

Proposed Groundwater Sustainability Emergency Regulations

Update on Groundwater Sustainability Emergency Regulations

May 16, 2016

May 2016 SGMA Subcommittee

Current Status

- ✓ SCGA Comments **March 30, 2016**
- ✓ DWR Website Posted **April 14, 2016**
- ✓ California Water Commission (CWC) Hearing **April 20, 2016** – summary comments and revisions
- ✓ Proposed GSP Regulations Released **May 10, 2016**
- ✓ SCGA Comments on Alternative Language (Today) **May 16, 2016**
- CWC to Adopt Proposed Regulations **May 18, 2016**
- **June 1st Submit adopted GSP Regulations to Office of Administrative Law**

Proposed GSP Regulations

- “Vastly Improved” in areas where DWR created new law in Regulations
- Removed “Coordinating Agency” Requirement
- Removed “Critical Parameter” and replaced with “Sustainability Indicator”
- Better recognizes “Data Gaps” and “Uncertainty” as lack of information to fully understand basin setting at any given time
- Added “Groundwater Dependent Ecosystem” definition
- Upon request, DWR shall provide assistance to an Agency
- Removed revenue description

Proposed GSP Regulations

- Removed BMP minimum standards for GW Monitoring Protocols
- Substantial Compliance standard in judgment of DWR
- Alternative Plan Submittal equivalency with GSP
- Land use data requirements scaled back
- Use of existing data management system (DMS)
- Well density maps including de minimis extractors
- Recognizes local experience of managing undesirable results

Proposed GSP Regulations

- Proposed Regulations
 - Track Changes: 62 pages
 - Final: 42 pages
- Alternative Plan: < 5%
(Article 9)
- Plan Content: 45%
(Article 5)
- Annual Reports & Periodic Assessment: 7%
(Article 7)
- Definitions, Monitoring, Plan Approval

Suggested Language for Alternative

- SGA going before CWC on May 18th to recommend:

§358.2 (d) The entity submitting an Alternative shall explain how the elements of the Alternative ~~are functionally equivalent to the elements of a Plan required by Articles 5 and 7 of this Subchapter and are~~ sufficient to demonstrate the ability of the Alternative to achieve the objectives of the Act.

Compliance means that the Alternative is sufficiently detailed and the analyses demonstrate sustainable groundwater management has been or will be achieved for the basin.

Discussion?



Approach to Alternative Plan Submittal

Alternative Plan versus Groundwater Sustainability Plan

May 16, 2016

May 2016 SGMA Subcommittee

Alternative Plan Submittal

- Acceptable if:
 - Applied to entire basin
 - Basin has operated within its sustainable yield for at least 10 years
 - Includes a copy of the Groundwater Management Plan

Proposed GSP Regulations and SCGA Alternative Plan Submittal



10 Years of Sustainability

- Report Requirements indicating 10 Years of Operating within Sustainable Yield
 - Delta
 - SCGA

Alternative Plan Submittal

- Acceptable if,
 - Applied to entire basin
 - Basin has operated within its sustainable yield for at least 10 years
 - Includes a copy of the Groundwater Management Plan
- Submittal due by January 1, 2017

Alternative Plan Submittal

- Submittal Schedule to January 1, 2017
 - 7-month time frame – June to December
 - 4 months for draft
 - < 1 month review – October
 - < 1 month finalization – November
- Public Hearing November/December 2016

Alternative Plan Approach

- Body of Plan
 - Cross references to GMP
 - Provides update to GMP, as necessary
 - Identifies Data Gaps
 - Addresses other GSP requirements
- 2006 GMP is Appendix A

Article 5. Plan Content

4/19/2017

SCGA		Effort						
GMP ?		High	Median	Low				
Yes	Partial							
22	24	14	66	37	GSP Requirements: 117 Effort Total: 117 SCGA GMP Total: 46			
					<u>Administrative Information</u>			
			M		Executive summary written in plain language			
		H			Estimated costs of implementation and source of funding			
	P		M		Maps			
				L	Basin and, if any, other GSAs within basin + adjacent basins			
				L	Adjudicated areas and Alternative Plan areas			
Y				L	Jurisdictional boundaries of governmental entities, including tribal lands, water agencies, and general plans			
Y				L	Land use designations with water use sectors and water source types			
		H			Density of wells per square mile, including 'agricultural, industrial, and domestic wells' and "de minimis extractors" and communities dependent on groundwater			
	P			L	Description of maps			
	P			L	Identification of existing water resource monitoring and management programs (WRMPs)			
	P			L	Conflicts and adaptations to WRMPs			
	P		M		Description of conjunctive use programs			
	P			L	Plain language description of land use and applicable general plans			
					<u>Basin Setting by Professional Engineer or Geologist</u>			
Y			M		Hydrogeologic Conceptual Model			
Y				L	Regional geologic and structural setting			
Y				L	Lateral basin boundaries			
Y				L	Definable bottom of the basin			
Y				L	Principal aquifers and aquitards			
Y				L	Formation names			
Y				L	Vertical and lateral extent, hydraulic conductivity, and storativity			
Y				L	Structural properties of the basin that restrict groundwater flow			
Y				L	General water quality			
Y				L	Primary use or uses of each aquifer			
			M		Identification of data gaps and uncertainty			

Article 5. Plan Content

SCGA		Effort						
GMP ?		High	Median	Low				
Yes	Partial							
	P		M					Two scaled cross-sections to depict major stratigraphic and structural features
			M					Qualified maps
			M					Topography
			M					Surficial geology
			M					Soils - NRCS
			M					Existing recharge areas, potential recharge areas, and discharge areas, including significant wetlands
			M					Surface water bodies significant to basin management
			M					Imported water supplies - point of delivery
	P		M					Water Conditions
	P			L				Description of current (2015+) and historical groundwater conditions
	P		M					Groundwater elevation contour maps
	P		M					Principal aquifers
	P			L				Seasonal high and low
	P			L				Hydrographs of long-term groundwater elevations
	P			L				Historical highs and lows
	P		M					Hydraulic gradients between principal aquifers
	P		M					Graph of change in groundwater in storage
	P		M					Annual and cumulative change between seasonal high groundwater conditions
	P		M					Annual groundwater use
	P			L				Water year type
Y				L				Seawater intrusion
Y				L				Groundwater quality issues
Y				L				Map for known groundwater contamination sites and plumes
Y				L				Land subsidence
Y				L				Interconnected surface water systems
			M					Groundwater dependent ecosystems

Article 5. Plan Content

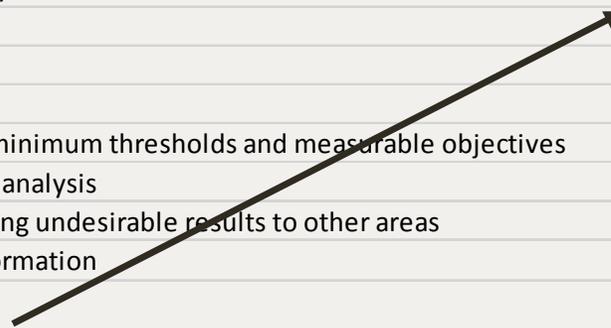
SCGA		Effort			
GMP ?		High	Median	Low	
Yes	Partial P		M		
					Water Budget
		H			Historical conditions
			M		Current conditions
			M		Projected conditions
			M		Tabular and graphical presentation
			M		Total surface water entering and leaving a basin by water source type
			M		Inflow to the groundwater system
			M		Subsurface groundwater inflow
			M		Infiltration of precipitation, applied water, and surface water
			M		Outflows from the groundwater system
			M		Evapotranspiration
			M		Extraction by water use sector
			M		Discharge to surface water
			M		Subsurface outflow
			M		Change in the annual volume of groundwater in storage between seasonal highs
Y				L	Quantification of overdraft, if present
			M		Water year type associated with the annual supply, demand, and change in stored groundwater
Y				L	Estimate of sustainable yield
			M		Management Areas
			M		Description
			M		Reason for creation
			M		Rationale for selecting minimum thresholds and measurable objectives
			M		Level of monitoring and analysis
			M		Operation without causing undesirable results to other areas
			M		Sufficient maps and information
					<u>Sustainable Management Criteria</u>
		H			Sustainability goal - absence of undesirable results within 20 years
		H			Undesirable Results
		H			Minimum Thresholds
		H			Measurable Objectives

4/19/2017

Sustainability indicators

- Chronic Lowering of Groundwater Levels
- Reduction of Groundwater Storage
- Seawater Intrusion
- Degraded Water Quality
- Land Subsidence
- Depletions of Interconnected Surface Water

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Article 5. Plan Content

SCGA		Effort						
GMP ?		High	Median	Low				
Yes	Partial							
					<u>Monitoring Networks</u>			
	P		M		Monitoring Network			
	P		M		Sufficient and representative data to demonstrate short-term, seasonal, and long-term trends in groundwater			
	P		M		Sufficient temporal frequency and spatial density in each principal aquifer			
			M		Network will accomplish			
			M		Chronic Lowering of Groundwater Levels: Water levels from depth-discrete perforated intervals to characterize potentiometric surface of each principal aquifer during seasonal high and low levels			
			M		Reduction of Groundwater Storage: Estimate of the change in annual storage			
Y				L	Seawater Intrusion: Use chloride concentrations (or conductivity) to track current and projected rate and extent of intrusion			
Y				L	Degraded Water Quality: Define trends of known water quality issues			
Y				L	Land Subsidence: Identify the rate and extent using either extensometers, surveying, remote sensing technology, or another method			
		H			Depletions of Interconnected Surface Water: Characterize spatial and temporal exchanges between surface water and groundwater and calculate depletion of surface water due to groundwater extraction			
		H			Surface water discharge, surface water head, and baseflow contribution			
		H			Approximate date and location where streams and rivers cease to flow			
		H			Temporal change due to variations in stream discharge and regional groundwater extraction			
		H			Management areas: Adequate quantity and density of monitoring sites			
			M		Describe monitoring network			
			M		Scientific rationale of site selection			
			M		Compliance with standards or justification of variance			
		H			Minimum threshold, measurable objective, and interim milestones for each sustainability indicator			
			M		Location map and tabular summary for each monitoring site			
			M		Monitoring protocols: technical standards, data collection methods, and other procedures			
			M		Representative Monitoring			
			M		Site that reflects general conditions in overall area			
			M		Sufficient and representative data to demonstrate short-term, seasonal, and long-term trends in groundwater			
		H			Groundwater elevations can be proxy for monitoring other sustainability indicators given significant correlation			

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Article 5. Plan Content

SCGA		Effort								
GMP ?		High	Median	Low						
Yes	Partial									
				M						Assessment and Improvement of Monitoring Network
					L					Assessment in Plan and at 5-year intervals regarding data gaps and uncertainty
				M						Data gaps related to
				M						Number of monitoring sites
					L					Frequency of monitoring
				M						Unreliable or substandard sites
				M						Description of data gap locations, reasons, and local issues that prevent monitoring
					L					Fill data gaps before next 5-year assessment
					L					Adjust monitoring frequency or density
				M						Reporting Monitoring Data to DWR
		P		M						Stored in the data management system
				M						Annual Report
					L					Electronic submittals
										<u>Projects and Management Actions</u>
				M						Actions to achieve the sustainability goal for the basin

Questions?