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April l, 2016

Via U.S. Mail and Email
(Sarah.Sugar@waterboards.ca.gov)

State Water Resources Control Board
Attn: Sarah Sugar
PO Box 2000
Sacramento, CA 95812-2000

Re: Comment Letter – Groundwater Recharge

Dear Ms. Sugar:

Thank you for the opportunity to comment on fees and processing applicable to temporary permits for groundwater recharge and storage. In addition to comments provided at the April 26, 2016 workshop, the California Farm Bureau Federation (Farm Bureau) submits this letter for consideration by the State Water Resources Control Board (SWRCB).

Farm Bureau applauds the SWRCB's proactive approach to Governor Brown's Executive Order B-36-15 and thanks the Division of Water Rights staff for working diligently to process the temporary permits issued under that order. As California works to improve groundwater management, it is increasingly apparent that groundwater recharge is an important piece of the solution. This effort by the SWRCB to gather information on how to improve the process while protecting existing rights and uses is encouraging and appreciated.

Farm Bureau is a non-governmental, non-profit, voluntary membership California corporation whose purpose is to protect and promote agricultural interests throughout the state of California and to find solutions to the problems of the farm, the farm home and the rural community. Farm Bureau is California's largest farm organization, comprised of 53 county Farm Bureaus currently representing more than 53,000 agricultural, associate and collegiate members in 56 counties. Farm Bureau strives to protect and improve the ability of farmers and ranchers engaged in production agriculture to provide

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a reliable supply of food and fiber through responsible stewardship of California's resources.

In addition to addressing the specific topics identified in the notice requesting comments, this letter comments more broadly on how existing impediments to groundwater recharge might be appropriately minimized. While it is imperative to retain the substantive and procedural protections put in place to prevent impacts to existing water rights, there are meaningful improvements that can be made to facilitate temporary permits for groundwater recharge that do not impair other uses. This letter suggests some ways that both of these goals can be met.

Value of Clarifying Terms

As a threshold issue, it may be helpful to clarify two terms used in the groundwater recharge world. Depending on the context, the terms "groundwater recharge" and "groundwater banking" are sometimes used to explain different activities, and sometimes used interchangeably, which of course creates confusion. In the context of groundwater banking, the term "groundwater recharge" is usually described as a method of diverting and storing surface water.[1] In this context, the banked water is stored underground but retains its legal characterization as surface water, the use of which is granted to the banking entity.

Outside of the groundwater banking context, groundwater recharge has the broader meaning of surface water percolating through the soil to become groundwater.[2] In fact, the Sustainable Groundwater Management Act (SGMA) defines groundwater recharge as "the augmentation of groundwater, by natural or artificial means."[3] In this context groundwater recharge is a process where surface water becomes groundwater, and is practically and legally converted from surface water to groundwater.

Although under current practice the two terms are treated more or less interchangeably for purposes of groundwater banking (diverting jurisdictional surface water to storage underground), it would be helpful if the SWRCB began a practice of treating to two terms distinctly if possible. Not only is this consistent with the definition set forth in SGMA, but would also reduce confusion and help further the Legislature's expressed intent in SGMA to "increase groundwater storage and remove impediments to recharge."[4]

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[1] The Notice utilizes this approach, suggesting that groundwater recharge is a type of groundwater storage.
[2] See http://www.water.ca.gov/groundwater/groundwater_basics/groundwater_glossary.cfm#rr, https://en.wikipedia.org/wiki/Groundwater_recharge and http://pa.water.usgs.gov/projects/groundwater/recharge/
[3] Water Code §10721(i).
[4] Water Code §10720.1(g)

In light of the differing terms, for purposes of this comment letter, "groundwater recharge" means the augmentation of groundwater by natural or artificial means (SGMA definition); and "groundwater banking" means the diversion of surface water to storage underground in accordance with surface water rights. The key difference between the two is that in groundwater banking the water remains surface water for jurisdictional and permitting purposes, while in the groundwater recharge the water is converted from jurisdictional surface water to groundwater for jurisdictional purposes. For the reasons explained in this letter, we encourage the SWRCB to use these terms in a similar fashion.

While it is easy to get bogged down in semantics when discussing the relationship between groundwater recharge and groundwater banking, clarifying these terms will not only reduce confusion, but may present an opportunity to resolve administratively a solution to some of the key issues identified below. Essentially, the SWRCB could find that under certain conditions, groundwater recharge will ultimately result in a beneficial use by augmenting a basin where groundwater pumping is beneficial, and authorize recharge on that basis without requiring the water to technically be banked. Not only would this improve the efficiency of issuing temporary permits for groundwater recharge, but it furthers the policy set forth in SGMA of removing obstacles to groundwater recharge.[5]

Fees

Fees for temporary permits for groundwater recharge should be maintained at the current level in order to facilitate groundwater recharge projects. As explained in the public workshop, these types of projects provide significant general benefit to the basin and its users, but often provide little direct benefit to the entity conducting the recharge. As entities are learning how to make recharge work, it is important to keep fees low to encourage recharge projects as a means to advance SGMA's state policies in favor of sustainable groundwater management.

Specific Responses to the Issues Raised in Notice

<u>Demonstration of Beneficial Use:</u>

- *In some cases, a permittee may not be the party pumping water for beneficial use. How can a diverter, who is not the party consuming the water, demonstrate beneficial use? Additionally, wells that draw water stored under the temporary permit may not be equipped with measurement devices.*

[5] Water Code § 10720.1(g).

The issue raised above highlights the challenge of using rules and practices developed around the concept of groundwater banking, to achieve the fundamentally different goal of improving groundwater basins through recharge of aquifers. The reality is that in most basins where there are groundwater supply concerns, it is extremely difficult or even impossible to identify who is going to ultimately use the actual water recharged. Even if it is possible, the cost of identifying ultimate use far outweighs any benefit of such information.

While it is constitutionally required that water diversions must be ultimately applied to a reasonable and beneficial use, it is not necessary to specifically identify the use of those molecules. This is distinguishable from groundwater banking where it is important to identify the ultimate pumper of the stored water because use of the stored water is the property of the entity banking the groundwater. In contrast, groundwater recharge means the entity conducting the recharge is contributing the water to the benefit of the basin (the water is converted legally and practically to groundwater) and does not expect or receive the direct benefit of the resulting groundwater recharge.

A more efficient, and just as effective, means of ensuring water being used for groundwater recharge will ultimately be put to beneficial use is to allow an applicant for a temporary permit to provide information supporting a finding that the recharged water will be beneficially used. This may be done by providing information supporting (a) that recharged water will augment the aquifer, and (b) that water pumped from aquifer is beneficially used. This information could support the required finding by the SWRCB that the water will be put to beneficial use, while at the same time removing a significant obstacle to groundwater recharge in furtherance of the purposes of SGMA.

- *Past permits have relied on previously developed groundwater models or existing groundwater monitoring systems to estimate beneficial use, but not all applicants will have these resources. How does an applicant who does not have a groundwater model or a monitoring system in place demonstrate beneficial use?*

A groundwater model should not be required to support a finding of beneficial use. In circumstances where the water is intended to recharge the basin, such an exercise is largely academic and provides little practical benefit. The essential requirement is showing that the recharged water is going to recharge the aquifer instead of otherwise disappearing (e.g. evaporation, running off, etc.), and that groundwater pumped from the aquifer is being beneficially used (e.g. not recharging a salt sink or basin with no pumping, etc.). This can be accomplished efficiently and effectively for purposes of a temporary permit without a model by relying on existing information.

In many instances adequate information is available in Bulletin 118, local groundwater management plans and USGS basin reports, among other private and public sources. While providing sufficient information to indicate that groundwater pumped from the basin will ultimately be put to beneficial use is important, for purposes of a

temporary permit for groundwater recharge, this should not be a significant obstacle. Groundwater hydrology is complex and, at least in basins where a basic understanding of the hydrology exists, limited resources should not be absorbed trying to prove how the applied water will be used, leaving insufficient resources to actually conduct a groundwater recharge project.

- *Regarding accounting for beneficial use of stored water, how may a diverter identify and report that water is being extracted under a temporary permit versus another basis of right?*

This question highlights the problem of requiring all groundwater recharge to be considered groundwater banking. Referring back to the two terms, groundwater banking means the water retains its legal characterization as surface water, which must be reported. For purposes of a temporary permit for groundwater recharge, once the water is in the ground, there is no meaningful benefit to identifying with specificity where that water goes, except to ensure that the water is not wasted. Of course, monitoring and reporting may be appropriate in some instances, but rigid monitoring requirements should not be implemented.

- *Should there be a different level of accounting based on the end use of the water or any other aquifer characteristics?*

So long as it can be established that the applied water is augmenting the basin and that water pumped from the basin is beneficially used, extraction accounting should not be required for groundwater recharge regardless of the end use. The added burden of accounting for extracted water is resource intensive, impossible to accurately quantify on a molecule by molecule basis, and provides no meaningful benefit to the administration of water rights.

<u>Expedited Processing, Water Availability, and Thresholds for Diversions</u>

1. Should there be an expedited process for diversion of higher flows versus available flows? An expedited process for temporary permits targeted at diversion of high flows may allow for a more streamlined permitting process; however, determining the flow at which diversions begin or must end for a particular surface water source may be complicated in many watersheds.

Yes. In order to make groundwater recharge accessible and affordable while protecting existing water rights and instream flows, the SWRCB should identify high flow thresholds above which the process for obtaining temporary permits for groundwater recharge is streamlined. It would be very helpful to potential applicants if

these thresholds could be identified pursuant to a process that can be easily and efficiently implemented in advance of an application being filed. (See tiered concept below.)

2. What approaches could be used to determine the availability of excess stream flow for a project? In some cases, unusually high flows may already be allocated to senior users.

The SWRCB should consider identifying tiers that correlate the flow threshold to the required analysis of available water. This would ensure that the burden on an applicant for a temporary permit is correlated to the potential to impact other uses. Below are three possible tiers the SWRCB may consider identifying to guide applicants for a temporary permit for groundwater recharge.

Tier 1 – High Flow Conditions: The SWRCB should identify a high flow stage (see below) above which an applicant may obtain a permit based only on streamflow being above the identified stage. While this approach requires the lowest burden of demonstrating water availability, it also likely offers the least number of days when water is available to divert. However, ensuring that there is a very accessible means to actually divert some water will help entities and individuals engage in groundwater recharge.

Tier 2 – Identified Right Conditions: A second tier should be identified where flows are high enough that existing rights are clearly protected, but lower than the high flow conditions. In this tier, with a somewhat higher burden, applicants would need to provide additional information showing existing water rights are protected. However, the full water availability analysis required in typical permitting would not be mandated. The two applications approved in 2016 may fit in this category.

Tier 3 – Other Conditions: In all other situations utilize the current approach to water availability analysis.

3. How may thresholds be determined to differentiate high versus available flows? Some examples of a threshold could include a stream's identified "monitor stage", being at or above bank-full flow, exceedance probability, hydrological indices, or other stream-specific criteria.

A tiered approach allows the risk of potential impacts to existing rights and uses to be correlated to the burden of identifying that flows are available to divert. Under that approach, the following are ideas about how to identify thresholds under the tiers proposed above:

Tier 1 – High Flow: The appropriate stage for the most streamlined authorization of temporary permits should include alternative approaches that will maximize the

opportunities for diversions that pose no risk to water rights or uses. These could include:

- Flood releases – Water released from a reservoir under flood operations should be available for temporary permit.
- High stage – A portion of the "action" or "monitor" stage of a gage established by NOAA.[6] Because the action and monitor stages identify points when a response to potential flooding is appropriate, this stage significantly exceeds what should be considered a "high flow" condition. The SWRCB should consider whether a threshold such as 50% of the "action" or "monitor" stage is sufficiently protective of existing water rights and public trust obligations.

Tier 2 – Water Right Exceedance: A temporary permit applicant can divert water when there is information indicating existing water rights will not be impacted.

- The conditions in both scenarios of temporary permits approved in 2016 could fit in this category.
- The information utilized by the SWRCB to identify water demand to support curtailment notices should be sufficient, perhaps with a margin of safety, when existing rights will not be impacted.[7]
- Information contained in DWR's "Water Available for Replenishment Report" due December 2016, may be sufficient to support a temporary permit.

Tier 3 – Full Analysis: For other situations, current requirements would apply.

4. How should "channel forming" flows be protected? Salmonids and other aquatic and riparian species may require periodic, high "channel-forming" flows for maintaining stream channel geometry, transport of gravel and woody debris, aquatic habitat, and natural flow variability.

The first approach to considering channel forming flows should be to assess whether the capacity of the diversion infrastructure is sufficiently large to meaningfully impact channel forming flows. As a practical matter, the capacity of the diversion infrastructure, combined with the need to avoid diverting peak flows because of sediment load concerns, mean that channel forming flows will not be functionally impaired. To the extent particular practices need to be identified, e.g. waiting to divert until after peak flows on the downward side of the hydrograph, these could be included in the permit terms.

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[6] According to NOAA's glossary (http://w1.weather.gov/glossary/), the terms "action stage" and "monitor stage" are similar, but may differ in application according to local practice.

[7] http://www.waterboards.ca.gov/waterrights/water_issues/programs/drought/analysis/docs/yubatrib_2015.pdf

Conclusion

As California works toward achieving groundwater sustainability, both groundwater recharge and groundwater banking will be important parts of the solution. The SWRCB's efforts to improve the system for temporary permits is consistent with the Legislature's intent in SGMA to "increase groundwater storage and remove impediments to recharge" and should be expanded.

Thank you for considering Farm Bureau's comments. Please contact Jack Rice with any questions at jrice@cfbf.com or (916) 561-5667.

Very truly yours,

Jack L. Rice
Associate Counsel

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