

WORKSHEET 1. ASSESS A CONNECTION TO GROUNDWATER



Use the following questions to assess whether iGDE polygons are connected to groundwater.	Arroyo Simi - Las Posas	Fairview Area Unconfined Aquifer	Areas outside delineated shallow unconfined aquifers
GENERAL QUESTIONS FOR ALL GDE TYPES			
Is the iGDE underlain by a shallow unconfined or perched aquifer that has been delineated as being part of a Bulletin 118 principal aquifer in the basin?	Yes	No	No
Is the depth to groundwater under the iGDE less than 30 feet?	Yes	No	No
Is the iGDE located in an area known to discharge groundwater (e.g., springs/seeps)?	Yes	No	No
<p><i>If you answer Yes to any of the above questions, then you likely have a GDE. Stop here.</i></p> <p><i>If you selected No or Insufficient Data or cannot confidently answer any of the above questions, then answer the following questions to infer groundwater dependency.</i></p>			
RIVERS, STREAMS, AND ESTUARIES			
Is the iGDE located in a portion of a river or stream that is likely a gaining reach?	Yes		
Are water temperatures around the iGDE relatively constant over time, indicating a potential for gaining conditions?			
Are there stable/permanent natural flows detected by stream gauges near the iGDE, indicating a potential for gaining conditions?	Yes permanent but wastewater discharge & other discharges		
Is there water or flows around the iGDE during summer months?	Yes		
For iGDEs near estuaries, does the salinity drop below that of seawater in the absence of surface water inputs (e.g., surface runoff or stormwater)?			
Are the isohaline contour lines of the saline wedge relatively constant under an iGDE?			
WETLANDS			
Is the level of water around the iGDE maintained during extended dry periods without surface water inflow or management?			

Use the following questions to assess whether iGDE polygons are connected to groundwater.	Yes	No	Insufficient Data
Is the location of the iGDE consistently associated with known areas of groundwater discharge (e.g., springs or seeps) in terrestrial and/or coastal environments?			
TERRESTRIAL VEGETATION			
Does vegetation in the iGDE remain green and physiologically active during extended dry periods of the year?	Yes		
Does the iGDE have higher evapotranspiration rates in summer months compared to other nearby vegetation unlikely to be dependent on groundwater?			
SEEPS AND SPRINGS			
Are there breaks in the slope of the land surface or areas of stratigraphic change causing groundwater to emerge or vegetation to congregate on the surface?			
Is there a presence of hydric (very wet) soils in areas with little summer precipitation, indicating persistent soil saturation throughout the year?			
Are there elevated surface water temperatures from an influx of geothermal groundwater discharge?			
<p><i>If you answered Yes to any of the questions above, then you likely have a GDE.</i></p> <p><i>If you answered No to all the questions, then you likely do not have a GDE.</i></p> <p><i>If you answered Insufficient Data to all the questions, then assume you have a GDE until sufficient data is collected. Refer to Appendix IV and Step 4.</i></p>			

WORKSHEET 2. GDE ECOLOGICAL INVENTORY

Ecological Inventory for GDE Unit ID Arroyo Simi - Las Posas

		DESCRIPTION/NOTES
Species	<input type="radio"/> Locally Important or Endemic <input checked="" type="radio"/> Special Status <input type="radio"/> Rare <input checked="" type="radio"/> Threatened <input checked="" type="radio"/> Endangered Presence of <input type="radio"/> Native Vegetation ___ 76 ___ % <input type="radio"/> Non-Native ___ 24 ___ %	state & federally listed endangered least Bell's vireo, state species of special concern arroyo chub, federally listed threatened and state species of concern California coastal gnatcatcher
Habitat	<input checked="" type="radio"/> Critical Habitat <input checked="" type="radio"/> Recognized Wetland <input checked="" type="radio"/> Part of a Protected Area <input type="radio"/> Part of Local Conservation Plan <input type="radio"/> Part of a Wildlife Corridor Plan	California coastal gnatcatcher (Virginia Colony area) (Source- CH, 2016) 417 acres (Sources- NWI, 2016; iGDE, 2017) Open Space: City of Moorpark Arroyo Vista Community Park, 0.8 acres (Source: CPAD, 2016)
Environmental Beneficial Uses*	<input type="radio"/> Aquaculture <input checked="" type="radio"/> Cold Freshwater Habitat <input type="radio"/> Estuarine Habitat <input type="radio"/> Inland Saline Water Habitat <input type="radio"/> Marine Habitat <input type="radio"/> Migration of Aquatic Organisms <input type="radio"/> Preservation of Biological Habitats of Special Significance <input checked="" type="radio"/> Rare, Threatened, or Endangered Species <input type="radio"/> Protected/Special Status/Sensitive Species <input type="radio"/> Spawning, Reproduction, and/or Early Development <input checked="" type="radio"/> Warm Freshwater Habitat <input checked="" type="radio"/> Wildlife Habitat <input checked="" type="radio"/> Other: _Groundwater recharge____ <input checked="" type="radio"/> Other: _Freshwater replenishment_	Reach 7 (Downstream of Hitch Road): GWR, WARM, COLD (Potentially), WILD, FRESH Reach 6 (Upstream of Hitch Road): GWR (Intermittent), FRESH (Intermittent), WARM, WILD, RARE

* Relevant environmental beneficial uses listed in Bulletin 118 (2003 update)—Appendix E.

Sources:

CPAD: Greeninfo Network. 2016. California Protected Area Network, 2016b. Oakland, California. <http://www.calands.org/>.

NWI: US Fish and Wildlife Service. 2016. National Wetlands Inventory, v2, California Wetlands. Accessed May 2016.

"CH: U.S. Fish and Wildlife Service, Endangered Species Program, ECOS Joint Development Team. 2016. Critical Habitat Polygons and Lines. Accessed from <https://ecos.fws.gov/ecp/report/table/critical-habitat.html> in December 2016.

iGDE: The Nature Conservancy. 2017. Early version. Indicators of Groundwater Dependent Ecosystems Database, v0.3.1.

WORKSHEET 3. POTENTIAL EFFECTS ON GDE SUMMARY



GDE Unit ID Arroyo Simi - Las Posas

Ecological Value (Step 1.2)—Check the one that applies High Moderate Low Insufficient Data/Not Applicable

Susceptibility to Changing Groundwater Conditions (Step 2.1)—Check the one that applies

High Moderate Low Insufficient Data/Not Applicable

Corresponding Sustainability Indicator	Groundwater Levels	Groundwater Levels	Groundwater Levels/ Interconnected Surface Water	Groundwater Levels/ Interconnected Surface Water	Groundwater Levels/ Interconnected Surface Water
Hydrologic Data (Step 2.1)	Depth to groundwater	Depth to groundwater	Depth to groundwater	Depth to groundwater	Depth to groundwater
Area	Virginia Colony (Eastern Boundary to RR track)	Losing Reach (RR track to Arroyo Vista Community Park)	Gaining Reach (Arroyo Vista Community Park to Santa Rosa Drive)	Gaining Reach (Santa Rosa Drive to Moor Park WWTP Ponds)	Losing Reach (Balcom Canyon Road to La Cumbra Road)
Baseline Average (Step 2.1)	02N19W03A001S: 577 ft MSL At well: 6.1 ft bgs At GDE RP: 3 ft bgs	02N19W09E01: 485 ft MSL At well: 20 ft bgs At GDE RP: 15 ft bgs	02N19W07K04 (2015-2016) Average: 433 ft MSL At well: 12 ft bgs At GDE RP: 7 ft bgs Range: 0 ft 02N19W07G01 (2014-2016) Average: 436 ft MSL At well: 16 ft bgs At GDE RP: 4 ft bgs	02N20W12MMW1 (1996-2015) Average: 370 ft MSL At well: 21 ft bgs At GDE RP: 20 ft bgs 02N20W12MMW2 (1996-2012) Average: 333 ft MSL At well: 24 ft bgs At GDE RP: 6.5 ft bgs 02N20W12MMW3 (1996-2012) Average: 345.6 ft MSL At well: 41 ft bgs At GDE RP: 6 ft bgs	02N20W09Q08 (2014-2016) Average: 272 ft MSL At well: 38 ft bgs At GDE RP: 3 ft bgs 02N20W16A004S (1992-1999) Average: 252 ft MSL At well: 33 ft bgs At GDE RP: 28 ft bgs
Baseline Range (Step 2.1)	02N19W03A001S Range: 3.5 ft 574.9 -578.4 ft MSL	02N19W09E01 Range: 16 ft (based on 02N19W08G003S & 02N19W08H002S) 479 -495 ft MSL	0 ft range for 2015-2016	02N20W12MMW1 (1996-2015) Range: 9 ft 367-376 ft MSL 02N20W12MMW2 (1996-2012) Range: 12 ft 328-340 ft MSL 02N20W12MMW3 (1996-2012) Range: 14.5 ft 337.5-352 ft MSL	02N20W09Q08 Range: 5 ft 270-275 ft MSL 02N20W16A004S Range: 12 ft 246-258 ft MSL

Biological Data (Step 2.2)	NDVI, NDMI	NDVI, NDMI	NDVI, NDMI	NDVI, NDMI, NDWI	NDVI, NDMI
Description of Adverse Impacts to GDE (Step 2.3)	None Identified	None Identified	None Identified	None Identified	2013 – 2018, decreasing trend in NDVI, NDMI (potentially attributed to declining groundwater levels and loss of surface water flow)