



Considering Nature under SGMA | A Checklist for GSPs

This checklist is being provided as guidance to help ensure that groundwater sustainability plans (GSPs) adequately address nature as required under the Sustainable Groundwater Management Act. The Nature Conservancy (TNC) believes the following elements are foundational for the first round of GSP submittals (2020/2022).

Environmental Representation

SGMA requires that groundwater sustainability agencies (GSAs) consider the interests of all beneficial uses and users of groundwater. To meet this requirement, we recommend actively engaging environmental stakeholders by including environmental representation on the GSA board, technical advisory group, or working groups. Environmental representatives include local staff from state and federal resource agencies, nonprofit organizations and other environmental interests. By engaging these stakeholders, GSAs will benefit from access to additional data and resources, as well as a more robust and inclusive GSP.

Basin GDE and ISW Maps

SGMA requires that groundwater dependent ecosystems (GDEs) and interconnected surface waters (ISWs) be identified in the GSP. We recommend using the Natural Communities Commonly Associated with Groundwater Dataset (NC Dataset) provided online (<https://gis.water.ca.gov/app/NCDataSetViewer/>) by the Department of Water Resources (DWR) as a starting point for the GDE map. The NC Dataset was developed through a collaboration between DWR, the Department of Fish and Wildlife and TNC.

Potential Effects on Environmental Beneficial Users

SGMA requires that potential effects on GDEs and environmental surface water users be described when defining undesirable results. Because effects to plants and animals are difficult and sometimes impossible to reverse, we recommend erring on the side of caution to preserve sufficient groundwater conditions to sustain GDEs and ISWs.

Biological and Hydrological Monitoring

If sufficient hydrological and biological data in and around GDEs is not available in time for the 2020/2022 plan, data gaps should be identified along with actions to reconcile the gaps in the monitoring network.

ABOUT US

The Nature Conservancy is a science-based nonprofit organization whose mission is *to conserve the lands and water on which all life depends*. To support successful SGMA implementation that meets the future groundwater needs of people, the economy, and the environment, TNC has developed tools and resources (<https://groundwaterresourcehub.org/>) intended to reduce costs, shorten timelines, and increase benefits for both people and nature.

Environmental User Checklist

The Nature Conservancy is neither dispensing legal advice nor warranting any outcome that could result from the use of this checklist. Following this checklist does not guarantee approval of a GSP or compliance with SGMA, both of which will be determined by DWR and the State Water Resources Control Board.

GSP Plan Element*		GDE Inclusion in GSPs: Identification and Consideration Elements	Check Box
Admin Info	2.1.5 Notice & Communication <i>23 CCR §354.10</i>	Description of the types of environmental beneficial uses of groundwater that exist within GDEs and a description of how environmental stakeholders were engaged throughout the development of the GSP.	
	Basin Setting	Interconnected surface waters:	
Interconnected surface water maps for the basin with gaining and losing reaches defined (included as a figure in GSP & submitted as a shapefile on SGMA portal).			
Estimates of current and historical surface water depletions for interconnected surface waters quantified and described by reach, season, and water year type.			
Basin GDE map included (as figure in text & submitted as a shapefile on SGMA Portal).			
If NC Dataset was used:		Basin GDE map denotes which polygons were kept, removed, and added from NC Dataset (Worksheet 1, can be attached in GSP section 6.0).	
		The basin's GDE shapefile, which is submitted via the SGMA Portal, includes two new fields in its attribute table denoting: 1) which polygons were kept/removed/added, and 2) the change reason (e.g., why polygons were removed).	
		GDEs polygons are consolidated into larger units and named for easier identification throughout GSP.	
If NC Dataset was <i>not</i> used:		Description of why NC dataset was not used, and how an alternative dataset and/or mapping approach used is best available information.	
Description of GDEs included:			
Historical and current groundwater conditions described in each GDE unit.			
Ecological condition described in each GDE unit.			
Each GDE unit has been characterized as having high, moderate, or low ecological value.			
Inventory of species, habitats, and protected lands for each GDE unit with ecological importance (Worksheet 2, can be attached in GSP section 6.0).			
2.2.3 Water Budget <i>23 CCR §354.18</i>	Groundwater inputs and outputs (e.g., evapotranspiration) of native vegetation and managed wetlands are included in the basin's historical and current water budget.		
	Potential impacts to groundwater conditions due to land use changes, climate change, and population growth to GDEs and aquatic ecosystems are considered in the projected water budget.		

Sustainable Management Criteria	3.1 Sustainability Goal <i>23 CCR §354.24</i>	Environmental stakeholders/representatives were consulted.				
		Sustainability goal mentions GDEs or species and habitats that are of particular concern or interest.				
		Sustainability goal mentions whether the intention is to address pre-SGMA impacts, maintain or improve conditions within GDEs or species and habitats that are of particular concern or interest.				
	3.2 Measurable Objectives <i>23 CCR §354.30</i>	Description of how GDEs were considered and whether the measurable objectives and interim milestones will help achieve the sustainability goal as it pertains to the environment.				
	3.3 Minimum Thresholds <i>23 CCR §354.28</i>	Description of how GDEs and environmental uses of surface water were considered when setting minimum thresholds for relevant sustainability indicators:				
		Will adverse impacts to GDEs and/or aquatic ecosystems dependent on interconnected surface waters (beneficial user of surface water) be avoided with the selected minimum thresholds?				
	3.4 Undesirable Results <i>23 CCR §354.26</i>	Are there any differences between the selected minimum threshold and state, federal, or local standards relevant to the species or habitats residing in GDEs or aquatic ecosystems dependent on interconnected surface waters?				
		For GDEs, hydrological data are compiled and synthesized for each GDE unit:				
		If hydrological data <i>are available</i> within/nearby the GDE	Hydrological datasets are plotted and provided for each GDE unit (Worksheet 3, can be attached in GSP Section 6.0).			
			Baseline period in the hydrologic data is defined.			
			GDE unit is classified as having high, moderate, or low susceptibility to changes in groundwater.			
			Cause-and-effect relationships between groundwater changes and GDEs are explored.			
		If hydrological data <i>are not available</i> within/nearby the GDE	Data gaps/insufficiencies are described.			
			Plans to reconcile data gaps in the monitoring network are stated.			
		For GDEs, biological data are compiled and synthesized for each GDE unit:				
Biological datasets are plotted and provided for each GDE unit.						
Data gaps/insufficiencies are described.						
Plans to reconcile data gaps in the monitoring network are stated.						
Description of potential effects on GDEs, land uses and property interests:						
Cause-and-effect relationships between GDE and groundwater conditions are described.						
Impacts to GDEs that are considered to be "significant and unreasonable" are described.						

		Known hydrological thresholds or triggers (e.g., instream flow criteria, groundwater depths, water quality parameters) for relevant species or ecological communities are reported.	
		Land uses include and consider recreational uses (e.g., fishing/hunting, hiking, boating).	
		Property interests include and consider privately and publicly protected conservation lands and opens spaces, including wildlife refuges, parks, and natural preserves.	
Sustainable Management Criteria	3.5 Monitoring Network <i>23 CCR §354.34</i>	Description of whether hydrological data are spatially and temporally sufficient to monitor groundwater conditions for each GDE unit.	
		Description of how hydrological data gaps and insufficiencies will be reconciled in the monitoring network.	
		Description of how impacts to GDEs and environmental surface water users, as detected by biological responses, will be monitored and which monitoring methods will be used in conjunction with hydrologic data to evaluate cause-and-effect relationships with groundwater conditions.	
Projects & Mgmt Actions	4.0. Projects & Mgmt Actions to Achieve Sustainability Goal <i>23 CCR §354.44</i>	Description of how GDEs will benefit from relevant project or management actions.	
		Description of how projects and management actions will be evaluated to assess whether adverse impacts to the GDE will be mitigated or prevented.	

* In reference to DWR's GSP annotated outline guidance document, available at:
https://water.ca.gov/legacy/Files/groundwater/sqm/pdfs/GD_GSP_Outline_Final_2016-12-23.pdf