

## Summary of Working Draft White Paper on Water Available for Replenishment (WAFR) (dated 01April2016)

- This white paper presents DWR’s response to “Water Available for Replenishment” requirements of SGMA.
- White paper addresses available water in two parts – first describing water available by source, timing, and volume; and the second discussing replenishment of groundwater. The following is a breakdown of the white paper with key points discussed in it.
  1. Introduction, Purpose and Summary
    - This section describes DWR’s definition of water available for replenishment and references the report development flowchart in Appendix A.
  2. Description of “Water Available for Replenishment of Groundwater”
    - This section describes what DWR means by ‘Water Available’
    - Sources considered include surface water, conjunctive management, conservation, recycled water, desalinated water, water transfers and other sources that can either increase water supply directly or reduce demand from an existing water supply source.
    - Urban stormwater management considered under category of surface water
    - Water available, as considered by DWR, is a variant of the SWRCB use of the term. (For example, DWR includes existing water uses and instream requirements, whereas the SWRCB does not in their water availability analyses required for water rights applications.)
    - For each category (e.g. surface water), the paper described how they define the source and what the key factors are that will affect its availability. For example, for surface water, the paper notes that surface water is well regulated and availability is often subject to quantity and quality regulations and availability. It notes that, in general, surface water is considered available during flood events, and that stormwater runoff is another potential source of water. The paper does not include any quantification of sources.
    - For the second piece (replenishment of groundwater), the paper divides replenishment up into ‘active replenishment’ (percolation and direct injection) and ‘in-lieu recharge’. Each of these two methods are described, along with a high-level pro/con comparison of methods.
  3. Challenges and Uncertainties
    - Challenges and uncertainties are subdivided into current challenges and future conditions
    - Current challenges include the spatial and temporal extent of interconnectivity between water available and groundwater, data availability, water quality, operations and infrastructure capacity, institutional and regulatory challenges (such as local ordinances and infrastructure ownership), environmental and financial.

- Future challenges include climate change, population and land use changes, future infrastructure improvements, and institutional and regulatory changes
4. Water Availability for Groundwater Replenishment in Sustainable Groundwater Management Planning
- This section links groundwater replenishment to the anticipated needs under SGMA including the legislative requirements and SGMA timeline.
  - The document summarizes SGMA and notes how outreach is a key component. It then goes on to say that “...The WAFR report should promote future discussions among local, State and federal agencies on how coordinated efforts can provide additional water for replenishment.”
  - The document states that DWR wants the WAFR report to be useful to GSAs and that DWR’s objectives are (1) estimate the water available for groundwater replenish, and (2) to make sure the information generated will be useful GSAs as they pursue sustainability. From there, GSAs will want to complete a planning process where project concepts and then alternative to make water available for replenishment can be considered and compared to support potential implementation.
  - The white paper notes that GSAs will have to do project-level implementation analyses for both water available methods and groundwater replenishment methods at the local level.
  - Specifically, the document notes that GSAs will, as part of their GSPs, need to describe surface water supply used or available for groundwater recharge or in-lieu use, and that this will require calculation of their own water availability at the local level.
  - Finally, the document links the Water Action Plan to SGMA and places the WAFR in this context saying the “...SGMA WAFR Report effort should include important management considerations from the Water Action Plan.”
5. Next Steps
- The white paper says that DWR’s proposed approach will provide planning estimates of water availability for each of the State’s 10 Hydrologic Regions, and that for each region, DWR will provide an estimate for each of the 5 potential water sources. And (2), DWR will develop roadmaps or guidelines describing analytical approaches, highlighting the steps necessary in selecting and implementing projects that would provide water available for replenishment of groundwater for potential implementation.
  - DWR will also develop roadmaps or guidelines describing analytical approaches, highlighting the steps necessary in selecting and implementing projects that would provide water available for replenishment of groundwater for potential implementation.
  - DWR is currently developing technical approaches to support the content of the WAFR report as presented in Appendix B (and appended here). The foundational work efforts are regional planning estimates of water available and roadmaps describing a recommended planning process for GSAs, including developing an

analytical approach to estimate water available for each of the water available methods, by planning area and by hydrologic region.

- For surface water, DWR is proposing a modified water available analysis approach that will provide a simple planning estimate of available water in each region. They are going to estimate the entire quantity that is in excess of total water use, with current operations and regulatory requirements.
- For conservation, recycled water, desal water, water transfers and other water sources, DWR will use available planning estimates for potential water supply available by source from the CA Water Plan 2013 Update. These estimates will be for potential projects in each of the methods categories, and reflect amounts that local agencies estimate will be implemented in their service areas.
- DWR also developing the roadmaps/guidelines for GSAs to use in their project planning process. Roadmaps will be developed for each water available method type to determine and evaluate water available from a project. DWR will also develop roadmaps/guidelines to determine and evaluate how much of the available water could support replenishment of a local groundwater basin.