Golden State
Water Company
A Subsidiary of American States Water Company

September 4, 2015

Mr. Steven Springhorn, PG
California Department of Water Resources
Sustainable Groundwater Management Section
P.O. Box 942836
Sacramento, CA 94236

VIA Email: SGMPS@water.ca.gov

RE: Comments on Draft Emergency Regulations for Basin Boundary Modification

Dear Mr. Springhorn:

Golden State Water Company ("GSWC") appreciates the opportunity to comment on the Draft Emergency Regulations for Basin Boundary Modification ("Regulations"), which the Department will issue pursuant to the Sustainable Groundwater Management Act. GSWC submits the attached red-lined mark-up with comments of the Regulations for your consideration as you finalize these Regulations.

GSWC provides water service to approximately 258,000 service connections, representing a population of over 1.1million, located within 75 communities throughout 10 counties in Northern, Coastal and Southern California. This includes basin management activities in 17 groundwater basins or subbasins where GSWC utilizes approximately 121,000 acre-feet of groundwater on an annual basis.

Golden State Water Company appreciates the opportunity to comment on the Draft Emergency Regulations for Basin Boundary Modifications. If you have any questions, feel free to contact me (TobyMoore@gswater.com) or Robert Collar (Robert.Collar@gswater.com).

Respectfully Submitted,

Toby B. Moore, PhD, PG, CHG

CC: Mark Cowin, Director, Department of Water Resources
David Gutierrez, Department of Water Resources
Tom Howard, Executive Director, State Water Resources Control Board
Members of the State Water Resources Control Board
Trevor Joseph, Department of Water Resources
Gordon Burns, Undersecretary, Environmental Protection Agency
Rami Kahlon, California Public Utilities Commission
Jack Hawks, California Water Association

Attachment: GSWC Redline Markup of the Draft Regulations

CALIFORNIA CODE OF REGULATIONS
TITLE 23. WATERS
DIVISION 2. DEPARTMENT OF WATER RESOURCES
CHAPTER 1.5. GROUNDWATER MANAGEMENT
SUBCHAPTER 1. GROUNDWATER BASIN BOUNDARIES

ARTICLE 1. Introductory Provisions

Comment [RC1]: Note to DWR staff. The remaining comments and revisions by Golden State Water Company (GSWC). Please read all comments and revisions before accepting or rejecting any, because some comments or revisions depend on, and have been made in the context of, others.

Comment [RC2]: Should be all capital letters for consistency with other Article titles.

Comment [RC3]: These regulations should be as clear, unambiguous, and unequivocal as possible. One thing that will help to achieve this is the use of consistent terminology throughout the regulation. And, ideally they should be capable of being used for basins not covered by the 2014 Sustainable Groundwater Management Act (i.e., low priority basins).

§ 340. Authority and Purpose

These regulations specify the information a local agency or public water system is required to provide when requesting that the Department revise the boundaries of a basin, including the establishment of new subbasins, and the methodology and criteria used by the Department to evaluate a change to existing basin boundaries.

Note: Authority cited: Section 10722.2, Water Code.

Reference: Sections 10722.2 and 12924, Water Code.

§ 340.2. Intent

The Department has historically defined the boundaries of California's groundwater basins and subbasins with limited or selective input from outside of the Department. The Sustainable Groundwater Management Act provides local and regional agencies with the authority to sustainably manage groundwater. Therefore, these regulations set forth a process for requests to the Department by local agencies or public water systems, to revise the boundaries of a basin.

The revision of any basin boundaries or creation of new subbasins approved by the Department shall be consistent with the State's interest in the sustainable management of groundwater basins as expressed in the Sustainable Groundwater Management Act (Part 2.74 of Division 6 of the Water Code, beginning with Section 10720).

Note: Authority cited: Section 10722.2, Water Code.

Reference: Sections 10720.1, Water Code.

§ 340.4. Basin Boundaries

Unless other basin boundaries are established pursuant to these regulations, a basin's boundaries shall be as identified in Bulletin 118. The unambiguous written description of a basin boundary in Bulletin 118 shall prevail over any inconsistent basin boundary as depicted on a map, in an electronic data file, or otherwise, except when modified pursuant to these regulations. Any discrepancy or uncertainty shall be resolved by the Department based upon the best available technical information.

Note: Authority cited: Section 10722.2, Water Code.

Reference: Sections 10721(b), 10722, 10722.2, and 12924, Water Code.

ARTICLE 2. DEFINITIONS

§ 341. Definitions

In addition to terms defined in the Sustainable Groundwater Management Act and in versions of Bulletin 118 published prior to adoption of this Subchapter, ~~which~~ whose definitions apply to these regulations, the ~~follow~~ensuing terms used in this Subchapter have the following meanings:

(a) "Act" means the Sustainable Groundwater Management Act (Part 2.74 of Division 6 of the Water Code, beginning with Section 10720).

(b) "Administrative adjustment" means a basin or subbasin boundary adjustment by the Department that either (1) amends existing basin boundary data files to accurately reflect an unambiguous written basin boundary description ~~as defined~~found in Bulletin 118 or amended pursuant to this Part, or (2) restates the ~~definition~~ description of a basin boundary ~~definition~~ to more precisely reflect a mapped basin boundary consistent with the original ~~definition~~description.

(c) "Affected agency" means a local agency, as defined in Water Code section 10721(m), whose jurisdictional area would, as a result of a boundary modification, ~~include~~ overlay more, fewer, or different basins or subbasins than without the modification.

(d) "Affected basin" means a basin or subbasin where the ability to achieve sustainable groundwater management could be significantly affected by groundwater use or management practices in another existing or proposed basin or subbasin. An adjacent basin or subbasin is presumed to be an affected basin for purposes of this Subchapter. The Department may determine a non-adjacent basin or subbasin is an affected basin if convincing evidence shows that the hydraulic connection to another basin is likely to affect the ability of the non-adjacent basin to achieve sustainable groundwater management over the planning and implementation horizon.

(e) "Affected system" means a public water system, as defined in Water Code section 10721(r), whose service area would, as a result of a boundary modification, ~~include~~ overlay more, fewer, or different basins or subbasins than without the modification.

(f) "Basin consolidation" refers to any boundary modification that would reduce the number of subbasins within a basin or merge two or more adjacent basins, but would change only shared boundaries and would not change the external boundary of any basin or subbasin.

(?) "Basin name" is assigned and used for identification purposes, and no distinction is made between a groundwater basin, as defined in Section 342 of this Subchapter, or subbasin when identifying a basin by its name.

(g) "Basin subdivision" refers to any boundary modification that would increase the number of subbasins within a basin or subbasin.

Comment [RC4]: It seems like this intent of this item is to give the Department some latitude to make modifications that are not subject to the rules of this Subchapter and to provide a basis for the last sentence of the first paragraph in Section 342. If so, use of consistent terminology is recommended. For example, use of the term Administrative adjustment at the beginning of this definition seems OK. However, it seems like the word adjustment elsewhere is synonymous with modification. If so, suggest using modification to be consistent and clear. Similarly, the terms amends and amended could be changed to modifies and modified, respectively.

Comment [RC5]: Bulletin 118 does not appear to use the terms define, defined, or definition, even if this is what the Bulletin does. So, suggest using a different word here to be clearer and consistent with current Bulletin 118 terminology.

Comment [RC6]: It is not clear to what this is referring to. Please clarify, or add a definition for the word Part.

Comment [RC7]: The intent of this word could be clearer. If this means the boundary, as depicted on a map or as depicted on a figure in Bulletin 118, this is not clear. The term mapped is somewhat understood, but is a little vague. Suggest making clearer.

Comment [RC8]: If this means the description in versions the latest version of Bulletin 118 published prior to adoption of this Subchapter, then please clarify, as the meaning of the word original in this context is not understood.

Comment [RC9]: Consider using the word overlay to be a little clearer.

Comment [RC10]: Whose horizons? What horizons? This phrase is vague and should be clearer and more specific.

(h) "Boundary modification" means a change to the boundaries of an existing basin or subbasin or the establishment of a new subbasin pursuant to Section 341(g) of this Subchapter.
(i) "Commission" means the California Water Commission.
(j) "County basin consolidation" means the consolidation of all contiguous basins or subbasins within a county into a single basin or subbasin whose boundaries do not extend beyond those of the county. If there are non-contiguous basins within a county, the consolidation applies separately to each basin or group of contiguous basins in the county. A county basin consolidation may redefine the shared boundaries of one or more adjacent basins or subbasins, but ~~would~~ may not result in a ~~net~~ change in the amount of area included within a basin.
(k) "Department" means the Department of Water Resources.
(?) "Draft revised basin boundaries" refers to the version of the modified basin or subbasin boundaries presented to the Commission in accordance with Section 346.2(b) of this Subchapter.
(l) "External boundary modification" refers to any proposal that would modify the boundary between the groundwater basin, ~~-~~as defined in Section 342 of this Subchapter, and the area outside the basin.
(m) "GIS" means a Geographic Information System that collects, stores, analyzes, and displays spatial or geographically referenced data.
(n) "Hydrogeologic barrier" refers to any subsurface feature that significantly impedes, but does generally not prevent, lateral groundwater flow.
(o) "Hydrogeologic conceptual model" means a description of the geologic and hydrologic framework governing groundwater flow through and across the boundaries of a basin and the general groundwater conditions in a basin.
(p) "Internal boundary modification," whether pursuant to a scientific or jurisdictional modification, refers to any ~~boundary modification~~proposal that would ~~adjust~~ modify the location of a boundary between subbasins within a basin or the shared boundary between adjacent basins.
(?) "Modification evaluation manager" is an employee or authorized representative of the Department who has been delegated responsibility for evaluating the proposed boundary modification and serving as the point of contact between the Department and requesting agency or public water system.
(q) "Professional E~~e~~ngineer" means a P~~p~~rofessional E~~e~~ngineer licensed pursuant to Business and Professions Code, Division 3, Chapter 7, Section 6700 et seq.
(r) "Professional G~~g~~eologist" means a P~~p~~rofessional G~~g~~eologist licensed pursuant to Business and Professions Code, Division 3, Chapter 12.5, Section 7800 et seq.
(?) "Public review draft revised basin boundaries" refers to the version of the modified basin or subbasin boundaries posted to the Department's website and submitted to the public for comment in accordance with Section 346.2(a) of this Subchapter.
(s) "Qualified map" means a geologic map of a scale no smaller than 1:250,000 that (1) is published by the U. S. Geological Survey or the California Geological Survey, or (2) is a map ~~or report of~~published as part of a geologic investigation conducted by

Comment [RC11]: If this is synonymous with adjacent and there there's no such thing as an adjacent basin that is not in contact with another basin, then consider using the term adjacent here to avoid any confusion. If there is a specific reason to use the word contiguous, please consider adding a definition for adjacent basin as well as one for contiguous basin.

Comment [RC12]: See preceding comment.

Comment [RC13]: See preceding comments.

Comment [RC14]: Suggest using a different term to be consistent if possible with the rest of the regulations. For example, is modify an appropriate word to use here?

Comment [RC15]: Use the word may to maintain present or future tense throughout the sentence.

Comment [RC16]: Consider deleting this word, as it seems redundant.

Comment [RC17]: Most of the references in the regulations to internal boundaries are in the context of a jurisdictional modification. This may lead to the conclusion that an internal boundary cannot result from a scientific boundary modification. Assuming that an internal boundary can result from a scientific modification, the inserted text is aimed to help clarify this.

Comment [RC18]: Change made to be consistent with item (l) above.

Comment [RC19]: Suggest adding this number, and others, to make it clear that this is a list, similar to the use of such numbers in the definition of an Administrative adjustment earlier in this section.

Comment [RC20]: Suggest using different wording, as a report is technically not a map.

a state or federal agency, or (3) is a geologic map prepared and signed by a P~~p~~rofessional G~~g~~eologist that is acceptable to the Department.
(t) "Requesting agency" means the local agency that requests a boundary modification as authorized by Water Code section 10722.2. This also means a public water system that requests a boundary modification.
(u) "Modificat~~Revis~~ion request manager" is an employee or authorized representative of a requesting agency who has been delegated responsibility for submitting the boundary modification request and serving as the point of contact between the requesting agency and the Department.
(?) "Shared boundary" means.....
(v) "State" means the State of California.
(w) "Technical ~~study~~investigation" means a geologic or hydrologic report prepared and published by a state or federal agency, or an ~~study~~investigation published in a peer-reviewed scientific journal, or a report prepared and signed by a P~~p~~rofessional G~~g~~eologist or by a P~~p~~rofessional E~~e~~ngineer.
(?) "Water budget" refers to a change in storage in a groundwater basin which is equated to the sum of inflow components less the sum of outflow components over a defined period of time.
(x) "Written notice" is synonymous with "in writing" and means notification by e-mail or U.S. Mail.

Note: Authority cited: Section 10722.2, Water Code.

Reference: Division 3, Chapter 12.5, Section 7800 et seq., and Chapter 7, Section 6700 et seq., Business and Professions Code; Sections 25299.97 and 116275, Health & Safety Code, Sections 10721, 10722.2, and 12924, Water Code.

ARTICLE 3. BOUNDARY MODIFICATION CATEGORIES

§ 342. Introduction to Boundary Modifications

This Article describes different categories of boundary modifications. The identified categories are scientific modification, based on geologic or hydrologic criteria, and jurisdictional modification, which promote the adoption and implementation of effective sustainable management plans and enhance local management of groundwater. An administrative adjustment does not constitute a modification subject to this Subchapter.

For purposes of this Subchapter, a groundwater basin generally refers to an alluvial aquifer or stacked series of alluvial aquifers with a minimum thickness of 25 feet, with reasonably well-defined boundaries in a lateral direction, based on features that significantly impede groundwater flow, and a definable bottom characterized by rock or sediment of relatively low permeability or the base of fresh water, as further described or defined in Bulletin 118.

Note: Authority cited: Section 10722.2, Water Code.

Comment [RC21]: Please consider this change as a means of using consistent terminology throughout the regulations. If this change is accepted, please move this item (u) up to the previous page.

Comment [RC22]: Suggest using this terminology throughout, as there are a few places where the term basin modification request is used and it's assumed these are synonymous. In addition, the term used in item (u) here is consistent with the term defined in item (h) above.

Comment [RC23]: Consider adding a definition for this term.

Comment [RC24]: Although communication be facsimile is somewhat obsolete, please consider including here, as some entities may still utilize. In addition, in anticipation of the proliferation and increasing use of mobile devices, please consider including text messaging as a means of written communication.

Comment [RC25]: This is unclear and somewhat vague, so should be defined. If this is intended to be sustainable groundwater management plans, to meet the intent of the Act, then is this actually meant to refer to a groundwater sustainability plan (GSP)? If so, this should be clear.

Comment [RC26]: Previous versions of Bulletin 118 actually describe low permeability areas of some basins as an impediment to groundwater development, implying that basins contain low permeability sediments. In addition, many wells operated by GSWC produce from sedimentary bedrock, or occasionally metamorphic bedrock, either via primary or secondary permeability. In fact, some of GSWC's wells produce from aquifers with hydraulic conductivities as low as about 5 to 20 feet/day. Therefore, and unless there is universal agreement on the definition of terms like low or very low, with respect to permeability, if the word very does not precede the word low, we recommend including a modifier such as relatively, so as to not preclude basins with "very low" or "low" permeability materials. As an alternative, consider the following publications, which provide qualitative modifiers such as good, poor, high, low, etc. (the goal is to avoid disagreements or confusion over the regulations regarding permeabilities): http://www.usbr.gov/tsc/wquality_land/GndWater.pdf (Figure 5-5) or Bear, J, 1972. Dynamics of Fluids in Porous Media, Dover Publications (Table 5.5.1).

Comment [RC27]: There is no definition for this in Bulletin 118, so this terminology may cause confusion or disagreements when one tries to follow the regulations. In addition, while the regulations do a good job of addressing lateral boundaries of a physical or jurisdictional nature, boundaries of a chemical (i.e., water quality) nature, and boundaries in the vertical dimension, are not addressed as well. One consideration is to reference the following document, which could be used to establish 3,000 mg/L as the base of freshwater in California: ... [1]

Page 4: [1] Comment [RC27]	Collar, Robert	9/4/2015 2:41:00 PM

There is no definition for this in Bulletin 118, so this terminology may cause confusion or disagreements when one tries to follow the regulations. In addition, while the regulations do a good job of addressing lateral boundaries of a physical or jurisdictional nature, boundaries of a chemical (i.e., water quality) nature, and boundaries in the vertical dimension, are not addressed as well. One consideration is to reference the following document, which could be used to establish 3,000 mg/L as the base of freshwater in California: http://www.swrcb.ca.gov/board_decisions/adopted_orders/resolutions/2006/rs2006_0008_rev_rs88_63.pdf. Other documents to consider include: http://www.waterboards.ca.gov/water_issues/programs/groundwater/sb4/docs/usgs_discussion_paper.pdf or http://pubs.er.usgs.gov/publication/ha489 or http://pubs.usgs.gov/pp/1401a/report.pdf. It should be noted that GSWC operates wells in, or within a mile of, several oil fields in California. And, GSWC is familiar with potable water-supply wells in proximity to geothermal water with elevated temperature and certain chemical constituents. As for another consideration, a definition could be added to Section 341. The following is offered as an example, *"Base of freshwater" refers to the lateral or vertical limit of groundwater suitable for potable or non-potable uses without treatment in a basin under undeveloped conditions, excluding, but not limited to, groundwater found in oil, gas, or geothermal fields, or saline groundwater near the ocean*. This definition could be then be referenced in Section 342. Even this definition presents a challenge, as GSWC operates wells in one basin where much of the "native" groundwater is of limited suitability for potable use. Note that these regulations present an excellent opportunity to refine the "base of freshwater" definition in light of heightened interest in oil and gas field development and exploitation, while keeping with the spirit of the Sustainable Groundwater Management Act.

Reference: Sections 10720.1, 10722.2 and 12924, Water Code.

§ 342.2. Scientific Modification
A scientific modification to a basin boundary consists of one of the following modifications and involves the addition, deletion, or relocation of a boundary based on the geologic or hydrologic conditions that define a groundwater basin or subbasin:

(a) An external boundary modification. Except in the case of some basin consolidations, external basin boundaries will only be modified ~~as a result of~~pursuant to a scientific modification as described in this Subchapter~~s~~.
(b) A hydrogeologic barrier modification.

Note: Authority cited: Section 10722.2, Water Code.

Reference: Sections 10720.1 and 12924, Water Code.

§ 342.4. Jurisdictional Modification
A jurisdictional modification to a basin boundary consists of one of the following modifications and involves the addition, deletion, or relocation of a boundary to promote the adoption and implementation of effective sustainable management plans and enhance local management of groundwater:

(a) Internal boundary modification,
(b) Basin consolidation, including county basin consolidation, or
(c) Basin subdivision.

Note: Authority cited: Section 10722.2, Water Code.

Reference: Sections 10720.1 and 12924, Water Code.

§ 342.6. Other Boundary Modifications
Any boundary modification that does not conform to the categories specified in this article may be considered by the Department based on information the Department deems adequate to evaluate the modification in accordance with section 10722.2 of the Water Code.

Note: Authority cited: Section 10722.2, Water Code.

Reference: Sections 10720.1 and 12924, Water Code.

ARTICLE 4. PROCEDURES FOR MODIFICATION REQUEST OR PROTEST

§ 343. Introduction to Procedures

Comment [RC28]: The use of this phrase, which might be premature, and it's intent are not clear, as it seems like the intent of these regulations is to, in part (e.g., see Articles 5 and 6), actually describe the geologic and hydrologic conditions that help to define the boundaries of a groundwater basin. If this is the case, perhaps the following text, or some other clarification, could be added to the end of this phrase: as defined in Section 342, and pursuant to Articles 5 and 6, of this Subchapter.

Comment [RC29]: This revision is suggested to avoid the use of two forms of the verb modify in close proximity in the same sentence, which sounds a bit odd.

Comment [RC30]: Suggest adding this text, assuming it is technically correct, to be consistent with Section 342.2 language.

Comment [RC31]: See previous comment associated with this term.

This Article describes procedural requirements related to boundary modification requests and protests to those requests.

Note: Authority cited: Section 10722.2, Water Code.

Reference: Section 10722.2, Water Code.

§ 343.2. Eligibility to Request Boundary Modification

A request for boundary modification may be initiated by a local agency or public water system whose jurisdictional area lies within or borders the basin or subbasin for which boundary modification is sought.

Note: Authority cited: Section 10722.2, Water Code.

Reference: Section 10722.2, Water Code.

§ 343.4. Forms and Instructions

The Department shall make the forms and instructions for boundary modification requests available on its Internet w~~W~~eb-site.

Note: Authority cited: Section 10722.2, Water Code.

Reference: Section 10722.2, Water Code.

§ 343.6. Combination of Requests

Requesting agencies shall combine all boundary modification requests that, if submitted to the Department separately as individual requests, would affect the same basin or subbasin. A~~a~~nd, requesting agencies shall coordinate with other affected agencies and affected systems, as necessary, to present the information as a single combined boundary modification request, with a single modification request manager. The Department may consider or adopt all or any part of a combined ~~basin~~ boundary modification request.

Note: Authority cited: Section 10722.2, Water Code.

Reference: Section 10722.2, Water Code.

§ 343.8. ~~Review~~ Evaluation Periods

Prior to updating ~~or revising~~ Bulletin 118, the Department shall establish ~~review~~ evaluation periods during which boundary modification requests will be accepted and evaluated. The Department will announce the start of each ~~review~~ evaluation period on its Internet w~~W~~eb-site at least 60 days before the ~~review~~ evaluation period begins, and each ~~review~~ evaluation period will remain open at least 60 days.

Note: Authority cited: Section 10722.2, Water Code.

Comment [RC32]: Please consider the suggested revision so that the terminology in this sentence is consistent with terminology used in Section 341(c), assuming these uses are synonymous.

Comment [RC33]: The meaning and intent of this term is unclear and vague. Please clarify.

Comment [RC34]: Standard convention is for this to be one word and not capitalized.

Comment [RC35]: Text added to clarify, as without, this sentence might be confusing to some. Similarly, some other changes to this paragraph are suggested to help clarify.

Comment [RC36]: This paragraph might be interpreted to mean that there will be relatively narrow times/periods/windows when boundary modifications can be requested. This paragraph can thus use some clarification, as it's not clear (1) if these are the only times/periods/windows when boundary revisions may be requested and (2) if these are truly the only times/periods/windows, when and how often Bulletin 118 will be updated (this information would be needed to help requesting agencies plan on when to submit requests). Please clarify.

Comment [RC37]: Suggest eliminating these words, as elsewhere in the regulations Bulletin 118 is referred to as being updated, not revised.

Comment [RC38]: Because the Department will evaluate, as opposed to review, suggest using the word evaluation throughout to be consistent with the rest of the Subchapter and to avoid any confusion.

Reference: Section 10722.2 and 12924, Water Code.

§ 343.10. Status of Request

(a) The Department shall acknowledge all boundary modification requests by written notice within ten (10) working days of receipt and shall post all materials received on the Department's Internet w~~W~~eb-site, prior to its determination pursuant to Section 343.10(b) of this Subchapter.

(b) The Department shall determine whether the boundary modification request is complete and provide written notice to the requesting agency of its determination or of the need for additional information.

(1) A boundary modification request will be deemed complete if it substantially complies with the requirements of this Subchapter. Substantial compliance means that the requesting agency has attempted to comply with these regulations and the legislative intent of the Act in good faith, and the supporting information submitted and the form of submission are sufficiently detailed and necessary, as determined by the Department, to process and evaluate the boundary modification request.

(2) The Department will not evaluate a boundary modification request until all information required by this Subchapter or specifically requested by the Department has been provided. However, the Department may begin its evaluation before evidence of local support described in Section 344.8 of this Subchapter has been made available if the requesting agency affirms that the required support is likely to be forthcoming.

(c) When the Department determines that a request for boundary modification is complete, the Department shall update information posted to the Department's Internet w~~W~~eb-site to reflect that the Department is prepared to ~~review~~ evaluate the request on its merits and to accept protests to the request pursuant to Section 343.12 of this Subchapter.

(d) The requesting agency shall, upon receiving notice that the request is complete, notify all interested local agencies and public water systems, and any other person or entity who has expressed an interest to the requesting agency in receiving notification, of the proposed modification ~~to the requesting agency~~.

Note: Authority cited: Section 10722.2, Water Code.

Reference: Section 10722.2, Water Code.

§ 343.12. Protests

(a) Any person may protest a boundary~~asin~~ modification request as follows:

(1) Protests must be submitted ~~electronically~~ in writing to the Department within 30 days after receiving the notice required by Section 343.10(d) of this Subchapter, with a duplicate copy sent to the requesting agency the same day.

Comment [RC39]: Please clarify, either here, or via revisions to the regulations in other places, what the intent of this is. For example, based on Section 343.4 and Article 5, it seems like the "materials" will consist of (1) one or more forms and (2) supporting information. Suggest either defining the term materials or using other terminology consistent with the rest of the regulations. One thing to consider, to potentially help clarify is what information will be provided on the form(s). Such information could include, at a minimum, items 344.2(a) and (d), 344.4(a), 344.6(a)(1), (2), and (3). In this case, these items could be removed from their respective sections, and those sections revised to account for removal of these items.

Comment [RC40]: For clarification, please consider adding this text if it is correct and the Department's intent.

Comment [RC41]: This change, and the change to the definition of "Written notice" in Article 2, are intended to support the use of consistent terminology throughout the regulations. If the intent of this sentence is to truly have the protest submitted electronically, then suggest, for the sake of consistency and clarify, changing the word electronically to via e-mail.

(2) The protest must include the name, mailing address, and e-mail address of the protestant.
(3) The protest must include a clear statement of the protesting entity's objections.
(4) A protest must rely on the same type of scientific and technical information described in this Subchapter, but may include other information described in this Subchapter that may assist the Department in its evaluation, and will be evaluated by the Department using the same criteria~~,~~ as the particular boundary~~asin~~ modification request to which it is addressed.
(b) The Department shall post all protests on the Department's Internet w~~W~~eb-site.
(c) The Department is not required to respond to protests, but will consider protests as part of its evaluation of a request.
(d) The Department shall give the requesting agency a reasonable opportunity to respond to protests.
(e) All protests associated with a boundary modification request will be evaluated by the Department's modification evaluation manager assigned to the boundary modification request, or Department staff involved with evaluation of the request and reporting directly to the modification evaluation manager.

Note: Authority cited: Section 10722.2, Water Code.

Reference: Section 10722.2, Water Code.

ARTICLE 5. SUPPORTING INFORMATION

§ 344. Introduction to Supporting Information

This Article describes the type of information that a requesting agency is either required or encouraged to provide to support a boundary modification request and basin boundary descriptions in updates to Bulletin 118 by the Department.

Note: Authority cited: Section 10722.2, Water Code.

Reference: Section 10722.2, Water Code.

§ 344.2. Requesting Agency Information

Each request for boundary modification shall include the following information:

(a) The name and ~~physical~~ mailing address of the requesting agency.
(b) A copy of the statutory or other legal authority under which the requesting agency was created with specific citations to the provisions setting forth the duties and responsibilities of the agency.
(c) A copy of the resolution adopted by the requesting agency formally initiating the boundary modification request process.
(d) The name and contact information, including phone number, mailing address and e-mail address, of the ~~revision~~ modification request manager.

Comment [RC42]: This paragraph could be interpreted to mean that the protestor can only submit the exact same type of information as the requestor. This limits the protestor. Thus, please consider including this revision. The goal of this revision is to not penalize a protestor if the requestor has done what may appear to be an inadequate job of supporting a boundary modification, by presenting limited information. In this case, the protestor should be allowed to present additional, relevant and appropriate, information to make a case against the proposed modification.

Comment [RC43]: What about posting requesting agency response as well? Please consider.

Comment [RC44]: See comment in Section 343.10 regarding distinction between form(s) and supporting information. Based on the way the regulations currently read, it is not clear if Article 5 includes the form(s) described in Section 343.4. Please clarify.

Comment [RC45]: This is a bit vague and unclear. Suggest clarifying the difference between information that's required versus encouraged. For example, Section 344.2 information may be required. Alternatively, parts or all of Sections 344.12 and 344.14 may be encouraged. Please consider clarifying to remove ambiguity.

Comment [RC46]: To be consistent with other parts of the regulations, please consider using the word mailing if it is correct.

Note: Authority cited: Section 10722.2, Water Code.

Reference: Section 10722.2, Water Code.

§ 344.4. Notice and Consultation

Each request for boundary modification shall include information demonstrating that the requesting agency consulted with interested local agencies and public water systems in the affected basins including, but not limited to, the following:

(a) A list of all local agencies and public water systems in the affected basins, including those who were contacted.
(b) An explanation of the methods used to identify and contact interested local agencies and public water systems in the affected basins.
(c) Information regarding the nature of consultation, including copies of correspondence with local agencies and public water systems and any other persons or entities consulted, as appropriate.
(d) A summary of all public meetings at which the proposed boundary modification was discussed or considered by the requesting agency, including copies of agendas, minutes, and notices published.
(e) A copy of all comments regarding the proposed boundary modification received by the requesting agency and a summary of any responses made by the requesting agency.

Note: Authority cited: Section 10722.2, Water Code.

Reference: Section 10722.2, Water Code.

§ 344.6. Description of Proposed Boundary Modification

(a) Each request for boundary modification shall include a concise description of the proposed modification, including an overview of the request and a description or explanation of the following:

(1) The category of boundary modification proposed.
(2) The identification of all affected basins, including Bulletin 118 basin name and number, if applicable.
(3) A proposed name for each new subbasin or consolidated basin, if applicable.

(b) Each request for a jurisdictional boundary modification pursuant to Section 342.4 of this Subchapter shall also include the following:

(1) An explanation of how sustainable groundwater management exists or could likely be achieved in the basin under the following circumstances:

(A) Under the existing basin boundaries.
(B) Under the proposed boundary modification.

(2) An explanation of how the proposed boundary modification would affect the ability of adjacent basins to sustainably manage groundwater in those basins.
(3) A ~~historical~~ summary of historical~~the~~ sustainable management of groundwater levels in the ~~proposed~~ basin under the proposed boundary modification.
(4) A discussion of potential impact to state programs ~~resulting from the proposed boundary modification,~~ including, but not limited to (1) the California Statewide Groundwater Elevation Monitoring (Water Code section 10920 et seq.), (2) Groundwater Management Plans developed pursuant to AB 3030 (Water Code section 10750 et seq.), (3) Groundwater Sustainability Plans developed pursuant to the Sustainable Groundwater Management Act (Water Code section 10720 et seq.), (4) any applicable state or regional board plans, and (5) other water management and land use programs, resulting from the proposed boundary modification.

(c) Each request for boundary modification shall include a~~A~~ny other information deemed necessary by the Department.

Comment [RC47]: This requirement is very subjective and could be interpreted to imply that the Department won't know what else is necessary until only after evaluating the modification. This in turn means that the request will be automatically denied because it meets the criterion of Section 345.2(d). Thus, clarification of this requirement should be provided. Specific examples of the type of information deemed necessary by the Department should be provided. Otherwise, Article 6 should be revised to include language indicating that the Department may not deny a request if other information is deemed necessary and the requesting agency provides this information within a certain time frame to keep the request open. In this case, there may need to be provisions stating that a modification request can be closed by the Department for x, y, or z reasons, including failure to provide information deemed necessary information. In this case closed would be synonymous with denied. The opposite would be an open or approved request.

Note: Authority cited: Section 10722.2, Water Code.

Reference: Section 10722.2, Water Code.

§ 344.8. ~~Local~~ Support for Jurisdictional Modification

(a) A requesting agency shall demonstrate local support for a proposed jurisdictional boundary modification pursuant to Section 342.4 of this Subchapter as follows:
(1) A request that involves an internal boundary modification shall provide information demonstrating that the modification is supported by each affected agency and affected system.
(2) A request that involves a basin consolidation or county basin consolidation shall provide information demonstrating that (1) the requesting agency notified each affected agency and affected system and ~~that~~ (2) a majority of affected agencies and affected systems support the boundary modification.
(3) A request that involves basin subdivision shall provide information demonstrating that the boundary modification is supported by each local agency and by each public water system in the affected basin(s).

(b) Evidence of local support from any local agency or public water system shall consist of a copy of a resolution formally adopted by the decision-making body of the agency or system.

(c) Evidence of local support from any public water system shall consist of a copy of a resolution formally adopted by the decision-making body of the system or a letter of support signed by an executive officer with appropriate delegated authority.

Note: Authority cited: Section 10722.2, Water Code.

Reference: Section 10722.2, Water Code.

§ 344.10. General Information
Each request for boundary modification shall include the following general information:

(a) A description of the lateral boundaries of the alluvial aquifer or aquifers that form the groundwater basin and the definable bottom of the basin. The description shall be in terms that are clear and definite and sufficiently detailed to allow an authoritative map of the proposed lateral basin boundaries to be plotted from that description.
(b) A graphical map of adequate scale showing the proposed basin boundary in relation to the existing Bulletin-118 basin boundary and the local agencies or public water systems that are within or bordering on the proposed basin.
(c) A GIS file of the proposed groundwater basin boundaries and the jurisdictional boundaries of any affected local agency or public water system. Basin or subbasin boundaries, whether external or internal, shall be annotated with attributes denoting the category of each distinctive segment of the existing or modified boundaries.

Note: Authority cited: Section 10722.2, Water Code.

Reference: Sections 10722.2 and 12924, Water Code.

§ 344.12. Hydrogeologic Conceptual Model
Each request for boundary modification, except for an internal boundary modification pursuant to Section 342.4(a) of this Subchapter, shall include, using, but not limited to, maps and subsurface data, a clearly defined hydrogeologic conceptual model demonstrating the following:

(a) Principal aquifer units within the basin.
(b) Lateral boundaries of the proposed basin, including:
(1) Geologic features that significantly impede or impact groundwater flow.
(2) Aquifer characteristics that significantly impede or impact groundwater flow.
(3) Significant geologic and hydrologic features and conditions of the principal aquifer units, as appropriate, including information regarding the confined or unconfined nature of the aquifer, facies changes, truncation of units, the presence of faults or folds that impede groundwater flow, or other groundwater flow--restricting features within the basin.
(4) Key surface water bodies, groundwater divides, and significant recharge sources.
(c) Natural r~~R~~echarge and discharge areas within the basin.

Comment [RC48]: The intent of including this, or similar, language is to require the requesting agency to identify the type or category and nature (e.g., scientific, jurisdictional, shared, external, internal, alluvium/bedrock, hydrogeologic barrier, watershed, base [or limit] of freshwater, ocean, river, etc.) of all segments forming the polygon representing the entire basin or subbasin boundary. One goal is to take advantage of this opportunity (i.e., the Sustainable Groundwater Management Act) to make sure that the entire basin or subbasin boundary is documented, rather than just the affected portion or proposed modification.

Comment [RC49]: This section should be clearly distinguished from Section 344.14, Technical Investigations for Scientific Modifications, as there seems to be some overlap.

Comment [RC50]: The intent of including this should be clearer. Groundwater divides can be transient and influenced by groundwater pumping, among other things. And, groundwater divides may not represent barriers to flow, even if they coincide, at least initially, with a watershed divide because they can be obliterated by groundwater pumping for example. Please revise or clarify.

Comment [RC51]: Assuming this is the intent, this change is suggested to differentiate from "mid-basin" or natural discharge areas where injection or ASR wells may exist. If this is not the intent, and the intent is to include all inflow and outflow areas with respect to the water budget for the basin, then please clarify.

(d) Basin bottom, characterized by rock or sediment of relatively low permeability, or the base of fresh water.

Note: Authority cited: Section 10722.2, Water Code.

Reference: Sections 10722.2 and 12924, Water Code.

§ 344.14. Technical ~~Studies~~Investigations for Scientific Modifications

(a) Each request for a scientific modification pursuant to Section 342.2 of this Subchapter shall include information that demonstrates the areal and vertical extent of alluvial aquifer material, including the following:

(1) A qualified map that depicts surficial geology illustrating the type, location, and extent of alluvium, or similar bodies of rock or sediment, that is sufficiently porous and permeable to store, transmit, and yield significant or economic quantities of groundwater to wells and springs.

(2) Subsurface data that demonstrate~~s~~ the vertical thickness and relevant physical properties of the alluvial aquifer or stacked series of alluvial aquifers.

(b) In addition to the information required in S~~subs~~ection 344.14(a) of this Subchapter, each request for scientific modification involving a hydrogeologic barrier pursuant to Section 342.2(b) of this Subchapter shall demonstrate the presence or absence of subsurface ~~restrictions~~ impediments to~~on~~ lateral groundwater flow, such as relatively impermeable material, fault gouge, or groundwater divide, based on the following information:

(1) A qualified map depicting structural geologic features that could significantly impact or impede lateral groundwater flow.

(2) Geologic and hydrologic evidence of groundwater conditions including, as appropriate:

(A) Historical and current potentiometric surface maps of the aquifer system within the vicinity of proposed boundary modification.

(B) Aquifer ~~performance~~ testing results demonstrating basin boundary condition response.

(C) Water quality information of the aquifer system including, but not limited to, general water quality parameters and isotopic analysis.

(D) Supporting certified geophysical ~~studies~~investigations.

(E) Other information that the requesting agency considers relevant to the request.

(3) Other technical information required by the Department.

(c) A request for a scientific modification to an external boundary pursuant to Section 342.2(a) of this Subchapter may utilize any of the information in S~~subs~~ection 344.14(b) of this Subchapter if the requesting agency believes it may assist the Department in its evaluation.

Note: Authority cited: Section 10722.2, Water Code.

Comment [RC52]: See related comments in Section 342.

Comment [RC53]: This is an important distinction to make and set apart from alluvium, because some Bulletin 118 basins, including some where GSWC operates wells, include areas of sedimentary rock or slightly consolidated sediments.

Comment [RC54]: It's not clear if this phrase is intended to modify the noun alluvium or the phrase "or similar bodies of rock or sediment," or both. This is important because the regulations and the Sustainable Groundwater Management Act seem to imply that all alluvium is synonymous with a basin and that some alluvium cannot be excluded from a basin because it is not suitable aquifer material. Please clarify.

Comment [RC55]: This terminology is somewhat vague and should be clarified. For example, does this refer to hydraulic conductivity, specific yield, and storage coefficient? If not, what does this refer to. Please be specific if possible.

Comment [RC56]: Change suggested to maintain consistency with other parts of regulations which use the word impede in the context of hydrogeologic barriers.

Comment [RC57]: The intent of including this is not clear. Groundwater divides are not necessarily fixed in space like materials or faults and can be transient and influenced by groundwater pumping, among other things. And, groundwater divides may not represent barriers to flow, even if they coincide, at least initially, with a watershed divide because they can be obliterated by groundwater pumping for example. Please revise or clarify.

Comment [RC58]: Remove for consistency with other parts of regulations.

Comment [RC59]: Does not make sense to require certified geophysical work and not require certified hydrogeologist work.

Comment [RC60]: See comment associated with Section 344.6(c).

Reference: Sections 10722.2 and 12924, Water Code.

§ 344.16. Technical ~~Studies~~Investigations for Jurisdictional Modifications

(a) Each request for a boundary modification that involves a jurisdictional modification pursuant to Section 342.4 of this Subchapter shall include the following:

(1) A groundwater management plan that covers or is in the immediate vicinity of the proposed basin or portion of the proposed basin and satisfies the requirement of Water Code sections 10753.7(a) or 10727, through one of the following:

(A) An adopted groundwater management plan, a basin wide management plan, or other integrated regional water management program or plan that meets the requirements of Water Code section 10753.7(a).

(B) Management pursuant to an adjudication action.

(C) One or more technical ~~studies~~investigations that cover the relevant portion of a basin or subbasin and adjacent areas.

(D) A valid Groundwater Sustainability Plan adopted pursuant to the Act.

(b) Each request for a boundary modification that involves a basin subdivision pursuant to Section 342.4(c) of this Subchapter shall provide, where applicable, a description and supporting documentation of (1) historical and current conditions and (2) coordination within the existing basin or subbasin ~~on~~ related to the following ~~components, where applicable~~:

(1) Groundwater level monitoring programs, historical and current groundwater level trends, and areas of significant groundwater level declines.

(2) Groundwater quality issues within the proposed and existing basin that may impact the supply of usable groundwater, including a map of known impacted sites and areas, mitigation measures planned or in place, and a description of impact to water budget.

(3) Inelastic land surface subsidence within the proposed and existing basin, including a map of known land subsidence areas, historical trends within known land subsidence areas, and a description of impacts to the basin or subbasin water budget.

(4) Groundwater-surface water interactions in the proposed and existing basin, which may be demonstrated by (1) a map identifying significant surface water bodies, and a groundwater elevation contour map or detailed written description of the direction of groundwater movement relative to the water bodies, (2) the location and nature of seeps and springs, ~~and~~ (3) known water quality issues within the basin and in hydraulically connected adjacent basins, and (4) other information that the requesting agency considers relevant to demonstrating groundwater-surface water interactions.

(5) A map identifying the recharge areas in the proposed and existing basin.

Comment [RC61]: Please revise or clarify. Is this supposed to be groundwater?

Comment [RC62]: The term relevant is somewhat vague. Please clarify what this means or refers to.

Comment [RC63]: This item, including the items numbered 1 to 6 below, is a little confusing and could use some clarification or revisions. For example, it's not clear how a description and supporting documentation of historical and current conditions in the existing basin or subbasin related to a map of recharge areas can be provided, unless the recharge areas have changed over time, such that they are different currently than they were historically. In addition, it's not clear how a description and supporting information of coordination with the existing basin or subbasin related to subsidence can be provided. It's possible that some of the 6 items need to be moved into a new section 344.16(c). Please consider in an effort to make clearer.

Comment [RC64]: The intent of this terminology is not clear. Does this refer to point sources of contamination such as a leaking underground storage tank or industrial operations including chemical use? Please clarify. In addition, it's not clear what is meant by the word areas in this same sentence. Further, the use of the word impacted represents the third occurrence of this adjective in this sentence and may hinder the clarity of this sentence. Suggest using a different word here if possible. Perhaps work the adjective degraded into the sentence instead.

Comment [RC65]: The use of the term water budget here and in item 3 below is a little vague and may lead to confusion. Suggest clarifying or being more specific. Do we mean impacts to the amount of water that can be extracted (an outflow component of the water budget) or limitations on where groundwater recharge (an inflow component of the water budget)? Please clarify here and in item 3.

Comment [RC66]: Please use consistent terminology throughout. For example, Section 344.14(b)(1)(A) uses the term potentiometric surface instead of groundwater elevation contour. Consider making revision shown here and revising Section 344.14(b)(1)(A) or alternatively changing the text shaded in association with this comment to match Section 344.14(b)(1)(A).

Comment [RC67]: Consider clarifying to avoid precluding streams or rivers, for example.

Comment [RC68]: This suggested change is included because there are other methods or techniques that can be used besides the first 3 items listed.

(6) A statement of the existing and planned coordination of sustainable groundwater management activities and responsibilities between the proposed and existing basin where required by the Act.

Note: Authority cited: Section 10722.2, Water Code.

Reference: Sections 10722.2, 10727, 10753.7, and 12924, Water Code.

§ 344.18. CEQA Compliance
Each request to modify a basin or subbasin shall include information necessary to enable the Department to satisfy the requirements of a responsible agency pursuant to the California Environmental Quality Act (Public Resources Code Sections 21000 et seq.).

Note: Authority cited: Section 10722.2, Water Code.

Reference: Section 10722.2, Water Code.

ARTICLE 6. ~~METHODOLOGY~~ BOUNDARY MODIFICATION APPROVAL~~AND CRITERIA~~

§ 345. Introduction to ~~Methodology and Criteria~~Boundary Approval
This Article ~~governs~~ describes the Department's ~~methodology and criteria~~process for ~~the~~ evaluation and approval of proposed ~~boundary~~ modifications ~~of~~ to groundwater basin boundaries, including methods and criteria used.

Note: Authority cited: Section 10722.2, Water Code.

Reference: Section 10722.2, Water Code.

§ 345.2. Basis for Denial of Request for Boundary Modification
The Department may deny a request for boundary modification if it identifies significant concerns or is unable to resolve significant issues with the request including, but not limited to, any one of the following criteria:

(a) The proposed boundary modification may limit the opportunity or likelihood of any of the following:
(1) Sustainable management in the proposed basin.
(2) Sustainable management in other basins.
(3) Groundwater storage or recharge.
(4) The coordination and use of consistent data and methodologies by local agencies and public water systems to evaluate groundwater elevation data, groundwater extraction data, surface water supply, total water use, change in groundwater storage, water budget, or sustainable yield.
(b) The requesting agency is unable to demonstrate a history of sustainable management of groundwater levels in the existing or proposed basin.

Comment [RC69]: Should include this word or be clear on whether any one of these reasons by itself could result in denial of the request.

Comment [RC70]: Seems like this word should be added, as this section seems to list the criteria more, rather than describing the approach or methods.

Comment [RC71]: The intent of section 10722.2 of the Sustainable Groundwater Management Act may not be sufficiently clear. However, it seems like the regulations must describe what methods and criteria the Department will use to evaluate, and presumably approve or deny, the proposed boundary revision(s). Furthermore, per 10722.2 (c)(1), it seems like the methods and criteria need to be used by the Department to assess the likelihood that the basin can be sustainably managed given the proposed boundaries (the flip side of this would be that the boundary modifications would, in part, make sustainable management of the basin impossible). The methods and criteria also need to be used by the Department, per 10722.2 (c)(2), to assess whether sustainable management of adjacent basins would be limited by the proposed boundaries. However, it does not seem like the intent of 10722.2 (c)(3) is to deny a request for boundary modification if the requesting agency is unable to demonstrate a history of sustainable management of groundwater levels in the existing, let alone proposed, basin. It seems like 10722.2 (c)(3) can be interpreted to mean that the methods and criteria need to be used by the Department to simply whether or not there have been attempts to manage groundwater levels for the long-term benefit of the basin. It seems like the goal of the Sustainable Groundwater Management Act is to support the process of managing basins so that healthy groundwater conditions can be sustained over the long term. Thus, if groundwater levels were not managed appropriately in the past should not preclude them from being managed appropriately in the future. Therefore, please consider revising this portion of the regulations.

(c) For scientific modifications, if the Department does not consider that the available scientific evidence supports the addition, deletion, or relocation of a basin boundary.
(d) The requesting agency has failed to provide all required information or information deemed necessary by the Department or has failed to substantially comply with the requirements of this Subchapter.
(e) The proposed boundary modification could result in the isolation of areas with known groundwater management problems, or of areas, including disadvantaged communities, that may lack the institutional infrastructure or economic resources to form an effective groundwater sustainability agency or develop an implementable G~~g~~roundwater S~~s~~ustainability P~~p~~lan.
(f) The proposed boundary modification could result in the creation of unmanaged areas.
(g) Where the Department finds that the requested boundary modification would be inconsistent with the objectives of the Act.

Note: Authority cited: Section 10722.2, Water Code.

Reference: Section 10722.2, Water Code.

§ 345.4. Criteria for Evaluating Supporting Information
The Department shall rely on the following information for evidence that the proposed basin can be sustainably managed, to assess whether the proposed basin would limit the sustainable management of adjacent basins, and to judge whether there is a history of sustainable management of groundwater levels in the proposed basin according to the general criteria described:

(a) For scientific modifications pursuant to Section 342.2 of this Subchapter, the Department will consider the adequacy of technical ~~studies~~investigations based on their demonstration of scientific support for the boundary modification. The technical ~~studies~~investigations will be evaluated according to the following:
(1) Hydrogeologic conceptual models will be evaluated to determine the degree to which the models align with the known geologic framework, the known direction and movement of groundwater flow, and the general understanding of water budget components for the basin or subbasin.
(2) Qualified maps of surficial geology, structural geology, or geophysical ~~studies~~survey results, and supporting subsurface interpretations, will be evaluated to ~~determine~~ assess the presence or absence of a groundwater flow boundary.
(3) Potentiometric surface maps, aquifer testing results, geophysical survey data, and water quality information will be evaluated to ~~determine~~ assess the presence or absence of a groundwater flow boundary.
(b) For jurisdictional modifications pursuant to Section 342.4 of this Subchapter, the Department shall review evidence from existing groundwater management plans

Comment [RC72]: Please clarify if possible. Is this referring to groundwater contamination? Is this referring to land subsidence? Is this referring to significant declines in groundwater levels? If this is intended to refer to undesirable impacts such as those listed in Chapter 2, item (w) of the sustainable groundwater management act, then perhaps list here or refer to the list in the Act to provide clarification.

Comment [RC73]: Suggest capitalizing to be consistent with previous occurrences.

Comment [RC74]: Suggest providing clarification, as the word areas is a bit vague. Assume intent is to avoid creation of "orphan" groundwater basin areas, for example, those outside of a jurisdictional boundary but within a Bulletin 118 boundary. However, the word areas leaves room for interpretation. Please clarify if possible.

Comment [RC75]: Seems like this word should be changed to Methodology, as this section seems to outline the approach more, rather than list specific criteria.

Comment [RC76]: It seems like this word needs to be inserted. Please clarify.

Comment [RC77]: Because this term shows up in several places and is not necessarily clear in meaning given the varied context, it might be worth introducing a definition into Article 2. See example

Comment [RC78]: Suggest use of the word assess in this case, as the word determine is fairly definitive and implies a high level of certainty that may not be appropriate based on available data.

Comment [RC79]: The meaning of this term is not clear. Is this a geologic contact (i.e., bedrock/alluvium), a hydrogeologic barrier, or something else? Please use consistent terminology throughout.

Comment [RC80]: See previous comment.

Comment [RC81]: Please clarify whether this word is supposed to be groundwater.

within or adjacent to the proposed basin or a portion of the proposed basin. The evaluation of sustainable management potential will generally assess the level of groundwater management practices currently in place within the basin and the historical and existing aquifer response to these management practices. The groundwater management plan will also serve to provide additional information should it be necessary to clarify questions regarding management activities or supporting technical information.

(c) For jurisdictional modifications in the form of consolidation or county basin consolidation or basin subdivision pursuant to Section 342.4(b) and (c) of this Subchapter, the Department will evaluate the adequacy of a hydrogeologic conceptual model. The evaluation will assess the degree to which the model aligns with the known geologic framework, the known direction(s)~~ and movement~~ of groundwater flow, and the general understanding of water budget components for the basin or subbasin.

(d) For jurisdictional modifications in the form of basin subdivision pursuant to Section 342.4(c) of this Subchapter, the Department will evaluate, where applicable, the adequacy of the description and supporting documentation of (1) historical and current conditions and (2) coordination in the existing basin of the following~~, where applicable~~:

(1) Current and historical groundwater levels ~~based on~~from a groundwater monitoring well network that satisfies the following criteria:

(A) A sufficient density of ~~monitoring~~ wells to evaluate and implement sustainable groundwater management as determined by the Department.

(B) Wells ~~with~~ constructed and perforated to produce water levels representative of~~intervals in~~ ~~all~~ each of the principal aquifer units.

(C) The density and distribution of wells is adequate to characterize the potentiometric surface for each of the principal aquifer units over a majority of the basin.

(D) The methods of data collection follow best management practices and data are collected at similar intervals and frequency.

(E) Groundwater level data demonstrate~~s~~ that the principal aquifer units have not experienced long-term declines in groundwater level~~ing conditions~~s.

(2) Water quality data, including data showing that areas with known water quality impacts would not be more isolated or concentrated in the proposed or existing basins relative to one another.

(3) Current and historical land subsidence data demonstrating that no significant inelastic land subsidence has been observed in the proposed or existing basin.

(4) Technical ~~studies~~investigations of groundwater–surface water interactions showing that surface water is not adversely affected by groundwater extractions in the proposed or existing basin or subbasin.

Comment [RC82]: The combination of these three words seems to create a new term, which is likely not the intent. Please revise to avoid confusion.

Comment [RC83]: See comment associated with item 344.16(b), as it applies to this item too.

Comment [RC84]: In some places in the regulation the meaning of this word is clear. In other, particularly in Articles 5 and 6, the intent or meaning is vague. Suggest making clearer in these Articles.

Comment [RC85]: Eliminate this word because, although CASGEM is supposed to only utilize monitoring wells, doing so excludes many valuable data points such as production or water-supply wells. In fact, many counties and water utilities collect static groundwater levels from active, but non-operating water-supply wells with good success, both in terms of obtaining representative water levels and in using the water levels to assess basin conditions.

Comment [RC86]: This term will be subject to significant interpretation and might lead to confusion or disagreements. One remedy may be to include a definition in Article 2, for example one that cites an authoritative agency such as the USGS, federal EPA, USBR, or perhaps the RWQCB.

Comment [RC87]: Similar to what? What is the reason similar frequency is needed? This is a bit vague and confusing. Please clarify as much as possible, otherwise this could lead to significant interpretation or disagreements.

Comment [RC88]: The use of this word might lead to significant interpretation, as the intent is not clear. Is item (4) supposed to represent past, present, or future or one or more of these? Please clarify.

(5) Technical ~~studies~~investigations demonstrating that rates of recharge in the proposed and existing basin are adequate to replace current and likely future rates of extraction.
(6) Evidence of coordination between local agencies and public water systems within and between the proposed and existing basins or subbasins pertaining to water budgets, data collection, and other agreements designed to promote sustainable groundwater management, as appropriate.

Note: Authority cited: Section 10722.2, Water Code.

Reference: Section 10722.2, Water Code.

ARTICLE 7. ADOPTION OF BOUNDARY MODIFICATION

§ 346. Introduction to Department Procedures

This Article describes the procedure for the adoption of boundary modifications by the Department.

Note: Authority cited: Section 10722.2, Water Code.

Reference: Sections 10722.2 and 10723.4, Water Code.

§ 346.2. Presentation of Draft Boundary Modifications

(a) If the Department determines that a boundary modification is supported by adequate technical information and meets the requirements of this Subchapter, the Department shall post the public review draft revised basin boundaries on the Department's Internet w~~W~~eb-site and hold at least one public meeting to solicit comments on the draft boundaries.
(b) The Department shall present a copy of the draft revised basin boundaries, including the proposed basin name and number, to the Commission to hear and comment on ~~the draft revision~~.
(c) The Department may finalize the revised basin boundaries 30 days after presentation to the Commission if the Department determines that no substantial changes are required.
(d) If the Department makes substantial changes in accordance with this Subchapter to a proposed boundary modification after presentation to the Commission, the Department shall ~~re~~submit the proposed changes to the Commission for further review consistent with the Act.

Note: Authority cited: Section 10722.2, Water Code.

Reference: Section 10722.2, Water Code.

§ 346.4. Record of Boundary Modifications

Comment [RC89]: The intent of this item is a little confusing. For example, rates of recharge could be interpreted to be spot or point measurements at different places in a basin. Alternatively, this could be intended to be a basinwide amount of water input on an annual basis, with units of acre-feet per year. Further, while extraction may refer to pumping of groundwater via wells, it's not clear if the intent of this item is to also include the amount of groundwater discharged to streams or rivers to support habitat. It seems like the intent of this item is that some sort of water balance be demonstrated, but it is not clear and may be misleading. Please clarify as much as possible.

Comment [RC90]: The inclusion of this phrase is a bit confusing. Is it necessary or can it be deleted? Is it redundant given that the word between is already used in the sentence? Please clarify.

Comment [RC91]: Additional steps and details may be needed to describe the process of incorporating public comments at this stage.

Comment [RC92]: Seems like, if the Department makes substantial changes, additional details may be need to describe a provision to allow notification of, and comment by, the agency requesting the original modification.

Comment [RC93]: Please consider adding a provision or provisions requiring the Department to post the substantial changes for public, and requesting agency, review.

After revising the boundaries of a basin or establishing a new subbasin the Department shall record that information on the Department's Internet w~~W~~eb~~-~~site and incorporate the revised basin boundaries in subsequent updates to Bulletin 118.

Note: Authority cited: Section 10722.2, Water Code.

Reference: Section 10722.2, Water Code.

§ 346.6. Subsequent Modifications by Department~~.~~

If, after revising the boundaries of a basin or establishing a new subbasin, the Department determines, based on substantial evidence collected and evaluated by the Department, that assumptions regarding the sustainable management of the new basin or subbasins were incorrect, and that as a result the boundary modification should not have been ~~allowed~~approved, the Department may either restore the boundaries those ~~the alignment that~~ existing~~ed~~ before the boundary modification or ~~make other~~ revise the boundaries~~ion~~s consistent with this Subchapter.

Note: Authority cited: Section 10722.2, Water Code.

Reference: Section 10722.2, Water Code.

Comment [RC94]: Section 346.6 below seems to imply that there may be more than one opportunity for modification of a basin boundary. The first opportunity would be for the requesting agency. However, the Department could also have an additional opportunity to modify basin boundaries. In addition, the following language is from Bulletin 118: "In basins where many studies have been completed and the basin has been operated for a number of years, the basin response is fairly well understood and the boundaries are fairly well defined. Even in these basins, however, there are many unknowns and changes in boundaries may result as more information about the basin is collected and evaluated. In many other basins where much less is known and understood about the basin, boundaries will probably change as a better understanding of the basin is developed." This implies that a basins boundaries can be modified multiple times. This begs the question of how many time a basin's boundaries can be modified under the draft regulations. In other words, if a basin's boundaries can be modified multiple times, it seems like the regulations should accommodate these multiple opportunities. Please consider.

Comment [RC95]: These things happen and this seems like a worthwhile step to include in the process, but additional detail may be needed. For example, a provision like 346.2(a) could be included to alert the public and requesting agency to the Department's subsequent modification. In addition, a provision like 346.4 could be included to make sure the subsequent modification is recorded. Further, unless the intent is for the subsequent modification by the Department to not be reviewable, there should be a step, or steps, in the process allowing, at a minimum, the requesting agency to review and comment on.

Comment [RC96]: The Department should not simply rely on evidence and analysis submitted by a requesting agency, but should collect and evaluate evidence independent from the requesting agency.

Comment [RC97]: The regulations should be clear on the intent of this section. Is the intent for the Department to be able to modify basin boundaries after they have been adopted and recorded or at some earlier step in the process? In one case, the word approved is appropriate here. In another case, the word adopted may be more appropriate.