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To: [COOK Nirvana * WRD](#)
Subject: WRC Dec 3, 2021 Followup Comments Regarding Agenda Item G
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December 4, 2021

To Water Resources Commission (WRC) Chair Reeves and Commissioners, and Water Resources Department (WRD) Director Byler:

After watching the Discussion on Groundwater Allocation, Agenda Item G, during the December 3rd WRC meeting I have these followup comments.

I feel that some additional factors need to be considered as the WRD moves forward with groundwater management improvements including water quality, subsidence, and satellite monitoring.

Groundwater quality can include such issues as salt water intrusion, layers of salty water, and pollution. Along the coast some wells may be in danger of being contaminated with sea water intrusion depending on well locations, drawdown levels, and the cone of depression sizes. The WRD should analyze this hazard when wells near the coast are drilled and/or permitted. Some aquifers around the State may have various layers of water with different salinities. Wells should be constructed and located so that poor water quality does not mix with layers of good water quality. Also shallow groundwater can be contaminated with chemicals under various situations of land use practices. All of these situations can affect groundwater and well sustainability, and can be permanent. Therefore, the WRD should consider these issues in rule making, permitting, and planning.

In cases of overdraft groundwater can drop and land subsidence can occur both at ground level and below ground. This can cause infrastructure damage on the surface to buildings, roads, pipelines, etc. Below ground subsidence or collapse can cause a reduction of aquifer storage capacity. These damages are permanent. This needs to be considered and monitored.

Finally, new satellite technologies now allow for cost effective monitoring of both groundwater levels and surface subsidence from space over wide areas. The WRD should use this technology where appropriate.

Sincerely,

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