

[December 16, 2013]

[Mr. Eric Oppenheimer
California State Water Resources Control Board
eric.oppenheimer@waterboards.ca.gov]

[Dear Mr. Oppenheimer,]

The Union of Concerned Scientists (UCS) is pleased to have the opportunity to comment on the State Water Resources Control Board Groundwater Workplan Concept Paper, Discussion Draft. As the Workplan notes, “Effective groundwater management will ensure groundwater quality and quantity is maintained at sustainable levels that support beneficial uses of water over the long-term.” We agree and believe that the Workplan displays the kind of initiative needed to protect our shared groundwater resources, particularly in light of the changes to water timing and availability associated with climate change and documented by numerous state and academic publications.

UCS believes the Workplan presents a great opportunity to expand upon a number of key elements, highlighted by the Board, particularly thresholds, governance, and enforcement. UCS’s comments on the Workplan briefly address how these key elements could be enhanced.

Summary of Recommendations:

Explicitly recognize the connection between surface water and groundwater resources

As Joseph Sax wrote in his 2002 report to the Board on the legal classification of groundwater: “To put the matter as simply as possible, the above categories [surface water, percolating groundwater, and subterranean streams flowing through known and definite channels] do not accord with scientific understanding of the occurrence and distribution of water on and in the earth . . . Moreover, from the technical perspective, the distinction between percolating groundwater and subterranean streams is meaningless, or nearly so.” There is still a need to clearly recognize and define the interconnected nature of groundwater and surface water resources in order to establish the legal basis for shared management and regulation.

Provide greater guidance on how to set sustainable groundwater levels

The Workplan envisions a future where groundwater is managed at “sustainable levels over the long-term.” Thresholds often used to manage groundwater, including the concepts of “safe yield” and “sustainable yield,” are not simple water balance equations but reflect a

variety of social values including risk assessment and acceptance and relative valuation of shared resources.

Thus, there is a need for guidance on the values that should be upheld by thresholds. In addition, the technical basis for determination of sustainable or safe yield depends on long-term consistency of water inputs in the form of precipitation and the flow of surface water and ground water, and of the factors such as temperature, wind, and evaporation and transpiration. Yet, these flows can be altered by human activities (such as land use and water development) and the hydrologic effects of climate change.

Climate change is expected to have significant impacts on California's water supplies and uses (see the Our Changing Climate series and Managing an Uncertain Future, Department of Water Resources). It will be critical for the Board to provide greater guidance in terms of how thresholds should be set and re-visited over time in order to allow adaptive management of water resources in an era of greater uncertainty.

Specifically incorporate climate change into thresholds and governance approaches

We can no longer assume climate stationarity in managing the state's water resources and therefore thresholds based on historic records or governance approaches that do not allow adaptive management as we obtain new information, will quickly become obsolete.

Require reporting of groundwater extraction

Current law only requires monitoring and reporting of groundwater levels. This does little to help local or state entities to manage groundwater resources as such reporting does not allow any accountability or attribution of changing groundwater levels to changing levels of groundwater use or changes in water supplies. Reporting could be as simple as providing electricity billing data to the Board (if using an electric groundwater pump).

Set clear goals for local entities to achieve and triggers for state intervention

In 1992, AB3030 allowed the creation of groundwater management plans (GWMPs). Recent work from Stanford's Water in the West Program has shown that while there are more than 100 GWMPs currently on the books, they vary greatly in their effectiveness. Many GWMPs have no way to be enforced and, therefore, have done little to address serious on-going groundwater problems such as overdraft. Future drafts of the Workplan should go much farther in terms of creating a specific set of goals for local entities to achieve in order to show significant progress towards sustainable groundwater management, including timelines, and performance-based criteria, which, if not met, trigger state intervention.

Below find UCS contacts if SWRCB staff would like to engage in further discussion of these comments:

Dr. Juliet Christian-Smith, California Climate Scientist: 510-809-1581,
jchristiansmith@ucsusa.org