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A Commitment to Service

March 31, 2016

California Department of Water Resources
Attn: Lauren Bisnett, Draft GSP Emergency Regulations Public Comment
P.O. Box 942836
Sacramento, CA 94236

Sent via email to: sgmps@water.ca.gov

SUBJECT: Public Comment on Sustainable Groundwater Management Act Draft Emergency Regulations for Groundwater Sustainability Plans and Alternatives

Dear Ms. Bisnett:

Napa County appreciates the opportunity to comment on the Sustainable Groundwater Management Act Draft Emergency Regulations for Groundwater Sustainability Plans (GSPs) and Alternatives, prepared by the California Department of Water Resources (DWR), as required by the Sustainable Groundwater Management Act (SGMA). We recognize the tremendous level of effort invested by DWR staff to comply with the new Act under a very compressed schedule to develop the comprehensive draft regulations, which were posted for public comment on February 18. Furthermore, we appreciate DWR's willingness to meet with the County on December 4, 2015 prior to the release of the draft regulations. Our primary concern then and now relate to the interpretation of the requirements in the Act for Alternative submittals.

In short, the Legislature clearly intended that, under certain conditions, an Alternative submittal be an allowed option, one which was faster, less expensive and achieved the goals of the Act in a more efficient manner. The DWR regulations as drafted, by including additional unnecessary and burdensome requirements on Alternative submittals, defeat the will and clear intent of the Legislature and frustrate its authority in this regard.

Our comments on the draft regulations are included in this letter and also in the attached Word version of the regulations. We have also provided comments on the *Draft Groundwater Sustainability Plan (GSP) Emergency Regulations Guide* (Draft Guide). Presented below are our overarching comments pertaining to DWR's very broad interpretation of Alternative submittals in the draft regulations, Section 358.4 Alternatives to Groundwater Sustainability Plans.

Comments on Alternative Submittals: The Act Compared to the Draft Regulations

The Act, Section 10733.6(a), says the following *(emphasis added):*

> (a) If a local agency believes that an alternative described in subdivision (b) satisfies the objectives of ***this part***, the local agency may submit the alternative to the department for evaluation and assessment of whether the alternative satisfies the objectives of this part for the basin.

Reference to "this part" means the requirements in Act Section 10733.6, not the entire Act. It would be acceptable for the draft regulations to refer to the "objectives of the Act" such that it is clear that an

Alternative is not intended to mean *full implementation of all aspects of the GSP regulations*, particularly since the full regulations are primarily being developed for purposes of achieving sustainability in basins that may not currently meet that goal.

The Act, Section 10733.6 states that an alternative is any of the following (the County's particular interest is (b)(3):

> (b)(3) An ***analysis of basin conditions*** that demonstrates that the basin has operated within its sustainable yield over a period of at least 10 years. The submission of an alternative described by this paragraph shall include a ***report*** .....

However, the draft regulations, Section 358.4(c)(3) state:

> (3) An alternative submitted pursuant to Water Code Section 10733.6(b)(3) shall demonstrate that no undesirable results are present in the basin or have occurred between January 1, 2005, and January 1, 2015. Each subsequent submission shall demonstrate that no undesirable results are present in the basin or have occurred for the preceding ten-year period.

The draft regulations further state:

> (e) A local agency shall include an explanation of the functional equivalence of terms and concepts used in the alternative with the substantive and procedural requirements of the Act and this Subchapter.

The draft regulations do not reference the analysis of basin conditions and the report to be prepared that describes those conditions. It is clear from the express language of Section 10733.6 (b)(3), and the timeline for the completion of an Alternative (10733.6(c)), that the legislative language associated with an Alternative submittal under 10733.6 (b)(3) was not the same intent or level of effort and time required to prepare a full blown GSP. It appears that something has clearly been lost in translation. Contrary to the legislative intent, the draft regulations infer that the Alternative submittal "shall include an explanation of the functional equivalence....", i.e., without further clarification, this implies an Alternative submittal is the same as a GSP, and yet the deadline for the alternative submittal is five years earlier. We read the Act to more simply require that the agency provide a report that demonstrates the basin has been sustainably managed for at least 10 years. The attached Word version of the draft regulations provides a suggested list (in track change mode) of appropriate report elements.

In addition to the full draft regulations, DWR has posted on its SGMA web site a Draft Guide. The Draft Guide does not include much about the content of the Alternative submittal option; however, the language in the Draft Guide implies that it will contain similar content as a GSP. Page 1 states, "Details regarding Alternatives are described in Article 9 of the draft regulations." As commented above, the draft regulations do not provide details; rather the draft regulations infer that the Alternative should be similar to a GSP. On page 5 of the Guide, the box on "Phases of GSP Development and Implementation" begins with, "The GSP and Alternative development and implementation process can be divided into four general phases as illustrated in Figure 1 on the following page...." Figure 1 is confusing with respect to the Alternative, as the Alternative is included more as an endnote. However, this implies that the parts under the Phases are what DWR also expects in the Alternative (requirements detailed in Articles 3, 4 and 5). On page 17 of the Draft Guide, with respect to Substantial Compliance Criteria, it states (emphasis added):

> DWR shall evaluate whether the GSP or Alternative is likely to achieve the sustainability goal for the basin only if the GSP or ***Alternative*** satisfies the Pass/Fail requirements above. DWR shall consider the following:
>
> 1. Whether the GSP or ***Alternative*** substantially complies with the requirements in *the* regulation.
>
> 2. Whether adequate quality of information, data, monitoring, and scientific methods used in the GSP or ***Alternative***.
>
> 3. Assumptions, criteria, findings, and objectives, including the sustainability goal, undesirable results, minimum thresholds, measurable objectives, and interim milestones, are reasonable and supported by the available evidence.

4. Whether the interests of the beneficial uses and users of groundwater have been adequately considered.

5. Whether feasibility of projects and management actions, including contingency projects, and the likelihood that these actions will prevent undesirable results and ensure that the basin is operated within its sustainable yield.

6. Whether the GSP or ***Alternative*** will adversely affect the ability of an adjacent basin to implement their GSP or impede achievement of sustainability goal in an adjacent basin.

7. Whether Coordination Agreements ensure the GSP or ***Alternative*** utilize the same data and methodologies specified in the Water Code.

8. Whether the GSA or local agency has the legal authority and financing plan necessary to implement the GSP or ***Alternative***.

9. Whether the best management practices adopted by the GSA or local agency cover the range of projects and management actions anticipated by the GSP or ***Alternative*** or are consistent with the best management practices recommended by DWR or general industry standards.

10. Whether public comments and other information indicating that impacts were not adequately considered in determining undesirable results or in developing the GSP or ***Alternative***.

11. Whether the GSP or ***Alternative*** would impair the right to safe, dean, affordable, and accessible water adequate for human consumption, cooking, and sanitary purposes.

Note that the Draft Guide (item 9 above) also indicates that the Alternative will have adopted BMPs and that these will be *consistent with the BMPs recommended by DWR*, or general industry standards. However, DWR's BMPs are to be published by January 1, 2017, or the same date the Alternative is due. Again, it is clear from the express language of Section 10733.6 (b)(3), and the timeline for the completion of an Alternative (10733.6(c)), that the legislative language associated with an Alternative submittal under 10733.6 (b)(3) was not the same intent or level of effort and time required to prepare a full GSP.

We appreciate your consideration of our comments and look forward to discussing any questions that DWR may have concerning them.

Regards,

Steve Lederer
Director
Department of Public Works

Patrick Lowe
Natural Resources Conservation Manager
Groundwater Sustainability Program
Department of Public Works

Encl: Draft GSP Regulations-Comments

Sustainable Groundwater Management Act
Draft Emergency Regulations for Groundwater Sustainability Plans and Alternatives

Groundwater Sustainability in California

On January 1, 2015, California began implementing the Sustainable Groundwater Management Act (SGMA). This landmark law empowers local agencies to implement groundwater sustainability plans tailored to the needs of their communities. California depends on groundwater for a major portion of its annual water supply, particularly during times of drought. Current drought conditions illustrate the need for reliable and resilient water supplies. The long-term planning required by SGMA will ensure that groundwater is a buffer against drought and climate change, and contributes to reliable water supplies regardless of weather patterns in the State.

The Department of Water Resources (DWR) released draft emergency regulations for local groundwater sustainability plans on February 18, 2016. The regulations describe the required plan elements and the criteria that DWR will use to evaluate the plans. SGMA requires DWR to adopt final regulations by June 1, 2016.

Key Elements of a Groundwater Sustainability Plan

The draft regulations require local public agencies to define a course to achieve sustainable groundwater management within 20 years of plan implementation. Plans must identify when and where groundwater conditions cause problems, such as seawater intrusion; the specific projects and management actions that local agencies will implement to prevent the problems; and milestones to track plan progress. Plans must also describe how local agencies will monitor groundwater and how monitoring data will be used to improve conditions in the basin. Groundwater management can be complicated and technically challenging; the regulations set standards and a framework for local agencies to organize their plans and submit them to DWR for evaluation. Technical and financial assistance will be available to help local agencies develop their plans.

Local Flexibility

Local control and management is a fundamental principle of SGMA; the draft regulations preserve the role of local agencies in managing their basins and achieving sustainability. Local agencies have flexibility in defining the problems in their basins, establishing minimum thresholds, setting measurable objectives, and determining the projects and management actions that will be required to achieve sustainability in their basins. The draft regulations also recognize that adaptive management is an important tool for local agencies, and they allow for continued adaptation and changes to a plan based on new information and data. Local agencies will have wide authority to address plan uncertainties and use adaptive management techniques to improve groundwater management over time.

Public Comments and Next Steps

The draft regulations are available for public review at www.water.ca.gov/groundwater/sgm/gsp.cfm. Public comments may be submitted in writing through March 25, 2016. DWR will host three public meetings and a statewide webinar in March to solicit public input on the draft regulations. DWR welcomes and encourages public comments to improve the draft regulations, and it will use public comments to make changes before issuing final regulations.

GROUNDWATER SUSTAINABILITY PLAN EMERGENCY REGULATIONS

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TITLE 23. WATERS

DIVISION 2. DEPARTMENT OF WATER RESOURCES

CHAPTER 1.5. GROUNDWATER MANAGEMENT

SUBCHAPTER 2. GROUNDWATER SUSTAINABILITY PLANS

ARTICLE 1. Introductory Provisions

§ 350. Authority and Purpose

These regulations specify the components of groundwater sustainability plans, alternatives to groundwater sustainability plans, and coordination agreements prepared pursuant to the Sustainable Groundwater Management Act (Part 2.74 of Division 6 of the Water Code, beginning with Section 10720), and the methods and criteria used by the Department to evaluate those plans, alternatives, and coordination agreements and information required by the Department to facilitate that evaluation.

Note: Authority cited: Section 10733.2, Water Code.

Reference: Sections 10733.2, 10733.4. Water Code.

§ 350.2. General Principles

Consistent with the State's interest in achieving groundwater sustainability through local management and the avoidance of undesirable results within groundwater basins, the following general principles shall guide the Department in the implementation of these regulations.

(a) The Plan must achieve the sustainability goal for the entire basin within 20 years of Plan implementation without adversely affecting the ability of an adjacent basin to implement their Plan or achieve their sustainability goal.

(b) The Plan shall describe a process for the collection, interpretation, and reporting of sufficient reliable information to permit the Department to evaluate the adequacy of the Plan.

(c) The Department shall evaluate the adequacy of all Plans, including subsequent modifications to Plans, and reports and periodic evaluations based on a substantial

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compliance standard as described in Article 6, provided that the goals of the Act are satisfied.

(d) The Department may determine that an initial Plan is adequate, notwithstanding identified deficiencies, provided that the Plan contains sufficient credible information to support reasonable interpretations about basin conditions and describes all of the following:

(1) A process for prioritizing and filling data gaps throughout the course of Plan implementation.

(2) The specific actions and projects that will bring the Plan into compliance within minimum standards and best management practices on a reasonable schedule.

(3) A definite course to achieve the sustainability goal within 20 years of Plan implementation.

(4) The institutional system that will maintain sustainability over the planning and implementation horizon.

(e) Adaptive management may be employed as a tool for improving local and regional management of the state's groundwater basins within 20 years of Plan implementation and over the planning and implementation horizon.

(f) The processes for an Agency to develop and submit a Plan for evaluation by the Department, and for Department evaluation, as described in these regulations, are made applicable to multiple Agencies developing multiple Plans and to Alternatives, as described in Article 9.

(g) The Department may evaluate a Plan at any time, for compliance with the Act and this Subchapter.

(h) Unless otherwise noted, all section references in these regulations refer to this Chapter.

Note: Authority cited: Section 10733.2, Water Code.

Reference: Sections 113, 10720.1, 10733, 10733.2, 10733.4, 10733.6, Water Code.

Comment [A1]: BMPs are just that and are not regulations to comply with until such time as they become regulations. DWR's website (as of 2/27) indicate BMPs are still coming. In these draft BMPs, they are scattered about and made reference to in the proposed regulations. It would help to clarify more explicitly what are BMPs and what are minimum standards.

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ARTICLE 2. Definitions

§ 351. Definitions

In addition to terms defined in the Sustainable Groundwater Management Act and in Bulletin 118, and terms defined in Subchapter 1 of this Chapter, which definitions apply to these regulations, the following terms used in this Subchapter have the following meanings:

(a) "Agency" refers to a groundwater sustainability agency as defined in the Act.

(b) "Agricultural water management plan" refers to a plan adopted pursuant to the Agricultural Water Management Planning Act as described in Part 2.8 of Division 6 of the Water Code, commencing with Section 10800 et seq.

(c) "Alternative" refers to any alternative to a Plan described in Water Code Section 10733.6.

(d) "Annual report" refers to the report required by Water Code Section 10728.

(e) "Baseline" or "baseline conditions" refer to historical information used to project future conditions for hydrology, water demand, and availability of surface water and to evaluate potential sustainable management practices of a basin.

Insert new definition

(f) "Best available information" refers to information that is accurate, applicable, actionable, and accessible.

(g) "Best available science" refers to the use of high-value information and data, specific to the decision being made and the time frame available for making that decision, that is consistent with scientific and engineering professional standards of practice.

(h) "Best management practice" refers to a practice, or combination of practices, that are designed to achieve sustainable groundwater management and have been determined to be technologically and economically effective, practicable, and based on best available science.

(i) "Coordinating agency" refers to a groundwater sustainability agency or other authorized entity that represents two or more Agencies or Plans for a basin and is the sole point of contact with the Department.

(j) "Critical parameter" refers to chronic lowering of groundwater levels indicating a depletion of supply if continued over the planning and implementation horizon, reduction

Comment [A2]: Add definition for "model":

A model is a representation of a real system or process. Tools to accomplish this can include analytical, deterministic, statistical, and numerical models. A spreadsheet may also suffice to organize and analyze system components, such as for water budgets.

Comment [A3]: It seems like this term(s) needs further clarification, particularly as related to baseline establishing the pre-SGMA condition as the basis on which to *measure progress relative to* the Sustainability Goal (354.24) established by the Agency.

10727.2 -- The plan may, but is not required to, address undesirable results that occurred before, and have not been corrected by, January 1, 2015. Notwithstanding paragraphs (1) to (3), inclusive, a groundwater sustainability agency has discretion as to whether to set measurable objectives and the timeframes for achieving any objectives for undesirable results that occurred before, and have not been corrected by, January 1, 2015.

Comment [A4]: Base Period should be defined. This is different than the context being used for "baseline" and base period is a critical term used in the definition of "Sustainable Yield".

Base Period (elements of definition): The base period should include wet and dry periods. It is important to consider data availability for the subject study area. The base period chosen should meet these conditions (Helen J. Peters):
1. Dry years *before* start of period
2. Dry years *before* end of period
3. Data are available for entire period
4. End is *near* the present
5. (Plus- as an outcome of the Antelope Valley adjudication) Reflection of cultural and water management conditions in the basin.

Comment [A5]: This definition could use a little clarification re the purpose of creating a term more for ease of reference to a collection of undesirable results.

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of groundwater storage, sea water intrusion, degraded water quality, land subsidence that substantially interferes with surface land uses, and depletions of surface water that have adverse impacts on beneficial uses of surface water that may lead to undesirable results, as described in Water Code Section 10721(x).

(k) "Groundwater flow" refers to the volume and direction of groundwater movement into, out of, or throughout a basin.

(l) "Interested parties" refers to all persons and entities on the list of interested persons established by the Agency pursuant to Water Code § 10723.4.

(m) "Interconnected surface water" refers to conditions where surface water and the underlying aquifer are hydraulically connected by a continuous saturated zone and the overlying surface water is not completely depleted.

(n) "Interim milestone" refers to a target value for management actions or measurable groundwater conditions set by an Agency as part of Plan implementation.

(o) "Management area" refers to areas within a basin where conditions such as water use sector, water source type, geology, aquifer characteristics, or critical parameters related to undesirable results are significantly different from basin conditions as a whole, and justify different minimum thresholds, measurable objectives, monitoring and management actions.

(p) "Measurable objectives" refer to specific, quantifiable goals for the maintenance or improvement of specified groundwater conditions that have been included in an adopted Plan to achieve the sustainability goal in a basin.

(q) "Minimum threshold" refers to the point at which groundwater conditions for a given critical parameter are significant and unreasonable.

(r) "NAD83" refers to the North American Datum of 1983 computed by the National Geodetic Survey.

(s) "NAVD88" refers to the North American Vertical Datum of 1988 computed by the National Geodetic Survey.

(t) "Plain Language" means language that the intended audience can readily understand and use because that language is concise, well-organized, uses simple vocabulary, avoids excessive acronyms and technical language, and follows other best practices of plain language writing.

(u) "Plan" refers to a groundwater sustainability plan as defined in the Act. The status of a Plan may change as follows:

Comment [A6]: This needs clarification – both the term and the definition.

Comment [A7]: This is overbroad. There may be surface water source areas within a watershed where surface water is perennial, ephemeral, and/or has not been connected for years. All three conditions may occur; so it is unclear what is mean by "not completely depleted."

Comment [A8]: Clarify the definition. A goal is different than an objective. Some examples….

Objective- Something that is intended to be attained or accomplished, i.e., specific measurable step toward a target.

Goal- Broad primary outcome or purpose toward which an endeavor is directed.

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(1) "Adopted Plan" refers to a Plan that has been adopted by an Agency pursuant to the requirements of the Act and this Subchapter.

(2) "Approved Plan" refers to an adopted Plan that has been evaluated by the Department and found to be adequate.

(3) "Initial Plan" refers to the first version of a Plan developed by an Agency and evaluated by the Department.

Comment [A9]: This necessary? Seems to set a premise that no Plan will be satisfactory. Suggest delete and just stick with "Plan" (as above).

(v) "Plan implementation" refers to the date when an Agency exercises any of the powers described in the Act after adopting and submitting to the Department a Plan or Alternative.

(w) "Plan manager" is an employee or authorized representative of a groundwater sustainability agency who has been delegated management authority for submitting the groundwater sustainability plan and serving as the point of contact between the groundwater sustainability agency and the Department.

(x) "Principal aquifers" refer to aquifers or aquifer systems that store, transmit, and yield significant or economic quantities of groundwater to the wells, springs, or surface water systems.

(y) "Reference point" refers to a permanent, stationary and readily identifiable mark or point on a well, such as the top of casing, from which groundwater level measurements are taken.

(z) "Reporting period" refers to the period covered by the annual report required by Water Code Section 10728, which shall consist of the previous water year.

(aa) "Representative monitoring" refers to a monitoring site within a broader system of sites that typifies one or more conditions within the basin or an area of the basin.

(ab) "Seasonal high" refers to the highest annual static groundwater elevation that is typically measured in the Spring and associated with stable aquifer conditions following a period of lowest annual groundwater demand.

(ac) "Seasonal low" refers to the lowest annual static groundwater elevation that is typically measured in the Summer or Fall, and associated with a period of stable aquifer conditions following a period of highest annual groundwater demand.

(ad) "Seawater intrusion" refers to the advancement of seawater into a groundwater supply that results in degradation of water quality in the basin, and includes seawater from any source.

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(ae) "Urban water management plan" refers to a plan adopted pursuant to the Urban Water Management Planning Act as described in Part 2.6 of Division 6 of the Water Code, commencing with Section 10610 et seq.

(af) "Water source type" represents the source from which water is derived to meet the applied beneficial uses, including, but not limited to, groundwater, recycled water, reused water, and local or imported surface water sources identified as Central Valley Project, the State Water Project, the Colorado River Project, local supplies, and local imported supplies.

(ag) "Water supply reliability" refers to the likelihood that the supply of water within the basin will satisfy reasonable demands for the beneficial uses and users of water.

(ah) "Water use sector" refers to categories of water demand based on the general land uses to which the water is applied. They include, but may not be limited to, urban, industrial, agricultural, managed wetlands, managed recharge, and native vegetation.

(ai) "Water year" refers to the period from October 1 through the following September 30, inclusive, as defined in the Act.

(aj) "Water year type" refers to the classification system index provided by the Department to assess the amount of precipitation in a basin.

Note: Authority cited: Section 10733.2, Water Code.

Reference: Section 10727.2. 10733.2, Water Code.

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ARTICLE 3. Technical and Reporting Standards

§ 352. Introduction to Technical and Reporting Standards

This Article describes the use of best management practices and minimum standards for monitoring sites and other technical matters appropriate to develop or monitor the implementation of a Plan.

Note: Authority cited: Section 10733.2, Water Code.

Reference: Section 10733.2, Water Code.

§ 352.4. Best Management Practices

(a) Each Plan shall include best management practices adopted by the Agency for management actions, data collection and analysis, and other necessary elements of the Plan. The Agency may rely on best management practices developed by the Department or shall adopt their own best management practices.

(b) Best management practices shall be reviewed at least every five years as part of the periodic evaluation of the Plan and modified as necessary.

(c) If best management practices developed by the Department are modified, an Agency shall not be required to amend the Agency's best management practices until the next five-year review.

Note: Authority cited: Section 10733.2, Water Code.

Reference: Section 10728.2, 10729, 10733.2, 10733.8, Water Code.

Comment [A10]: This section needs a lot of clarification. As per comment above, DWR is required to develop BMPs, BMPs are not intended to be regulatory until such time as they may be brought into law.

Comment [A11]: This could cover volumes; need a clearer understanding of what the Agency's Plan needs to include for BMPs.

Comment [A12]: This is sort of "chicken and egg" right now. The BMPs are going to be posted by DWR, but they have not yet been fully developed. Some are sprinkled through these draft regs; however, their purpose as BMPs becomes unclear since by virtue of inclusion in the regs they will become regulations.

Comment [A13]: Whose BMPs and who to modify?

Comment [A14]: This needs clarifying. This implies that if DWR modifies its BMPs then the Agency is compelled to amend its BMPs. This makes it sound as though the Agency does not have the autonomy to set its own BMPs. If there are certain BMPs that all entities are to strive to invoke, then those should be identified as such.

§ 352.6. Data and Reporting Standards

(a) The following reporting standards apply to all information required of a Plan, unless otherwise indicated:

(1) Water volumes shall be reported in acre-feet.

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(2) Groundwater, surface water, and land surface elevations shall be measured and reported in feet relative to NAVD88, or as modified, to an accuracy of at least 0.1 feet.

(3) Reference point elevations shall be measured and reported in feet relative to NAVD88, or as modified, to an accuracy of at least 0.5 feet or the best available information, and the method of measurement described.

(4) Geographic locations shall be reported in GPS coordinates by latitude and longitude relative to NAD83, or as modified, in decimal degree to five decimal places, and a minimum accuracy of 30 feet.

(b) The following standards apply to wells and monitoring sites, unless otherwise indicated:

(1) All monitoring sites shall include the following information, as appropriate:

(A) A unique site identification number and narrative description of the site location.

(B) A description of the type of monitoring, type of measurement, and monitoring frequency.

(C) Location, elevation of the ground surface, and reference point, including a description of any reference point.

(D) A description of the standards used to install the monitoring site, and identification of any sites that do not conform to best management practices.

(2) Wells used as the source of basic geologic or other information, including data used to develop the hydrogeologic conceptual model, to determine the water budget, or establish the basin setting, shall provide the best available information. All available information about the wells shall be reported in the Plan, which shall include, at a minimum, well location, well construction, and well use.

(3) Wells used to monitor groundwater conditions shall be constructed according to standards described in DWR Bulletin 74-90, as amended, and shall include the following identifying information presented in both tabular and geodatabase-compatible shapefile form:

(A) CASGEM well identification number and, if available, a State well identification number and any local well identification.

(B) Well location, elevation of the ground surface, and reference point, including a description of the reference point.

Comment [A15]: Ideally this would be great. However, on the basin scale, it may take some time/effort/expense to attain this level of precision.

Comment [A16]: This may not be available for all data. Example GW quality data.

Comment [A17]: This may not be available for all data utilized by an entity to characterize basin conditions. Example GW quality data – many data are purposely obfuscated by the state agency.

Comment [A18]: This might seem ok for the "representative" network of wells used by an entity. However, the entity may use data collected by others to inform its analysis of groundwater conditions in the basin. This is overbroad.

Comment [A19]: See comment above; overbroad.

Comment [A20]: See comment above. Also, this level of information is not necessary for ALL data that may be used by the entity. Some additional data attributes may be useful in the future, but it will depend of the questions/objectives the entity is trying to address.

Comment [A21]: See comments above. Over prescriptive. The information may not be known, but this does not mean the data from such sites has no value.

Comment [A22]: May not be known; this is over prescriptive.

Comment [A23]: WL data used by an entity may not be part of the CASGEM program. Although additional wells monitored by entities may in the future become part of the CASGEM program, this will take time and particularly public acceptance and buy in.

Comment [A24]: See comments above. Not all this data available for every well that may be used to assess groundwater conditions nor is it necessarily essential to have all this information. It depends on the type of data being collected and the objectives being addressed.

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(C) A description of the well use, such as public supply, irrigation, domestic, monitoring, or other type of well, whether the well is active or inactive, and whether the well is a single, cluster, or nested well.

(D) A list of all casing perforations, borehole depth, and total well depth.

(E) A copy of any well completion reports.

(F) Any geophysical logs, well construction diagrams, or other relevant information, if available.

(G) Identification of aquifers monitored.

(H) Any other relevant well construction information, such as well capacity, casing diameter, casing modifications, or other information as available.

(4) If an Agency relies on wells that lack casing perforations, borehole depth, and total well depth information to monitor groundwater conditions ~~as part of an initial Plan~~, the Agency shall describe a schedule for acquiring monitoring wells with the necessary information, or demonstrate to the Department that such information is not necessary to understand and manage groundwater in the basin.

(c) Maps submitted to the Department shall meet the following requirements:

(1) Each map, including all data layers, shapefiles, geodatabases, and other information used to create the map, shall be submitted electronically to the Department in accordance with Article 4.

(2) Each map shall contain a level of detail and be clearly labeled to ensure that the map is informative and useful.

(3) The datum shall be clearly identified on the maps or in an associated legend or table included in the Plan.

(d) Hydrographs submitted to the Department shall meet the following requirements:

(1) Hydrographs shall be submitted electronically to the Department in accordance with Article 4.

(2) Hydrographs shall include the state well number or CASGEM well identifier and any local well designation, and elevation of the ground surface, and reference point.

Comment [A25]: See above comments. May not have all this information, but this does not mean that the data have no value.

Comment [A26]: This sounds simple but is actually incredibly difficult to link up WCRs to measured data, particularly data collected by others that are still useful to inform groundwater conditions on a basin scale.

Comment [A27]: See above comment. Sounds simple but very difficult. Takes time/resources to develop comprehensive hydrogeologic conceptualization and linking data with associated WCRs with limited to nonexistent information re well location (redaction of owner makes this even more difficult), APN delineations that have changed over time.

Comment [A28]: See above comments. This info would be nice but not necessarily essential, especially when data collected by others. Much of this information involves a very large level of effort to acquire and/or link up to data on a basin scale.

Comment [A29]: See comment above

Comment [A30]: This latter explanation is VERY USEFUL.

Comment [A31]: These will be in the Plan, and at least some WL data are submitted via CASGEM. Unclear why this is called out as a separate submittal.

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(3) Hydrographs shall use the same datum and scaling to the greatest extent practical and contain a level of detail and be clearly labeled to ensure that they are informative and useful.

(e) Groundwater and surface water models developed or utilized as part of or in support of a Plan shall be consist of public domain open-source software that meets the following requirements:

(1) Shall have publically available supporting documentation that establishes its ability to represent groundwater and surface water flow.

(2) Shall be calibrated against site-specific field data.

(3) Shall be based on actual field or laboratory measurements, or equivalent methods, that document the validity of chosen parameter values.

(f) The Agency shall provide a list of references and technical studies relied upon by the Agency in developing the Plan. The Agency shall provide electronic copies of all reports and other documents and materials that are not otherwise generally available to the public. Proprietary data and reports need not be disclosed unless requested by the Department to resolve interbasin disputes, as described in Section 355.12.

Note: Authority cited: Section 10733.2, Water Code.

Reference: Sections 10727.2, 10733.2, Water Code.

§ 352.8. Data Management and Recordkeeping

Each Agency shall develop and implement a coordinated data management system that is capable of storing, maintaining, and reporting all relevant information related to the development or implementation of the Plan.

Note: Authority cited: Section 10733.2, Water Code.

Reference: Section 10727.2, 10733.2, 10728, Water Code.

Comment [A32]: This is over restrictive for entities that have already made substantial investments in tools that are not open source software.

Comment [A33]: May not have or may be limited and require science based interpretation of available data.

Comment [A34]: "Appropriateness" or some other term than validity is recommended, and describe the associated uncertainty. It is strongly recommended against to use the term validate/validation in reference to groundwater models.

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ARTICLE 4. Procedures

§ 353. Introduction to Procedures

This Article describes procedural and notification requirements related to the submission of Plans and public comment to those Plans.

Note: Authority cited: Section 10733.2, Water Code.

Reference: Section 10733.2, Water Code.

§ 353.2. Information Provided by the Department

(a) The Department shall make forms and instructions for submitting Plans available on its Internet Web site.

(b) Information provided by the Department pursuant to this Subchapter shall be provided on the Department's Internet Website.

Note: Authority cited: Section 10733.2, Water Code.

Reference: Section 10729, 10733.2, Water Code

§ 353.4. Reporting Provisions

Plans, Plan amendments, annual reports, and five-year assessments shall be submitted by each Agency in accordance with the requirements of this section.

(a) All materials shall be submitted electronically to the Department through an online reporting system, in a format provided by the Department as described in Section 353.2.

(b) All materials shall be accompanied by a transmittal letter signed by a person duly authorized under California law to bind the party submitting the report, and including the following certification:

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly

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responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete."

(c) All materials submitted to the Department shall be posted on the Department's Internet Web site.

Note: Authority cited: Section 10733.2, Water Code.

Reference: Sections 10728, 10728.2, 10733.2, 10733.4, 10733.6, Water Code.

§ 353.6. Initial Notification

(a) Each Agency shall notify the Department, in writing, within 30 days of an Agency's decision to develop a Plan. The notification shall provide general information about the Agency's process for developing the Plan, including the manner in which interested parties may contact the Agency and participate in the development and implementation of the plan. The Agency shall make the information publicly available by posting relevant information on the Agency's Internet Web site.

Comment [A35]: Vague; clarify.

Comment [A36]: Vague. This in reference to the notification?

(b) The Department shall post the initial notification required by this Section, including Agency contact information, on the Department's Internet Web site within 20 days of receipt.

(c) Upon request, prior to adoption of a Plan, the Department shall provide reasonable assistance to an Agency regarding the elements of a Plan required by the Act and this Subchapter. Notwithstanding any advice provided by the Department, the Agency is solely responsible for the development and adoption of a plan that is capable of achieving sustainable groundwater management.

Comment [A37]: Not clear what this may mean.

Note: Authority cited: Section 10733.2, Water Code.

Reference: Sections 10723.4, 10727.8, 10733.2, Water Code.

§ 353.8. Public Comment

Any person may provide comments to the Department regarding any proposed or adopted Plan.

(a) The Department shall accept public comment on any aspect of an Agency's decision to develop a Plan as described in Section 353.6, including all elements of the ~~proposed~~ Plan as it may be developed by the Agency.

Comment [A38]: Simply "Plan" will do.

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(b) The Department shall establish a comment period of no less than 60 days on an adopted Plan that has been accepted by the Department for evaluation pursuant to Section 355.2.

Comment [A39]: Clarify; it would not be useful to have an indefinite comment period on any Plan. This may mean that Plans could receive continual comments at any time for any reason, whether warranted or not.

(c) The following guidelines apply to all public comments:

(1) Public comment shall be submitted by written notice, and shall include the name, address, and electronic mail address of the person or entity providing the comments and information, with a duplicate copy of the comment provided to the Agency at the same time.

(2) Public comment should include a clear statement of relevant issues that are the subject of the comments and information.

(3) The level of detail provided by public comment need not be as comprehensive as that contained in the proposed or adopted Plan, but should rely on similar scientific and technical information, including the reliance upon the best available information and best available science.

Comment [A40]: THIS IS **VERY HELPFUL**.

(d) All comments and other information received shall be posted on the Department's Internet Web site.

(e) The Department is not required to respond to comments, but will consider comments as part of its evaluation of a Plan.

(f) The Department shall give the Agency a reasonable opportunity to respond to public comment, including the opportunity to modify the Plan consistent with Section 355.2.

Comment [A41]: Clarify; elsewhere it indicates that the Agency is not required to respond to all public comments.

Note: Authority cited: Section 10733.2, Water Code.

Reference: Section 10727.8, 10733.2, 10733.4, Water Code.

§ 353.10. Withdrawal or Amendment of Plan

An Agency may withdraw a Plan at any time by providing written notice to the Department. An Agency may amend a Plan at any time pursuant to the requirements of Section 356.12.

Note: Authority cited: Section 10733.2, Water Code.

Reference: Section 10728.4, 10733.2, Water Code.

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ARTICLE 5. Plan Contents

§ 354. Introduction to Plan Contents

This Article describes the required contents of Plans, including general information, a description of the basin setting and characteristics of the aquifer system, sustainable management criteria, and a description of the monitoring network, reports, and projects.

Note: Authority cited: Section 10733.2, Water Code.

Reference: Section 10733.2, Water Code.

Comment [A42]: New term or mix of terms. Seems like this should be Sustainability Goal and Measurable Objectives.

SUBARTICLE 1. Administrative Information

§ 354.2. Introduction to Administrative Information

This Subarticle describes administrative and other general information in the Plan relating to the Agency that has adopted the Plan, the area covered by the Plan, and other procedural matters.

Note: Authority cited: Section 10733.2, Water Code.

Reference: Section 10733.2, Water Code.

§ 354.4. Executive Summary

Each Plan shall include an executive summary written in plain language that provides an overview of the Plan and description of groundwater conditions of the basin.

Note: Authority cited: Section 10733.2, Water Code.

Reference: Section 10733.2, 10733.4, Water Code.

Comment [A43]: This seems over prescriptive. The least of what the regs should have to require is the entities writing style.

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§ 354.6. Agency Information

When submitting an adopted Plan to the Department, the Agency shall include a copy of the information provided pursuant to Water Code Section 10723.8, with any updates, if necessary, along with the following information:

(a) The name and mailing address of the Agency.

(b) Documentation of the organization and management structure of the Agency. The documentation shall identify persons with management authority for implementation of the Plan.

(c) The name and contact information, including phone number, mailing address and electronic mail address, of the plan manager.

(d) The legal authority of the Agency with specific reference to citations setting forth the duties, powers, and responsibilities of the Agency, including information demonstrating that the Agency has the necessary legal authority to implement the Plan.

(e) A description of anticipated revenues and costs of implementing the Plan, including programs, projects, contracts, administrative expenses and other expected costs, and information demonstrating that the Agency has the necessary financial ability to implement the Plan.

Comment [A44]: Overbroad and a lot of detail. Why does DWR need all of this when the Agency is required to show, based on Measurable Objectives and interim milestones, what it is achieving?

Note: Authority cited: Section 10733.2, Water Code.

Reference: Sections 10723.8, 10733.2, Water Code.

§ 354.8. Description of Plan Area

Each Plan shall include a description of the geographic areas covered, including the following information:

(a) One or more maps of the basin that depict the following:

(1) The area managed by the Plan and name and location of any adjacent basins.

(2) Jurisdictional boundaries of federal land, state land, tribal land, cities and counties and other land use agencies, and all general plans.

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(3) Adjudicated areas, all Agencies within the basin, and areas governed by Plan alternatives.

(4) Designation of existing land uses and the identification of each water use sector and water source type.

(5) The density of wells per square mile, by dasymetric or similar mapping techniques, showing the distribution of all agricultural, industrial, and domestic water supply wells in the basin, including de minimis extractors, and the location and extent of communities dependent upon groundwater. Each Agency shall utilize data available from the Department, as specified in Section 353.2, or the best available information.

(b) A written description of the Plan area, including a summary of the jurisdictional areas and other features depicted on the map.

(c) A description of existing water resource monitoring programs including, but not limited to, agricultural water management plans, urban water management plans, the California Statewide Groundwater Elevation Monitoring Program, the Irrigated Lands Regulatory Program, and the Groundwater Ambient Monitoring Assessment Program, Salt Nutrient Management Plans. To the extent existing programs require information similar to that required by this Subchapter, the Plan may incorporate data from existing programs.

(d) How existing water resource monitoring and management programs and agencies with water management authority, could affect the ability of the Agency to achieve sustainable groundwater management, and how the Plan addresses potential effects.

(e) A description of coordination between the Plan, Integrated Regional Water Management Plans, and Flood Management Plans, if applicable.

(f) A description of conjunctive use programs and infrastructure in the basin.

(g) A plain language description of the land use elements or topic categories of any applicable general plans that includes the following:

(1) A summary of land use plans governing the basin.

(2) A description of how implementation of existing land use plans are expected to change water demands within the basin.

(3) An identification and assessment of proposed land use activities that may pose a risk to groundwater quality or quantity in the basin.

Comment [A45]: DWR to provide all this data for ***every basin/subbasin in the state subject to SGMA***? If not, this is a very large and very specific task that by the language in this section would be required.

"Communities" is overbroad. In some regulatory contexts, this is broadly interpreted to mean almost anything, including a couple of trailer hookups to a common supply well.

Comment [A46]: Vague. The Plan should not have to provide an exhaustive description of all the various programs. It should suffice to reference documents that contain these descriptions, and DWR could provide assistance to identify appropriate references which could be useful to the entities/GSAs.

Comment [A47]: See above comment.

Comment [A48]: Clarify. Risk based on what? Everything may be considered a "risk" but may not be relevant to the Plan, particularly if it is proposed.

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(4) An assessment of how implementation of the Plan may affect applicable land use plans.

(5) A summary of land use plans outside the basin, for any area the Agency determines to be linked to the hydrology of the basin governed by the Plan.

(6) A summary of the process for permitting wells in the basin.

(7) How implementation of existing land use plans may affect the ability of the Agency to achieve sustainable groundwater management, and how the Plan addresses potential effects.

(8) How implementation of existing land use plans outside the basin, including a description of how implementation of those land use plans could affect the ability of the Agency to achieve sustainable groundwater management, for any area the Agency determines to be linked to the hydrology of the basin governed by the Plan.

(h) A description of any of the additional Plan elements included in Water Code Section 10727.4 that the Agency determines to be appropriate.

Note: Authority cited: Section 10733.2, Water Code.

Reference: Sections 10720.3. 10727.2, 10727.4, 10733.2, Water Code.

Comment [A49]: Overbroad and over prescriptive. It seems that accomplishing all that is required for the Plan relating to the subject basin will be enough of a tall order. The Agency should determine what it identifies as important factors/considerations in the context of sustainable groundwater management.

Comment [A50]: Same comment as above.

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§ 354.10. Notice and Communication

Each Plan shall include a summary of information relating to notification and communication by the Agency with other agencies and interested parties including the following:

(a) The list of interested persons established and maintained by the Agency.

(b) A description of the interests of beneficial uses and users of groundwater in the basin, and the persons or entities representing those interests, and the nature of consultation with those interests.

(c) A summary of public meetings at which the Plan was discussed or considered by the Agency.

(d) A copy of all comments regarding the Plan received by the Agency and a summary of any responses made by the Agency.

(e) A communication plan adopted by the Agency, including the following;

(1) An explanation of the Agency's decision-making process and how stakeholder input and public response will be used.

(2) Identification of opportunities for stakeholder engagement.

(3) A description of how the Agency encourages the active involvement of diverse social, cultural, and economic elements of the population within the basin.

(4) A schedule of milestones and scheduled dates for known projects or actions.

(5) A description of the roles and responsibilities of local agencies and the public.

Note: Authority cited: Section 10733.2, Water Code.

Reference: Sections 10723.2, 10723.4, 10727.8, 10733.2, 10733.4, Water Code

SUBARTICLE 2. Basin Setting

§ 354.12. Introduction to Basin Setting

This Subarticle describes the information about the physical setting and characteristics of the basin and current conditions of the basin that shall be included with each Plan. Information provided pursuant to this Subarticle shall be prepared by or under the direction of a professional geologist or professional engineer.

Note: Authority cited: Section 10733.2, Water Code.

Reference: Section 10733.2, Water Code.

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§ 354.14. Hydrogeologic Conceptual Model

(a) Each Plan shall include a hydrogeologic conceptual model of the basin consisting of a written description, map, and cross-sections, based on technical studies or qualified maps. The written description shall include a discussion of the following:

(1) Regional geologic and structural setting of the basin and surrounding area.

(2) Lateral basin boundaries, including major geologic features that significantly impede or impact groundwater flow.

(3) The definable bottom of the basin.

(4) Principal aquifers and aquitards, including the following information:

(A) Formation names, if defined.

(B) The physical properties of aquifers and aquitards, including their lateral and vertical extent, hydraulic conductivity, and storativity, which information may be based on existing technical studies or other sources of information.

(C) The structural properties of the basin that restrict groundwater flow within the principal aquifers, including information regarding stratigraphic changes, truncation of units, or other features.

(D) General water quality of the principal aquifers, which may be based on information derived from existing technical studies or regulatory programs.

(E) Identification of the aquifers used for domestic, irrigation, or municipal water supply.

(5) Other relevant information required by the Department as necessary to evaluate the Plan.

(b) The hydrogeologic conceptual model shall be represented graphically by at least two scaled cross-sections, approximately perpendicular to one another and extending the length and width of the basin, that display the information required by this section.

(c) Physical characteristics of the basin shall be represented on one or more maps that depict the following:

(1) Topographic information, of adequate scale, derived from the U.S. Geological Survey or another qualified source.

Comment [A51]: This may not be known.

Comment [A52]: Hydraulic properties of aquitards are not generally available and very difficult to develop, particularly at a basin scale.

Comment [A53]: Too prescriptive. There may be a lot of detail that is provided for some basins in multiple cross sections (and other geologic mapping formats) that depict geologic conditions that comprise a hydrogeologic conceptual model that don't follow these criteria. For example, there need not necessarily be a length wise cross section extending the entire length of a basin for purposes of developing a hydrogeologic conceptual model.

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(2) Surficial geology derived from a qualified map including the locations of basin wide cross-sections required by this Subarticle.

(3) Soil characteristics such as hydraulic conductivity or other water transmitting properties as described by the appropriate Natural Resources Conservation Service (NRCS) soil survey or other applicable studies.

(4) Delineation of existing recharge areas that substantially contribute to the replenishment of the basin, potential recharge areas, and discharge areas, including active springs, seeps, and wetlands within or adjacent to the basin.

(5) Surface water bodies with water supply diversions greater than 10 acre-feet per year, storage facilities with a capacity of greater than 100 acre-feet.

(6) The source location, distribution system, and point of diversion for imported water supplies.

Note: Authority cited: Section 10733.2, Water Code.

Reference: Section 10727.2, 10733.2, Water Code.

§ 354.16. Basin Conditions

The Plan shall characterize current and historical groundwater conditions in the basin. The Plan shall rely on the best available data to characterize historical conditions prior to January 1, 2015. The description of historical basin conditions shall specifically include conditions that existed as of January 1, 2015, and a comparison with present conditions. The description shall also contain all of the following:

(a) Groundwater elevation demonstrating flow directions, lateral and vertical gradients, and regional pumping patterns, including:

(1) Groundwater elevation contour maps depicting the current seasonal high and seasonal low for each principal aquifer within the basin.

(2) Hydrographs depicting long-term groundwater elevations, historical highs and lows, and hydraulic gradients between principal aquifers.

(b) Groundwater storage data demonstrating the annual and cumulative change in storage based on seasonal high groundwater conditions, water use, and water year type.

Comment [A54]: Same comment as above.

Comment [A55]: May be difficult to identify unless already part of existing standard maps.

Comment [A56]: It is important that this consideration being in the context of the "base period". See comment above re adding base period definition.

Comment [A57]: This may be difficult in light of the currently available data linked to "principal aquifers" (see above comments). Agency should determine what is available now and what it needs to develop to accomplish its sustainability goal.

Comment [A58]: See above comment.

Comment [A59]: Not clear how this is useful here. Seems like it belongs under a subset of water budget detail.

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(c) Seawater intrusion conditions in the basin that includes maps and cross-sections of the seawater intrusion front for each principal aquifer.

(d) Groundwater quality issues that may impact the supply and beneficial uses of groundwater, including a description and map of the following:

(1) The location of known groundwater contamination sites and plumes including current or historical waste discharge requirements, known historical or ongoing cleanup activities, and superfund sites.

(2) Horizontal and vertical proximity of wells to known sources of groundwater contamination.

(e) The extent, cumulative total, and annual rate of land subsidence, including maps depicting total subsidence. Each Agency shall utilize data available from the Department, as specified in Section 353.2, or the best available information

(f) Identification of interconnected surface water systems and groundwater-dependent ecosystems within the basin. Each Agency shall utilize data available from the Department, as specified in Section 353.2, or the best available information

Note: Authority cited: Section 10733.2, Water Code.

Reference: Section 10727.2, 10733.2, Water Code.

Comment [A60]: Too prescriptive. This may be difficult in light of the currently available data linked to "principal aquifers" (see above comments). Agency should determine what is available now and what it needs to develop to accomplish its sustainability goal.

Comment [A61]: How will DWR/SB help Agencies by providing access to this information in formats that are useful for GSP purposes?

Comment [A62]: Overbroad and too prescriptive. Agency should determine the potential issue what additional information may be needed to accomplish its sustainability goal.

There is also the broader issue in many areas of *sources of contamination* of the nonpoint source variety that may be broadly known but are unable to be fully identified, i.e., there may be dozens to hundreds, etc. of contributing "sources".

Also, available data collected by others may be purposely obfuscated by the state agencies and the proximity of wells is then potentially meaningless.

Comment [A63]: Does DWR have data that can be used by all 127 basins?

Comment [A64]: What are these data? Does DWR have these data everywhere, i.e., for all 127 basin subject to SGMA?

§ 354.18. Water Budget

The Plan shall include a water budget for the basin that provides an accounting and assessment of the total annual amount of groundwater and surface water entering and leaving the basin, including historical, current and projected water budget conditions, and the change in the amount of water stored. Water budget information shall be reported in tabular and graphical form.

(a) The water budget shall quantify the following:

(1) All water supplies, including but not limited to infiltration of precipitation, infiltration from applied water, infiltration from surface water systems, and subsurface groundwater inflow.

(2) All water demands, including but not limited to evapotranspiration, groundwater extraction, groundwater discharge to surface water sources, and subsurface groundwater outflow.

Comment [A65]: Inflows

Comment [A66]: Outflows

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(3) All water supplies by water source type.

(4) All water demands by water source type and water use sector.

(5) The change in the annual volume of groundwater in storage between seasonal high conditions.

(6) The water year type associated with the annual supply, demand, and change in groundwater stored.

(b) The Plan shall quantify the current, historical, and projected water budget for the basin as follows:

(1) Current water budget information shall quantify present-day supply and demand using the most recent hydrology and land use information.

(2) Historical water budget information shall be used to evaluate past surface water supply reliability and aquifer response to water supply and demand trends relative to water year type. The historical water budget shall include the following:

(A) A quantitative evaluation of the historical surface water supply reliability as a function of the historical planned versus actual annual surface water deliveries, by water year type, and based on the most recent ten years of surface water supply information

(B) A quantitative assessment of the historical water budget, starting with the most recently available information and extending back a minimum of 10 years, or as is sufficient to adequately calibrate and reduce the uncertainty of the tools and methods used to estimate and project future water budget information and future aquifer response to proposed sustainable groundwater management practices over the planning and implementation horizon.

(C) A description of how historical conditions concerning hydrology, water demand, and surface water supply reliability have impacted the basins ability to achieve sustainable yield.

(3) Projected water budgets shall be used to estimate future supply, demand, and aquifer response to Plan implementation, and to identify the uncertainties of these projected water budget components. The projected water budget shall utilize the following methodologies and assumptions for historical baseline conditions concerning hydrology, water demand and surface water supply reliability:

(A) Hydrology: Projected hydrology shall utilize 50-years of historical precipitation, evapotranspiration, and streamflow information as the baseline hydrology over the

Comment [A67]: Inflows and outflows

Comment [A68]: Inflows and outflows

Comment [A69]: Seems too prescriptive and a different type of analysis compared to simply the "historical water budget".

Comment [A70]: This should be in the context of the base period established for the basin. The period covered by the base period may not extend to the most recently available information. It is also unclear what is meant by extending back a minimum of 10 years; does this mean a period of at least 10 years without specifying how many different water budgets or does this mean at least 10 annual water budgets, which is not necessarily useful.

Comment [A71]: Too prescriptive. Mixing terminology and concepts. Needs clarification.

Comment [A72]: Too prescriptive and unclear. Many basins may not have 50 years of such data. The definition "base period" should be added and used here instead of this new term.

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planning and implementation horizon, while evaluating scenarios of future hydrologic uncertainty associated with projections of climate change and sea level rise.

(B) Water Demand: Projected water demand shall utilize the most recent land use, evapotranspiration, and crop coefficient information as the baseline water demand over the planning and implementation horizon, while evaluating scenarios of future water demand uncertainty associated with projections of local land use planning, future population growth, and climate change.

(C) Surface Water Supply and Reliability: Projected water supply shall utilize the most recent water supply information as the baseline surface water supply over the planning and implementation horizon, while evaluating scenarios of future water supply uncertainty associated with historical surface water supply reliability, and projections of future local land use planning, future population growth, and climate change.

(c) The Plan shall rely on the best available information and best available science to quantify the water budget for the basin in order to provide an adequate understanding of historical and projected hydrology, water demand, water supply, land use, population, climate change, sea level rise, groundwater-surface water interaction, and subsurface groundwater flow. If a groundwater-surface water model is not used to quantify and evaluate the projected water budget conditions and the potential impacts to beneficial uses and users of water, the Plan shall identify and describe an equally effective method or tool to evaluate projected water budget conditions, or identify provisions for developing a groundwater-surface water model capable of quantifying projected water budget conditions no later than the first five-year assessment.

(d) The following information shall be provided by the Department and shall be used by Agencies in developing the water budget:

(1) Historical water budget information for mean annual temperature, mean annual precipitation, water year type, and central valley land use.

(2) Current water budget information for temperature, water year type, evapotranspiration, and Statewide land use.

(3) Projected water budget information for population, population growth, climate change, and sea level rise.

(e) The Department shall provide the California Central Valley Groundwater-Surface Water Simulation Model (C2VSIM) and the Integrated Water Flow Model (IWFM) for use by Agencies in developing the water budget. Each Agency may choose to use a different flow model.

Comment [A73]: Data/guidance to be provided by DWR?

Comment [A74]: Potential discrepancy here when using both "most recent" and "baseline".

Comment [A75]: See above comment.

Comment [A76]: See above comment.

Comment [A77]: Model is not defined in the regs. Language elsewhere in the draft regs implies that model may only mean some type of numerical model (without explicitly stating such). Should clarify definition. It may be perfectly appropriate in some basins to utilize simpler "models" (e.g., spreadsheets or other) until such time as the complexity of the problems and the available data warrant otherwise.

"The word model has so many definitions and is so overused that it is sometimes difficult to discern its meaning (Konikow and Bredehoeft, 1992). A model is perhaps most simply defined as a representation of a real system or process." (see Konikow and Reilly in *The Handbook of Groundwater Engineering*, Ed. Delleur, 1998)

Comment [A78]: Likely to be too coarse for many basins.

Comment [A79]: Doesn't apply everywhere.

Comment [A80]: Not just "growth"; suggest "changes" is more appropriate, along with other factors (cultural changes in water use).

Comment [A81]: Even though the following sentence is a caveat, this implies the Agencies may have to at least compare if Agencies choose to use another approach/method/other data.

This only applies to Central Valley. Here is an example of where the language implies (even though it does not explicitly say) that the Agencies will use some type of software/numerical model.

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(f) Information provided by the Department pursuant to this Subchapter shall be provided on the Department's Internet Website.

(g) The Agency may utilize other data in addition to or in lieu of information provided by the Department if the Agency is able to demonstrate that the data is of sufficient quality.

Comment [A82]: See above comment. Unclear what this means. Agencies should not have to overly defend the "sufficiency" of their data (relative to DWR or other models) when there are many acknowledgments of uncertainties associated with state and federal models and differences between the results from such models.

Note: Authority cited: Section 10733.2, Water Code.

Reference: Section 10727.2, 10733.2, Water Code.

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§ 354.20. Management Areas

Each Agency may define one or more management areas within a basin if local conditions for one or more critical parameters differ significantly from those of the basin at large, and if the Agency has determined that subdivision into management areas will facilitate implementation of the Plan. Management areas may have different minimum thresholds and be operated to different measurable objectives than the basin at large, provided that the goal of the Plan is to achieve sustainable management for the entire basin by the target date and that operation to different standards within a management area does not produce undesirable results elsewhere.

Comment [A83]: Achieve the sustainability goal?

Comment [A84]: Measurable objectives and minimum thresholds?

(a) Plans that include management areas shall describe the following:

(1) The basis for the formation of each management area.

(2) The minimum thresholds and measurable objectives appropriate to each management area.

(3) The appropriate level of monitoring and analysis for each management area based on documented differences between the area and the basin at large.

(b) If a Plan creates one or more management areas, the descriptions, maps, and cross-sections required by this Subarticle shall include information about those areas.

Comment [A85]: See above comment.

Note: Authority cited: Section 10733.2, Water Code.

Reference: Section 10733.2, 10733.4, Water Code.

SUBARTICLE 3. Sustainable Management Criteria

§ 354.22. Introduction to Sustainable Management Criteria

This Subarticle describes criteria for sustainable management of a basin, including the standards by which an Agency shall define undesirable results and minimum thresholds for each relevant critical parameter. Critical parameter refers to chronic lowering of groundwater levels indicating a depletion of supply if continued over the planning and implementation horizon, reduction of groundwater storage, sea water intrusion, degraded water quality, land subsidence that substantially interferes with surface land uses, and depletions of surface water that have adverse impacts on beneficial uses of surface water that may lead to undesirable results, as described in Water Code Section 10721(x). This Subarticle describes the following:

(a) The interrelationship between minimum thresholds, undesirable results, and measurable objectives.

(b) The groundwater conditions for which critical parameters are significant and unreasonable, at a given location, which determines the minimum threshold.

(c) The process for determining the point at which exceeding minimum thresholds has the cumulative effect of causing undesirable results.

(d) The operational range above the minimum threshold that defines the measurable objective.

Comment [A86]: New term. Is this really necessary? It seems like the Agencies will determine how they will manage relative to Measurable Objectives and Minimum Thresholds.

(e) The requirements for the Agency to establish measurable objectives and interim milestones necessary to achieve the sustainability goal in the basin within 20 years of Plan implementation and to maintain the sustainability goal over the planning and implementation horizon.

Note: Authority cited: Section 10733.2, Water Code.

Reference: Sections 10733.2, Water Code.

§ 354.24 Sustainability Goal

Each Agency shall establish a sustainability goal for the basin. The Plan shall include a description of the sustainability goal, including a discussion of the measures meant to ensure that the basin will be operated within its sustainable yield, and an explanation of

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how the sustainability goal will be achieved within 20 years of Plan implementation. The Agency will show that it has achieved the sustainability goal by demonstrating that the management and use of groundwater in the basin can be maintained through the planning and implementation horizon without causing undesirable results.

Note: Authority cited: Section 10733.2, Water Code.

Reference: Sections 10721, 10727, 10727.2, 10733.2, Water Code.

§ 354.26. Undesirable Results

Each Agency shall describe the processes and criteria relied upon to define undesirable results applicable to the basin. Undesirable results occur when significant and unreasonable effects for any of the critical parameters are caused by groundwater conditions occurring throughout the basin.

(a) The description provided by the Agency shall include, but is not limited to, the following:

(1) The groundwater conditions under which the critical parameters are significant and unreasonable, which shall define minimum thresholds for that critical parameter as described in Section 354.28.

(2) An explanation of the criteria used to define when and where the cumulative effects of such groundwater conditions create undesirable results.

(3) A description of known or projected effects on the beneficial uses and users of groundwater, and other potential effects that would occur or are occurring.

(4) A description of the cause of groundwater conditions that would lead to undesirable results based on information developed in the hydrogeologic conceptual model, basin conditions, water budget, and other data or models as appropriate.

(b) Each Agency may apply different criteria and establish different definitions of the groundwater conditions giving rise to undesirable effects in management areas, provided that the interests of beneficial uses and users of groundwater have been adequately considered and that the Agency demonstrates that the use of different criteria in management areas does not adversely affect the ability of the Agency to achieve the sustainability goal for the basin.

Comment [A87]: This needs to be in the context of recognizing what the Agencies have identified relative to pre-SGMA conditions and potentially pre-existing undesirable results that may or may not be corrected by the Agency(ies).

"....a groundwater sustainability agency has discretion as to whether to set measurable objectives and the timeframes for achieving any objectives for undesirable results that occurred before, and have not been corrected by, January 1, 2015." (10727.2)

Comment [A88]: An important part of this relates to the comment above, i.e., this section should recognize pre-SGMA factors may exist. Some agencies may determine that some undesirable results that already occurred by Jan. 1. 2015 are intractable/not correctable/beyond measures that could be reasonably undertaken to restore one or more basin conditions to where such pre-SGMA undesirable results are no longer occurring.

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(c) The Agency may need to evaluate multiple minimum thresholds to determine whether an undesirable result is occurring in the basin. The determination that undesirable results are occurring may depend upon measurements from a network of instruments, rather than a single point or the measurement value of one instrument.

Comment [A89]: See above comment.

Comment [A90]: THIS IS VERY GOOD in that it recognizes the context of what is important at the basin scale rather than local factors that are tangential to and may be unrelated to basin sustainability.

(d) An Agency that is able to demonstrate that one or more critical parameters would not lead to undesirable results in the basin shall not be required to conduct the analysis for those critical parameters described in this Section.

Note: Authority cited: Section 10733.2, Water Code.

Reference: Section 10721, 10727.2, 10733.2, Water Code.

§ 354.28. Minimum Thresholds

Each Agency shall establish minimum thresholds for each critical parameter based on the conditions under which the Agency determines that those critical parameters are significant and unreasonable, as described in Section 354.26. The minimum threshold refers to the point at which conditions for a given critical parameter are significant and unreasonable.

Comment [A91]: See above comment re pre-SGMA needs to be factored into this.

(a) Minimum thresholds shall be numeric values that define conditions that, if exceeded, could lead to undesirable results. The description of minimum thresholds shall include the following:

(1) The information and criteria relied upon in establishing minimum thresholds for each critical parameter. The justification for the minimum threshold shall be supported by information from the hydrogeologic conceptual model, basin conditions, water budget, and other data or models as appropriate.

(2) The interrelationship between critical parameters that explains how the minimum threshold for each critical parameter will not cause undesirable results for any other critical parameter.

(3) A discussion of how the minimum thresholds do not adversely affect the ability of adjacent basins to achieve sustainability goals.

(4) How minimum thresholds will affect the interests of beneficial uses and users of groundwater.

(5) State, federal, or local standards that relate to the critical parameter for which the minimum threshold has been established.

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(6) How each minimum threshold will be quantitatively measured throughout the basin, consistent with the monitoring network requirements described in Subarticle 4.

(b) Minimum thresholds for each critical parameter shall be defined based on the following:

(1) Chronic Lowering of Groundwater Levels. The minimum threshold for chronic lowering of groundwater levels shall be the groundwater elevation that indicates a significant and unreasonable depletion of supply. Minimum thresholds for chronic lowering of groundwater levels shall be supported by the following:

(A) The rate of elevation decline calculated based on historical trends and projected water use in the basin, based on water year type.

(B) Potential effects on other critical parameters, including reduction of groundwater storage and land subsidence, and where appropriate, sea water intrusion, surface water depletion, and degraded water quality.

(C) Management of extractions and recharge to ensure that chronic lowering of groundwater levels or depletion of supply during periods of drought is offset by increases in groundwater levels or storage during other periods.

(2) Reduction of Groundwater Storage. The minimum threshold for reduction of groundwater storage shall be a total volume of groundwater that can be taken out of storage without causing undesirable results. Minimum thresholds for reduction of groundwater storage shall be supported by the following:

(A) The annual sustainable yield of the basin, calculated based on historical trends and projected water use in the basin, based on water year type.

(3) Seawater Intrusion. The minimum threshold for seawater intrusion shall be the location where seawater intrusion is considered significant and unreasonable, and shall be defined by a numeric chloride concentration isocontour for each principal aquifer. Minimum thresholds for seawater intrusion shall be supported by the following:

(A) Maps and cross-sections of the chloride concentration isocontour that defines the minimum threshold, interim milestones, and measurable objective for seawater intrusion for each principal aquifer.

(B) A description of the consideration given to the effects of current and projected sea level rise on seawater intrusion of the following during development of the seawater intrusion minimum threshold.

(4) Degraded Water Quality. The minimum threshold for degraded water quality shall be the significant and unreasonable degradation of water quality, including the migration

Comment [A92]: Overbroad. The Agencies should determine what is representative to support Measurable Objectives and Minimum Thresholds.

Comment [A93]: See comment above; needs to be in the context of pre-SGMA vs. present and future.

Comment [A94]: Discrepancy between this language and sustainable yield definition. Not only based on projected water use but also temporary surplus. Sustainable yield is not necessarily a static annual volume; it may vary with future management actions.

Comment [A95]: Agency may not know and may need to identify relevant information that needs to be developed.

Comment [A96]: See above comment.

Comment [A97]: Clarify.

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of contaminant plumes that impair water supplies, based on the number of supply wells, a volume of water, or a location of an isocontour that exceeds concentrations of constituents determined by the Agency to be of concern for the basin.

(5) Land subsidence. The minimum threshold for land subsidence shall be the rate of subsidence that substantially interferes with surface land uses. Minimum thresholds for land subsidence shall be supported by the following:

(A) Identification of land uses and property interests that have been affected or are likely to be affected by land subsidence in the basin, including an explanation of how those uses and interests were determined and considered, and the rationale for how minimum thresholds were established in light of those effects.

(B) Maps and graphs showing the extent and rate of land subsidence in the basin that defines the minimum threshold, interim milestones, and measurable objectives.

(6) Depletions of interconnected surface water. The minimum threshold for depletions of interconnected surface water shall be the volume of surface water depletions caused by groundwater use that has significant and unreasonable adverse impacts on beneficial uses of the surface water. The minimum threshold established for depletions of interconnected surface water shall be supported by the following:

(A) The location, quantity, and timing of depletions of interconnected surface water. If sufficient data to quantify depletions of interconnected surface water is not available, the Plan shall describe how the Agency will acquire sufficient information no later than the first five-year assessment.

(B) A description of the groundwater-surface water model used to quantify surface water depletion. If a groundwater-surface water model is not used to estimate surface water depletion, the Plan shall identify and describe an equally effective method or tool to accomplish this requirement, or identify provisions for developing a groundwater-surface water model capable of quantifying surface water depletion no later than the first five-year assessment.

(d) An Agency, after consultation with the Department, may establish a representative minimum threshold for groundwater elevation to serve as the minimum threshold value for multiple critical parameters, as appropriate. The Agency shall demonstrate that the representative minimum threshold is a reasonable and effective surrogate for multiple individual minimum thresholds and is supported by clear and convincing evidence in the Plan.

(e) If the Agency determines that minimum thresholds are not required for seawater intrusion, land subsidence, depletions of interconnected surface water, or water quality, the Plan shall support this determination with clear and convincing evidence.

Comment [A98]: Water quality issues are more complex than just plumes. Plumes may be a very localized issue for many basins.

Comment [A99]: This could be a very difficult task particularly as regards "property interests" likely to be affected. Would involve detailed future analysis with a lot of potentially hypothetical variables if detailed land/water use plans have not been developed.

Comment [A100]: Clarify.

Comment [A101]: See above comments.

Comment [A102]: Clarify. Different tools may be appropriate pending the complexity of the issue AND the available data/actual observations.

Comment [A103]: See above comments.

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Note: Authority cited: Section 10733.2, Water Code.

Reference: Section 10721, 10727.2, 10733.2, Water Code.

§ 354.30. Measurable Objectives

Each Plan shall include one or more measurable objectives for each critical parameter that has an established minimum threshold. The measurable objectives shall ensure that the basin is managed to avoid undesirable results within 20 years of Plan implementation and groundwater is sustainably managed over the planning and implementation horizon.

(a) Measurable objectives shall be represented by quantitative values using the same metrics as are used to define the minimum threshold for each measurable objective, and shall rely on the same monitoring sites as minimum thresholds.

(b) The measurable objective shall be above the minimum threshold to provide a reasonable margin of operational flexibility under adverse conditions which shall take into consideration components such as historical water budgets, seasonal and long-term trends, and overdraft during a period of drought.

(c) Each Agency may establish measurable objectives that exceed the reasonable margin of operational flexibility for the purpose of improving overall conditions in the basin, but failure to achieve those objectives shall not be grounds for a finding of inadequacy of the Plan.

(d) Each Agency may use representative minimum thresholds for groundwater levels developed pursuant to Section 354.26(d), as the basis for defining a representative measurable objective that represents all critical parameters. The Agency must demonstrate that the representative measurable objective is a reasonable and effective surrogate for multiple individual measurable objectives supported by clear and convincing evidence in the Plan.

(e) Each Plan shall include interim milestones for each measurable objective, in increments of five years, which outline a reasonable path to attaining the measurable objectives within 20 years of Plan implementation. Interim milestones shall be expressed numerically in the same units as the measurable objective.

(f) Each Plan may include measurable objectives and interim milestones for additional Plan contents described in Water Code Section 10727.4 where the Agency determines such measures are appropriate for sustainable groundwater management in the basin.

Note: Authority cited: Section 10733.2, Water Code.

Comment [A104]: It would be helpful to add consideration of the pre-SGMA context. "Avoid" is a strong word without that context, particularly for some basins, and may give the wrong understanding to the public.

Comment [A105]: This language could use clarifying or replacing. Operational flexibility is about more than operations under adverse conditions. Annual water budgets during a base period vary by water year type and correspondingly so may the response of the groundwater system. "Overdraft" is not a term for use during a period of drought – the meaning is much more involved than that. A better word would be depletion. Something along the lines of the text under 354.36(b)(2) would work better here.

Comment [A106]: This item seems confusing and unnecessary.

Comment [A107]: How would this work for groundwater quality?

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Reference: Section 10727.2, 10733.2, Water Code.

SUBARTICLE 4. Monitoring Networks

§ 354.32. Introduction to Monitoring Networks

This Subarticle describes the monitoring network that shall be developed for each basin, including monitoring objectives, monitoring site summary, monitoring frequency, monitoring protocols, and data reporting requirements. The monitoring network shall promote the collection of data of sufficient quality, frequency, and from sufficient locations to adequately characterize surface water and groundwater conditions in the basin, evaluate management actions, and assess progress toward achieving the sustainability goal.

Note: Authority cited: Section 10733.2, Water Code.

Reference: Sections 10733.2, Water Code.

§ 354.34. Monitoring Network

Each Agency shall develop a monitoring network capable of collecting sufficient data to demonstrate short-term, seasonal, and long-term trends in surface and groundwater conditions and yields representative information about changes relative to the minimum thresholds and measurable objectives for the basin.

(a) Each Plan shall include a description of the monitoring network objectives for the basin, including an explanation of how the network will be developed and implemented to monitor surface water and groundwater conditions, and the interconnection of surface water and groundwater, with sufficient temporal frequency and spatial density to adequately evaluate the affects and effectiveness of Plan implementation. The monitoring network objectives shall be implemented to accomplish the following:

(1) Demonstrate progress toward achieving measurable objectives described in the Plan.

Comment [A108]: This seems redundant….an objective to demonstrate progress toward achieving an objective….

(2) Identify impacts to the beneficial uses or users of groundwater.

(3) Identify changes in basin conditions relative to measurable objectives and minimum thresholds.

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(4) Quantify annual changes in water budget components.

(5) Identify impacts to the ability of adjacent basins to meet the sustainability goal.

(b) The monitoring network shall be designed to ensure adequate coverage of critical parameters. If localized conditions warrant the formation of management areas, those areas shall be specifically monitored with a quantity and spacing of monitoring sites sufficient to evaluate conditions in that area.

(c) A Plan may incorporate site information and monitoring data from existing sources into the monitoring network. Incorporated sources of data may include, but are not limited to, existing groundwater management plans, California Statewide Groundwater Elevation Monitoring data, or other Department programs, Salt and Nutrient Management Plans, the Irrigated Lands Regulatory Program, the Surface Water Ambient Monitoring Program, the Groundwater Ambient Monitoring Assessment Program, the Salt Nutrient Management Plans, as well as other relevant monitoring sites.

(d) The density of monitoring sites and frequency of measurements required to demonstrate short-term, seasonal, and long-term trends shall be determined based upon the following factors:

(1) Level of current and projected groundwater use.

(2) Aquifer characteristics including, but not limited to, confined or unconfined aquifer conditions, or other physical characteristics that affect groundwater flow.

(3) Impacts on beneficial uses and users of groundwater and the ability of adjacent basins to meet the sustainability goal.

(4) Whether the Agency has adequate long-term existing monitoring results or other technical information that demonstrates an understanding of aquifer response.

(e) The Plan shall describe the following information about the monitoring network:

(1) Scientific rationale used for the site selection process.

(2) Monitoring site compliance with best management practices. If a site is notconsistent with best management practices, the Plan shall explain why the site is necessary to the monitoring network.

(3) For each critical parameter, the quantitative values for the minimum threshold, measurable objective, and interim milestones for each monitoring site.

Comment [A109]: Unclear. It seems like this would be okay for the subject basin to consider but should not imply a potentially detailed level of evaluation.

Comment [A110]: This section seems like BMPs that should be separate from the regulations and available for the Agencies to consider and provide their own rationale/justification in the context of their particular basin.

Comment [A111]: Unclear. See above comments relating to overbroad reference to all monitoring etc. The Plan should not have to explain why BMPs are not necessarily consistent at *each and every "monitoring site"* since hundreds to thousands of those "sites" in a basin could entail data collected and provided by others. The Agencies' understanding of basin conditions will evolve over time with improved datasets and will over time develop core networks that serve the purposes of the Act. For many basins this is unlikely at the outset of this program (CASGEM does not suffice), and it will take time (more than the first 5 years) to develop such networks with data records that can be evaluated to assess the ongoing utility of the wells comprising such networks.

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(f) The location and type of each monitoring site within the basin shall be displayed on a map, and reported in tabular format, and shall include information regarding the monitoring site type, frequency of measurement, and the purposes for which the site is being monitored.

(g) The best management practices developed by each Agency shall include a description of technical standards, data collection methods, and other procedures or protocols pursuant to Water Code Section 10727.2(f) for all monitoring sites or other data collection facilities to ensure that the monitoring network utilizes on the comparable data and methodologies. Best management practices related to construction and completion standards for wells or other monitoring sites developed for this purpose shall apply prospectively.

(h) The best management practices for monitoring developed by each Agency shall include the following minimum standards:

(1) Groundwater Elevations. The monitoring network shall be capable of demonstrating groundwater occurrence, flow directions, and hydraulic gradients between principal aquifers and surface water features that includes the following:

(A) A sufficient density of monitoring wells capable of collecting representative measurements through depth discrete perforated intervals to adequately characterize the potentiometric surface for each of the principal aquifer.

(B) Static groundwater elevation measurements shall be collected at least two times per year, to represent seasonal low and seasonal high groundwater conditions.

(2) Groundwater Storage. The monitoring network shall be capable of providing sufficient data to enable a reasonably accurate and detailed assessment of the change in annual groundwater storage.

(3) Seawater Intrusion. The network shall be capable of monitoring chloride concentrations, or other constituents approved by the Department, and be sufficiently dense to calculate the current and projected rate of seawater intrusion for each principal aquifer.

(4) Water Quality. The monitoring network shall be capable of collecting sufficient spatial and temporal data from each principal aquifer to determine groundwater quality trends for established constituents of concern.

(5) Land subsidence. The monitoring network shall be capable of identifying the rate and spatial distribution of land subsidence, which may be measured by extensometers, GPS surveying, remote sensing technology, or other method approved by the Department.

Comment [A112]: This is extremely broad. See comments above re "all monitoring sites".

Comment [A113]: Ideally this would be nice. Practically, this will be difficult and will take time. It is highly impractical and unreasonable to suggest that every Agency would need to meet this standard with dedicated monitoring wells by the next 5-year assessment or assessments after that. Most basin scale monitoring programs rely largely on wells constructed for purposes other than monitoring, and depth discrete intervals are most often not the objective for groundwater development.

Comment [A114]: This may be very difficult for basins that have not historically had a seawater intrusion problem, particularly where other groundwater data indicate that the basin(s) have been in balance. For these Agencies, where the data may be developed to establish baseline conditions where limited data may currently exist, the Agencies should be able to describe how a reasonable network will be developed to demonstrate the freshwater/saltwater interface. DWR and Agency resources should be carefully considered to determine whether this is the highest and best use of such resources.

Comment [A115]: See above comments.

Comment [A116]: This language is okay; however, it is unclear whether this calls for the Agency to establish and maintain its own network for water quality monitoring or if the Agency can collaborate/coordinate with other programs. Again, while more certainty regarding well construction, aquifer-specific monitoring, even better well location information are all desired, these data are generally very difficult to obtain for every well that has data. The data archived by various state agencies currently lack much of the desired information. We understand efforts are being made to address the historical data/application of the historical data conundrum but this will not be a quick fix and Agencies should not be held to an unreasonable "bar" to "fix" these datasets or to create brand new ones when a lot of effort and resources have been invested in generating the historical datasets.

Comment [A117]: Clarify; does this mean just areal?

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(6) Interconnected surface waters. The monitoring network shall be capable of monitoring surface and groundwater conditions where interconnected surface water exists. Monitoring of interconnected surface water systems shall be sufficient to characterize the spatial and temporal exchanges between surface water and groundwater, as necessary and appropriate, to adequately calibrate and apply the tools and methods selected to identify interconnected surface water systems. The interconnected surface water monitoring network shall be able to characterize the following:

(1) Flow conditions including, but not limited to, surface water discharge, surface water head, and baseflow contribution.

(2) Identifying the approximate date and location where ephemeral or intermittent flowing streams and rivers cease to flow, if applicable.

(3) Monitor the conditions to adequately characterize temporal changes in conditions with varying stream discharges and regional groundwater pumping conditions.

(4) Any other factor that is necessary to identify potential significant and unreasonable adverse impact on beneficial uses of the surface water.

Note: Authority cited: Section 10733.2, Water Code.

Reference: Sections 10727.2, 10733.2, Water Code

§ 354.36. Representative Monitoring

Each Agency may designate a subset of monitoring sites as representative of conditions in the basin or an area of the basin for the purposes of establishing specific minimum thresholds, measurable objectives, and related interim milestones, as follows:

(a) Representative monitoring sites may be designated by the Agency as the point at which critical parameters are monitored, and for which quantitative values for the minimum threshold, measurable objective, and interim milestones are defined.

(b) Groundwater elevations may be used as a proxy for monitoring other critical parameters if the Agency demonstrates the following.

(1) A substantial correlation exists between groundwater elevations and the critical parameters for which groundwater elevation measurements serve as a substitute.

Comment [A118]: Although perhaps not intended, this implies a numerical model is the tool. Clarify. It may be more useful in many basins to improve monitoring networks to characterize sw/gw interconnections.

Comment [A119]: Does DWR have historical information that can help Agencies with this assessment?

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(2) Measurable objectives established for groundwater elevation shall include a reasonable margin of operational flexibility taking into consideration the basin conditions required to avoid undesirable results for the critical parameters for which groundwater elevation measurements serve as a substitute.

Comment [A120]: This language seems like it would fit better in section 354.3 rather than here.

(c) The designation of a representative monitoring site shall be supported by technical evidence demonstrating that the site adequately reflects general conditions in the area.

Note: Authority cited: Section 10733.2, Water Code.

Reference: Sections 10727.2, 10733.2, Water Code

§ 354.38. Assessment and Improvement of Monitoring Network

Each Agency shall evaluate the monitoring network and include an assessment in the initial Plan and each five-year evaluation, including an assessment of whether there are data gaps that could affect the ability of the Plan to achieve the sustainability goal.

Comment [A121]: Suggest delete and just call "Plan".

(a) Each Agency shall identify data gaps wherever the basin does not contain a sufficient number of monitoring sites, does not monitor sites with sufficient frequency, or utilizes monitoring sites that are unreliable, including those that do not satisfy best management practices adopted by the Agency.

(b) If the monitoring network contains data gaps, the Plan shall include a description of the following:

(1) The location and reason for gaps in the monitoring network.

(2) Local issues and circumstances that limit or prevent monitoring.

(c) Each Agency shall describe steps that will be taken to fill any data gaps within the first five years of implementation of the Plan or before the next five-year assessment, including the location and purpose of newly added or installed monitoring sites.

Comment [A122]: "Any" is a very strong word. This language encompasses activities that would be impractical to perhaps impossible by the next 5-year assessment. See many related comments above.

(d) Each Agency shall adjust the monitoring frequency and density of monitoring sites to provide a greater level of detail about site-specific surface and groundwater conditions and the effectiveness of management actions under circumstances that include, but are not limited to the following:

Comment [A123]: Over prescriptive. Adjusting the frequency and density of monitoring sites may not be the correct actions to take.

(1) If minimum thresholds are exceeded.

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(2) Highly variable conditions.

(3) Adverse impacts to beneficial uses and users of groundwater.

(4) Adversely affects the ability of an adjacent basin to implement their Plan or impedes achievement of sustainability goals in an adjacent basin.

Note: Authority cited: Section 10733.2, Water Code.

Reference: Sections 10727.2, 10733.2, Water Code

§ 354.40. Reporting Monitoring Data to the Department

All monitoring data shall be stored in the data management system developed pursuant to Section 352.8. A copy of that data shall be submitted electronically on forms provided by the Department according to the Department's data standards, in one of the following methods:

Comment [A124]: Unclear. This seems potentially hugely problematic, particularly if this really does mean *all* data used by an entity and submitting all this data to DWR.

(a) Each Agency shall compile and include all monitoring data in each Annual Report and, or

Comment [A125]: Same comment.

(b) The Agency shall make all monitoring data available to the Department throughout the year, as collected or measured by the Agency.

Note: Authority cited: Section 10733.2, Water Code.

Reference: Sections 10728, 10728.2, 10733.2, Water Code.

SUBARTICLE 5. Projects and Management Actions

§ 354.42. Introduction to Projects and Management Actions

This Subarticle describes the criteria for actions and projects to be included in a Plan to meet the sustainability goal of the basin.

Note: Authority cited: Section 10733.2, Water Code.

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Reference: Section 10733.2, Water Code.

§ 354.44. Projects and Management Actions

(a) Each Plan shall include a description of the projects and management actions adopted to meet measurable objectives and prevent undesirable results. The description shall include the following:

(1) A list of all projects and management actions proposed in the Plan with a description of the measurable objective that is expected to benefit from the project or action.

(2) A summary of the permitting and regulatory process required for each project and management action.

(3) The status of each project and management action, including a time-table for expected initiation and completion, and the accrual of expected benefits.

(4) An explanation of the benefits that are expected to be realized from the project or management action, and how those benefits will be evaluated and measured.

(5) An explanation of how the project or management action will be accomplished. If the Plan relies on water from outside the jurisdiction of the Agency, an explanation of the source and reliability of that water shall be included.

(6) A description of the legal authority required for each project and management action, and the basis for that authority within the Agency.

(7) A description of the financial requirement for each project and management action.

(b) Each Plan shall include contingency projects or actions as follows:

(1) For each project or management action, and for each measurable objective, the Plan shall describe contingency projects or actions that will be implemented in the event that groundwater conditions have not adequately responded to measures described in the Plan, or if the measures are no longer feasible.

Comment [A126]: This seems over prescriptive and potentially excessive for *each* project or management action. It would likely help for Agencies to prioritize projects/management actions and focus discussion of contingency actions where they would make the most sense/be most appropriate.

(2) The Plan shall describe emergency contingency projects or actions that will be implemented in the event that groundwater conditions in the basin have passed a minimum threshold or that undesirable results have occurred or are imminent. Emergency contingency projects or actions shall be designed to achieve immediate

results such that the Agency is able to demonstrate that the emergency has been abated by or before the next annual report.

(3) Contingency projects or actions shall be supported by available scientific data, analytical methods, and groundwater models, if available, and quantify changes to groundwater use required to achieve the measurable objectives of the Plan or to avoid undesirable results in the basin.

(4) The Plan shall describe the following:

(A) Criteria that would trigger implementation and termination of contingency projects or actions, and the process by which the Agency shall determine that conditions require implementation of contingency projects or actions have occurred.

(B) The process by which the Agency shall provide notice to the public and other agencies that the implementation of contingency projects or actions is being considered or has been implemented, including a summary of the anticipated consequences of those projects or actions.

(5) Implementation of a contingency project or action, if fully described in the approved Plan, shall not constitute an amendment to that Plan.

Note: Authority cited: Section 10733.2, Water Code.

Reference: Section 10727.2, 10733.2, Water Code.

Comment [A127]: This text sounds a bit over reactive. Most groundwater related responses are not emergencies and generally take a long time to develop. That said, it is plausible that certain conditions do warrant concern. It would be important to provide context. For example, a 1 foot lower groundwater level in a setting where there is no "emergency" does not get handled in the same manner as groundwater levels being lowered at a precipitous rate to lower levels than previously occurred where land subsidence is a real concern. The Agencies should be able to help prioritize contingency actions according to real concerns. Contingency project may be one thing, but to create a "contingency action" for a management action seems peculiar and confusing.

Comment [A128]: See above comments re pre-SGMA context.

Comment [A129]: See above comments.

Comment [A130]: See above comments. Most of the critical parameters involve groundwater responses that do not occur over night, even a year to year Annual report time frame may be short for most responses.

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ARTICLE 6. Evaluation and Assessment

§ 355. Introduction to Evaluation and Assessment

This Article describes the methodology and criteria for the evaluation and assessment of a Plan, which shall also be applied, as appropriate, to the periodic evaluation and assessment of Plans undertaken by the Agency or by the Department, as well as to any amendments to a Plan previously approved by the Department.

Note: Authority cited: Section 10733.2, Water Code.

Reference: Section 10733.2, Water Code.

§ 355.2. Department Review of Initial Adopted Plan

Comment [A131]: Suggest delete Initial.

Upon adoption of a Plan the Agency shall submit a copy of the initial adopted Plan to the Department for evaluation.

(a) Upon receipt of an adopted Plan, the Department shall assign a submittal date to the Plan based on the day the Plan is received.

(b) The Department shall post the adopted Plan, submittal date, and all materials submitted by the Agency on the Department's Internet Web site within 20 days of receipt.

(c) The Department shall establish a period of no less than 60 days to receive public comments on the adopted plan, as described in Section 353.8.

Comment [A132]: Suggest have an end date for posting; see above comments.

(d) If the Board has jurisdiction over the basin or a portion of the basin pursuant to section 10735.2, the Department, after consultation with the Board, may proceed with an evaluation of a Plan.

(e) The Department shall evaluate a Plan within two years of its submittal date and issue a written assessment of the Plan that includes a description supporting the assessment, which will be posted on the Department's website. The Department may include recommended corrective actions to address any deficiencies identified in the assessment. When Department review is final, the assessment will include a determination of whether the Plan as one thefollowing:

(1) Adequate. The Department has determined that the Plan satisfies the goals of the Act and is in substantial compliance with this Subchapter.

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(2) Conditionally adequate. The Department has determined that the Plan has minor deficiencies that preclude an adequacy determination, but that could be rectified by the Agency through corrective actions recommended by the Department as described in this Section.

(3) Inadequate. The Department has determined that the Plan as submitted is not complete and does not satisfy the requirements of Section 355.4(a), that the Plan contains significant deficiencies that preclude an adequacy determination, and those deficiencies cannot be rectified by the Agency in a timely manner, or that the Agency has failed to address deficiencies in a Plan previously classified as conditionally adequate through corrective actions recommended by the Department as described in this Section. If the Department makes any of the determinations described in this subsection, the Department shall seek consultation with the Board to determine whether the Plan is inadequate.

(f) For a Plan that is conditionally adequate, the Agency may modify a Plan based on a request for additional information from the Department or to include corrective actions to address any deficiencies identified by the Department and submit the modified adopted plan for further evaluation.

(1) The Department may consult with the Agency to determine the amount of time needed by the Agency to address any deficiencies.

(2) The Department may allow up to 180 days from the date the Department recommends corrective actions to address deficiencies in a Plan, unless a greater amount of time remains before the basin is required to be managed pursuant to a Plan established by Water Code Section 10720.7.

(3) No time limit shall apply to address deficiencies to Plans submitted for low or very low priority basins.

(g) If an Agency fails to address deficiencies in its Plan so that the Department is able to determine the Plan to be adequate, the Department shall issue an assessment of the Plan as inadequate and seek consultation with the Board.

Note: Authority cited: Section 10733.2, Water Code.

Reference: Section 10733.2, 10733.4, 10720.7 Water Code.

§ 355.4. Criteria for Plan Evaluation

The Department shall evaluate a Plan to determine whether the Plan has the overall effect of achieving the sustainability goal for the basin, complies with the Act, and is in

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substantial compliance with this Subchapter. Substantial compliance means that the Agency has attempted to comply with these regulations in good faith, that the supporting information is sufficiently detailed and the analyses sufficiently thorough and reasonable, in the judgment of the Department, to permit evaluation of the Plan, and the Department determines that any discrepancy would not materially affect the ability of the Agency to achieve the sustainability goal or of the Department to evaluate the likelihood of the Plan to attain that goal.

(a) An initial Plan will be deemed inadequate unless it satisfies all of the following conditions:

(1) The Plan was submitted within the statutory period established by Water Code Section 10720.7, if applicable.

(2) The Plan is complete and includes all information required by the Act and this Subchapter, including a legally adequate coordination agreement, if necessary.

(3) The Plan covers the entire basin.

(4) The Agency has taken corrective actions, within the period described in Section 355.2, to address deficiencies in the Plan identified by the Department.

(b) The Department shall evaluate a Plan that satisfies the requirements of Subsection (a) to determine whether the Plan is likely to achieve the sustainability goal for the basin. When evaluating whether a Plan is likely to achieve the sustainability goal, the Department shall consider the following:

(1) Whether the Plan substantially complies with the requirements of this Subchapter.

(2) The quality of information, data, monitoring, and scientific methods upon which the Plan relies.

(3) Whether the assumptions, criteria, findings, and objectives, including the sustainability goal, undesirable results, minimum thresholds, measurable objectives, and interim milestones, are reasonable and supported by the available evidence.

(4) Whether the interests of the beneficial uses and users of groundwater have been adequately considered.

(5) The feasibility of projects and management actions, including contingency projects, and the likelihood that these actions will prevent undesirable results and ensure that the basin is operated within its sustainable yield.

Comment [A133]: Potential problem with this language; needs to recognize the likelihood of data gaps and Plan evolution over time.

Comment [A134]: See above comments.

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(6) Whether the Plan will adversely affect the ability of an adjacent basin to implement their groundwater sustainability Plan or impede achievement of sustainability goals in an adjacent basin.

(7) Whether the coordination agreements ensure the Plans utilize the same data and methodologies specified in Water Code Section 10727.6.

(8) Whether the Agency has the legal authority and financing plan necessary to implement the Plan.

(9) Whether the best management practices adopted by the Agency cover the range of projects and management actions anticipated by the Plan or are consistent with the best management practices recommended by the Department or general industry standards.

(10) Public comments and other information indicating that impacts were not adequately considered in determining undesirable results or in developing the plan.

(11) Whether the Plan would impair the right to safe, clean, affordable, and accessible water adequate for human consumption, cooking, and sanitary purposes.

Note: Authority cited: Section 10733.2, Water Code.

Reference: Sections 106.3, 10720.7, 10727, 10723.2, 10727.2, 10733.2, Water Code.

§ 355.6. Periodic Review of Plan by Department

The Department shall periodically review approved Plans to ensure the Plan, as implemented, remains in conformance with the Act and likely to achieve the sustainability goal for the basin.

(a) The Department shall evaluate existing Plans at least every five years and whenever the Plan is amended. Department review shall be based on information provided in the annual reports and the periodic evaluation of the Plan prepared and submitted by the Agency.

(b) The Department shall consider the following in determining whether a Plan and its implementation is adequate:

(1) The Agency is meeting all of its interim milestones.

(2) The Agency is implementing actions and contingencies outlined in the Plan.

Comment [A135]: Clarify. How will DWR assess the appropriateness and scientific basis of public comments?

Comment [A136]: Clarify. What if pre-SGMA conditions mean groundwater quality is already impaired?

Comment [A137]: Clarify. What if Agency doesn't need to implement contingencies?

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(3) Amendments to the Plan are compatible with the measurable objectives and sustainability goal.

(4) The Agency is compliant with the annual reporting requirements and periodic evaluation requirements.

(5) The Department concludes that the Plan and its implementation are likely to achieve the sustainability goal and not likely to adversely affect the sustainability goals of adjacent basins.

(6) The Department may request from the Agency any information the Department deems necessary to evaluate the progress toward achieving the sustainability goal and the potential for adverse effects on adjacent basins.

(7) The Department may identify deficiencies in a Plan or its implementation and coordinate with the Agency to correct deficiencies prior to the issuance of the assessment.

(8) The Plan satisfies the criteria for an initial Plan as described in Section 355.4.

Comment [A138]: Confusing; clarify.

Note: Authority cited: Section 10733.2, Water Code.

Reference: Sections 10728.2, 10733.2, Water Code.

§ 355.8. Consultation with Board

The Department shall consult with the Board if any of the following occur:

(a) The Department determines that a Plan may be inadequate.

(b) The Department determines that a groundwater sustainability program is not being implemented in a manner that will likely achieve the sustainability goal for the basin.

(c) The Agency has not taken actions to address any deficiencies in a Plan that had been identified by the Department.

Note: Authority cited: Section 10733.2, Water Code.

Reference: Sections 10733.2, 10735.2, 10735.4, Water Code.

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§ 355.10. Resolution of Conflicts by Department

The Department shall address disputes between Agencies or other entities responsible for groundwater management as follows:

(a) Disputes within a basin shall be the responsibility of the Coordinating Agency or other entities responsible for managing Plans and alternatives within that basin.

(b) Disputes between basins which claim that the implementation of Plans or alternatives in one basin affects the ability of an adjacent basin to implement its Plan, or impedes its ability to achieve the sustainability goal, shall be resolved by the Department.

(c) In resolving disputes, the Department may require additional information from each basin, including any proprietary data used by the Agency. Information withheld will be presumed not to support the interpretations that rely on that data.

(d) If the parties are unable to resolves disputes that relate to fundamental issues of sustainable groundwater management, the Department may find the relevant Plan or Plans and alternatives to be inadequate.

Note: Authority cited: Section 10733.2, Water Code.

Reference: Sections 10727, 10727.6, 10733.2, Water Code.

Comment [A139]: Clarify; perhaps add examples.

Comment [A140]: Discrepancy? Later language specifies only one alternative per basin.

Comment [A141]: Same comment.

Comment [A142]: How would this work with a non open source model (if language is changed to allow for non open source models)?

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ARTICLE 7. Reports, Assessments, and Amendments

§ 356. Introduction to Reports, Assessments, and Amendments

This Article describes the procedural and substantive requirements for annual reports, the periodic evaluation and assessments of Plans, and any proposed amendments to an approved Plan prepared by an Agency.

Note: Authority cited: Section 10733.2, Water Code.

Reference: Section 10733.2, Water Code.

SUBARTICLE 1. Annual Reports

§ 356.2. Introduction to Reports

This Article describes the requirements for annual reports submitted by Agencies on or before April 1 of each year after the adoption of the Agency's Plan, including information required to demonstrate progress towards achieving the sustainability goal based on performance relative to measurable objectives described in the Plan, and Department review of those reports.

Note: Authority cited: Section 10733.2, Water Code.

Reference: Section 10733.2, Water Code.

§ 356.4. Annual Report

Each Agency shall submit an annual report to the Department by April 1 of each year following the adoption of the Plan. The annual report shall include the following components:

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(a) General information, including a title page, a transmittal letter, as described in Section 353.4, a table of contents, an executive summary, and a location map depicting the basin covered by the report.

(b) A detailed description and graphical representation of the following conditions of the basin managed in the Plan:

(1) Groundwater elevation data from all monitoring wells identified in the monitoring network shall be analyzed and displayed as follows:

(A) Groundwater elevation contour maps for each principal aquifer in the basin illustrating, at a minimum, the seasonal high and seasonal low groundwater conditions.

(B) Hydrographs of groundwater elevations and water year type using historical data to the greatest extent available, but at a minimum from January 1, 2015, to current reportingyear.

(2) Annual aggregated data identifying groundwater extraction for the preceding water year. Data shall be collected from the best available measurement methods and shall be presented in a table that summarizes groundwater extractions by water use sector, location of extractions, and identifies the method of measurement (direct or estimate) and accuracy of measurements, and a map that illustrates the general location and volume of groundwater extractions.

(3) Surface water supply used or available for use, for groundwater recharge or in-lieu use shall be reported based on quantitative data that describes the annual volume and sources for the preceding water year.

(4) Total water use shall be collected from the best available measurement methods and shall be reported in a table that summarizes total water use by water use sector, water source type, and identifies the method of measurement (direct or estimate) and accuracy of measurements. Existing water use data from the most recent Urban Water Management Plans or Agricultural Water Management Plans within the basin may be used, as long as the data are reported by water year.

(5) Change in groundwater storage shall include the following:

(A) Change in groundwater storage maps for each principal aquifer in the basin.

(B) A graph depicting water year type and cumulative change in groundwater storage for the basin based on historical data to the greatest extent available, but at a minimum from January 1, 2015, to the current reporting year.

Comment [A143]: See above comments.

Comment [A144]: Seems redundant with other language in this item. The surface water is either used or it's not (and may or may not be available).

Comment [A145]: See above comments.

Comment [A146]: Such as for the base period.

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(c) A synopsis of progress towards implementing the Plan, the ability of the Agency to achieve interim milestones and the implementation of any contingency measures.

Comment [A147]: As needed.

Note: Authority cited: Section 10733.2, Water Code.

Reference: Section 10727.2, 10728, 10733.2, Water Code.

§ 356.6. Department Review of Annual Reports

(a) The Department shall acknowledge the receipt of annual reports by written notice and post the report and all related materials on the Department's Internet Web site within 20 days of receipt. If the Department determines that the annual report is incomplete, the Department shall provide written notice to the requesting agency of the need for additional information.

(b) The Department may provide recommended corrective actions to address any deficiencies in the annual report or implementation of the Plan based on review of the annual report and shall treat the Plan as conditionally adequate, as described in Section 355.2, until the Agency takes appropriate actions to remediate any deficiencies.

Comment [A148]: What is timeline for DWR to review?

Note: Authority cited: Section 10733.2, Water Code.

Reference: Section 10728, 10733.2, Water Code.

SUBARTICLE 2. Periodic Evaluation of Plan

§ 356.8. Introduction to Agency Evaluation and Assessment

This Subarticle describes the requirements for periodic Plan evaluation and assessment undertaken by the Agency, including Department review of that assessment.

Note: Authority cited: Section 10733.2, Water Code.

Reference: Section 10733.2, Water Code.

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§ 356.10. Agency Evaluation and Assessment

Each Agency shall evaluate and assess the Plan at least every five years and whenever the Plan is amended. The assessment shall be submitted to the Department together with the annual report for that year. The assessment shall describe basin conditions relative to the previous five-year period and the long-term sustainability goal for the basin. The Agency's assessment shall include an objective evaluation of Plan implementation and management of groundwater in the basin, including the following:

(a) A description of each of the measurable objectives and current groundwater conditions for each critical parameter relative to interim milestones and minimum thresholds.

(b) A description of the implementation of any corrective actions identified by the Agency or recommended by the Department, and the effect on groundwater conditions resulting from those actions.

(c) A description of the implementation of any contingency projects or actions, and the effect on groundwater conditions resulting from those projects or actions.

Comment [A149]: See above comments.

(d) A description of new information that has been made available since adoption or amendment of the initial Plan, or since the last five-year evaluation. The description shall also include whether new information warrants changes to any aspect of the Plan, including, but not limited to, the evaluation of basin conditions, minimum thresholds, or the criteria defining undesirable results.

Comment [A150]: Suggest delete.

(e) An evaluation of the hydrogeologic conceptual model, basin conditions, and the water budget in light of new information or changes in water use.

(f) A survey of the monitoring network within the basin, and evaluation of whether any areas within the basin are represented by less data or by data of insufficient quality or control than required by best management practices. The survey shall include the following:

(1) An assessment of monitoring network function with an analysis of data collected to date, identification of potential data gaps, and the actions necessary to improve the monitoring network.

(2) If the Agency identifies areas that require more or better data or other information, the Plan shall describe a program for the acquisition of such data sources and incorporation of newly obtained information into the overall Plan.

(3) Gaps in data or data quality shall be remediated no later than the first five-year assessment by the Department.

Comment [A151]: Disagree. See above comments.

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(4) Elements of the Plan, including, but not limited to, the hydrogeological conceptual model, groundwater conditions, management areas, water budget, or the identification of undesirable results and the setting of minimum thresholds and measurable objectives, shall be reconsidered and revisions proposed, if necessary, for the second five-year assessment by the Department.

(5) The Plan shall prioritize the installation of new data collection facilities and analysis of new data based on the needs of the basin.

(g) Information describing any legislative actions, including a summary of regulations or ordinances related to the Plan adopted by the Agency.

(h) Information describing any enforcement or legal actions taken by the Agency.

(i) A description of completed or proposed Plan amendments.

(j) A summary of coordination that occurred between Agencies in a single basin and Agencies in hydrologically connected basins, and land use agencies where applicable.

(k) Other information the agency deems appropriate, along with any information necessary to the Department to conduct a periodic review as required by Water Code Section 10733.

Note: Authority cited: Section 10733.2, Water Code.

Reference: Section 10727.2, 10728.2, 10733.2, 10733.8, Water Code.

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SUBARTICLE 3. Plan Amendments

§ 356.12. Amendments and Modifications to Plan

Any amendment or other modification to a Plan shall be evaluated by the Department for consistency with the requirements of the Act and of this Subchapter.

Comment [A152]: Discrepancy with some of the language in this section? General comment – seems like excessive process. Perhaps just include updates/modifications as part of Annual Reports? To be most effective, Plans are necessarily going to be dynamic documents (adaptive management, etc.).

(a) An Agency may modify a Plan at any time, and submit the modified Plan to the Department for evaluation.

(1) Prior to modifying a Plan, the Agency may submit the proposed modifications to the Department for evaluation.

(2) If the Department determines the proposed modifications are not significant, the Department shall notify the Agency that no further review shall be required and that the Agency may adopt the proposed modifications without formally amending the Plan.

(3) If the Department determines that the proposed modifications are or may be significant, the Department shall notify the Agency that the proposed modifications may only be adopted as formal amendments to the Plan.

Comment [A153]: Clarify. What is significant?

(b) Whenever a Plan is amended, the Agency shall submit a copy of the amended Plan to the Department for evaluation pursuant to the requirements of this Subchapter for submission of a Plan.

Comment [A154]: Discrepancy with (2) above? If the changes are not significant (i.e., insignificant), it seems excessive to resubmit a Plan for every minor change.

(c) The Department shall review and issue an assessment of the amended Plan that states whether the amended plan is adequate or inadequate.

(d) The Department's evaluation shall focus on the amended portions of the Plan and any new information that is relevant to the amendments or other Plan elements. The Department will not evaluate any part of the Plan that has not been amended unless the Department has reason to believe the proposed amendment may result in changed conditions to other areas or to other aspects of the Plan.

Note: Authority cited: Section 10733.2, Water Code.

Reference: Sections 10727.2, 10728.4, 10733.2, Water Code.

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ARTICLE 8. Coordination Agreements

§ 357. Introduction to Coordination Agreements

This Article describes the requirements for voluntary coordination agreements between agencies in different basins and mandatory coordination agreements between agencies within a basin developed pursuant to Water Code Section 10727.6.

Note: Authority cited: Section 10733.2, Water Code.

Reference: Sections 10733.2, Water Code.

§ 357.2. Interbasin Agreements

Two or more Agencies may enter into an interbasin agreement to establish compatible goals and understandings regarding fundamental elements of the Plans of each Agency as they relate to sustainable groundwater management. Interbasin agreements should facilitate the exchange of technical information between Agencies and include a process to resolve disputes concerning the interpretation of that information. Interbasin agreements may include any information the participating Agencies deem appropriate, including the following:

(a) General information:

(1) Identity of all basins participating in and covered by the terms of the agreement.

(2) For each basin, a list of all Agencies or other public agencies or other entities with groundwater management responsibilities.

(3) For each basin, a list of all Plan or alternatives or adjudicated areas.

Comment [A155]: Plans or alternative (on the latter only one per basin).

(b) Technical information:

(1) An estimate of groundwater flow across basin boundaries, including consistent and coordinated data, methods and assumptions.

Comment [A156]: GOOD LANGUAGE!!!

(2) An estimate of stream-aquifer interactions at boundaries.

(3) Establish a common understanding of the geology and hydrology of the basins and their hydraulic connectivity as it applies to determining groundwater flow across basin

boundaries, and describe the different assumptions utilized by different Plans and how the Agencies reconciled those differences.

(4) Establish measurable criteria and a monitoring network regarding threshold values that would confirm that no adverse impacts are resulting from managing groundwater in any basin pursuant to terms of the agreement. If minimum thresholds or measurable objectives differ substantially between basins, the agreement will specify how the Agencies will reconcile those differences and manage the basins to avoid undesirable results. The Agreement shall identify all differences that the parties consider significant and include a plan and schedule to reduce the uncertainties so that over time, they collectively resolve those important uncertainties and differences.

Comment [A157]: Multiple new phrases here – modify for consistency. Could also delete this; the next sentence makes the point.

(c) A description of the process for identifying and resolving conflicts between Agencies that are party to the agreement.

(d) Interbasin agreements submitted to the Department shall be posted on the Department's Internet Web site.

Note: Authority cited: Section 10733.2, Water Code.

Reference: Sections 10733, and 10733.2, Water Code.

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§ 357.4. Intrabasin Coordination

(a) Agencies intending to develop and implement Plans pursuant to Water Code Section 10727(b)(3) shall enter into a coordination agreement to ensure that the Plans are developed and implemented utilizing the same data and methodologies and that elements of the Plans necessary to achieve the sustainability goal are based upon consistent interpretations of basin conditions.

Comment [A158]: Although this language is in the Act, the above language in 357.2 (b) (1) is superior. It is unlikely that the express meaning of this phrasing is fully appropriate; the exact same data will not be applicable to Plans covering other areas of a basin. They can and should be consistent and coordinated.

(b) Intrabasin coordination agreements shall establish or identify a Submitting Agency that shall be the single point of contact with the Department.

(c) Each Agency shall submit to the Submitting Agency all Plans, Plan amendments, supporting information, all monitoring data and other pertinent information, along with annual reports and periodic evaluations.

Comment [A159]: Clarify; 5- year?

(d) The Submitting Agency shall compile and rectify data and interpretations regarding basin conditions provided by the Agencies and produce a single report synthesizing and summarizing that information into a coherent and credible account of basin conditions. Reports produced by the Submitting Agency shall include the following:

(1) An explanation of how the Plans implemented together satisfy the requirements of the Act and are in substantial compliance with this Subchapter.

(2) An explanation of how the Plans have been integrated using the same data and methodologies to provide useful information regarding the following:

Comment [A160]: See above comments.

(A) Hydrogeologic conceptual models, as described in Section 354.12.

(B) State of the basin, as described in Section 354.14.

(C) Water budgets, as described in Section 354.16.

(D) Undesirable results, minimum thresholds, measurable objectives, as described in Subarticle 3 of Article 5.

(E) Monitoring networks, and monitoring objectives, as described in Subarticle 4 of Article 5.

(F) Projects and management actions, as described in Subarticle 5 of Article 5.

(3) An explanation of how the integration of information and interpretations described in this section provides useful information regarding each of the assumptions described in Water Code Section 10727.6.

(4) Reports produced by the Submitting Agency shall accompany the initial Plan, any amendment to the Plan, annual reports, and the five-year assessment by each Agency within the basin.

Comment [A161]: Suggest delete.

(e) Intrabasin coordination agreements shall describe the responsibilities of each Agency for meeting the terms of the agreement, the procedures for the timely exchange of information between Agencies and with the Submitting Agency, and procedures for resolving conflicts between Agencies.

(f) Intrabasin coordination agreements shall identify adjudicated areas within the basin, and any local agencies that have adopted an alternative that has been accepted by the Department.

Comment [A162]: Discrepancy? Later language indicates only one alternative per basin.

(g) The intrabasin coordination agreement shall be submitted to the Department together with the Plans for the basin and, if approved, shall become part of the Plan for each participating Agency.

(h) The Department shall evaluate the Agreement for compliance with the procedural and technical requirements of this section, to assure that the Agreement is binding on all

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parties, and that provisions of the Agreement are sufficient to address any disputes between or among Agencies that are party to the agreement.

(i) Plans subject to the requirement of this section shall not be deemed adequate without a legally binding agreement.

(j) Interagency agreements shall be reviewed as part of the five-year assessment, revised as necessary, dated, and signed by all parties.

Note: Authority cited: Section 10733.2, Water Code.

Reference: Sections 10727.6, 10733, and 10733.2, Water Code.

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ARTICLE 9. Alternatives and Adjudicated Areas

§ 358. Introduction to Alternatives and Adjudicated Areas

This Article describes the methodology and criteria for the submission and evaluation of alternatives to a Plan and for adjudicated areas.

Note: Authority cited: Section 10733.2, Water Code.

Reference: Section 10733.2, Water Code.

§ 358.2. Adjudicated Areas Subject to Water Code Section 10720.8

The watermaster or a local agency shall submit the following to the Department for an adjudicated area described in Water Code Section 10720.8:

(a) By April 1, 2016, a copy of a governing final judgment, or other judicial order or decree, and any amendments entered before April 1, 2016.

(b) Within 90 days of entry by a court, a copy of any amendment made and entered by the court to the governing final judgment or other judicial order or decree on or after April 1, 2016.

(c) By April 1, 2016, and annually thereafter, a report containing the following information to the extent available for the portion of the basin subject to the adjudication:

(1) Groundwater elevation data unless otherwise submitted pursuant to Water Code Section 10932.

(2) Annual aggregated data identifying groundwater extraction for the preceding water year.

(3) Surface water supply used for or available for use for groundwater recharge or in-lieu use.

(4) Total water use.

(5) Change in groundwater storage.

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(6) The annual report submitted to the court.

Note: Authority cited: Section 10733.2, Water Code.

Reference: Section 10720.8, 10733.2, Water Code.

§ 358.4. Alternatives to Groundwater Sustainability Plans

(a) A local agency that submits an alternative shall demonstrate that the alternative applies to the entire basin and satisfies the eligibility requirements of Water Code Section 10733.6, including an assessment that the alternative satisfies the objectives of the Act, and that the alternative is within a basin that is in compliance with Part 2.11 of the Water Code (commencing with Section 10920).

(b) An alternative shall be submitted to the Department by January 1, 2017, and every five years thereafter.

(c) A local agency shall include the following information based on the type of alternative submitted:

(1) An alternative submitted pursuant to Water Code Section 10733.6(b)(1) shall include a copy of the groundwater management plan.

(2) An alternative submitted pursuant to Water Code Section 10733.6(b)(2) that is not an adjudicated area described in Water Code Section 10720.8 shall do the following:

(A) Demonstrate that the adjudication submitted to the Department as an alternative is a comprehensive adjudication as defined by Chapter 7 of Title 10 of Part 2 of the Code of Civil Procedure (commencing with Section 830).

(B) Provide the Department with a copy of the adjudication order and any annual report submitted to the court pursuant to the adjudication.

(C) A local agency submitting an alternative based on an adjudication action described in Water Code Section 10733.6 (b)(4)(B) may, notwithstanding Water Code Section 10733.6 (c), submit the adjudication action to the Department for evaluation after January 1, 2017.

(3) An alternative submitted pursuant to Water Code Section 10733.6(b)(3) shall demonstrate that no undesirable results are present in the basin or have occurred between January 1, 2005, and January 1, 2015. Each subsequent submission shall

Comment [A163]: The Code says the following (emphasis added):

(a)If a local agency believes that an alternative described in subdivision (b) satisfies the objectives of ***this part***, the local agency may submit the alternative to the department for evaluation and assessment of whether the alternative satisfies the objectives of this part for the basin.

Reference to "this part" means the requirements in 10733.6 not the entire Act. It would be okay to refer to the "objectives of the Act" such that it is clear that is not intended to mean full implementation of all aspects of the GSP regulations, particularly regulations developed for purposes of achieving sustainability for basins that may not currently meet that goal.

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demonstrate that no undesirable results are present in the basin or have occurred for the preceding ten-year period.

(e) A local agency shall include the following items in a basin analysis report~~an explanation of the functional equivalence of terms and concepts used in the alternative with the substantive and procedural requirements of the Act and this Subchapter.~~:

1. Summary of subbasin hydrogeologic setting and aquifer characteristics.
2. Describe historical groundwater level and groundwater quality data, to the extent available.
3. Describe historical land subsidence and groundwater-surface water interaction data, as available.
4. Basin boundary map.
5. A map of existing and potential areas of greatest groundwater recharge potential based on surficial geologic formations, land surface slope, recent depths to groundwater, land use, etc.
6. Hydrologic base period determination.
7. Calculation of a water budget and changes in groundwater storage for the basin and the corresponding watershed to assess conditions over the hydrologic base period. Calculation of basin sustainable yield for the hydrologic base period is not required if basin conditions do not exhibit undesirable results. (Projected future basin conditions are not a part of this analysis.)
8. Measurable objectives, as well as interim milestones in increments of five years, to maintain the sustainability goal in the subbasin.
9. A description of how each objective is intended to maintain the sustainability goal for the subbasin for long-term beneficial uses of groundwater.
10. Define undesirable results applicable to basin and relative to definition of sustainable yield. Describe undesirable results that occurred before, and have not been corrected by, January 1, 2015 and occurred for at least a 10-year period related to the base period analysis.
11. Document the approach to monitoring and management of groundwater levels and groundwater quality.
12. Document the approach to monitoring and management of land subsidence, changes in surface flows and surface water quality that directly affect groundwater levels or quality or are caused by groundwater extraction.
13. Description of how recharge areas substantially contribute to replenishment of the basin
14. Summary of monitoring sites, types, and frequency for each monitoring location for groundwater levels, groundwater quality, subsidence, streamflow, precipitation, evaporation, and tidal influence. Include a summary of information such as well depth, screened intervals, aquifer zones monitored, type of well monitored, as available.
15. Monitoring protocols designed to detect changes in groundwater levels, groundwater quality, inelastic land subsidence, and surface water and groundwater interaction.
16. A description of consideration given to applicable county and city general plans and adopted water resource related plans and an assessment of how those plans have, or in the future, need to consider the sustainability goal.
17. Characterize the potential for saline water intrusion, as applicable.
18. Describe existing ordinances and/or programs relating to well head protection areas and recharge areas.
19. Provide summary of water resources management strategies, programs, and/or potential limits to zoning, building code, landscaping, and other new water conservation programs or major changes to existing programs.
20. General assessment of the influence of changes in groundwater levels over the hydrologic base period on groundwater dependent ecosystems.

Comment [A164]: This section needs to reference the analysis of basin conditions and the report to be prepared that describes those conditions. The express language of Section 10733.6 (b)(3), and the timeline for the completion of an alternative (10733.6(c)), is clear that this is not a GSP.

Section 10733.6 (b)(3) states: "An analysis of basin conditions that demonstrates that the basin has operated within its sustainable yield over a period of at least 10 years." The language of this section does not specify specifically an analysis between January 1, 2005 and January 1,2015. This period may be selected by an entity. However, the scientific basis for an appropriate base period for analysis of basin conditions does not conform with the 1/1/2005 to 1/1/2015 period, i.e., base period selection does not end during extreme drought years. Furthermore, the timeframe for the submittal of the alternative does not provide for the base year to be adjusted to an appropriate period inclusive of 1/1/2015.

Comment [A165]: Overbroad. What does functional equivalence of terms and concepts with the substantive and procedural requirements of the Act mean? It is overreaching to suggest that Section 10733.6 intended to encompass everything in the same manner as a GSP as otherwise addressed in these regulations.

Suggested clarifying items are shown.

~~(e)~~(f) If a local agency submits an alternative for a basin that includes areas outside its jurisdiction or service area, the local agency shall enter into agreements with any local agency or other entity from which information will be required to comply with reporting requirements for the alternative and to demonstrate that basin satisfies ongoing requirements of the alternative. An agreement shall include a list and map of all local agencies or entities that are party to theagreement.

~~(f)~~(g) After an alternative has been approved by the Department, if one or more Plans are adopted within the basin, the alternative and any agreements shall be revised, as necessary, to reflect any changes that may have resulted from adoption of the Plan, and the local agency responsible for the alternative and Agency responsible for the Plan shall enter into an agreement that satisfies the requirements of Section 357.4.

~~(g)~~(h) Any person may provide comments to the Department regarding an alternative in a manner consistent with Section 353.8.

Note: Authority cited: Section 10733.2, Water Code.

Reference: Section 10727, 10733.2, 10727.2, 10733, 10733.6, 10733.8, Water Code.

§ 358.6. Department Evaluation of Plan Alternatives

The Department shall evaluate an alternative to a Plan consistent with Article 6 of these regulations to determine whether the alternative satisfies the goals of the Act to achieve groundwater sustainability through local management and avoid undesirable results, including to adjacent groundwater basins.

Note: Authority cited: Section 10733.2, Water Code.

Reference: Section 10733.2, 10733.6, Water Code.

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