Groundwater Sustainability Plan - Sustainable Management Criteria and Monitoring Network Chapters
Public Review Draft- Spring 2021
Compiled Public Comments, July 14 2021

#	Commenter Name	Commenter Organization	Chapter* (SMC or MoN)	Section	Line #s or Figure #	Comment
1	Jim Graydon	Private Well Owner	SMC	3.9 SMC Summary Tables	Table 3-1	MT and MO for Lowering Groundwater Levels in the Chico Management Area may be set too low to protect against undersirable results. Consider revising description of MT and MO to derive more protective trigger values. My domestic supply well and three neighboring wells within 1 mile of CWSCH02 were constructed in 1986 to County standards and are less than 100-ft total depth (approx. 88-ft amsl).
2	Jim Graydon	Private Well Owner	SMC	3.9 SMC Summary Tables	Table 3-2	The water quality in the Chico Management Area is impacted by localized nitrate and chlorinated solvent contamination but has been documented to be high quality as it relates to dissolved solids. With specific conductance typically below 300 uS/cm, an MO of 900 uS/cm allows an unacceptable level of degradation before action is initiated. Recommend setting MO to at a level such that action is taken before water quality approaches the secondary MCL.
3	Jim Graydon	Private Well Owner	SMC	3.8 Interconnected Surface Water SMC		I encourage completion of the necessary studies to determine the principal factors impacting groundwater dependent ecosystems in the Chico Management Area. With additional local documentation, more specific and protective MT and MO can be set. Without riparian woodland and adjacent seasonal wetlands, Chico is a very different place.
4	Bridget Gibbons	CDFW	SMC	3.3	172	The narrative for the Groundwater Levels MT identifies impacts to ecosystems, both those supported by rivers and streams and deep-rooted vegetation. However, there is not adequate discussion or analysis of the impacts to environmental uses and users that may result from the quantitative undesirable result definition. While Interconnected Surface Waters are later discussed in Section 3.8, it is still necessary to evaluate the impacts of each sustainability indicator's MTs and MOs on each user of groundwater in the basin, including environmental users such as groundwater dependent ecosystems. CDFW recommends Section 3.3 include an analysis of the relationship between the groundwater level SMCs at each representative monitoring well, deep rooted vegetation, and other environmental users of groundwater, to ensure that the established thresholds will be sufficiently protective.
5	Bridget Gibbons	CDFW	SMC	3.8		If using groundwater levels as proxy for the depletion of interconnected surface waters, “adequate evidence” that demonstrates the relationship and influence of the groundwater levels on the location, timing, and volume of groundwater depletions is required by Section 354.28 (c)(6)(B) for use of the proxy.
6	Bridget Gibbons	CDFW	SMC	3.8		The draft ISW section states that the data needed to develop the SMC for this section do not exist. More explanation on what best available data and information is available within the subbasin is needed, as well as a more detailed explanation of the specific data gaps in addition to the proposed SMC framework. In the previous draft Basin Setting Chapter, stream segments were identified and characterized as primarily gaining or losing reaches, with water volumes quantified. The proposed interim method of using the groundwater levels as proxy needs further discussion as to whether or not the levels identified would likely maintain the current connected reaches or lead to greater surface water depletions over the implementation period. CDFW recommends developing SMCs based on best available data, and providing justification that those levels will avoid undesirable results to all uses and users of groundwater.
7	Eric Lundberg	Public comment	SMC		135-136	Managers should not have the flexibility to implement actions at "any time". Actions should have deadlines associated with seasons and agricultural activities. Actions should be taken before crops are planted, or at the beginning of an irrigation season.

8	Eric Lundberg	Public comment	SMC		159-160	Pumped groundwater has many benefits to the environment and ecosystems. For many crops, pumped groundwater offers as many benefits to the environment as GDEs. MTs and MOs should not be managed exclusively for the benefit of GDEs, but should also take into consideration the improvements and benefits that pumped groundwater offer to the ecosystem. "... environmental uses of groundwater" should not only consider the GDE but also the impacts pumped groundwater has on the ecosystem.
9	Eric Lundberg	Public comment	SMC		180-183	I do not think it is reasonable for the VINA GSA to guarantee a well owner that his/her well will not go dry. By setting an MT and MO, well owners can know that a source of water will be protected, but that some additional well development to the MT or MO levels might be needed. Managers should encourage well owners to develop wells with the MT and MO levels in mind for a protected water source. "Sustainably constructed domestic wells" should take into consideration the MT and MO levels.
10	Eric Lundberg	Public comment	SMC		259	I prefer the North Vina Management Area Approach to establish the level of MT and MO levels, without looking at a percentage of domestic wells to protect.
11	Susan Schrader	Public comment	SMC		Lines 25-31	"projects and management actions are formulated to achieve the sustainability goal and avoid undesirable results". This is a worthy goal and I want to trust that the GSAs, SHHAC, and other stakeholders are honest in their dedication to its achievement. However, there is lots of talk and many references about how our water is being sold to farmers/Big AG down south without oversight. I hope that this goal mitigates the depletion of our groundwater here.
12	Susan Schrader	Public comment	SMC		Lines 62-70	As pertains to the SI being measure and quantified on an ongoing basis… Who or what will do the monitoring and how often? Will the reports be available and shared with the public in a clear and transparent manner? I have not been aware that this plan and report was even a thing, yet I think its information is valuable and needs to be released in the a variety of media formats.
13	Susan Schrader	Public comment	SMC		Lines 75-78	I want there to be adequate surface and groundwater for the many rural areas, small communities, SMALL and large farms, and the natural environment and its wildlife. I want our natural resources protected. Our ability to participate in outdoor activities is a big positive for Chico.
14	Susan Schrader	Public comment	SMC		Lines 80-92	"the subbasin will be managed to prevent undesirable results even though groundwater levels may decline"….How will this be possible? What actions would be taken? I have been dismayed to learn that California has never had groundwater use regulations. I think some are meant to go into effect in the future, but, in the meantime, what allows us to protect our water in the North State? It seems that smaller player will be overpowered by Big AG and its water needs. In fact, you hear of 1000s of acre feet being transported and we are in a drought. I have a well along Bidwell Ave. in Chico and we are worried that it will dry up.
15	Susan Schrader	Public comment	SMC		Lines 108-116	The oversight by the Butte County Dept. of Water and Resource Conservation needs a publicist to create more press coverage, outreach, and education. This is the first I've heard of this plan and its implementation. Furthermore, I didn't understand any of the graphs and would like to see workshops offered to the public to explain what is going on and how to read all those graphs.
16	Sheri Simons	Cohasset Resident	SMC	3.3	148	I am a resident of Cohasset, population approximately 800, thus falling under the definition of a rural area and small community.Our water source is a 136' domestic well. Our elevation is 2900 ft above sea level. I believe that the crop most threatening to our community's groundwater availability is marijuana. I do not object to the use of marijuana but rather to the unchecked use of groundwater, and to the deepening and drilling of new wells, to the detriment of rural households. There is no oversight for this practice.
17	Sheri Simons	Cohasset Resident	SMC		167 - 173	We are experiencing all of the impacts from declining groundwater levels listed here. In fact, due to our well running dry, the estimate for drilling a deeper well (500-800 feet) would be about $30,000-50,000. Cohasset is not a white collar enclave. No one that I know of has that kind of money lying around… except perhaps the pot growers.
18	Sheri Simons	Cohasset Resident	SMC		258-260	I prefer the approach where surface elevation is a consideration.

19	Sheri Simons	Cohasset Resident	SMC		323-326	I am deeply concerned that we are placing our own comforts (lawns, golf courses) over that of the habitat around us. Creating a scorched earth scenario for generations to come is short selling our children's children and all of nature.
20	Sheri Simons	Cohasset Resident	SMC			We cannot MAKE groundwater but we CAN raise awareness about equitable groundwater usage and make corrections to our valley's crop choices given our increasingly arid climate.
21	Sheri Simons	Cohasset Resident	SMC			I would like to know whether the possibility of Water Districts has been discussed or tabled?
22	James Pushnik	Farmer/Rancher	SMC	RMS polygon258-260	258-260	The use of polygons as representative of a region is reasonable, with the following cavetes: there can be substantial elevation gradients across the larger polygons (to be address in subsequent comments)
23	James Pushnik	Farmer/Rancher	SMC		287-288	Linear trend line used in extrapolating ground water elevtion levels does not account for potential increases in multiple use areas (e.g. increases in urbanization and agricultural expansion)
24	James Pushnik	Farmer/Rancher	SMC		Appendix 3-1	"recognizing the RMS well is not fully representative of wells within the zone due to changes in groundwater surface and water surface elevation throughout the area. Wells above the Minimum Threshold elevation tend to be especially shallow (less than 100 feet deep) or have a significantly different (higher) ground surface elevation than the RMS well." This is particularly true in North Vina Monitoring area where ground surface elevation can vary by ~200 ft. This acknowledgement argues RMS wells may not sufficiently represent ground water elevation across a given polygon, that may have different water bearing/storing recharge strata with changes due to variation in ground surface elevation. To accurately model and develop appropriate management actions the RMS should be expanded to include additional monitoring sites, particularly in the larger polygons,. In examining the overall basin RMS sites, it might be prudent to evaluate the periphery or upper reaches of the basin as an early indicator of future conditions. Potentially these additional sites could be established through a cost sharing instrumentation agreement with the well owners.
25	James Pushnik	Farmer/Rancher	MoN	RMS	22-24	The use of exiting wells as the backbone of the RMS seems reasonable, as a first cut cost effective measure, but may not be adequate for accurate short term evatuation/modeling of ground water elevational fluctuations, particularly with the "a quarterly monitoring schedule" across the connectivity across the entire basin or within any given polygon.
26	James Pushnik	Farmer/Rancher	MoN		42-46 & 124-125	To the point above,if ground water elevaton is to be used as proxy data for several of the SI's for short and long term monitoring and planned management action, the primacy of this data argues for finer temporal and spatial resolution.
27	James Pushnik	Farmer/Rancher	MoN		376-380	Indicates: RMS monitoring sites are designated for compliance for SI's and MT's, MO's, IM's
28	James Pushnik	Farmer/Rancher	MoN		402-404	At a minimum for adequately addressing the above all of the RMS site wells should be a Muti-Complete well with screening across muliple depth from ground surface to well depth. A better alternatively, the 17 RMS wells across the Basin should be equipped with electronic monitoring (time domain reflectometry (sorry my knowledge of current technogy may out of date) but some similar method to measure groound water elevation across the well profile on more frequent schedule (weekly through data loggers to provide for timely management actions.
29	Pam Stoesser	Chico Resident				It is just a day before the "public comment" period ends and I and other concerned citizens are just learning of this project. Obviously I haven't had the time to study all the material as it is lengthy and complex. So my opening questions are: What methods are you using to reach the public and as many "stakeholders" as possible? How do you advertise a "Public Comment Period"? How does someone like me get wind of these very important projects if they don't know about it? It almost seems designed to keep us from hearing about it.

30	Pam Stoesser	Chico Resident	SMC		#25-31	I am very concerned about our groundwater levels here in Chico. All of Chico relies on the groundwater, including our trees. There are signs everywhere that our trees are being severely stressed. Not only from lack of rain during this drought, but even old large trees with deep roots are unable to tap into our lowering ground water levels. Just yesterday I met with a tree arborist out of concern for a beautiful, large, old black walnut tree on my property. He told me I needed to start watering it because the tips are beginning to die off. If I water the tree those outer tips and limbs have a chance to survive. We can't survive the summer heat in Chico without our tree canopy. How does this project protect the urban forest and the Valley Oak wild lands long term?
31	Pam Stoesser	Chico Resident	SMC		#40-49	Where is the discussion about "Climate Change" and what measures are you taking to mitigate this long and far reaching event?
32	Pam Stoesser	Chico Resident	SMC		#69	How are you educating the public? This is complex stuff. I consider myself an active and engaged community member, an educated person, and it would take a "Town Hall" style presentation to help me really understand what is going on here.
33	Pam Stoesser	Chico Resident	SMC		#108	When you say that Butte County is managing ground water levels, does this mean that if ground water levels exceed the minimum requirement level, that farmers are given permission to pump and sell water to other locations?
34	Pam Stoesser	Chico Resident	SMC		#171	Big Chico Creek running through Bidwell Lower Park is dangerously low. It's only the middle of June!
35	Pam Stoesser	Chico Resident	SMC		#188	Doesn't the trend of local wells running try tell us that we are heading in the wrong direction? The best place to store ground water is in the ground....right here. Tell the people who's wells are going dry that it isn't a significant factor. That is just preposterous and criminal.
36	Pam Stoesser	Chico Resident				Within such a short timeframe of learning about this, I have no idea how these comments will play out. I just know that water conservation is critical and should be required of all Butte County citizens, including farmers. Stop allowing more orchards to be planted. They are sucking us dry! Forbid lawns in any new construction, private or public, and make it mandatory that people stop watering existing lawns. Introduce water recycling methods for households. Work to prioritize saving our tree canopy. Treat our water like gold, because it is.
37	Tasha Levinson	Oroville Resident				Not sure where the "comments" were to go. I am an Oroville resident so likely outside "Vina" area, yet constantly am concerned for Butte County as a whole. Each and all of the plans I have seen have no regard for the likely 50-year drought scenario we currently face NOR do they do anything to account for the fact that Glenn County is permitting commercially-largedeep-acquifir-drilling so as to deplete all surrounding counties (including Butte). All of this is so existentially important and yet is being managed bureaucratically -- Each and all of the water districts must do a better job. Please take this responsibly. Thank you.
38	A Dawson	SHAC	SMC		132	When did the Board establish the MTs?
39	A Dawson	SHAC	SMC		134	When will the triggers be determined?
40	A Dawson	SHAC	SMC		132-136	The impression is given that the MT will never be reached.
41	A Dawson	SHAC	SMC		186-194	This phrasing is confusing. Do the years need to be consecutive and non-dry, or can the second non-dry year occur after 5 dry years. if we have to wait for consecutive non-dry(2 in 2 years) then we could reach the MT and theoretically not have to acknowledge it for years on end.
42	A Dawson	SHAC	SMC		186-194	I believe the non-dry should be removed. The GSP is supposed to be sustainable and that includes the effects of climate.
43	A Dawson	SHAC	SMC		196	What is the meaning of "sustainably" constructed?
44	A Dawson	SHAC	SMC		227	When was it decided the 15th percentile would be used?
45	A Dawson	SHAC	SMC		243-257	The polygon approach is much easier to understand..
46	A Dawson	SHAC	SMC		255	"sustainable" domestic well. Please clarify.
47	A Dawson	SHAC	SMC		287-88	The MO does not have a dry/non-dry qualifier. Is this correct?
49	A Dawson	SHAC	SMC		Appx 3-1	How was the North Vina MT developed? The 6 RMS wells have risks to domestic wells ranging from 21-48% with an average of 31%, nowhere near the stated MT.
50	A Dawson	SHAC	MoN		61	Does BBGM refer to the whole Butte basin or just the Vina subbasin.

Buck, Christina

Subject: RE: Draft SMC comment-setting of MT

From: Anne Dawson <aakdawson@aol.com>
Sent: Thursday, June 17, 2021 4:27 PM
To: Vinagsa@gmail.com
Subject: Draft SMC comment-setting of MT

The following is a general comment on the draft SMC document.

I feel the minimum threshold as proposed is significant and unreasonable because all costs and consequences are being borne by domestic well owners.
The bar for the MT has been set so low that the result is a high likelihood that farmers can continue unimpeded pumping for many years without problem.
Meanwhile GW levels will drop and domestic wells will be affected. As water supply becomes unreliable and well diggers are overwhelmed, domestic well owners will be expected to tolerate many months of inconvenience, anxiety, and cost while awaiting a solution. Domestic well owners often grow a crop and/or raise livestock or keep horses. Landscaping would be lost. Added to that will be the financial stress of deepening a well or digging a new one. Many thousands of dollars have to be spent.
I feel that domestic well owners are being asked to shoulder the consequences and costs of falling GW levels while farmers continue to enjoy unrestricted pumping.
In other words farmers are getting off Scot-free. The burden must be shared by all parties.
Anne Dawson
Domestic well representative, Vina SHAC

AGUBC

Agriculture Groundwater Users of Butte County

VIA U.S. MAIL AND E-MAIL

Board of Directors
Vina Groundwater Sustainability Agency
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Oroville, CA 95965
VinaGSA@gmail.com

Re: Comments to Draft Sustainable Management Criteria Chapter

Dear Board Members:

The purpose of this letter is to provide the Vina Groundwater Sustainability Agency (Agency) with comments from the Agricultural Groundwater Users of Butte County (AGUBC) regarding the Agency's draft Sustainable Management Criteria (SMC) chapter that will be a key component of the Agency's Groundwater Sustainability Plan (GSP).

We appreciate the effort the Agency and its consultants have devoted to preparation of the draft SMC, and the opportunity the Agency has provided to comment on each GSP chapter as it is developed. As an organization representing owners of about 60,000 acres of land containing both domestic and production wells within the Agency's boundaries, we wish to provide comments to address concerns our owners have with the draft SMC during the comment period you have provided. As revisions are made to the draft SMC in response to comments you will receive, and as the remaining GSP chapters are developed, we anticipate additional SMC comments to arise on behalf of our members. While the comments below address concerns we have at this time, we intend to comment on the final draft GSP when that is circulated later this year. We ask that the following comments be taken into consideration when the Agency prepares that final draft GSP.

1. Groundwater Levels SMC.

The draft SMC proposes two different approaches for establishing Minimum Thresholds (MT): one for use in the South Vina and Chico Management Areas and the other for use in the North Vina Management Area. The former draws circles with a three-mile radius from each RMS

well (7:223-224.) and the latter divides the management area into polygons representing proximate areas to each RMS well (8:244-247). The Agency asked, in particular, for input on the preferred approach based on the Agency's stated intent to use a consistent approach throughout the Vina Subbasin. (8:258-260.)

We believe the Vina North Management Area approach should be applied across the Vina Subbasin to the other two management areas. Our comments, however, will focus on the Vina South Management Area since the lands owned by our members are situated in the Vina North and Vina South Management Areas. Our position is that the polygon approach proposed for the Vina North Management Area should be used across the entire Subbasin is based on the following:

- The circle approach results in double and triple counting of domestic wells tied to RMS wells, a fact which is acknowledged in the draft SMC chapter. (7:224-226.)

- The polygons can be structured to account for surface elevation differentiation as additional data is gathered.

- MT are established for the polygons accounting for sustainable domestic wells in each polygon zone.

- MT can be established within a discrete polygon zone to provide sufficient operational flexibility between the "target" operational level (i.e., the Measurable Objective) and the undesirable results that the GSAs are trying to avoid. This is simply not possible with the use of overlapping circles.

- Future well drilling standards developed by Butte County should be consistent with the SMC, and a clear polygon zone facilitates development and implementation of those standards.

In recognition of the short timeframe to compile this information and meet the goal of the GSAs in getting the draft GSP out for public comment by September 2021, we hired Land IQ to propose polygons for the RMS wells in the Vina South Management Area. Enclosed is a map representing those polygons for the Vina South Management Area. You will find that a seventh zone is created as a result of this work.

The Margin of Operational Flexibility will need to be established for the polygon zones. As a starting point, we reviewed the Measurable Objectives (MO) and MT established for the Vina North Management Area and concluded that the average differential between the MO and MT was 67 feet. Consequently, the attached hydrographs for each RMS well (and polygon zone) show a difference of 67 feet between the MO and MT for the Vina South Management Area.

Finally, the draft SMC's proposed approach for the Vina South Management Area sets the MT to be protective of 85 percent of all domestic wells within each circular zone recognizing that some wells in the data set are unreasonably shallow or not sustainably constructed. (8:234-241.) Given the importance of the task, we disagree with this estimation approach. Wells that are unreasonably shallow or not sustainably constructed simply should not be part of the analysis. The SMC should consider only sustainably constructed wells.

2. Groundwater Storage and Water Quality SMC.

The Groundwater Storage SMC determines that an undesirable result coming from the reduction of groundwater storage is experienced if:

> "Sustained groundwater storage volumes are insufficient to support rural areas and small communities, the agricultural economic base of the region, and environmental uses for *suitable habitat*."

(11:322-326; emphasis added.) Additionally, the Water Quality SMC determines that an undesirable result coming from degraded water quality is experienced if:

> "Groundwater pumping compromises the long-term viability of rural areas and small communities, the agricultural economic base of the region, and environmental uses for *suitable habitat*. . . ."

(12:356-360; emphasis added.)

We are concerned about the use of the loosely defined (or undefined) use of the phrase "suitable habitat." While we understand and appreciate the environmental aspect of an undesirable result, given the significance of what an "undesirable result" is and what it triggers, the words and phrases used within this important concept should be as specific and well understood as possible. We are not sure what "suitable habitat" means, and that can lead to future debate and disagreement. Groundwater Sustainability Agencies must define in their GSPs the specific significant and unreasonable effects that would constitute undesirable results, and define the groundwater conditions that would produce those results in their basins. Accordingly, the environmental aspect of these undesirable results should be rethought and rewritten to be more specific.

We look forward to continued participation in the process to develop the GSP for the Vina Subbasin. We offer the foregoing comments as the beginning of the Agency's receipt of formal stakeholder input on SMC. We are interested to see the comments from others as well as the Agency's response to the comments received. We intend to comment again on the final draft GSP when that document is circulated later this year.

Please feel free to contact us to discuss any of our thoughts or concerns, including the attached map and hydrographs.

Very truly yours,

Todd Turley, Director

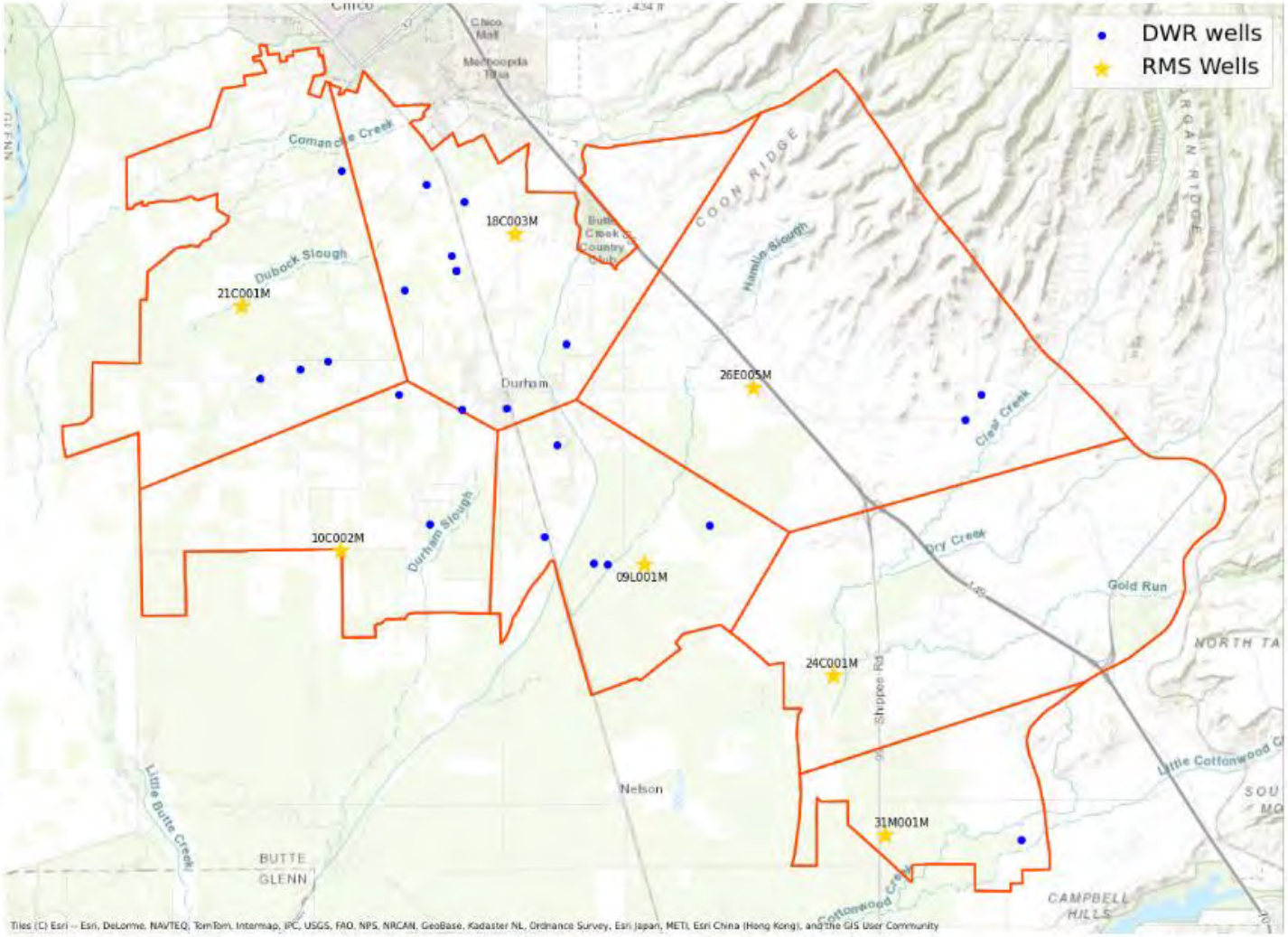
Richard McGowan, Director

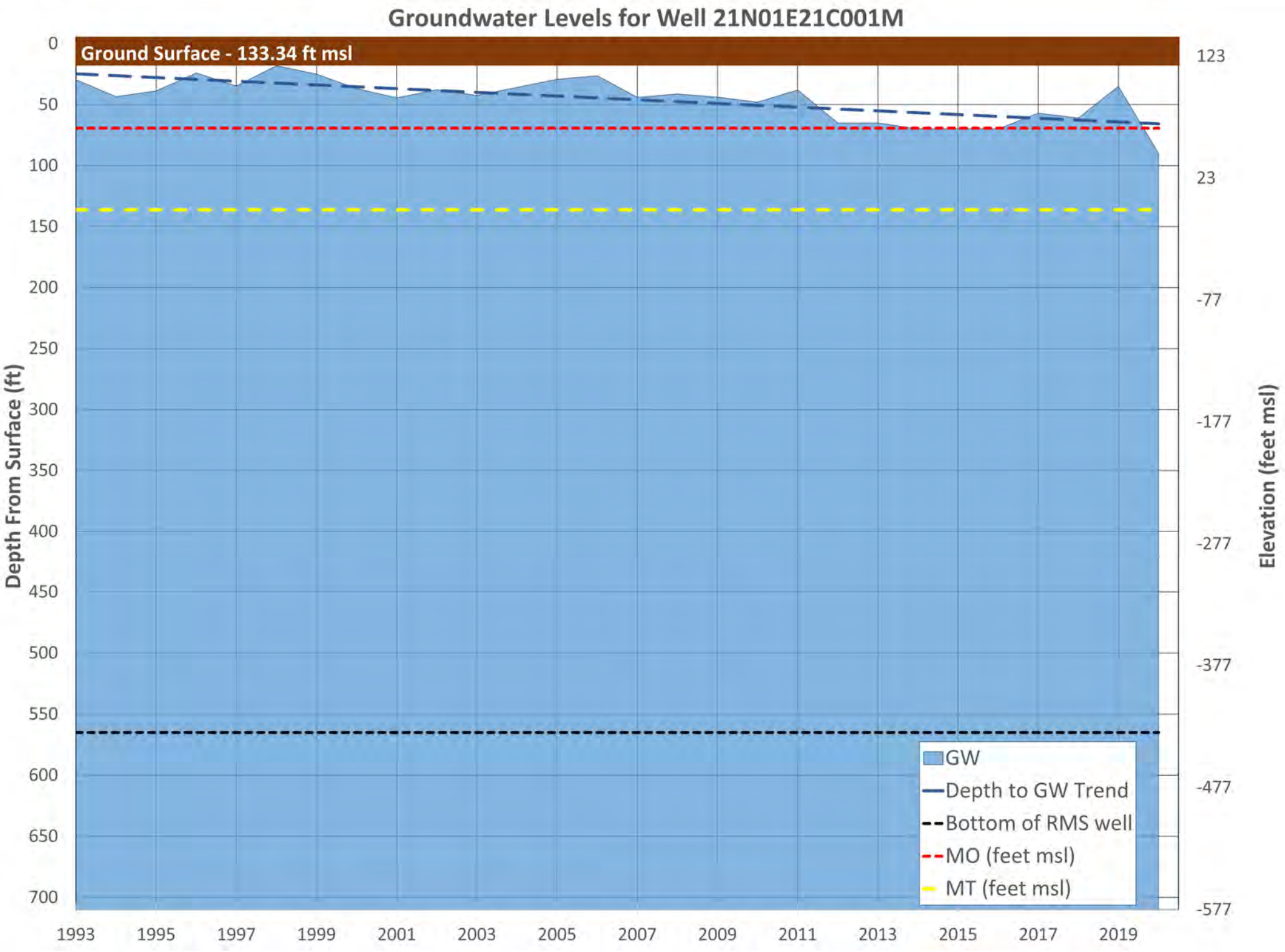
Darren Rice, Director

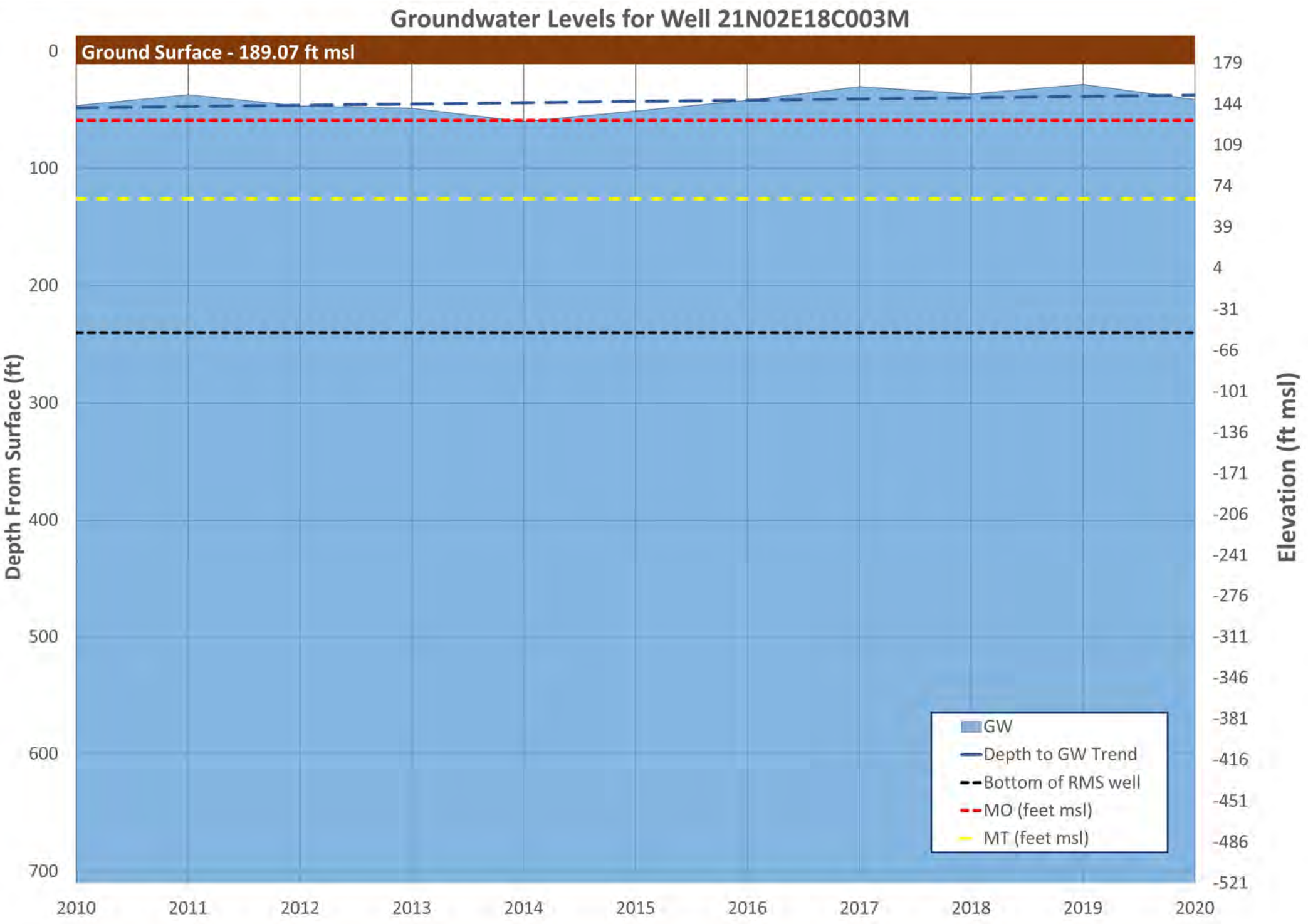
Edward McLaughlin, Director

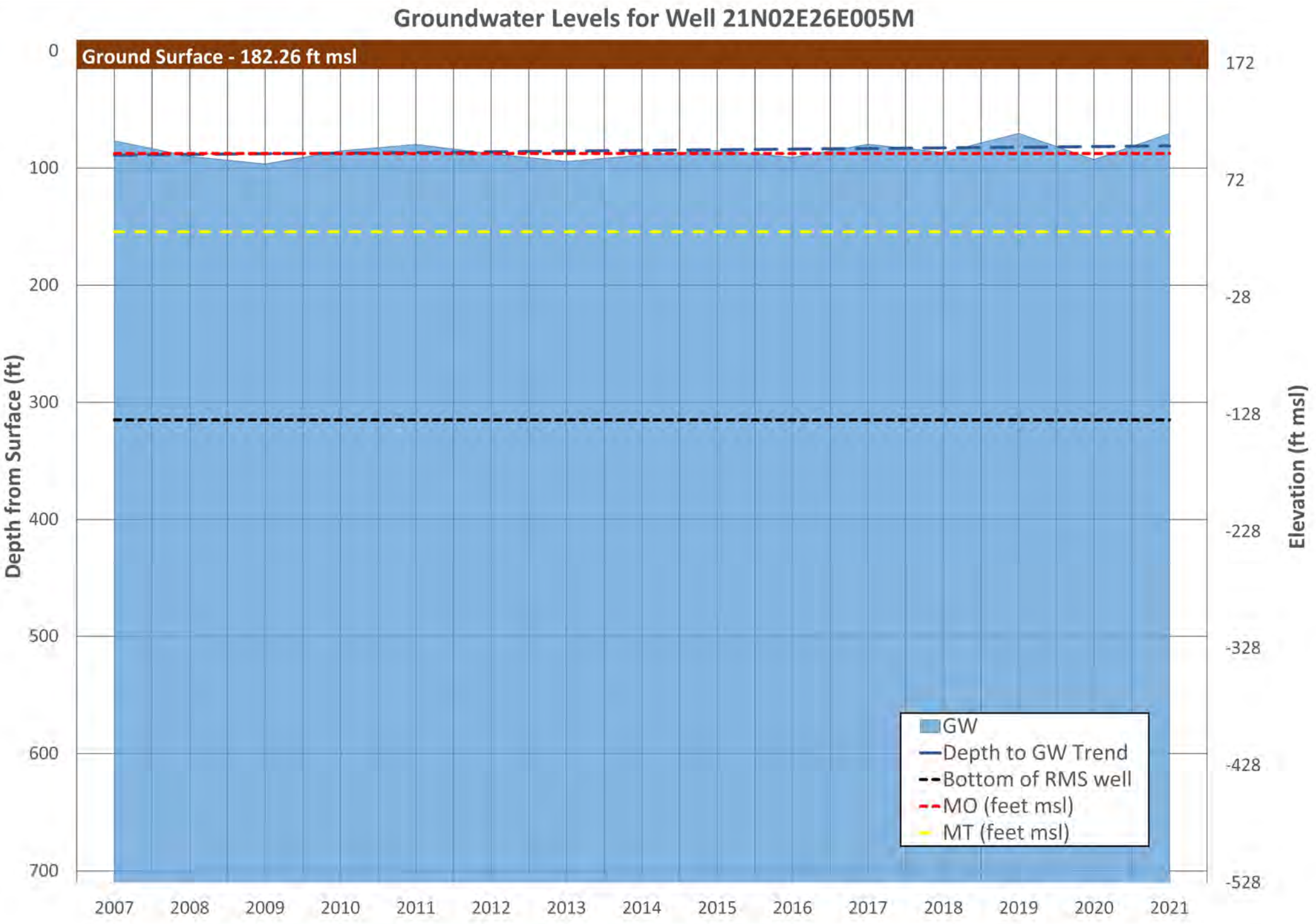
Steven Koehnen, Director

Enclosures


DWR wells
RMS Wells
18C003M
21C001M
26E005M
10C002M
09L001M
24C001M
31M001M
Comanche Creek
Dubock Slough
Durham
Durham Slough
COON RIDGE
Humble Slough
Clear Creek
Dry Creek
Gold Run
Shippee Rd
Nelson
Little Butte Creek
BUTTE
GLENN
Cottonwood Creek
CAMPBELL HILLS
Tiles (C) Esri -- Esri, DeLorme, NAVTEQ, TomTom, Intermap, iPC, USGS, FAO, NPS, NRCAN, GeoBase, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), and the GIS User Community


Groundwater Levels for Well 21N01E21C001M
Ground Surface - 133.34 ft msl
Depth From Surface (ft)
Elevation (feet msl)
0
50
100
150
200
250
300
350
400
450
500
550
600
650
700
123
23
-77
-177
-277
-377
-477
-577
1993
1995
1997
1999
2001
2003
2005
2007
2009
2011
2013
2015
2017
2019
GW
Depth to GW Trend
Bottom of RMS well
MO (feet msl)
MT (feet msl)


Groundwater Levels for Well 21N02E18C003M
Ground Surface - 189.07 ft msl
Depth From Surface (ft)
0
100
200
300
400
500
600
700
Elevation (ft msl)
179
144
109
74
39
4
-31
-66
-101
-136
-171
-206
-241
-276
-311
-346
-381
-416
-451
-486
-521
2010
2011
2012
2013
2014
2015
2016
2017
2018
2019
2020
GW
Depth to GW Trend
Bottom of RMS well
MO (feet msl)
MT (feet msl)


Groundwater Levels for Well 21N02E26E005M
Ground Surface - 182.26 ft msl
Depth from Surface (ft)
Elevation (ft msl)
0
100
200
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400
500
600
700
172
72
-28
-128
-228
-328
-428
-528
2007
2008
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2014
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2017
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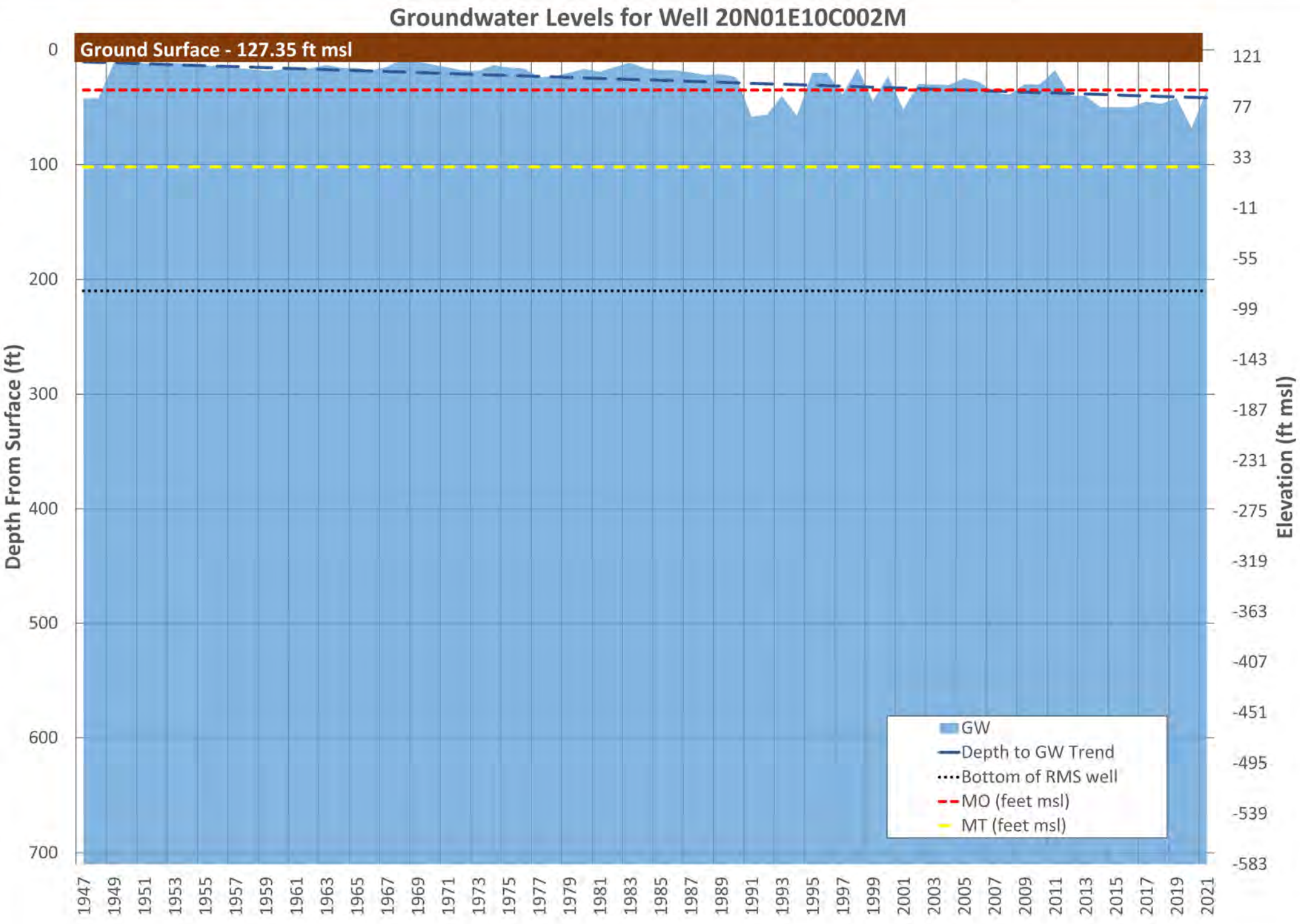
2020
2021
GW
Depth to GW Trend
Bottom of RMS well
MO (feet msl)
MT (feet msl)


Groundwater Levels for Well 20N01E10C002M
Ground Surface - 127.35 ft msl
Depth From Surface (ft)
Elevation (ft msl)
0
100
200
300
400
500
600
700
121
77
33
-11
-55
-99
-143
-187
-231
-275
-319
-363
-407
-451
-495
-539
-583
1947
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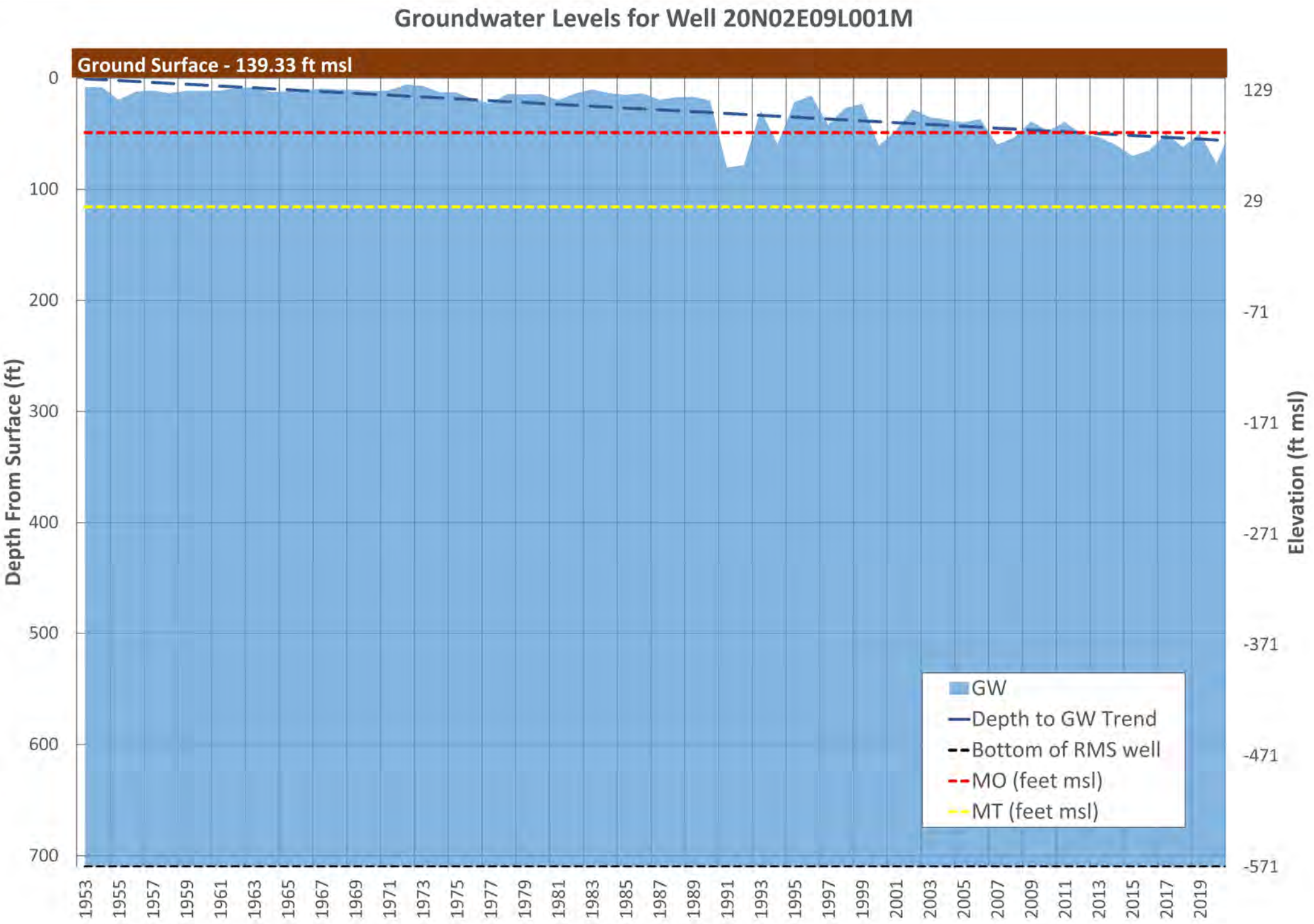
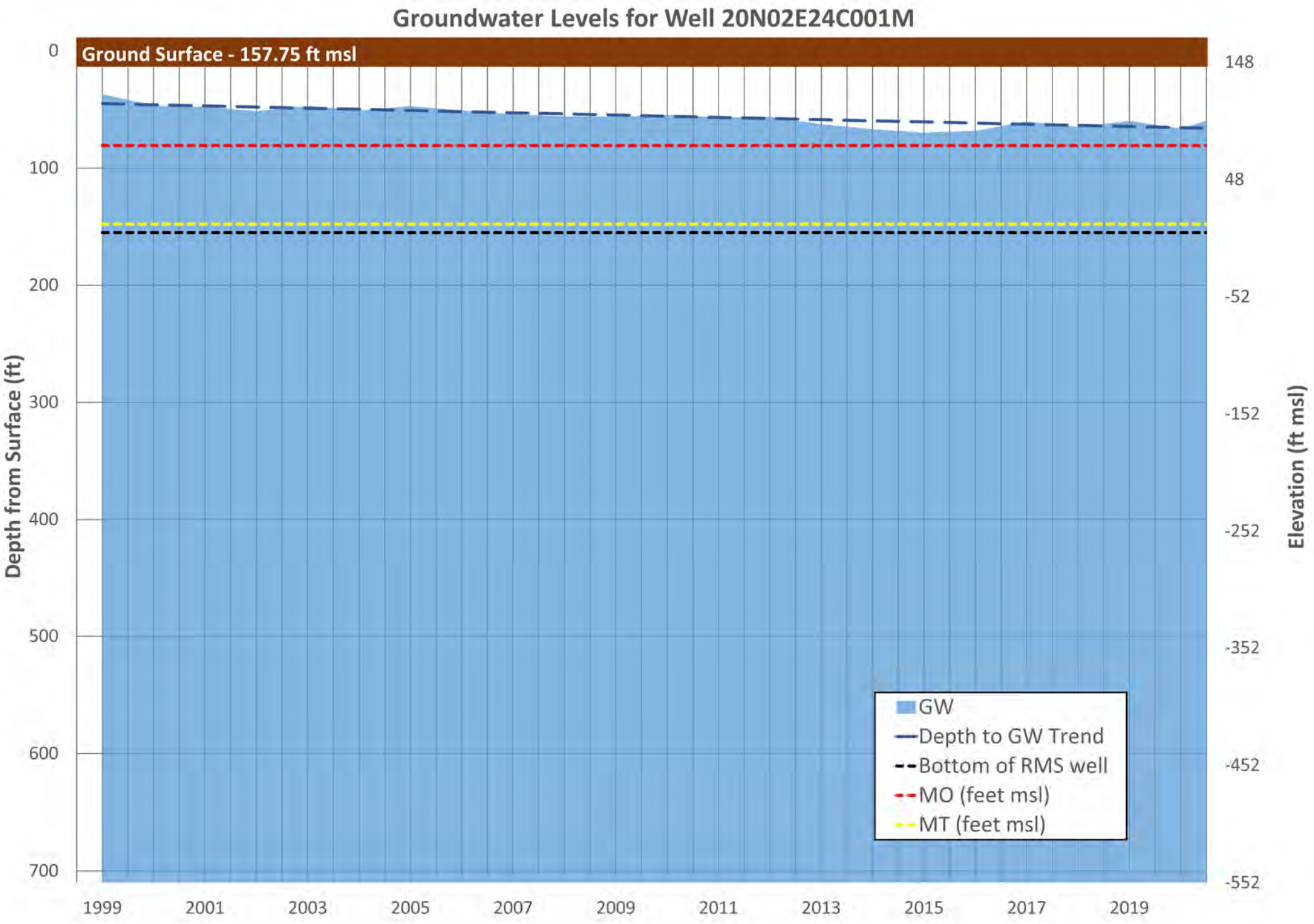
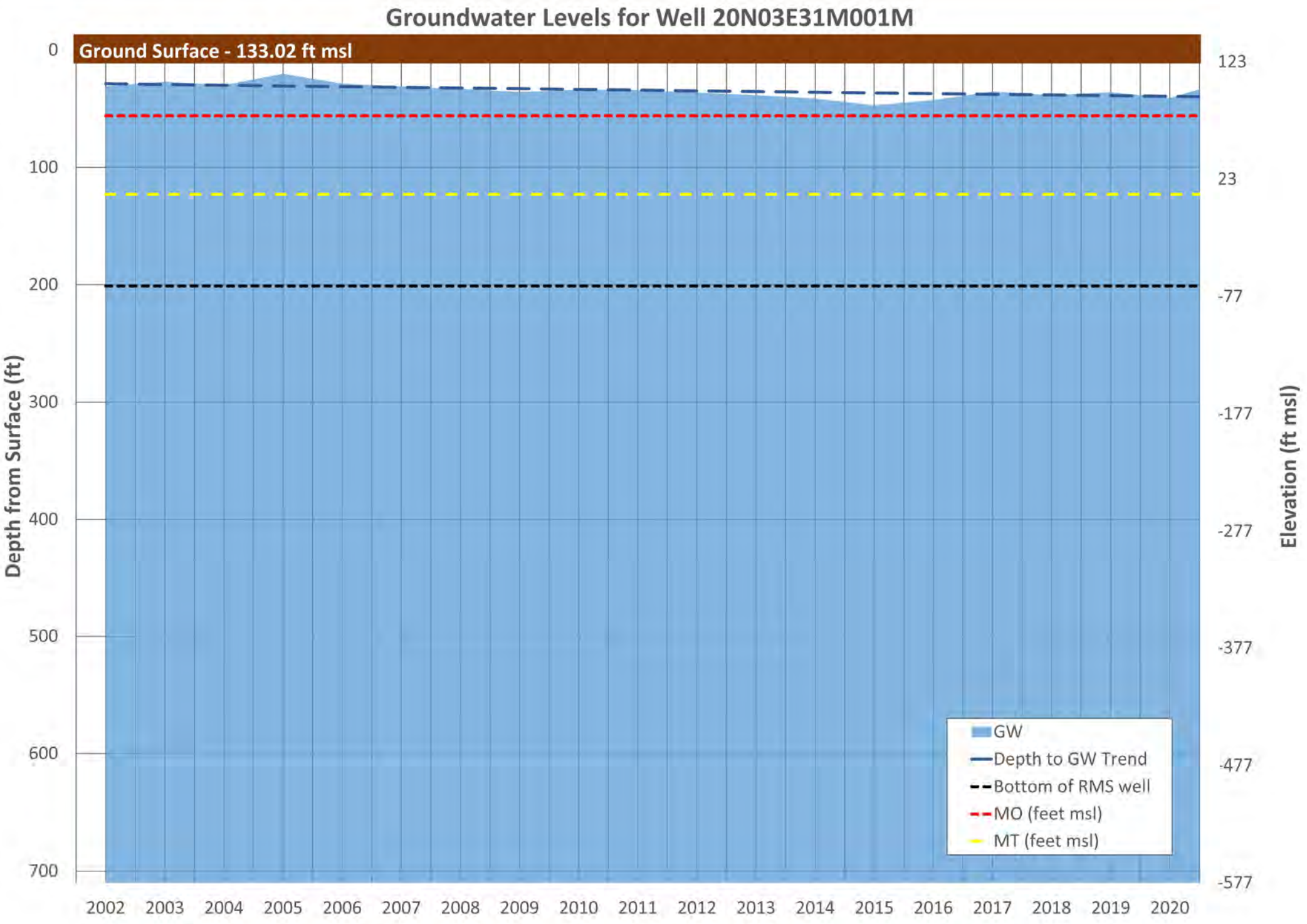
2011
2013
2015
2017
2019
2021
GW
Depth to GW Trend
Bottom of RMS well
MO (feet msl)
MT (feet msl)


Groundwater Levels for Well 20N02E09L001M
Ground Surface - 139.33 ft msl
Depth From Surface (ft)
Elevation (ft msl)
0
100
200
300
400
500
600
700
129
29
-71
-171
-271
-371
-471
-571
1953
1955
1957
1959
1961
1963
1965
1967
1969
1971
1973
1975
1977
1979
1981
1983
1985
1987
1989
1991
1993
1995
1997
1999
2001
2003
2005
2007
2009
2011
2013
2015
2017
2019
GW
Depth to GW Trend
Bottom of RMS well
MO (feet msl)
MT (feet msl)


Groundwater Levels for Well 20N02E24C001M
Ground Surface - 157.75 ft msl
Depth from Surface (ft)
0
100
200
300
400
500
600
700
Elevation (ft msl)
148
48
-52
-152
-252
-352
-452
-552
1999
2001
2003
2005
2007
2009
2011
2013
2015
2017
2019
GW
Depth to GW Trend
Bottom of RMS well
MO (feet msl)
MT (feet msl)


Groundwater Levels for Well 20N03E31M001M
Ground Surface - 133.02 ft msl
Depth from Surface (ft)
0
100
200
300
400
500
600
700
Elevation (ft msl)
123
23
-77
-177
-277
-377
-477
-577
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018
2019
2020
GW
Depth to GW Trend
Bottom of RMS well
MO (feet msl)
MT (feet msl)

Public Comments Submitted By Jim Brobeck
June 16, 2021

https://www.vinagsa.org/sustainable-management-criteria

Chapter 3: Sustainable Management Criteria

The GDE definition on line 462 does not include upland Valley Oak woodlands or the GW dependent urban forest that remains verdant without irrigation during drought. "GDE are a sub-class of aquatic and riparian habitat that depend on groundwater for optimum ecological function." This narrow definition that limits GDE consideration to aquatic/riparian vegetation eliminates GDEs that are not dependent on interconnected surface water. Figures 3-4 on page 68 indicate only the Valley Oak riparian forest meets the narrow standard.

The Groundwater Dependent urban forest is mentioned once on line 486 "Potential impacts identified by stakeholders were:
486 • Degradation of "Urban Forest" habitat in the City of Chico"
But there appears to be no effort on the part of the technical consultants to link groundwater to the arboreal canopy that enhances the human environment.

The "California Code of Regulations, Title 23 includes but does not restrict GDEs to "Interconnected surface water".

23 § 354.16. Groundwater Conditions. (g) Identification of groundwater dependent ecosystems within the basin, utilizing data available from the Department, as specified in Section 353.2, or *the best available information*.

23 § 351. Definitions. (m) "Groundwater dependent ecosystem" refers to ecological communities or species that depend on groundwater emerging from aquifers or on groundwater occurring near the ground surface. "Near ground surface" is an arbitrary term that should be broadened to include the shallow aquifer when appropriate. This SMC document explains starting on line 463 "The distinction between an ecosystem's dependence on groundwater versus its dependence on surface water and the associated riparian zone *or floodplain* is important. In addition, the distinction between the shallow aquifer zone and the deep aquifer zone, or principal aquifer, is also important."

23 § 351. Definitions. (o) "Interconnected surface water" refers to surface water that is hydraulically connected at any point by a continuous saturated zone to the underlying aquifer and the overlying surface water is not completely depleted.

On line 565 the SMC document inappropriately limits GDE designation to "depletion of interconnected surface water". "For now, an undesirable result coming from the depletion of interconnected surface water is simply defined as Avoiding significant and unreasonable depletion of surface water flows caused by groundwater pumping that significantly impacts beneficial uses"

The guidelines that the Groundwater Resources Association of California and TNC suggested in their publication *Groundwater Thresholds for Ecosystems* considered the guide to serve as "a *preliminary* assessment of the GDEs in your basin." Pg 3 of the guide defines GDEs thusly: What are GDEs? Groundwater dependent ecosystems (GDEs) are species and ecological communities that rely on groundwater for some or all of their water needs. Groundwater reliance within GDEs varies by species or ecologic communities and is either direct (e.g., **phreatophytes relying on groundwater via roots**) or indirect (e.g., riparian birds relying on groundwater-dependent vegetation). GDEs vary across the landscape -- from mountains across river valleys to coastal wetlands – with **groundwater sustaining upland vegetation**… If the connection to groundwater is lost as a result of drought or unsustainable groundwater use, then water in GDEs can become depleted. Because groundwater provides a perennial water supply for GDEs, they serve as an important refuge during dry summers and droughts and are often associated with rare and endemic species. GDEs also benefit human well-being by providing water storage, water purification, soil preservation, carbon sequestration, flood risk reduction, and recreational opportunities (Aldous and Bach 2014; Brown et al. 2011; Rohde et al. 2018). For more information on GDEs visit: www.GroundwaterResourceHub.org.

These definitions include GDEs that exist outside of established riparian corridors. The language describing GDEs benefitting human well-being imply that wildlife ecosystems are not the exclusive realm of GDEs. Depleting the sub-irrigation of the Chico urban forest would significantly affect the quality of the human environment. Since the urban forest provides benefits to humans and wildlife alike more focus on identifying the shallow aquifer levels and interaction with deep rooted, unirrigated urban trees and the shallow aquifer cannot be neglected. The VGSA cannot wait 5 years to include this factor in this iteration of the SMC.

"To select the appropriate hydrologic indicators, we recommend first identifying at least one key ecologic attribute for each ecologic target. Key ecologic attributes are defined as aspects of an ecologic target's biology or ecology that, if missing or altered, would lead to the loss of that target over time. This is done by tracking how the ecologic target responds to fluctuations in the hydrologic connection to groundwater over time and space. Based on this acceptable range of variation, along with expert opinion of **maximum rooting depths** and a scientific literature review, an initial groundwater threshold can be established."
GroundwaterThresholdFramework_Final_updated_Dec2020.pdf

The scientific literature describing Valley Oak woodland dependence on groundwater is extensive. Even TNC has identified the extent of gw level depth that allow this keystone specie to survive the intense heat/drought endemic to the Great Central Valley:
https://mavensnotebook.com/2021/06/08/webinar-managing-californias-groundwater-interconnected-surface-waters-environmental-users/ Valley oaks. 80'
Melissa.Rohde@tnc.org

The USDA forest service cites numerous scientific sources that describe the necessity of access to the water table and that the range that supports these Oaks extends to 50' below the 30' depth that most GSAs seem to be designating as the maximum depth for GDE assignment. In fact, the feis data base explains that the Valley Oak thrives best when the water table is at 33'bgs, 3' below the 30' designation.

https://www.fs.fed.us/database/feis/plants/tree/quelob/all.html Quercus lobata
"**HABITAT TYPES AND PLANT COMMUNITIES:**
This species dominates two plant communities: the valley oak woodland and the valley oak riparian forest…Another major management concern is loss of mature trees. Valley oak have died in some areas because of greatly lowered water tables…Trees are resistant to short-term drought; mature trees suffer drought damage only when a series of dry seasons lower water tables to extreme depths… Valley oak typically has several vertical roots that tap groundwater and extensive horizontal root branches. Vertical root depth has been measured as deep as *80 feet* in some individuals…The oaks depend on water-table access. Best growth is attained when water tables are about *33 feet* (10 m) below the surface. They will tolerate poorly drained soil and wet seeps."

Pgs 39-44 N VGSA: The MO (measurable objectives) are often below the historic low levels and the MT (management threshold) are 75-90' below historic lows. The MT is supposed to designate "the point at which Undesirable Results may *begin* to occur." The historic lows are mostly within the 80' max rooting depth of native phreatophytes. Some of the MO are lower than 80'. All the MTs are significantly lower than 80' bgs. The Operational Range of 25c001M on page 39 is extremely wide with an MT that is about 70' below historic low. The remaining N VGSA MTs are similarly pessimistic in meeting goals that would avoid triggering Undesirable Results. A lower water table will dewater longer reaches of streams earlier in the season and persist later in the year.

Pgs 45-50 Chico Management Area. There is only one well in a shallow portion (pg 47). All the wells have MTs that exceed the 80' bgl limit of phreatophytic GDEs.

Pgs 51-57 South VGSA Management Area. All the hydrographs on these pages have the same deep MTs that would not just hit "the point at which Undesirable Results may *begin* to occur" but would indicate undesirable, hard to reverse, undesirable results *are occurring.* Impacts to plants and animals would, in many cases, be permanent even if water levels recover.

WELL MONITORING:

407: Well Construction Data – Well data such as perforation depths, construction date, and well depth was considered for selection.

Many of the selected wells to not meet the above criteria for selection:

Chapter 4: MONITORING NETWORKS

Pg 19 Table 4-5. Groundwater Levels RMS Well Construction Details

North MA: 3/6 of the wells do not have listed screen intervals. This makes it difficult to know what layer of aquifer is being monitored. Scientifically constructed multi-completion wells with defined screen depths/elevations is needed. The other 3 have screen intervals ranging from about 70' to almost 500'. While this type of well construction is suitable for production it is unsuitable for transparent depth/elevation monitoring of the aquifer system.

Chico MA The well depths are undefined as are the screen depths. There is a notable lack in monitoring the shallow aquifer that supports the unirrigated Chico Urban forest.

South MA: The screen intervals on two of the MC wells have appropriate 10' spacing allowing for better scientific analysis of monitoring data.

Wise resource management strives to improve conditions that have been degraded by human development. Accepting degraded status quo or planning for increased degradation may be realistic given the human inclination to ambitiously convert resources into useful products. But the term "sustainable" implies we have the capacity to identify and honor carrying capacity while devising demand flexibility strategies to meet evolving climate conditions. Robust Management Objectives reduce the probability of careening toward Management Thresholds. Our MO levels can strive to improve conditions without risk of State management takeover. § 354.30. *Measurable Objectives (g) An Agency may establish measurable objectives that exceed the reasonable margin of operational flexibility for the purpose of improving overall conditions in the basin, but failure to achieve those objectives shall not be grounds for a finding of inadequacy of the Plan.*

Buck, Christina

Subject: RE: Sustainable Management Criteria

-----Original Message-----
From: Paula Busch <paulaprints880@gmail.com>
Sent: Thursday, June 17, 2021 3:49 PM
To: VinaGSA@gmail.com
Subject: Sustainable Management Criteria

.ATTENTION: This message originated from outside Butte County. Please exercise judgment before opening attachments, clicking on links, or replying..

Dear Christina Buck and the Vina GSA,

Our small political group just found out about your agency through Supervisor Debra Lucero. We learned much about the water crisis here in the valley. As climate change is heating our environment and we are getting hardly any rain we can see the lakes and creeks drying up. What we can't see are the wells. This is very scary stuff.

I would like to see more outreach and education on your part. Filling out an excel sheet doesn't seem to cut it for such complicated issues.

Chico is a City of Trees. Without water what will happen to our protective vegetation?

Where will the water come from to fight our ever growing number of fires when the lakes are dry?

It seems that the nut crops need an extreme about of water. Added to this, these crops are shipped off over-seas. That's OUR water going somewhere else.

There is always the threat of our water being sent to Southern California. We need to protect what water we have as little as it is.

On a positive note: we just had a Quiet Cool whole house fan installed as well as an attic fan. We have not had to turn on our AC (today it's 109 out there). The company that installed these also does rainwater catchment and water storage systems. They work! What a great way to conserve and use our natural resources efficiently.

Sincerely,
Paula Busch
385 E. Sacramento Ave., Chico

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
West Coast Region
650 Capitol Mall, Suite 5-100
Sacramento, California 95814-4700

June 24, 2021

Paul Gosselin
Water and Resource Conservation
Vina GSA
308 Nelson Avenue
Oroville, California 95965

Re: NOAA's National Marine Fisheries Service comments on the Draft Chapter 3 of the Groundwater Sustainability Plan for the Vina Subbasin

Dear Mr. Gosselin:

NOAA's National Marine Fisheries Service (NMFS) is the federal agency responsible for managing, conserving, and protecting living marine resources in inland, coastal, and offshore waters of the United States. We derive our mandates from numerous statutes, including the Federal Endangered Species Act (ESA). The purpose of the ESA is to conserve threatened and endangered species and their ecosystems.

On May 19, 2019, the Vina Subbasin Groundwater Sustainability Agency (hereafter, "GSA") released their draft Chapter 3: Sustainable Management Criteria for public comment. The California Department of Water Resources (DWR) has designated the Vina Subbasin a "high" priority for groundwater management, necessitating the development of a Groundwater Sustainability Plan (GSP) by January 2022, as required under California's Sustainable Groundwater Management Act of 2014 (SGMA). Several waterways that overlie portions of the Vina Subbasin support federally threatened California Central Valley (CCV) steelhead (*Oncorhynchus mykiss*) and threatened Central Valley (CV) spring-run Chinook salmon (*O. tshawytscha*). This letter transmits NMFS' comments regarding the draft Chapter 3.

Surface water and groundwater are hydraulically linked in the Vina Subbasin, and this linkage is critically important in creating seasonal habitat for CCV steelhead and CV spring-run Chinook salmon. Where the groundwater aquifer supplements streamflow, the influx of cold, clean water is crucial for maintaining temperature and flow volume. Pumping water from these aquifer-stream complexes has the potential to affect salmon and steelhead habitat by lowering groundwater levels and interrupting the hyporheic flow between the aquifer and stream. NMFS has concerns that groundwater extraction in the Vina Subbasin may compromise CCV steelhead and CV Spring-run Chinook salmon instream habitat.

Comments

<u>Page 18, line 560</u>: The draft Chapter 3 states the following: "The undesirable result for this SMC is focused on connectivity where there is a measurable connection between groundwater levels in the principal aquifer and streamflow or associated aquatic habitat viability." We remind the authors that undesirable results, as explained at CCR 23 §354.26, are caused by groundwater conditions occurring throughout the basin, not just the primary aquifer. The authors should clarify how their reference to groundwater levels within the primary aquifer is pertinent to determining streamflow depletion dynamics within the Vina Subbasin.

<u>Page 18, line 562</u>: The use of Valley Oak rooting depth to inform impacts resulting from streamflow depletion is inappropriate. Streamflow depletion impacts ESA-listed salmonids and their habitat by degrading aquatic habitat. Analyzing whether groundwater levels support Valley Oak trees (*i.e*., occur within some depth threshold below ground surface) has no informative value with regard to how streamflow depletion may impact identified beneficial uses of surface water (*e.g*., spawning, rearing and migration of ESA-listed fish). We recommend the GSA develop a future study that investigates the relationship between groundwater levels, streamflow depletion rates, and significant and unreasonable impacts to beneficial uses of surface water, especially as those beneficial uses pertain to ESA-listed salmonids and their critical habitat.

<u>Page 19, line 581</u>: The draft chapter does not appear to adequately address the following requirement for minimum thresholds as spelled out in the SGMA regulations:

> "The relationship between the minimum thresholds for each sustainability indicator, including an explanation of how the Agency has determined that basin conditions at each minimum threshold will avoid undesirable results for each of the sustainability indicators." (CCR 23 §354.28(b)(2)

The GSA should explain fully how the proposed minimum threshold of "Two RMS wells reach their MT for two consecutive non-dry year-types" avoids the undesirable result of streamflow depletion (*i.e*., significant and unreasonable impacts to beneficial uses of surface water). The proposed minimum appears to have little relationship to beneficial uses and potential impacts to those uses.

<u>Page 19, line 585</u>: Similar to the above comment, the GSA has not explained how the proposed measurable objective for streamflow depletion avoids the undesirable result of significant and unreasonable impacts to beneficial uses of surface water, or how it avoids the undesirable result of streamflow depletion.

Furthermore, the proposed groundwater elevations chosen as streamflow depletion minimum thresholds and measurable objectives are completely inappropriate for avoiding significant impacts to ESA-listed salmonids and their habitat. Most of the minimum thresholds and measurable objectives correspond to historically low groundwater levels, even exceeding the depth to groundwater seen during California's recent historical drought. These groundwater levels would likely create historically high streamflow depletion rates and result in instream

conditions very likely to adversely affect ESA-listed salmonids and their critical habitat. During the first few years of GSP implementation, the GSA should design and implement relevant studies that better inform appropriate minimum thresholds and measurable objectives for streamflow depletion. In the interim, we suggest the GSA follow guidance by the California Department of Fish and Wildlife that recommends conservative sustainability management criteria be established to ensure groundwater dependent ecosystem protection (CDFW 2019).

Please direct questions regarding this letter to Amanda Cranford, NMFS Central Valley Office, at Amanda.Cranford@noaa.gov or (916) 930-3706.

Sincerely,

A. Catherine Marcinkevage

Cathy Marcinkevage
Assistant Regional Administrator
California Central Valley Office

References:

California Department of Fish and Wildlife. 2019. Fish & Wildlife Groundwater Planning Considerations. California Department of Fish and Wildlife, Groundwater Program. June 2019. 28 pp. Available at: https://cawaterlibrary.net/document/fish-wildlife-groundwater-planning-considerations/

Cc:

Angela Murvine, CDFW Statewide SGMA Coordinator, Angela.Murvine@wildlife.ca.gov
Dr. Andrew Gordus, CDFW Staff Toxicologist Central Region, Andy.Gordus@wildlife.ca.gov
Craig Altare, California Department of Water Resources, Supervising Engineering Geologist, Craig.Altare@water.ca.gov
Michelle Dooley, Vina Subbasin SGMA Point of Contact, California Department of Water Resources, Michelle.Dooley@water.ca.gov

Buck, Christina

From: Gosselin, Paul
Sent: Friday, February 12, 2021 10:18 AM
To: vinagsa@gmail.com
Cc: Tania Carlone; Mariana Rivera-Torres (mriveratorres@cbi.org); Buck, Christina; 'Linda.herman@Chicoca.gov'; Peterson, Kelly
Subject: FW: Minimum Objective and Threshold for Vina GSA

Vina GSA

I am forwarding a comment from Ernie Washington regarding SMCs.

Thank you.

Paul

-----Original Message-----
From: Ernie <george.washington@whchico.com>
Sent: Friday, February 12, 2021 9:16 AM
To: BCWater <BCWaterFrontDeskHG@buttecounty.net>
Cc: Gosselin, Paul <PGosselin@buttecounty.net>
Subject: Minimum Objective and Threshold for Vina GSA

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Vina GSA Board and Stakeholder Committee, I am writing as landowner in Vina South (Cherokee Strip)with 4 agricultural wells and 1 domestic well. My personal observation over 40 years of farming there backed up by the excellent comprehensive well monitoring and annual groundwater status reports prepared by the County is that groundwater levels have been trending down over the years and the projections are that this will continue. This carries with it an obvious cost to agricultural and domestic users and results in a subtle, but continuous, degradation of the environment. SGMA is an attempt to address this.

With the above in mind and after attending most of the recent Vina Sub Basin Workshop I question setting the M O and M T based on either fall 2015 groundwater levels which appear to be historical lows or 2030 projected levels, even lower. If the bar is set low we will surely achieve it. There maybe sound reasons for this, but it's hard for me to imagine that using 2030 projections was really what was intended when SGMA was enacted.
Ernie Washington

Sent from my iPad