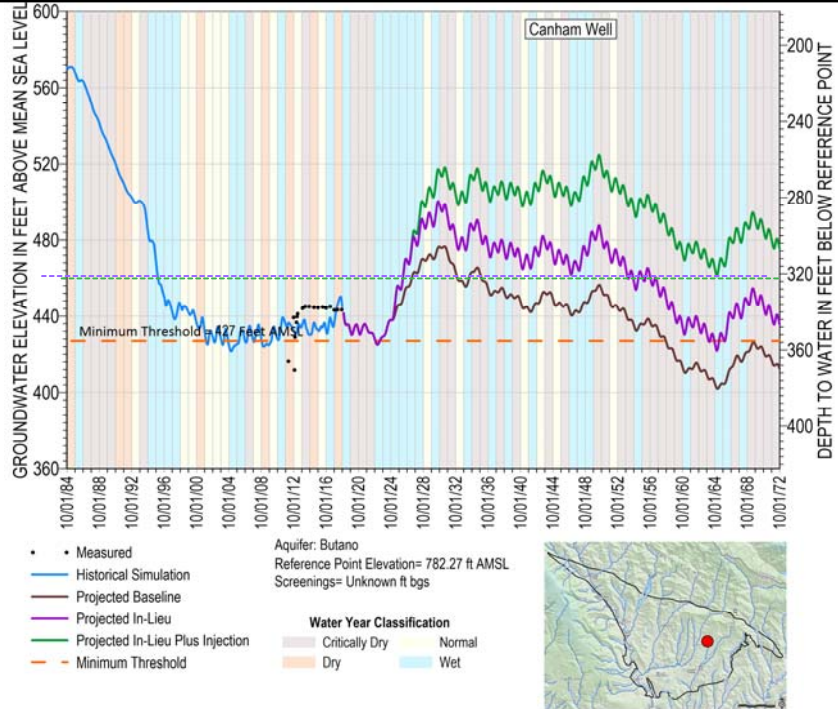
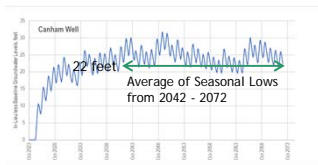


Also rising in recent years

Example of Butano Aquifer Measurable Objectives

Measurable Objective = 465 Feet AMSL
 Average of Last 5 Years Seasonal Low + 22 ft benefit

Measurable Objective = 464 Feet AMSL
 October 2020 levels (Seasonal Low) + 22 ft benefit



Proposed Measurable Objective Approach

- ▶ Add the average 2042 - 2072 benefit either to:
 1. Average seasonal lows from 2016 - 2020, or
 2. October 2020 groundwater levels

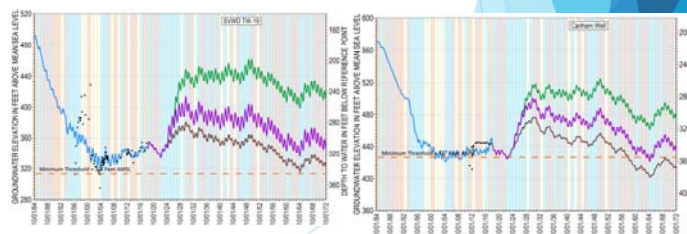
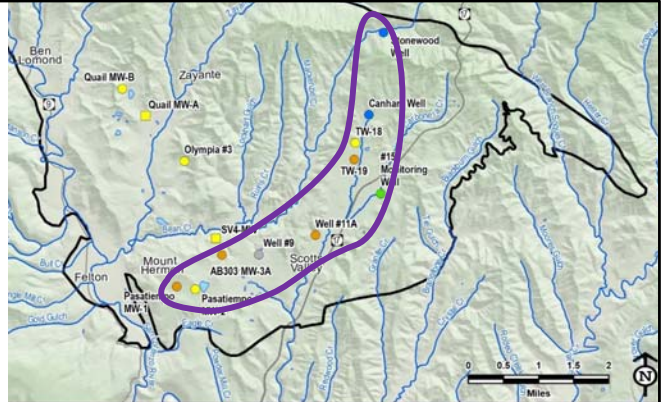
Proposal: Measurable Objectives in the Lompico, Monterey, and Butano Aquifer RMPs equal the projected increase in seasonal low levels from the 520 AFY in-lieu project in the Scotts Valley area over baseline conditions, added to

- Average seasonal lows from 2016 - 2020, or
- October 2020 groundwater levels

Proposed Approach for
Monterey, Lompico and Butano Aquifer
Undesirable Results

Confined Aquifer Undesirable Results Proposal

- ▶ All orange (Lompico), grey (Monterey), green (Lompico/Butano), and blue (Butano) RMPs are projected to have higher groundwater levels due to the in-lieu project
- ▶ Groundwater levels only get close to Minimum Thresholds in multiple year droughts in the northern portion of Scotts Valley



Future RMPs in Monterey, Lompico or Butano aquifers that are not influenced by projects may need a different approach for Measurable Objectives and Undesirable results

Proposal for Undesirable Results

Undesirable Results occur if groundwater levels in the Lompico, Monterey, or Butano Aquifers fall below Minimum Thresholds *in the second of two consecutive non-drought years*. If the lowered levels in non-drought years are related to an unforeseen event, which may include, but is not limited to, operational issues or emergencies, those levels are not considered Undesirable Results.

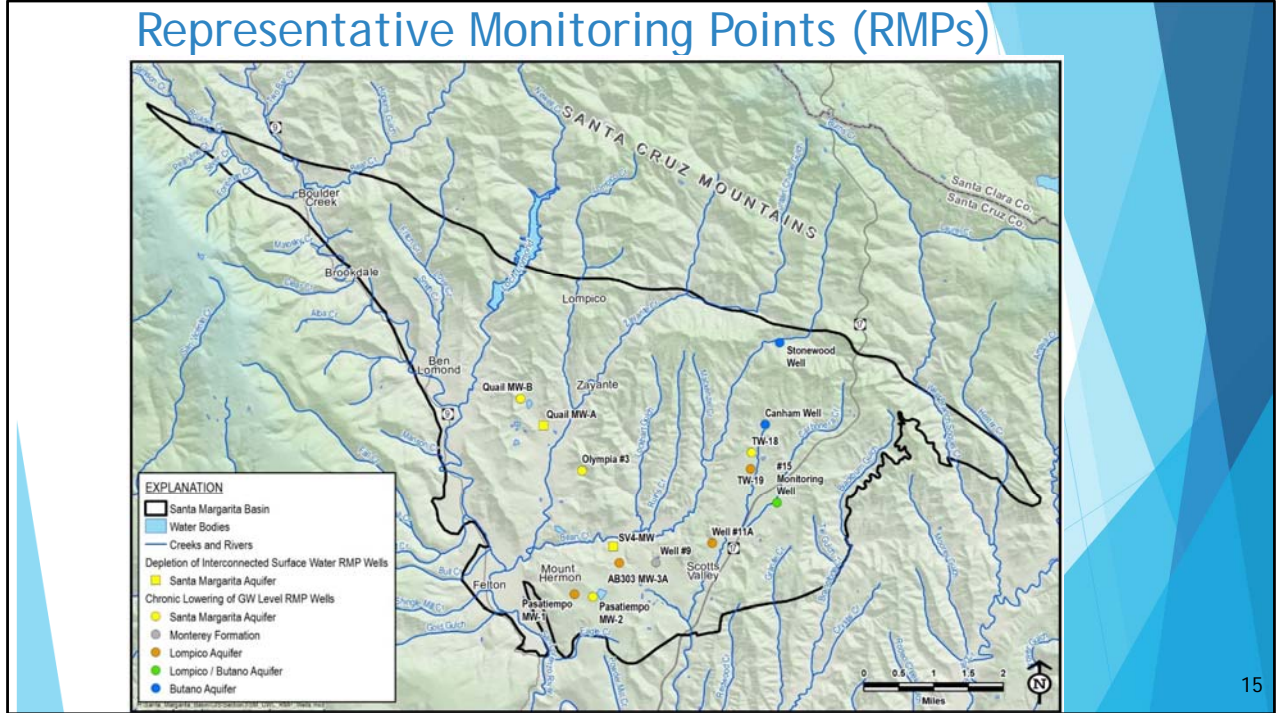
This is the wording from Santa Margarita Aquifer Undesirable Results. Potentially, these aquifers will be replenished by projects and the bolded text could be excluded

13

Scotts Valley area is identified as current Representative Monitoring Points with SMC are only located in this area. In the future, RMPs may be added outside of the Scotts Valley area and the definition of undesirable results may need to be updated at that point

Questions?

Representative Monitoring Points (RMPs)



Current RMPs in the Basin

Proposed Monitoring Wells (teal labels)

