



September 30, 2024

Governor Katie Hobbs  
c/o General Counsel Bo Dul [bdul@az.gov](mailto:bdul@az.gov)

Arizona Department of Water Resources Director Thomas Buschatzke  
[tbuschatzke@azwater.gov](mailto:tbuschatzke@azwater.gov)

Dear Governor Hobbs and Director Buschatzke,

**RE: The Governor and the Arizona Department of Water Resources Director  
have violated their obligation to review and to revoke the St. David  
Springs' April 23, 2009, Analysis of 100-year Adequate Water Supply.**

### EXECUTIVE SUMMARY

The Governor and the Director of the Arizona Department of Water Resources ("ADWR") have violated their obligation to review and to revoke the [St. David Springs' April 23, 2009, Analysis of Adequate Water Supply](#) ("Analysis") because (1) San Pedro Riparian National Conservation Area ("SPRNCA") federal reserved water rights have now been quantified; (2) the extraction of the groundwater supplying the St. David Springs development comes from the aquifer hydrologically connected to SPRNCA, (3) the extracted groundwater will violate SPRNCA federal reserved water rights; and (3) ADWR's Analysis does not include consideration by ADWR of SPRNCA quantified federal reserved water rights.

On August 9, 2018, the [Arizona Supreme Court held](#) that ADWR "is not required to consider unquantified federal reserved water rights when it determines what a developer has an adequate water supply."

But as of August 25, 2023, with issuance by the Adjudication Court of its "[ORDER QUANTIFYING FEDERAL RESERVED WATER RIGHTS FOR SAN PEDRO](#)

[RIPARIAN NATIONAL CONSERVATION AREA](#), SPRNCA quantified federal reserved water rights must be considered in ADWR's determinations of the 100-year adequacy of water supply.

St. David Springs' Analysis must now be revoked because (1) the groundwater extracted for the St. David Springs development will come from an aquifer groundwater hydrologically connected to SPRNCA water preserved by federal reserved water right; (2) the amount of water reserved for SPRNCA has already been reduced below mandated levels; (3) and consequently, because water reserved for SPRNCA has already been reduced below mandated levels, water is not legally available to develop St. David Springs.

### **FACTUAL BACKGROUND**

According to ADWR's Analysis, "[t]he ... development includes 708 single-family residential lots...[and] "the development of 249.92 acre-feet [of groundwater] per year."

We sent you similar complaints regarding the review and revocation of other designations or adequacy analyses on [July 16, 2024, regarding the Pueblo Del Sol 100-year Designation of Water Adequacy](#); [August 30, 2024, regarding the Buffalo Soldier Ranch 100-year Designation of Water Adequacy](#); [September 9, 2024, regarding Ranchos San Pedro 100-year Designation of Water Adequacy](#); [September 9, 2024, regarding Kinjochity Ranch's 100-year Designation of Water Adequacy](#); [September 12, 2024, regarding Babocomari Development Group's Babobomari Subdivision](#); and [September 16, 2024, regarding the City of Benson's July 14, 2008, Designation of Water Adequacy for the Vigneto development](#).

We have sent you these complaints frustrated that the Governor and the ADWR Director have (1) done nothing to respond to the August 25, 2023, Adjudication Court's [Decree](#) with respect to the many inaccurate water supply designations and analyses, and (2) have done nothing to revoke water supply designations and analyses within the Upper San Pedro Basin to protect SPRNCA water rights.

Four hydrology studies document connectivity between the groundwater pumping for St. David Springs and SPRNCA.

These four studies, are, (1) "[Evaluation of Impacts of Proposed Well Pumping at the Villages of Vigneto Development, southwest of Benson, Arizona on Groundwater beneath the Saint David Cienega, in the Northern San Pedro River National Conservation Area](#)" by Robert H. Prucha ("Prucha (2016)"); (2) "[A Stable Isotope Study of Groundwater and Surface Water Near the St. David Cienega, San Pedro Valley, Arizona](#)," by Chris Eastoe ("Eastoe (2017)"), (3) "[Potential Impacts of the Groundwater Pumping related to the Villages at Vigneto on Surface Water resources along the San Pedro River](#)" by Thomas Meixner ("Meixner (2018)"), and, "[Sources of Perennial Water Supporting Critical Ecosystems, San Pedro Valley, Arizona](#)", by Chris Eastoe, ("Eastoe (2020)").

Prucha (2016) says,

It is clear that the spring occurs above the invert (thalweg) of the San Pedro river about 36 feet, suggesting that the source of spring flow may be different than from the San Pedro river. ...

...one possibility is that groundwater upwells from deeper basin groundwater as the groundwater flow beneath the San Pedro encounters shallow bedrock and the relatively thick sequence of lower permeability fine- and medium-grained material (i.e., Figure 12 in Dickinson, et al, 2010). ...

Figure 9 shows the bedrock surface as included in the Goode and Maddock, 2000 Modflow model, which was mapped into the Feflow finite element model (as shown). The bedrock configuration could offer some explanation for the occurrence of spring flow within the Saint David Cienega, where groundwater flowing from the southern deeper basins (i.e., Huachuca and Tombstone) is forced upwards to the ground surface, due to the lower underlying bedrock permeability. ...

From Figure 12, in Cordova et al, 2013, shows a vertical profile from north to south, mostly along the San Pedro River. Wells toward the south (~80000 m), beneath Saint David Cienega, appear screened within the bedrock, implying the bedrock is somewhat permeable (i.e., weathered crystalline, sedimentary or limestone)." ...

Eastoe (2017) says,

“Warm groundwater discharging into wetlands at the St. David Cienega and the Dunlevy wells has stable O and H isotopes consistent with those of water originating from a confined aquifer beneath a unit of clay present under much of the Middle San Pedro Basin. Groundwater from the confined aquifer beneath the St. David area has a variety of isotope compositions, suggesting compartmentalization of the aquifer. Large increases in groundwater withdrawal from adjacent areas of the confined aquifer would bring a risk of drying the wetlands, removing riparian water, and diminishing the water supply for other users. ...

An important hydrogeological feature of the Benson sub-basin is the thick layer of impermeable clay separating sandy and gravelly clastic basin-fill units above and below. Near St. David, the clay is about 100 m thick (Fig. 1b), and it crops out in the bed of the San Pedro River immediately south of Escalante Crossing. The overlying clastic sediments are thin in this area, but form a shallow, unconfined riparian aquifer beneath the river channel. The clastic sediment layer beneath the clay forms a confined aquifer. Infiltration of groundwater from the upgradient (south or west) side of the study area generates artesian pressure beneath the study area, as suggested by the slope of the clay layer in Fig. 1b. Therefore water from the confined aquifer can flow to the surface where channels are present, either through fractures penetrating the clay, or by way of uncapped wells. ...

Implications for groundwater development. A small number of large-yield wells drawing from the confined aquifer may in the future be constructed in a limited area for a large real estate development. Benson already exploits this resource. The apparent compartmentalization of the aquifer notwithstanding, the effects of large extractions of groundwater in one area will propagate outwards through the confined aquifer. Eventually, static water levels will fall to a extent that causes drying of existing springs and seeps, and the disappearance of artesian water. ...

In the St. David area, the environmental consequences of a large increase in groundwater extraction are likely, eventually, to include:

- (1) The drying of the St. David Cienega and Dunlevy wetlands.
- (2) The replacement of upward water flow in river-bed seeps by downward flow, removing water from the riparian area. Two such seeps have been identified in the St. David area, and others exist downstream (Hopkins et al., 2014). ...

Meixner (2018) says,

“Prucha’s modelling illustrates how the capture process would likely work in the San Pedro basin. In particular, the modelling demonstrates how the confining fine layer present in the basin would affect the location and timing of capture. This confining layer is present in much of the center of the basin (Cordova et al. 2013) but is not present near the St. David Cienega nor near the downstream exit of the aquifer system near “the Narrows”. ...

At the downstream end the clay layer connects to the bedrock (Figure 3) indicating difficulty for water to be easily discharge from the lower confined aquifer at the northern and downstream end of the basin. The thinning of the layer towards the upstream end and the fact that the confining layer appears to completely disappear in and around the St. David Cienega means that the geologic structure of the basin facilitate a connection between the confined aquifer and the river in and around the St. David Cienega. ...

The previous Environmental Assessment prepared by the U.S. Army Corps of Engineers concluded that the confining layer as modeled by Golder and Associates would prevent any impact to the San Pedro River from pumping at the Vigneto site. This conclusion was based on the assumption that the groundwater aquifer was not connected to the unconfined aquifer that feeds the San Pedro River. This conclusion now appears to be false based on two independent pieces of data. The first piece of evidence is the Prucha modeling results, which indicate pumping would impact discharges from the confining layer to the surface near St. David. The second piece of evidence is the isotopic results from Eastoe

(2017), which indicate that the water discharged at the St. David Cienega is isotopically similar and thermally similar to the confined aquifer in the area of St. David, as tested by Hopkins et al. (2014) (Figure 4). These isotopic results confirm that there is a hydrologic connection between the confined aquifer and the surface flow system of the San Pedro at St. David. These results also offer further confirmation of the Prucha modelling results.” ...

Eastoe (2020) says,

“The decrease in base flow partly reflects regional long-term drought, which has been exacerbated by pumping. Additional groundwater demand from urban growth upstream of Benson is likely to cause further decline of base flow near St. David and Sierra Vista. ...

In area 2, likely effects of over-exploitation include reversal of groundwater flow from the confined aquifer, draining of shallow riparian groundwater from the riverbed alluvium, reduction or elimination of perennial flow in the river, and drying of the St. David Cienega. A change in head of 1–2 m (typical floodwater depth) may be enough to reverse the direction of groundwater flow, on the indication of changes in isotope composition of the seeps at Escalante Crossing. Loss of perennial flow in this area would eliminate the only dependable source of surface water between the Tombstone gauge and Red Rock Creek, a distance of 65 km. ...

CONCLUSIONS ... In area 2, near St. David, base flow is a combination of water from area 1, local bank storage, and deep-basin groundwater. Small changes of head in the deep-basin groundwater in this area will result in reversal of groundwater flow and recharge to the deep-basin aquifer from the riverbed.” ...

The August 25, 2023, the Adjudication Court Order quantified SPRNCA federally reserved water rights and required that groundwater levels be maintained at nine monitoring wells within SPRNCA.

In its August 25, 2023, Order, the Adjudication Court published the following table after stating, “...the United States is decreed a federal reserved

water right to the following groundwater elevations at nine monitoring wells within SPRNCA for the protection of the riparian area:"

Well Name	Location	Elevation at Top of Casing (ft.) (Datum: NAD83, NAVD88, GEOID03)	Water Level Elevation (ft.)
Palominas Well #5	31°20' 40.63704" -110° 08' 03.50040"	4267.6	4246.1
Hereford South monitoring well	31 ° 26' 23.09794" -110° 06' 29.80706"	4153.4	4143.9
Hereford North monitoring well	31° 26' 38.29823" -110° 06' 26.63238"	4155.1	4145.7
Cottonwood monitoring well	31° 31' 10.56285" -110° 07' 46.70368"	4087.1	4070.7
Lewis Springs monitoring well	31 ° 33' 10.83449" -110° 08' 18.97124"	4049.9	4040.9
Moson Spring monitoring well	31° 36' 42.38970" -110° 10' 03.33506"	3989.25	3975.5
Boquillas #2 monitoring well	31° 40' 59.98193" -110° 11' 22.02455"	3896.95	3879.05
Boquillas #1 monitoring well	31° 41' 23.56147" -110° 11' 11.74585"	3878.0	3862.2
Summers monitoring well	31° 47' 34.61492" -110° 13' 03.70638"	N/A	3717.3

Four of nine SPRNCA monitoring wells have fallen below court-mandated levels in violation of federal water rights. And water levels in a fifth well are on a downward trend and edging closer to a violation.

The declining water levels show that the area's [historic cumulative groundwater pumping](#) of approximately 2 million acre-feet since 1940 is overtaking efforts to mitigate the local groundwater extraction.

The declining water levels are consistent with the predictions of every recent hydrology study, [MacNish, et al \(2009\)](#), [GeoSystems \(2010\)](#), [Lacher \(2011\)](#), [Meixner and Randle \(2014\)](#), [USGS \(2014b\)](#), [Integrated Hydro \(2016\)](#), [USGS \(2017\)](#),

[Eastoe \(2017\)](#), [Meixner \(2018\)](#), [Lacher \(2018\)](#), [Eastoe \(2018\)](#), [Integrated Hydro \(2019\)](#), [Eastoe \(2020\)](#), and [USGS \(2020\)](#), which document the failing health of the San Pedro River owing to the capture or interception of SPRNCA water by local wells.

The City of Sierra Vista and Cochise County promised to [“balance the area’s water deficit by 2011.”](#) They [admitted their failure](#) in 2014.

But just balancing the water budget [will not make up for the Fort’s, the Sierra Vista’s and Cochise County’s massive historic groundwater pumping deficits](#).

The latest SPRNCA monitoring well water levels and the mandatory water levels for the violated monitoring wells are:

[Palominas #5](#), 4,244.1 feet (mandatory level 4,246.1 feet) (June 14, 2024)

[Cottonwood](#), 4,067.13 feet (mandatory level 4,070.7 feet) (June 24, 2024)

[Boquillas #2](#), 3,878.28 feet (mandatory level 3,879.05 feet) (June 20, 2024)

[Summers](#), 3,715.48 feet (mandatory level 3,717.3) (June 20, 2024)

The [Lewis Springs monitoring well](#) is reflecting a downward water level trend with a water level of 4,041.39 feet on June 24, 2024, where the mandatory water level is 4,040.9 feet.

## CONCLUSION

In its August 9, 2018, Opinion, the Arizona Supreme Court observed that that “reserved water rights doctrine restricts the otherwise permissible reasonable and beneficial use of groundwater, codified in § 45-453, to the extent required to preserve the waters necessary to accomplish the purpose of a federal reservation.”



Obviously, SPRNCA federal reserved water rights are being violated. St. David Springs' groundwater pumping will only make the situation worse.

The responsibilities of the Governor and the ADWR Director and the A.R.S. statutes being violated by the Governor and the ADWR Director with respect to failure to reevaluate and revoke the Analysis are essentially identical to those clearly laid out in our [August 15, 2024, Complaint for Special Action, Declaratory and Injunctive Relief](#) regarding the Pueblo Del Sol 100-year Designation of Adequate Water Supply.

We hope that the Governor and the ADWR Director will choose to obey the law requiring reevaluation and revocation of the Analysis.

Besides the analyses for St. David Springs, for the designations or analyses for Pueblo Del Sol, Buffalo Soldier Ranch, Ranchos San Pedro, Kinjockity Ranch, Babocomari Subdivision, and the City of Benson/Vigneto, ADWR has issued another 63 other 100-year designations or analyses since November 11, 1988, when the [U.S. Congress created SPRNCA](#) "to protect the riparian habitat" reserving "a quantity of water sufficient to fulfill the purposes of" SPRNCA and ordering that the "Secretary [of Interior] shall file a claim for the quantification of such rights in an appropriate stream adjudication."

The ADWR website at, <https://www.azwater.gov/aaws/aaws-overview>, states,

"The **Adequate Water Supply Program** operates outside of the AMAs. It ensures that the water adequacy or inadequacy is disclosed in the public report provided to potential first purchasers and that any water supply limitations are described in promotional or advertising material."

A.R.S. § 44-1522 states,

“Section 44-1522 - Unlawful practices; intended interpretation of provisions ... The act, use or employment by any person of any deception, deceptive or unfair act or practice, fraud, false pretense, false promise, misrepresentation, or concealment, suppression or omission of any material fact with intent that others rely on such concealment, suppression or omission, in connection with the sale or advertisement of any merchandise whether or not any person has in fact been misled, deceived or damaged thereby, is declared to be an unlawful practice.”

In the [January 8, 2024, State of the State address](#), as Governor, you said,

“... for too long, we have allowed development that skirted our smart and commonsense consumer protections for water availability.” ...

Nonetheless, for St. David Springs, as well as for Pueblo Del Sol, Buffalo Soldier Ranch, Ranchos San Pedro, Kinjockity Ranch, Babocomari Subdivision, and the City of Benson/Vigneto homeowners, and for the other 63 designations or analyses, consumer protections are being ignored.

We copy Attorney General Kris Mayes with this correspondence to assure that you stop violating Arizona’s consumer protection statute, A.R.S. § 44-1522.

Please let us know if you will be initiating a review of the Analysis for St. David Springs voluntarily or if you need us to file another lawsuit to force you to obey the law.

If you have any questions, please contact, Dr. Robin Silver at (602) 799-3275; or [rsilver@biologicaldiversity.org](mailto:rsilver@biologicaldiversity.org).

Sincerely,



Robin Silver, M.D.

Co-Founder and Board Member

CC: Arizona Attorney General Kris Mayes