

Dennis Ghiglieri
619 Robinson Ct
Reno, NV 89503

October 17, 2017

Susan Joseph-Taylor
Office of the State Engineer
901 S. Stewart St. Suite 2002
Carson City, NV 89701

RE: *Additional comments on Nevada State Engineer's Remand Hearing for SNWA groundwater export applications in Spring, Cave, Dry Lake, and Delamar Valleys*

The BLM's DEIS (2011) and FEIS (2012) documents the many environmental and social impacts that would be created by the SNWA's proposed groundwater export project (Chapter 4 and detailed in various chapters and appendices). These impacts are described by the BLM as "irreversible and irretrievable resource commitments" should the project ever be implemented in Spring, Cave, Dry Lake, and Delamar Valleys.

It is clear from modeling that groundwater in Cave, Dry Lake, and Delamar Valleys is already committed to the down-gradient valleys that are fully appropriated. Further, groundwater is flowing down-gradient to other basins all the way to springs in Moapa that supply the Muddy River.

Spring Valley supports many acres of grasslands, woodlands, and shrublands. It has many springs and acres of sub-irrigated meadows and perennial and seasonal creeks that make up the environment and constitutes the ecosystem that has persisted for millennia. Snake Valley is down-gradient and receives groundwater flow from Spring Valley. All these features are adversely affected by the State Engineer's previous rulings which were rejected by the NV District Courts.

The "mitigation" offered in the hearing lacks specific time frames and defined actions (such as triggers) to protect the environment. It is clear from the BLM documents and evidence at the hearing that the project is not environmentally sound at the amounts previously approved by the State Engineer for export.

The following impacts are identified in the DEIS and FEIS from alternatives similar to the State Engineer's previous rulings that were rejected by the NV District Courts.

- groundwater pumping causes groundwater level declines for 200 years with no equilibrium reached during that time frame.
- groundwater pumping causes groundwater level declines of more than 100 feet in Spring and Cave Valleys with no equilibrium reached during the 200 year time frame.
- groundwater pumping causes long-term loss of vegetative cover over many thousands of acres from groundwater drawdown resulting in increased dust and a reduction of air quality.
- groundwater pumping causes long-term subsidence which is estimated to exceed 5 feet and affect more than 100,000 acres. Subsidence of this magnitude would prevent restoration of the groundwater to pre-pumping levels regardless of cessation of pumping in the future.
- groundwater pumping causes irretrievable loss of groundwater stored in aquifers resulting in

significant flow reductions or drying up both regional and local springs and perennial streams (in both the targeted valleys and adjacent down-gradient valleys).

- groundwater pumping *already occurring* in these and other groundwater basins will result in decreases in regional springs and local springs even without the proposed SNWA groundwater export project raising red-flags about the sustainability of current groundwater extraction.
- groundwater pumping causes groundwater drawdown which reduces or eliminates groundwater that "sustains hydric soils on a long-term basis...".
- groundwater pumping will reduce or eliminate wetland and wet meadow and phreatophytic shrub cover and vegetation associated with springs and streams. (The analysis by the BLM concluded that the effects are irreversible within 500 years.)
- groundwater pumping will reduce or eliminate surface water for wildlife. The loss, reduction, or degraded quality of wetland and phreatophytic shrub vegetation will result in adverse changes in habitat quality and affect habitat carrying capacity, cover, breeding sites, foraging areas, and animal displacement on a long-term basis.
- groundwater pumping will result in the loss of aquatic habitat and species in perennial springs and streams.
- groundwater pumping will cause an irreversible loss of water sources for livestock from loss of water flow or water quality of springs and streams and loss of wetlands and meadow complexes supported by the current groundwater levels.
- groundwater pumping would result in groundwater level reductions and could affect surface water and vegetation on public lands and private lands. Senior water rights will be diminished causing local community income declines as agricultural production from existing private ranches decreases.
- groundwater pumping will cause long-term flow reductions or drying of perennial springs and streams limiting future public land management actions and designations for surface water resources.
- groundwater pumping causes a reduction of recreation opportunities on public lands where spring and stream flows are reduced or dried up.
- groundwater pumping would significantly alter or eliminate landscapes consisting of wetlands, groundwater-supported sub-irrigated meadows, and phreatophytic shrubs.
- groundwater pumping would impact spiritual and religious practices of Native Americans by reducing or eliminating surface water, vegetation, forests, wildlife and fish.

As I said in my testimony in September, the ultimate outcome of groundwater pumping is not a mystery and has been well documented by the BLM and the evidence presented at the numerous hearings conducted by the State Engineer. The ecosystems supported by current groundwater levels will be lost. Groundwater pumping cannot be sustainable because equilibrium will not be reached for hundreds of years and even cessation of pumping in the future will not result in a recovery of the groundwater levels commensurate to re-establish the current environment. Further, the people who depend on current groundwater resources will not be able to sustain themselves and will suffer economic loss from the degradation of the environment. The project is not environmentally sound.

I once again urge the State Engineer to deny the SNWA applications for groundwater pumping for export.

Sincerely,


Dennis Ghiglieri

STATE ENGINEERS OFFICE
2017 OCT 19 PM 12:14

RECEIVED