San Benito County Water District

Groundwater Sustainability Agency

Technical Advisory Committee

April 29, 2020 2:00-3:30

Via teleconference

Telephone: 1 (312) 757-3121

Access code: 684-614-285

TODD GROUNDWATER

Agenda

1. Setting Sustainability Criteria: Groundwater Levels
2. Upcoming meetings

SGMA requirements: sustainability criteria for groundwater levels

The minimum threshold for chronic lowering of groundwater levels shall be the **groundwater elevation** indicating a depletion of supply at a given location that may lead to undesirable results.

Minimum thresholds for chronic lowering of groundwater levels shall be supported by the following:

- The rate of groundwater elevation decline based on historical trends, water year type, and projected water use in the basin.
- Potential effects on other sustainability indicators

Setting sustainability criteria for water levels

- SGMA requires definition of undesirable results and Minimum Thresholds (MTs) for chronic lowering of groundwater levels
- North San Benito hydrographs do not show chronic declining trends throughout the basin, but potential exists

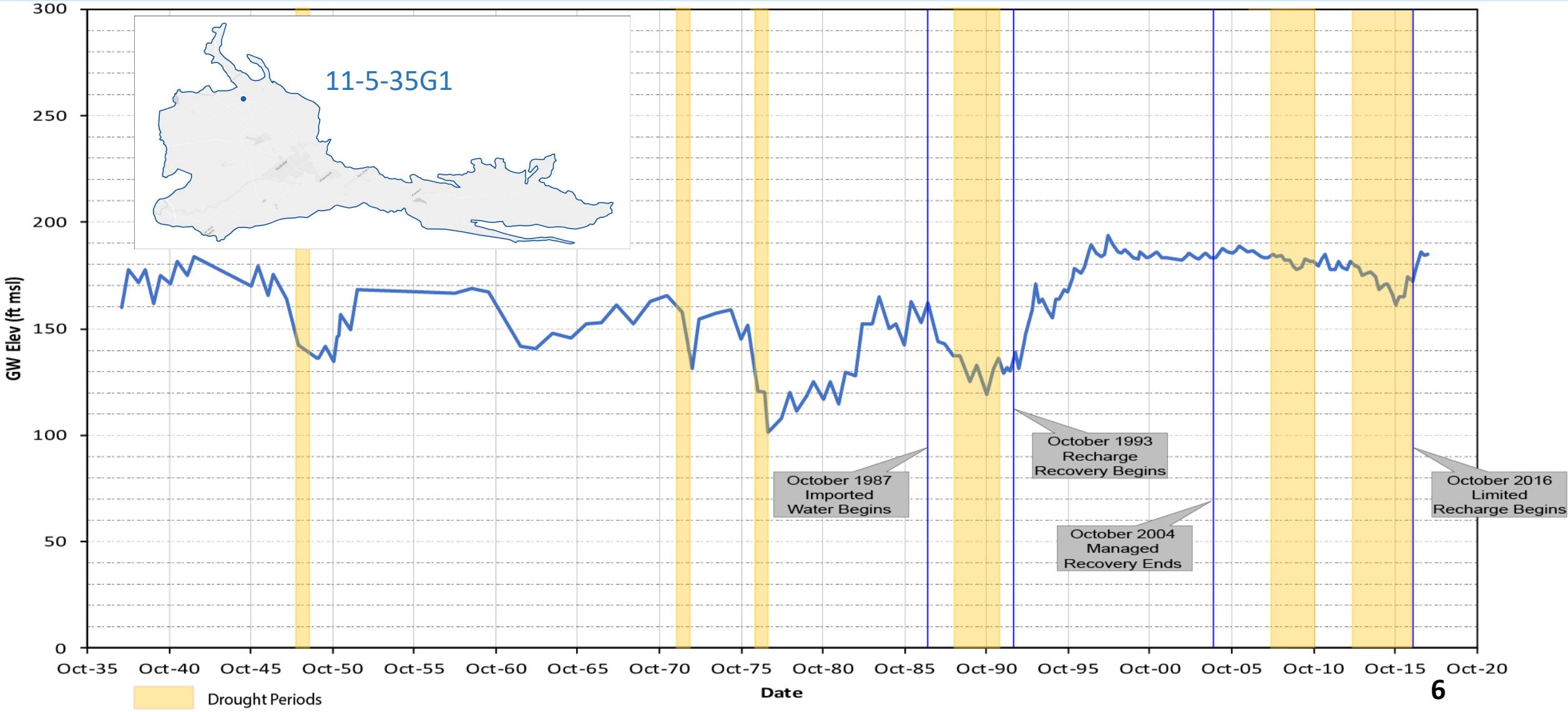
The North San Benito Sustainability Goal has the objective to:

provide a long-term, reliable and efficient groundwater supply for agricultural, domestic, and municipal and industrial uses

GSA responsibilities

- Groundwater management/use without *causing* undesirable results-chronic groundwater level declines
- Required to address significant and unreasonable effects caused by groundwater conditions throughout the basin
  - Not required to address undesirable results that occurred before 2015
  - Groundwater level decline due to drought does not mean *unsustainable* given basin operation so that declines are offset subsequently
  - Not responsible for all level/yield problems in every well

Reference: representative long term hydrograph



Historical groundwater levels

- No overdraft since CVP imports
- Historical lows are not the same years in every Management Area
- Local historical lows have occurred with various droughts from 1977 to 2015
- Basin management has resulted in local groundwater increases and general amelioration of drought impacts; no known complaints of significant well impacts in recent history
- Recently installed wells may be relatively shallow and vulnerable to groundwater level decline

Data gaps

- Geographic distribution of wells being monitored is uneven
- Current Key Wells are production wells, not sited/designed for monitoring, and may not be truly representative of nearby wells
- Location, status, and construction of most existing private wells is not known/readily available
- Information on vertical gradients is lacking

➢ Monitoring program improvements will reduce uncertainty
➢ Management actions are available for response to declines

Monitoring and management actions (urban + ag)

- Improve monitoring program (Round 3 grant funding for wells)
- Increase CVP percolation
- Provide Managed Aquifer Recharge of local surface water + stormwater
- For Zone 6, provide CVP supply in lieu of groundwater pumping
- Promote water recycling
- Utilize demand management as needed

Multiple actions exist but are not equally available across the Management Areas or through time

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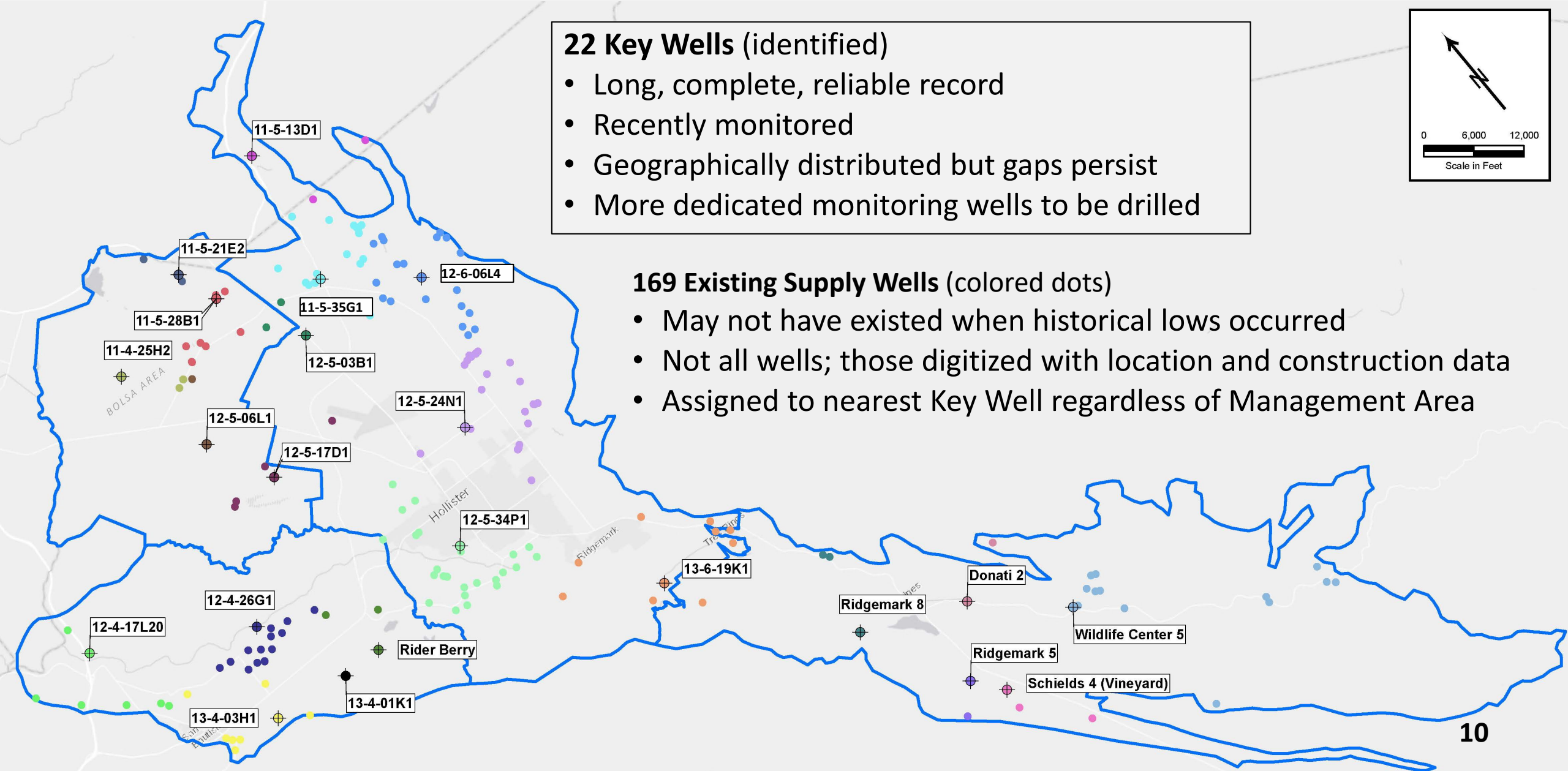
Key Wells as representative monitoring sites



22 Key Wells (identified)

- Long, complete, reliable record
- Recently monitored
- Geographically distributed but gaps persist
- More dedicated monitoring wells to be drilled

169 Existing Supply Wells (colored dots)

- May not have existed when historical lows occurred
- Not all wells; those digitized with location and construction data
- Assigned to nearest Key Well regardless of Management Area

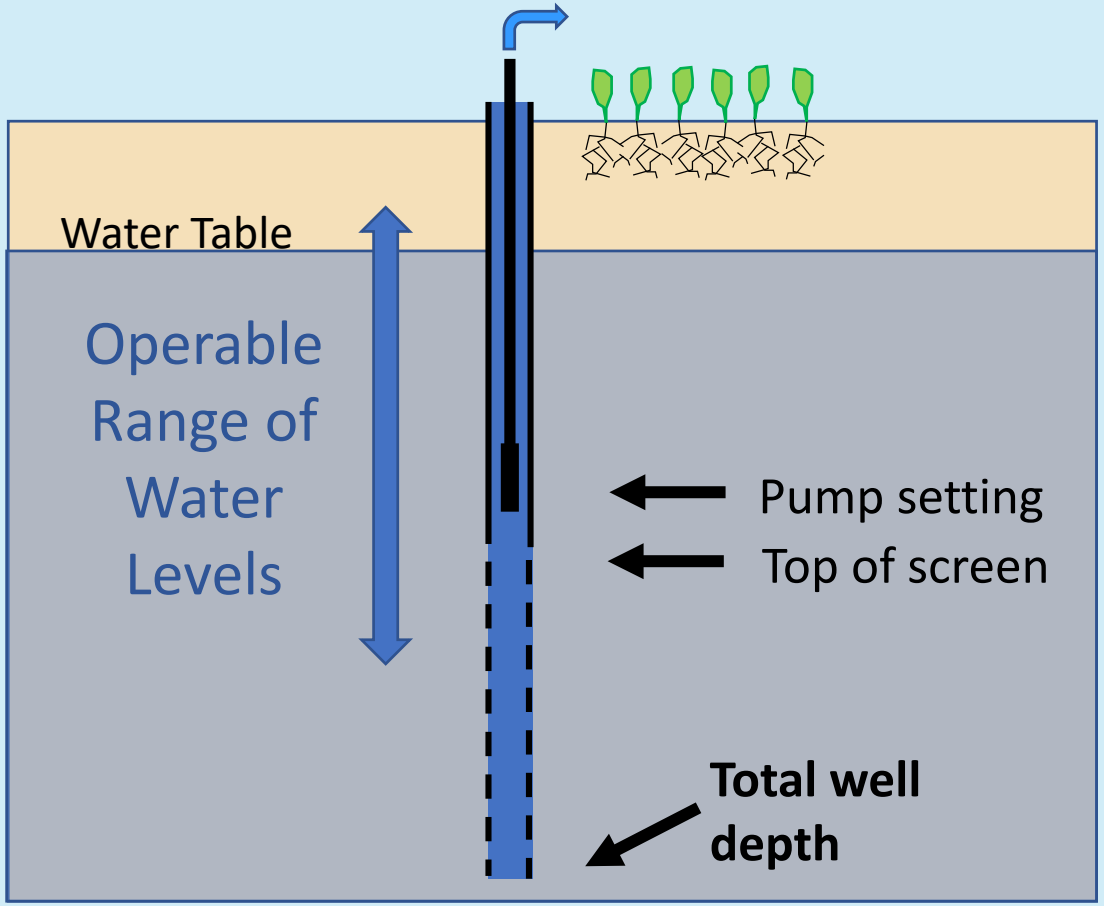
Identifying undesirable results

What are potential undesirable results?

- Impact to wells
- Impacts on flow to/from other areas

How can we identify undesirable results?

- Focus on recent/existing wells that may not have existed when historical lows occurred
- Rely on 169 Existing Supply Wells with known construction information
- Review of Existing Supply Well screens
- Compare historical lows in Key Wells and bottom of deepest screens in Existing Supply Wells (when a well "goes dry") to assess number of impacted wells



Establishing Minimum Thresholds

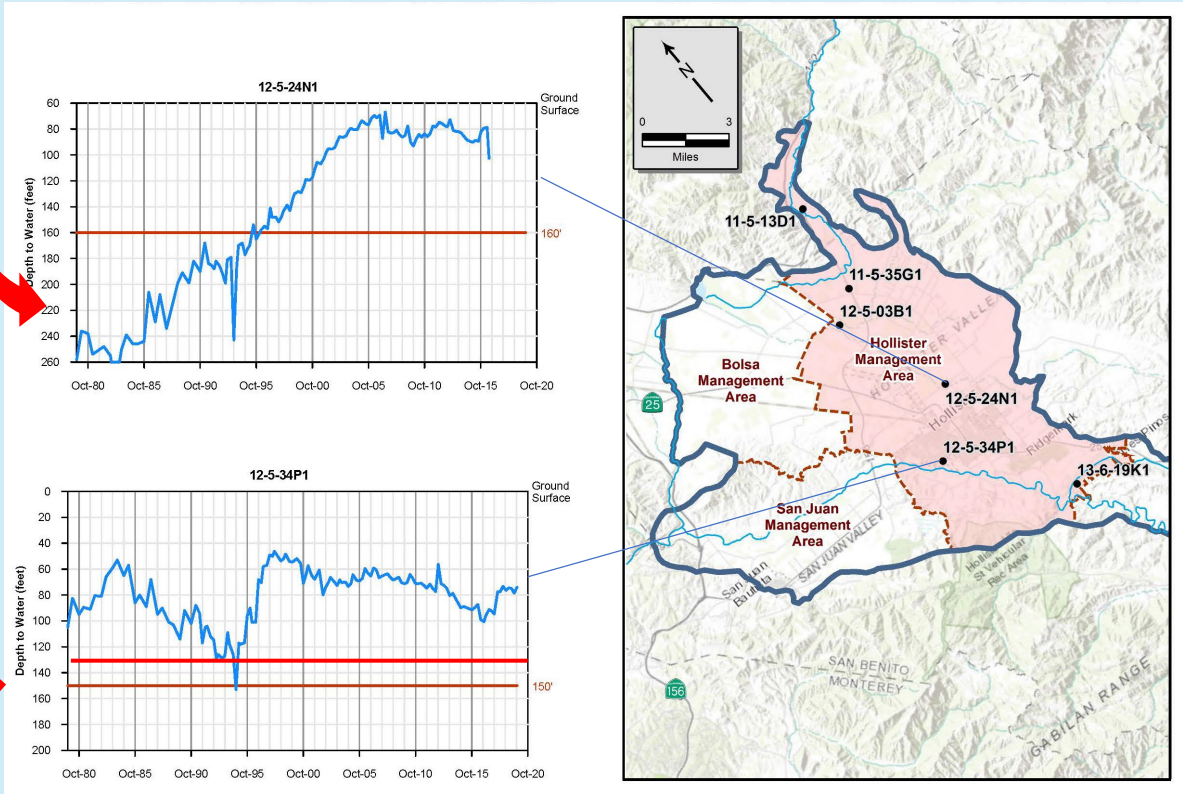
Objectives in establishing groundwater level MTs

- Protect most existing wells (insofar as we know them)
- Minimize potential impacts on flow to/from other areas (e.g., Llagas)
- Recognize uncertainties and variability in local groundwater levels
- Support basin management flexibility (avoid setting off false alarms or triggering costly, ineffective, or harmful management actions)

  - Accordingly, initial minimum thresholds in some Key Wells were adjusted upward to be more protective of existing wells; other MTs may be adjusted downward

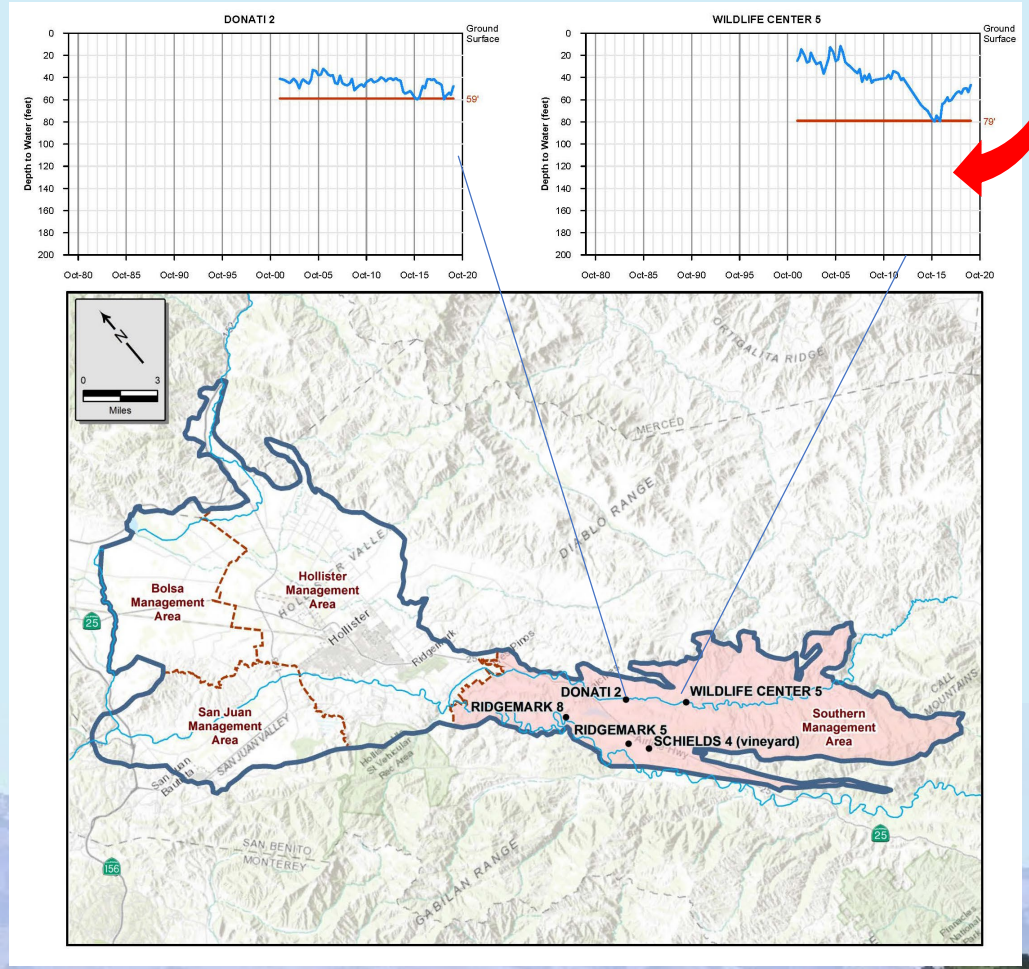
Example: Initial MTs

Adjusted upward



Adjust to account for outlier (pumping level?)

Adjust to account for short record? (base on modeling?)



Establishing Minimum Thresholds

Initial MTs in 5 of 22 Key Wells were adjusted to be more protective.

- To recognize relatively scarcity of candidate Key Wells and known existing supply wells
- To provide additional protection to economically disadvantaged area
- To acknowledge uncertainty in groundwater level gradients between key wells and existing supply wells
- To recognize significant depth of Hollister MA historical groundwater depression, account for current availability of CVP, and protect recent wells

Issue:

Initial thresholds, as adjusted so far, result in potential impacts to only 6 of 169 wells, or 4%. What is significant and unreasonable?

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Initial findings

- No undesirable results of chronic level declines have been detected
- No Key Wells indicate groundwater levels below the initial MT
- Potential exists for undesirable results and thus MTs are presented
- Undesirable results have not been identified and thus measurable objectives and interim milestones are not required by SGMA
- But, consider defining an Operable Range

Operable range

Maintain groundwater levels within a reasonable Operable Range

- Defined with the same metrics and monitoring data as MTs
- Recognizing data gaps and uncertainties

Next steps for each key well:

- Define an Operable Range of groundwater levels above the MT
- Consider relationship with/potential effects of Levels MT on other sustainability criteria (storage, GDEs, subsidence)

Stay tuned

SBCWD Board of Director's Meeting	April 29, 2020 5:00 pm
Next TAC Meeting: Sustainability Criteria	May? June? 2020
Public Workshop No. 3 Water Budget	To be determined