



GLAC-IRWMP

Surface Water Quality Objectives & Targets

Introduction

Due in part to the degree of development in the Greater Los Angeles County (GLAC) Region, stormwater quality in the Region is heavily impacted by the constituents often associated with urban runoff. Because of this, the Los Angeles Regional Water Quality Control Board (LARWQCB) identified storm water and urban runoff as one of the leading sources of pollutants to surface waters in Southern California (LARWQCB 2002). A number of common urban runoff-associated pollutants, for instance bacteria, metals and nutrients, have been found to directly impact human and/or ecosystem health, which may lead to significant economic costs in terms of health care, loss of productivity and tourism, which is particularly important for the GLAC Region which is well-known for the recreational opportunities afforded by its wealth of natural resources. In addition, and no less significant is the negative impact urban runoff can have on the availability of the already-limited usable water supply in the Region.

Targeting the quality of urban stormwater runoff, therefore, leads to improvements in surface waterbodies as well as groundwater that can make these resources available for use as sources of water supply as well as, in the case of surface water, make them more suitable for recreational and habitat purposes.

For the GLAC IRWM Region, surface water quality targets were set in terms of establishing stormwater capture and treatment capacity (i.e. available volume to capture the volume of runoff from the design storm), emphasizing areas identified as having a greater need, in order to address this major source of surface water quality degradation. These targets and the methodology used to arrive at them are presented in the following sections.

Goal

Improve the quality of dry and wet weather runoff to help meet beneficial use requirements for the region's receiving water bodies.

Objective

Develop new stormwater capture capacity¹ (or equivalent) spatially dispersed to reduce region-wide pollutant loads, emphasizing higher priority areas².

Targets

Surface water quality targets for the GLAC IRWM Region were developed based on the goal of capturing runoff generated by a $\frac{3}{4}$ " storm over the entire Region, excluding catchments that were



each Subregion as well as discussions with the Water Quality Working Group, protection of ASBSs from urban stormwater runoff was identified as a high priority surface water quality concern. Not all Subregions contain ASBSs, however, so in those that do not contain them, only the first two maps were used to create a composite receiving water prioritization, with each given a weight of 45 and 20 respectively out of a total of 65 possible points. Catchments in Subregions that do contain ASBSs were prioritized by weighting all three maps 45, 20 and 35 out of a total of 100 possible points.

The composite Receiving Water map created from this prioritization scheme is shown in Figure 2.

Cumulative Prioritization

A final composite map was created by combining the wet weather and receiving water maps (Figures 1 and 2) in order to arrive at a cumulative prioritization for catchments in the GLAC Region. The wet weather and receiving water maps were given equal weight in this composite, and, as described earlier, catchments that were greater than or equal to 98% vacant and less than or equal to 1% impervious were excluded from the prioritization. Catchments were binned in quantiles and assigned a rank from 1 to 5, with 5 being the highest priority.

This cumulative prioritization map is shown in Figure 3, with maps of each Subregion shown in Figures 4 through 8.

IRWM water quality targets are presented in Table 1. As stated above, these targets were calculated based on the goal of creating capture and treatment capacity² for the ¾” storm across the GLAC Region, excluding undeveloped catchments, and with an emphasis on high priority catchments.

Table 1. IRWMP Water Quality Targets

Management Capacity (AF)¹	North Santa Monica Bay	Upper Los Angeles River	Upper San Gabriel and Rio Hondo	Lower San Gabriel and Los Angeles Rivers	South Bay	Total
Total	4200	14800	11500	14400	12600	57500
5 (highest priority)	1500	2500	1600	1700	2800	10100
4	1300	3400	1600	2600	3500	12400
3	600	2500	1700	2300	2900	10000
2	500	2900	2500	3200	1900	11000
1 (lowest priority)	400	3400	4100	4600	1600	14100

¹Excludes all catchments greater than or equal to 98% vacant and less than or equal to 1% impervious.

² Stormwater capture capacity assumes (1) providing storage volume equivalent to runoff from the 0.75-inch, 24-hour design storm event, (2) designing BMPs to retain the captured volume to the maximum extent practicable via infiltration, evapotranspiration, or harvest and use, and (3) designing BMPs to provide effective treatment to address pollutants of concern for the remaining portion of the captured volume that is not retained. Projects deviating from these specifications may be demonstrated to be equivalent based on comparison of average annual volume captured and/or average annual pollutant load reduction for pollutants of concern. Pollutants of concern are defined as those pollutants expected to be generated from the land uses within the subwatershed and for which the downstream water bodies are impaired (TMDL, 303(d) listed).



References

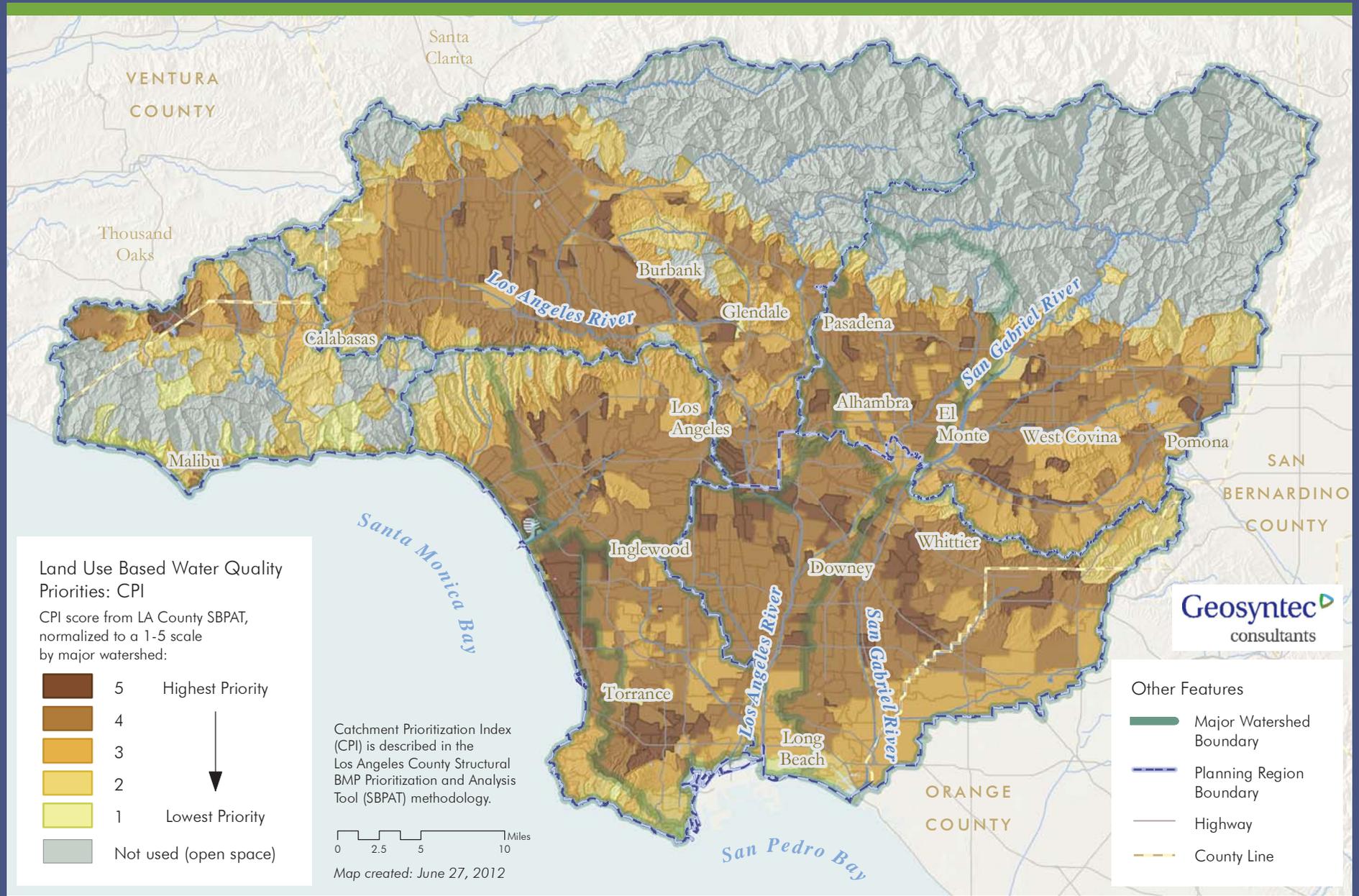
Geosyntec Consultants. 2008. A User's Guide for the Structural BMP Prioritization and Analysis Tool (SBPAT v1.0). December.

Los Angeles Regional Water Quality Control Board (LARWQCB). 2002. Municipal Storm Water Q&A. January

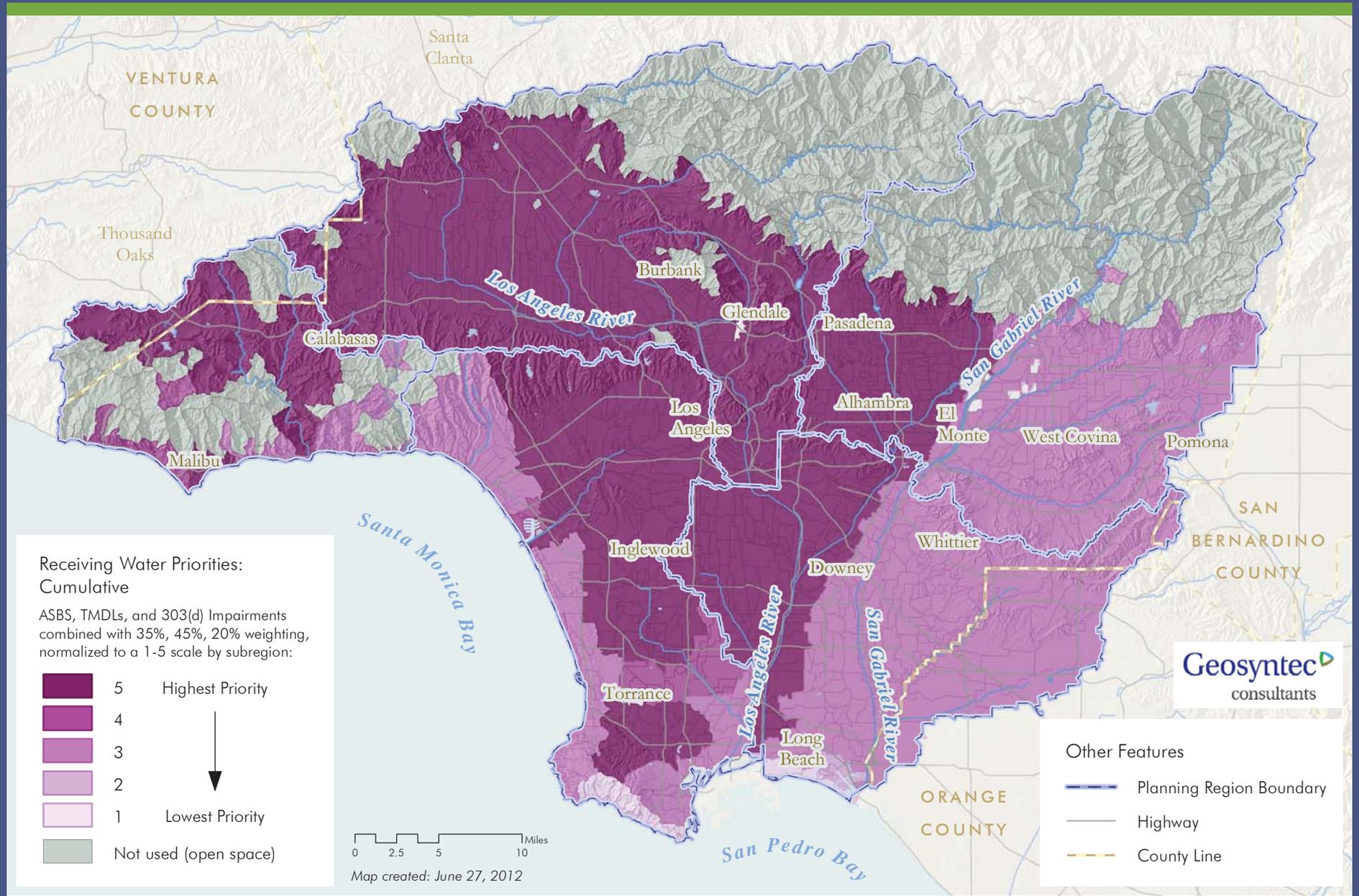


Appendix A – Maps of Water Quality Targets by IRWMP Subregion

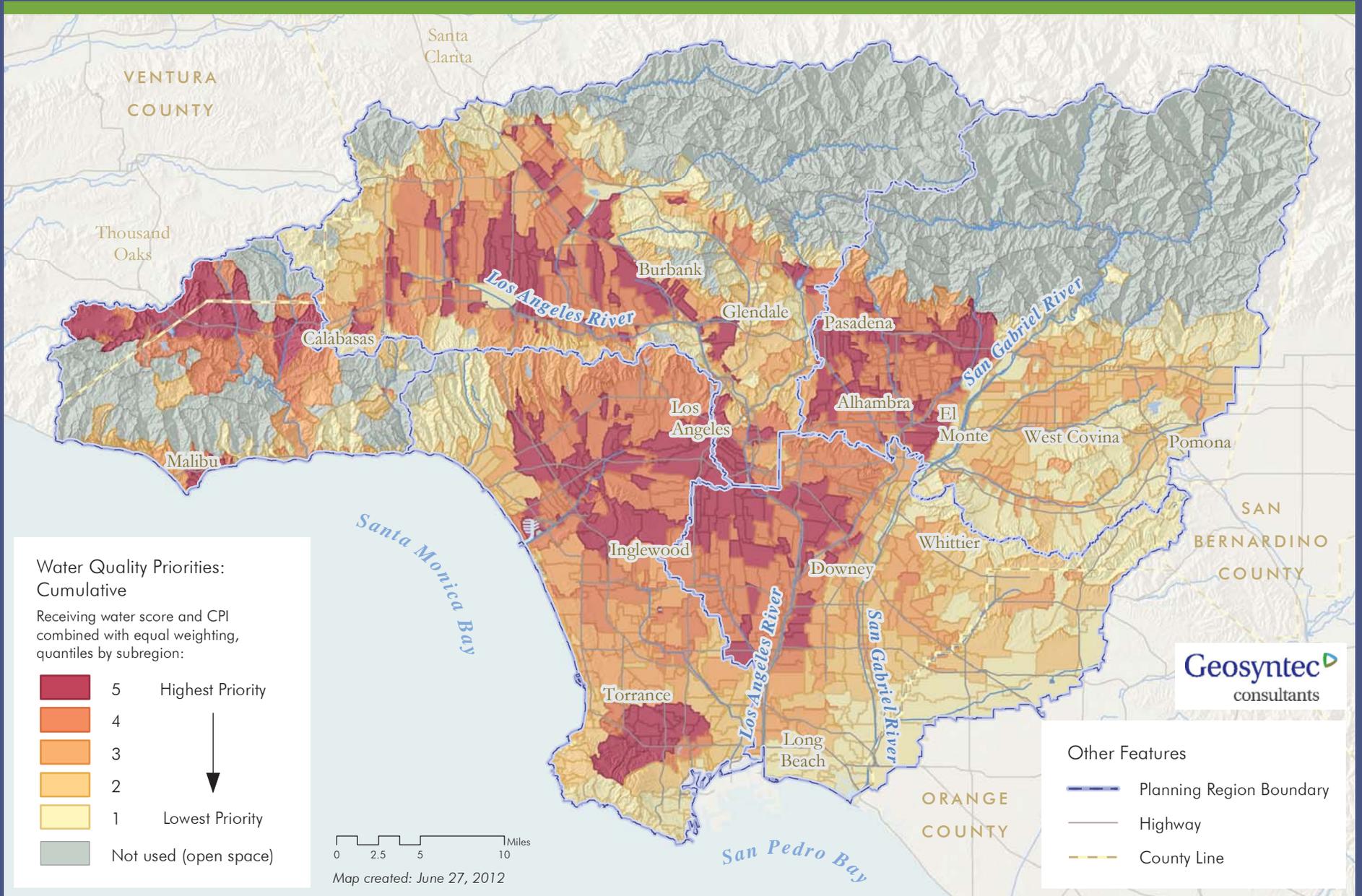
Land Use Based Water Quality Prioritization: Catchment Prioritization Index (CPI)



Receiving Water Prioritization: Cumulative

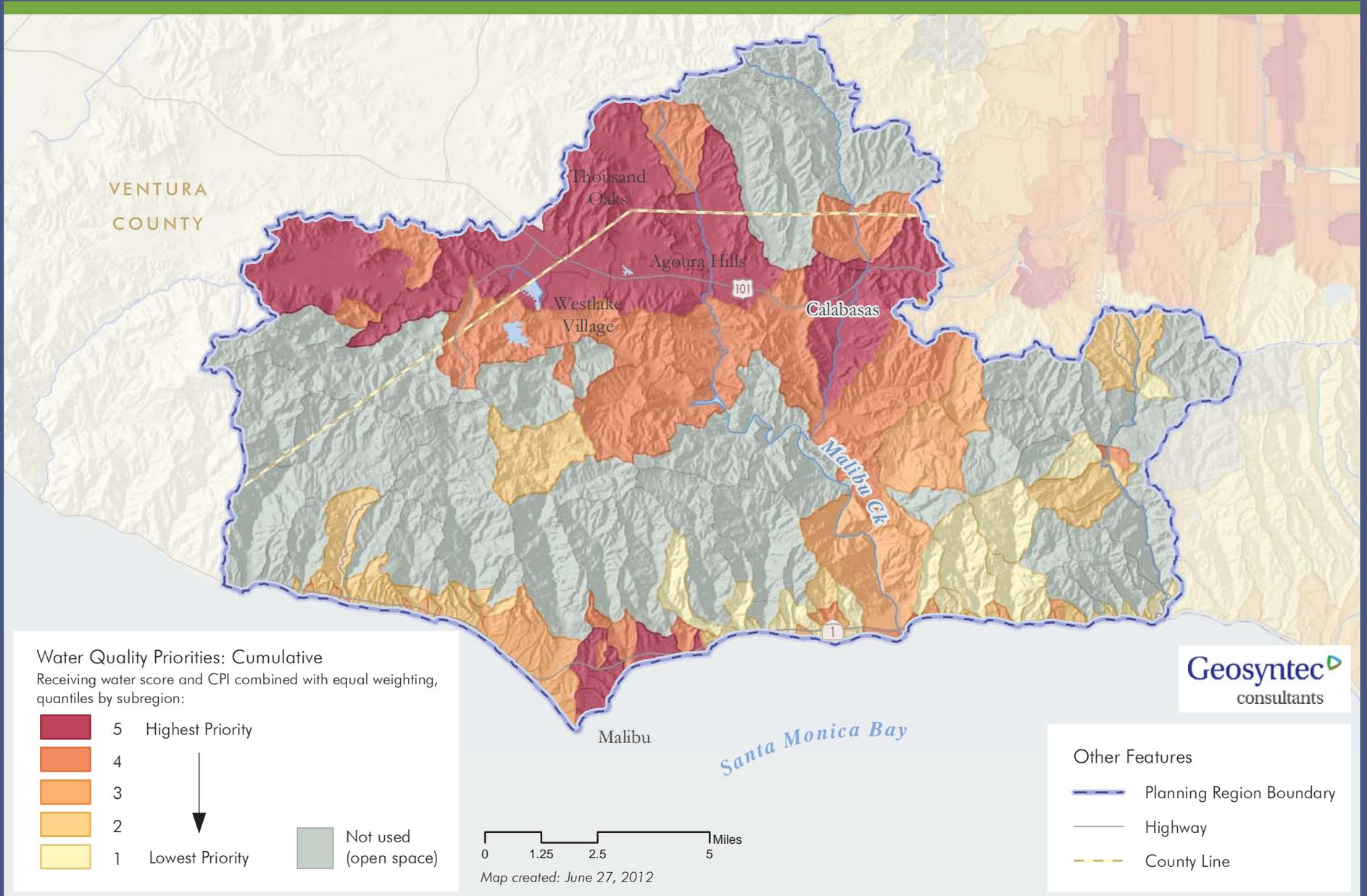


Water Quality Prioritization: Cumulative (Equal Weighting)



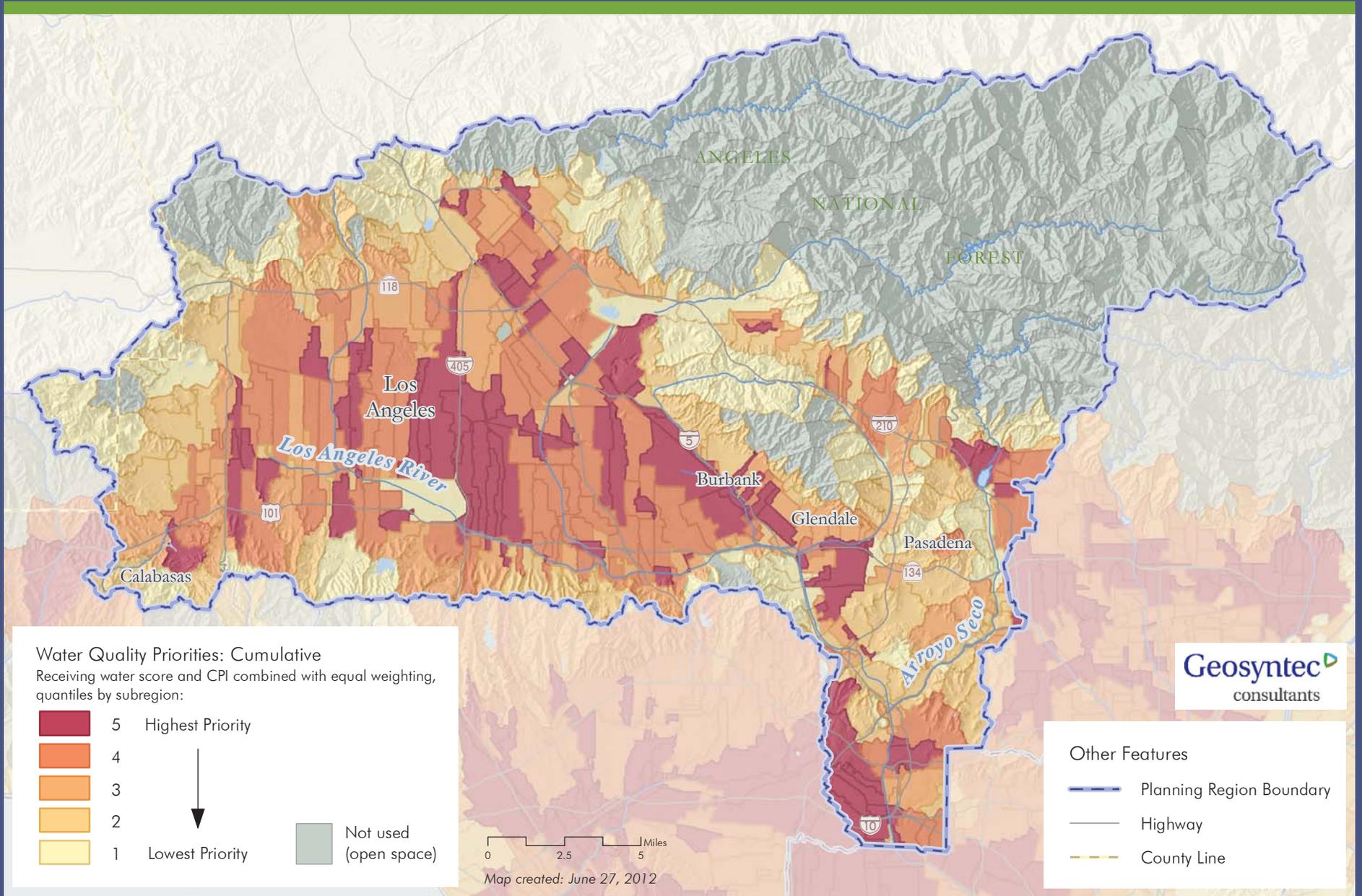
Water Quality Prioritization: Cumulative (Equal Weighting)

North Santa Monica Bay



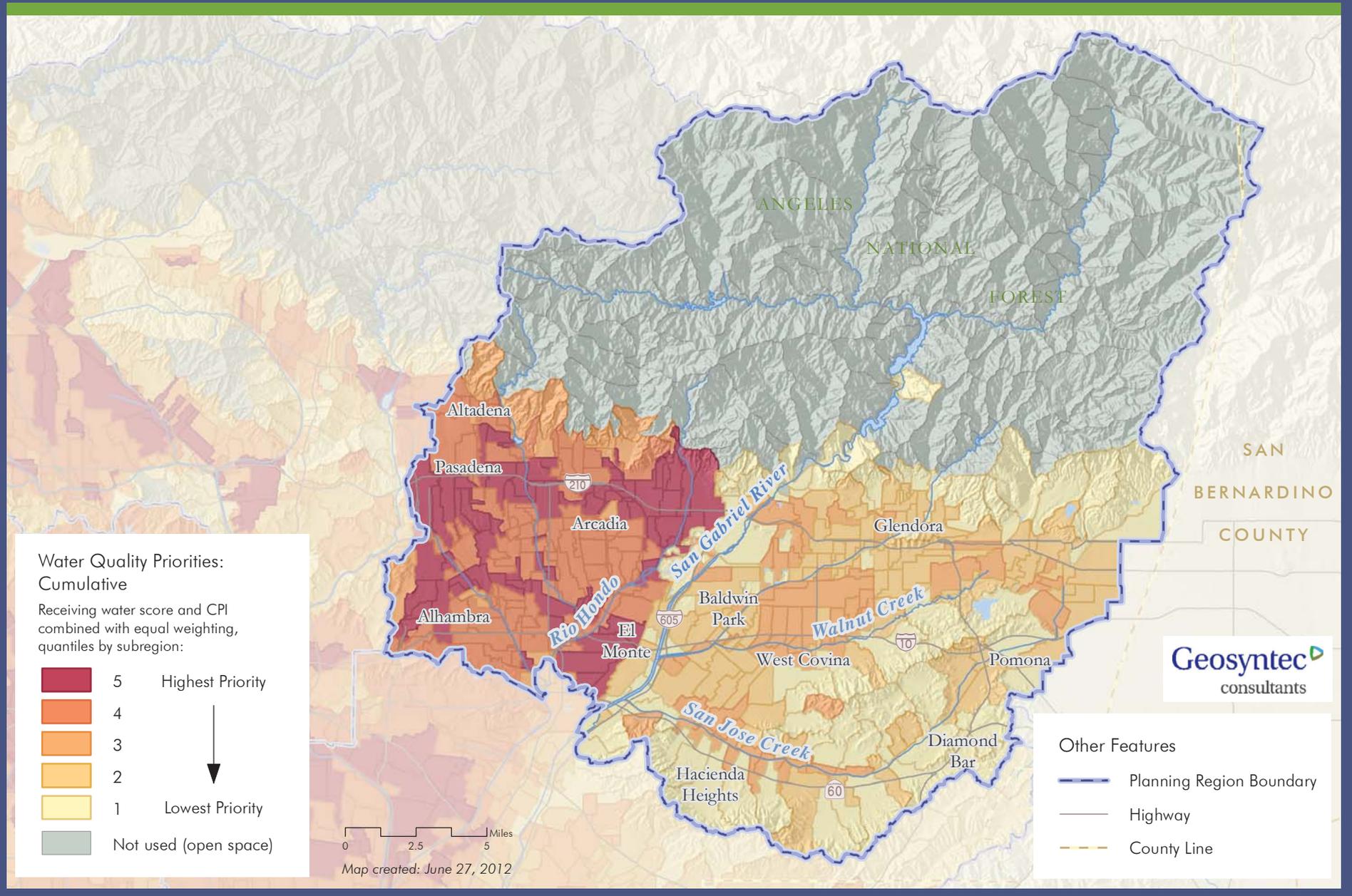
Water Quality Prioritization: Cumulative (Equal Weighting)

Upper Los Angeles River



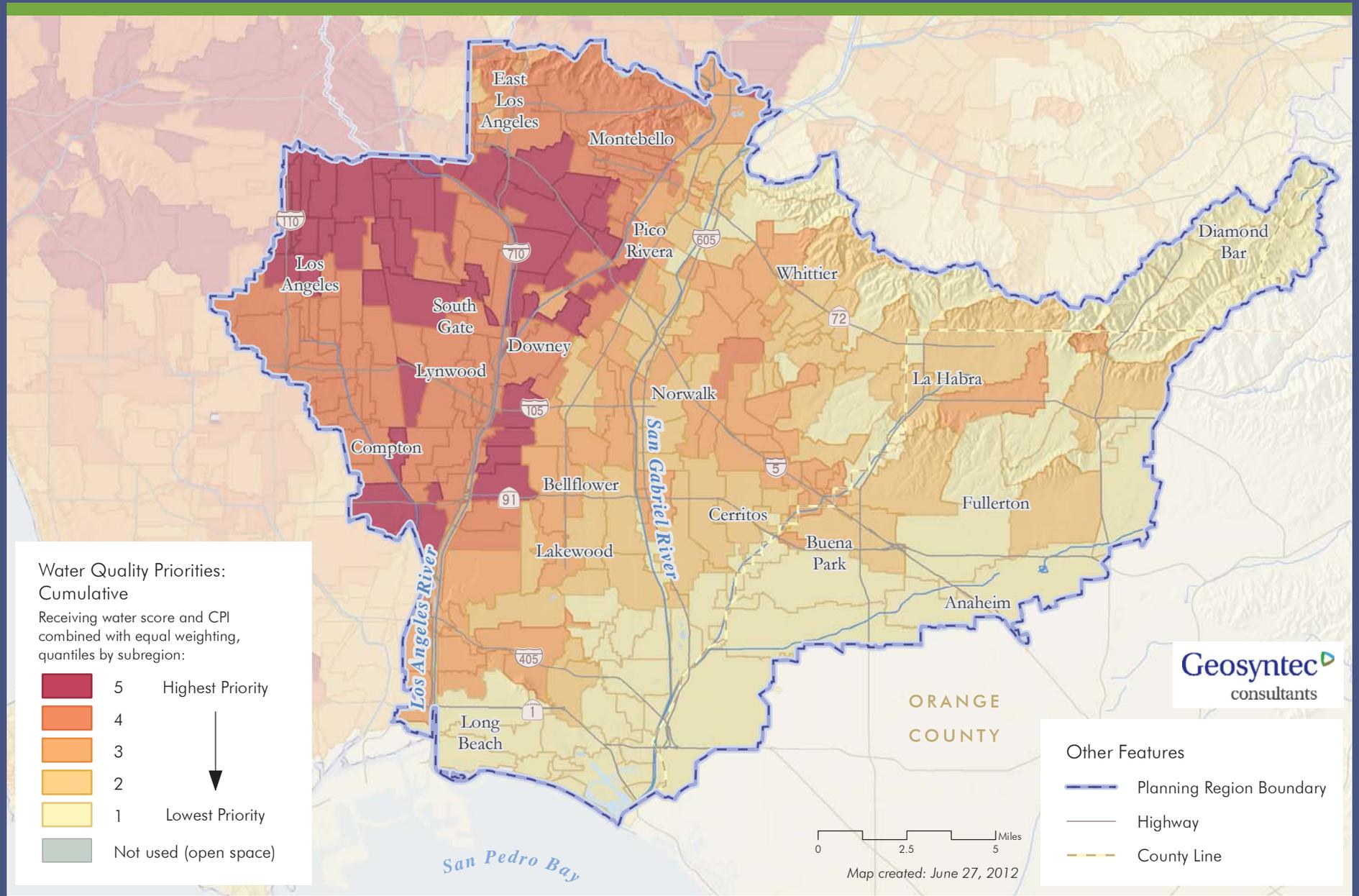
Water Quality Prioritization: Cumulative (Equal Weighting)

Upper San Gabriel and Rio Hondo Rivers



Water Quality Prioritization: Cumulative (Equal Weighting)

Lower Los Angeles and San Gabriel Rivers



Water Quality Prioritization: Cumulative (Equal Weighting) South Santa Monica Bay

