



Vina Groundwater Sustainability Agency
308 Nelson Avenue, Oroville, CA 95965
(530) 552-3592
VinaGSA@gmail.com

Vina Groundwater Sustainability Agency (GSA) Stakeholder Advisory Committee (SHAC) Meeting

Date: Wednesday, July 22, 2026

Time: 9:00 AM - 12:00 PM

Location: Chico City Council Chamber, Conference Room #1, 421 Main Street, Chico, CA.

Or [Join the Vina GSA SHAC Meeting via Zoom](#)

Meeting ID: 814 0243 0033

Join via phone: +1 669 900 6833

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MEETING AGENDA

July 22, 2026

1. **Call to Order and Roll Call**
2. **Business from the Floor**

The public and Stakeholder Advisory Committee (SHAC) members will have an opportunity to comment on items not on the agenda and that are relevant to SHAC. Committee members and Management Committee staff are not required to respond to any issues raised during the public comment period. Commenters are asked to respect differing perspectives and to keep remarks within three minutes.

3. ***Review and Approval of 6/24/2026 SHAC Meeting Minutes**

Requested Action: Approve the 6/24/2026 meeting minutes.

4. ***Update on the Anticipated Timeline for the Vina Groundwater Sustainability Plan (GSP) Periodic Evaluation and Plan Amendments**

Staff will provide an update on the status and anticipated timeline for the Groundwater Sustainability Plan (GSP) Periodic Evaluation and Plan Amendments, including upcoming decision-making milestones through January 2027. The presentation will also highlight webpages and other resources available to support stakeholder engagement and public participation, as well as provide an update on remaining Sustainable Groundwater Management (SGM) Grant projects. **(Report - Becky Anderson - Fairbanks, GSA Project Manager)**

Requested Action: Accept as information.

5. ***Consideration and potential recommendation on topics related to the Vina Periodic Evaluation and potential amendments to the Groundwater Sustainability Plan.**

Topics for discussion and potential recommendations include:

- (a) GSP Amendment to remove “non-dry year” language from SMC
- (b) Groundwater Level Sustainable Management Criteria (SMC) including Alternatives for the Minimum Threshold
- (c) Potential new Projects and Management Actions
- (d) Draft response to Water Quality related Recommended Corrective Action

Staff will present an overview of each topic based on information provided in the attached staff memos to support SHAC discussion. SHAC will discuss and provide recommendations as warranted. ***(Report - Christina Buck, Asst. Director Butte County Water and Resource Conservation)***

Requested Action:

- a) Non-dry year language in SMC: Provide a recommendation regarding non-dry year language in the SMC
- b) Groundwater Level SMC: Provide a recommendation regarding the Groundwater Level SMC and whether the change should be made as an amendment to the GSP or only described in the Periodic Evaluation.
- c) Projects and Management Actions – discuss and provide feedback to staff
- d) Water Quality RCA Response – discuss and provide feedback to staff

6. **GSA Program Manager and Management Committee Update** ***(Verbal Report - Dillon McGregor, GSA Program Manager and Management Committee Staff)***

7. **SHAC Future Agenda Requests**

SHAC members may verbally request an item to be agendized at a future meeting. After stating what the item would be, a majority vote of the SHAC is needed in order for the Management Committee to agendize the item. SHAC members may also submit requests in writing to the GSA Program Manager to bring forward to the SHAC for consideration on a future agenda.

8. **Adjournment:**

The Committee will adjourn to their next meeting, **Wednesday, August 26, 2026.**

*Materials included in agenda packet



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Vina Groundwater Sustainability Agency (GSA) Stakeholder Advisory Committee (SHAC) Meeting Minutes

Date: Wednesday, June 24, 2026

Time: 9:00 AM -12:00 PM

Location: Chico City Council Chamber, Conference Room #1, 421 Main Street, Chico, CA.

Or via Zoom

MEETING MINUTES

June 24, 2026

1. Call to Order and Roll Call, Called to order at 9:05 AM

Committee Members Present: Greg Sohnrey, Joanne Parsley, Anne Dawson, Susan Schrader, Patrick Riley, Evan Markey, and Todd Greene

Committee Members Absent: Samantha Lewis and Holly Swan

Staff Present: Dillon McGregor, GSA Program Manager; Becky Fairbanks, GSA Project Manager; Christina Buck, Assistant Director, Butte County Water & Resources Conservation; Kamie Loeser, Director, Butte County Water & Resources Conservation; Brandon Mortimer, City of Chico

2. Business from the Floor

The public and Stakeholder Advisory Committee (SHAC) members had the opportunity to comment on items not on the agenda and that are relevant to the SHAC.

Public Comment(s): Jim Brobeck

3. *Review and Approval of 5/27/2026 SHAC Meeting Minutes

Public Comment(s): None

Action: Committee Member Markey made a motion to approve the 5/27/2026 meeting minutes. That motion was seconded by Committee Member Schrader.

The motion passed as follows:

AYES: Greg Sohnrey, Joanne Parsley, Susan Schrader, Patrick Riley, Evan Markey, and Todd Greene

NOES: None

ABSENT: Samantha Lewis and Holly Swan

ABSTAIN: Anne Dawson

4. *Recharge Feasibility Analysis Project Recap

The Committee received a presentation on the main outcomes from the Recharge Feasibility Analysis, a SGM grant funded effort to identify opportunities to enhance recharge in the Vina subbasin. The study's reports are

available on the project [webpage](#). (*Christina Buck, Asst. Director Butte County Water and Resource Conservation and Joe Turner, Geosyntec Consultants*)

Public Comment(s): Greg Brislain

Action: Accepted as information.

5. ***Update on the Anticipated Timeline for the Vina Groundwater Sustainability Plan (GSP) Periodic Evaluation and Plan Amendments**

Staff provided an update on the anticipated topics and timelines over the next several months related to the Periodic Evaluation and Plan Amendments as well as a review of related webpages and interactive maps available to support the discussions. (*Report, Becky Fairbanks, GSA Project Manager*)

Public Comment(s): None

Action: Accepted as information.

6. ***North Sacramento River Corridor (NSRC) Interbasin Coordination Framework Update and Regional Interconnected Surface Water Initiative**

The Vina Subbasin participates in the North Sacramento River Corridor (NSRC) Interbasin Coordination (IBC) effort, a collaborative program among seven hydrologically connected subbasins in the Northern Sacramento Valley. Staff presented an update on the NSRC IBC Framework 5-Year Implementation Update, which guides regional coordination through the 2027 Periodic Evaluations and beyond. The presentation also covered a proposed regional approach to interconnected surface water management, the corridor's current top coordination priority and a shared regulatory obligation across all seven NSRC subbasins. (*Dillon McGregor, GSA Program Manager and Christina Buck, Assistant Director, Butte County Water & Resources Conservation*)

Public Comment(s): Jim Brobeck

Action: Accepted as information. Multiple committee members emphasized the importance of the NSRC IBC group adopting a conflict resolution policy.

7. ***Introduction to the Groundwater Level Strawman Proposal including discussion of the proposed 2027 Representative Monitoring Site (RMS) Network and recent analysis of Groundwater Dependent Ecosystems (GDE) in the Vina Subbasin**

Staff presented an overview of the recently released Groundwater Level Sustainability Indicator strawman proposal (an initial draft created to jump-start discussion serving as a starting point for collaborative refinement). The presentation included relevant context including recent and historical groundwater level conditions, evaluation of the groundwater monitoring network, and recent analysis contributing to characterization of Groundwater Dependent Ecosystems in the Vina Subbasin. SHAC discussed and provided feedback on the monitoring network aspects of the strawman proposal. More in-depth discussion and input on Minimum Thresholds and Sustainable Management Criteria will occur in July. (*Christina Buck, Asst. Director Butte County Water and Resource Conservation*)

Public Comment(s): None

Action: The SHAC members present reached consensus expressing support for increasing the number of wells designated as RMS wells, as described in the strawman proposal. The SHAC all agreed that the GSA should further explore LMLs, with multiple members wanting to find ways to add more teeth to the LMLs.

8. ***Update and Discussion of Sustainable Yield, Groundwater Extraction and Change in Storage Calculations to Guide Periodic Evaluation Content Development**

The Committee received an overview of how sustainable yield, groundwater extraction, and change in groundwater storage have been estimated in the Vina Subbasin Groundwater Sustainability Plan and recent Annual Reports. The discussion provided context for addressing Department of Water Resources comments through the upcoming Periodic Evaluation and provided an opportunity for questions and SHAC input on the proposed approach going forward. **(Christina Buck, Asst. Director Butte County Water and Resource Conservation)**

Public Comment(s): Greg Brislain

Action: Accepted as information.

9. GSA Program Manager and Management Committee Update (Verbal Report, Dillon McGregor, GSA Program Manager and Management Committee Staff)

- Butte County, Environmental Health Well ordinance and Septic survey
- Butte County Drought Resilience Plan
- Budget amendments going to the Board
- SGMA Fee
- Request for Proposals

10. SHAC Future Agenda Requests

SHAC members could verbally request an item to be agendized at a future meeting.

Requests: None

11. Adjournment:

The Committee adjourned at 11:05 AM to their next meeting, **Wednesday, July 22, 2026.**

*Materials included in agenda packet



Vina Groundwater Sustainability Agency Agenda Transmittal

Subject: Update on the Anticipated Timeline for the Vina Groundwater Sustainability Plan (GSP) Periodic Evaluation and Plan Amendments

Contact: Becky Fairbanks

Phone: (530) 552-3587

Meeting Date: July 22, 2026

Agenda Item: 4

Staff will provide an update on the status and anticipated timeline for the Groundwater Sustainability Plan (GSP) Periodic Evaluation and Plan Amendments, including upcoming decision-making milestones through January 2027. The presentation will also highlight webpages and other resources available to support stakeholder engagement and public participation, as well as provide an update on remaining Sustainable Groundwater Management (SGM) Grant projects. **(Report – Becky Anderson - Fairbanks, GSA Project Manager)**

Requested Action: Accept as information.

Attachments:

1. Presentation Slides



Update on the Status and Anticipated Timeline for the Vina GSP Periodic Evaluation and Plan Amendments

SHAC
July 22, 2026

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Today's Agenda

01 PE & PA Status & Timeline

Overview of the Periodic Evaluation and Amendments process and key decision-making milestones through January 2027

02 PE & PA Supporting Documents

Access technical reports, new data, and materials posted to the PE Supporting Documents page

03 SGM Grant Project Updates

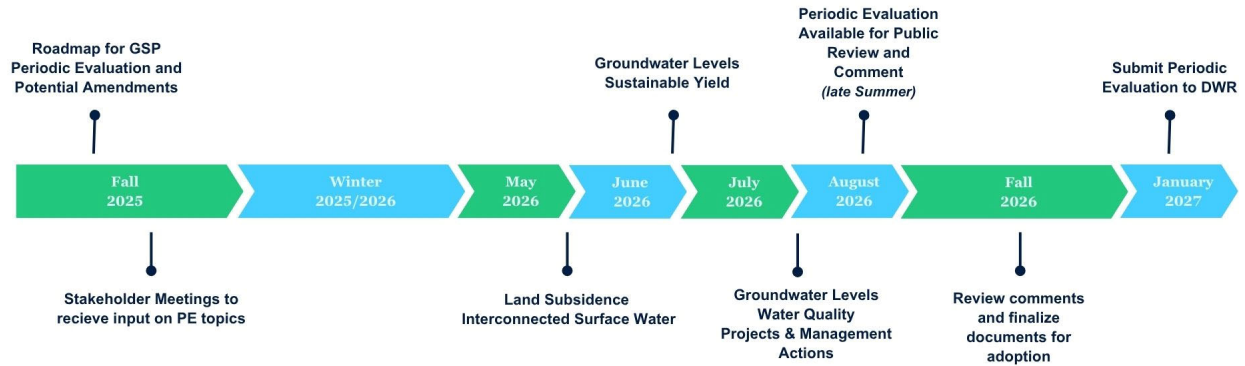
Status of remaining Sustainable Management Grant projects including well installations and recharge feasibility work

2

2



GSP Periodic Evaluation & Plan Amendments Timeline



The focus of the Periodic Evaluation is to address the Department of Water Resources' 6 Recommended Corrective Actions and provide a written assessment of GSP implementation. Once submitted, DWR will complete its Periodic Review of the Vina GSP and issue a determination of the status of the Plan: Approved, Incomplete, or Inadequate.

v. June 17, 2026

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Public Meetings

Previous Meetings

- May 7 – Subsidence Discussion
- May 8 – Legal Implications of Recharge Webinar
- May 18 – GDE Discussion
- May 21 – ISWs Discussion
- June 15 – Groundwater Recharge Workshop
- July 14 – Groundwater Levels Workshop
- July 22 – SHAC PE & PA Update (Today)

Upcoming Meetings

- September 2 – Draft PE & PA Workshop

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PE & PA Supporting Documents

Newly Available Materials

The Data Gap project and Periodic Evaluation efforts are providing new information, data, analyses, and resources to inform current discussions.

► Highlighted New Documents:

The Nature Conservancy (TNC) – GDE Considerations for the Vina Subbasin

SGMA GDE considerations specific to the Vina Subbasin

Supplemental Hydrographs for 2027 RMS Network

Updated hydrographs supporting the proposed 2027 monitoring network

See webpage for all available materials and Table 1 summary →

MANAGING OUR GROUNDWATER

SGMA - SUSTAINABLE GROUNDWATER MGMT ACT

GSP - GROUNDWATER SUSTAINABILITY PLAN

GSP SUBMITTED TO DWR

GSP PERIODIC EVALUATION

SUPPORTING DOCUMENTS

GROUNDWATER MANAGEMENT 101

SGM GRANT PROJECTS

INTERACTIVE GROUNDWATER MAP FUNDING

Periodic Evaluation Supporting Documents

This page provides information related to the Periodic Evaluation, including new data, studies, and technical memos completed since the adoption of the GSP (see Table 1 and links below).

Newly Available Materials

The Data Gap project and Periodic Evaluation efforts are providing new information, data, analyses, and resources to inform current discussions. Check them out here!

- ④ Supplemental Hydrographs for 2027 RMS Network_v7.9.2026.pdf
- ④ ESA_Supplemental Materials_GDE Root Depth and Presentation Slides.pdf
- ④ The Nature Conservancy - SGMA GDE Considerations for the Vina Subbasin.pdf
- ④ Vina Groundwater Dependent Ecosystems Technical Memo
- ④ Vina Interconnected Surface Water Memo_Final Draft_5.5.2026 w Attach.pdf
- ④ LWA TM_Well Risk Assessment w Cover_4.22.2026.pdf

Table 1. Summary of New Information Since 2022 GSP Adoption

Significant New Information (e.g., new monitoring data, reports, coordination with other agencies, data provided by the Department)	Description	Relevant GSP Sections

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Status of Remaining SGM Projects

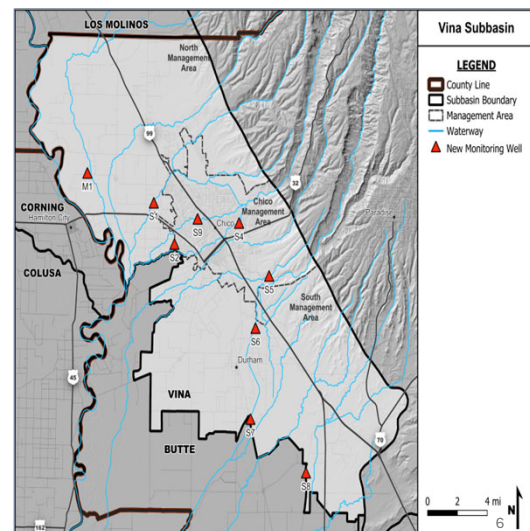
• Data Gap Identification and Data Improvement

- Currently drilling 5 of 9 shallow wells
- Multi-completion well installed
- Well completion reports and water sampling ongoing

• Legal Implications of Recharge

- May 8 – webinar completed
- SGM Recharge feasibility analyses currently under review
 - Lindo Channel
 - South Vina Extension Water Supply Project
 - Ridge to Valley Water Supply

New Monitoring Wells – Vina Subbasin



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Thank you



Vina Groundwater Sustainability Agency Agenda Transmittal

Subject: Consideration and potential recommendation on topics related to the Vina Periodic Evaluation and potential amendments to the Groundwater Sustainability Plan.

Contact: Christina Buck

Phone: (530) 552-3593

Meeting Date: July 22, 2026

Agenda Item: 5

Topics for discussion and potential recommendations include:

- a) GSP Amendment to remove “non-dry year” language from SMC
- b) Groundwater Level Sustainable Management Criteria (SMC) including Alternatives for the Minimum Threshold
- c) Potential new Projects and Management Actions
- d) Draft response to Water Quality related Recommended Corrective Action

Summary: Staff will present an overview of each topic based on information provided in the attached staff memos to support SHAC discussion. SHAC will discuss and provide recommendations as warranted.

Requested Action:

- a) **Non-dry year language in SMC:** Recommend to the Vina GSA Board to amend the Vina GSP to remove references to non-dry year water year types in Sustainable Management Criteria for Groundwater Levels, Groundwater Storage, Water Quality, and Interconnected Surface Water sustainability indicators and document the response to DWR’s Recommended Corrective Action in the Periodic Evaluation.
- b) **Groundwater Level SMC:** SHAC is requested to recommend Alternative 1 or Alternative 2 to the Vina GSA and Rock Creek Reclamation District GSA Boards and identify any specific modifications that should accompany its recommendation. The SHAC is also asked to consider whether the change should be made as an amendment to the GSP or only described in the Periodic Evaluation.
- c) **Projects and Management Actions** – discuss and provide feedback to staff
- d) **Water Quality RCA Response** – discuss and provide feedback to staff

Attachments:

- 1. Staff Memo on each topic listed above.

Relevant Links:

<https://www.vinagsa.org/gsp-periodic-evaluation-plan-amendments>



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MEMORANDUM

To: Vina Stakeholder Advisory Committee

From: Christina Buck, Asst. Director Butte County Dept. Water and Resource Conservation (providing technical staff support to the GSA) and Laura Foglia and Ryan Fulton, Larry Walker Associates

Date: July 16, 2026

Subject: **Consideration of Plan amendments to remove “non-dry year” from Sustainable Management Criteria in response to Department of Water Resource’s Recommended Corrective Actions**

Background

The Vina Groundwater Sustainability Plan (GSP) was adopted in December 2021 by the Vina Groundwater Sustainability Agency (GSA) and Rock Creek Reclamation District GSA and subsequently reviewed and approved by the California Department of Water Resources (DWR) in July 2023. As part of its review, DWR provided Recommended Corrective Actions (RCAs) in its [Determination Letter](#) identifying several areas for improvement with an expectation that the RCAs should be considered by the GSAs in the first periodic evaluation of the GSP or addressed through amendments to the GSP. The Sustainable Groundwater Management Act (SGMA) requires the GSAs to submit the first Periodic Evaluation (PE) by January 2027. The PE is the GSA’s written assessment of its GSP implementation. The Vina GSA received funding through the Sustainable Groundwater Management Round 2 grant program to support work to address data gaps identified in the plan and complete the PE. Larry Walker Associates (LWA) was competitively selected to complete this work. In addition, Butte County staff provide technical staff support to the Vina GSA due to their local expertise and institutional knowledge. Documents and resources related to development of the PE and associated amendments to the GSP can be found online: <https://www.vinagsa.org/gsp-periodic-evaluation>.

DWR Recommended Corrective Actions

Provided below is Recommended Corrective Action 3a and 4, as stated in the Determination Letter:



Recommended Corrective Action 3

Provide sufficient information regarding criteria used to identify significant and unreasonable conditions, undesirable results, and the potential impacts to various beneficial uses and users of groundwater related to the chronic lowering of groundwater level minimum thresholds. The GSAs should address the following items:

- a. Revise the definition of undesirable results and language pertaining to significant and unreasonable lowering of groundwater level to remove the non-dry year condition or

discuss how extractions and recharge will be managed as necessary to ensure that reductions in groundwater levels or storage during dry years are offset by increases in groundwater levels or storage during other years within the sustainable management criteria for the chronic lowering of groundwater levels.

....

Recommended Corrective Action 4

Revise the definition of undesirable results to remove the non-dry year condition or discuss how degradation during dry period will be managed as necessary to ensure that adverse water quality conditions are offset during other periods.

Neighboring Subbasins

The Corning Subbasin had similar “non-dry year” language in its 2022 GSP, which was deemed inadequate by DWR in their [Determination Letter](#) dated October 26, 2023. Given feedback from DWR, the GSAs removed it when resubmitting their GSP in 2024. GSPs from other subbasins in the state with “non-dry year” language received the same RCA from DWR and many were not approved. Here is additional explanation from DWR in its Determination Letter to Corning:

The definition of undesirable results also includes a caveat related to the water year type that prohibits an undesirable result from occurring during any water year defined as ‘dry’ or ‘critically dry’ that is not consistent with SGMA. The water year type requirement could potentially allow for unmanaged and continued lowering of groundwater levels under certain hydrologic or climatic conditions that have occurred historically, and GSAs could disregard potential impacts of groundwater level declines regardless of how severe they become. Since the GSP Regulations require that GSAs define undesirable results caused by the chronic lowering of groundwater levels by identifying a significant and unreasonable depletion of supply, it is inappropriate for a GSA to disregard a depletion of supply based on certain hydrologic or climatic conditions. Department staff conclude the definition of undesirable results disregards minimum threshold exceedances in all years except consecutive below normal, above normal, or wet years to be inconsistent with sustainable groundwater management under SGMA (see Corrective Action 2b).

Recommended Amendments to the Vina GSP

In light of DWR’s clear direction that SGMA’s undesirable results framework is not intended to exclude conditions that happen to occur during dry periods, and because removing the qualifier yields a more protective and conservative standard for identifying undesirable results, staff recommends removing the “non-dry year” condition rather than retaining it and separately demonstrating how degradation occurring during dry periods would be offset in other periods, as also allowed under Corrective Action 4. The following amendments would be necessary should the GSA Boards agree with this approach:



Proposed amendments to the Groundwater Level Sustainable Management Criteria, shown as edits to 2022 GSP text, page 145-146:

*In recent years, Butte County has documented a number of domestic wells that have “gone dry,” meaning groundwater levels have fallen below the depth of the well installation and/or pump. This occurred during summer months of recent drought years and heightened concern among some stakeholders. For example, in the critically dry year of 2021, 44 wells were reported dry county-wide through the State’s online reporting system. As a result, domestic well reliability and protection are the focus of the Groundwater Levels MT. From a policy perspective, **multiple sustainably constructed domestic wells going dry during non-dry year conditions in a single management area** would be a “significant and unreasonable” undesirable result of groundwater management. The quantitative Vina Subbasin Undesirable Result for the Chronic Lowering of*

Groundwater Levels occurs when:

~~Two RMS wells within a management area reach their MT for two consecutive years. of non-dry year types.~~

~~Non-dry year types include wet, above normal, and below normal as defined by the Sacramento Valley Water Year Index. Dry year types include dry and critical water year types. See Section 2.3.1 for more information on the Sacramento Water Year Index. As shown in the figures presented in Appendix 3-A showing the average depth of domestic, irrigation, and public supply wells, domestic wells are generally shallower than other wells throughout the Vina Subbasin. These figures were constructed using data from DWR OSWRC. Protection of domestic wells was therefore deemed to be additionally protective of other well types, such as agricultural wells. In addition, the lowering of groundwater levels during two or more consecutive dry and/or critically dry year types is not considered significant and unreasonable and therefore not considered an undesirable result, as long as the groundwater levels rebound to levels greater than the MT following those consecutive dry and/or critically dry years. The Vina Subbasin SMC for Chronic Lowering of Groundwater Levels is based on groundwater levels throughout the Vina Subbasin that would support sustainably constructed domestic wells. Sustainably constructed implies wells that have been installed following the relevant County Well standards within permeable aquifer material and the wells that have been appropriately maintained (e.g., well problems are not due to clogging of well screens or silting of well). Exceeding the MT may lead to significant and unreasonable effects during drought years and to potential impacts to domestic wells and other beneficial groundwater users and/or uses. may occur and would not constitute an Undesirable Result. Local and state drought responses play a role in addressing dry year impacts. However, once a drought period ends, it is anticipated that groundwater conditions should return to the MO levels. Year type is defined according to the Sacramento Valley Water Year Hydrologic Classification and groundwater level is defined based on groundwater elevation above msl.~~



Proposed amendments to the Groundwater Storage Sustainable Management Criteria, shown as edits to 2022 GSP text, page 151:

3.4.2 Minimum Thresholds

As Groundwater Levels SMC are used by proxy, the MT for groundwater storage is the same as for groundwater levels:

~~Two RMS wells within a management area reach their MT for two consecutive years of non-dry year types.~~

In the historical record, there are isolated incidences of shallow wells going dry during summer months of recent critically dry years. This was noted in the earlier section addressing the development of Groundwater Levels SMC. MT intended to prevent significant and unreasonable negative impacts related to the chronic lowering of groundwater levels are assumed adequate to protect against significant and unreasonable reductions of groundwater storage.



Proposed amendments to the Water Quality Sustainable Management Criteria, shown as edits to 2022 GSP text, page 151:

3.5 Water Quality Sustainable Management Criteria

Water Quality SMC are those meant to address degraded water quality caused by groundwater pumping. The locally defined undesirable result, MT, and MO are discussed in the next sections.

3.5.1 Undesirable Result

An undesirable result coming from degraded water quality is experienced if:

groundwater pumping that degrades water quality and compromises the long-term

viability of rural areas and communities, the agricultural economic base of the region, and environmental uses for suitable habitat.

This occurs in the Vina subbasin when two RMS wells exceed their MT for two consecutive ~~non-dry~~ years.



Proposed amendments to the Interconnected Surface Water Sustainable Management Criteria, shown as edits to 2022 GSP text, page 160:

3.8.4 Minimum Thresholds

The potential impact of groundwater levels on aquatic habitat or GDEs is typically specific to a certain stream reach or geographic area. Groundwater modeling conducted in association with the HCM (Section 2) incorporates the interaction of surface water and groundwater at a regional scale, including all the GSAs in Butte County. While the model is a useful tool for evaluating regional behavior of the groundwater system overall, there are significant data gaps that limit calibration of the groundwater response in the uppermost layer of the model, where the dynamics and “interconnectedness” between surface water and groundwater actually occur. Therefore, at this time, Groundwater Levels SMC are used by proxy and the MT for interconnected surface water is the same as for groundwater levels:

Two RMS wells within a management area reach their MT for two consecutive years. ~~of non-dry year types.~~

Requested Action

Consider the following action:

Recommend to the Vina GSA Board to amend the Vina GSP to remove references to non-dry year water year types in Sustainable Management Criteria for Groundwater Levels, Groundwater Storage, Water Quality, and Interconnected Surface Water sustainability indicators and document the response to DWR’s Recommended Corrective Action in the Periodic Evaluation.



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MEMORANDUM

To: Vina Stakeholder Advisory Committee

From: Christina Buck, Assistant Director, Butte County Department of Water and Resource Conservation [providing technical staff support to the Vina GSA] and Laura Foglia and Ryan Fulton, Larry Walker Associates

Date: July 16, 2026

Subject: Consideration of Alternatives for Addressing Department of Water Resource's Recommended Corrective Actions and Stakeholder Concerns regarding Groundwater Level Sustainability Indicator Sustainable Management Criteria



Purpose and Requested Action

Staff requests that the Stakeholder Advisory Committee (SHAC) make a formal recommendation to the Vina Groundwater Sustainability Agency (GSA) and Rock Creek Reclamation District GSA Boards on one of two groundwater level Minimum Threshold (MT) alternatives for the 2027 Periodic Evaluation and related Groundwater Sustainability Plan (GSP) amendments.

1. 2022 GSP MTs with Local Management Levels (LML)
2. Change the MTs

Both alternatives use the same broadly supported 2027 Representative Monitoring Site (RMS) network - 29 RMS wells assigned to 26 representative areas - and assign Measurable Objectives (MOs) and 2027 Interim Milestones (IMs) comparable to those adopted in the 2022 GSP (and included in the strawman proposal). The decision before SHAC is whether to add LMLs to the existing MTs or change the current MTs.

These alternatives were developed by staff in response to input received on the Groundwater Level strawman released by the Vina GSA on June 18, 2026 (minor revision posted, 7/9/2026). Available online here: <https://www.vinagsa.org/gsp-periodic-evaluation-plan-amendments>.

Background: DWR Recommended Corrective Action 3

The California Department of Water Resources (DWR) approved the Vina Subbasin GSP in July 2023 and identified Recommended Corrective Actions (RCAs) to be considered as part of the

first Periodic Evaluation. Consideration of adding LMLs or adjusting the existing MTs will allow the GSAs to analyze and address DWR's RCA 3.

Provided below is Recommended Corrective Action 3, as stated in the Determination Letter:

Provide sufficient information regarding criteria used to identify significant and unreasonable conditions, undesirable results, and the potential impacts to various beneficial uses and users of groundwater related to the chronic lowering of groundwater level minimum thresholds. The GSAs should address the following items:

- a. Revise the definition of undesirable results and language pertaining to significant and unreasonable lowering of groundwater level to remove the non-dry year condition or discuss how extractions and recharge will be managed as necessary to ensure that reductions in groundwater levels or storage during dry years are offset by increases in groundwater levels or storage during other years within the sustainable management criteria for the chronic lowering of groundwater levels.*
- b. Provide information on impacts to domestic wells during projected conditions where minimum thresholds are exceeded but undesirable results do not occur and also quantify domestic wells that will be impacted by the proposed minimum threshold. Furthermore, the GSAs should evaluate the impacts of proposed minimum thresholds on other beneficial uses and users, such as public and small water systems and environmental users and users.*
- c. Evaluate how the proposed minimum thresholds for the chronic lowering of groundwater levels may impact other sustainability indicators (e.g., groundwater storage, depletion of interconnected surface water, etc.).*

The revised 2027 RMS network and supporting analyses strengthens the evaluation of potential impacts to various beneficial uses and users of groundwater by creating a network that has smaller polygons and is more representative of conditions and domestic wells within each RMS zone. This provides an improved basis for evaluating impacts of proposed MTs to domestic wells but also to other uses and users of groundwater. The remaining policy decision is whether to develop MTs comparable to the 2022 GSP approach with additional early warning triggers (i.e Local Management Levels), or use a uniform methodology for all RMS that in most cases is more precautionary and similar to approaches used in nearby subbasins. This alternative would require revising MTs on existing RMS and setting MTs for new RMS using this new methodology. Under either alternative, the second part of 3b can be addressed which is to "evaluate impacts of proposed minimum threshold on other beneficial uses and users..."

Key Considerations

Basin Setting

The Vina Subbasin has a long groundwater-level monitoring record developed through coordination between DWR Northern Region Office (Red Bluff) and Butte County. The record shows a recurring pattern of groundwater-level declines during droughts followed by recovery during wetter periods. Groundwater levels have improved from the historical lows observed during the 2013–2015 and 2020–2022 droughts, and many wells have shown gradual increases in water levels over the past decade.

At the same time, some wells continue to show longer-term declines since approximately 2000, and the subbasin retains a cumulative groundwater-storage deficit compared to relatively “full” aquifer conditions in 2000. Recent wetter years have not fully offset the effects of repeated dry periods over the past two decades. However, the irrigated agricultural footprint in the subbasin has remained stable over the past couple of decades and the subbasin continues to respond to wet and dry cycles. Groundwater extractions fluctuate with hydrologic conditions without showing a sustained increasing trend. These conditions support continued management focused on enhancing recharge where feasible, promoting urban and agricultural water conservation, and using surface water when physically and economically practical. These actions pursued by the GSAs and partnering agencies are intended to reduce groundwater demand and support balanced aquifer conditions over time.

Domestic Wells

The GSAs manage groundwater with the objective of achieving sustainability through avoiding undesirable results. This objective requires GSAs to understand when beneficial uses are impacted, including domestic uses whose use may be affected by MTs set lower than well-bottom elevations. However, an MT is an RMS well specific regulatory threshold used to define when significant and unreasonable conditions may occur; it is not the groundwater level the GSAs seek to maintain and it cannot, by itself, prevent every individual well impact. The GSP’s sustainable yield and Projects and Management Actions show intent to manage groundwater levels toward the MOs, which are substantially above the MTs (average of 62 feet).

The Vina GSA has included funding in Fiscal Year 2026–27 to begin developing a Domestic Well Mitigation Program. Regardless of the MT alternative selected, the program would provide a separate mechanism to assist eligible domestic well users if impacts occur before a basin-wide undesirable result. During and since the last severe drought (2020-2022), when new historical lows were observed in some Vina monitoring wells, approximately 40 domestic wells were reported going dry to the County or through the State’s dry well reporting system. The mitigation program would be designed to respond if groundwater levels decline to the point that individual wells become vulnerable during future droughts. Program eligibility, scope, and long-term funding will require future Board action.

Domestic Well Dataset and Pre-1980 Wells

The well-count tables present results for both all domestic wells on record and wells installed after 1980. Both of these datasets may be relevant to evaluating MTs. Some wells installed before 1980 remain operational and continue to serve residences, so excluding them entirely could underestimate the potential number of wells that could be impacted. At the same time, the historical well-record dataset does not reliably identify whether older wells are still active and therefore well counts could reflect impacts on wells that are not operational. Many pre-1980 wells were likely replaced following the 1976–1977 drought or due to age, condition, or later construction. The 2022 GSP therefore used 1980 as a dataset-refinement proxy to identify wells more likely to remain in use and to reflect more current construction standards. Presenting both counts provides transparency: the all-well count shows the broader potential exposure, while the post-1980 count provides a more practical planning estimate given the limitations of the available well records.

Environmental Uses and Groundwater Dependent Ecosystems

Recent work by Environmental Science Associates and, separately, by The Nature Conservancy advances understanding of groundwater dependent ecosystems (GDEs), ecological sensitivity, and priority GDEs in the Vina Subbasin. The analyses also confirm that important questions remain. In particular, the relationship between pumping and groundwater levels in the principal aquifer, shallow or perched groundwater, and vegetation health is not

sufficiently understood to establish a locally validated ecological threshold. Vegetation condition is also influenced by precipitation, soil moisture, surface water, irrigation, pests, and other factors.

A logical next step under either MT alternative for continued consideration of GDEs is a coordinated monitoring program that establishes fixed vegetation baseline locations and tracks ecological condition together with shallow (or perched) groundwater levels. This would improve the ability to distinguish groundwater-related effects from other causes of vegetative decline and support future adaptive management. The PE will refer to these studies in its description of new information available to the GSAs. The GSAs may consider inclusion of new monitoring programs to address these remaining data gaps.

Chico Urban Forest

The Chico urban forest is not fully represented by regional GDE mapping and may rely on a combination of shallow groundwater, perched water, creek recharge, irrigation, and/or urban infrastructure leakage. A focused monitoring effort developed with the City of Chico and other partners could track tree condition and shallow groundwater over time and provide a stronger basis for future management decisions. It is worth noting that the difference between the MO and MT in the Chico Management Area is an average of 18 feet, considerably less than in the other two management areas.

Inter-basin Coordination

The North Sacramento River Corridor Joint GSP evaluation found that neighboring subbasins used different MT methodologies, creating potential concern where threshold levels differ significantly near shared boundaries. Vina MTs are currently up to 60 feet lower than those in Corning and 25-59 feet lower than along the boundary with the Butte Subbasin. The same evaluation found that Vina MOs near the Corning and Butte boundaries are generally within about 15 feet and 10 feet, respectively, of neighboring MOs. This similarity makes the Vina GSP framework of managing toward the MO rather than allowing groundwater levels to decline toward the MT important for inter-basin coordination considerations. The Vina GSP sustainable yield and projects and management actions were developed to stabilize long-term groundwater levels around the MOs through recharge, irrigation efficiency, and other conservation and demand-reduction efforts. Continued inter-basin coordination and the coordinated interconnected surface water effort planned for the next five-year implementation period will provide additional information about boundary conditions and potential cross-boundary effects.

Adaptive Management and Future Refinement

The 2022 GSP acknowledges and describes data gaps relevant to the GSAs' management of the subbasin and describes an adaptive management approach. As stated in the Preface of the GSP, "ongoing management of the Subbasin under the GSP will follow an "adaptive management" strategy that involves active monitoring of Subbasin conditions and addressing any challenges related to maintaining groundwater sustainability by scaling and implementing projects and management actions (PMAs) in a targeted and proportional manner in accordance with the needs of the Subbasin...GSP annual reports provide an opportunity each year to review current Subbasin conditions. Using annual reporting information, the Vina GSA and Rock Creek Reclamation District GSA Boards can assess the need for further PMAs."

The GSAs continue to adaptively manage the Subbasin and reconsider aspects of the GSP as needed as additional monitoring data, stakeholder input, regional coordination, and DWR feedback become available. Each 5-year periodic evaluation requires the GSAs to self-assess implementation considering current conditions and new information and is an opportunity to respond and revisit plan elements, monitoring, and projects and management actions as

needed. It is also an opportunity for DWR to issue a new determination of plan approval, incomplete, or inadequate given conditions and implementation of the GSP.

Alternatives for SHAC Consideration

In light of the above key considerations and the ongoing divergent perspectives of stakeholders around either maintaining existing MTs or raising MTs, staff is providing two alternatives for the SHAC's consideration:

Alternative 1 - Retain Comparable 2022 MTs and add Local Management Levels to a subset of RMS wells

Consistent with the groundwater level strawman, Alternative 1 carries forward adopted 2022 GSP MTs for existing RMS wells and applies the comparable 2022 methodology described in the groundwater level strawman to newly designated RMS wells for MT, MOs, and IMs. This alternative adds non-regulatory LMLs set 15 feet below the applicable MO as an early-warning trigger for a subset of RMS wells, as described further below. Groundwater levels persistently reaching an LML would prompt consideration of appropriate adaptive management actions by the GSA Boards which could include increased monitoring, investigation into impacts and causes, or activation of a GSP project or management action. "Persistently reaching" means multiple observed groundwater level measurements across differing seasons (i.e. spring, summer, fall) are observed at the LML.

LMLs are assigned to a subset of the RMS wells with an approach that includes more wells than proposed in the original strawman for three purposes:

1. In potential GDE and shallow RMS well areas (09E001, 27L001, 36P001, 20K001, and 32E001)
2. In RMS areas near subbasin boundaries (25C001, 05M001, 10B003, 27D001, 02H003, 09G001, 24C001, and 33L001), and
3. In an RMS polygon with a relatively large number of domestic wells (29P002)

Fourteen RMS wells are assigned an LML.

This alternative retains the 2022 GSP MT regulatory framework and adds earlier local management triggers at selected locations, providing an early-warning tool to support adaptive management.

Alternative 2 - Revise MTs Using 5% Domestic Well Risk and Historical Lows

Alternative 2 presents adjusted MTs using a new methodology for all RMS wells in the north and south management areas, similar to the approach documented in the Wyandotte Creek draft amended GSP. For each RMS representative area, the MT would be set at the lower groundwater elevation (the deeper threshold) produced by the following two methods:

1. The historical low groundwater elevation minus 20 feet; or
2. The groundwater elevation at which 5 percent of domestic wells would be at risk, using the ground-surface-elevation adjustment.

MTs for the Chico Management Area RMS wells remain unchanged from the 2022 GSP. The 2022 GSP MOs and IMs remain unchanged (consistent with what was presented in the groundwater level strawman), and LMLs are not added. The dual-criterion structure for establishing the MT is modeled on the draft Wyandotte Creek amended GSP and is similar to

neighboring subbasin approaches (Butte, Corning, Colusa, and Los Molinos) that use historical lows with a buffer and/or domestic well depth percentages. In several RMS polygons, this change would notably raise the MT levels and reduce the projected number of domestic wells at risk at MT levels. In most others, it provides a similar level of protection. Using this MT methodology also results in 8 RMS wells having a lower MT than the 2022 MT alternative (generally in polygons that have few domestic wells). The MT adjustments have limited benefits for reducing the discrepancy between MT levels between subbasin boundaries with Corning and Butte. The increased MT level in most polygons may result in MT violations and/or management responses sooner, including in circumstances where observed impacts have not yet been shown to be significant and unreasonable.

Actions Common to Both Alternatives

Selection of either alternative would be accompanied by continued work to:

1. Develop the Vina GSA Domestic Well Mitigation Program, beginning in 2027;
2. Implement recharge, irrigation-efficiency, conservation, and other projects and management actions intended to maintain groundwater levels near the MOs; and
3. Continue inter-basin coordination and coordinated interconnected surface water analysis during the next five-year implementation period.

Requested Recommendation

SHAC is requested to recommend Alternative 1 or Alternative 2 to the Vina GSA and Rock Creek Reclamation District GSA Boards and identify any specific modifications that should accompany its recommendation. The SHAC is also asked to consider whether the change should be made as an amendment to the GSP or only described in the Periodic Evaluation.

The GSA Boards will make the final policy and amendment decisions.

Attachments

- A. Alternative 1 and 2 Summary Comparison Table**
- B. Tables, Maps, and Hydrographs for Alternative 1 and 2**
- C. Summary of Stakeholder feedback received on the Groundwater Level Strawman**

Attachment A: Alternative 1 and 2 Summary Comparison

Issue / Concern	Alternative 1: Existing MTs with LMLs	Alternative 2: Revised MTs
MT framework	Retains 2022 GSP MTs for existing wells and MTs for new RMS wells will be based on criteria comparable to that used for 2022 MTs. Adds LMLs to a subset of the RMS wells at 15 feet below the MO.	Revises each MT to the deeper of historical low minus 20 feet or the elevation associated with 5 percent of domestic wells at risk. No LMLs.
DWR Recommended Corrective Action 3	Uses the expanded network, documents beneficial-user impacts, and adds early local triggers while maintaining the existing 2022 MT framework.	Uses the expanded network and documents impacts with revised, generally more precautionary MTs in most RMS polygons.
Domestic wells	Relies on management toward the MO, selected LMLs, and the separate mitigation program. Low MTs may continue to create concern about theoretical well impacts – largely a public perception challenge	Uses domestic well risk directly in the MT calculation and generally reduces the number of estimated wells potentially at risk at MT. Also relies on management toward the MO and mitigation remains necessary for individual impacts.
GDEs and Chico urban forest	Adds LMLs at selected shallow/GDE wells and supports monitoring and adaptive management. Does not establish specific ecological MTs.	Provides revised MTs, but no local trigger. Monitoring is still needed because MTs are not established based on measured vegetation response.
Inter-basin coordination	Adds LMLs at subbasin boundary wells which more closely align with neighboring thresholds. Relies on management toward aligned MOs, continued coordination, and the regional coordinated interconnected surface water effort.	Adjusts MT methodology similar to neighboring approaches however limited value in reducing threshold differences at boundaries; continued coordination is still needed, particularly regarding interconnected surface water.
Regulatory and implementation effect	Preserves existing flexibility and avoids premature regulatory action given the uncertainty regarding when Undesirable Results would occur if levels were to decline between the MO toward the MT. LMLs are non-regulatory yet add monitoring and response expectations at selected wells.	Creates an earlier regulatory trigger in most RMS wells, increasing the likelihood of exceeding MTs, and may affect future implementation. May prompt exceedances and resulting action before impacts are confirmed as significant and unreasonable.

Attachment B. Tables, Maps and Hydrographs for Alternative 1 and 2

Table 1. Proposed 2027 RMS wells in Vina Subbasin (explore the network on the [Dashboard](#))

Index	RMS Well	RMS Well: State Well Number	Site Code	MA	Latitude	Longitude	Well Depth (ft)	Top Perforation (ft amsl)	Bottom Perforation (ft amsl)
1	25C001M	23N02W25C001M	398222N1220401W001	North	39.8222	-122.04	243		
2	09E001M	23N01W09E001M	398651N1219930W001	North	39.8651	-121.993	110		
3	20K001M	22N01E20K001M	397445N1218905W001	North1	39.7445	-121.891	110		
4	05M001M	22N01W05M001M	397871N1220100W001	North	39.78711	-122.01	200		
5	28M004M	23N01W28M004M	398188N1219912W003	North	39.81877	-121.991	207	120	165
6	10M001M	23N01W10M001M	398619N1219746W001	North	39.86194	-121.975	220	90	200
7	27L001M	23N01W27L001M	398180N1219669W001	North	39.818	-121.967	102	65	102
8	07H001M	23N01E07H001M	398648N1219049W002	North	39.86482	-121.905	195	115	195
9	14R002M	23N01W14R002M	398411N1219399W001	North	39.84105	-121.94	183		
10	36P001M	23N01W36P001M	397972N1219297W001	North	39.7972	-121.93	165		
11	29P002M	23N01E29P002M	398133N1218913W001	North	39.81332	-121.891	265		
12	33A001M	23N01E33A001M	398097N1218630W001	North1	39.8097	-121.863	506	53	506
13	09B001M	22N01E09B001M	397818N1218718W001	North1	39.7818	-121.872	156	84	156
14	CWSCH01b		397284N1218374W001	Chico	39.72849	-121.838	>600		
15	CWSCH02		397284N1218374W002	Chico	39.72849	-121.838	>600		
16	CWSCH03		397284N1218374W003	Chico	39.72849	-121.838	>600		
17	CWSCH07		397284N1218374W004	Chico	39.72849	-121.838	<600		
18	10B003M	21N01E10B003M	396963N1218486W001	South	39.6963	-121.849	525	320	503
19	27D001M	21N01E27D001M	396511N1218607W001	South	39.6511	-121.861	112		
20	13L004M	21N01E13L004M	396735N1218144W003	South	39.67348	-121.814	353	240	340
21	25K001M	21N01E25K001M	396420N1218128W001	South	39.642	-121.813	93		
22	02H003M	20N01E02H003M	396158N1218221W001	South	39.61576	-121.822	201	70	180
23	24C001M	20N02E24C001M	395812N1217026W001	South	39.5812	-121.703	155	124	134
24	18C003M	21N02E18C003M	396820N1217970W003	South	39.682	-121.797	240	130	200
25	32E001M	21N02E32E001M	396339N1217845W001	South	39.63383	-121.785	184	62	92
26	26E006M	21N02E26E006M	396468N1217263W004	South	39.6468	-121.726	179	105	150
27	09G001M	20N02E09G001M	396154N1217391W001	South	39.61546	-121.739	202	130	180
28	32B001M	21N03E32B001M	396396N1216634W001	South	39.63958	-121.663	57	13	57
29	33L001M	20N03E33L001M	395435N1216466W001	South	39.54357	-121.647	101	13	101

1. RMS well is physically located in Chico MA but is representative of a portion of North MA.

Table 2. 2027 Representative Monitoring Site (RMS) Wells and Sustainable Management Criteria (SMC) including Measurable Objectives (MO) and 2027 Interim Milestones (IM)

Index	RMS Well	MA	MO	2027 IM	SMC Source ²	Average GWL (ft amsl)
1	23N02W25C001M	North	130	130	2022 GSP	141
2	23N01W09E001M	North	135	136	Comparable	159
3	22N01E20K001M	North ¹	115	117	Comparable	139
4	22N01W05M001M	North	115	116	2022 GSP	138
5	23N01W28M004M	North	118	120	Comparable	142
6	23N01W10M001M	North	138	140	Comparable	162
7	23N01W27L001M	North	121	123	Comparable	145
8	23N01E07H001M	North	136	140	2022 GSP	165
9	23N01W14R002M	North	132	134	Comparable	156
10	23N01W36P001M	North	108	110	2022 GSP	143
11	23N01E29P002M	North	127	129	Comparable	152
12	23N01E33A001M	North ¹	125	128	2022 GSP	147
13	22N01E09B001M	North ¹	113	115	Comparable	138
14	CWSCH01b	Chico	106	107	2022 GSP	131
15	CWSCH02	Chico	105	108	2022 GSP	132
16	CWSCH03	Chico	108	109	2022 GSP	129
17	CWSCH07	Chico	95	97	2022 GSP	115
18	21N01E10B003M	South	92	94	Comparable	123
19	21N01E27D001M	South	84	87	Comparable	114
20	21N01E13L004M	South	82	85	Comparable	110
21	21N01E25K001M	South	83	85	Comparable	113
22	20N01E02H003M	South	73	75	Comparable	103
23	20N02E24C001M	South	77	81	2022 GSP	112
24	21N02E18C003M	South	130	132	2022 GSP	157
25	21N02E32E001M	South	87	89	Comparable	119
26	21N02E26E006M	South	95	97	2022 GSP ³	110
27	20N02E09G001M	South	87	89	Comparable	117
28	21N03E32B001M	South	195	197	Comparable	225
29	20N03E33L001M	South	87	90	Comparable	118

1. RMS well is located within Chico Management Area (MA) but is representative of a portion of North MA.
2. Wells with source 'Comparable' are calculated by (1) calculating average spring groundwater level, (2) calculating average difference between 2022 RMS wells' average spring groundwater levels and SMCs, and (3) taking the difference between calculations (1) and (2).
3. 2022 GSP included 26E005. 26E006 has been selected to be more representative, but the same 2022 GSP SMC are assigned.

Table 3. Minimum Thresholds (MT) and domestic well counts per RMS zone with well depths above the MT for Alternative 1 – 2022 GSP MTs + Local Management Levels (LMLs) and Alternative 2- Revised MTs

Index	RMS Well	MA	Alternative 1: 2022 MTs + LMLs		Alternative 2: Revised MTs	Difference in MT Elevation (ft): Alt 1 minus Alt 2	Total Domestic Wells	Count of Domestic Wells Above MT ²		Difference
			LML	MT (ft amsl)	MT (ft amsl) ³			Alternative 1	Alternative 2	
1	23N02W25C001M	North	115	50	83	-33	6	2	0	2
2	23N01W09E001M	North	120	68	86	-18	12	5	1	4
3	22N01E20K001M	North ¹	100	48	44	4	108	4	5	-1
4	22N01W05M001M	North	100	31	30	1	1	0	0	0
5	23N01W28M004M	North		51	53	-2	6	1	0	1
6	23N01W10M001M	North		71	53	18	7	0	0	0
7	23N01W27L001M	North	106	55	57	-2	15	1	1	0
8	23N01E07H001M	North		72	123	-51	32	12	2	10
9	23N01W14R002M	North		66	106	-40	30	9	2	7
10	23N01W36P001M	North	93	45	38	7	53	2	3	-1
11	23N01E29P002M	North	112	61	78	-17	239	59	12	47
12	23N01E33A001M	North ¹		72	93	-21	88	17	4	13
13	22N01E09B001M	North ¹		46	46	0	12	1	1	0
14	CWSCH01b	Chico		85 ⁴	85	0	387	35	35	0
15	CWSCH02	Chico								
16	CWSCH03	Chico								
17	CWSCH07	Chico								
18	21N01E10B003M	South	77	30	51	-21	105	33	5	28
19	21N01E27D001M	South	69	23	26	-3	61	4	3	1
20	21N01E13L004M	South		21	39*	-18	28	11	5	6
21	21N01E25K001M	South		21	57*	-36	27	6	3	3
22	20N01E02H003M	South	58	11	13	-2	15	3	1	2
23	20N02E24C001M	South	62	18	15	3	7	0	0	0
24	21N02E18C003M	South		65	87	-22	92	10	5	5
25	21N02E32E001M	South	72	25	58	-33	110	43	6	37
26	21N02E26E006M	South		36	73	-37	20	8	1	7
27	20N02E09G001M	South	72	25	18	7	2	0	0	0
28	21N03E32B001M	South		133	47	86	7	0	0	0
29	20N03E33L001M	South	72	26	12	14	2	0	0	0

Subbasin Total	1472	266	95	171
Vina North Total	609	113	31	82
Chico Total	387	35	35	0
Vina South Total	476	118	29	89

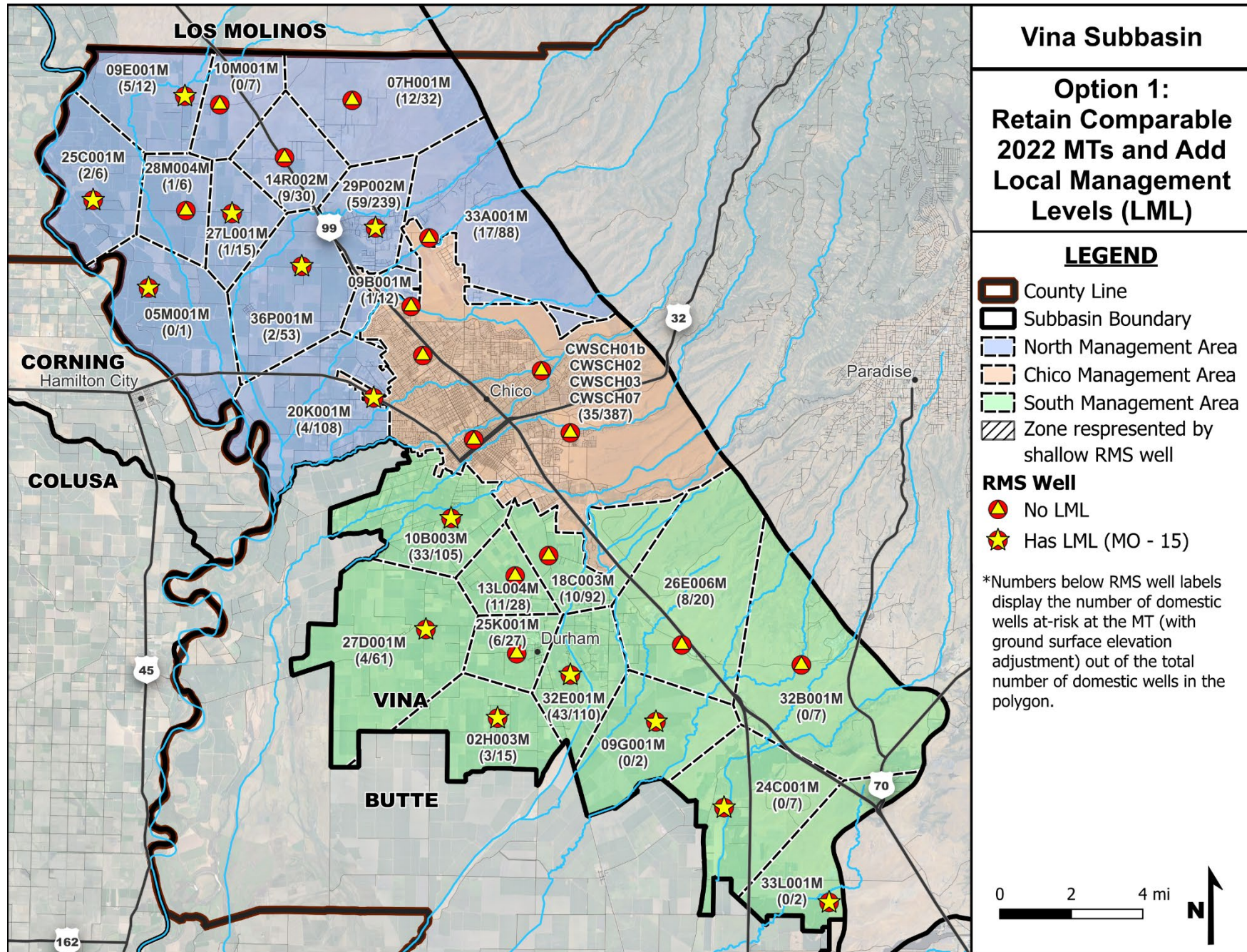
1. RMS well is located within Chico Management Area (MA) but is representative of a portion of North MA.
2. Using post-1980 dataset, well counts show estimates of how many domestic wells would have well-bottom elevations above the applicable ground surface elevation adjusted MT under the hypothetical at-MT condition if groundwater levels were at the MT level in each polygon.
3. Alternative 2 MT criteria – all RMS wells use 5% domestic wells at-risk criteria with the exception of two wells noted with *
4. RMS wells in the Chico Management Area retain 2022 GSP MTs under both alternatives.

Table 4. Subbasin-wide well counts for Alternative 1 and 2 MT for differing well types including domestic, industrial, irrigation and public supply for both pre and post 1980.

Well Type	Total Number of WCRs ¹	Wells at-risk at MT Level		Wells installed since 1980 ²	Wells at-risk at MT Level (Post-1980)	
		Alternative 1	Alternative 2		Alternative 1	Alternative 2
Domestic	4341	1397	996	1472	266	95
Industrial	64	13	13	25	2	2
Irrigation	1651	108	90	527	14	8
Public Supply	114	4	4	45	0	0
TOTAL³	6170	1522	1103	2069	282	105

1. Represents all Well Completion Reports (WCRs) in the Vina Subbasin as of 7/14/2026
2. Domestic well dataset was refined using the domestic well inventory and was further narrowed down by:
 - A. Removing old wells installed on the same parcel as a newer well
 - B. Removing wells that are shallower than the historical minimum of the nearest RMS well
3. Totals do not include wells identified with well type 'Monitoring' or 'Unknown/Other'

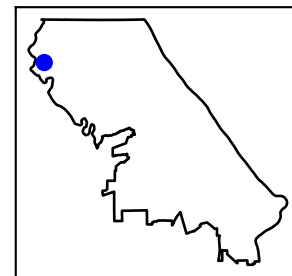
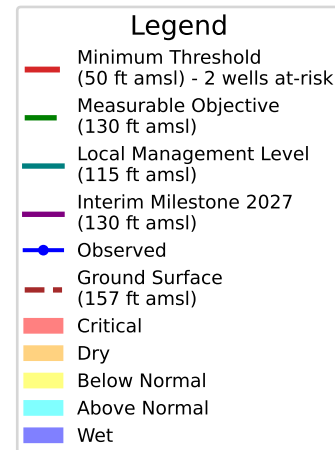
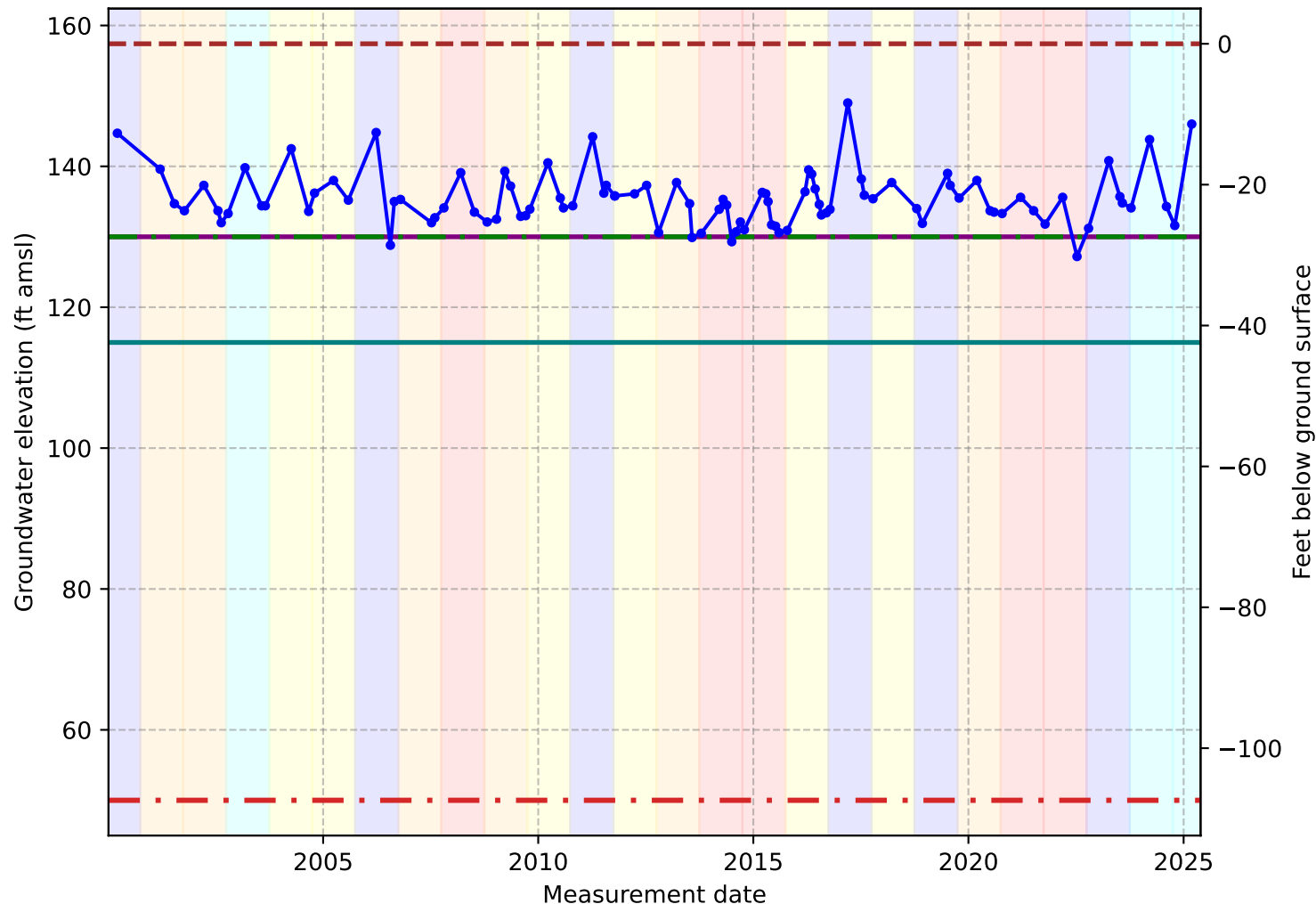
Alternative 1: 2022 GSP SMC and Local Management Levels



Vina Subbasin - State Well Number (SWN): 23N02W25C001M

Total Number of Domestic Wells = 6

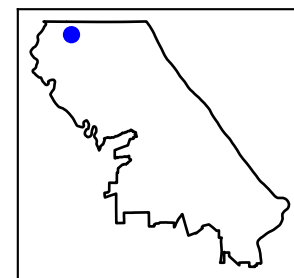
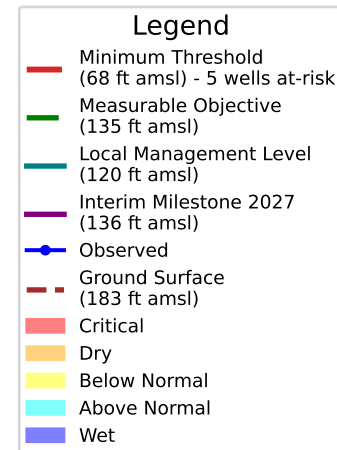
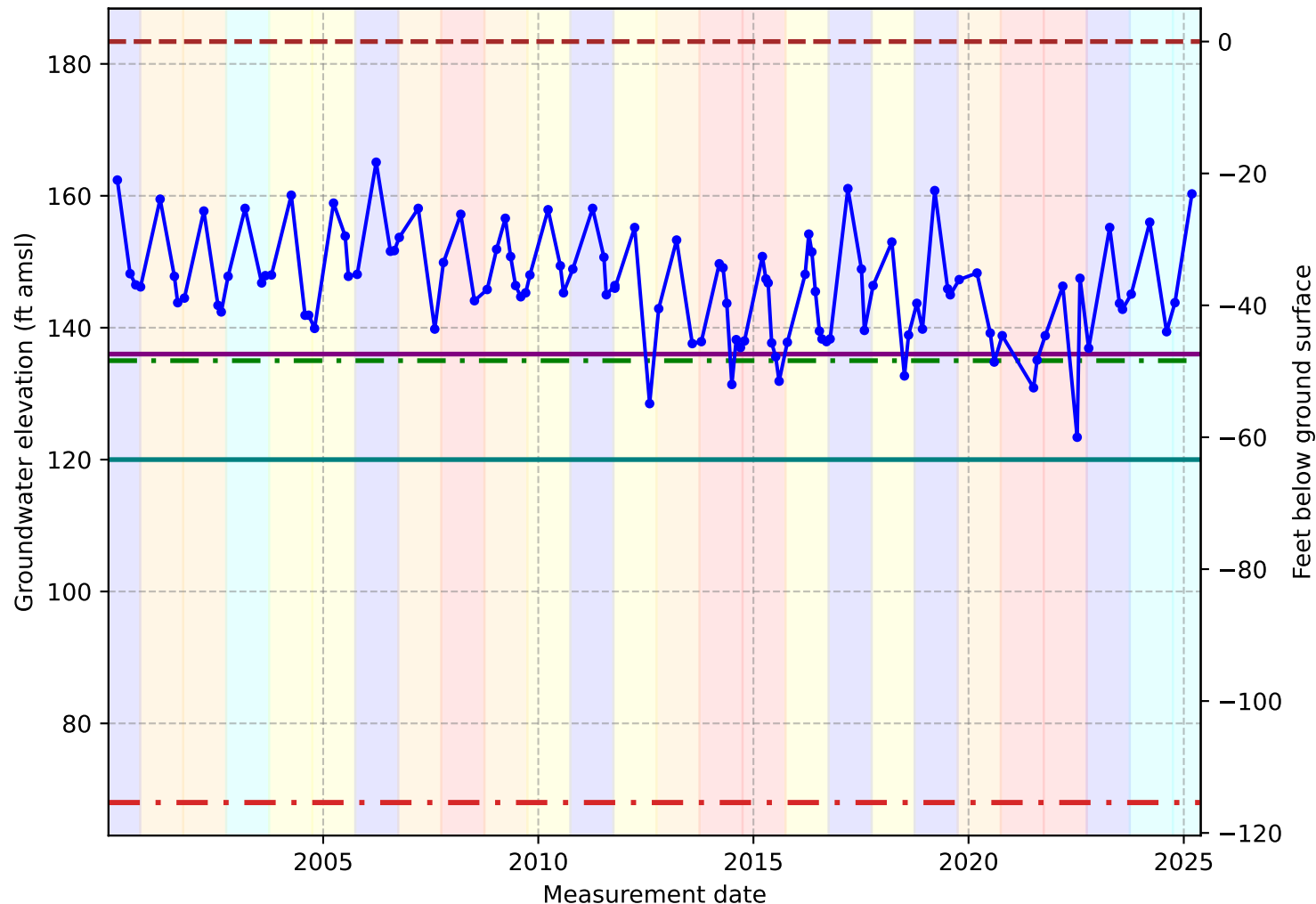
Alternative 1
2022 MT + LML



Vina Subbasin - State Well Number (SWN): 23N01W09E001M

Total Number of Domestic Wells = 12

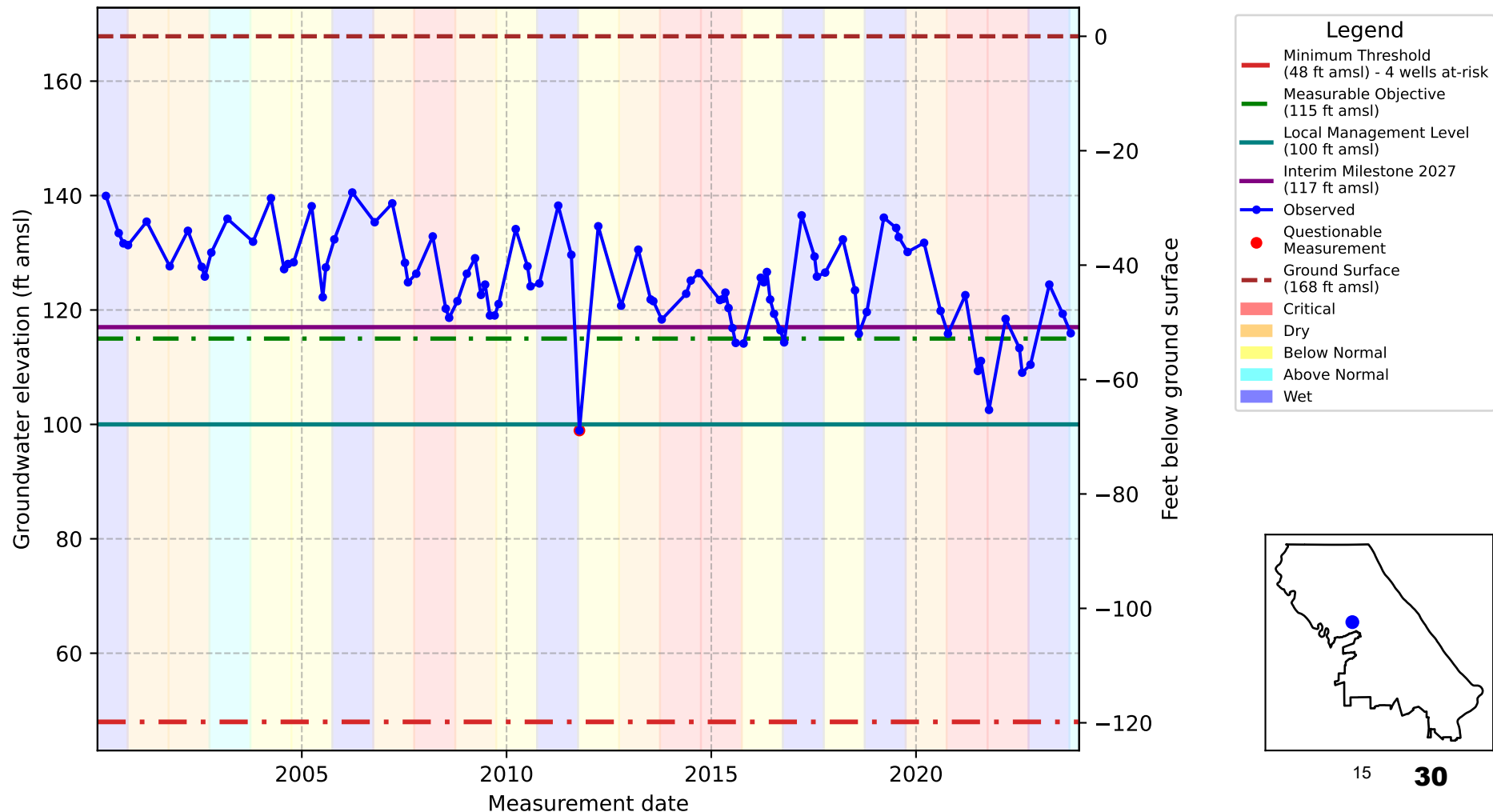
Alternative 1
2022 MT + LML



Vina Subbasin - State Well Number (SWN): 22N01E20K001M

Total Number of Domestic Wells = 108

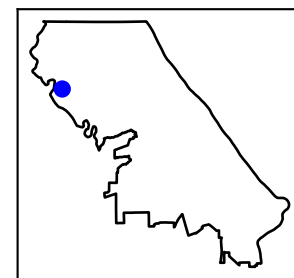
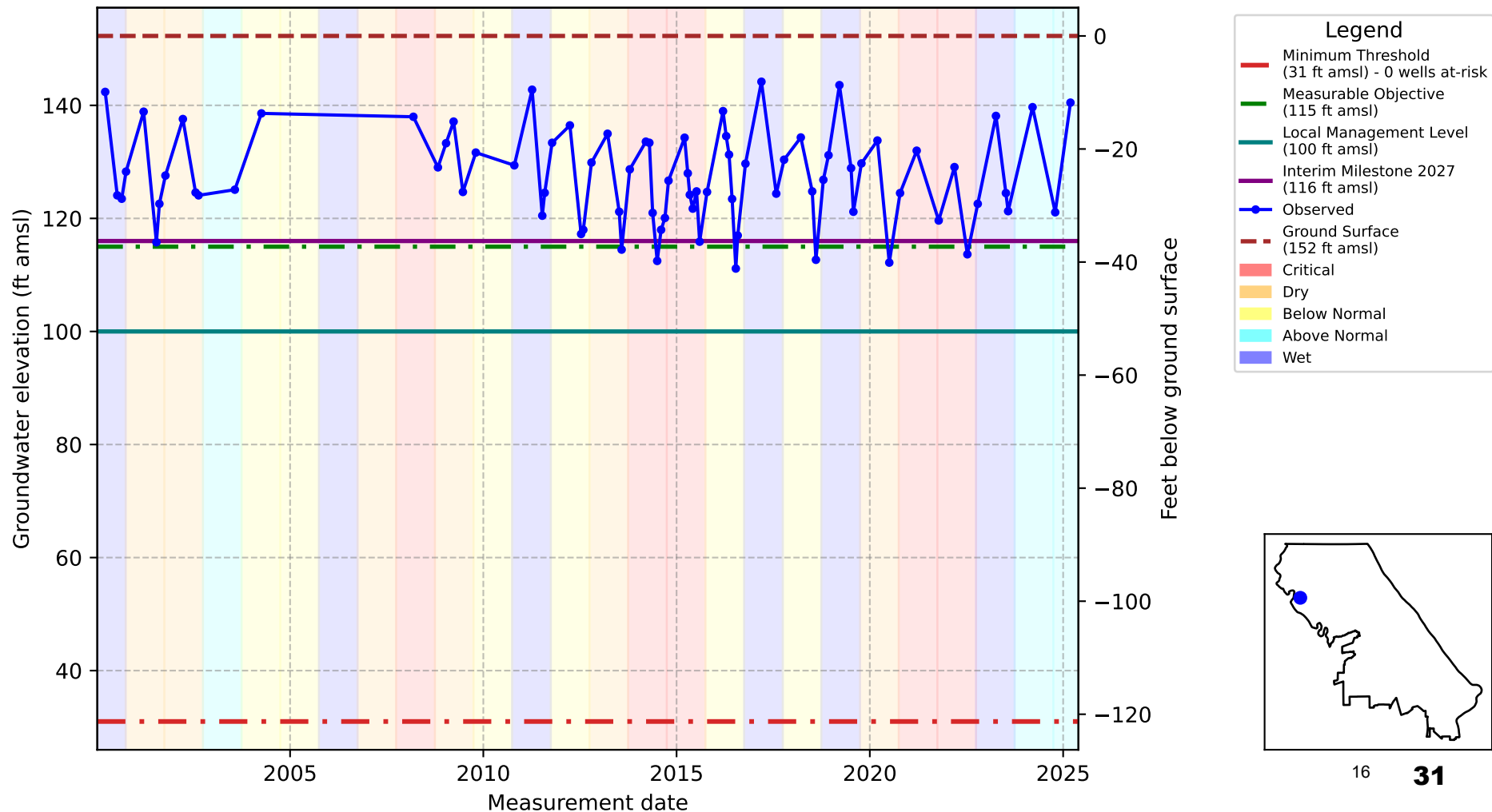
Alternative 1
2022 MT + LML



Vina Subbasin - State Well Number (SWN): 22N01W05M001M

Total Number of Domestic Wells = 1

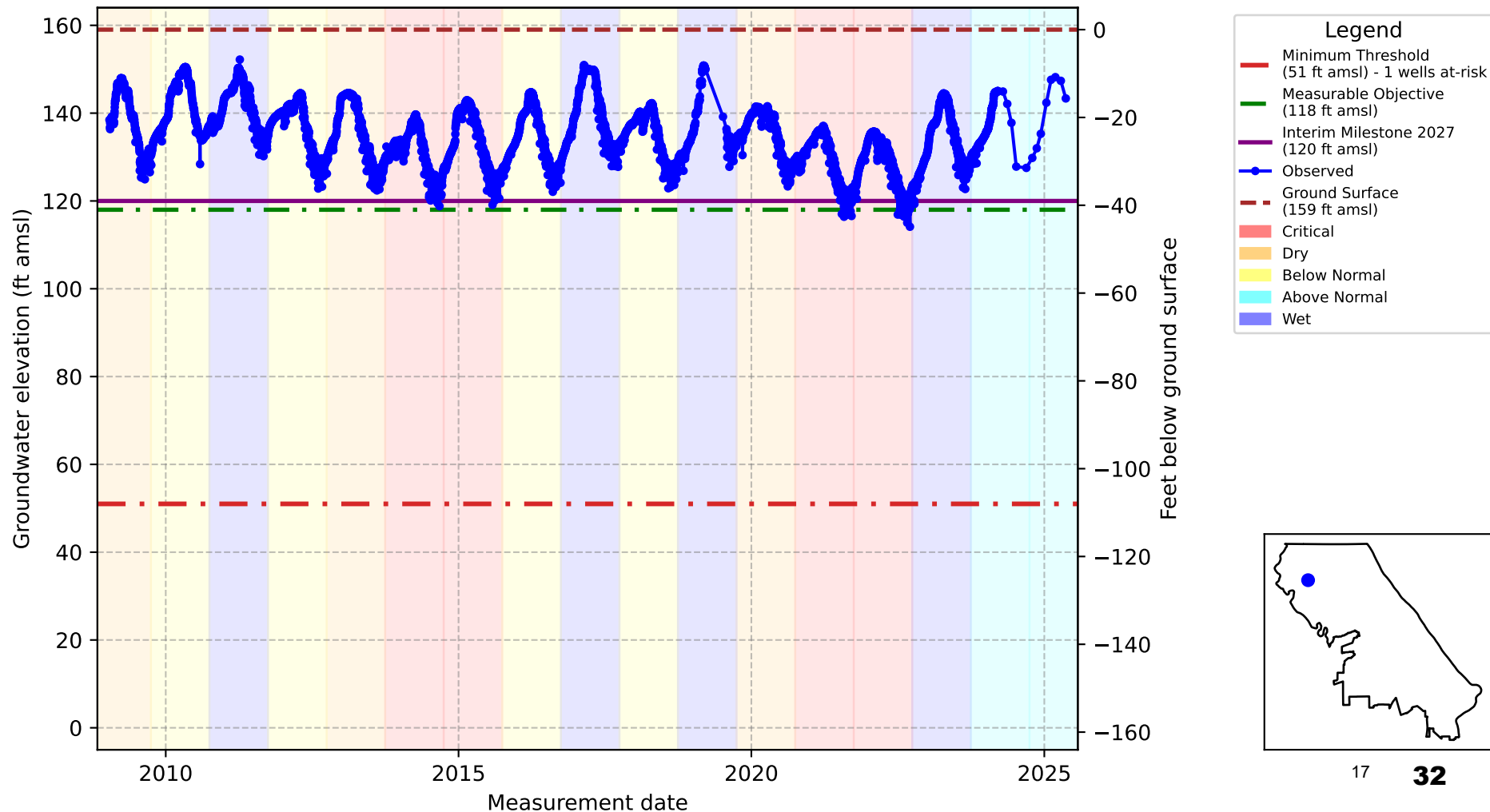
Alternative 1
2022 MT + LML



Vina Subbasin - State Well Number (SWN): 23N01W28M004M

Total Number of Domestic Wells = 6

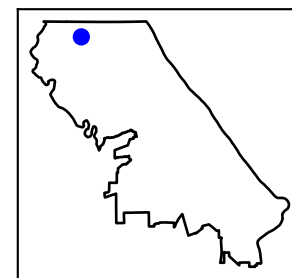
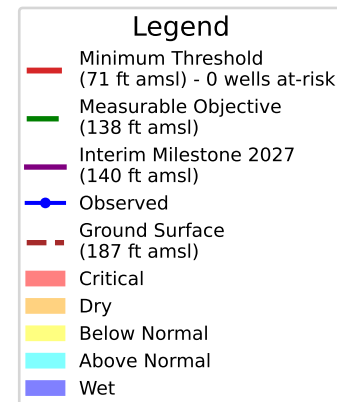
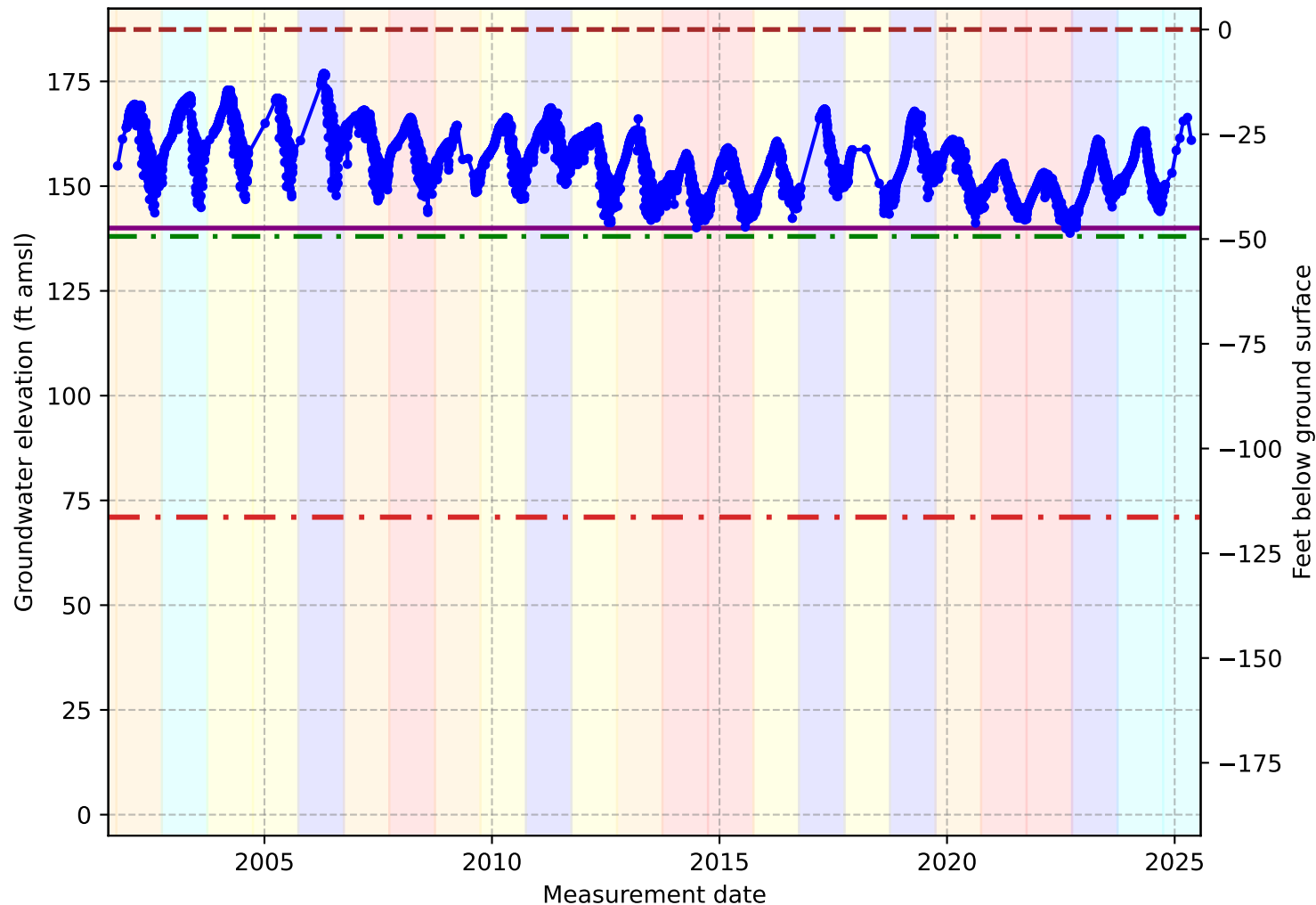
Alternative 1
2022 MT + LML



Vina Subbasin - State Well Number (SWN): 23N01W10M001M

Total Number of Domestic Wells = 7

Alternative 1
2022 MT + LML



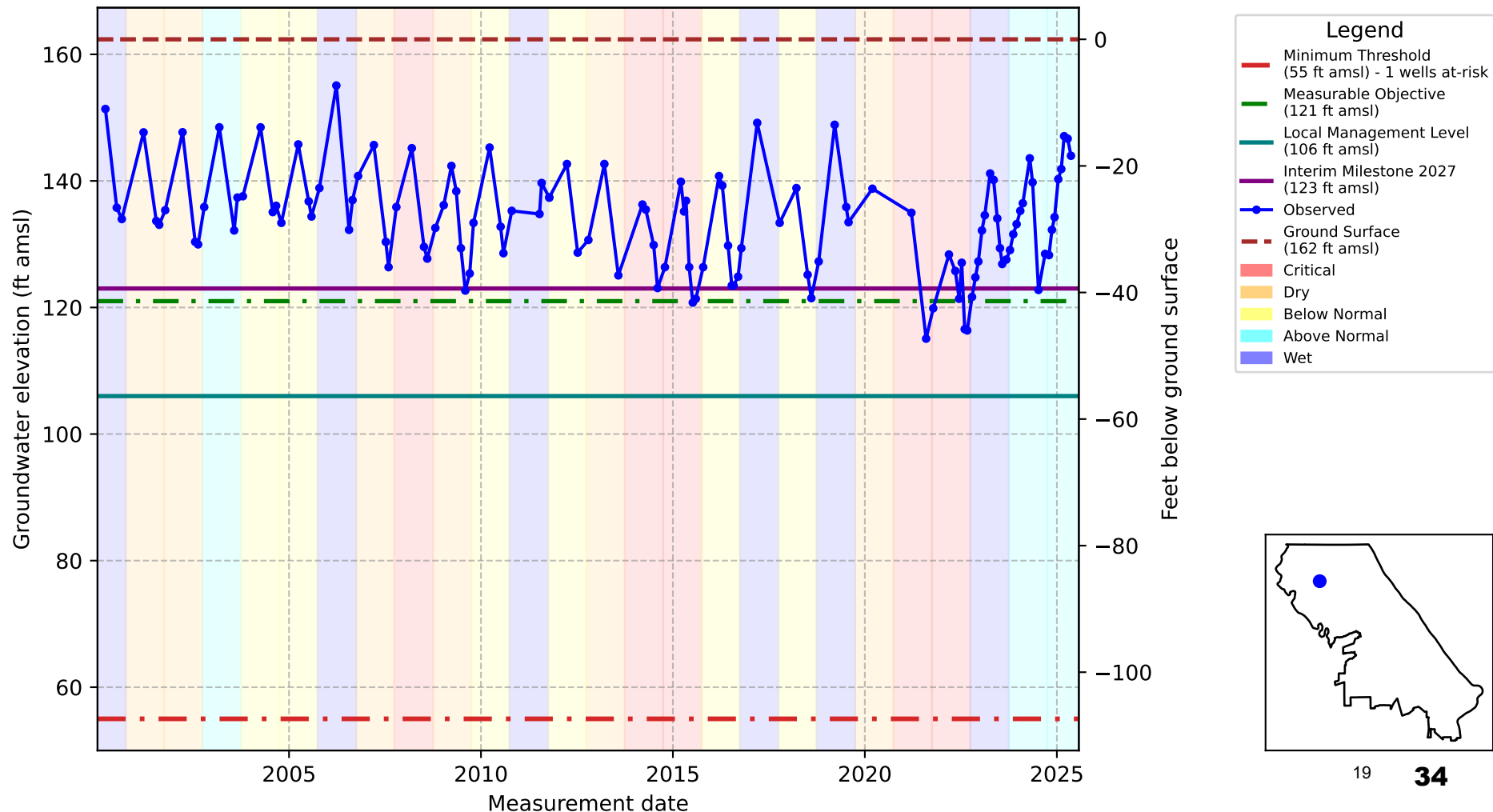
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33

Vina Subbasin - State Well Number (SWN): 23N01W27L001M

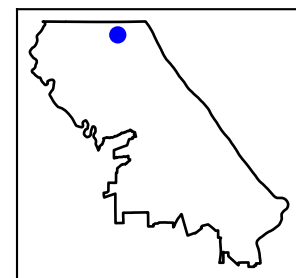
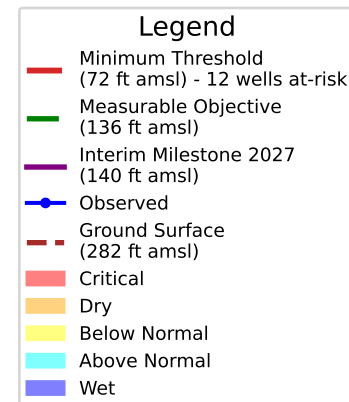
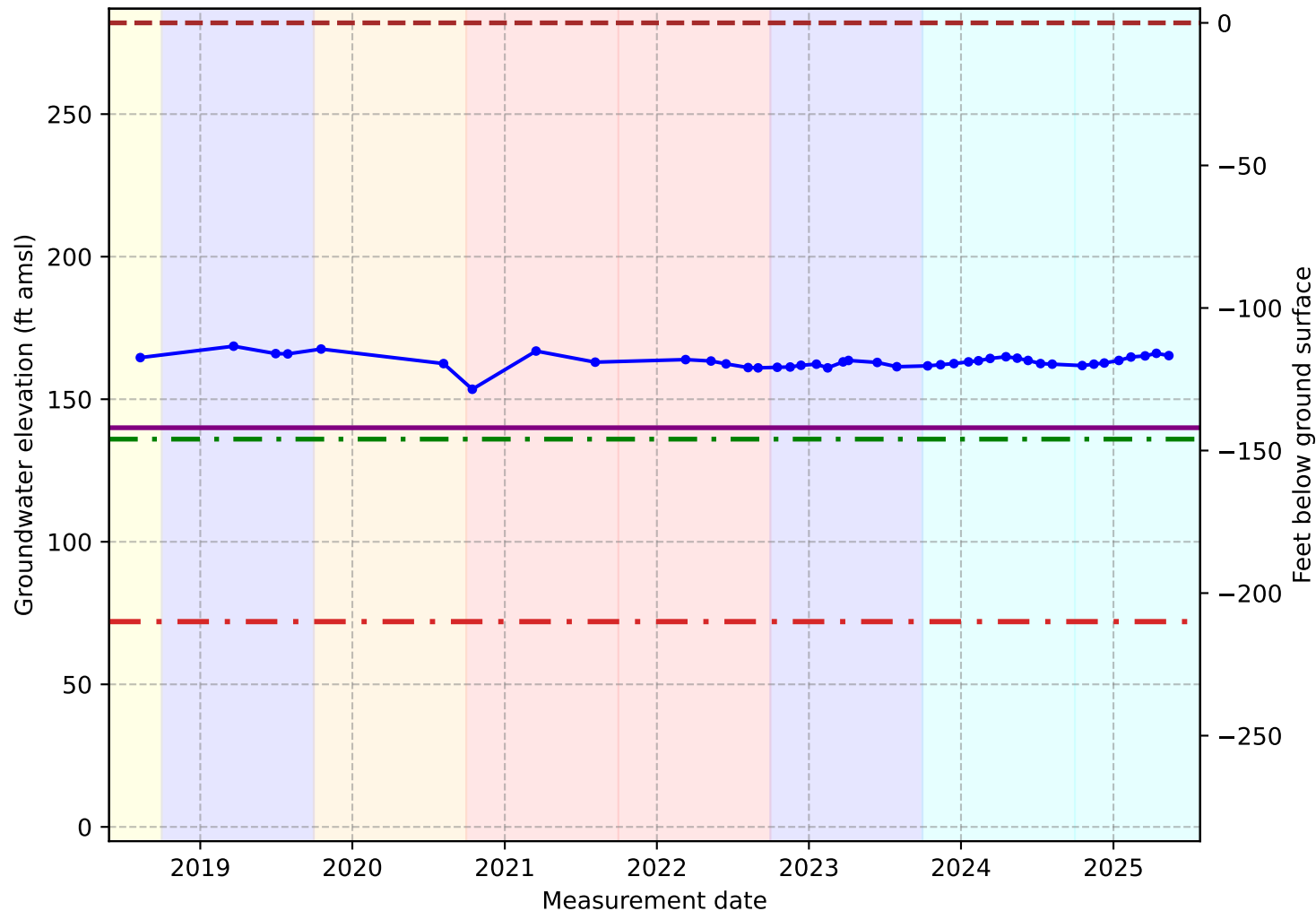
Total Number of Domestic Wells = 15

Alternative 1
2022 MT + LML



Vina Subbasin - State Well Number (SWN): 23N01E07H001M
Total Number of Domestic Wells = 32

Alternative 1
2022 MT + LML

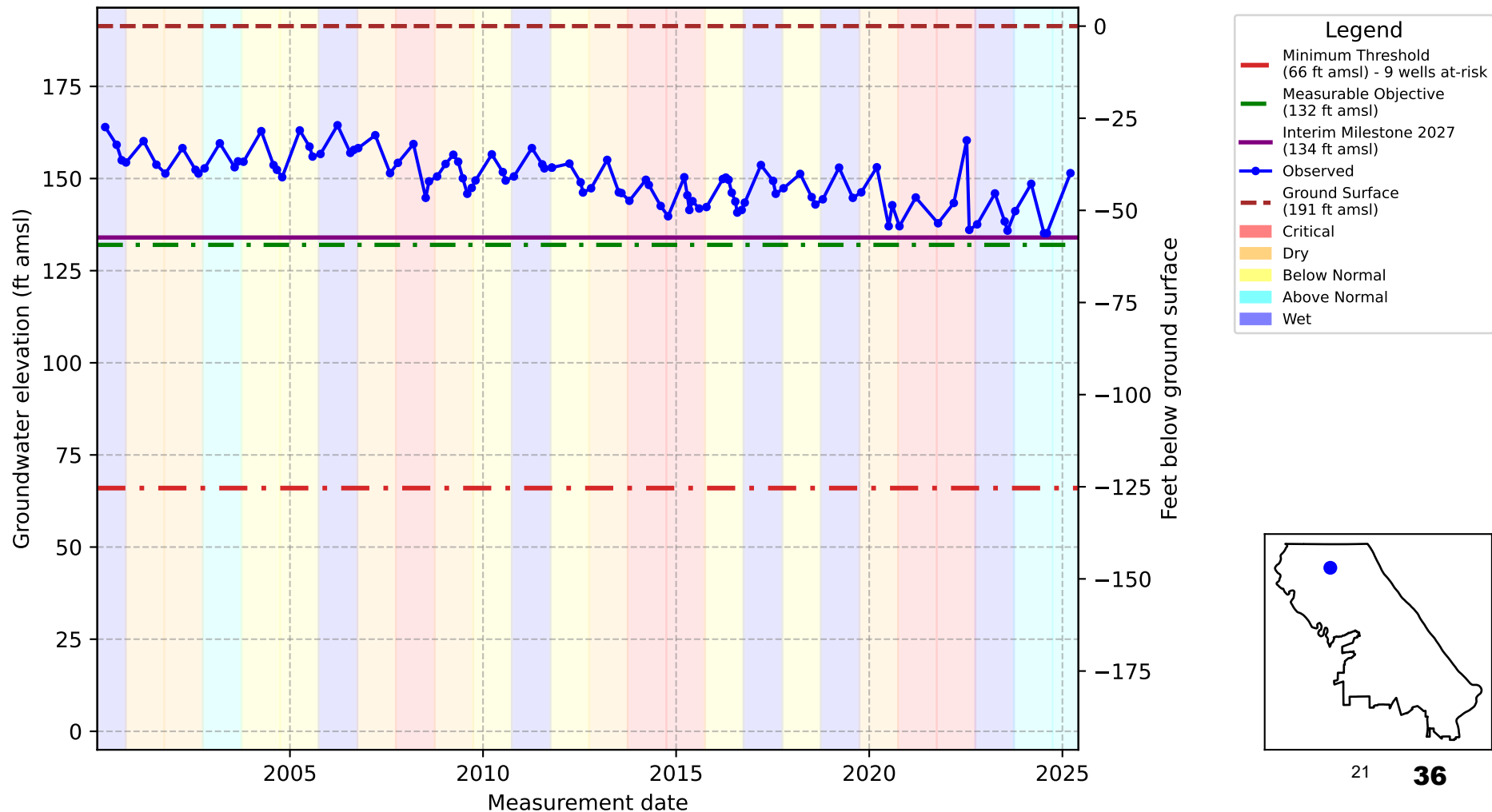


20

35

Vina Subbasin - State Well Number (SWN): 23N01W14R002M
Total Number of Domestic Wells = 30

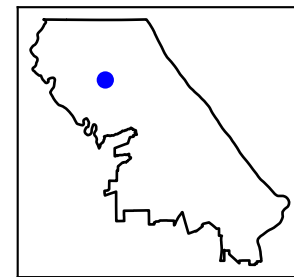
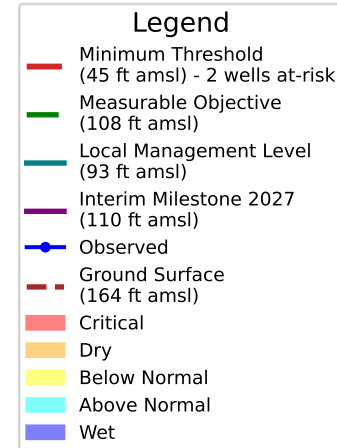
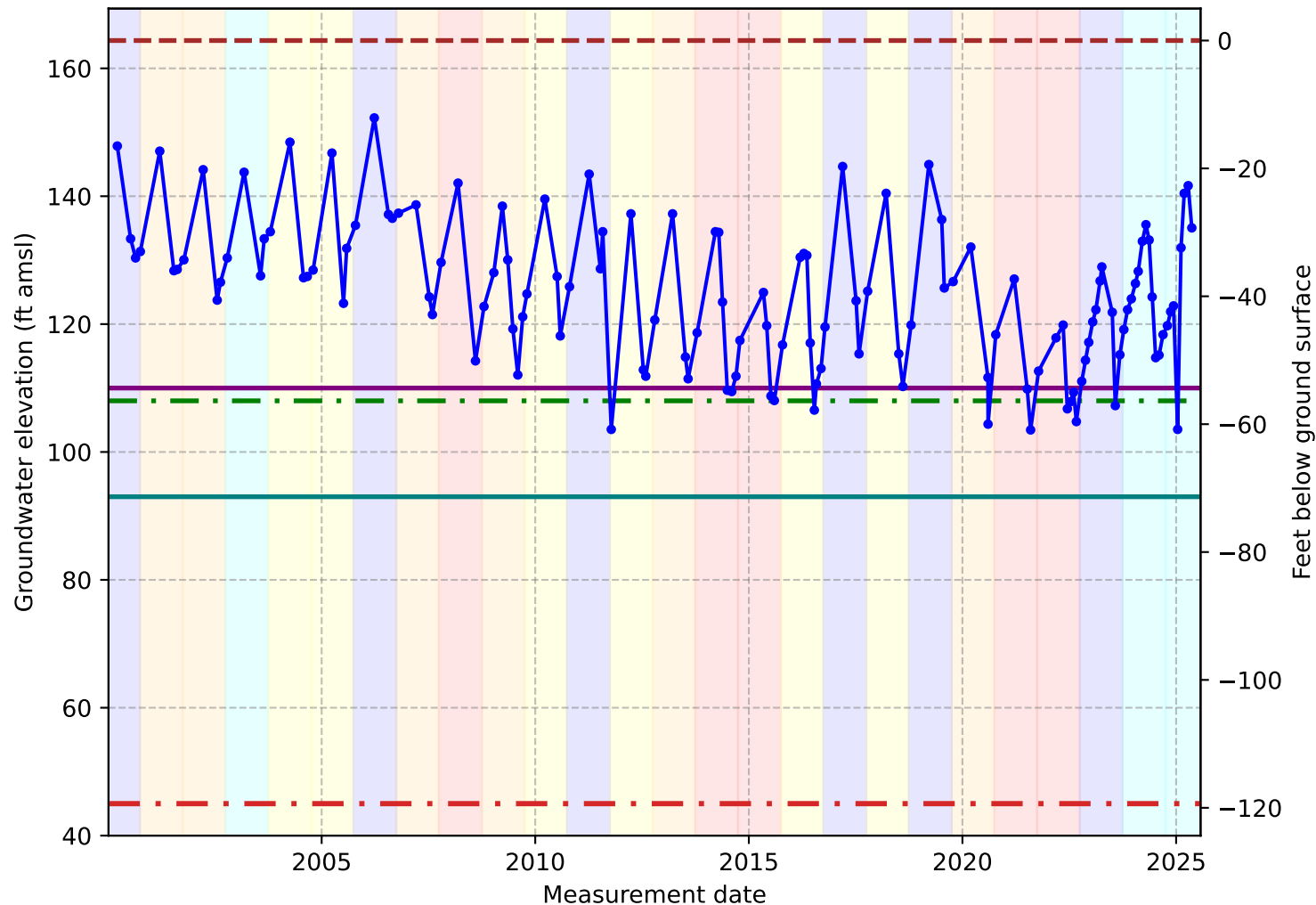
Alternative 1
2022 MT + LML



Vina Subbasin - State Well Number (SWN): 23N01W36P001M

Total Number of Domestic Wells = 53

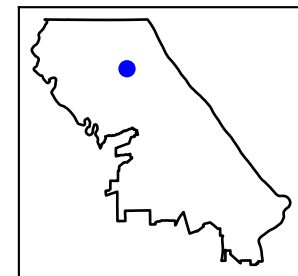
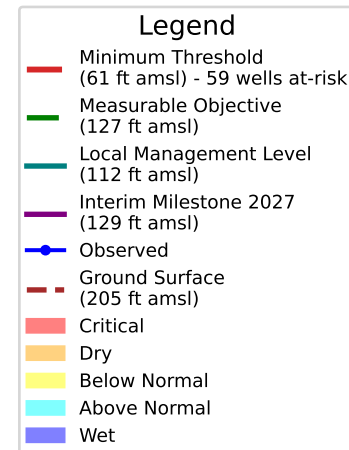
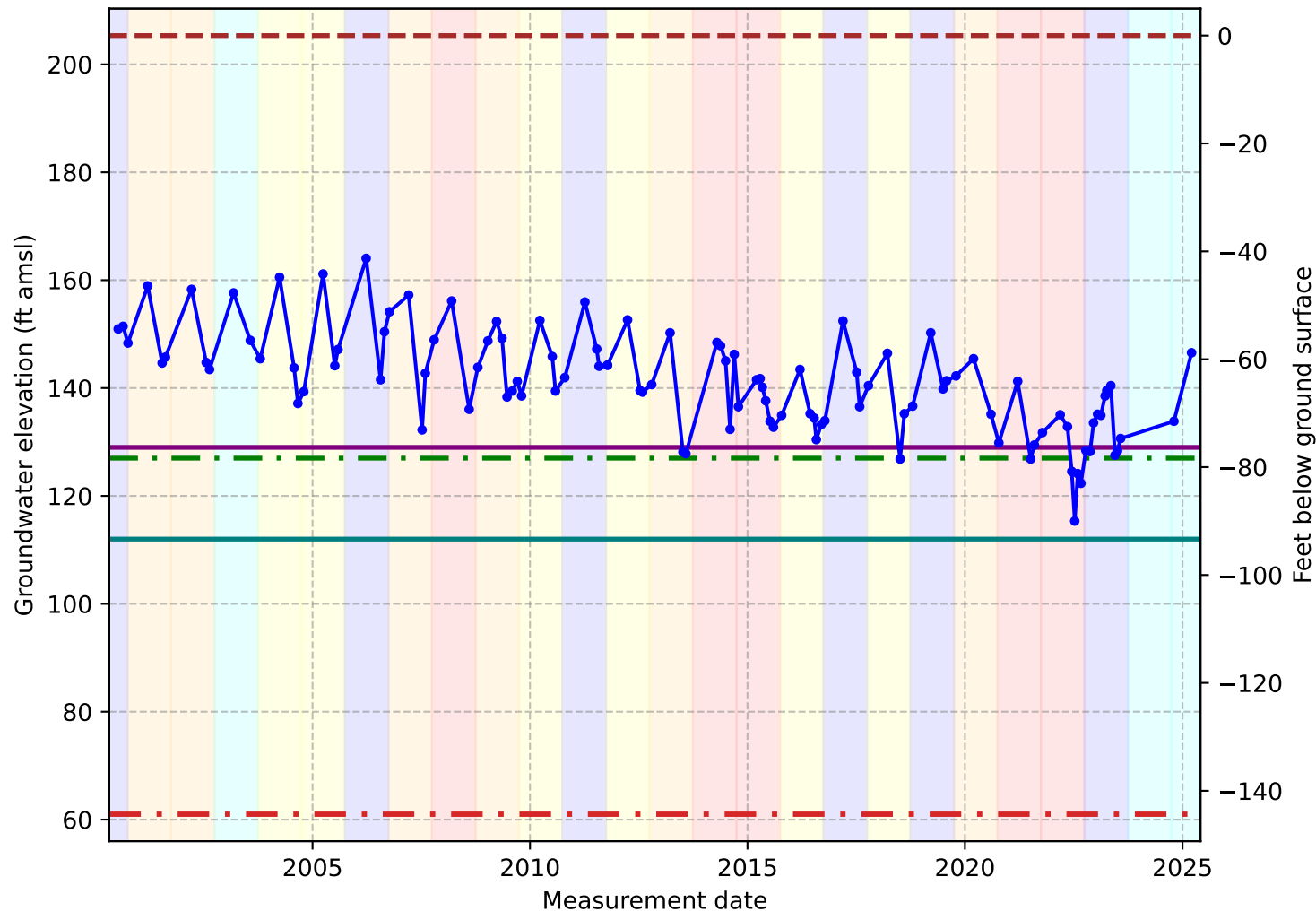
Alternative 1
2022 MT + LML



Vina Subbasin - State Well Number (SWN): 23N01E29P002M

Total Number of Domestic Wells = 239

Alternative 1
2022 MT + LML



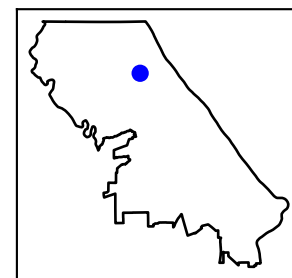
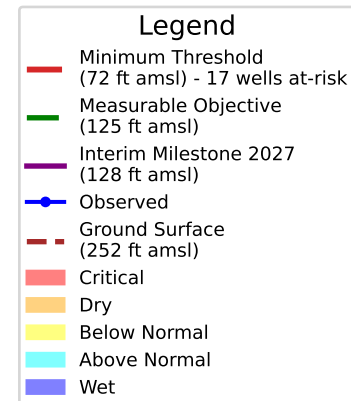
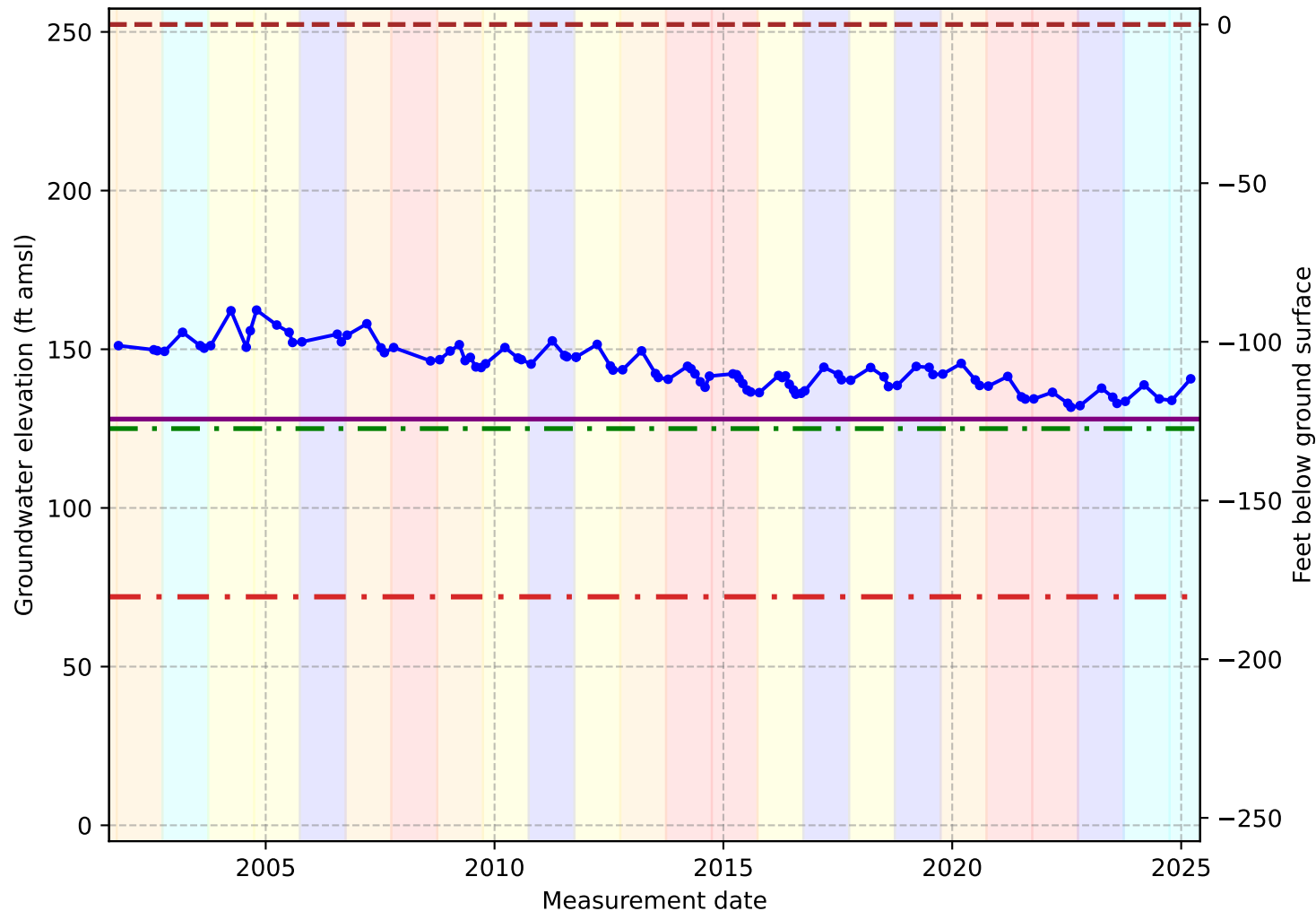
23

38

Vina Subbasin - State Well Number (SWN): 23N01E33A001M

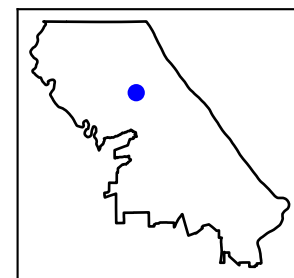
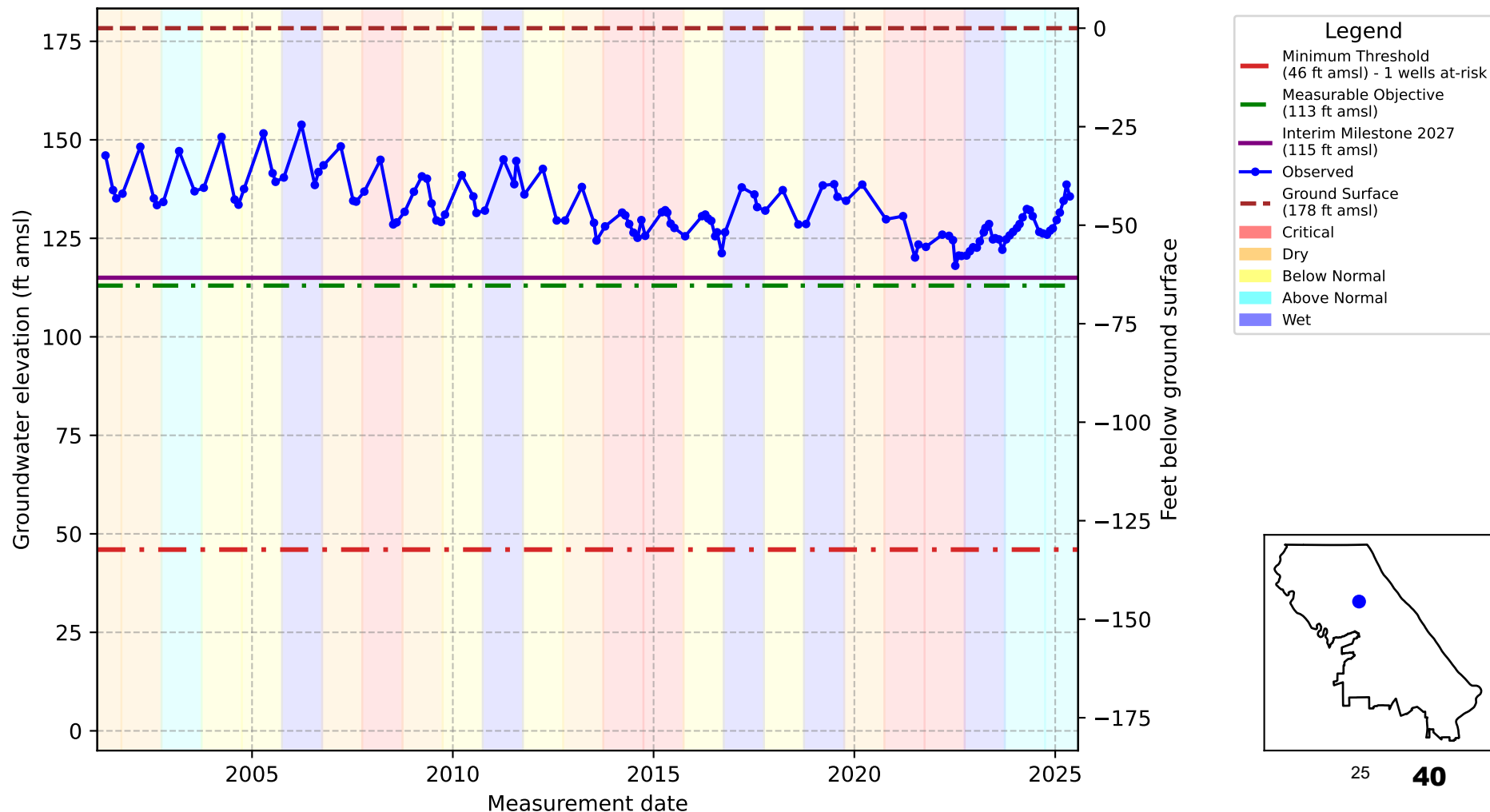
Total Number of Domestic Wells = 88

Alternative 1
2022 MT + LML



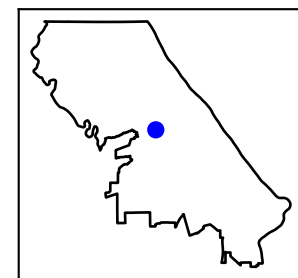
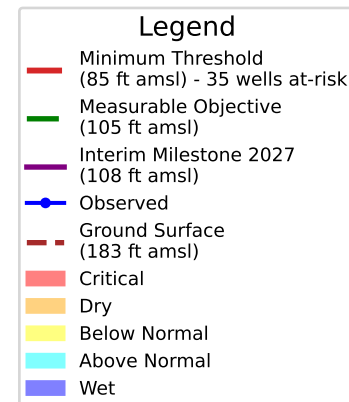
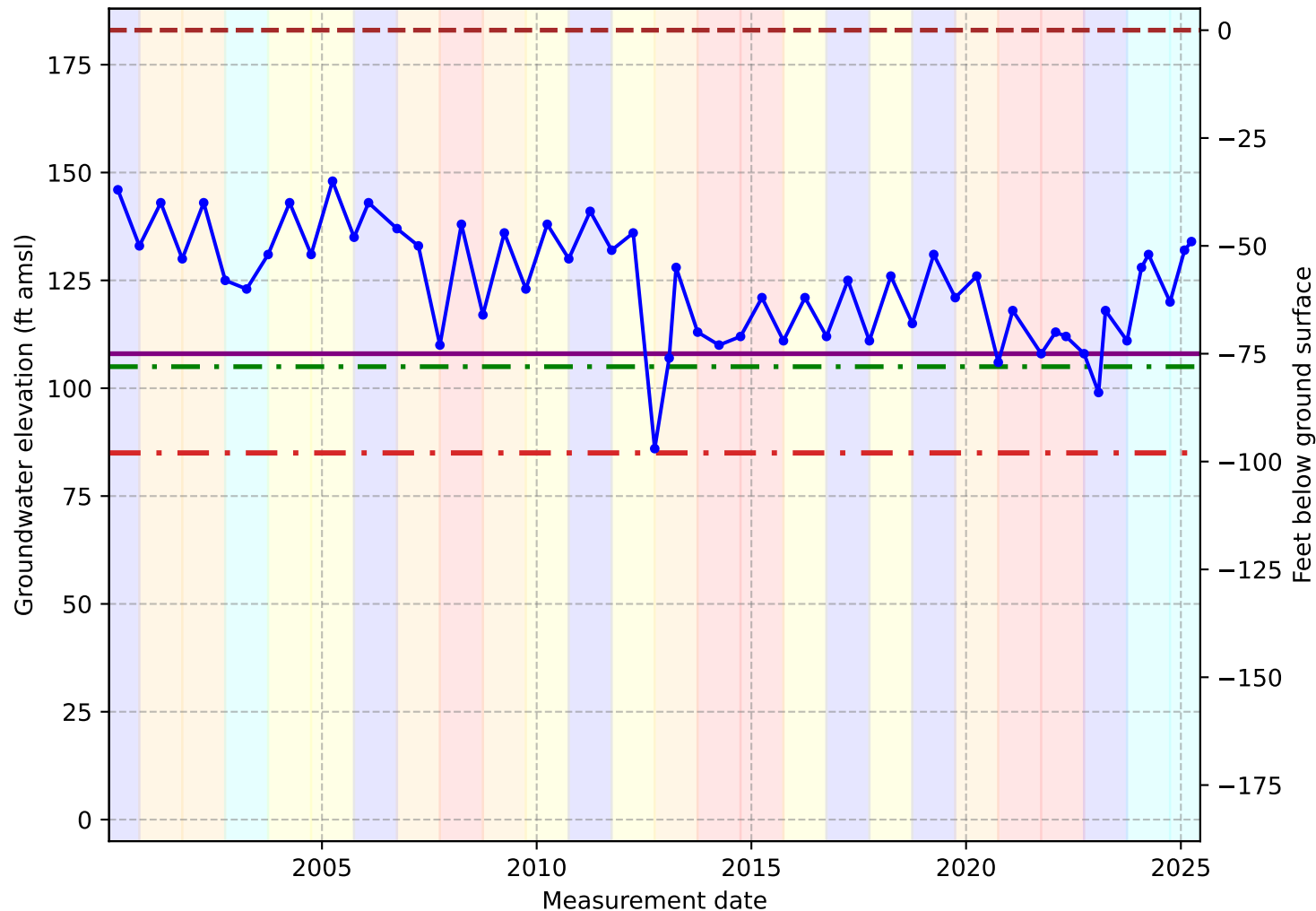
Vina Subbasin - State Well Number (SWN): 22N01E09B001M
Total Number of Domestic Wells = 12

Alternative 1
2022 MT + LML



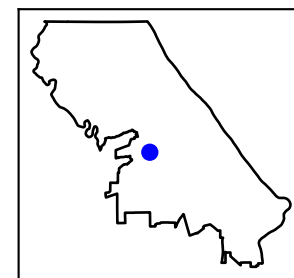
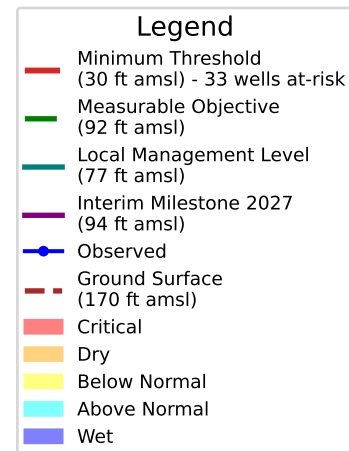
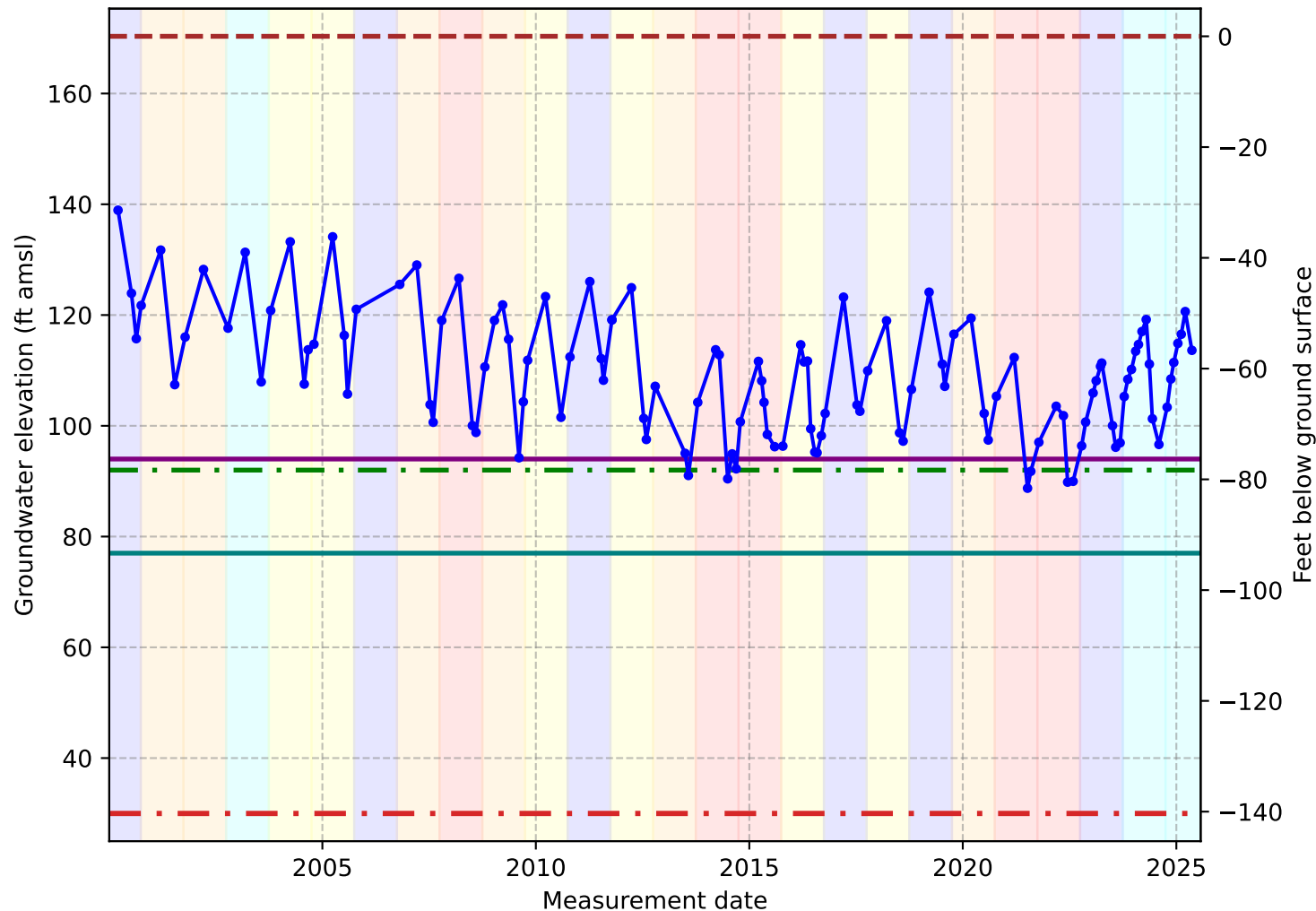
Vina Subbasin - State Well Number (SWN): CWSCH02
Total Number of Domestic Wells = 387

Alternative 1
2022 MT + LML



Vina Subbasin - State Well Number (SWN): 21N01E10B003M
Total Number of Domestic Wells = 105

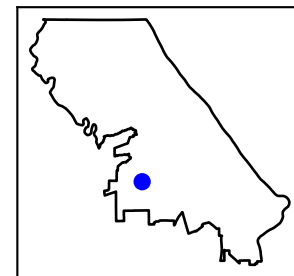
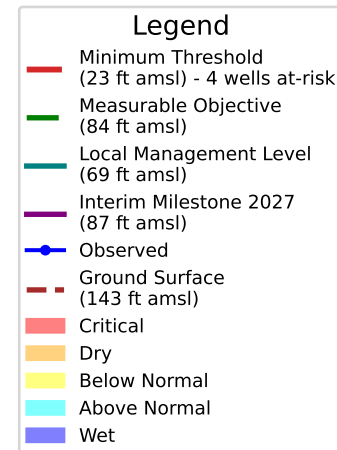
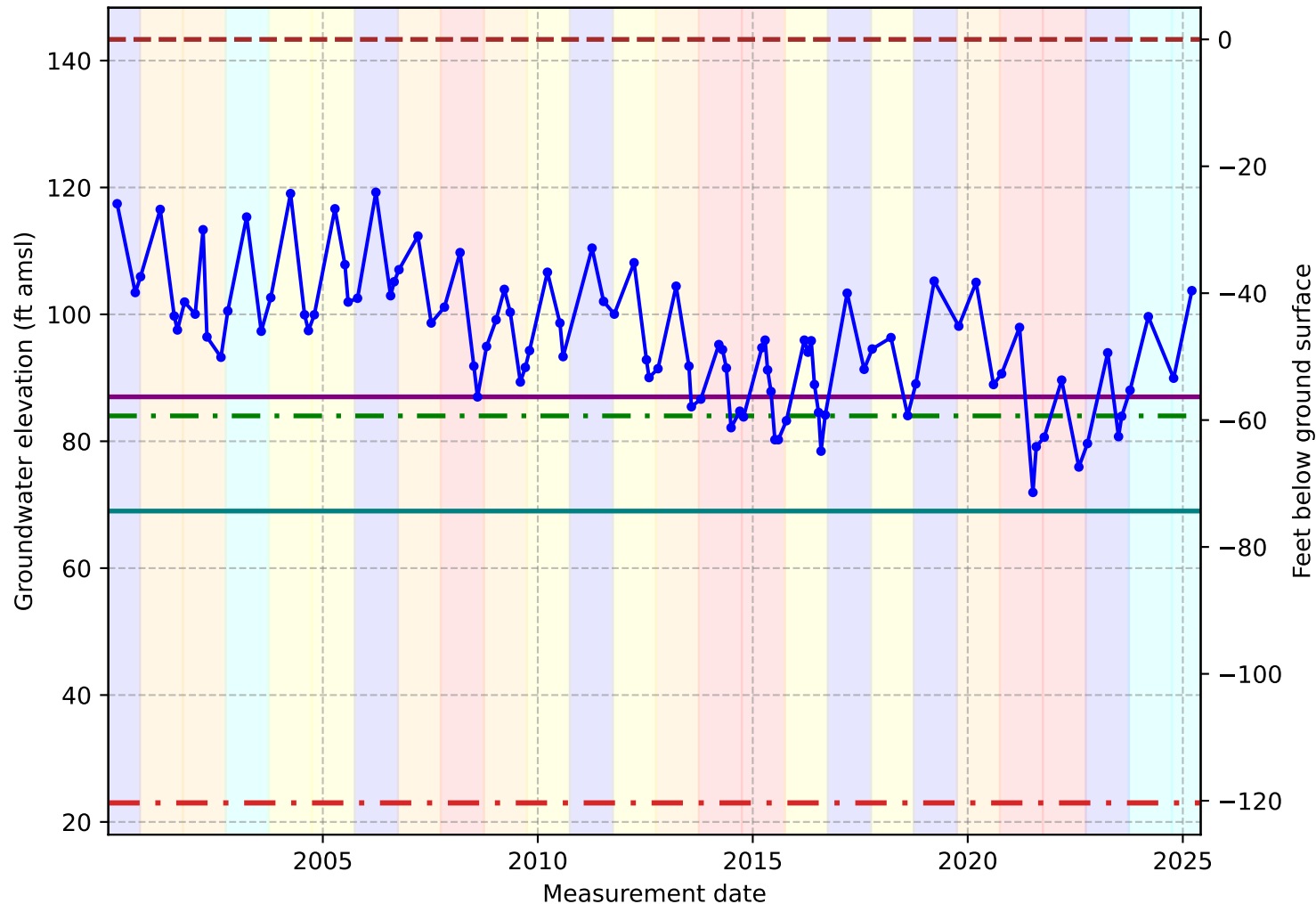
Alternative 1
2022 MT + LML



Vina Subbasin - State Well Number (SWN): 21N01E27D001M

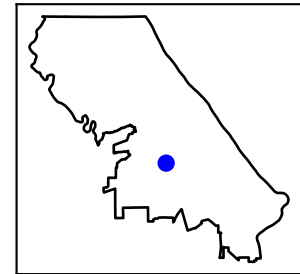
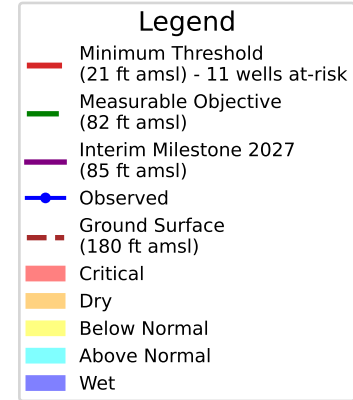
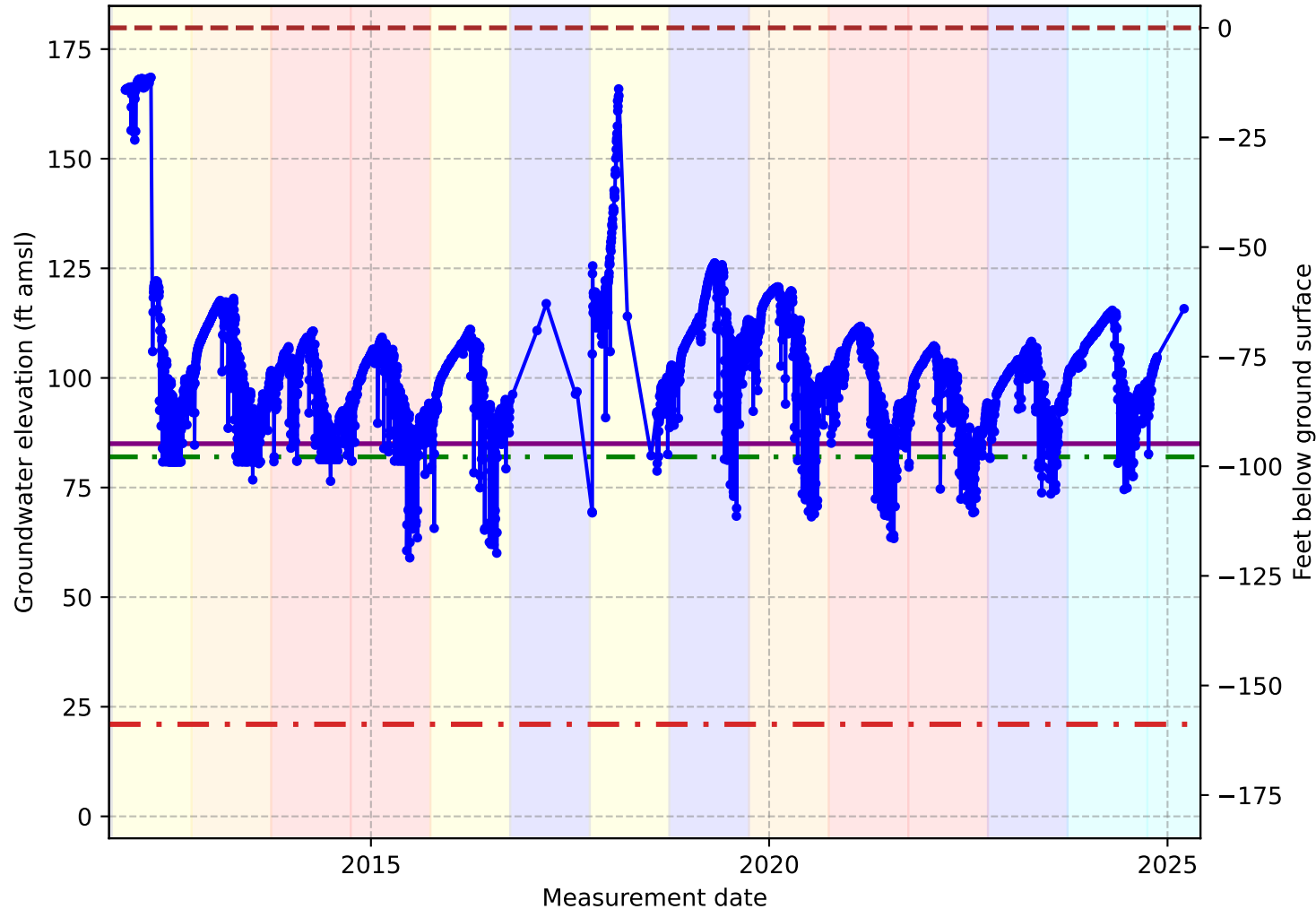
Total Number of Domestic Wells = 61

Alternative 1
2022 MT + LML



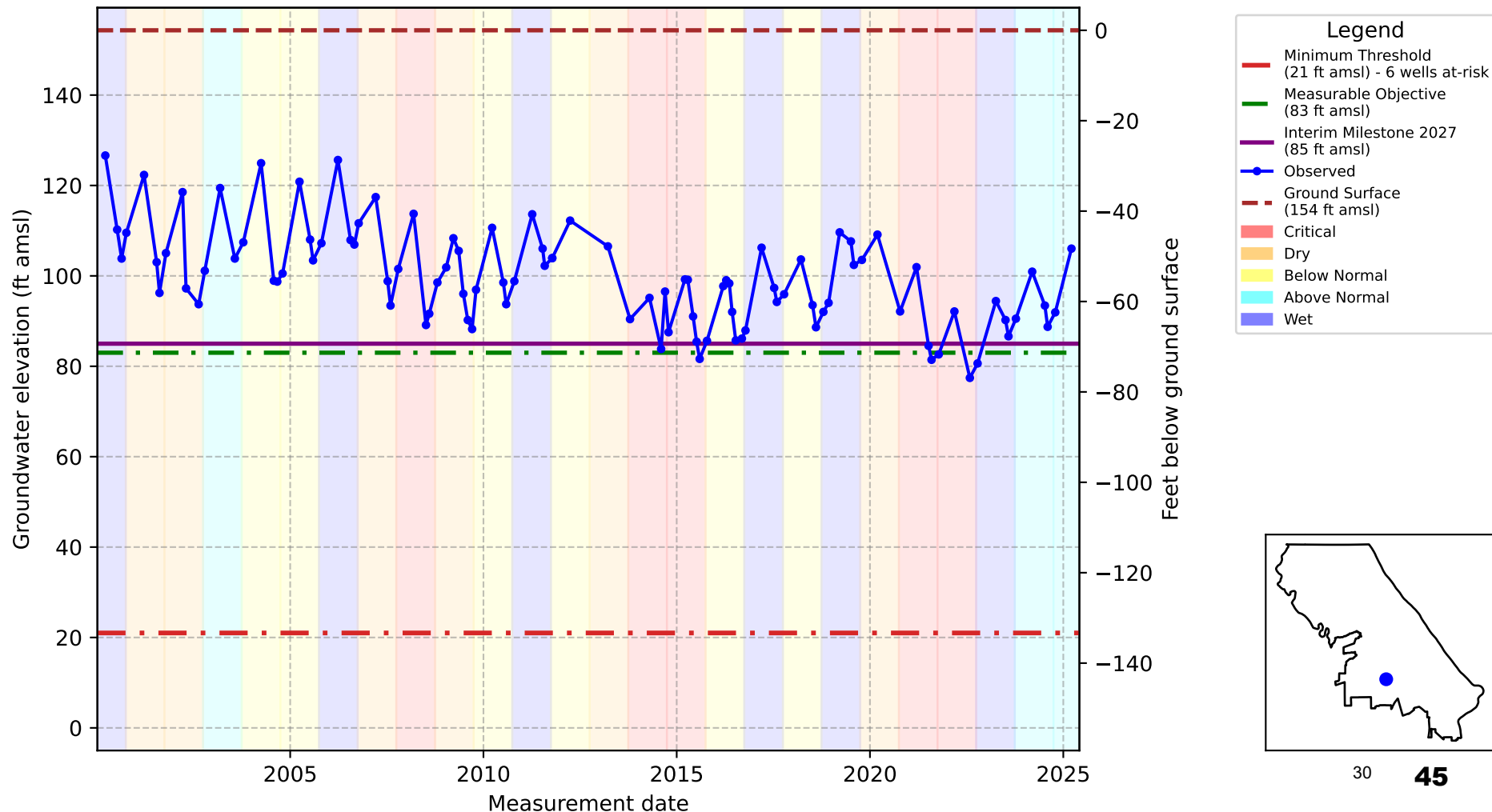
Vina Subbasin - State Well Number (SWN): 21N01E13L004M
Total Number of Domestic Wells = 28

Alternative 1
2022 MT + LML



Vina Subbasin - State Well Number (SWN): 21N01E25K001M
Total Number of Domestic Wells = 27

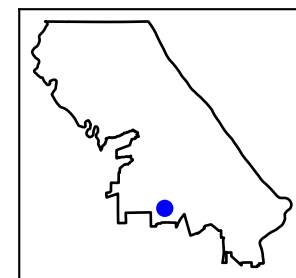
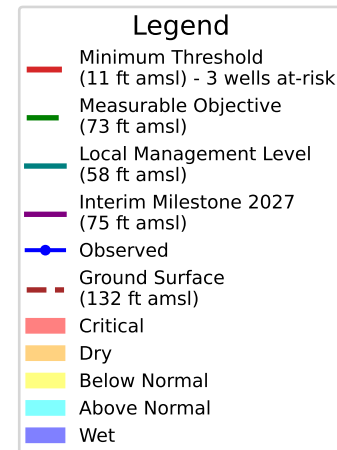
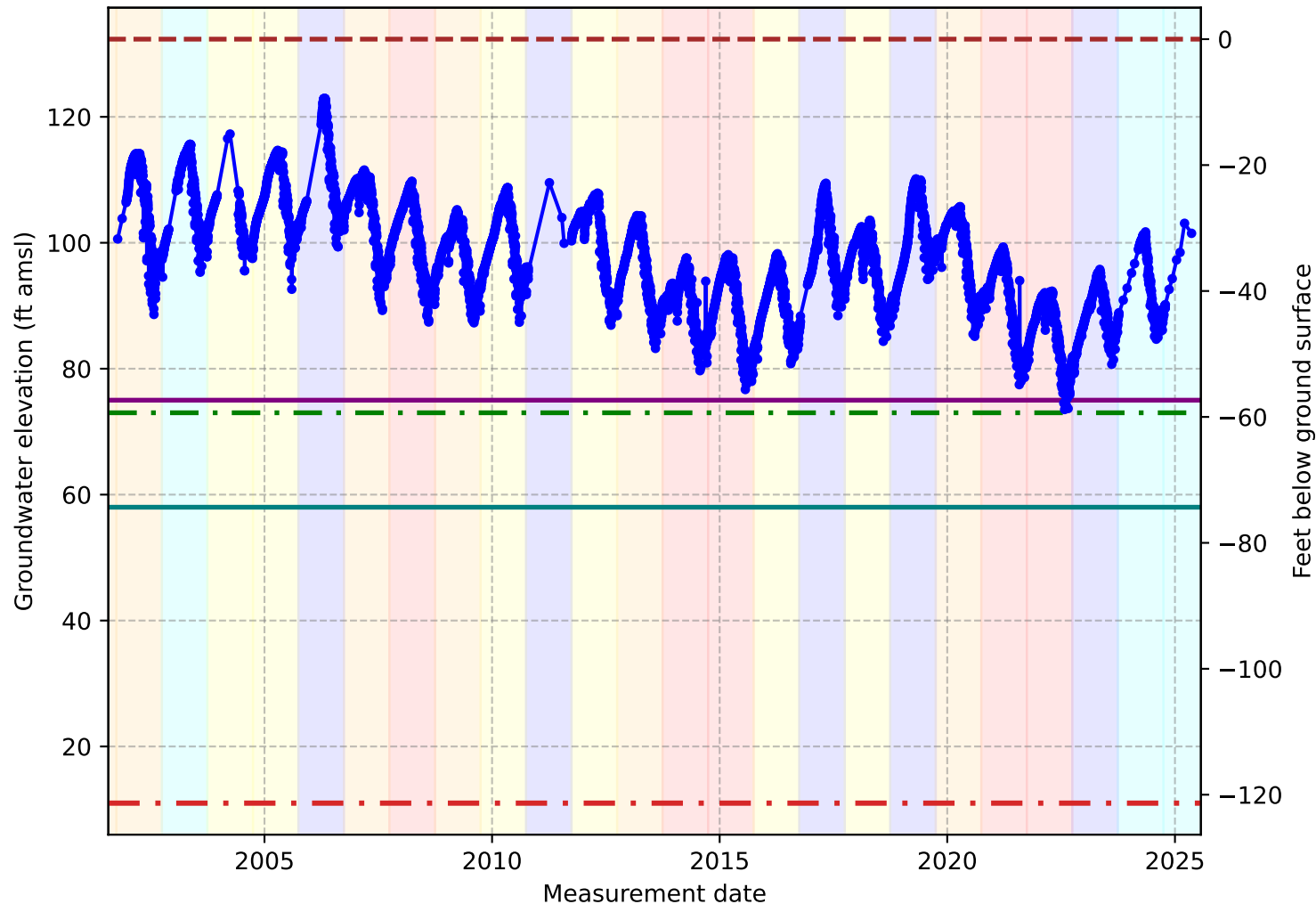
Alternative 1
2022 MT + LML



Vina Subbasin - State Well Number (SWN): 20N01E02H003M

Total Number of Domestic Wells = 15

Alternative 1
2022 MT + LML



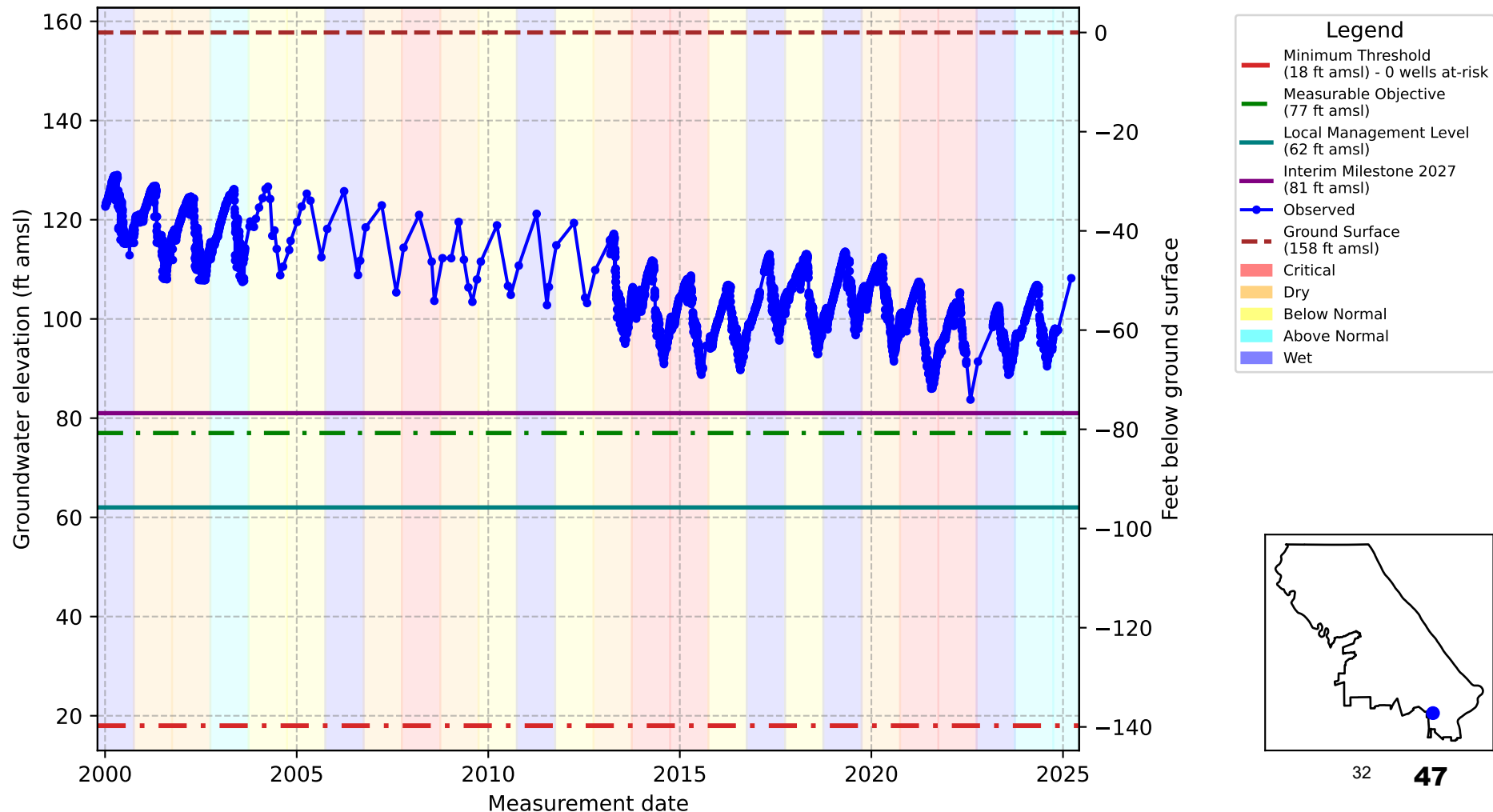
31

46

Vina Subbasin - State Well Number (SWN): 20N02E24C001M

Total Number of Domestic Wells = 7

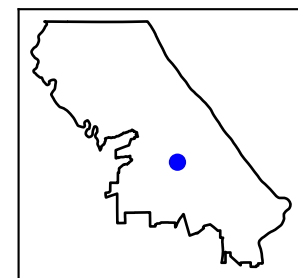
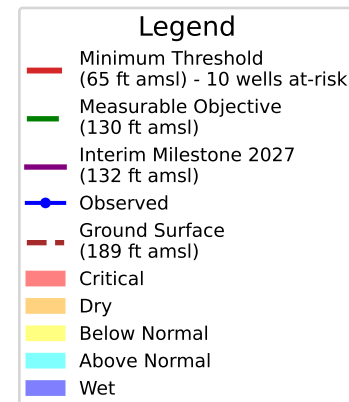
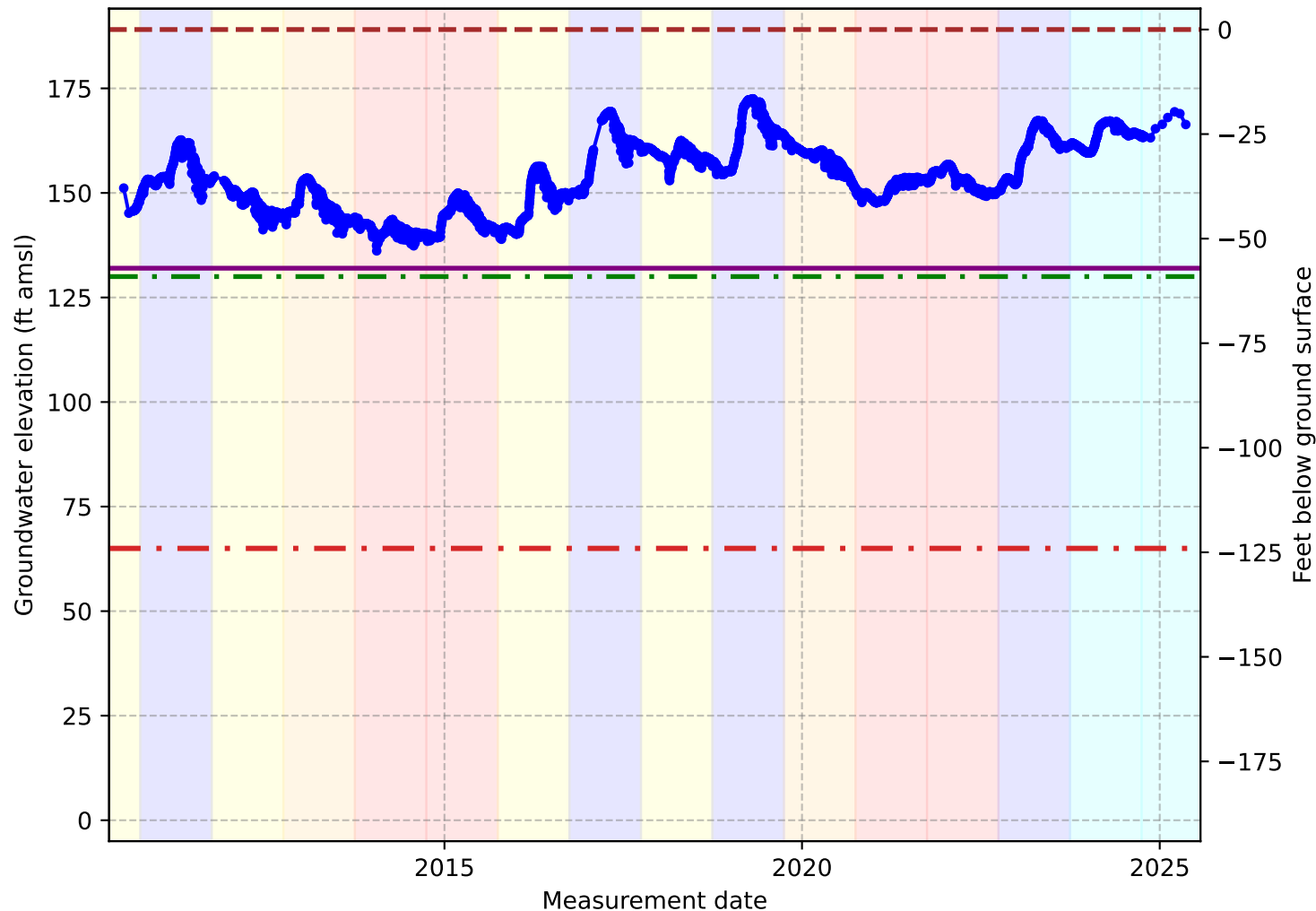
Alternative 1
2022 MT + LML



Vina Subbasin - State Well Number (SWN): 21N02E18C003M

Total Number of Domestic Wells = 92

Alternative 1
2022 MT + LML



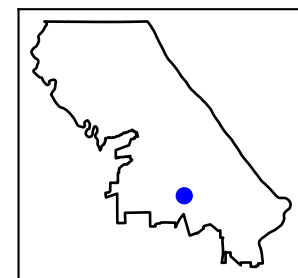
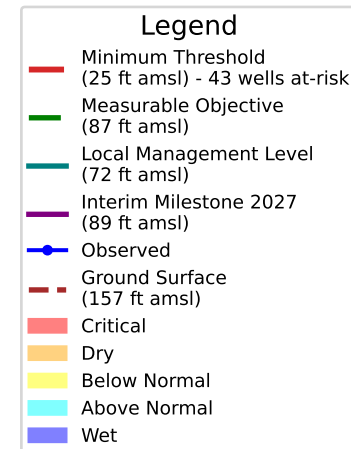
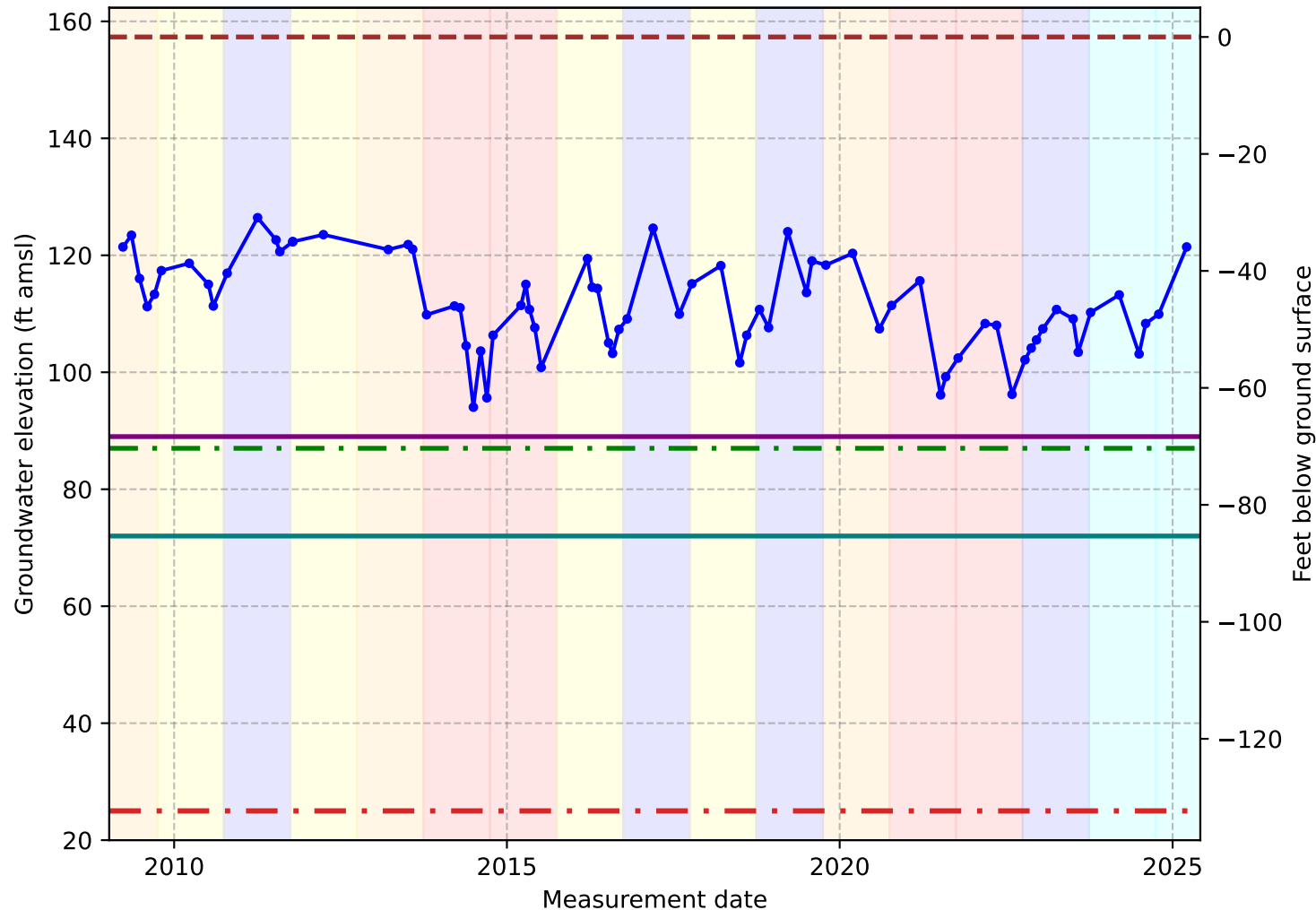
33

48

Vina Subbasin - State Well Number (SWN): 21N02E32E001M

Total Number of Domestic Wells = 110

Alternative 1
2022 MT + LML



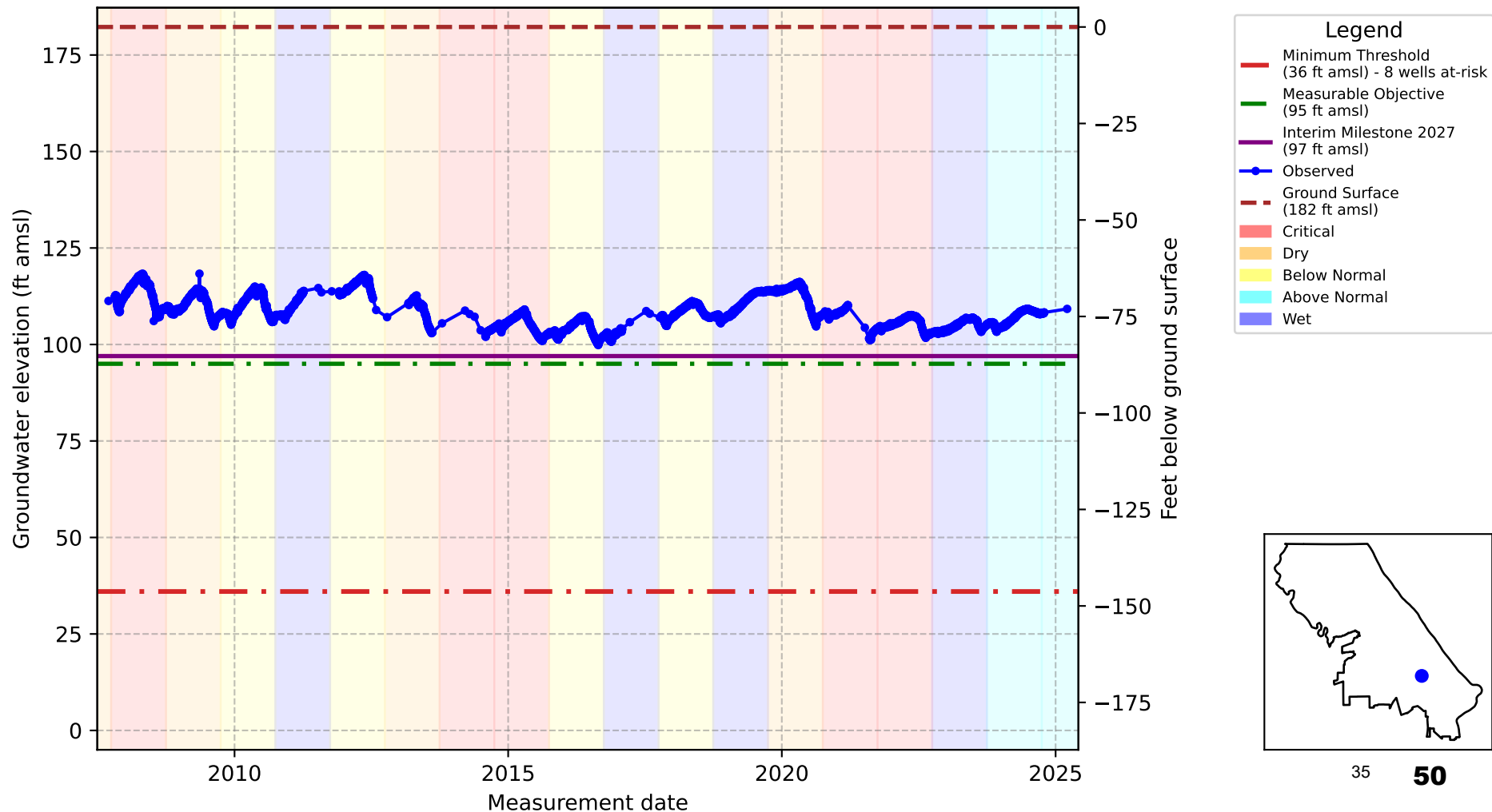
34

49

Vina Subbasin - State Well Number (SWN): 21N02E26E006M

Total Number of Domestic Wells = 20

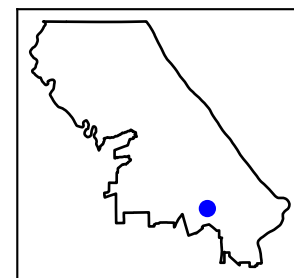
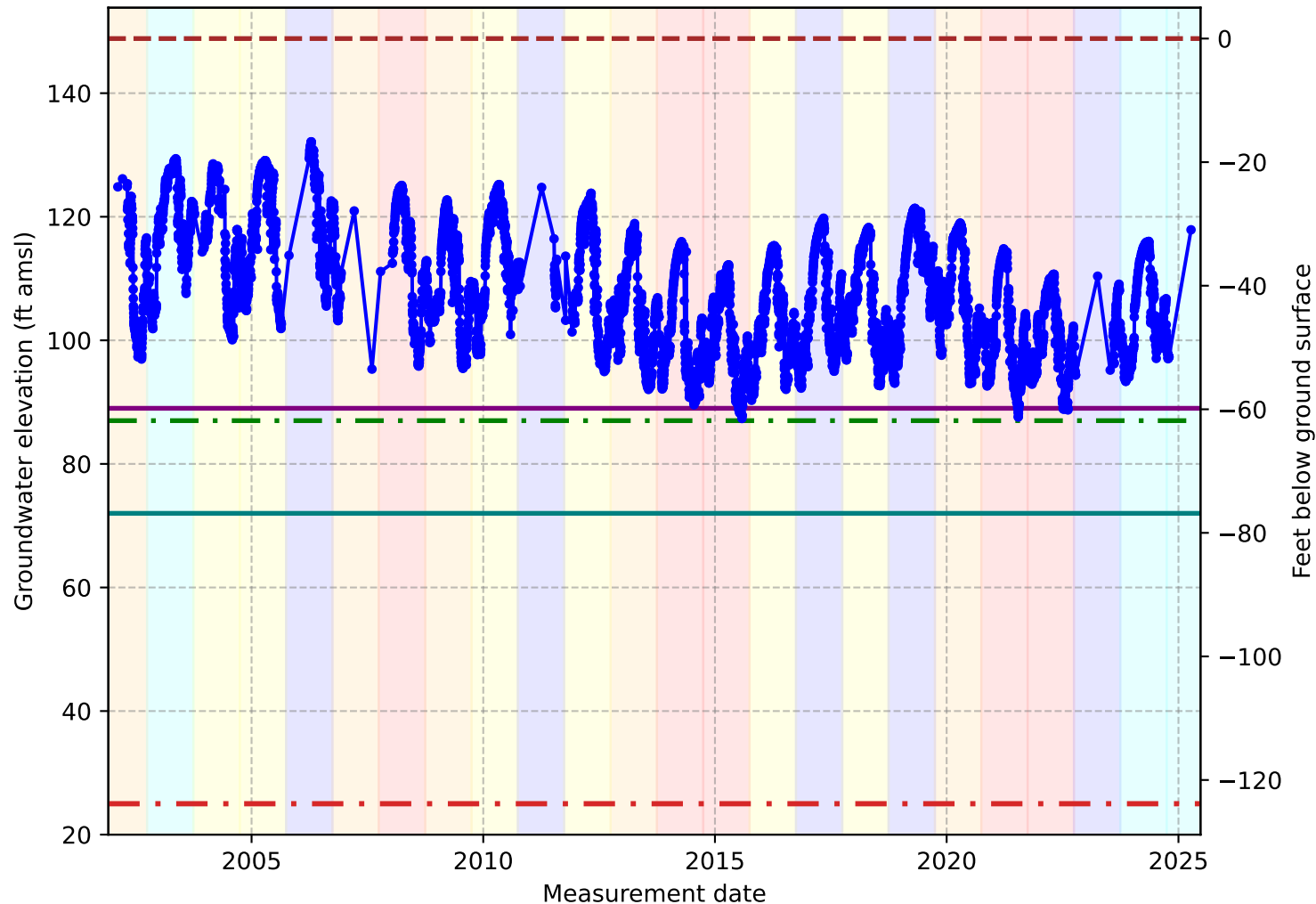
Alternative 1
2022 MT + LML



Vina Subbasin - State Well Number (SWN): 20N02E09G001M

Total Number of Domestic Wells = 2

Alternative 1
2022 MT + LML



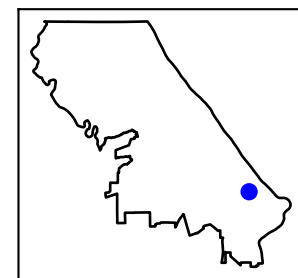
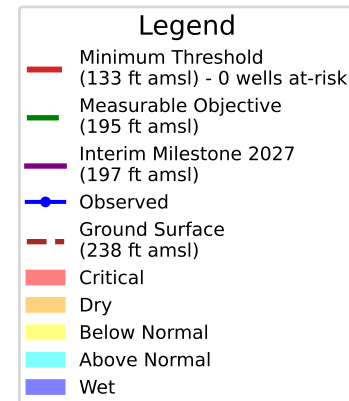
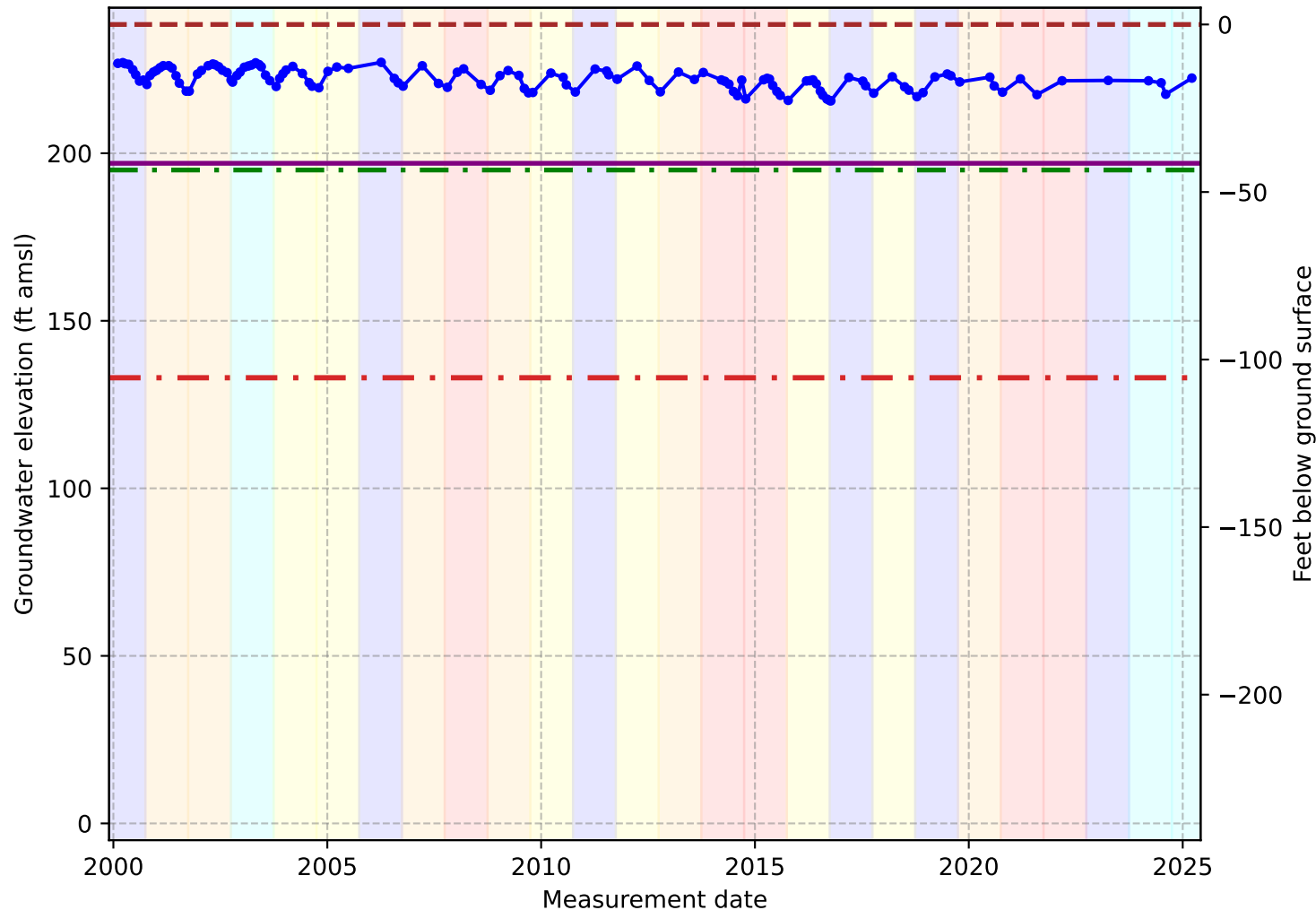
36

51

Vina Subbasin - State Well Number (SWN): 21N03E32B001M

Total Number of Domestic Wells = 7

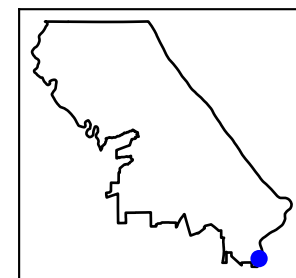
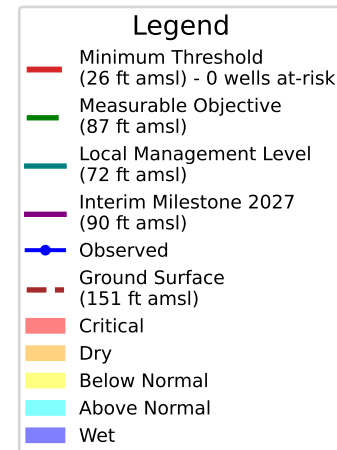
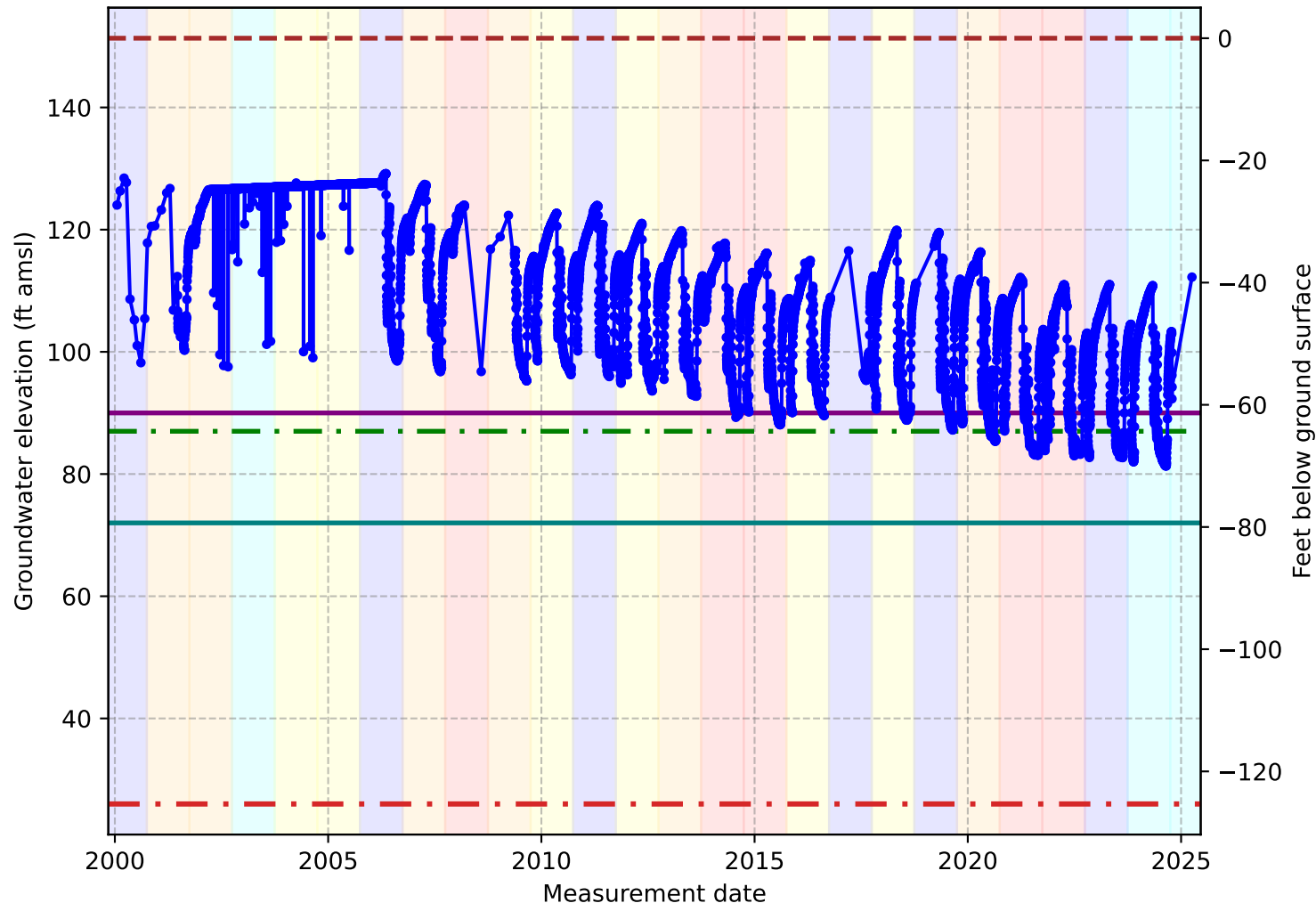
Alternative 1
2022 MT + LML



Vina Subbasin - State Well Number (SWN): 20N03E33L001M

Total Number of Domestic Wells = 2

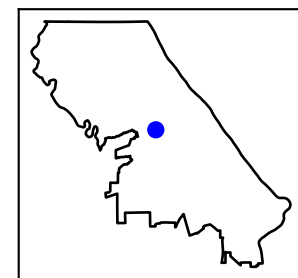
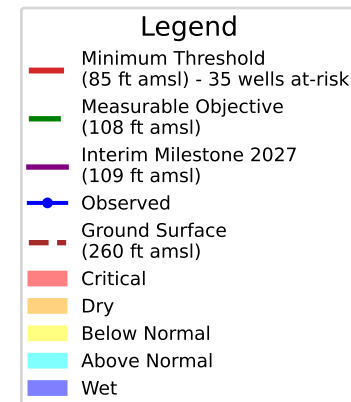
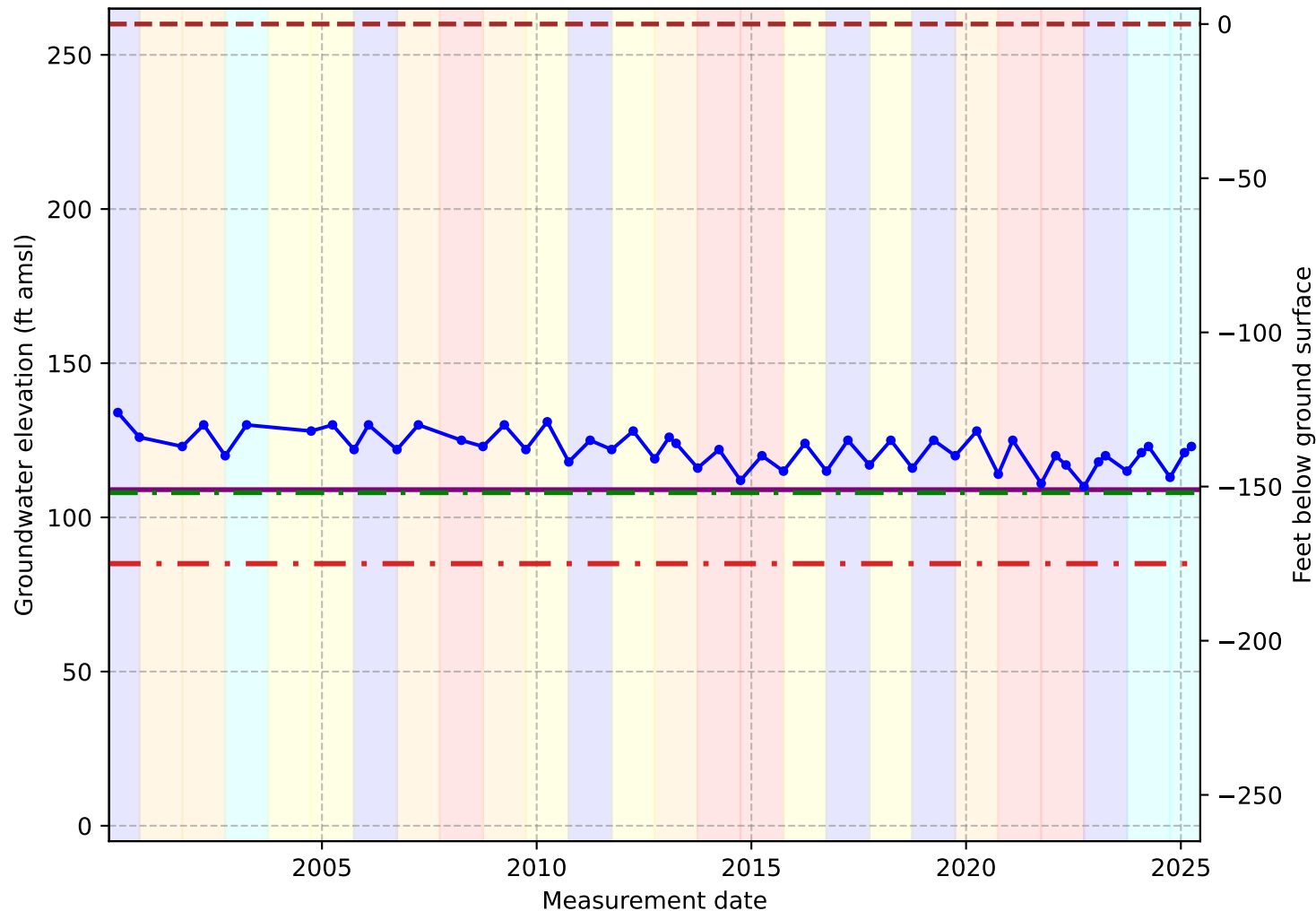
Alternative 1
2022 MT + LML



Vina Subbasin - State Well Number (SWN): CWSCH03

Total Number of Domestic Wells = 387

Alternative 1
2022 MT + LML

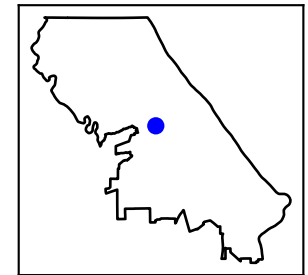
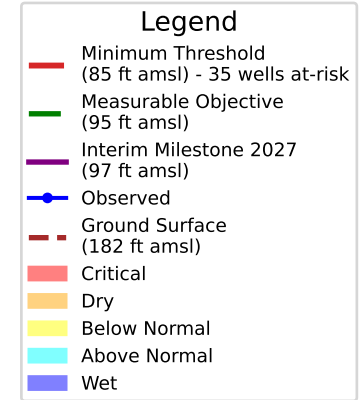
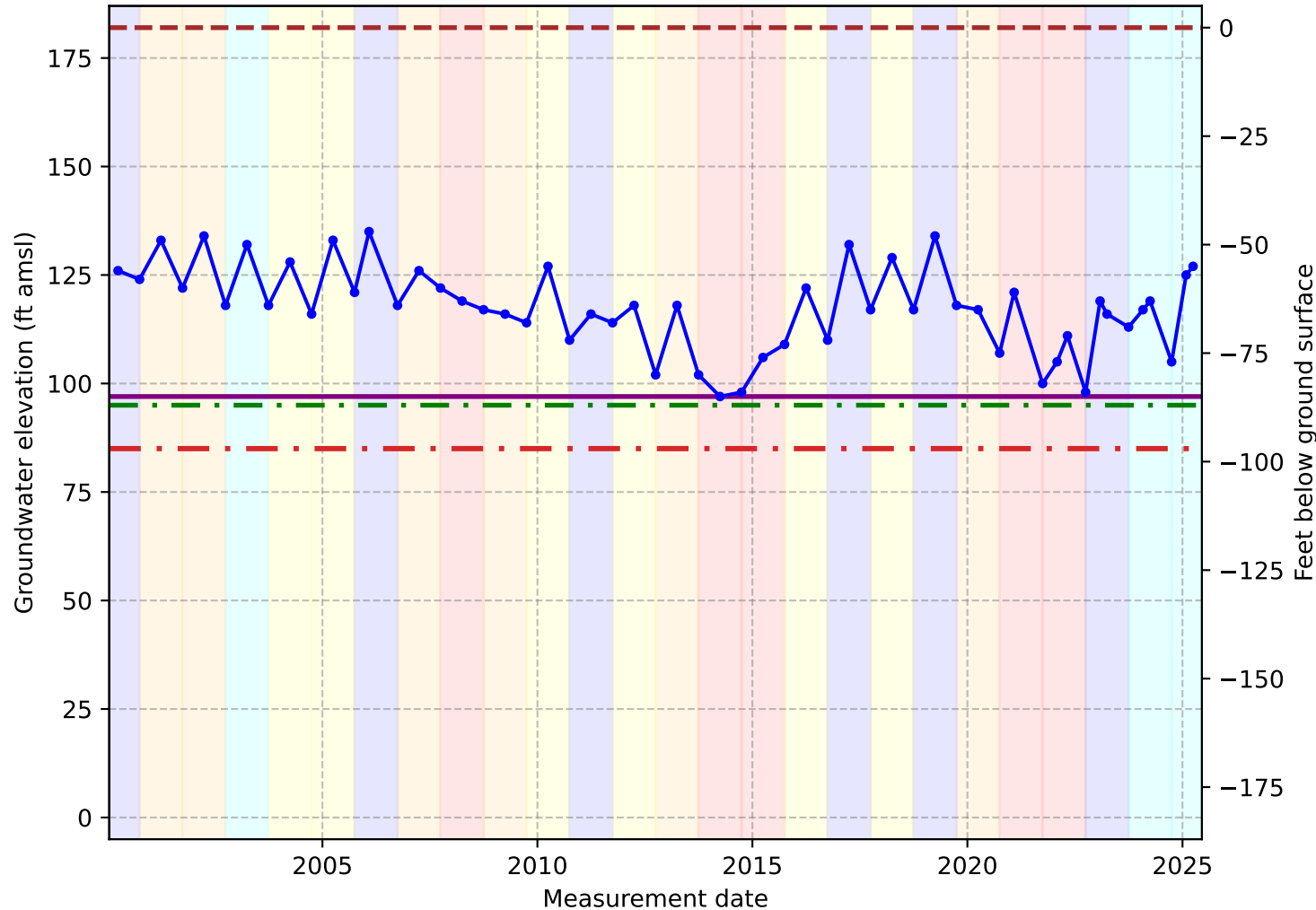


39

54

Vina Subbasin - State Well Number (SWN): CWSCH07
Total Number of Domestic Wells = 387

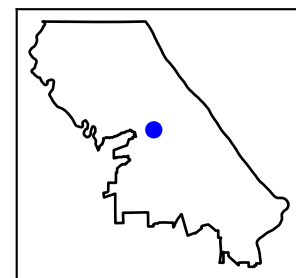
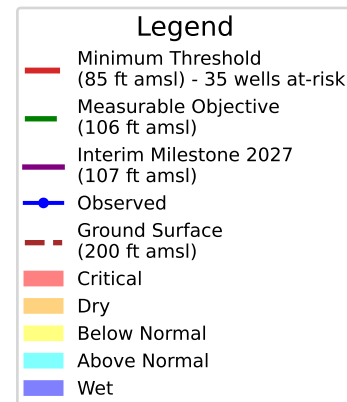
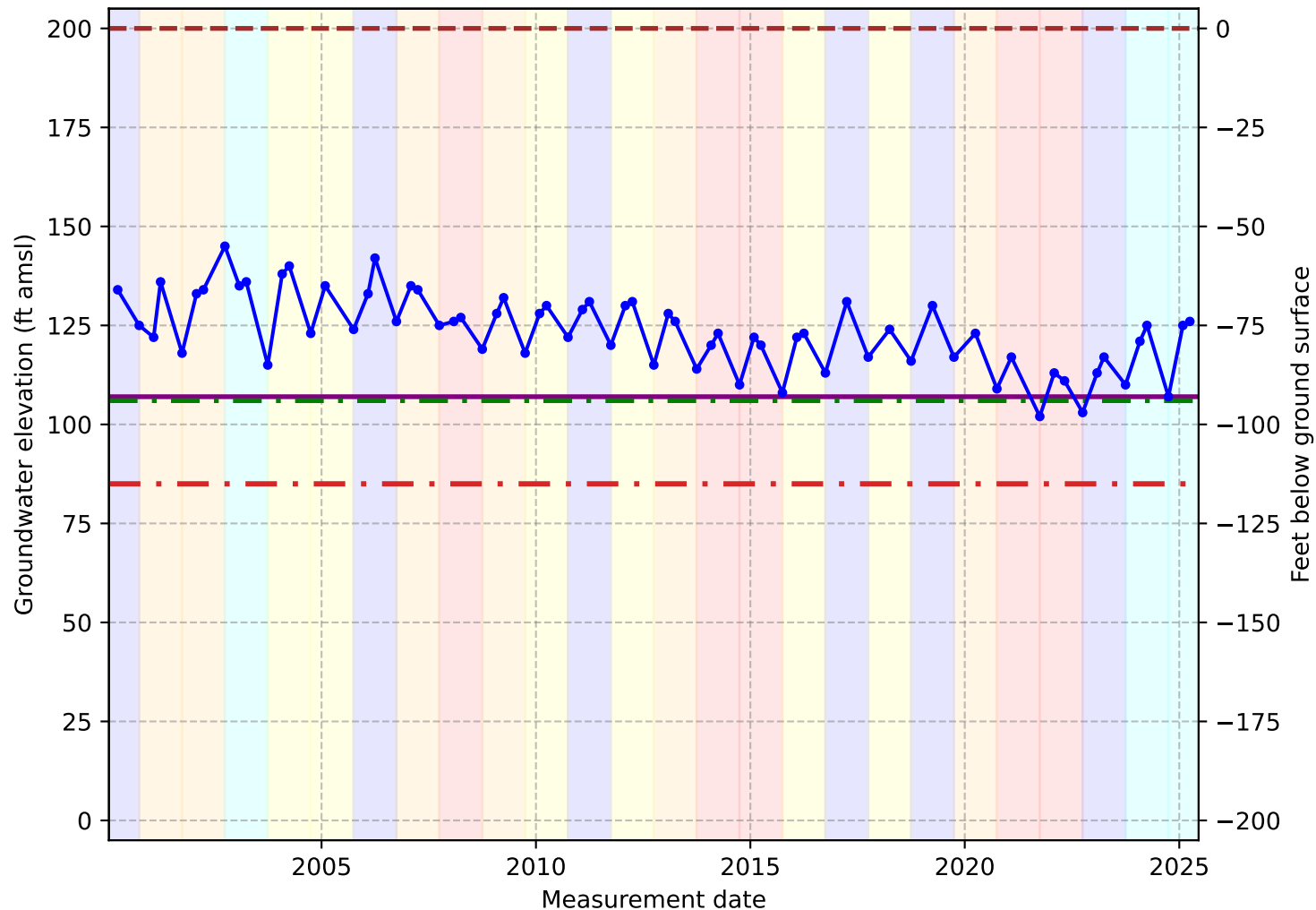
Alternative 1
2022 MT + LML



Vina Subbasin - State Well Number (SWN): CWSCH01b

Total Number of Domestic Wells = 387

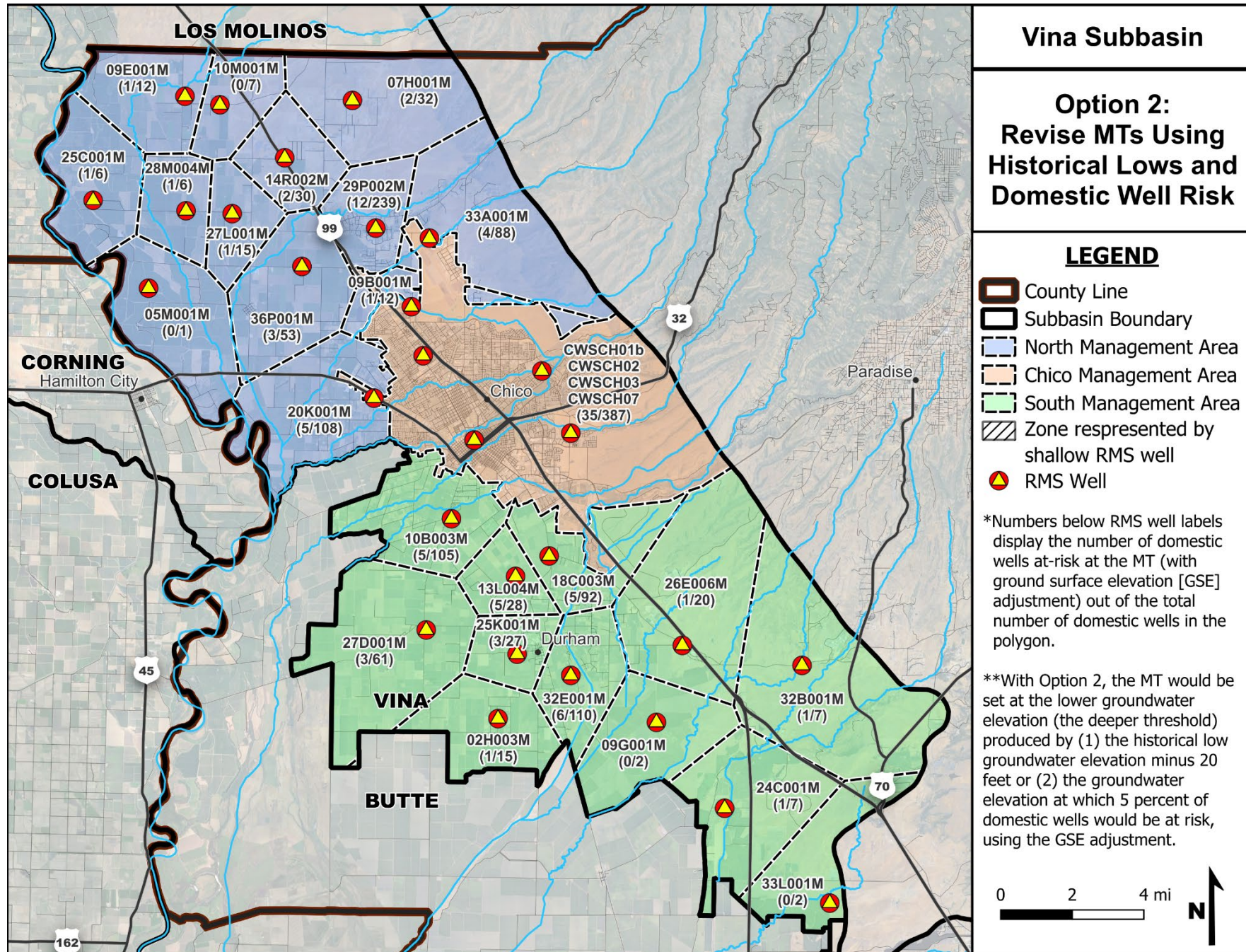
Alternative 1
2022 MT + LML



41

56

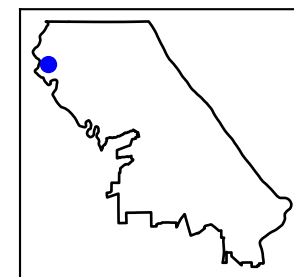
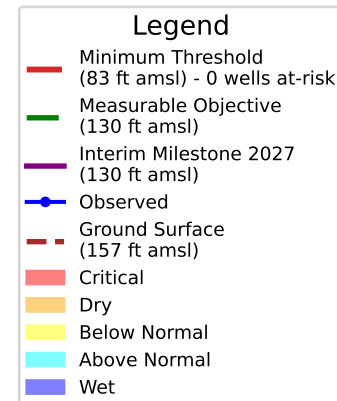
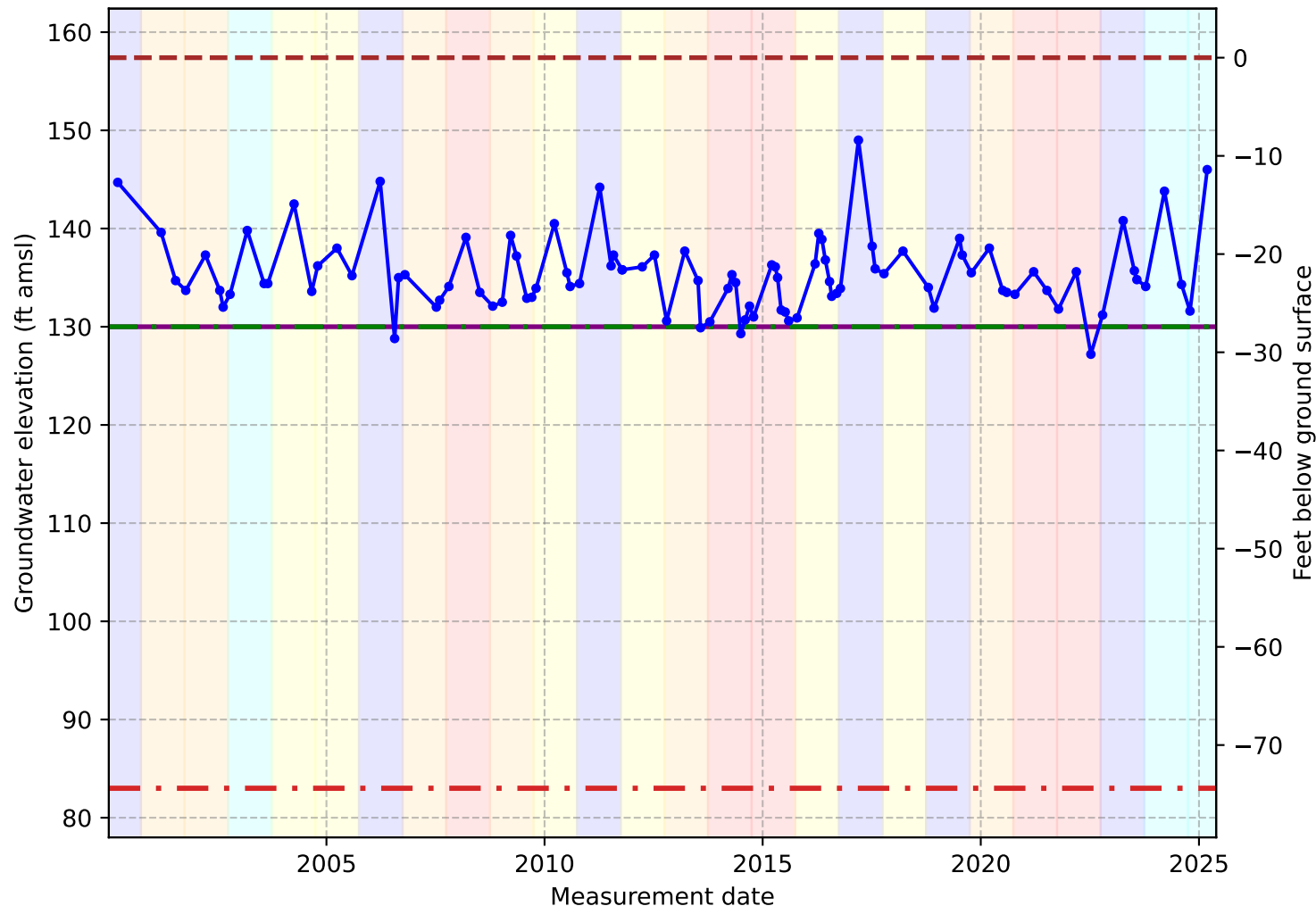
Alternative 2: Revised MTs



Vina Subbasin - State Well Number (SWN): 23N02W25C001M

Total Number of Domestic Wells = 6

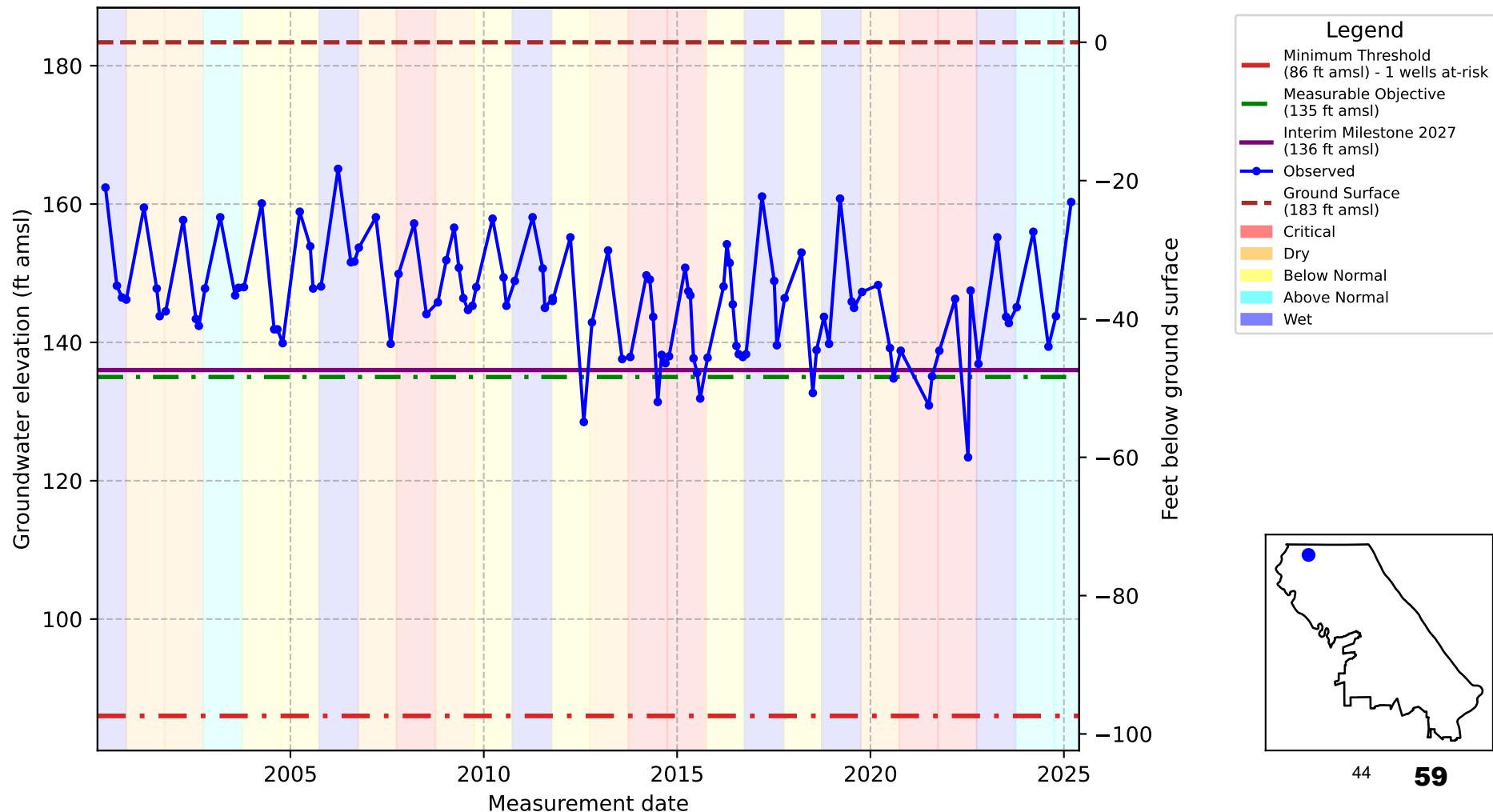
Alternative 2: Revised MT



Vina Subbasin - State Well Number (SWN): 23N01W09E001M

Total Number of Domestic Wells = 12

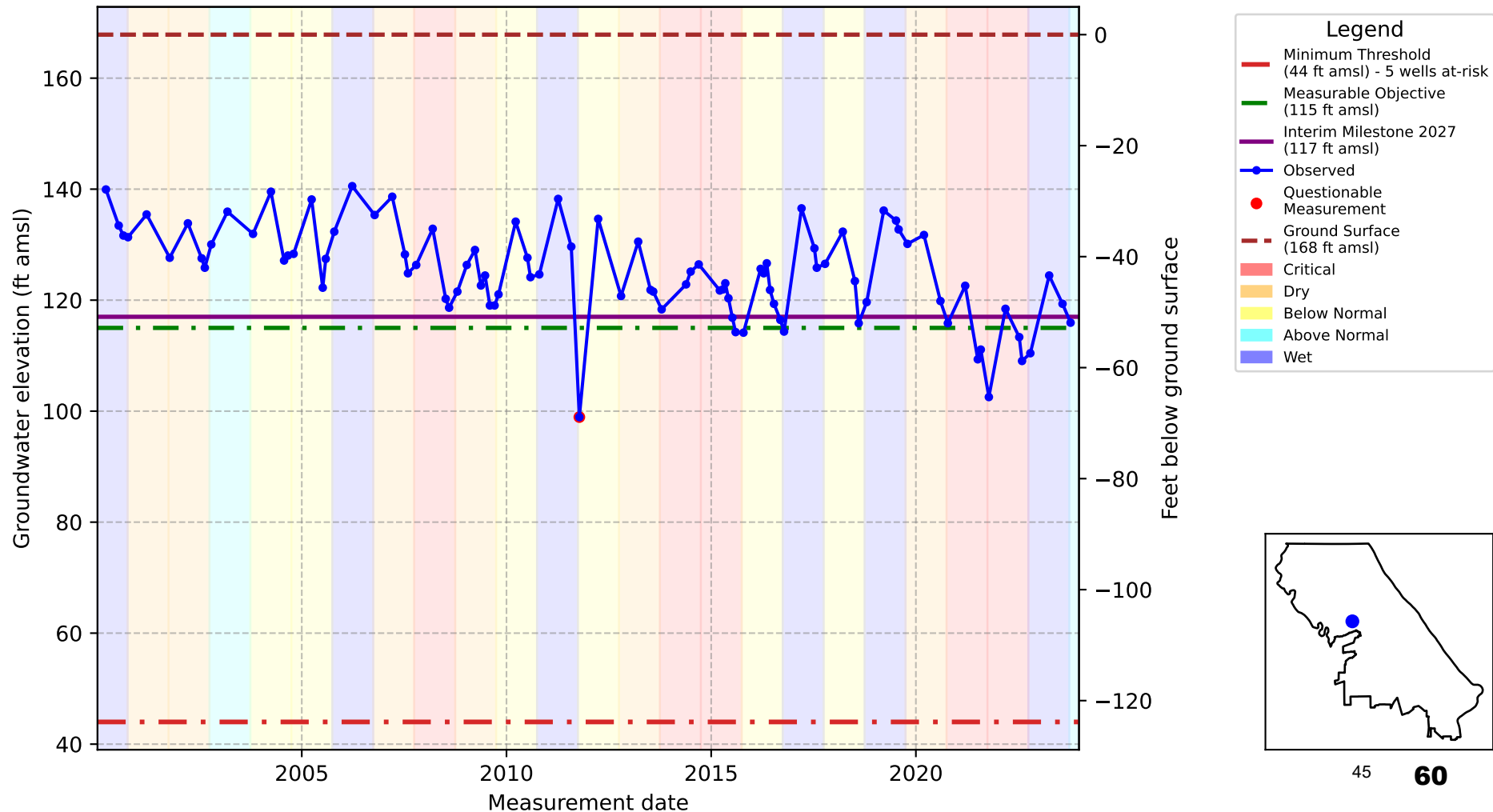
Alternative 2: Revised MT



Vina Subbasin - State Well Number (SWN): 22N01E20K001M

Total Number of Domestic Wells = 108

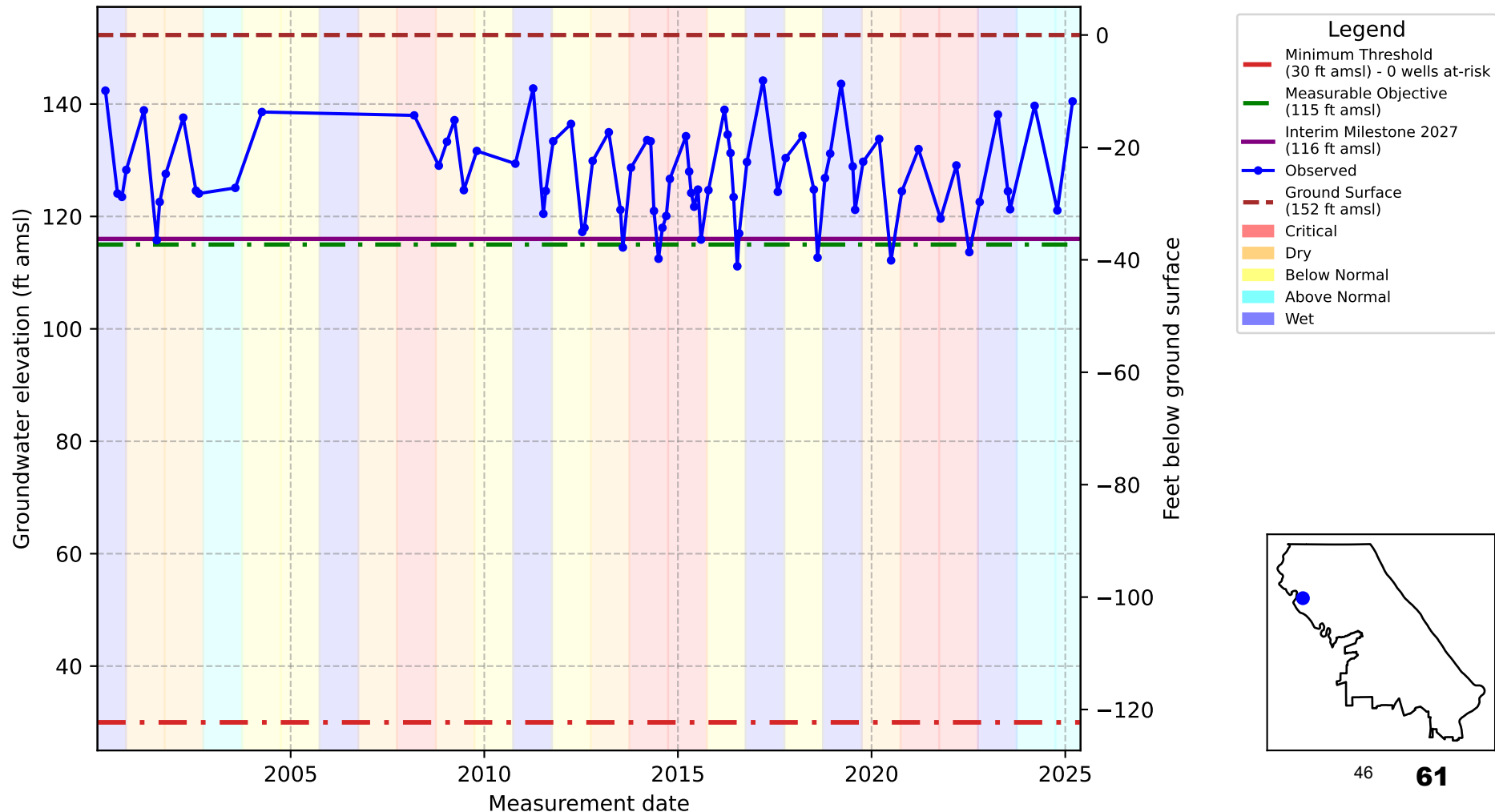
Alternative 2: Revised MT



Vina Subbasin - State Well Number (SWN): 22N01W05M001M

Alternative 2: Revised MT

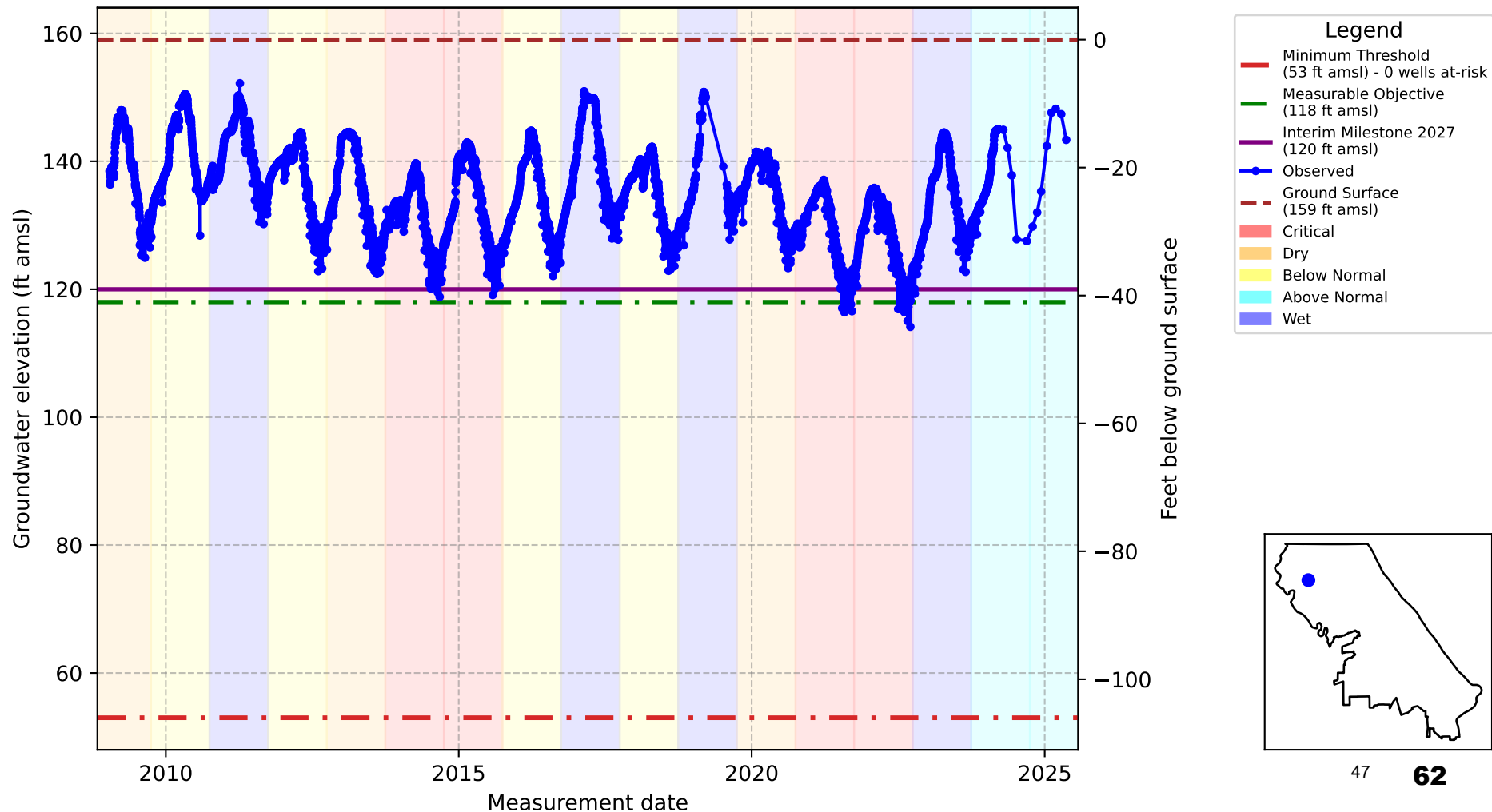
Total Number of Domestic Wells = 1



Vina Subbasin - State Well Number (SWN): 23N01W28M004M

Alternative 2: Revised MT

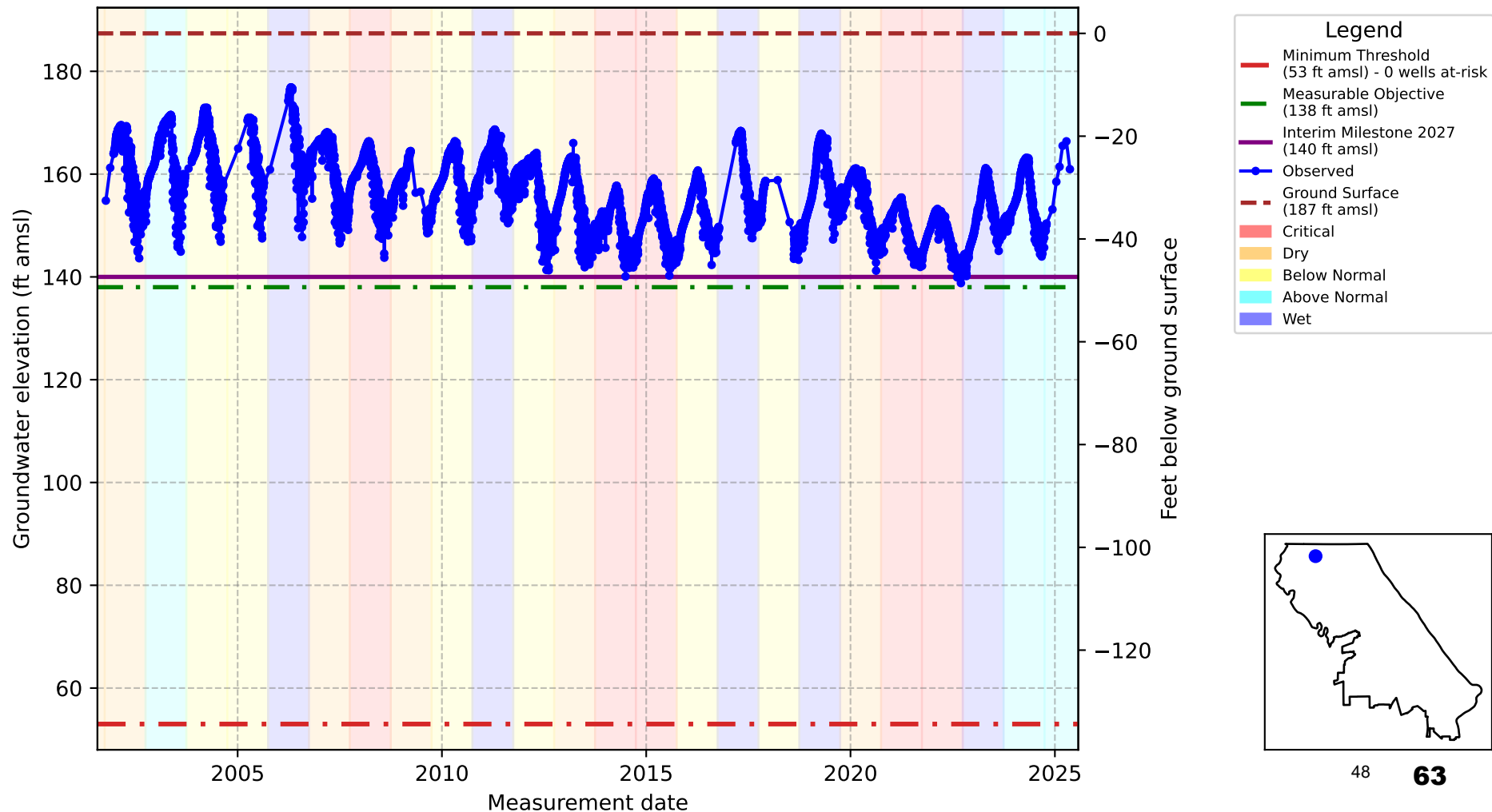
Total Number of Domestic Wells = 6



Vina Subbasin - State Well Number (SWN): 23N01W10M001M

Alternative 2: Revised MT

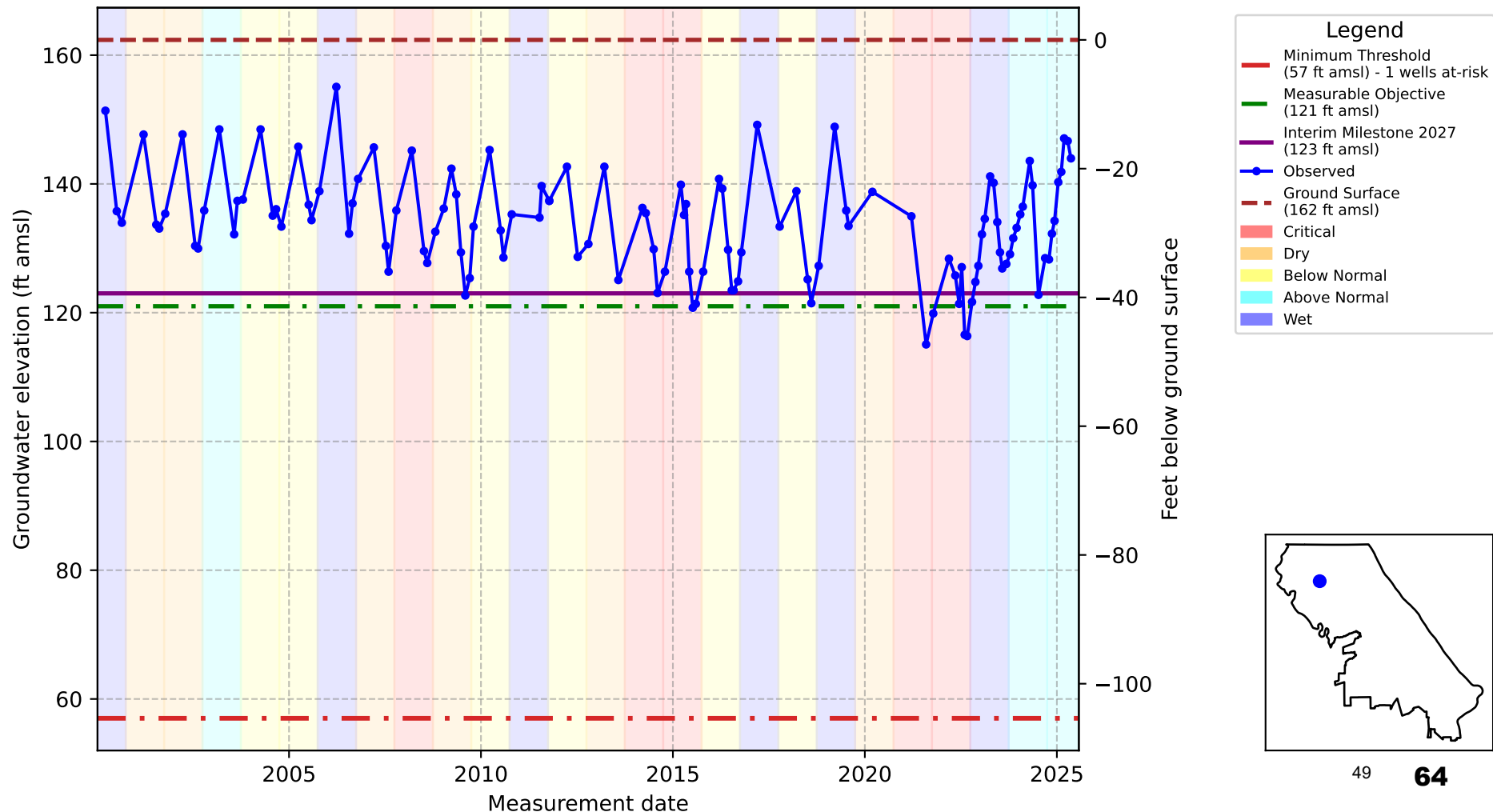
Total Number of Domestic Wells = 7



Vina Subbasin - State Well Number (SWN): 23N01W27L001M

Alternative 2: Revised MT

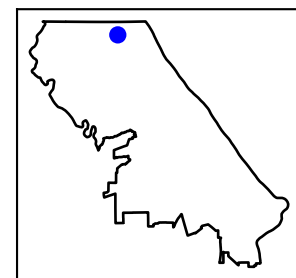
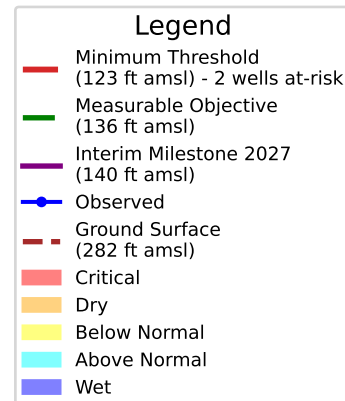
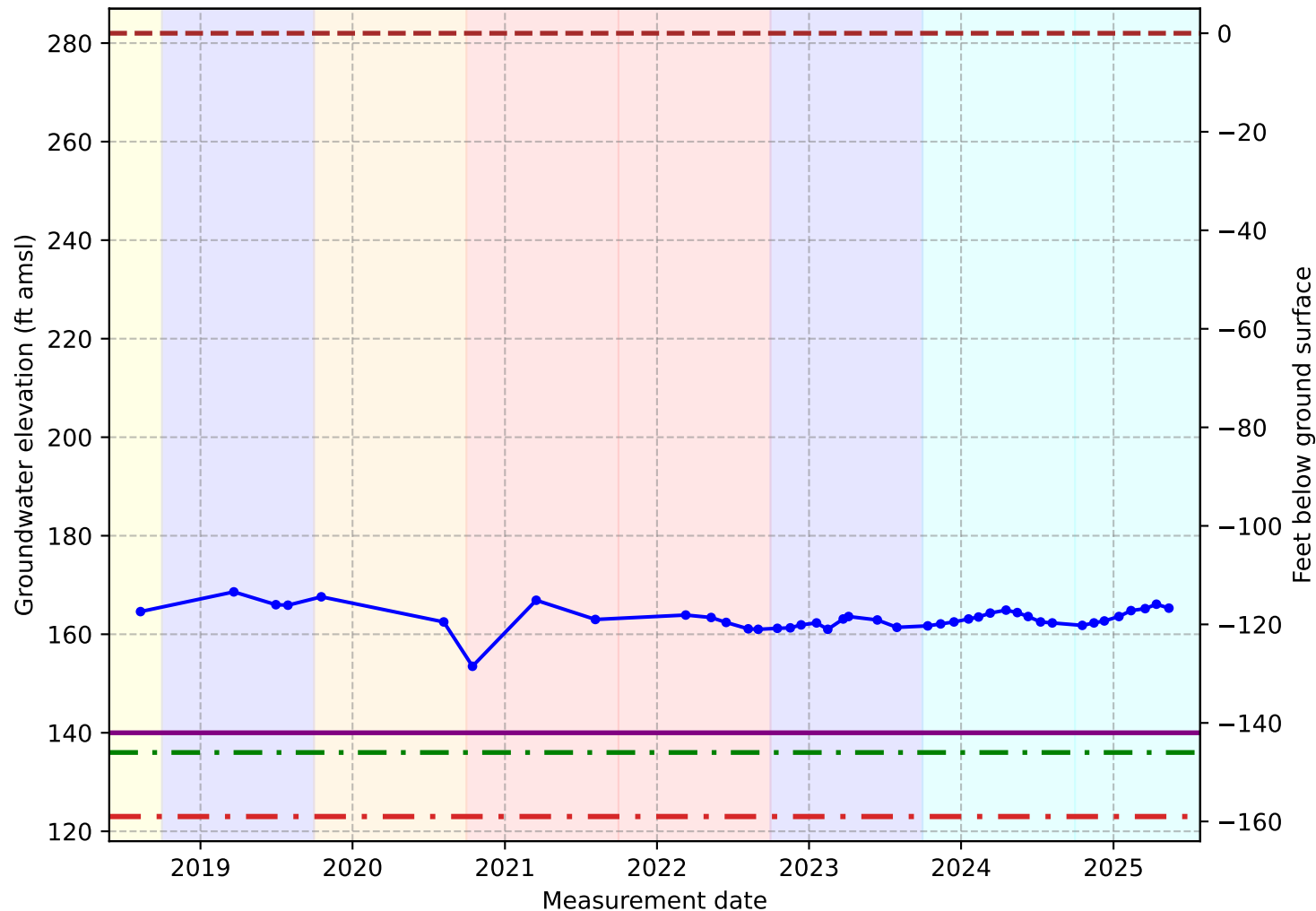
Total Number of Domestic Wells = 15



Vina Subbasin - State Well Number (SWN): 23N01E07H001M

Total Number of Domestic Wells = 32

Alternative 2: Revised MT



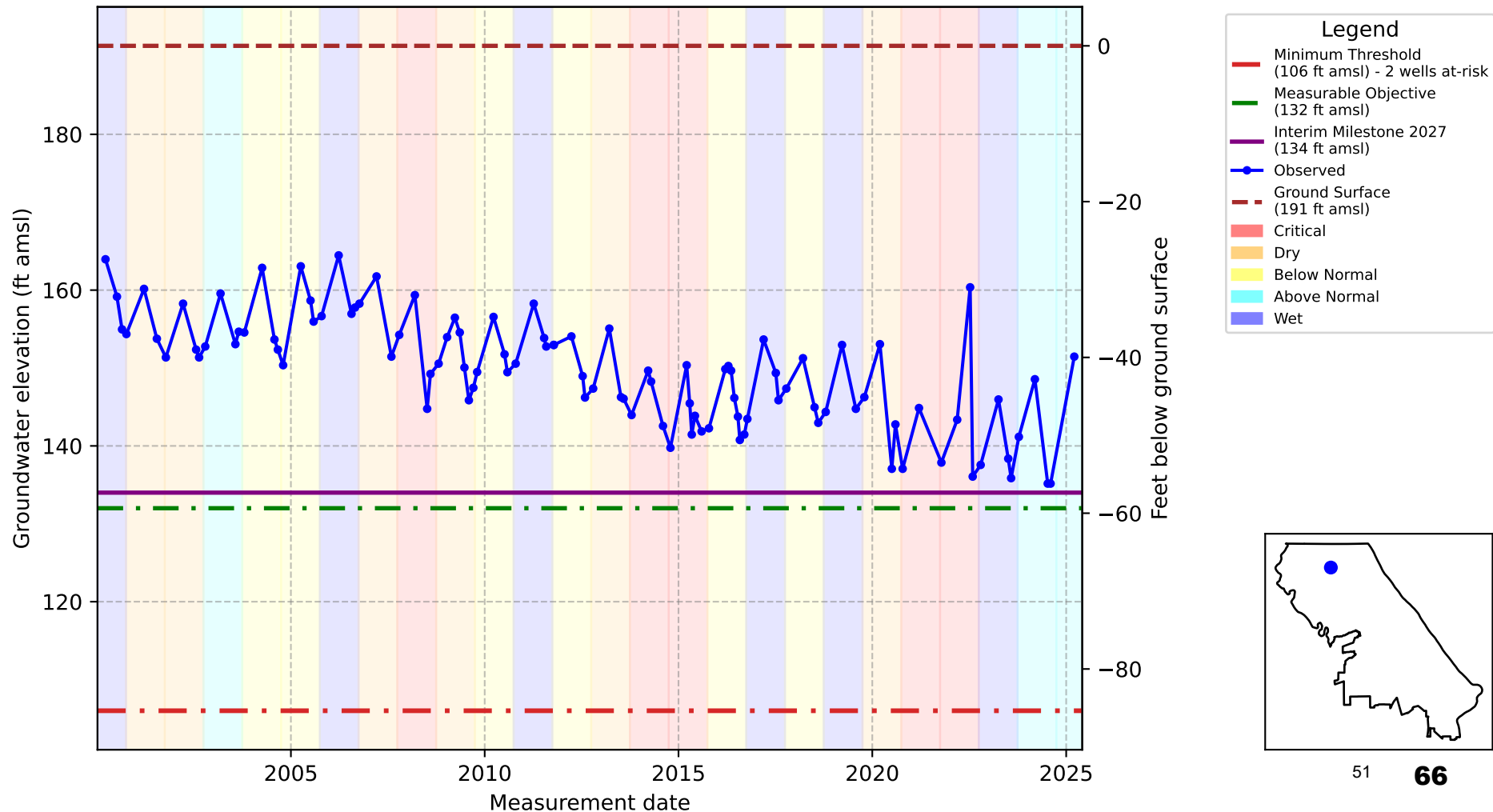
50

65

Vina Subbasin - State Well Number (SWN): 23N01W14R002M

Alternative 2: Revised MT

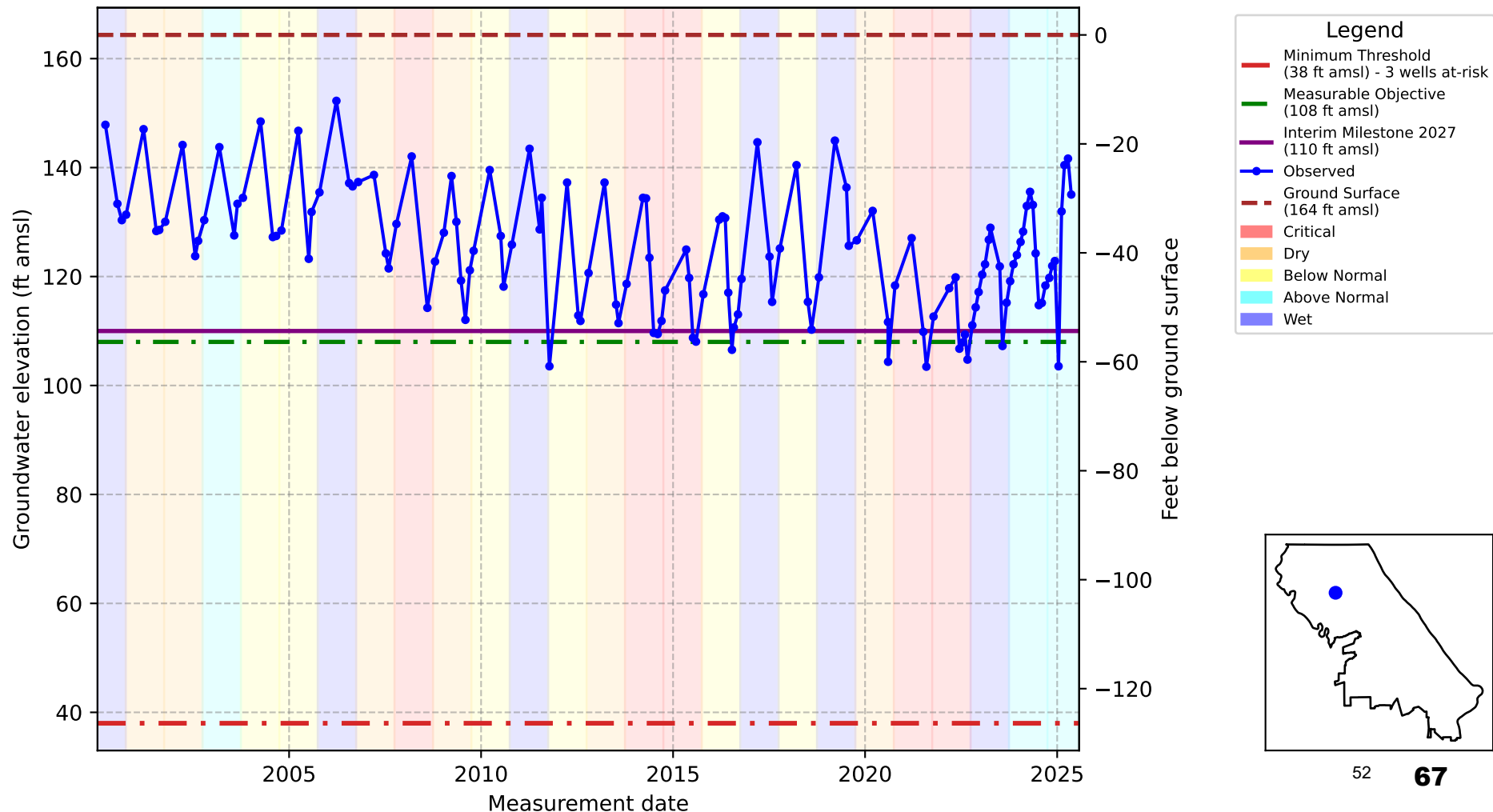
Total Number of Domestic Wells = 30



Vina Subbasin - State Well Number (SWN): 23N01W36P001M

Total Number of Domestic Wells = 53

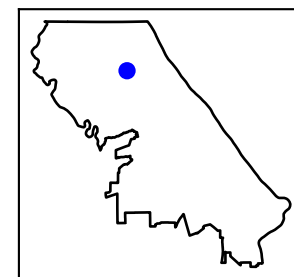
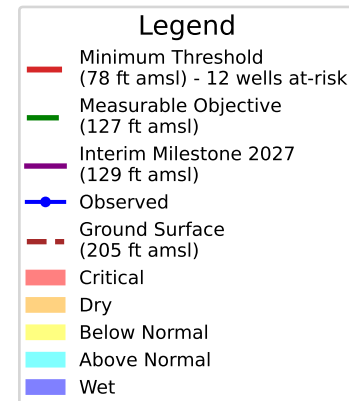
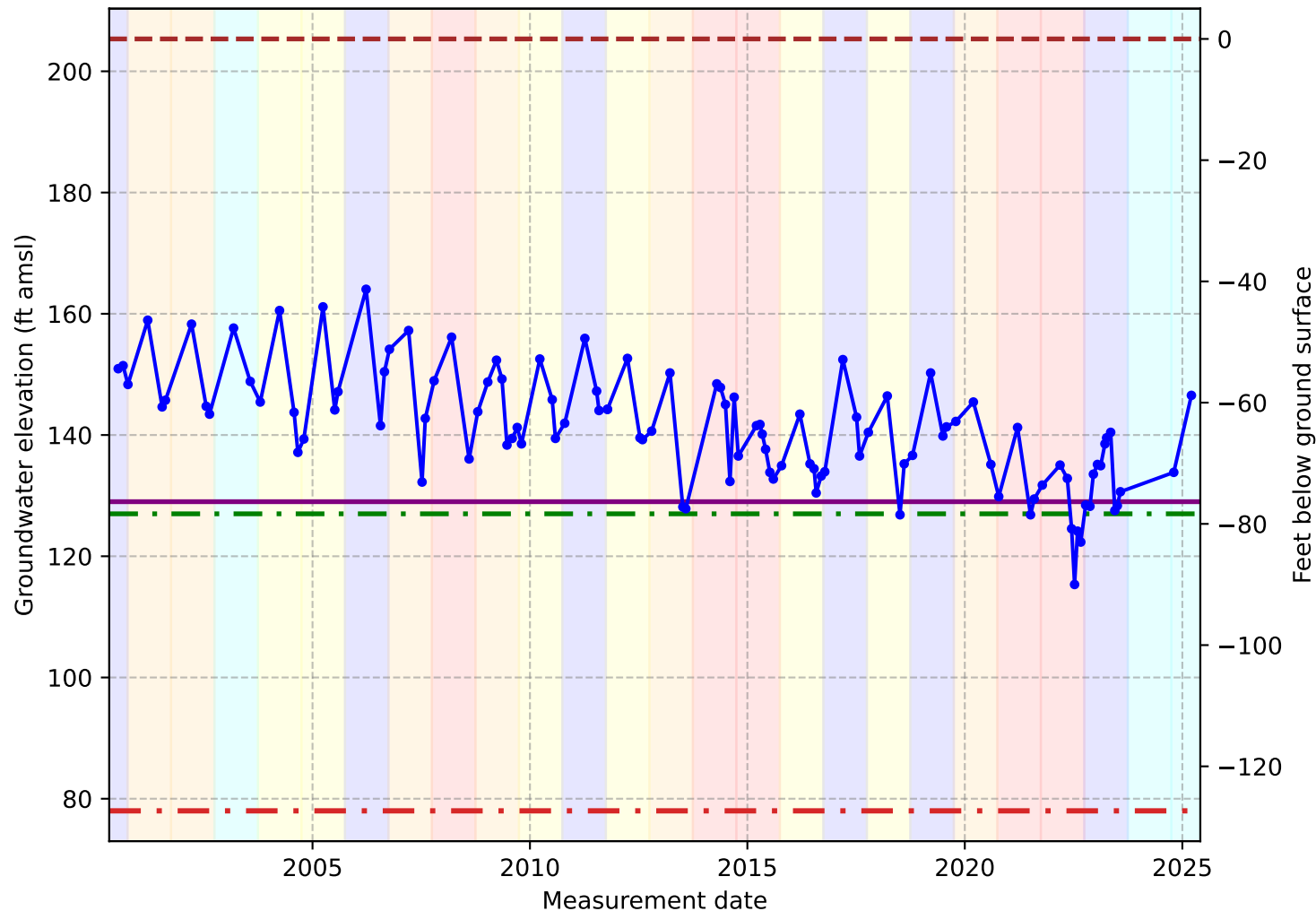
Alternative 2: Revised MT



Vina Subbasin - State Well Number (SWN): 23N01E29P002M

Alternative 2: Revised MT

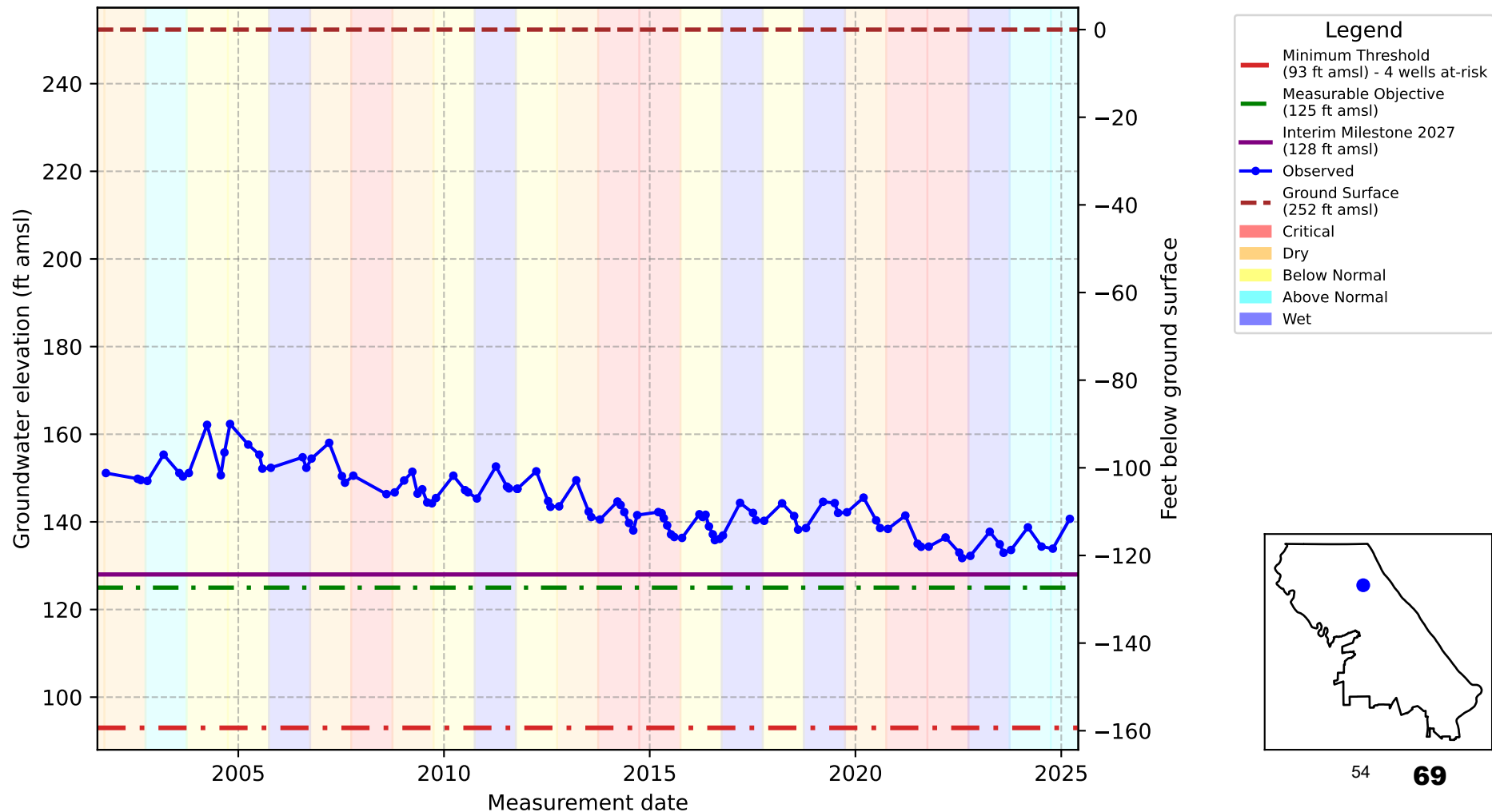
Total Number of Domestic Wells = 239



Vina Subbasin - State Well Number (SWN): 23N01E33A001M

Total Number of Domestic Wells = 88

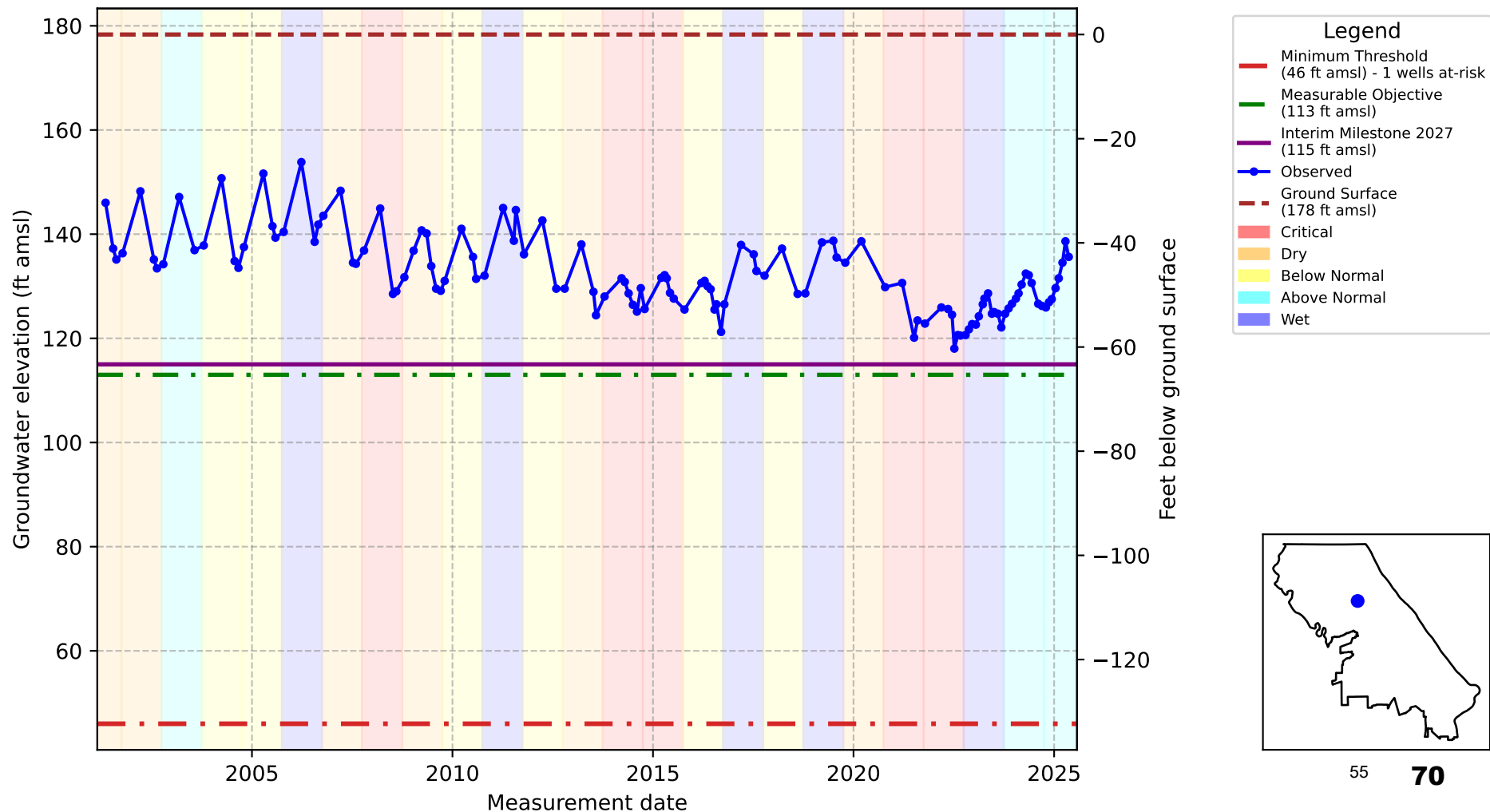
Alternative 2: Revised MT



Vina Subbasin - State Well Number (SWN): 22N01E09B001M

Total Number of Domestic Wells = 12

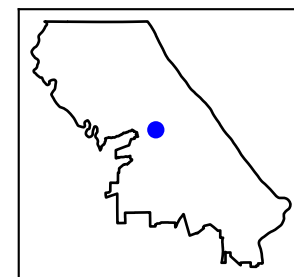
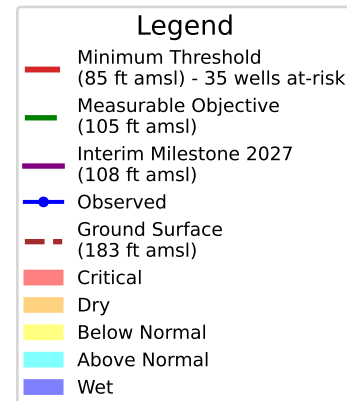
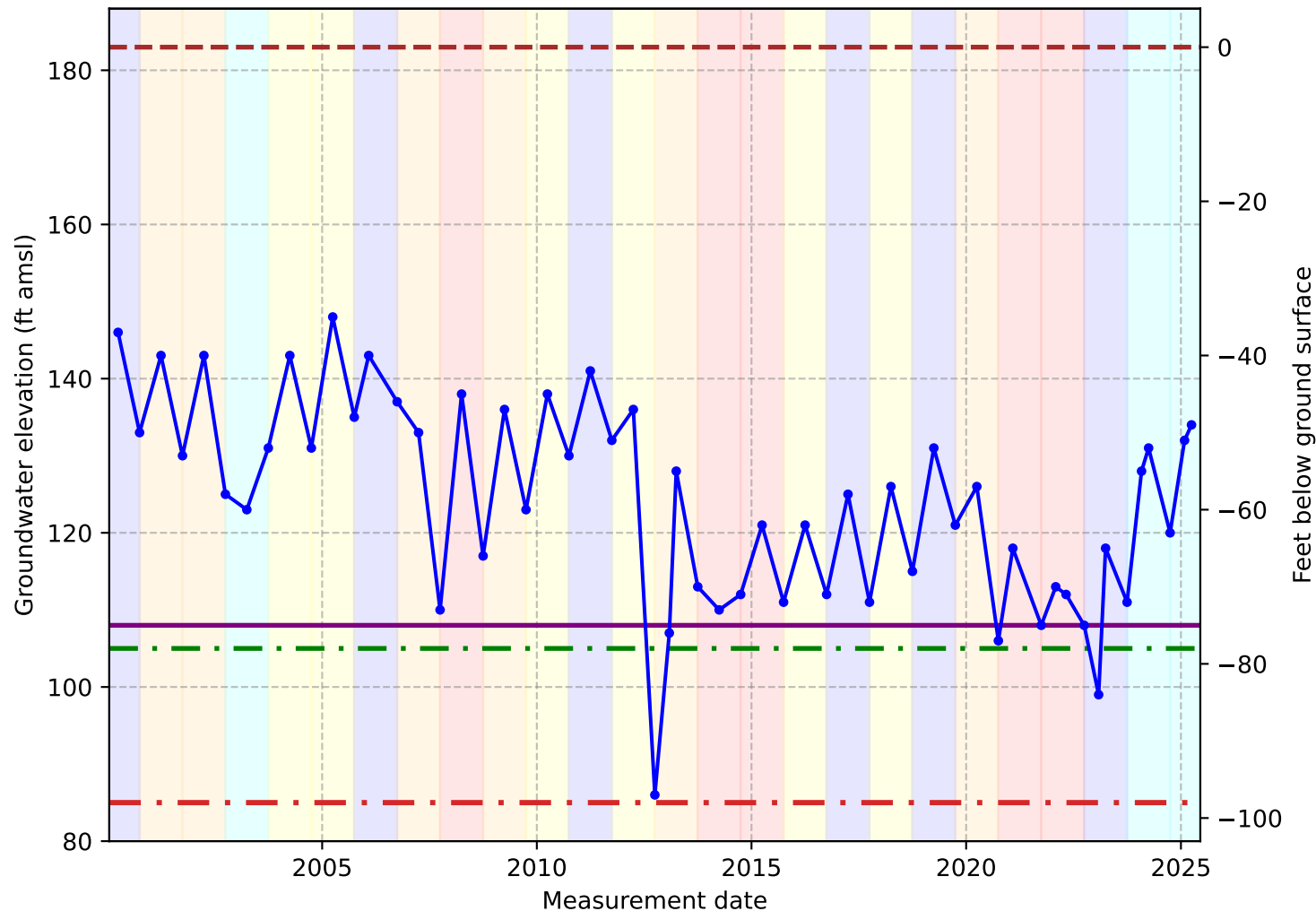
Alternative 2: Revised MT



Vina Subbasin - State Well Number (SWN): CWSCH02

Total Number of Domestic Wells = 387

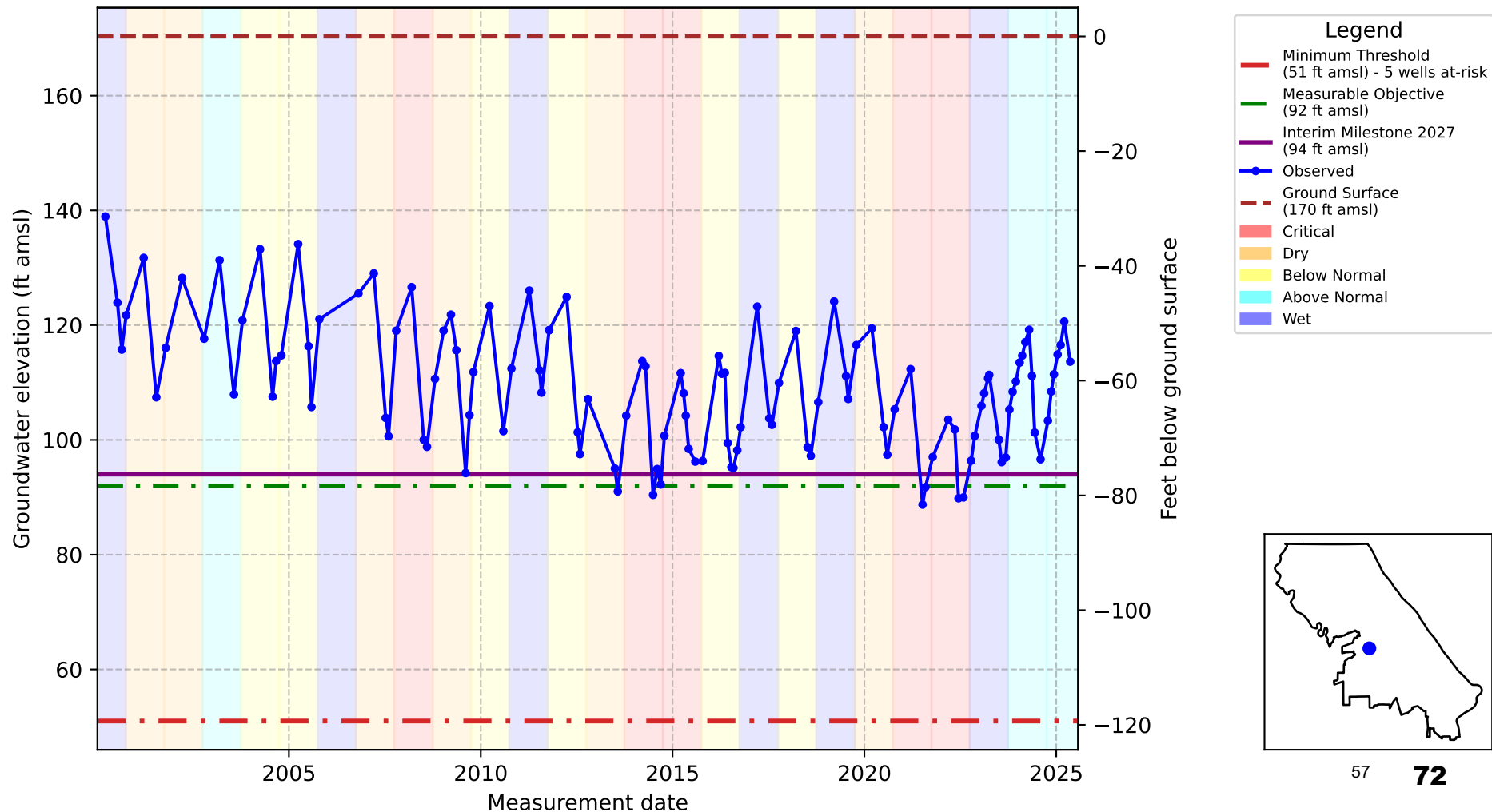
Alternative 2: Revised MT



Vina Subbasin - State Well Number (SWN): 21N01E10B003M

Alternative 2: Revised MT

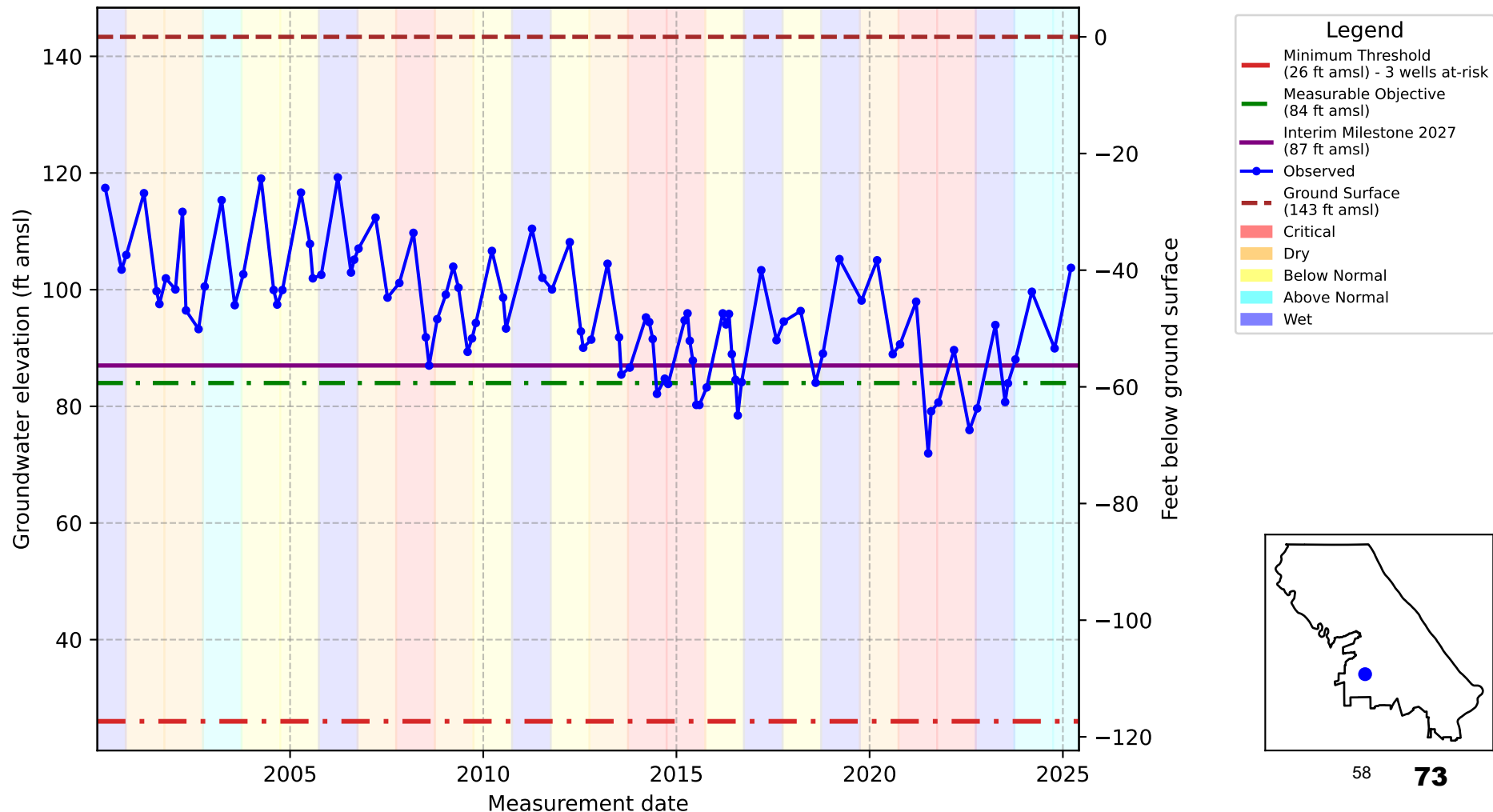
Total Number of Domestic Wells = 105



Vina Subbasin - State Well Number (SWN): 21N01E27D001M

Alternative 2: Revised MT

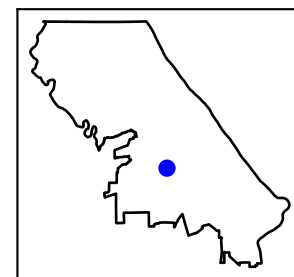
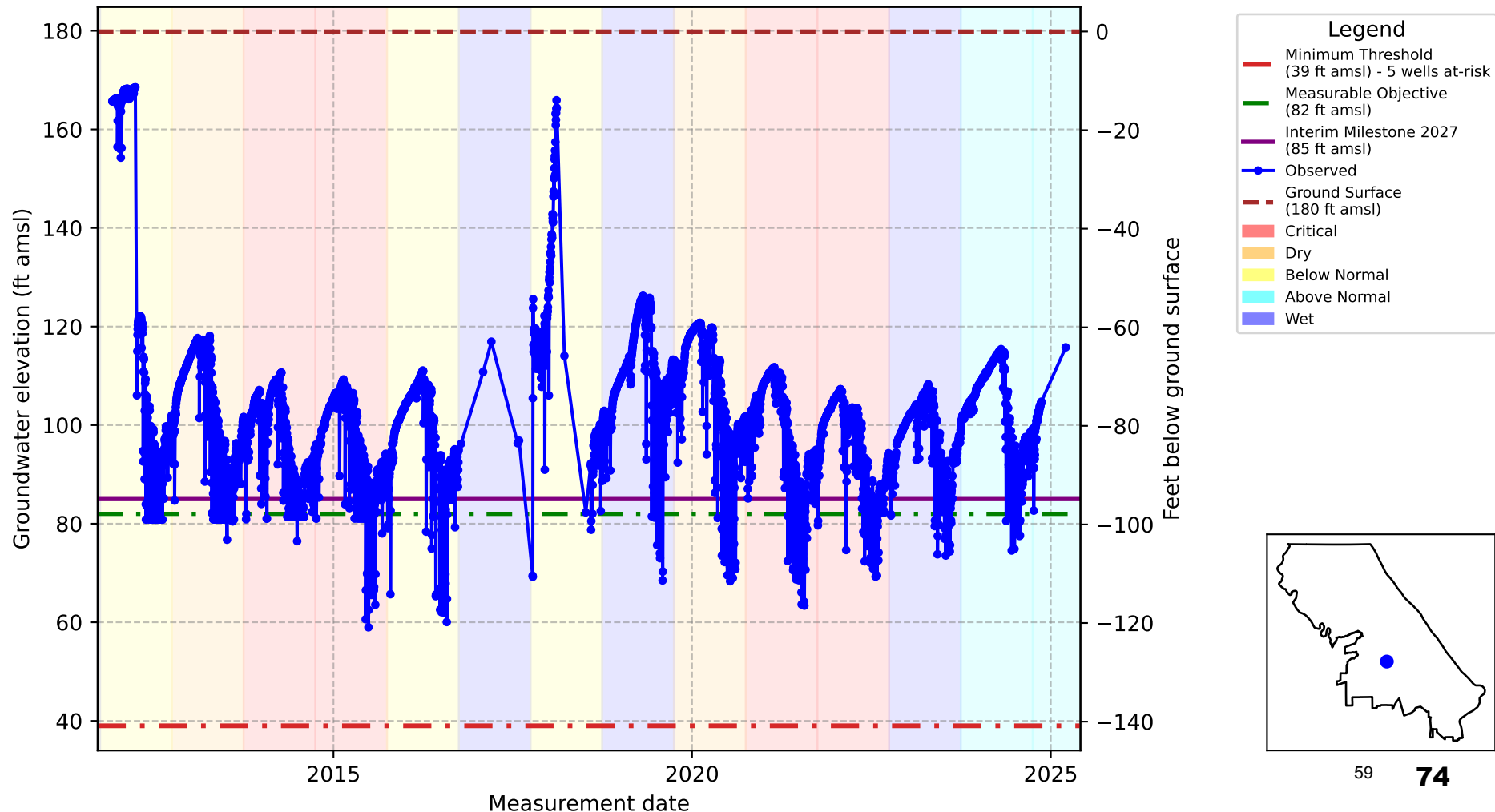
Total Number of Domestic Wells = 61



Vina Subbasin - State Well Number (SWN): 21N01E13L004M

Total Number of Domestic Wells = 28

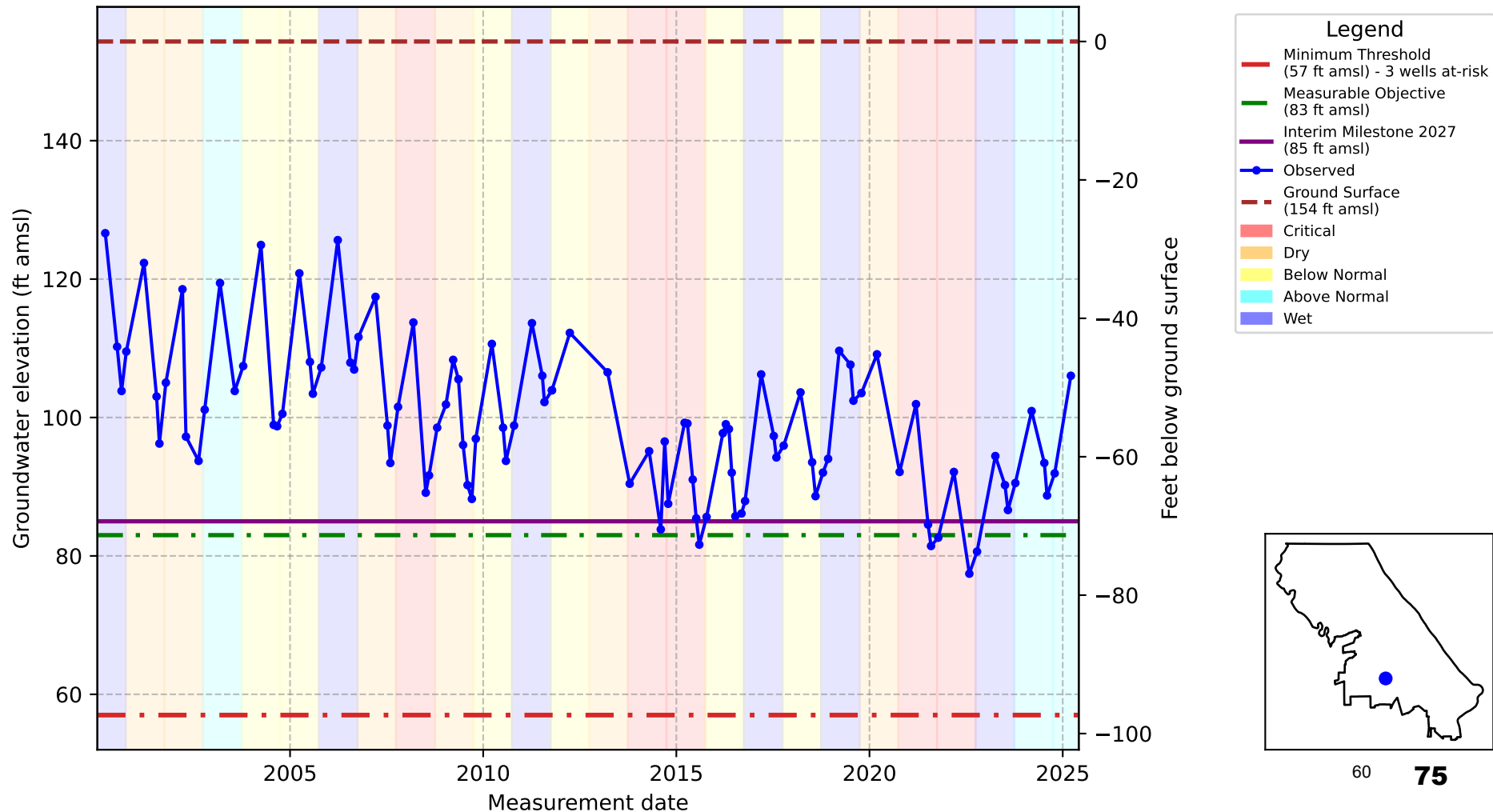
Alternative 2: Revised MT



Vina Subbasin - State Well Number (SWN): 21N01E25K001M

Total Number of Domestic Wells = 27

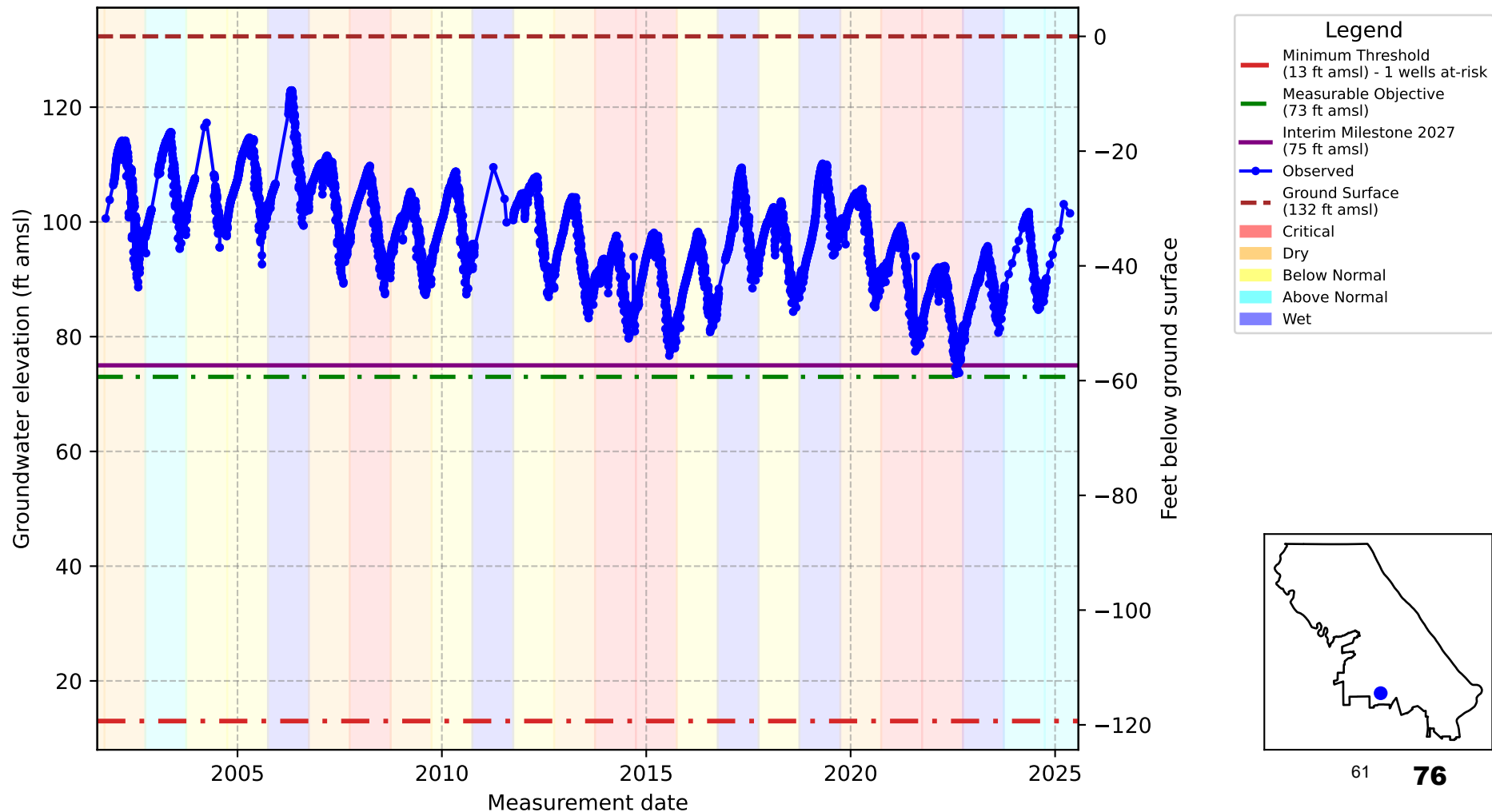
Alternative 2: Revised MT



Vina Subbasin - State Well Number (SWN): 20N01E02H003M

Total Number of Domestic Wells = 15

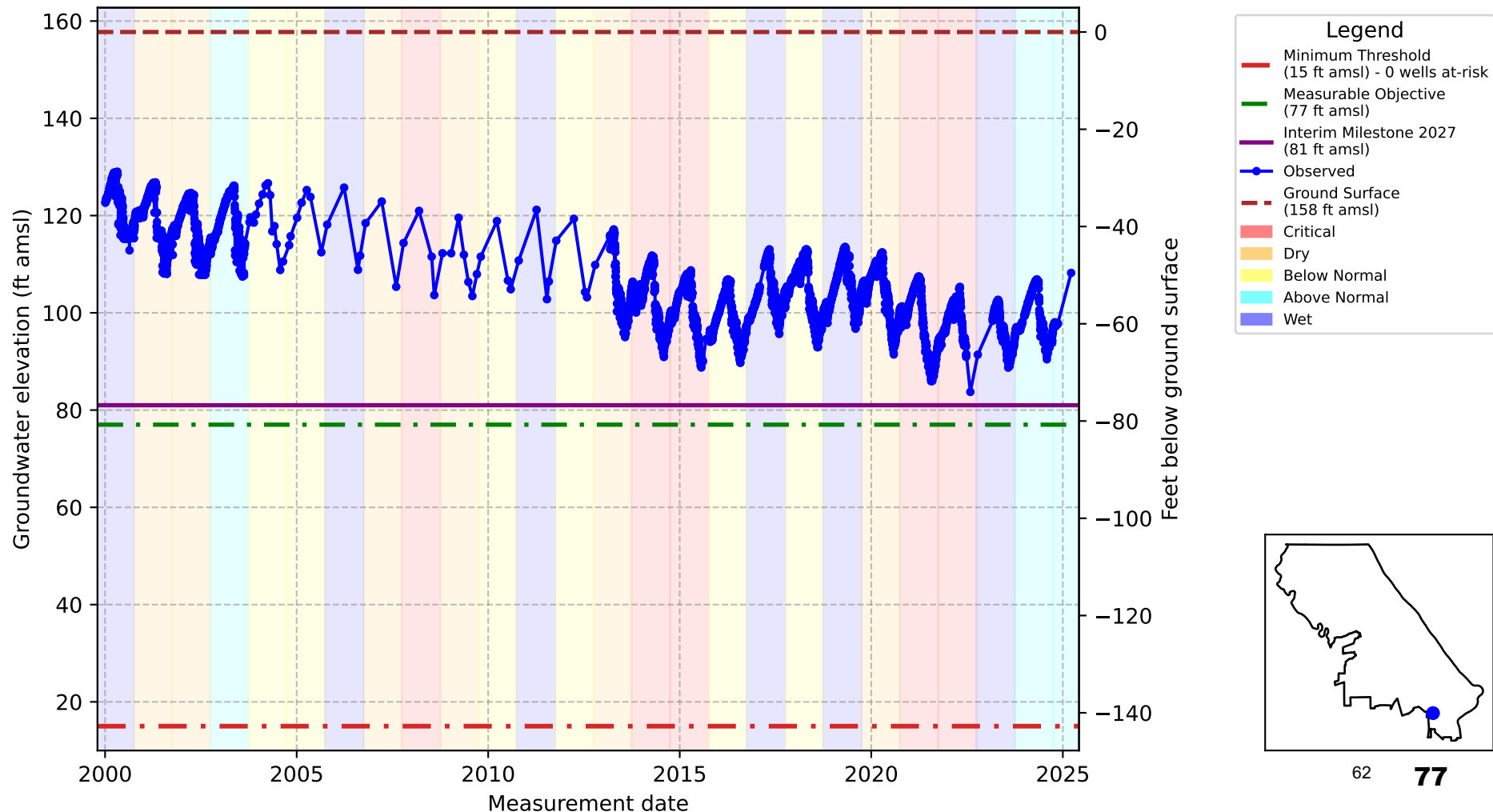
Alternative 2: Revised MT



Vina Subbasin - State Well Number (SWN): 20N02E24C001M

Alternative 2: Revised MT

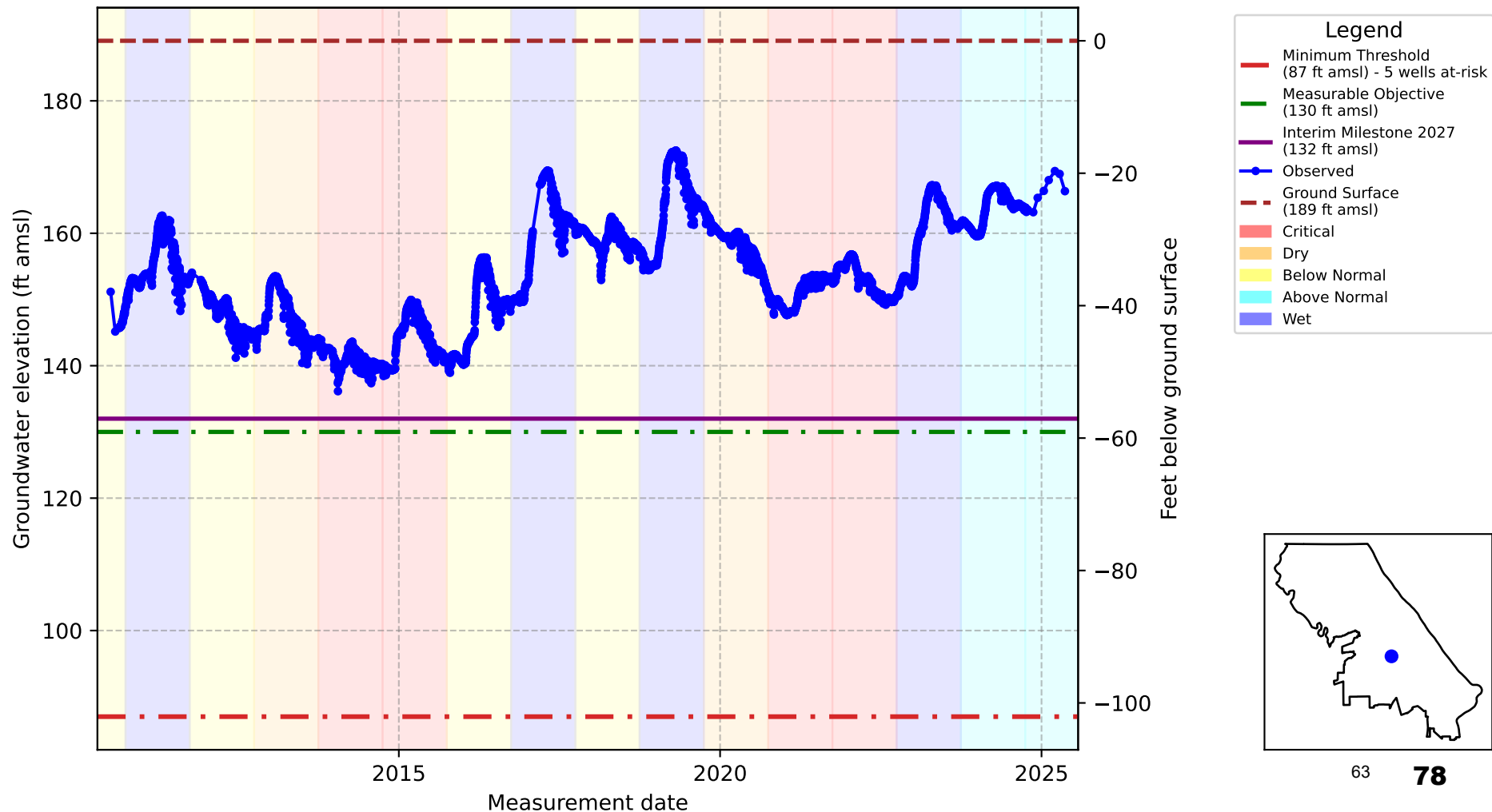
Total Number of Domestic Wells = 7



Vina Subbasin - State Well Number (SWN): 21N02E18C003M

Total Number of Domestic Wells = 92

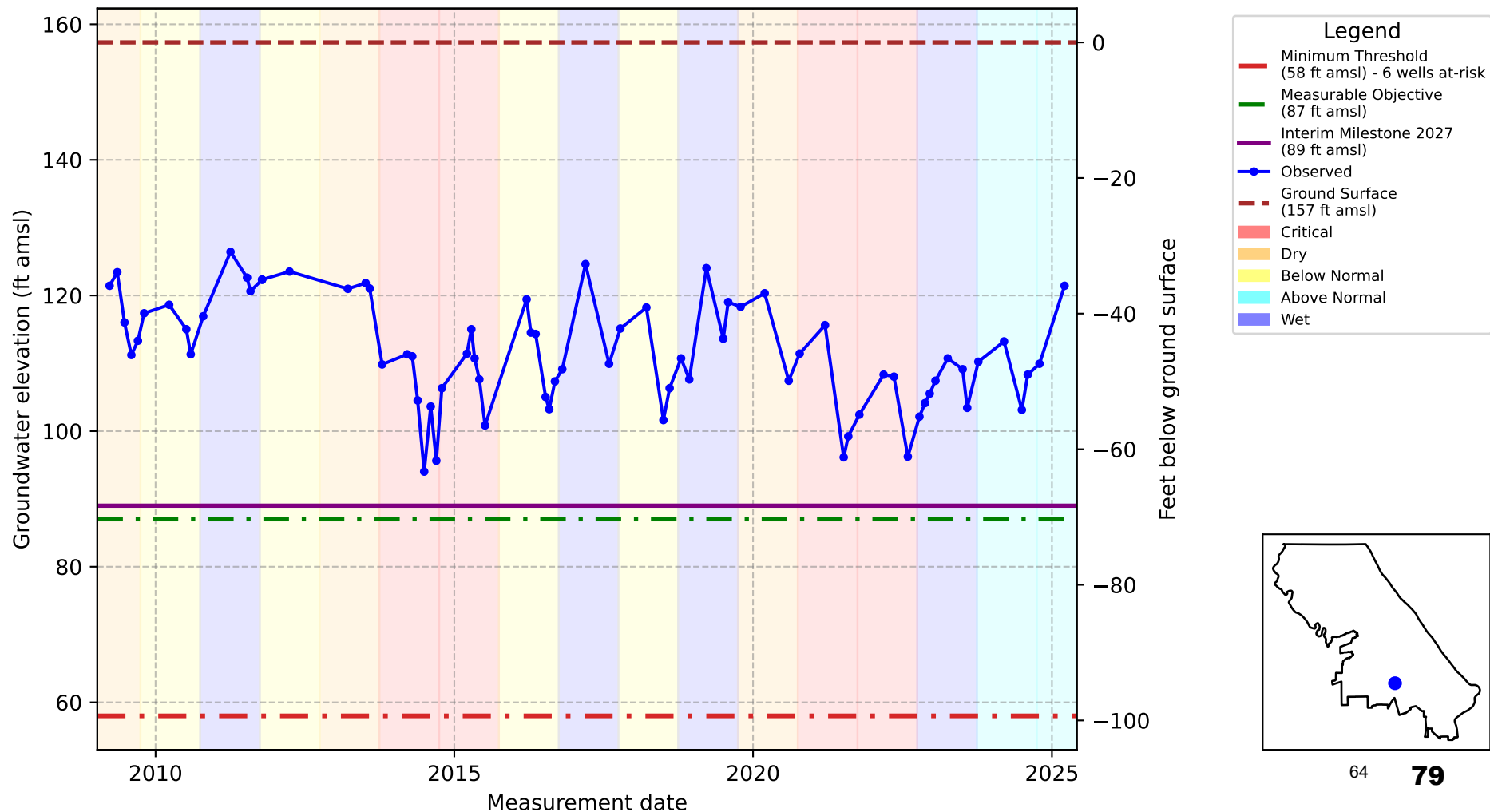
Alternative 2: Revised MT



Vina Subbasin - State Well Number (SWN): 21N02E32E001M

Total Number of Domestic Wells = 110

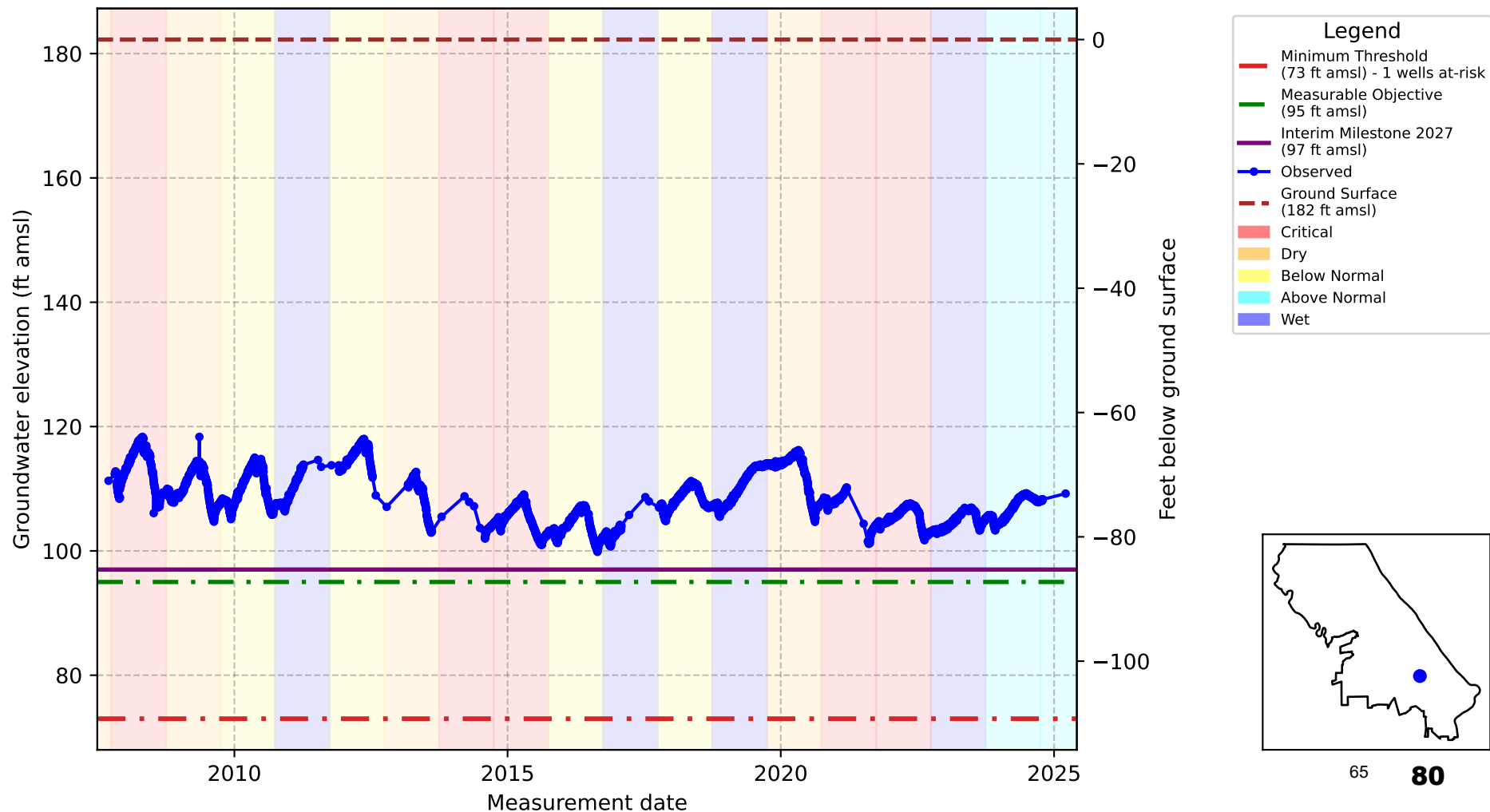
Alternative 2: Revised MT



Vina Subbasin - State Well Number (SWN): 21N02E26E006M

Total Number of Domestic Wells = 20

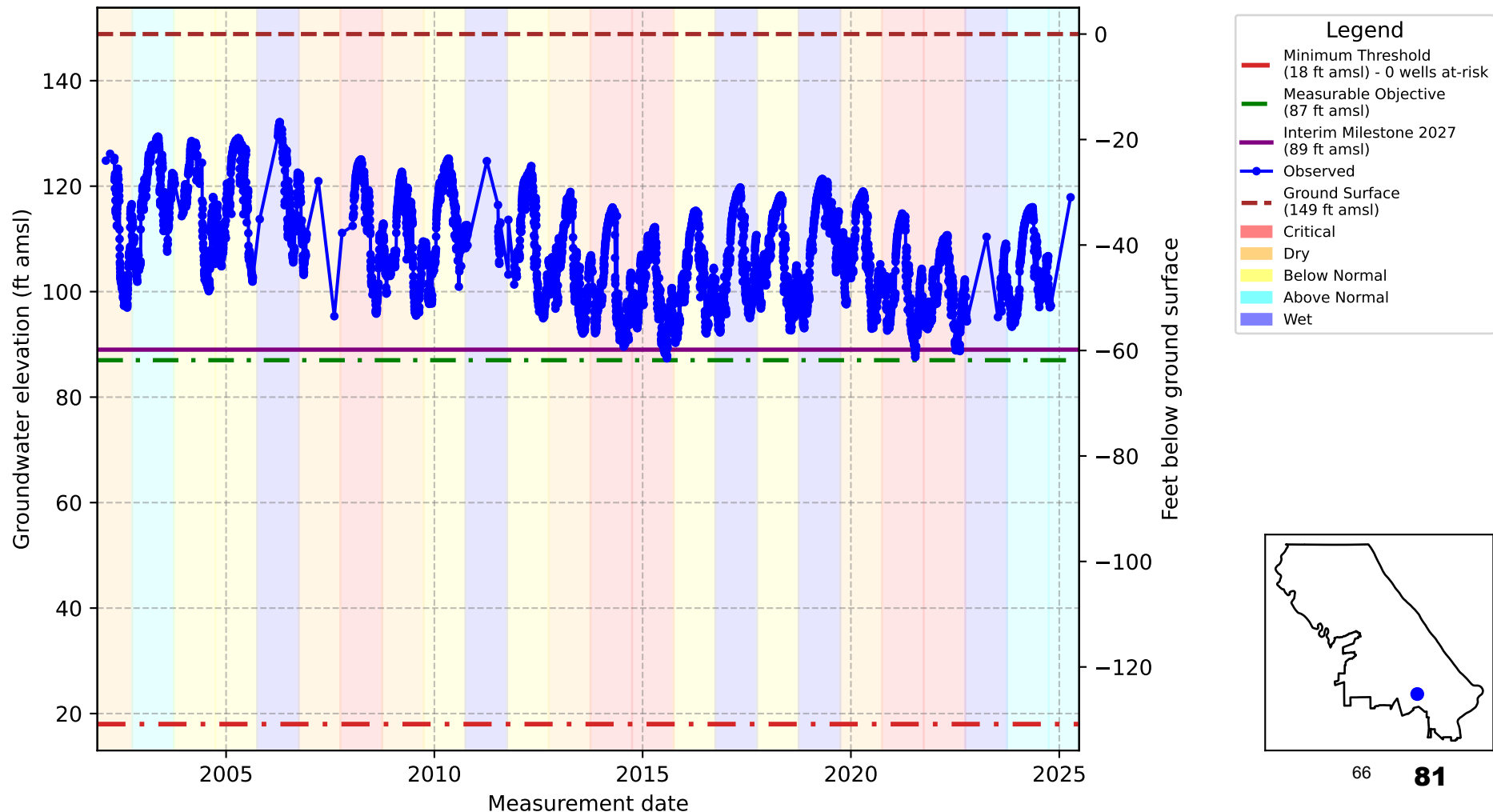
Alternative 2: Revised MT



Vina Subbasin - State Well Number (SWN): 20N02E09G001M

Alternative 2: Revised MT

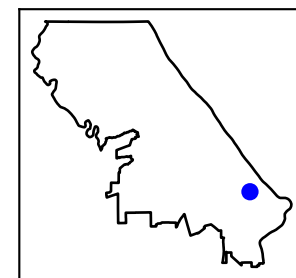
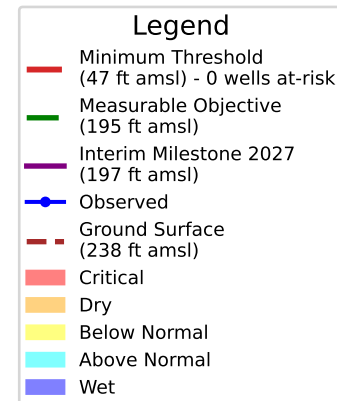
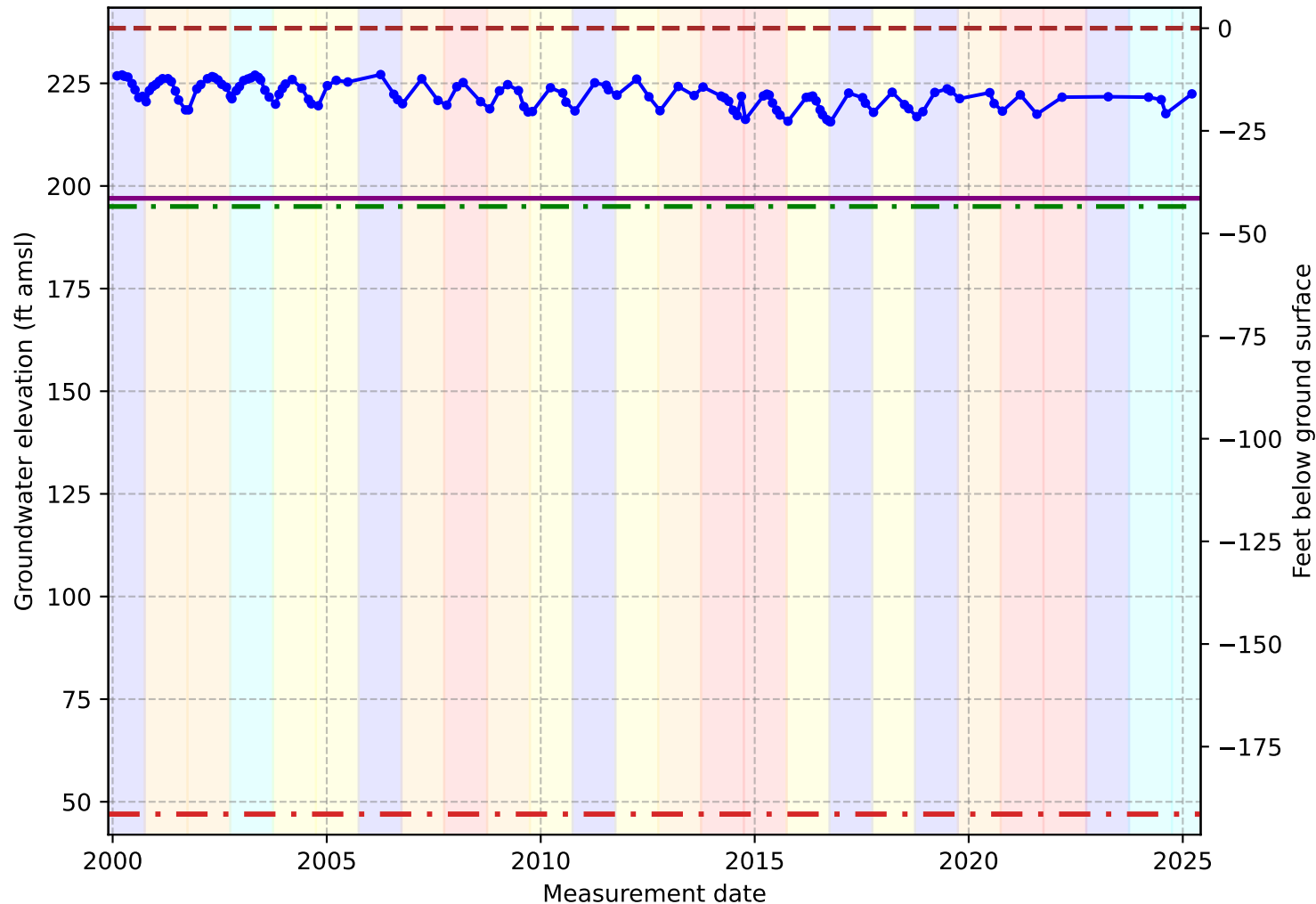
Total Number of Domestic Wells = 2



Vina Subbasin - State Well Number (SWN): 21N03E32B001M

Total Number of Domestic Wells = 7

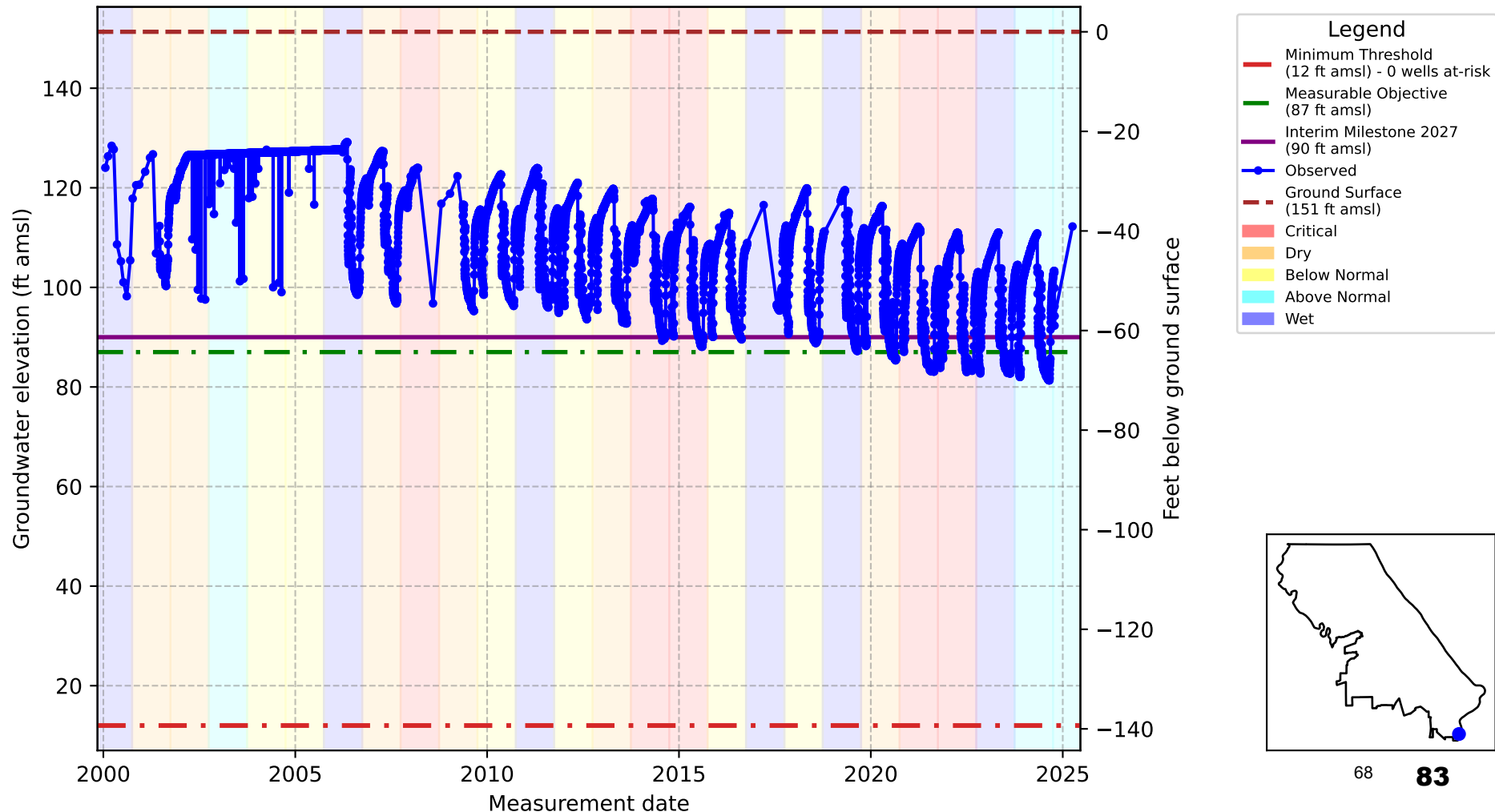
Alternative 2: Revised MT



Vina Subbasin - State Well Number (SWN): 20N03E33L001M

Alternative 2: Revised MT

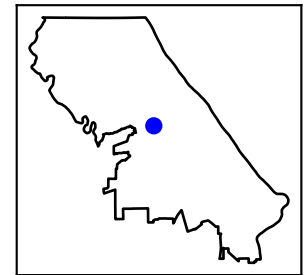
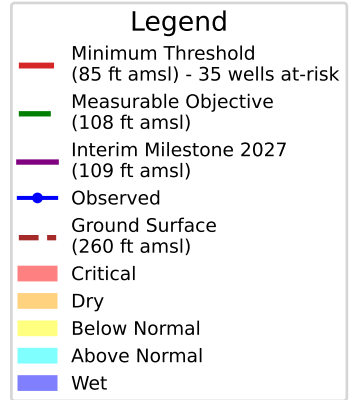
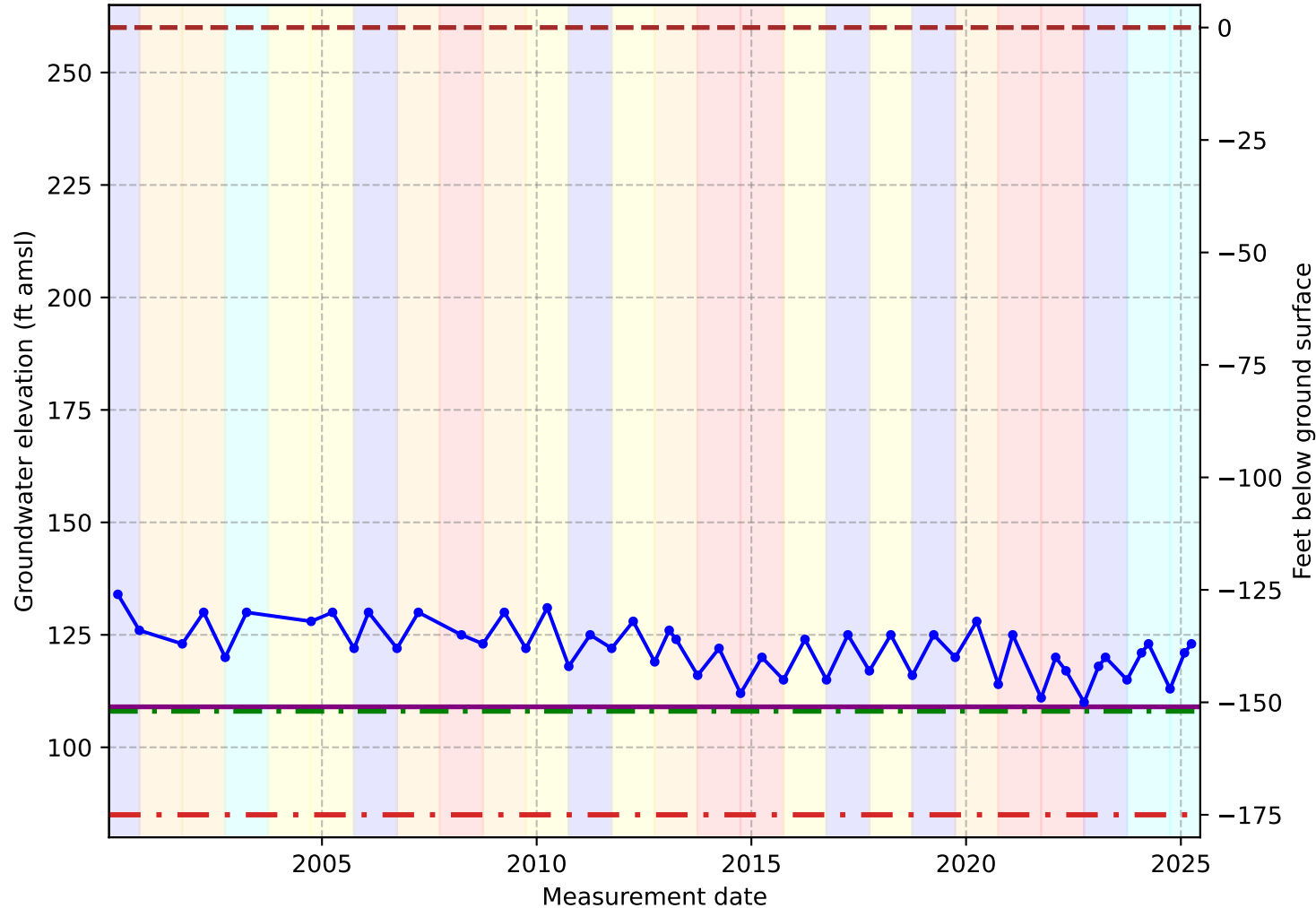
Total Number of Domestic Wells = 2



Vina Subbasin - State Well Number (SWN): CWSCH03

Total Number of Domestic Wells = 387

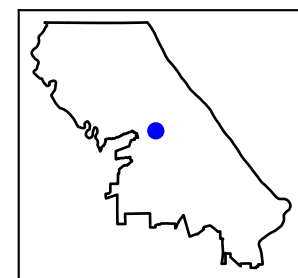
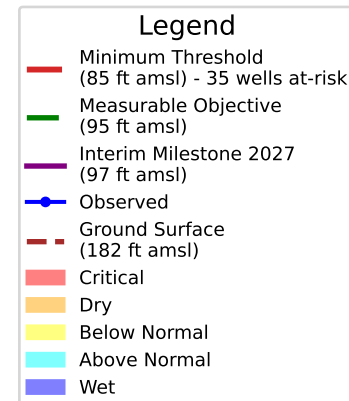
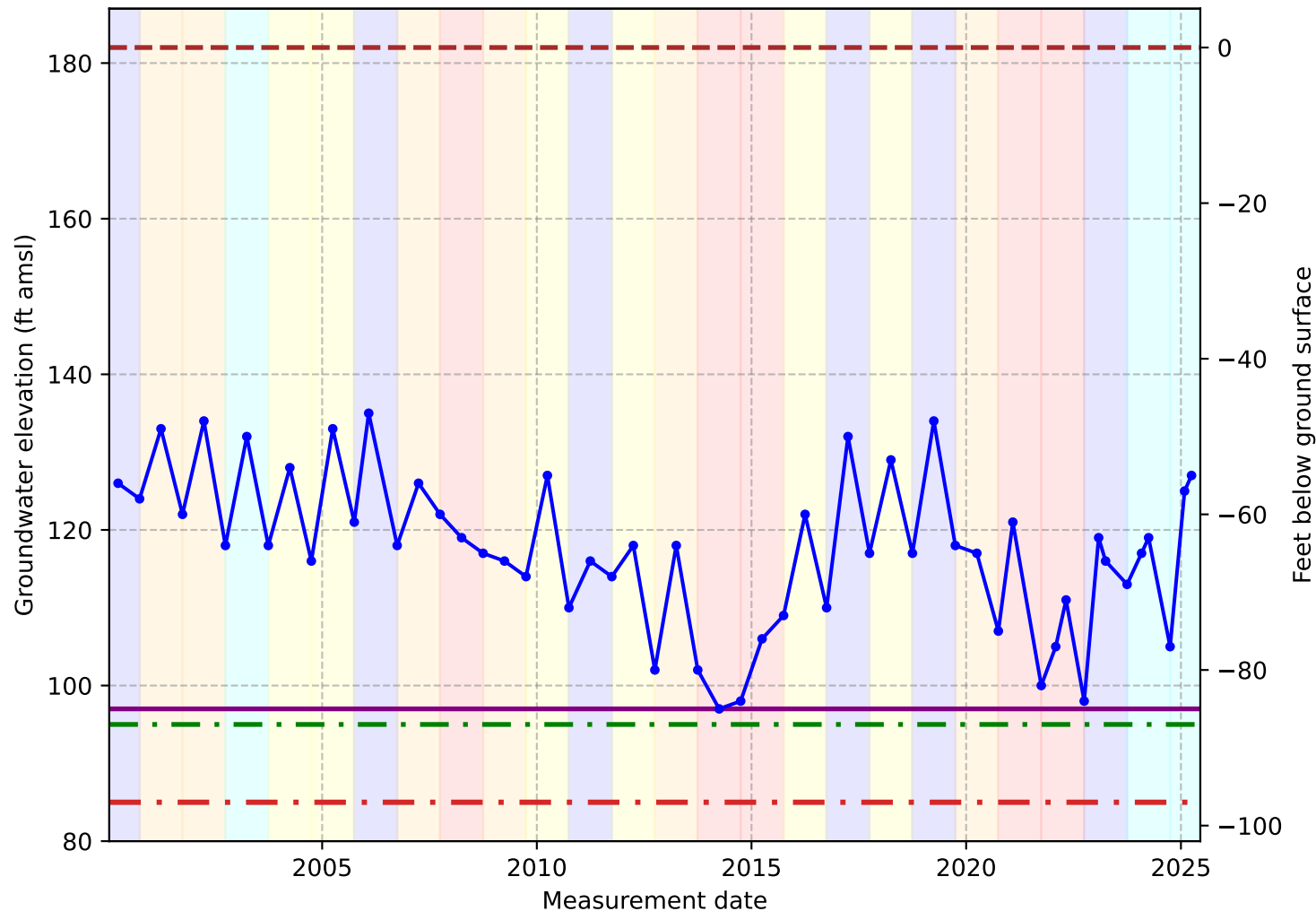
Alternative 2: Revised MT



Vina Subbasin - State Well Number (SWN): CWSCH07

Total Number of Domestic Wells = 387

Alternative 2: Revised MT

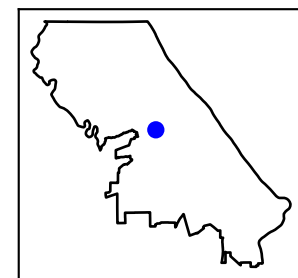
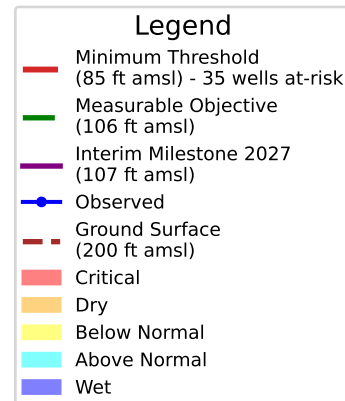
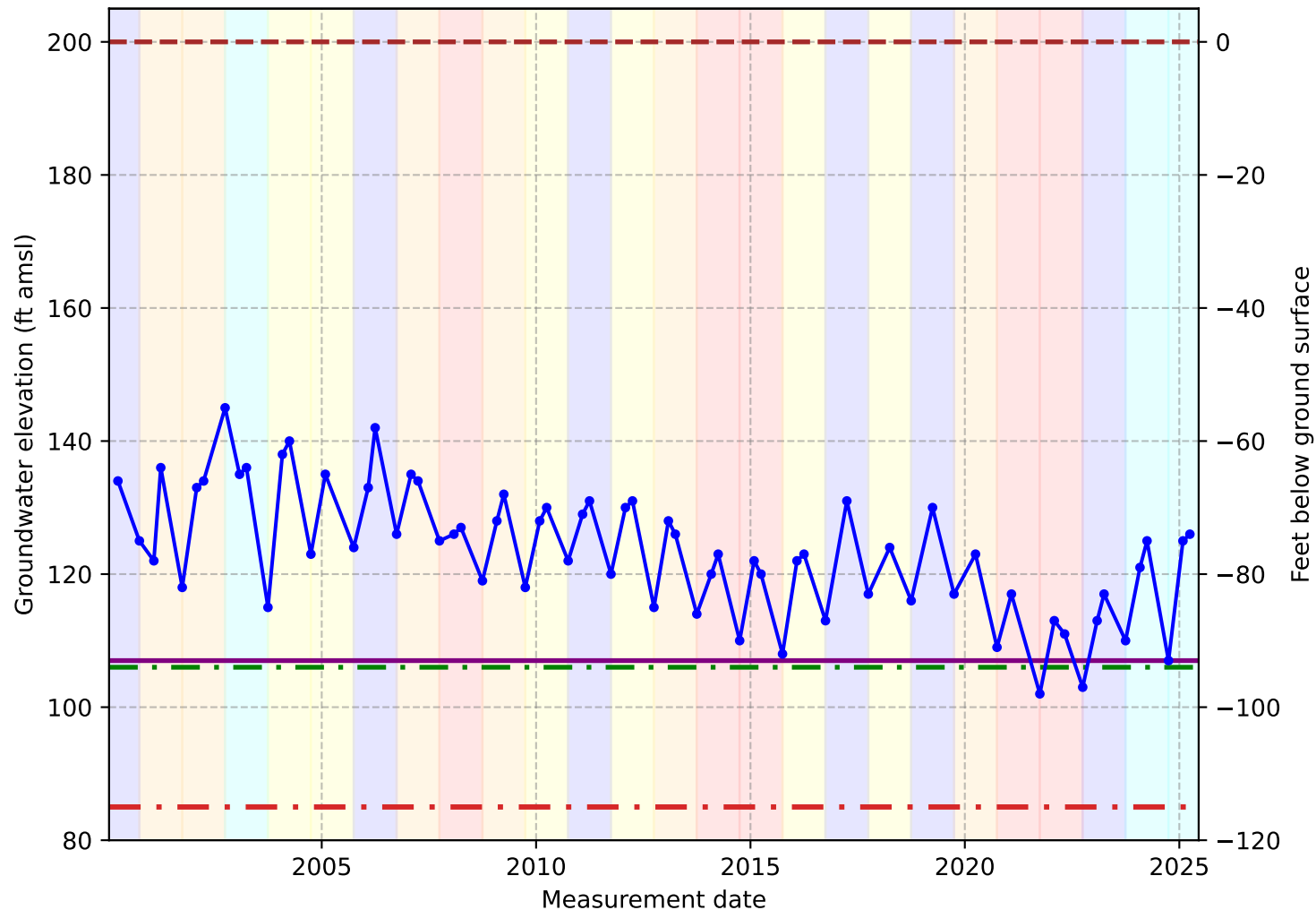


70 **85**

Vina Subbasin - State Well Number (SWN): CWSCH01b

Total Number of Domestic Wells = 387

Alternative 2: Revised MT



Attachment C.

Vina GSA — Groundwater Level Strawman

Summary of Stakeholder Perspectives

Purpose

This document summarizes the range of stakeholder input received on the Groundwater Level Strawman across recent stakeholder meetings and public comment opportunities. It is intended to help the Board quickly see the spectrum of perspectives as it considers action on three items on behalf of the Vina Groundwater Sustainability Agency (GSA): the Representative Monitoring Site (RMS) network, Local Management Levels (LMLs), and the Sustainable Management Criteria (SMC) — specifically the Minimum Thresholds (MTs) and Measurable Objectives (MOs).

Clarifying questions raised at these meetings are not included here, and individual comments are consolidated by topic rather than repeated each time they were raised.

Meetings and Public Comment Opportunities

- Discussion with environmental representatives and domestic well users community members – June 22, 2026
- Stakeholder Advisory Committee (SHAC) Meeting – June 24, 2026
- Discussion with environmental, domestic well, and agricultural community members – July 6, 2026
- Public Comments – July 8, 2026 Vina GSA Board Meeting (including two written comments)
- Public Comments – July 14, 2026 Groundwater Levels Public Workshop

Summary of Stakeholder Perspectives

1. Representative Monitoring Site (RMS) Network

- There was broad, and at SHAC unanimous, support for expanding the RMS network. Stakeholders across meetings felt the benefits — more accurate and representative data on change in storage — outweigh the drawbacks.

2. Local Management Levels (LMLs)

- Views on LMLs spanned a wide range. Some stakeholders do not support LMLs as currently proposed, feeling they carry no real consequences, and would prefer to simply raise MTs instead.
- Environmental representatives felt the proposed strawman does not go far enough, describing it as not a true middle-ground approach. They expressed a preference for a more expansive option that includes changes to MTs and

pointed to Wyandotte Creek GSA's approach for MTs, along with other neighboring subbasins, as models worth reviewing.

- Others support LMLs as a reasonable starting point, but want them applied to more RMS wells than the 5 currently proposed.
- An agricultural representative felt MOs are already set aggressively and viewed the combination of LMLs and additional RMS wells as a reasonable middle ground, while cautioning against unintended consequences from further regulatory action.
- A recurring theme across nearly every meeting was that LMLs, as proposed, are not tied to a regulatory “hook” or enforcement mechanism, while MTs are. Multiple stakeholders — including some SHAC members, environmental representatives, and members of the public — said LMLs need real consequences (such as demand reduction) to be meaningful, with some specifically suggesting LMLs be tied to ecological thresholds. As currently structured, LMLs direct advisement or monitoring only.

GDE Mapping and the ESA Study

- Multiple stakeholders raised concerns about the Environmental Science Associates (ESA) study used to map Groundwater Dependent Ecosystems (GDEs) — specifically the adequacy of the underlying dataset and the rooting-depth assumptions used. Environmental representatives are seeking an independent, outside review of the study and want monitoring extended to all polygons in the subbasin rather than only the 5 currently identified as sensitive GDE areas.
- Some stakeholders felt the GDE analysis should not be used for decision-making until more information is available on other water sources, and suggested annual GDE monitoring as an interim measure.
- Some also felt the definition of “groundwater” itself needs to be revisited and more clearly defined.

3. Sustainable Management Criteria (SMC): Minimum Thresholds (MTs) and Measurable Objectives (MOs)

- There was strong and repeated support — from several SHAC members, environmental representatives, and domestic well owners — for raising the MT to a more protective level. Commenters noted the current MT is set below historical lows and is up to four times lower than neighboring subbasins, which some argued exposes the GSA to liability for effects on neighboring subbasins.
- One written commenter pointed to Wyandotte Creek GSA's September 2025 SMC amendment as a specific model: setting the MT to the deeper of (1) the 5th percentile of nearby shallow domestic wells or (2) a specified distance below the historic low (the lesser of the historical range or 20 feet), with the MO set to the 2015–2025 average groundwater level.
- There was broad support for setting MOs higher than historic lows, which stakeholders felt would signal improved intention and provide a meaningful

buffer; one participant noted MOs currently function as a guideline rather than a regulatory tool.

- Domestic well owners and representatives raised strong concerns about the exclusion of wells drilled before 1980, as well as wells within the Cal Water and Durham Irrigation District service areas, from the Groundwater Sustainability Plan (GSP)'s risk analysis — arguing this significantly under-estimates the number of wells at risk of going dry. They preferred a “working well” definition over a fixed cutoff year, consistent with Department of Water Resources (DWR) guidance, and asked that these wells be included in the analysis with protection provisions for damages from groundwater depletion.
- There was broad support for a proactive approach to well mitigation — preventing problems before they occur — rather than costly mitigation after the fact. One commenter noted that raising the MT would also help protect groundwater-dependent landscapes and urban forests.
- All participants at one meeting supported removing the “non-dry year” language from the definition of undesirable result, consistent with a DWR Recommended Corrective Action (RCA); this was echoed by a public commenter who separately objected to the current definition (two non-dry years in a row) and asked that the regulation be designed to protect domestic wells.
- One written commenter argued that DWR's approval of the Vina GSP is conditional, not final, and that RCAs require rectification rather than being optional — cautioning that unaddressed RCAs could result in the GSA being referred to the State Water Resources Control Board (SWRCB) for intervention. The same commenter argued that framing protections for domestic well owners and GDEs as a regulatory “threat” is misguided, and that the GSA Board has a responsibility to protect less-capable groundwater users — including domestic well owners and GDEs — who cannot otherwise defend their interests against heavier pumping.
- Multiple commenters requested that the Board direct staff to complete a more thorough risk/benefit analysis comparing a lower versus a higher MT before finalizing this decision.
- Separately, an environmental commenter asked that agricultural water users change irrigation practices to use less water, and expressed a general desire to protect environmental interests in this process. Another commenter raised concern about agricultural influence over GSP policy more broadly and asked how the GSA insulates itself from outside influence.

Other Suggestions

- One member of the public, who works with biochar, expressed support for its use and its potential effects on groundwater management. This was not otherwise discussed at stakeholder meetings and may warrant further staff evaluation outside the scope of this decision.



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MEMORANDUM

To: Vina Stakeholder Advisory Committee

From: Christina Buck, Asst. Director Butte County Dept. Water and Resource Conservation
(providing technical staff support to the GSA)

Date: July 16, 2026

Subject: Introduction of Potential New Projects and Management Actions for the GSP Periodic Evaluation

Background

The Vina Groundwater Sustainability Plan (GSP) identifies Projects and Management Actions (PMAs) that the Vina Groundwater Sustainability Agency (GSA), Rock Creek Reclamation District GSA, their member agencies, or project partners may implement to help achieve and maintain groundwater sustainability. As part of the first GSP Periodic Evaluation, due to the California Department of Water Resources (DWR) in January 2027, the GSAs must evaluate the status and continued relevance of the existing PMAs and describe significant new information, including potential additions to or changes in the PMA list.

At its March 25, 2026 meeting, the Stakeholder Advisory Committee (SHAC) reviewed an approach for organizing the existing GSP projects to support the Periodic Evaluation and ongoing annual reporting. That discussion focused on distinguishing the projects that are part of the GSAs' active implementation strategy from projects led primarily by other entities that may provide ancillary groundwater benefits.

Recap of Existing PMA Categorization

The March discussion presented two primary project categories. This framework is intended to make annual tracking more focused and meaningful while retaining the broader range of projects considered in the GSP:

- **PMAs:** Projects that the GSAs, member agencies, or partners are actively pursuing or may pursue as part of the strategy to maintain or achieve sustainability. These projects are categorized as Completed, In-Progress, or Potential and are the primary focus of annual tracking in [DWR's PMA Module](#).
- **Other Projects:** Projects led primarily by other agencies or entities that may benefit groundwater conditions but are not currently relied upon as part of the GSAs' active sustainability strategy. These projects remain in the broader GSP planning framework and are documented in the Periodic Evaluation; however they are tracked annually only as feasible and would not be included in the PMA Module.

Management Actions are tracked separately from projects. The seven management actions identified in the GSP are currently included in the PMA Module and are reported on annually.

Current PMA Categorization

The existing PMAs are proposed to be organized in the Periodic Evaluation as summarized below. This information is provided as context for the discussion of potential new PMAs.

In-Progress Projects	Potential Projects
1. Agricultural Irrigation Efficiency (5.2.3.1) 2. Residential Conservation (Cal Water) (5.2.3.2) 3. Scoping for Flood MAR/Surface Water Supply and Recharge (5.2.3.3) 4. Rangeland Management and Water Retention (BCCER) (5.2.4.6)	5. Extend Orchard Replacement (5.2.5.1) 6. Agricultural Surface Water Supplies Project (5.2.4.2) 7. Surface Water Supply and Recharge (includes Lindo Channel)* (5.2.4.8)

** The Surface Water Supply and Recharge PMA is a broad project description that includes several possible activities involving use of surface water in the subbasin, with Sand Creek and Lindo Channel identified as examples.*

Other Projects
1. Wastewater Recycling (City of Chico) (5.2.4.5) 2. Paradise Irrigation District Intertie (5.2.4.1) 3. Community Water Education Initiative (5.2.3.4) 4. Fuel Management for Watershed Health (5.2.3.5) 5. Removal of Invasive Species (5.2.4.7) 6. Streamflow Augmentation (5.2.4.3) 7. Recharge from the Miocene Canal (5.2.5.2) 8. Community Monitoring Program (CSUC) (5.2.4.4)

Management Actions
1. General Plan Updates (County and City) 2. Domestic Well Mitigation 3. Well Permitting Ordinance 4. Landscape Ordinance 5. Prohibition of Groundwater Use for Ski (Recreational) Lakes 6. Expansion of Water Purveyors' Service Area 7. Groundwater Allocation

Consideration of Potential New PMAs

As work on the Periodic Evaluation has progressed, four primary PMA concepts have been identified and brought forward by stakeholders and community groups for preliminary consideration. Two are monitoring and assessment activities presented as potential management actions, and two are discrete project concepts. The descriptions below also include two related concepts that are still being discussed as either standalone PMAs or components of one of the four primary concepts. The purpose of this agenda item is to introduce the concepts and receive early questions and feedback from the SHAC. Staff is not requesting a recommendation at this meeting on whether any of the concepts should be added to the PMA list.

The SHAC is invited to comment on each concept's objective, proposed lead and participating entities, potential funding, relationship to existing PMAs, and relevance to groundwater sustainability. Feedback is also requested on whether the concepts are best characterized as projects or management actions and, for the project concepts, whether they would be part of the GSAs' active implementation strategy or more appropriately categorized as Other Projects. Staff will use this input to work with project proponents to refine the descriptions and proposed categorization. The potential PMAs will return at a future meeting for formal recommendation by

the SHAC before being presented to the Vina GSA and Rock Creek Reclamation District GSA Boards for formal consideration. Discussion at this stage does not commit either GSA to implementation or funding.

Potential New Management Actions

For purposes of the GSP, monitoring and assessment activities are generally more appropriately characterized as management actions rather than projects. These activities involve ongoing data collection, evaluation, engagement, and adaptive management that inform GSA decisions, rather than construction or implementation of project with discrete deliverables and quantifiable benefits. Characterizing an activity as a management action clarifies how it would be implemented and reported.

Several of the proposals were developed by local environmental stakeholders, California Open Lands, and ecological technical assistance providers through the Underrepresented Communities, California Tribes, and Small Farmers Groundwater Technical Assistance (URCTA) program and were submitted to the Vina GSA by Audubon for consideration.

1. Local Refinement of GDE Mapping with Place-Based Monitoring Plan (Management Action)

Provided by Audubon.

The GSA's expansion of the shallow groundwater monitoring well network creates a new opportunity to develop and begin implementing a place-based monitoring plan for priority GDEs and refine the statewide GDE datasets to better identify locally important non-riparian vegetation, including groundwater-dependent oak woodlands and urban tree canopy that existing statewide mapping does not adequately capture. The monitoring plan would establish baseline ecological conditions, field survey and NDVI-based vegetation health indicators, and habitat use by special-status species. It would define potential timing or response triggers tied to Local Management Levels and ecological thresholds, and would help identify groundwater-driven impacts to GDEs. The plan would integrate the best available science, including Traditional Ecological Knowledge (TEK), the work of place-based scientists, local resource specialists, ESA's GDE technical studies, and findings from the URCTA ecological technical assistance project. Trained volunteers, schools, and local partners would contribute supplemental observations and ground-truthing, broadening engagement and strengthening monitoring network confidence. This effort can be leveraged by local partners to design multibenefit projects that deliver clear value to the broader agricultural, environmental, and Tribal community. No groundwater level triggers are associated with this refinement work. Local environmental stakeholders, California Open Lands, CA Urban Streams Alliance, Butte County Resource Conservation District, Audubon, and The Nature Conservancy would support this work. Initial support is anticipated from the DWR URCTA program, and Proposition 4 has been identified as an additional potential funding source. Project proponents would pursue future implementation funding.

The community science management action listed below is also in active discussion to determine whether it is an independent PMA or an additional component of this effort.

Community Science, Watershed Stewardship, and SGMA Implementation Support Program (Management Action)

Related concept under discussion, provided by CA Urban Streams Alliance.

This project supports implementation of the Vina GSA Groundwater Sustainability Plan (GSP) by establishing a community science and watershed stewardship program that complements the GSA's technical monitoring and stakeholder engagement efforts. Using trained volunteers,

schools, and local partners to collect supplemental observations on streamflow, groundwater-dependent ecosystems (GDEs), water quality, and watershed conditions, the project helps improve understanding of interconnected surface water-groundwater relationships, provides ground-truthing for monitoring networks, identifies potential data gaps, and supports adaptive management. The program also expands meaningful stakeholder engagement beyond traditional public meetings by actively involving residents in monitoring and stewardship activities. These efforts directly address several deficiencies identified by the California Department of Water Resources (DWR) for the 2027 GSP Periodic Evaluation, including the need for additional information and analysis related to interconnected surface waters, GDEs, monitoring network confidence, groundwater quality protection, and more robust stakeholder involvement, while creating opportunities to leverage partnerships with the City of Chico, watershed organizations, schools, and other agencies.

2. Chico Urban Forest Vulnerability Assessment and Monitoring Plan (Management Action)

Provided by Audubon.

The GDE Technical Study flagged the Chico area as GDE-sensitive but identified a crucial data gap regarding how dependent the city's unirrigated, deep-rooted trees are on regional groundwater versus soil moisture or local recharge. To satisfy DWR Recommended Corrective Action 3 requirements for evaluating impacts to environmental beneficial users, this management action establishes a two-tiered vulnerability assessment and monitoring plan for Bidwell Park's unirrigated riparian and non-riparian canopy, alongside citywide deep-rooted trees. Tier 1 employs publicly available satellite imagery and a z-NDVI (standardized vegetation-greenness anomaly) approach—consistent with Rohde et al.'s published GDE-monitoring methodology—to efficiently screen canopy trends. Tier 2 pairs this screening with the City's existing tree inventory and targeted field assessments (canopy health, crown dieback, and regeneration) at locations tied to the shallow, GDE-sensitive RMS wells from the groundwater level strawman. This strategy efficiently fills an acknowledged gap by leveraging an established municipal data system to provide the field evidence needed to distinguish drought-driven vegetation stress from groundwater-driven decline. It directly operationalizes the Local Management Level (LML) concept for Chico-area wells with actual ground-truthing, implementing the adaptive-management actions already listed in the strawman's Section 5. Baseline assessments will begin immediately as a precautionary step, with monitoring intensifying and triggering formal evaluation only if a Chico-area/GDE-sensitive well reaches its LML. Project partners include the City of Chico Public Works Urban Forestry Division, Butte County, and potentially CSU Chico. Funding is anticipated through a blend of Sustainable Groundwater Management grant support and a possible CSU Chico research partnership.

Potential New Projects

The following concepts are structured as projects because they contemplate defined planning or implementation efforts and project deliverables. Depending on the lead entity, relationship to the GSAs' active implementation strategy, and future funding or implementation commitments, one or more may ultimately be categorized as Other Projects rather than a PMA. No categorization decision is requested at this meeting.

1. Lindo Channel Recharge through a Multi-Benefit Management Plan for Five Mile (Project)

Provided by Environmental Science Associates in coordination with Butte County.

In June 2026, the Vina GSA completed the "Project Feasibility and Alternatives Report - Feasibility of Enhanced Recharge in the Lindo Channel." Achieving recharge benefits will require operational changes to the Big Chico Creek Gates at Five Mile and ongoing monitoring and

maintenance of the dynamic gravel/cobble channel that controls flows into Lindo Channel. Because Butte County also faces significant deferred maintenance at the Five Mile flood management facility, advancing recharge will require an integrated approach to operations and maintenance. Butte County and the Vina GSA can address both recharge and deferred maintenance by developing a comprehensive Multi-Benefit Management Plan for Five Mile (Project). The Plan would establish a reconfigured channel template through one-time channel and vegetation maintenance, then work with local Traditional Ecological Knowledge (TEK) practitioners and community resource specialists to monitor and maintain that template over time to balance flood conveyance, fish passage, habitat, and recharge. A new governance and funding structure would support long-term, multi-benefit O&M and align costs with beneficiaries. The Plan, funding program, and governance structure would be developed as a Project completed by an engineering and environmental services team experienced in integrated, multi-benefit water resource projects. Project partners could include Environmental Science Associates, CA Urban Streams Alliance, California Open Lands, and local agencies. Potential funding includes upcoming DWR Proposition 4 grants and conditions are correct for project implementation once funding is secured.

Lindo Channel Multi-Benefit Stormwater Recharge Initiative:

Related concept under discussion provided by CA Urban Streams Alliance.

Please note that the above project is in active discussion among stakeholders to consider potential additions. The Lindo Channel description below, provided by CA Urban Streams Alliance, could be considered a separate project or as an additional component to the Lindo Channel project described above.

This project supports implementation of the Vina GSA Groundwater Sustainability Plan (GSP) by integrating stormwater management, managed aquifer recharge, water quality protection, monitoring, and watershed stewardship into a coordinated, multi-benefit approach. Building on planned City of Chico MS4 stormwater improvements, the project would evaluate opportunities to capture, treat, monitor, and infiltrate seasonal stormwater flows to improve groundwater recharge while enhancing understanding of interconnected surface water-groundwater interactions. Expanded monitoring of streamflow, groundwater, water quality, and groundwater-dependent ecosystems (GDEs), combined with community science and ground-truthing of monitoring networks, would provide supplemental information to improve monitoring confidence, identify data gaps, and support adaptive management. The project also expands meaningful stakeholder engagement through hands-on participation and partnerships with the City, watershed organizations, schools, and other agencies. By leveraging existing and planned infrastructure investments to achieve multiple resource objectives, the project directly supports SGMA implementation and helps address several DWR recommendations for the 2027 GSP Periodic Evaluation, including improving evaluation of recharge opportunities, interconnected surface waters, groundwater quality, GDEs, monitoring network effectiveness and stakeholder engagement.

2. Biomass and Biochar Utilization for Demand Management, Regenerative Agriculture, and Multibenefit Recharge (Project)

Provided by Audubon.

This project centers Traditional Ecological Knowledge (TEK) and cultural burning alongside demand-management strategies to balance localized overdraft and stabilize groundwater levels near priority GDEs. Applying biochar to farmland would deliver measurable soil health, water retention, and water-quality benefits across the Vina subbasin. Low-intensity cultural burning would reduce invasive species that compete with and degrade GDEs, lower hazardous fuels, and convert excess biomass into biochar. That biochar could also improve water-quality outcomes from recharge projects and filter urban runoff contaminants before they reach the shallow aquifer. On-farm recharge and demand management pilots would include before-and-after monitoring to

document soil, water-quality, recharge, and other hydrologic outcomes. Beyond these hydrologic benefits, the project would build durable local capacity through tribal co-management agreements, job training, eco-tourism, and cultural education centered on groundwater-dependent native foods, fiber, and medicine. California Open Lands would lead a partnership that could include CAL FIRE, growers, and local agencies and partners. With growing state support for Indigenous-led stewardship, funding is anticipated through CAL FIRE, DWR, Proposition 4, and other sources. No groundwater level triggers are associated with the implementation of this project.

Requested Action

Receive information regarding the potential new PMAs and related concepts under discussion and provide questions and preliminary feedback to staff regarding their objectives, characterization, relationship to existing PMAs, and potential categorization. No formal recommendation or decision is requested at this meeting.



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MEMORANDUM

To: Vina Stakeholder Advisory Committee

From: Christina Buck, Asst. Director Butte County Dept. Water and Resource Conservation (providing technical staff support to the GSA) and Laura Foglia and Ryan Fulton, Larry Walker Associates

Date: July 16, 2026

Subject: **Consideration of Draft Responses to Recommended Corrective Action 1 regarding Water Quality**

DWR Recommended Corrective Actions

Provided below is Recommended Corrective Action (RCA) 1, as stated in the Determination Letter:



Recommended Corrective Action 1

Provide additional information on historical and current groundwater quality conditions in the Subbasin and refine the definition of sustainable management criteria including:

- a. Provide additional information in the GSP outlining the location and extent of contamination plumes, identifying which constituents are being monitored under various programs, and thoroughly describing ongoing remediation efforts within the Subbasin.*
- b. Evaluate whether groundwater management actions, including production and/or replenishment under the jurisdiction of the GSAs, may influence the migration of contaminant plumes.*
- c. Investigate if groundwater quality issues are adversely impacting groundwater supply and beneficial uses and provide information if there are any mitigation programs in place and the effectiveness of such programs.*
- d. Coordinate with the lead agencies overseeing these remediation sites regularly and update the Plan stating how existing groundwater quality conditions and/or remediation efforts may impact the GSAs' ability to manage groundwater.*

DWR expects GSAs to consider and respond to the RCAs for the first periodic evaluation, due in January 2027. The PE will summarize and respond to the RCAs by describing what they were, whether they were addressed, and whether they led to a Plan Amendment. The following is a draft of how the GSAs could respond to this RCA in the PE.

DRAFT Responses to RCA

The goal of groundwater quality management under SGMA is to supplement information available from other sources with data targeted to assist the GSAs in the Vina Subbasin to assess how groundwater pumping and projects and management actions (PMAs) impact water quality. The GSAs do not replace other water quality agencies and programs responsible for protecting water quality across the State. Current water quality conditions are described in Section 6.4 of the Periodic Evaluation which shows the Subbasin does not have significant historical or existing water quality issues. There are localized contamination plumes under the jurisdiction of other regulatory programs within the Subbasin. The GSAs have not implemented large scale recharge projects yet. The planned PMAs are expected to minimize the movement of known contamination plumes and dilute contaminant concentrations through groundwater recharge. The Vina Subbasin Surface Water Supply and Recharge Feasibility Study identified known contamination plumes near proposed recharge projects (Geosyntec, June 2026). A water quality monitoring plan to monitor the water quality of recharge water and the underlying aquifer would be developed as projects are implemented.

In DWR's 2023 GSP determination letter, the department identified recommended corrective actions regarding water quality. DWR's corrective actions are shown below, verbatim, followed by the draft GSA response.

Corrective Action 1a: *Provide additional information in the GSP outlining the location and extent of contamination plumes, identifying which constituents are being monitored under various programs, and thoroughly describing ongoing remediation efforts within the Subbasin.*

GSA Response: The 2022 GSP listed and mapped (Figure 2-18) locations of impacted groundwater due to existing plumes, identified by reviewing information available on the SWRCB Geotracker / GAMA website, the California Department of Toxic Substances Control (DTSC) EnviroStor website, and the Environmental Protection Agency's (EPA) National Priorities List (NPL). After a review of all contamination plumes within the Subbasin, no significant changes have occurred since the 2022 GSP to warrant an update to the known sites and contamination plumes within the Subbasin. Section 2.2.4.2 of the GSP lists and describes all existing contamination sites, contaminants of concern, and the corresponding responsible agency and/or mitigation program. The Vina Subbasin Surface Water Supply and Recharge Feasibility Study identified known contamination plumes near proposed recharge projects (Geosyntec, June 2026). The GSAs will continue to coordinate with other regulatory agencies to update the location and extent of contamination plumes as needed.

Corrective Action 1b: *Evaluate whether groundwater management actions, including production and/or replenishment under the jurisdiction of the GSAs, may influence the migration of contaminant plumes.*

GSA Response: Evaluation of water quality data did not reveal significant impacts from pumping. This finding is based on a trend analysis, as described in Section 6.4 of the Periodic Evaluation assessing specific conductance changes. No changes have occurred over this evaluation period. GSAs will evaluate available water quality sampling results to determine concentrations of other potential constituents of concern including nitrate, perfluorooctanoic acid, and perfluorooctanoic sulfonate per State Water Resources Control Board recommendations. The goal is to demonstrate that all constituents currently being monitored by other agencies have been kept at reasonable levels within the Subbasin and are not impacted by groundwater pumping or implementation of PMAs. As described above, water quality monitoring to monitor the water quality of recharge water and the underlying aquifer would occur as needed as projects are implemented.

Corrective Action 1c: *Investigate if groundwater quality issues are adversely impacting groundwater supply and beneficial uses and provide information if there are any mitigation programs in place and the effectiveness of such programs.*

GSA Response: Member agency Butte County staff and members of the GSA consulting team have participated in Central Valley Salinity Alternatives for Long-Term Sustainability (CV-SALTS) webinars and have responded to CV-SALTS requests for the GSAs input. Additionally, point-source contaminants are managed and regulated through a variety of other programs by the Regional Water Quality Control Board, DTSC, and the EPA. Through coordination with existing agencies, the GSAs will know if existing regulations are being met or groundwater pumping activities in the Vina Subbasin are contributing to significant and unreasonable undesirable effects related to degraded water quality. The GSAs will continue to track and communicate as needed to stay engaged with these other regulatory programs to monitor any groundwater quality issues and mitigation programs.

Corrective Action 1d: *Coordinate with the lead agencies overseeing these remediation sites regularly and update the Plan stating how existing groundwater quality conditions and/or remediation efforts may impact the GSAs' ability to manage groundwater.*

GSA Response: As mentioned above, the goal of groundwater quality management under SGMA is to supplement information available from other sources with data targeted to assist the GSAs in the Vina Subbasin comply with the requirements of SGMA. Development of groundwater quality-related SMC for the Subbasin is not intended to duplicate or supplant the goals and objectives of ongoing programs including Butte County, the Sacramento Valley Water Quality Coalition (SVWQC), the CRC (2019), and the State Drinking Water Information System (SDWIS).

Because irrigated agriculture is the predominant land use in the subbasin, monitoring of the groundwater quality data developed through the Groundwater Quality Trend Monitoring Work Plan (GQTMWP) being implemented by the SVWQC and by the CRC for compliance with the CVRWQCB's ILRP will be an important source of information to the GSA in the Vina Subbasin. The SVWQC has identified priority High Vulnerability Areas (HVA) in the Vina Subbasin for nitrate (SVWQC, 2023).

Among the contaminants that may affect groundwater conditions in the future are Chemicals of Emerging Concern (CECs). These are contaminants having toxicities not previously recognized, which may have the potential to cause adverse effects to public health or the environment and are found to be building up in the environment or to be accumulating in humans or wildlife.

The Butte County Department of Water and Resource Conservation (BCWRC) manages the Groundwater Quality Trend Monitoring Program to provide information on groundwater quality, specifically salinity, for GSAs. Annual data collected by the program is reported in the GSP annual reports. Program goals include establishing a baseline of water quality data to document any water quality temporal trends and ensure that groundwater resources are well managed by documenting groundwater water quality.

Water quality samples will be evaluated (as needed) to determine concentrations of other potential constituents of concern including nitrate, perfluorooctanoic acid (PFOA), and perfluorooctanoic sulfonate (PFOS) per State Water Resources Control Board recommendations. All constituents currently being monitored by other agencies have been kept at reasonable levels within the Subbasin and are not impacted by groundwater pumping. Additionally, the GSA plans to develop a handout that highlights key water quality issues in the subbasin to provide to project partners to ensure projects take water quality into consideration during feasibility, design and implementation.

Member agency Butte County staff and members of the GSA consulting team stay informed regarding groundwater quality issues and mitigation programs in the Subbasin. Staff have participated in CV-SALTS webinars and have responded to CV-SALTS requests for GSA input. Additionally, point-source contaminants are managed and regulated through a variety of other programs by the Regional Water Quality Control Board, DTSC, and the EPA. Through

coordination with existing agencies, the GSAs will know if existing regulations are being met or groundwater pumping activities in the Vina Subbasin are contributing to significant and unreasonable undesirable effects related to degraded water quality. The GSA will continue to stay engaged with these other regulatory programs.

Requested Action

Provide feedback to staff.