Regional Water Management Group

LOCATION: Online (ZOOM)

MINUTES

Monday, September 27, 2021 1:30 pm

1. **The meeting was called to order at 1:34 pm, by Tom Wheeler, chairman.**
   Those present included:

Tom Wheeler – Madera County
Al Solis – SEMCU
Jeannie Habben – Madera County
Stephanie Anagnoson – Madera County
Kristi Robinson – Water Wise/Triangle T
Jacob Roberson – RWMG Coordinator
Keith Helmuth – City of Madera
Angela Islas – SHE
Jack Rice – MAWA
Brandon Tomlinson – Chowchilla WD
Carl Janzen – Madera ID
Gretchen Heisdorf – Root Creek WD/P&P
Sam Cunningham – Madera County
Chris Montoya – DWR
Jenny Nunez-Rodriguez – Madera County
Laura Satterlee – SHE
Amy Siliznoff – Madera/Chowchilla RCD
Dina Nolan – Madera ID
Jason Rogers – City of Chowchilla
Jean Okuye – East Merced RCD
Clyde Wheeler – Indian Lakes
Celeste Wheeler – Indian Lakes
Pete Leffler – Luhdorff & Scalmanini
Emily Garcia – Madera County
Kim Witten – Madera County
Joe Fiss – Greystone Equities/SEMCU
Michael Delaney – Cascadel Mutual WC

2. **Review & Approval - Agenda & Minutes**
   - A motion to approve the September agenda after adding "Brown Act Resolution for Online Meetings" under item #13 was made by Carl J; Jason R second; all voted; Motion passed unanimously.
   - A motion to approve the August minutes was made by Carl J; Kristi R second; all voted; Motion passed unanimously.

3. **Public Comment**
   - Carl J informed the group that Chowchilla WD lost a Board member, Dan Maddalena, and Madera ID lost a Board member, Rick Cosyns, since the group has last met. Former Board member, Johnny Deniz, for Madera ID has passed away as well.
     - The group held a 30-second moment of silence in Dan, Rick, and Johnny's honor at the request of Tom W.
   - Tom W commented that they had a Board meeting on October 14th in North Fork where they passed and signed a MOU with Yosemite/Sequoia RC and D, which has a MOU with Coarsegold RCD. The County put up $325,000 to sign up more fire wise communities in Eastern Madera County. There are 8 communities signed up so far and they have 3 or 4 more that are almost ready. They are looking to get some projects started to help those communities get fire-hardened by removing brush, which will in return mean more water for the aquifer. They also passed to build a fuel reduction district for Eastern Madera County that will be able to be a sustainable, long-term funding mechanism. Tom has been working on this fuel reduction district for about 4 or 5 years, and they have never had enough funding to maintain the fire fuel reduction work they have done in the past, or the fire fuel breaks they have done around communities. Every time they remove brush in the foothills, it creates more water availability for the valley.

- Items of interest were mentioned by Jacob R (for more information, reach out to Jacob):
  - The Drought Funding Workshops for Counties held collaboratively by the SWB and DWR on August 25th and 31st are now available online. The workshops were identical, and covered multiple topics which included:
    a. Funding for counties to respond to drought
    b. Different roles in emergency drought response
    c. How to fund and develop programs related to emergency drinking water shortages
    d. Questions from County representatives and partner NGOs

    Some other key takeaways included the SWB being the contact for State funding available to Madera County, **DWR and SWB encourage counties to team/coordinate with GSAs and IRWM groups for available funding**, and SHE and the Community Water Center are currently servicing the area for Madera County with drought related funding.

    The funding from DWR and SWB is a rolling application process, so **GET APPLICATIONS IN QUICK BEFORE FUNDING RUNS OUT**. They estimate a few weeks turn around to award funding once applications are submitted.

  - The Central Valley Water Board is considering adopting the Strategic Plan, which is intended to guide the Board's work for the next 5 – 7 years. The Board is inviting comments on the Draft Strategic Plan and will be considering both oral and written comments (which were due September 22nd) at a public meeting scheduled for October 14th and 15th at 9 am. The meeting will be held in person in Redding and the meeting may also be available remote (hybrid) or strictly online depending on the COVID situation at the time. At least ten days before the meeting, the final meeting agenda will be available on the Central Valley Water Board's Agenda Calendar web page.

  - The Roundtable of Regions is holding a 3-day virtual Summit on November 15th, 16th, and 17th from 9 am – 11:30 am each day. Additionally, a "virtual networking" session will be available each day from 11:30 am – 12:30 pm.

    The theme for this year's Summit is "Climate Resilience and Integrated Regional Water Management: Building Successful Partnerships". The draft agenda topics for each day include:
    Day 1: What Partners are Doing; Tools & Resources
    Day 2: What IRWM Regions are Doing
    Day 3: Working Together to Achieve a Future for IRWM

  - The Public Policy Institute of California (PPIC) Water Policy Center, and state and local experts are hosting a panel discussion about how to ensure a smooth SGMA transition for San Joaquin Valley residents. The panel discussion will be held online only, and registration is required ahead of time. The event will be on Thursday, September 30th, from 11 am – 12 pm. Please contact Jacob for registration information.

  - The DWR has been authorized $500 million in non-competitive, drought relief funding for small community's ($200 million), urban community's ($100 million), and multi-benefit projects ($200 million) to provide assistance for current drought conditions. The funding is meant to:

a. Address immediate impacts on human health and safety, including providing or improving availability of food, water, or shelter
b. Address immediate impacts on fish and wildlife resources
c. Provide water to persons or communities that lose or are threatened with the loss or contamination of water supplies

The small community's program is active now and is accepting applications through December 2023, or until the funds are exhausted (whichever comes first).

The Draft 2021 Guidelines/Proposal Solicitation Package (GLS/PSP) for the Urban and Multi-benefit Drought Relief Grant Program was released this past week by DWR. The release commences a 15-day public comment period, which will close at 5 pm on October 8th.
This solicitation will make approximately $190 million in grant funding available for interim or immediate relief in response to conditions arising from drought across California. If interested in applying, please contact Jacob for instructions on how to apply.

- The Madera/Chowchilla, Columbia, and Coarsegold Resource Conservation Districts (RCDs) will be convening a Natural Resources Conservation Service (NRCS) Local Working Group (LWG) on Thursday, October 7th, from 9 am – 11 am. Interested parties and organizations looking to participate and provide input are invited to attend. The meeting will be held on Zoom.

  If you plan on attending, please email Amy Siliznoff by Friday, October 1st, and let her know you plan on attending. Jacob has Amy's contact information if anyone needs it.

- The Draft Groundwater Management and Drinking Water Well Principles and Strategies are now available for public review and be found on the Drinking Water Wells Principles website. Public comments are due no later than Thursday, October 7th, at 5:00 pm.

  These principles and strategies were developed in response to Governor Newsom's April 21, 2021 State of Emergency Proclamation, specifically Executive Action Item 11.

- The Sustainable Groundwater Management (SGM) Grant Program's Critically Overdrafted Basin General Funds is expected to start accepting applications on October 1st this year. The application will be open for 60-days, closing on November 30th. An estimated $60 million is available, and they are expecting to award 10 – 20 projects.

  The SGM Grant Program's goal is to provide funding to GSAs to update/revise their GSPs and other entities to update/revise their approved Alternatives to a GSP. The funding will also be used towards implementing the GSP or Alternative Plan. **This funding is for critically overdrafted (COD) basins only, and only one application will be accepted per basin. If multiple GSAs within a basin are interested in applying, please work together on submitting one application.**

- Governor Newsom announced last week the California Comeback Plan's $15 billion climate package, tackling a wide array of climate impacts facing the state. The legislation outlines investments in the package to build wildfire and forest resilience,

support immediate drought response and long-term water resilience, and directly protect communities across the state from multi-faced climate risks, including extreme heat and sea level rise. Dollar breakdown for this package is:

a. $1.5 billion Wildfire and Forest Resilience Package
b. $5.2 billion Water and Drought Resilience Package
c. $3.7 billion Climate Resilience Package
d. $1.1 billion to Support Climate Smart Agriculture
e. $3.9 billion Zero-Emission Vehicle Package
f. $270 million to support a circular economy that advances sustainability and helps reduce short-lived climate pollutants from the waste sector
g. $150 million that will support urban waterfront parks, with a focus on underserved communities

- The Bureau of Reclamation is collaborating with Natural Resources Conservation Services (NRCS) to make federal funding available to improve the efficiency of agricultural water use throughout California. The projects funded through this partnership will help communities build resilience to drought through the modernization of water infrastructure and efficient use of water resources. The Bureau of Reclamation plans to award up to $1.5 million in FY 2022 through grants or cooperative agreements to entities with water or power delivery authority, including water districts and irrigation districts, to help improve water use efficiency in water delivery to the agricultural sector. NRCS will then announce a separate program to provide funding to farms within those districts for water conservation practices to complement the projects selected through the Bureau of Reclamation's Notice of Funding Opportunity.
  For more information and to apply, please contact Jacob. Applications are due on November 1st and will be selected through a competitive process.

NEW BUSINESS

4. Discussion & Action - Financial Report/Warrant Approvals

- Carl J reported that it was a quiet month. No money came in and $2,000 went out. We have $29,191.22 left, which will get us through to the end of the year with no problem.
- A motion to approve the financial report was made by Carl J; Gretchen H second; all voted; Motion passed unanimously.

5. Discussion – Proposition 1 Disadvantaged Community Involvement Funding

- San Joaquin Valley Counties
  - Self Help Enterprises / Chowchilla Management Zone – Projects 12 and 13
    - Angela I commented that there is not much to report this month. There is currently no activity on SHE's end for these projects currently due to the drought.

6. Discussion – Proposition 1 IRWM Implementation Funding

- Mountain Counties and San Joaquin Valley Counties
  - Jeannie H reported out on this item. Eddie M was unable to attend today's meeting but did send an email to Jeannie stating that there is no update on this. Nothing has progressed since last month's meeting.
    - Jacob R commented that the last update from Eddie was that there was an ordering freeze due to a shortage on computer parts needed for the meters. The order is waiting to be fulfilled.
    - Clyde W asked if whether the brass meters or plastic meters will be installed for Indian Lakes, since they currently have brass meters installed there. Clyde also asked if one type of meter is better than the other due to

the material being either brass or plastic (PVC). Jeannie will reach out to Eddie and let Clyde know what he says.

- Keith H commented that for the City of Madera's project, the Parkwood meters will be brass since the meters are being installed under the City of Madera standards. Keith was not aware that the meters are available in plastic (PVC). Keith also added that they had an RFP out for the design of how the meters are going to be installed. That was awarded during the last City Council meeting. The award is for the most difficult meters being installed and they needed a consultant to figure out how they are going to get them installed and address cross connections. The design will be starting soon.
- Jason R reported that there is nothing new for the City of Chowchilla's project. They are still trying to complete their Urban Water Management Plan (UWMP) so they can get it submitted before the end of the month to get the funding agreement finished for this project with the state.

7. Discussion – Domestic Wells – Prop 68 Funding

- Pete L with Luhdorff & Scalmanini provided an update on this project and used PowerPoint slides for visuals and data. Please click here for a copy of those slides. Slides are also attached to the end of these minutes.
  - This is a project for Madera County funded by the state under Prop 68. The GSPs for Madera and Chowchilla Subbasins included discussions about domestic well mitigation programs to avoid adverse impacts to this group of beneficial users. There was not a lot of time to do a detailed inventory during the GSP process so that is the main purpose for this project (to do a detailed domestic well inventory) to help better understand locations density and construction details of domestic wells. The second part of this project is to help further address monitoring needs with dedicated monitoring wells related to domestic well issues. Domestic wells can face 3 types of issues: pump, well, and aquifer. Most well pumps are designed to last up to 10 to 15 years before getting old and needing to be replaced, which is not an issue related to declining water levels. The well problem is that the casing is generally constructed of PVC materials that degrade over time. Typical well life may be 30 to 50 years which is not related to water levels. Aquifer issue is where groundwater levels may go below the bottom of the well, therefore making no water available. This is directly related to declining groundwater levels.
  - There was a review done by DWR back in June for GSPs and there were a couple of them that were not approved at that time. One of the issues was that although SGMA does not require all impacts to be mitigated, GSAs need to consider mitigation strategies related to drinking water impacts that may occur during the implementation period due to continued overdraft before achieving the sustainability goal.
  - County well permits have been issued since the 1990s. Pete used a map in his presentation slides to show domestic wells that have a well permit with the county. Pete also showed a graph comparing the well completion reports from DWR to the well permits issued by the county for both the Chowchilla Subbasin and Madera Subbasin. With this analysis, they are looking at what they might expect for dry domestic wells during the implementation period. For a dry well, they are using 10 feet of well saturation as the defining characteristic. Other analyses out there have been done, and they use a different definition for what a dry well is. For this study, the water level below the pump does not define a dry well since the pump can be lowered within the well to continue to pump water.
  - They looked at a couple of sensitivity runs of assumptions, and one of them relates to the climate sequence. Pete used a hydrograph to explain and provide a

visual on this. When developing the GSP, they looked at 3 different sequences. One sequence included dry years at the beginning of the implementation period. Another sequence started out with wet years (which we now know didn't happen) at the beginning of implementation. The third sequence, which they used for the GSP, was kind of in between the first 2, where there aren't so many dry years at the beginning of implementation and not so many wet years either (more like average years for rainfall). All 3 sequences average out to the same amount of precipitation over the 20-year implementation period (2020 – 2040). When you have the dry versus wet years from 2020 – 2040 being different in the 3 sequences, you get different outcomes.

- They looked at what happens with an average year start for the implementation period looking at the well completion reports and scaled it to the number of well permits issued by the county since more well permits were issued than completed well completion reports (WCRs). Then they looked at a dry year start for the implementation period looking at the WCRs and scaled it to the number of well permits issued by the county. They did this analysis in 5-year intervals starting in 2019 to go along with the 5-year update for GSPs. They also looked at data using the assumption that wells last either 30 or 50 years, so they pulled data for wells starting from 1970 and from 1990 through 2020. They looked at saturation depths for wells from 0' to 100' to define a dry well. There are a lot of assumptions that go into the analysis and sensitivity analysis. Pete should some visuals to show results centered on these items from a cost standpoint.
- For the Chowchilla Subbasin, they looked at the number of dry wells to occur in a 5-year period through 2040. For an average year start sequence, they get 95 wells all together. With a dry year start sequence, they get 168 with a majority occurring in the first 10 years. With an average of those 2 start sequences, they get 133 as a total.
- For the Madera Subbasin, there are a lot more domestic wells, so the numbers are quite a bit larger. For the average year start sequence, they get 941 wells total. With a dry year start sequence, they get 1,578 wells total. With an average of those 2 start sequences, they get 1,260 wells total.
    - Tom W asked for 2025 and 2029 on the charts, why are there less from year to year? Are they expecting wet years? Pete answered that one of the challenges for this project is that they don't know what's going to happen in the future years. The past couple years have been dry, but they don't know what's going to happen next year. When this was done in 2018, they didn't know what was going to happen in 2020. The results are based on taking a chunk of years from historical hydrology and projecting that into the future. The reason for these differences from one 5-year period to the next is based off the sequence of years lined up with the historical data. Tom mentioned if they went back to 1930 and did 5-year periods starting from there, it may be better data for the project. Pete mentioned that the 20-year sequence data they used was from 1995 to 2015. The second half of the 1990s was really wet. From 2011 – 2015, the conditions were dry.
- For individual well costs associated with drought issues, there are a few factors to take into consideration. First, the water level can drop below the pump setting level depth, but it's still possible to lower the pump and have a well continue to produce water. This is a minimal cost for a domestic well ($1,000 - $2,000). Second, a pump could stop working due to old age causing the pump to be replaced. This could cost anywhere from $5,000 - $7,000. This issue is not related to diminishing water levels. Third, the well casing can start to deteriorate due to old age and the well screen casing could fail. This would cause the well

needing to be replaced and is not related to the water level. A new domestic well right now could cost anywhere from $25,000 - $35,000, depending on the depth of the well. Fourth, another issue is that the water level goes below the bottom of the well where the well will need to be replaced with a deeper well. This would cost $25,000 - $35,000, again depending on the depth of the well.
    - For total well costs for the Chowchilla Subbasin associated with drought issues (using the dry years sequence and an average of $30,000 per well), they got about $5 million in total over the 20-year implementation period. For the Madera Subbasin, they got $47 million total over the implementation period with a lot of the costs happening in the first 10 years.
    - The work that was done which was submitted with the GSP was more from an economic standpoint compared to the current work and analysis being done under this grant. The costs slightly changed, going from $25,000 per well up to $30,000. The work done prior focused more on the cost of a mitigation program versus the cost of much faster pumping reduction. There were 186 wells in the original analysis for the Chowchilla Subbasin, and they ended up with 95 – 168 in the current analysis. In the Madera Subbasin, there were 240 – 1,000 wells originally and they ended up with 941 – 1,578 in the current analysis.
    - The second part of this study includes additional monitoring wells. These will be nested monitoring wells with up to 3 different completions at different depths. They will be drilling up to 800' at 2 locations in the Madera Subbasin and 3 locations in the Chowchilla Subbasin. They will be doing lithologic and geophysical logging, and they will be used to measure groundwater levels and collect groundwater quality samples. Instrumentation will also be installed for long-term monitoring. Pete showed a map of some preliminary locations for where the monitoring wells could go. They still need to get boots on the ground and see if wells can be drilled in those identified target zones.
    - They're currently trying to finalize some domestic well inventory draft reports. They're looking at these optimal nested monitoring well locations, and they hope to soon be working towards field work to install these wells and transducers. They can then start to collect samples from these wells and start with some more reporting work.
- Carl J commented that what stood out to him was the number of wells impacted and the cost associated with these wells. Carl expected something along these lines which Pete reported on during his presentation. What Carl did not expect is that with all the well permits that the county gives out, the WCRs are not all being done and turned in by the drillers. Something needs to be done to fix this. Maybe have the property owners put $250 - $300 down when they get the permit, and they get that money back when the drillers turn in the WCR. Something needs to be done to get people to fill out and turn in the required paperwork.
    - Pete mentioned this would be something for the DWR since the WCRs get turned in to them. You could be under the assumption that if someone goes through the trouble of pulling a permit through the county and paying the associated fees they would file the WCR, but the permits are pulled before the wells are drilled. The assumption is the well was likely drilled, but you cannot be 100% certain if the WCR was filed. The drillers are responsible for filling out the WCR and filing it with DWR, but the compliance for this has not always been as good as it is today. It's still hard to say what the level of compliance is. There is also a potential for a delay with DWR getting the WCRs into their database since they are getting WCRs from all over the state. It could be a combination, where the WCR was never filed and there is a delay with DWR getting the WCRs into their database.

8. **Discussion – Creek Fire / Forest Management / Watershed**
   - Jacob R mentioned that the Scenic Byway Association is going to be having a tour of their own and not collaborating with another agency. Their tour will be on October 16th. Jacob does have information about this tour for those interested, and Jacob will also be forwarding an informational flyer about the tour once it is available. The tour is on a Saturday, October 16th, beginning at 9 am and meeting at the Post Office parking lot in North Fork.
   - For the Madera RWMG's Creek Fire tour, Jacob sent out an email to get a count on those interested in attending. About 30 people expressed interest in the tour, some have asked if there would be a restroom onboard the bus, and some mentioned that they can't really say for certain that they will make it to the tour due to the time and date not being scheduled yet.
     - Tom W would like to showcase places he knows that were logged and cleaned up to show the difference in fire intensity and how important it is to continue logging. Tom also mentioned that the bus would have a restroom onboard.
   - Jacob would like to get a few tentative dates from the group for the tour to take place on. For Saturdays in November, the dates are the 13th, 20th, or 27th, but the 27th is 2 days after Thanksgiving. Tom mentioned that the 20th would not work for a lot of people up in the North Fork area since they cut Christmas trees for the Boy Scouts. Tom asked Jacob to work with Bobby M on getting bus prices for November 13th, 27th, or December 4th as potential tour dates for now.
   - Jacob also mentioned that for the Madera RWMG's Creek Fire tour, Stan Eggink with the Cascadel Mutual Water Company emailed Jacob saying we can use their facilities and the surrounding areas for the tour to show how some facilities were completely burned out and how close the fire came to their water storage reservoirs, where the plastic inserts on the change link fence around the storage tanks were melted.
     - Tom mentioned that he knows of several other areas as well where we can showcase this on the tour. Jacob mentioned this is just an option for the tour if we want.

9. **Discussion – Drought Working Group**
   - Jeannie H commented that the Madera County Drought Working Group had a meeting last week, and they continue to move ahead. There is plenty of outreach materials for anyone that would like to get that sent out to people so they know to contact SHE if they're having any water issues, well issues, wells going dry, etc. They have the flyers that are available that have all the SHE information and what can be done. They're available in half-page, quarter-page, envelope stuffers, and 7-different languages from Chinese to Punjabi to Hmong to a lot of others. They want to be sure that this information gets out to everyone who needs it. As of last week, there were 602 tanks across the San Joaquin Valley that have been delivered and installed. There are 42 tanks pending in the valley with 29 individuals waiting to be inspected. Out of those numbers, Madera has 243 tanks, Fresno County has 100, Tulare County has 104, Merced County has 12, Kern has 8, Stanislaus County has 10, Mariposa County has 81, and Kings County has 14. In the meantime, they are asking to let anyone know that is in line for a tank to be patient. Just like everything else, supplies are hard to get ahold of. SHE is searching nationwide to get the tank orders fulfilled. If you are interested in receiving any of the flyers to send out, please reach out to Jeannie or Jacob R. Jeannie also mentioned that the information is available on the Madera County Department of Water and Natural Resources' website. They will work on getting it on to the County's main website as well per Tom W's request.
     - Laura S with SHE also added that they have sent out 572 water well applications since the beginning of the year and Madera County is at the top of that list. Laura

is constantly sending out applications to Madera County residents, so they are working on a permanent solution for Madera County.

OLD BUSINESS

10. Sustainable Groundwater Management Act – SGMA – Report

- Stephanie A commented that for the County GSA, they have their Prop 68 grants in the Chowchilla and Madera Subbasins. They have grant agreements executed with DWR and they had their lunch meeting with DWR. They're working on scheduling and working with multiple parties. The County GSA is working with their satellite imagery to get allocations in place for those in the County GSA and checking them against the rules that the Board adopted. They're also in the middle of a rate study that includes recharge, land repurposing, water supplies, and domestic well mitigation.
- Jacob R received a recommendation from Jeannie H after last month's meeting for this agenda item. If OK with the group, for the November 22nd meeting under this agenda item, we can list each GSA to give a report out on their GSP or their sustainability plans which were submitted back in January 2020. For each Madera RWMG meeting, we only get an update from the County GSA. Tom W agreed with this idea and would like to do that for the November 22nd meeting. Jacob to ask the GSAs if they would like to give a report. Jacob listed the current GSAs and who to contact within each GSA to invite them to report out during the November meeting:
    - Madera County GSA: Stephanie A
    - Madera ID GSA: Carl J or Dina N
    - Root Creek ID GSA: Gretchen H
    - Gravelly Ford ID: Don R
    - Madera WD GSA: Phil J
    - Chowchilla WD GSA: Brandon T
    - Triangle T WD GSA: Kristi R
    - Aliso WD GSA: Roy C
    - City of Madera GSA: Keith H
    - Merced County GSA: Lacey M
    - Columbia Canal Company GSA: Jacob is not sure who to contact. Stephanie mentioned they are a part of the San Joaquin River Exchange Contractors Water Authority.
    - New Stone WD GSA: Jacob is not sure who to contact

  For the GSAs that Jacob does not have contact information for, he will work with Stephania A and Jeannie H on getting that information. Jacob will ask the GSAs to limit their reports to 3 – 5 minutes. If all 12 GSAs show up, we're looking at 35 minutes to an hour for this agenda item.

11. Chowchilla Nitrate Control Program - Report

- Kristi R reported that they are actively solicitating and meeting with community members and residents to get wells tested. They have an upcoming workshop in El Nido this Thursday, the 30th, at 5:30 pm at the El Nido School. They have 2 more workshops coming up. 1 on October 7th and 1 on October 12th both at 5:30 pm. Those workshops will be at Alview Dairyland School. They've done 3 tests in their program to-date and all 3 are receiving water due to high Nitrates. If you or anyone you know live in Madera County and would like a free domestic well test to be done for contaminants, please reach out to Kristi (Jacob R has her contact information if needed).

12. New/ Suggested Members for the Madera RWMG

- No new members suggested.

13. Future Agenda Items

- Brown Act Resolution for Online Meetings
    - Carl J commented that Governor Newsom's new deal for online meetings, as signed, is that from month to month we must renew the resolution that we are going to meet by Zoom. If we're going to meet by Zoom for our next meeting, we need to pass a motion to say that we're going to have the meeting on Zoom so the public knows it. Carl referred to the resolution example from Madera ID that they passed last week at their meeting. Carl is not sure what has been done with the County about online meetings and having a resolution. Tom W hasn't heard of anything new being done. Jacob R commented that back in May or sometime around there the Madera RWMG voted to keep the meetings on Zoom going forward except for the January meeting where we will do a hybrid meeting (both in-person and on Zoom) for the election of the group officers. Tom asked if we can just vote once like we did to keep meeting online, and Carl said the information he has is that we are going to have to renew this resolution every meeting until the Governor takes the emergency deal away and then, supposedly, we can't meet remotely. This is something we must be looking forward to because our meeting has increased in attendance 2 or 3 times by having them on Zoom. Tom mentioned this is the same for a lot of other groups and meetings his is a part of. Tom does not want to stop having the meetings online one way or another. Tom asked Jacob to send the resolution example from Madera ID to himself and Stephanie A so they can talk to County Counsel about it. They will look it up and see what the Madera RWMG must do. Carl also mentioned another thing we can do is just go by what the group voted on back in May which Jacob mentioned earlier until we hear different. Tom is hoping this is what we can do.
    - Tom W asked Jacob to include this on next month's agenda so we can discuss what we may have to do or what we may not have to do.
- Jacob R mentioned that for next month's meeting, Carl J has asked for the 2022 Preliminary Budget to be added to the agenda for discussion. This way if anyone has questions, concerns, or additions for the budget, they have a month to get that done. During the November meeting, we'll vote on the budget and make it official for 2022. Tom W asked for this to be added under agenda item #4.
- Jacob R also mentioned as a reminder that next month, the Madera/Chowchilla RCD will be presenting on Healthy Soils. Last month, Tom W asked Jacob to recommend a few agenda items to remove for the October meeting to allow time for this presentation. Jacob recommended skipping agenda item #5 which is the update from SHE and CMZ on projects 12 and 13 for the water testing. Jacob also recommended skipping the SGMA update agenda item #10 since we are going to have the GSAs report out during the November meeting. Tom W agreed to this.

14. Next Meeting

- Next meeting is scheduled for Monday, October 25th, 2021, at 1:30 pm on ZOOM for now, unless we can meet in person. If we can meet in person, meeting will be held at the Chowchilla location.

15. The meeting was adjourned at 2:58 pm.

Domestic Well Inventory Update

Project Background/Objectives

- DWR Prop 68 Grant Funding
- GSPs included Domestic Well Mitigation Programs to avoid adverse impacts to this group of beneficial users
- Need for improved understanding of locations, density, construction of active domestic wells (Part 1: Domestic Well Inventory)
- Identify/address additional monitoring needs with dedicated MWs (Part 2: Install new MWs in areas with clusters of domestic wells)

Project Background/Purpose

- Wells can experience three general types of problems: Pump, Well, Aquifer
- Pump Problem: Most wells pumps are designed to last up to 10-15 years before needing replacement (not related to declining water levels)
- Well Problem: Wells typically made of PVC or steel materials that degrade over time; typical well life may be 30-50 years (not related to declining water levels)
- Aquifer Problem: Declining water levels that may go below the bottom of a well, thereby causing no water to be available to well
- Intent of Domestic Well Mitigation Program is to assist well owners with "Aquifer" problem that occurs after submittal of GSP in January 2020.

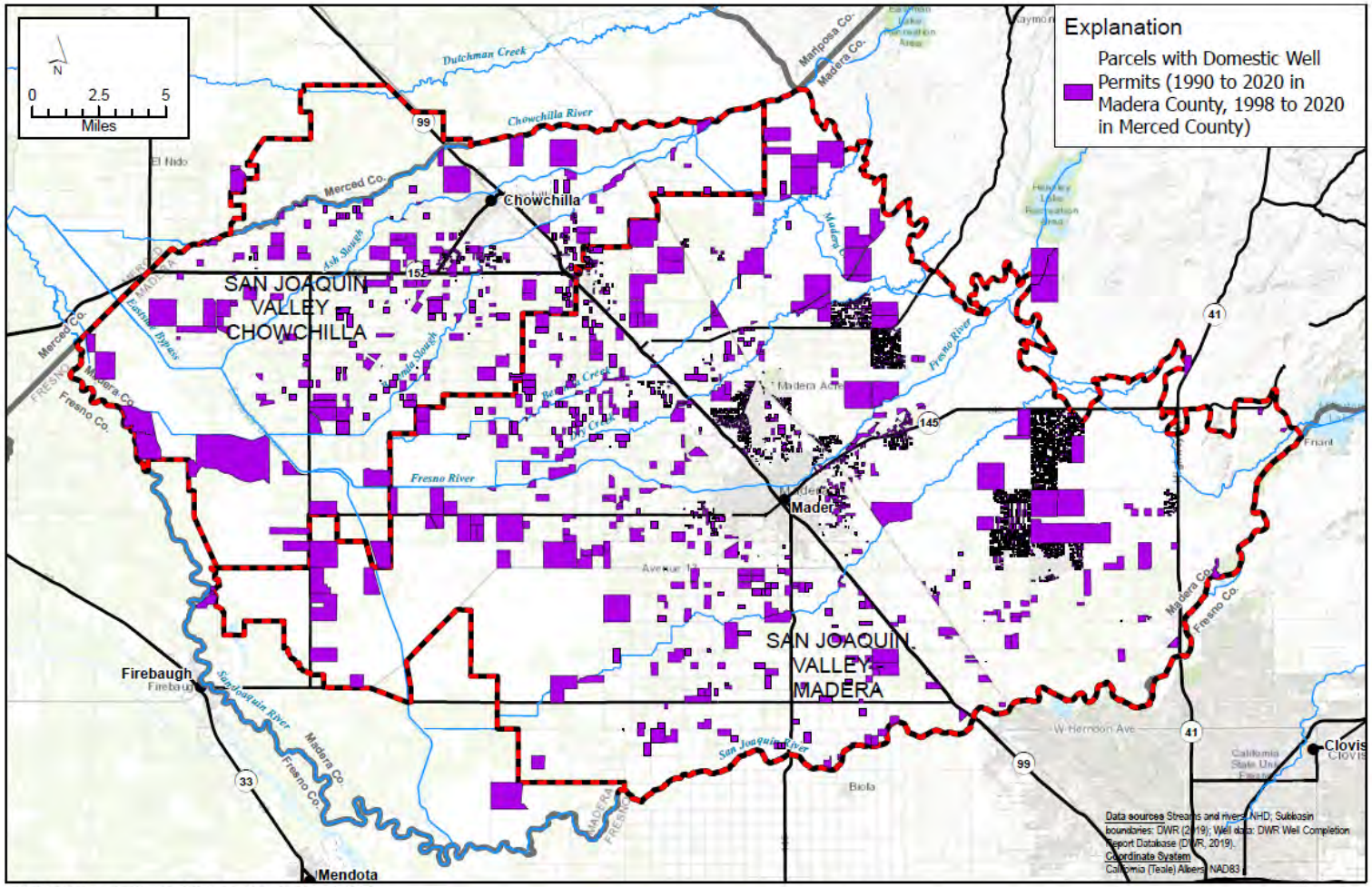
Recent (June 2021) DWR Review of GSPs

- Cuyama Valley and Paso Robles Subbasin GSPs were not approved in part because of deficiencies related to handling of Groundwater Level SMC and mitigation specific to domestic wells
- DWR evaluations state, “While SGMA does not require all impacts to groundwater uses and users be mitigated, the GSA should consider including mitigation strategies describing how drinking water impacts that may occur due to continued overdraft during the period between the start of GSP implementation and achievement of the sustainability goal will be addressed.”

Inventory Dataset Characteristics

Data Source	Historical Well Presence	Well Status (active)	Location Accuracy	Construction (depth, screens)
DWR Well Completion Report Database	Since early 1900s	**No**	**Variable** (some only to PLSS section)	Usually included
County Well Permit Database	Since 1990s (Mad=1990, Mer=1998)	**No**	**By APN** (not all match parcel GIS data)	**No** (only seal depth)
County Parcel Data	**Inferred from Use/Dwelling Code**	**No**	**By APN**	**No**
Census Information	**Inferred from # Homes**	**No**	**By Census Block**	**No**

County Well Permits Since 1990s

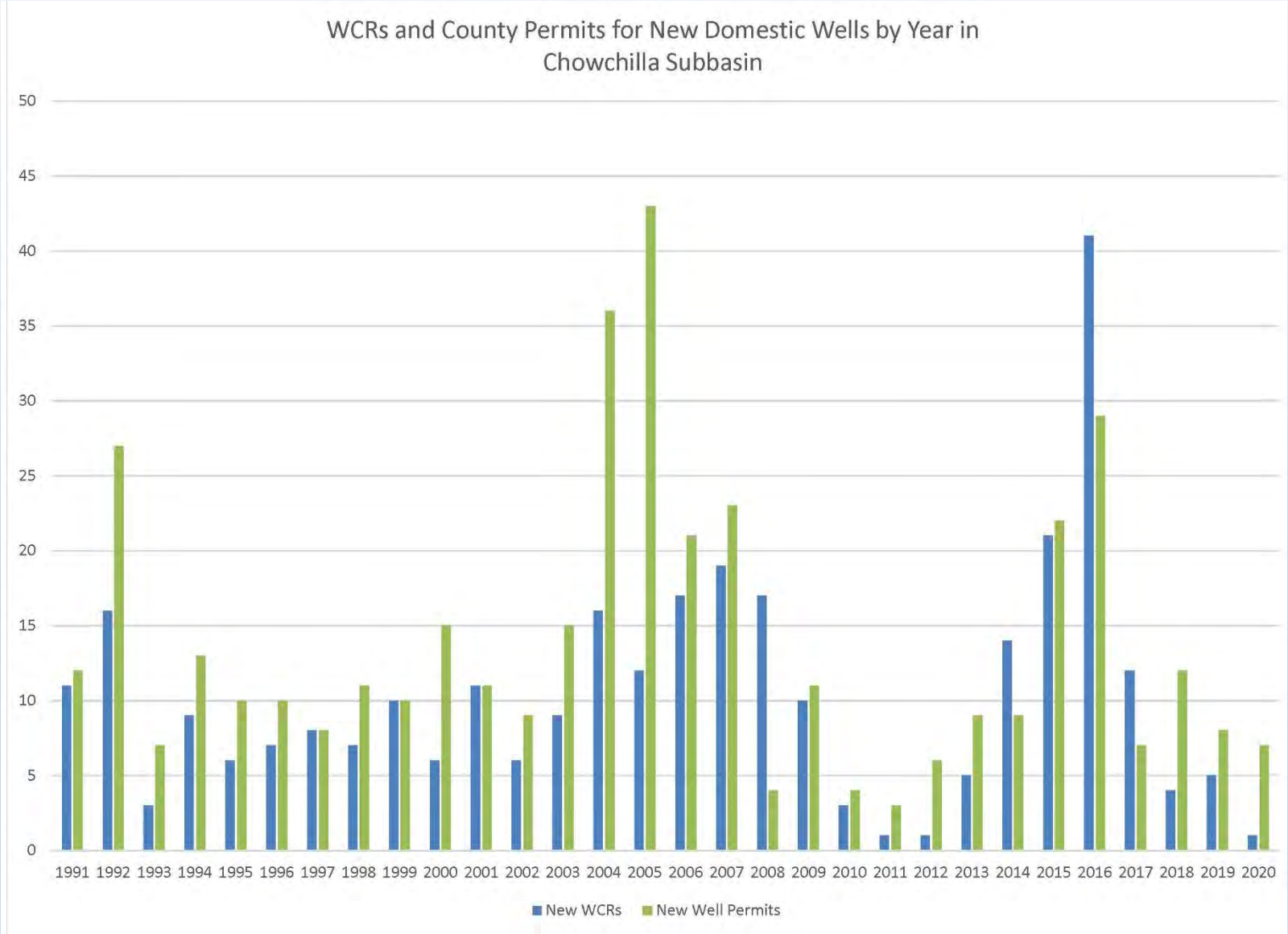


Luhdorff & Scalmanini Consulting Engineers

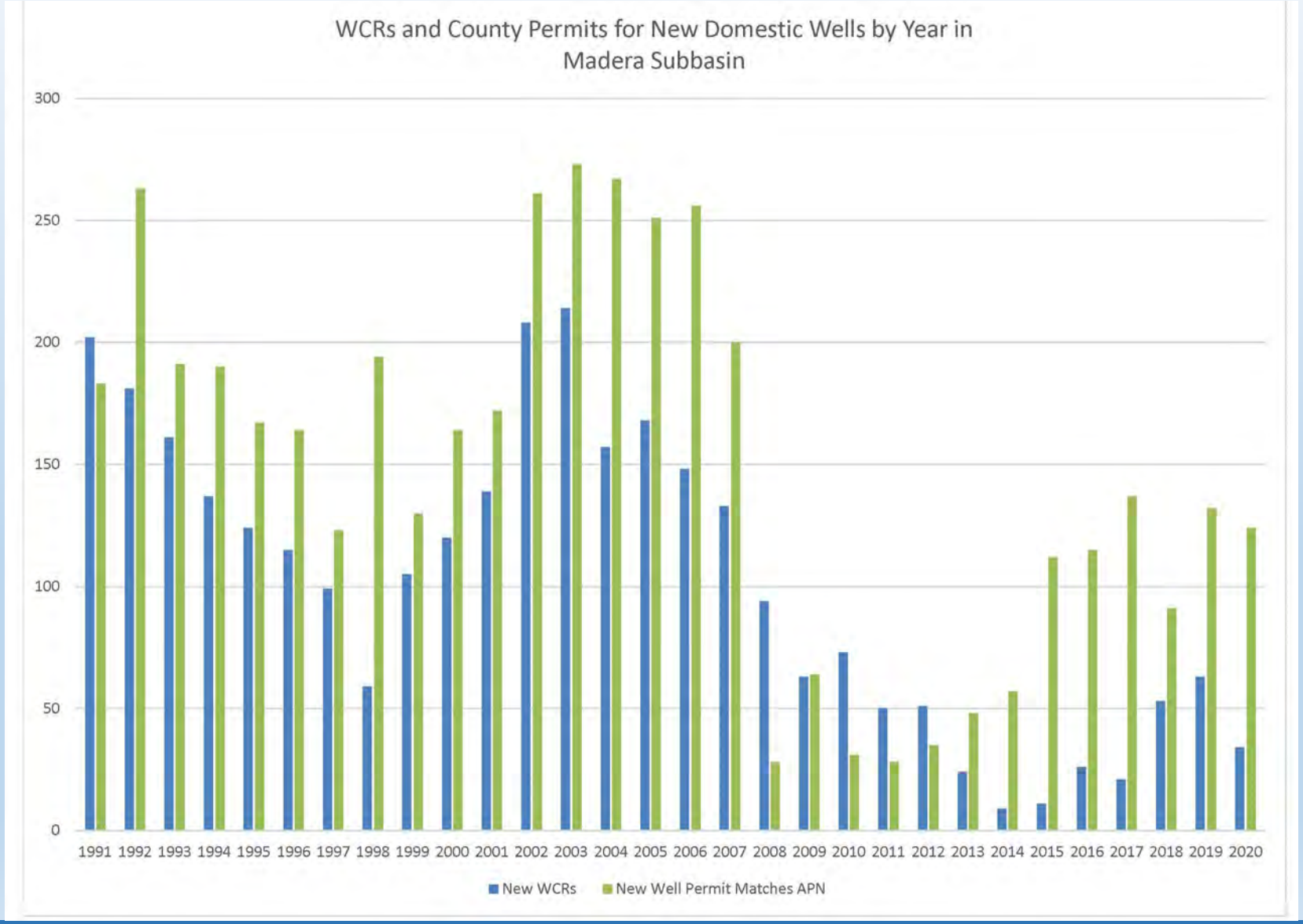
Map of Domestic Well Permits Matching Assessor Parcel Numbers

Madera and Chowchilla Subbasins Groundwater Sustainability Plan

Domestic Well WCRs vs. County Permits



Domestic Well WCRs vs. County Permits

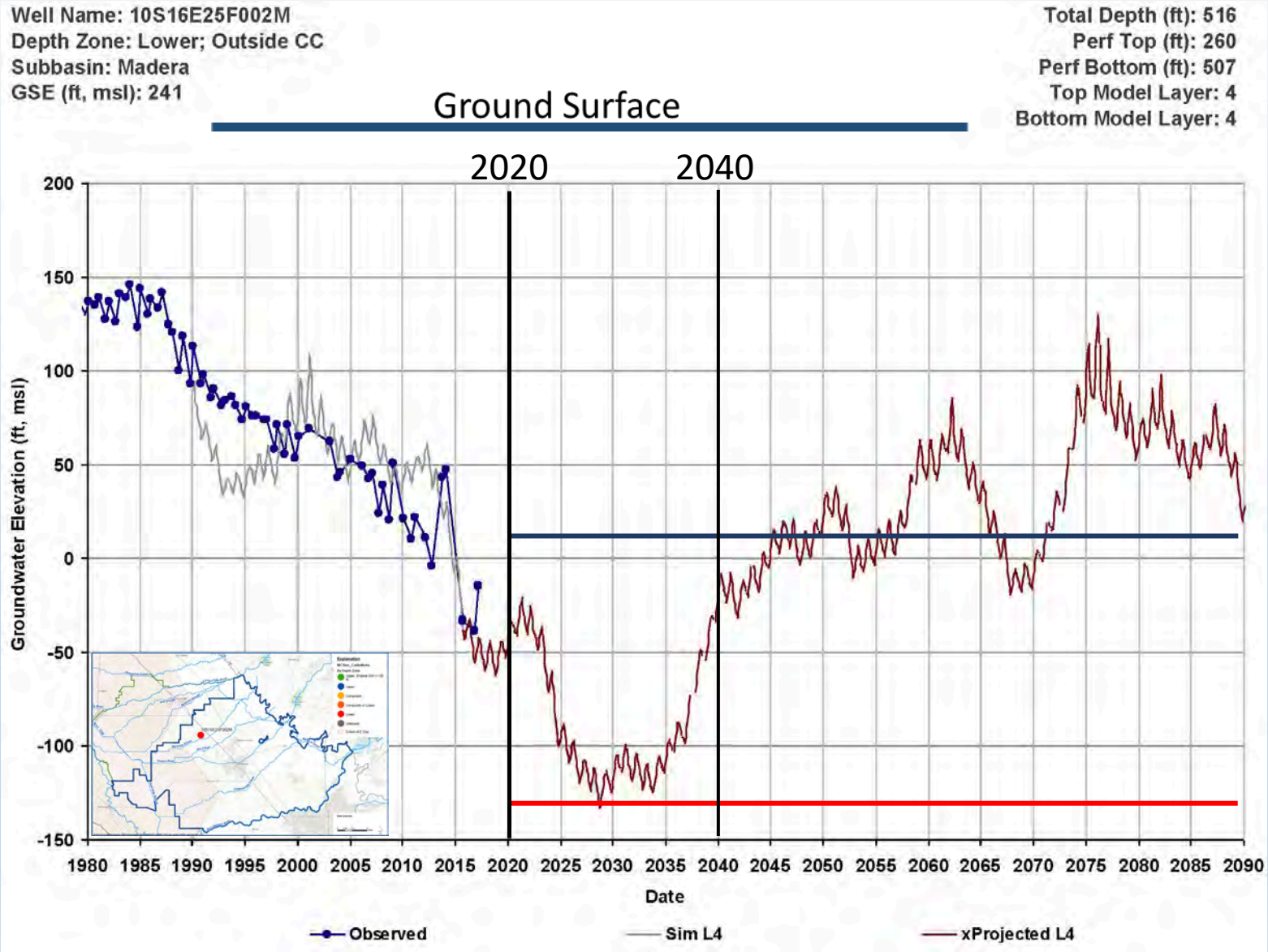


Refined Analysis of Dry Domestic Wells

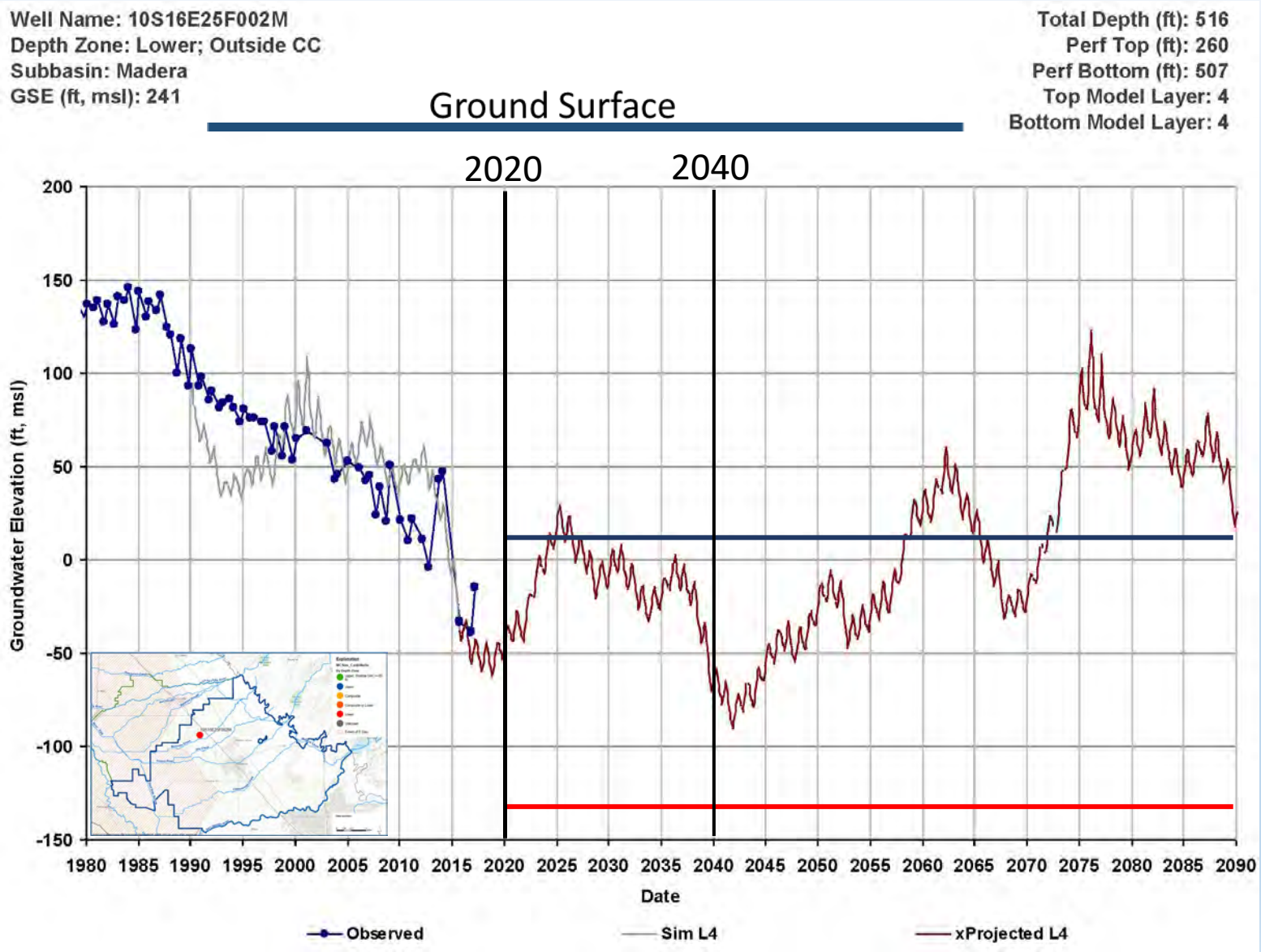
Typical Definition of Dry Well: Regional groundwater level below bottom of well or insufficient well saturation (e.g., 10 feet above bottom of well).

Note: A water level below a pump does not necessarily constitute a dry well – pump may just need to be lowered.

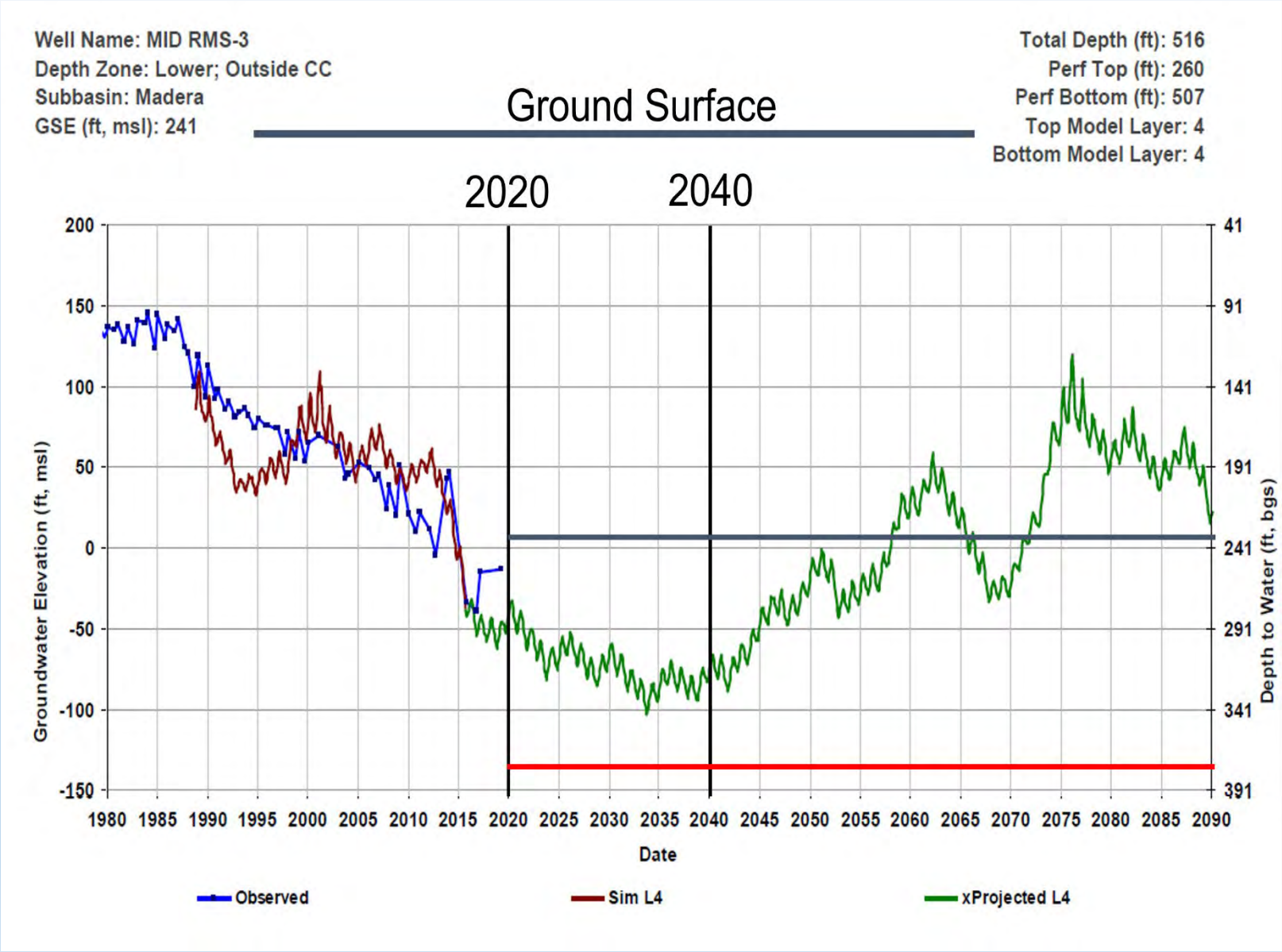
Sensitivity Run – Outside CC, with Projects, Dry Years Start to IP



Alternative – Outside CC, with Projects, Wet Years Start to IP



GSP Baseline – Outside CC, with Projects, Avg Years Start to IP



Analyses Completed

- Average year start to GSP Implementation Period using WCRs
- Average year start to GSP Implementation Period using WCRs scaled to County permits
- Dry year start to GSP Implementation Period using WCRs
- Dry year start to GSP Implementation Period using WCRs scaled to County permits
- Based on groundwater levels in Fall 2019, 2024, 2029, 2034, and 2039 (corresponding to end five-year intervals during GSP Implementation Period)
- Based on groundwater levels in Fall 2018, 2023, 2028, 2033, and 2038 (corresponding to regional GW elevation low points during each five-year interval)
- WCR database starting from 1970 (all wells up to 50 years old)
- WCR database starting from 1990 (all wells up to 30 years old)
- Range of well saturation depths from 0 to 100 feet

Decided to Use

- Dry-Year Sequence to Start GSP Implementation Period (for initial cost estimates)
- Adjusted domestic well WCR count for County Domestic Well Permits with a scaling factor
- Using all wells since 1970
- Using a 10-feet well saturation threshold

Final Analysis of Dry Domestic Wells Using Average-Year and Dry-Year Sequences to Start GSP Implementation Period Adjusted for County Permits (Chowchilla Subbasin)

Years	Average Year Sequence	Dry Year Sequence	Average of Two Sequences
2020 to 2024	46	98	72
2025 to 2029	0	70	35
2030 to 2034	48	1	25
2035 to 2039	1	0	1
Total 2020 to 2040	95	168	133

Notes: Analysis includes wells drilled since 1970 and assumes dry well threshold is 10 feet of well saturation above bottom of well.

Final Analysis of Dry Domestic Wells Using Average-Year and Dry-Year Sequences to Start GSP Implementation Period Adjusted for County Permits (Madera Subbasin)

Years	Average Year Sequence	Dry Year Sequence	Average of Two Sequences
2020 to 2024	350	427	389
2025 to 2029	185	1,017	601
2030 to 2034	406	134	270
2035 to 2039	0	0	0
Total 2020 to 2040	941	1,578	1,260

Notes: Analysis includes wells drilled since 1970 and assumes dry well threshold is 10 feet of well saturation above bottom of well.

Refined Analysis of Dry Domestic Wells

Issue	Type of Problem	Solution	Related to GSP	Typical Cost
Water level in well below pump setting depth	Pump	Lower Pump	Yes/No	$1,000 to $2,000
Pump not working (old age or pump-related issue)	Pump	Replace Pump and Equipment	No	$5,000 to $7,000
Well casing/screen failure (due to old age)	Well	Replace Well	No	$25,000 to $35,000
Water level below bottom of well	Aquifer	Replace Well	Yes	$25,000 to $35,000

Notes: Costs for lowering pump based on lowering pump by 100 to 150 feet; Pump replacement cost includes column pipe, wiring, control box, etc.; Replacement well cost is for drilling/installing new 600-foot deep well and does not include new pump/equipment; Well deepening for domestic wells is not a realistic option

Cost Analysis of Dry Domestic Wells Using the Dry-Year Sequence to Start GSP Implementation Period Adjusted for County Permits (Chowchilla Subbasin)

Years	Average Year Sequence	Dry Year Sequence	Average of Two Sequences	Replacement Well Cost (Million $)
2020 to 2024	46	98	72	2.9
2025 to 2029	0	70	35	2.1
2030 to 2034	48	1	25	0.0
2035 to 2039	1	0	1	0.0
Total 2020 to 2040	95	168	133	5.0

Notes: Replacement Well Costs based on Dry Year Start Climatic Sequence and $30,000/well

Cost Analysis of Dry Domestic Wells Using the Dry-Year Sequence to Start GSP Implementation Period Adjusted for County Permits (Madera Subbasin)

Years	Average Year Sequence	Dry Year Sequence	Average of Two Sequences	Replacement Well Cost (Million $)
2020 to 2024	350	427	389	12.8
2025 to 2029	185	1,017	601	30.5
2030 to 2034	406	134	270	4.0
2035 to 2039	0	0	0	0.0
Total 2020 to 2040	941	1,578	1,260	47.3

Notes: Replacement Well Costs based on Dry Year Start Climatic Sequence and $30,000/well

Current Cost Estimate vs. GSP Domestic Well Assessment

- Purpose of GSP Appendix 3.C:
  - Economic assessment of cost differences of developing Domestic Well Mitigation program vs. faster pumping reductions
  - Outline of draft Domestic Well Mitigation Program
  - Review of other similar programs
- Differences in the GSP vs. Updated domestic well analyses:
  - Comparison to top of screen (Appendix 3.C) vs. bottom of well (Update) – majority of wells impacted prior to 2020 (Appendix 3.C)
  - Excluding wells without construction information (Appendix 3.C) vs. estimating missing well construction information (Update)
  - Well replacement costs of $25,000/well (Appendix 3.C) vs. $30,000/well (Update)

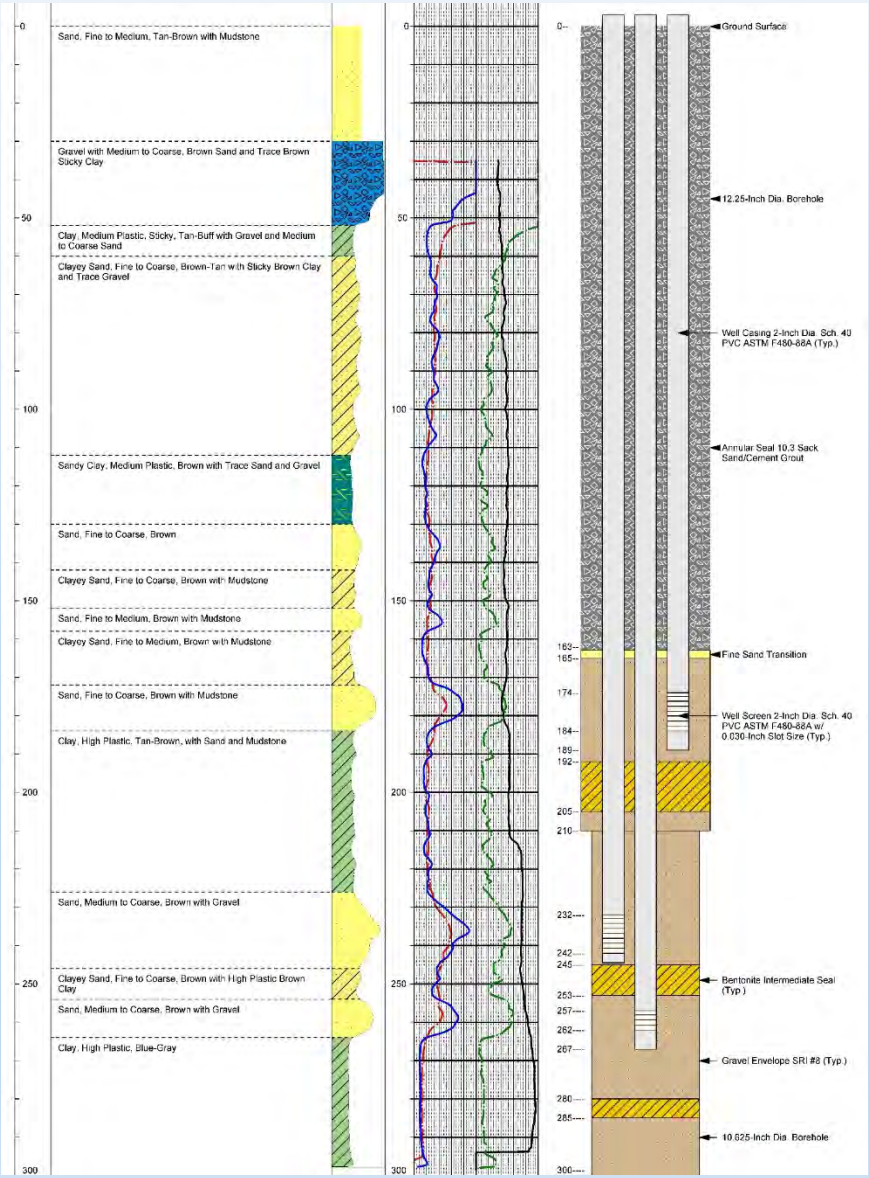
Current Cost Estimate vs. GSP Domestic Well Assessment

- Chowchilla Subbasin Appendix 3.C: Estimated number of dry wells was 186 for cost estimation purposes
- Chowchilla Subbasin Updated Analysis: Estimated number of dry wells ranged from 95 (Average-year start) to 168 (Dry-year start)

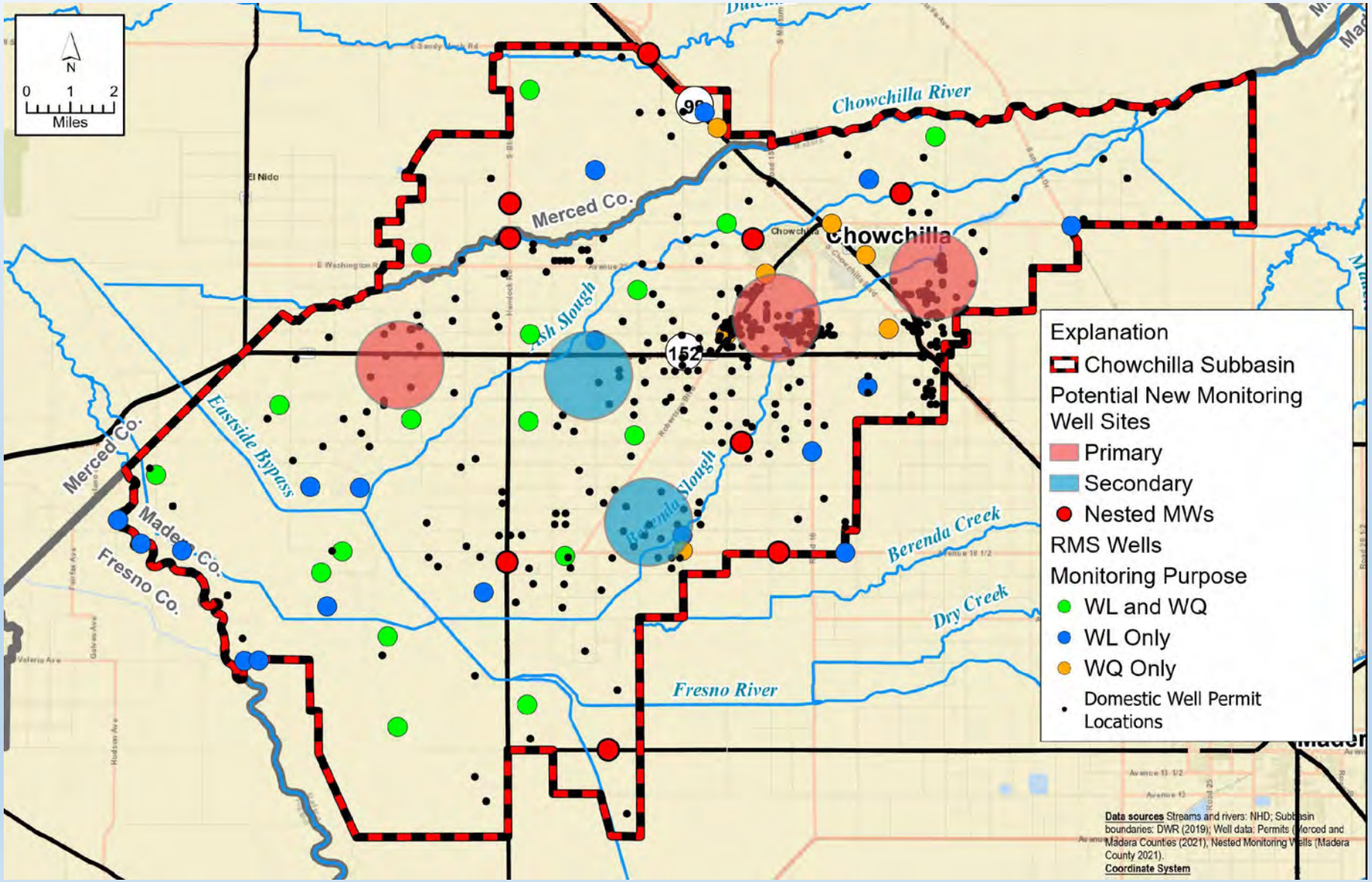
- Madera Subbasin Appendix 3.C: Estimated number of dry wells was from 240 for cost estimation purposes, and up to 1,000 when considering sensitivity analyses
- Madera Subbasin Updated Analysis: Estimated number of dry wells ranged from 941 (Average-year start) to 1,578 (Dry-year start)

Monitoring Well Construction and Instrumentation

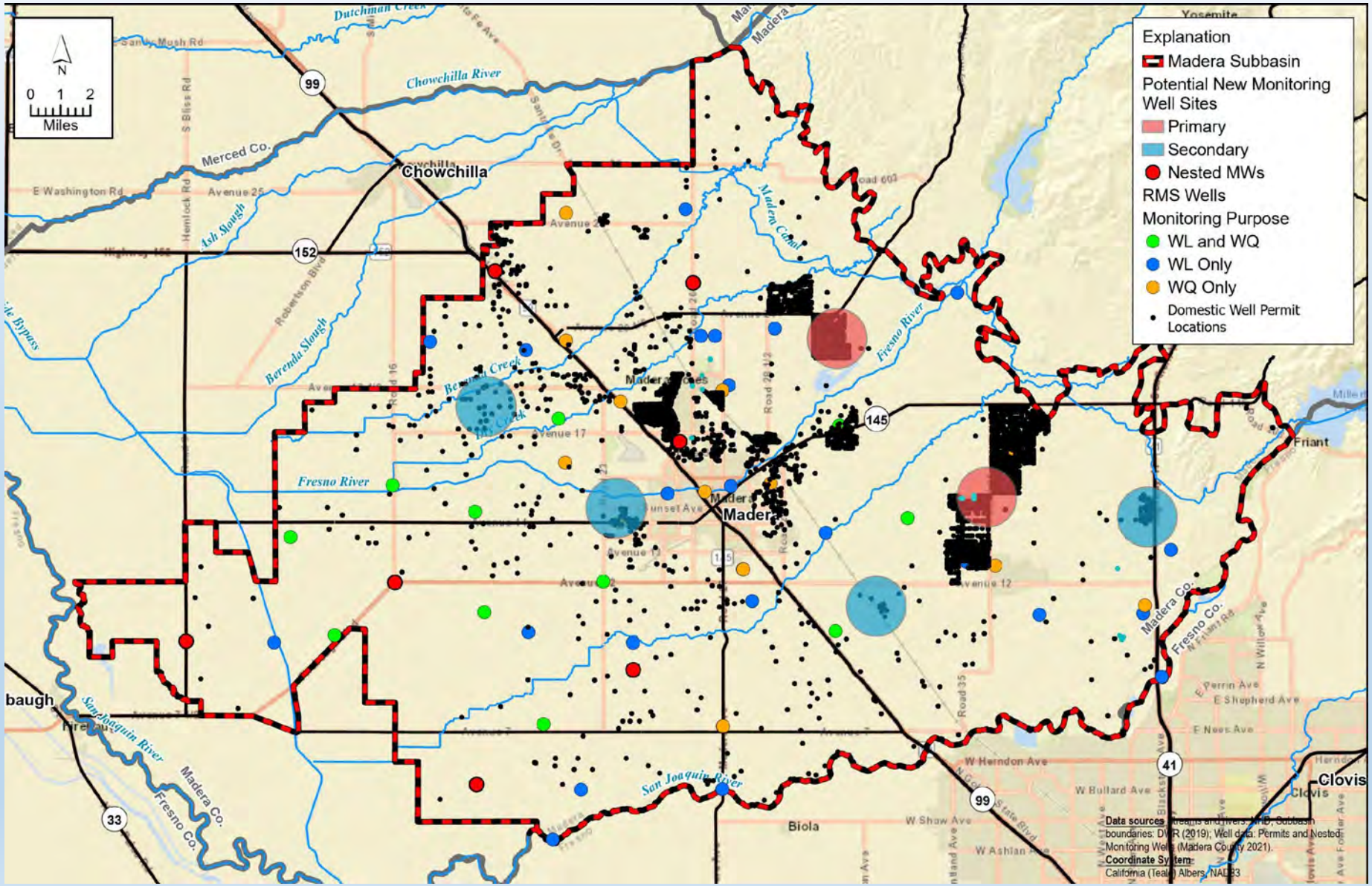
- Test hole drilling to 800 feet at two locations in Madera Subbasin
- Lithologic and geophysical logging of each test hole
- Construction of up to three wells at each location screened in different depth zones
- Measurement of groundwater levels and collection of groundwater quality samples from each well
- Install instrumentation for long-term water level monitoring; surveying



Monitoring Well Construction and Instrumentation - Chowchilla Subbasin



Monitoring Well Construction and Instrumentation – Madera Subbasin



Next Steps

- Prepare Domestic Well Inventory Reports (in progress)
- Evaluate optimum nested monitoring well locations
- Drill/install new nested monitoring wells
- Install transducers and collect GW quality samples
- Prepare Well Installation Reports

Questions