The Nature Conservancy
Protecting nature. Preserving life.™

THE NATURE CONSERVANCY

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April 30, 2024

Senator Julie Pazina, Chair and Committee Members
Interim Committee on Natural Resources

Subject: Groundwater Rights Retirement and Groundwater Conservation Easements

Dear Senator Pazina and Members of the Interim Natural Resources Committee,

Thank you for the opportunity to share information about groundwater rights retirement and groundwater conservation easements as potential tools for addressing water sustainability in Nevada. The Nature Conservancy's mission is *to conserve the lands and waters on which all life depends*, and water resources in our water-limited state are a critical aspect of achieving that mission. We analyzed groundwater level trends in over 6,500 wells with sufficient data across the state and found that 39% had significantly declining groundwater level trends between 1984 and 2021 (Saito et al. 2022), so we know that impacts of groundwater overuse are already being seen in some places. Policy strategies may be helpful for managing and sustaining groundwater-dependent ecosystems in Nevada (Saito and Munn 2023), including having a toolbox of options to resolve conflicts with existing water right holders and detriments to natural resources to provide flexibility and multiple benefits.

We asked attorney Debbie Leonard of Leonard Law PC to investigate two questions regarding groundwater rights retirement and groundwater conservation easements. We have attached her analysis and summarize her key findings here:

1. *Do the Nevada Revised Statutes already provide a mechanism by which groundwater rights can be permanently removed from use and rendered unavailable for future appropriation? If not, what statutory language would be necessary to allow for permanent retirement of groundwater rights?* A statutory change is probably warranted to ensure that groundwater rights purchased for retirement are not available for future appropriation.

2. *Does Nevada's conservation easement statute provide for groundwater conservation easements? If not, what statutory language would be necessary to allow for a groundwater conservation easement?* Nevada's water law does not explicitly allow for protection of groundwater resources in situ, so a statutory change is needed to ensure a groundwater conservation easement serves intended conservation purposes.

We are also attaching a summary of voluntary groundwater rights retirement programs or legislation in Oregon, Colorado, and Kansas. We have asked Colorado State Senator Cleave Simpson who is also the General Manager of the Rio Grande Water Conservation District, and Mr. Steve Frost, Director of the Kansas Department of Agriculture, to share experiences with groundwater rights retirement in their states with you during your session on May 10, 2024.

We hope these items will be useful as you consider ways to help Nevada develop effective tools to address water sustainability for people and nature. Please contact me at laurel.saito@tnc.org or 775.453.6903 if you have any questions. Thank you for addressing these critical issues.

Sincerely,

Laurel Saito

Laurel Saito, Ph.D., P.E.
Nevada Water Strategy Director
The Nature Conservancy in Nevada

cc: Jaina Moan, External Affairs Director, The Nature Conservany

Attachments:

Memorandum from Leonard Law PC
Examples of voluntary groundwater rights retirement in other states

References:

Saito L, Byer S, Badik K, Provencher L, McEvoy D. 2022. Stressor and Threat Assessment of Nevada Groundwater Dependent Ecosystems. Reno, Nevada: The Nature Conservancy. Available at https://www.groundwaterresourcehub.org/where-we-work/nevada/nevada-gde-stressor-threat/

Saito L, Munn L. 2023. Strategies for Managing and Sustaining Groundwater-Dependent Ecosystems in Nevada. Reno, Nevada: The Nature Conservancy. Available at https://www.groundwaterresourcehub.org/where-we-work/nevada/strategies-for-managing-and-sustaining-gdes/

Leonard Law
advocacy and mediation

TO: Laurel Saito, The Nature Conservancy
FROM: Debbie Leonard
DATE: March 28, 2024
RE: Nevada Statutory Framework for Groundwater Conservation Easements

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I. Scope

You asked me to investigate and analyze the following questions:

1. Do the Nevada Revised Statutes already provide a mechanism by which groundwater rights can be permanently removed from use and rendered unavailable for future appropriation? If not, what statutory language would be necessary to allow for permanent retirement of groundwater rights?

2. Does Nevada's conservation easement statute provide for groundwater conservation easements? If not, what statutory language would be necessary to allow for a groundwater conservation easement?

II. Short Answers

Question 1: Existing statutory language does not recognize "retirement" or non-use of groundwater rights as a beneficial use. Although certain regulatory conditions might allow for the effective "retirement" of groundwater rights, a statutory change is probably warranted to ensure water rights purchased for retirement are not available for future appropriation.

Question 2: Nevada's conservation easement statute is based on the model form and does not explicitly allow for the protection of groundwater resources in situ. Because Nevada water law requires beneficial use of groundwater to avoid forfeiture or abandonment, I believe a statutory change is necessary to ensure a groundwater conservation easement serves its intended conservation purposes.

III. Analysis

A. QUESTION 1

1. Concepts in Nevada Water Law Pertinent to Groundwater Retirement

Two particular concepts in Nevada water law affect the ability to "retire" groundwater rights and prevent the water under those rights from being appropriated by others. The first is beneficial use and the second is loss of rights due to non-use, either through forfeiture or abandonment.

a. Beneficial Use

Beneficial use is defined as "the basis, the measure and the limit of the right to the use of water." NRS 533.035. Acceptable and recognized beneficial uses are defined both by statute and by "longstanding custom." *See State v. Morros*, 104 Nev. 709, 716, 766 P.2d 263, 267 (1988). Although surface water can be beneficially used in situ and there is no "absolute diversion requirement" for a water appropriation (*see id.*), the concept of beneficial use presupposes that a water appropriation actually puts the water to some use that is in the public interest.

For example, NRS 534.020(1) provides: "All underground waters within the boundaries of the State belong to the public, and, subject to all existing rights to the use thereof, **are subject to appropriation for beneficial use only under the laws of this State relating to the appropriation and use of water and not otherwise**." *Id.* (emphasis added). "A legal right to appropriate underground water for beneficial use … can only be acquired by complying with the provisions of chapter 533 of NRS pertaining to the appropriation of water." NRS 534.080(1). The quantity of water that can be appropriated "shall be limited to such water as shall reasonably be required for the beneficial use to be served." NRS 533.070(1).

The Nevada Revised Statutes recognize the following beneficial uses:

BENEFICIAL USE	STATUTORY REFERENCE
Irrigation	NRS 533.070(2)
Livestock	NRS 533.340(5) NRS 533.490
Municipal	NRS 533.360(3)(a)
Quasi-municipal	NRS 533.360(3)(a)
Hydroelectric power generation	NRS 533.335(3)(b)
Industrial	NRS 533.360(3)(a)

BENEFICIAL USE	STATUTORY REFERENCE
Mining	NRS 533.340(4)
Wildlife	NRS 533.023
Recreation	NRS 533.030(2)
Environmental	NRS 533.437
Improvement in water quality or flow (temporary conversion of agricultural rights)	NRS 533.0243

Although water "may be stored for a beneficial purpose" (NRS 533.055), the Nevada Revised Statutes do not recognize storage on its own as a beneficial use. *See id.*; NRS 533.440 (describing process for applying for a secondary permit under which stored water will be put to beneficial use). Indeed, in the groundwater statutes, "stored water" is defined as "water which has been stored underground for the purpose of recovery pursuant to a permit issued pursuant to NRS 534.250," meaning for an aquifer storage and recovery project. NRS 534.016.

Groundwater conservation is not itself considered a beneficial use, and because maintenance of groundwater in the aquifer is indiscernible from non-use, absent a legislative change, it is unlikely that the State Engineer would recognize groundwater conservation as a beneficial use.[1]

[1] In limited circumstances, a viable argument might be possible that groundwater could be held in situ within the aquifer for wildlife purposes. "'Wildlife purposes' includes the watering of wildlife and the establishment and maintenance of wetlands, fisheries and other wildlife habitats." NRS 533.023. If TNC is able to show that maintenance of the groundwater in the aquifer would cause a spring to express itself at the surface and be a water source for wildlife, this could possibly be deemed a "wildlife purpose." However, because the spring would be considered a surface water source (that is presumably otherwise appropriated), the State Engineer is unlikely to approve a groundwater right for "wildlife purposes" unless it is diverted from a well and put to use on the land surface. As far as I know, holding a groundwater right *in situ* specifically for the benefit of surface resources is an untested concept under Nevada law. Moreover, other than what would qualify as "wildlife purposes" and improvement of water flow pursuant to NRS 533.0243, Nevada law does not recognize the maintenance of groundwater-dependent ecosystems, *per se*, as a beneficial use.

This is consistent with the notion that "any water used in this State for beneficial purposes shall be deemed to remain appurtenant to the place of use." NRS 533.040(1). An "appurtenance" is a real property term that refers, in this context, to a right that is attached to land: "A thing is deemed to be incidental or appurtenant when it is by right used with the land for its benefit, as in the case of a way, or water-course...." *Dermody v. City of Reno*, 113 Nev. 207, 209 n.1, 931 P.2d 1354, 1356 n.1 (1997), *quoting Mattix v. Swepston*, 127 Tenn. 693, 155 S.W. 928, 930 (1913). Based on NRS 533.040(1), groundwater could not just be held underground without an appurtenant place of use on the surface and without being put to use in that location.

In sum, the beneficial use requirement likely prevents TNC from acquiring and holding groundwater rights for the purposes of aquifer conservation. The State Engineer is unlikely to approve an application to change the point of diversion, place of use and manner of use of an existing groundwater right to one that is maintained underground without any beneficial use on land that is currently recognized under Nevada law.

b. Forfeiture and Abandonment

The second concept at issue is the loss of groundwater rights through non-use, either by forfeiture or abandonment or, for permitted (as opposed to certificated) water rights, by failing to demonstrate "good faith and with reasonable diligence to perfect the appropriation," which can result in cancellation of the permit. NRS 533.395(1). "[F]ailure for 5 successive years … to use beneficially all or any part of the underground water for the purpose for which the right is acquired or claimed, works a forfeiture of both undetermined rights and determined rights to the use of that water to the extent of the nonuse." NRS 534.090(1). Additionally, "[a] right to use underground water … may be lost by abandonment." NRS 534.090(6). "The party asserting abandonment bears the burden of proving, by clear and convincing evidence, that an owner of the water right intended to abandon it and took actions consistent with that intent." *King v. St. Clair*, 134 Nev. 137, 139, 414 P.3d 314, 316 (2018).

Forfeiture and abandonment are the flip side of beneficial use. Absent a recognized beneficial use to maintain water underground for conservation purposes, holding a groundwater right without putting it to beneficial use would be deemed non-use and subject the right to forfeiture, abandonment or cancellation. *See Min. Cnty. v. Lyon Cnty.*, 136 Nev. 503, 518, 473 P.3d 418, 429 (2020).

2. Retirement of Groundwater Rights

Because the maintenance of groundwater in the aquifer is unlikely to be deemed a beneficial use, and could subject the right to forfeiture, abandonment or cancellation for non-use, the only current process for achieving groundwater conservation is to request that the State Engineer accept a water right for "retirement." Nothing in the Nevada Revised Statutes currently recognizes the concept of water rights "retirement." However, in the context of the Nevada Water Conservation and Infrastructure Initiative ("NWCII"), in which the Nevada Department of

Conservation and Natural Resources is purchasing groundwater rights in overappropriated and overpumped basins for retirement, the State Engineer is creating a new form by which the Division of Water Resources will accept water rights for retirement.

In overappropriated basins, there is a fair amount of certainty that such retirement of groundwater rights will be effective at ensuring the retired water is never made available for new appropriations because commitments already exceed the perennial yield. However, there is nothing in the Nevada Revised Statutes that guarantees this outcome. Theoretically, a future State Engineer could determine that there is more water available to appropriate than currently believed. Or, groundwater decline could stabilize or an importation project might bring more water into a basin, causing a future State Engineer to approve new groundwater appropriations. Although factors such as overappropriation, overpumping, declining groundwater levels, subsidence, and climate change make this outcome unlikely, there is no absolute assurance under existing law that a groundwater resource accepted for retirement by the State Engineer will be protected from future appropriation.

In short, currently, there are only administrative – not statutory – assurances that retired water will be permanently protected underground for aquifer conservation. While the Nevada Revised Statutes have no barriers to the concept of groundwater retirement, they do not protect retired groundwater rights in perpetuity.

3. Proposed Legislative Amendments

There are different ways to approach a legislative amendment to ensure groundwater retirement is recognized by statute to prevent future appropriation.

First, "conservation" could be added as a statutorily recognized beneficial use. Possible language might be:

"Conservation purposes" includes in situ maintenance of groundwater underground with the goal of stabilizing a basin's groundwater level, preventing groundwater decline, or improving the condition of an aquifer. Once a groundwater right is changed to conservation purposes, it cannot thereafter be changed to any other use. Water rights appropriated or changed for conservation purposes are not subject to forfeiture, abandonment or cancellation. An easement for conservation, as defined in NRS 111.410, constitutes conservation purposes.

This approach would require TNC (or anyone else seeking to purchase groundwater rights for the purpose of groundwater conservation) to file a change application that would be subject to protest and denial by the State Engineer.

Another way to achieve the same purpose is to have the Legislature direct the State Engineer to accept groundwater rights for "retirement" and statutorily prohibit retired water from being appropriated by others. Possible language might be:

"*The State Engineer shall accept groundwater rights for permanent retirement. Any such retired groundwater shall not be available for any use or future appropriation*."

This language is similar to the concept found in NRS 533.0241, which the Legislature enacted in 2019 to set aside in reserve 10% of uncommitted groundwater rights in each basin in which there remains water uncommitted to any use.

An amendment to NRS 533.0243 may provide another tool for groundwater conservation. That statute allows for the "temporary conversion of agricultural water rights for wildlife purposes or to improve the quality or flow of water" for a duration not to exceed three years, which can be extended by the State Engineer. If the language is expanded to expressly encompass the condition of an aquifer, the statute could be used to protect conserved groundwater from being subject to forfeiture, abandonment or cancellation. Possible language might be (*in blue italics*):

NRS 533.0243 Temporary conversion of agricultural water for certain purposes: Legislative declaration; requirements; duration.

1. The Legislature hereby finds and declares that it is the policy of this State to allow the temporary conversion of agricultural water rights for wildlife purposes or to improve the quality or flow of water *or the condition of an aquifer*.

2. If a person or entity proposes to temporarily convert agricultural water rights for wildlife purposes or to improve the quality or flow of water *or the condition of an aquifer*, such temporary conversion:

(a) Must not be carried out unless the person or entity first applies for and receives from the State Engineer any necessary permits or approvals required pursuant to:

(1) The provisions of this chapter; and

(2) Any applicable decisions, orders, procedures and regulations of the State Engineer.

(b) Except as otherwise provided in this paragraph, must not exceed 3 years in duration. A temporary conversion of agricultural water rights for wildlife purposes or to improve the quality or flow of water *or the condition of an aquifer* may be extended in increments not to exceed 3 years in duration each, provided that the person or entity seeking the extension first applies for and receives from the State Engineer any necessary permits or approvals, as described in paragraph (a).

(c) The base water right that is temporarily converted for wildlife purposes or to improve the quality or flow of water or the condition of an aquifer shall not be subject to forfeiture, abandonment or cancellation for non-use during the duration of the temporary conversion. A permit granted under this section shall constitute good faith and reasonable diligence to perfect the base water right for the purpose of any application to extend the time to prove completion of work or prove beneficial use of the base right filed during the temporary conversion.

In this way, an irrigator could forego pumping for a three-year window of time without having to cease farming altogether.

These examples of proposed statutory language are offered merely as a starting point for discussion and deserve further analysis and possible discussions with other stakeholders to protect against unintended consequences and anticipate potential objections.

B. QUESTION 2

Nevada's conservation easement statute, NRS 111.390, *et seq.*, follows the Uniform Conservation Easement Act. Other than a minor change in 2009 (that is immaterial to the discussion here), the statute has not been amended since it was enacted in 1983.

The statute applies to "any interest in real property." NRS 111.400. "Nevada law treats water rights as real property." *Min. Cnty. v. State, Dep't of Conservation & Nat. Res.*, 117 Nev. 235, 244, 20 P.3d 800, 806 (2001). Water rights are a property interest separate from the land to which they are appurtenant. *Dermody v. City of Reno*, 113 Nev. 207, 213, 931 P.2d 1354, 1358 (1997).

NRS 111.410 defines an "[e]asement for conservation" as "a nonpossessory interest of a holder in real property, which imposes limitations or affirmative obligations and:

(a) Retains or protects natural, scenic or open-space values of real property;

(b) Assures the availability of real property for agricultural, forest, recreational or open-space use;

(c) Protects natural resources;

(d) Maintains or enhances the quality of air or water; or

(e) Preserves the historical, architectural, archeological, paleontological or cultural aspects of real property.

The current statutory language and the concept of a groundwater conservation easement, in general, have some obstacles to being effectively implemented in Nevada. First, the conservation easement statute renders a conservation easement valid "even though … [i]t is not appurtenant to an interest in real property." NRS 111.440(1). However, "any water used in this State for beneficial purposes shall be deemed to remain appurtenant to the place of use." NRS 533.040(1). Although groundwater rights can be changed to a new place of use, they must always be appurtenant to some piece of land. NRS 533.040(2); *see Adaven Mgmt., Inc. v. Mountain Falls Acquisition Corp.*, 124 Nev. 770, 775, 191 P.3d 1189, 1192 (2008). As a result, a groundwater conservation easement would likely require an associated land conservation easement on the parcel to which the encumbered groundwater rights are appurtenant.

Second, a groundwater conservation easement, while perhaps a fit in a state that follows the "absolute ownership/rule of capture," "reasonable use," or "correlative rights" doctrines of groundwater use, does not fit particularly well into Nevada's prior appropriation system for groundwater. Under absolute ownership, reasonable use or correlative rights principles, a right to pump groundwater derives from ownership of the overlying land. *See Edwards Aquifer Auth. v. Day*, 369 S.W.3d 814, 832 (Tex. 2012); *City of Barstow v. Mojave Water Agency*, 5 P.3d 853,

860 n.7 (Cal. 2000); *Martin v. City of Linden*, 667 So. 2d 732, 738 (Ala. 1995). As a result, a groundwater conservation easement encumbering land could prevent groundwater from being pumped from wells *on that land*.[2]

In contrast, in Nevada, ownership of land carries no right to use of the underlying groundwater; a separate groundwater right is required, and the right to pump is subject to all prior, existing rights. *See* NRS 534.020(1). As discussed above, beneficial use (and the converse concepts of forfeiture and abandonment) prevent a water right holder from foregoing pumping without risk of losing the right. As a result, a conservation easement that contains a negative covenant (requiring a water right holder to reduce or forebear use) could not assure an actual conservation benefit.

Although a groundwater easement has been implemented in Colorado, which like Nevada, follows the prior appropriation system for groundwater, key statutory distinctions exist there. First, under Colorado water law, a water right enrolled in a conservation program or within a conservancy district is expressly protected from abandonment. *See* C.R.S. § 37-92-103(2)(b)(ii).[3] No statutory equivalent exists in Nevada. If Nevada were to adopt a similar statute, it would need to protect the groundwater right subject to the conservation easement from both abandonment *and* forfeiture (for a certificated right) or cancellation for non-use (for a permitted right).

Second, Colorado's conservation easement statute allows landowners to enter into easements to protect "a land or water area … or water rights beneficially used upon that land or water area." C.R.S. § 38-30.5-102; *see Mesa Cnty. Land Conservancy, Inc. v. Allen*, 18 P.3d 46, 53 (Colo. Ct. App. 2012). Although Nevada's statute allows a conservation easement to burden "real property," and water rights are deemed real property, a groundwater conservation easement is unlikely to satisfy basic concepts of Nevada's prior appropriation doctrine (e.g., the requirements of beneficial use and appurtenancy discussed above).

Specific statutory changes that precisely identify and make exceptions for conflicting provisions in Nevada water law would be required to make a groundwater conservation easement

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[2] Notably, however, the rules of capture, reasonable use, and correlative rights doctrines would not guarantee an overall reduction in pumping from the aquifer unless a groundwater basin were subject to some additional type of regulatory restriction that limited pumping or threatened curtailment on other land within the basin when certain thresholds are triggered. Addressing this issue is outside the scope of this memo.

[3] It is unclear to me how groundwater subject to a conservation easement in Colorado is protected from forfeiture. *See Water Rts. of Masters Inv. Co. v. Irrigationists Ass'n*, 702 P.2d 268, 272 n.2 (Colo. 1985). However, this is outside the scope of this memo. In Nevada, a groundwater conservation easement could be subject to forfeiture because forfeiture is based solely on non-use. *See* NRS 534.090(1).

enforceable and effective. At a minimum, statutory amendments, as suggested above, would be needed to identify a conservation easement as a beneficial use, protect from forfeiture, abandonment and cancellation for non-use water rights that are subject to a conservation easement, and address the appurtenancy requirement. Additionally, it would be helpful (but probably not necessary) to specifically identify water rights as a real property interest to which a conservation easement can attach.

For example, possible language might be an amendment to NRS 111.010(2) with the following language (in *blue italics*):

"Estate and interest in lands" shall be construed and embrace every estate and interest, present and future, vested and contingent, in lands as defined in subsection 3, *including but not limited to water rights*.

IV. Conclusion

Groundwater retirement is a new and untested administrative process in Nevada that is not recognized by statute. Nevertheless, in overappropriated groundwater basins, retirement of a groundwater right through the State Engineer's procedures is likely to achieve the desired benefit of protecting retired groundwater from further use and appropriation.

To guarantee the desired conservation benefit of aquifer stabilization and improvement that groundwater retirements seek to accomplish, I believe a statutory change is required. The simplest amendment would be to add a statutory provision that authorizes the State Engineer to accept water rights for retirement and prohibits such water from being appropriated in the future. More complicated statutory changes would be required to add conservation purposes as a beneficial use or to reconcile the concept of a groundwater conservation easement with Nevada water law.

In my experience, a wide range of stakeholders support the concept of groundwater rights retirement. More comprehensive changes to Nevada water law are more likely to prompt opposition during the legislative process.

Examples of voluntary groundwater rights retirement *in the western United States*

Oregon

Harney Valley Groundwater Conservation Reserve Enhancement Program (HVG CREP)

- **Active dates:** November 2022 to present
- **Situation:** The Harney Basin in eastern Oregon has experienced large groundwater level declines that are affecting groundwater users and natural resources.
- **Purpose/goal:** Provide incentives for eligible groundwater irrigators to reduce their consumptive water use by voluntarily cancelling their groundwater rights. Enroll 20,000 acres of groundwater-irrigated croplands to conserve 40,000-50,000 acre-feet per year (AFY)
- **Administrators:** Oregon Water Resources Department and U.S. Farm Services Agency (FSA)
- **Area affected:** Greater Harney Valley Groundwater Area of Concern (designated area per ORS 537.730 to 537.740).
- **Funding:** $65 million with 20 percent from the state of Oregon, and 80 percent from FSA
- **Valuation approach**
  - HVG CREP provides steady income for 14-15 years through annual rent after voluntary agreements for cancelled groundwater rights are received
  - Program pays base rental rate of $185/ac/yr ($23,125/yr for a 125-acre pivot) for 14-15 years with additional incentives up to $10K for land impacting GDEs; max payment of $50K/yr. Cost share of up to $2500 for permanent well abandonment.
- See handout for more information.

House Bill 3357 (introduced by Representative Mark Owens)

- **Active dates:** Introduced to legislature in February 2023
- **Situation:** Groundwater depletion in some areas of Oregon are resulting in loss of access to water supplies for domestic and industrial uses and agricultural production, as well as drying up of springs and streams, causing economic hardship, environmental degradation and water insecurity. The bill would establish a program for compensating groundwater right holders for voluntarily relinquishing all or a portion of the holders' groundwater rights.
- **Purpose/goal:** Promote repurposing of groundwater otherwise used for irrigated agriculture to reduce groundwater use, provide measurable benefits to the environment, economy or communities and minimize negative impacts of groundwater use.
- **Administrator:** Water Resources Commission
- **Area affected:** Basins designated as critical groundwater areas under ORS 537.730 to 537.740.
- **Funding:** Asking for $105 million from the general fund for the biennium and program may also accept moneys or grants from federal or other governmental entities, or from private or others sources, to support the program.
- **Valuation:** May compensate a groundwater right holder under the program for up to the appraised market value of a relinquished groundwater right or portion of a groundwater right.

Colorado

Senate Bill 22-028 (passed the State Legislature with no opposition and was signed by the Governor in May 2022)

- **Active dates:** May 2022 to present
- **Situation:** Groundwater pumping used for irrigation can reduce quantity of groundwater in aquifers and impact hydrogeology of connected surface waters that threaten senior water rights and Colorado's compliance with interstate compacts, especially in the Rio Grande and Republican River basins.
- **Purpose/goal:** Incentivize and accelerate the state's program in retiring irrigation wells and irrigated acreage to comply with groundwater use reduction requirements
- **Administrator:** Colorado Water Conservation Board, with approvals of the board of directors of the Rio Grande Water Conservation District or the Republican River Water Conservation District and approval by the State Engineer.
- **Area affected:** Republican and Rio Grande River Basins in Colorado
- **Funding:** Appropriated $60 million from the economic recovery and relief cash fund (ARPA); if funds are not fully obligated by August 15, 2024, then up to $20 million is transferred to the water plan implementation account to finance efforts to accomplish critical actions identified in the state water plan.
- **Valuation:** Not discussed in the bill

Rio Grande Water Conservation District water rights retirement program (using funds from SB 22-028)

- **Active dates:** Round 3 is accepting applications April 22, 2024 to May 31, 2024
- **Situation:** San Luis Valley has to plant fewer irrigated acres and retire groundwater wells to recover two depleted aquifers in the Upper Rio Grande Basin. The program is to use funds obligated in SB 22-028.
- **Purpose/goal:** Have verifiable reduction in groundwater use; permanently retire 40-50 productive irrigated crop circles in the San Luis Valley and save 11,000-15,000 AFY
- **Administrator:** Rio Grande Water Conservation District
- **Area affected:** San Luis Valley, Colorado
- **Funding:** ARPA funds given to State of Colorado and obligated through SB 22-028
- **Valuation**: Was offered at $3,000/AF in 2023; see https://www.rgwcd.org/senate-bill-22-028 for information on Round 3.

Kansas

Upper Arkansas River and Rattlesnake Creek Conservation Reserve Enhancement Program

- **Active dates:** 2007 to present
- **Situation:** Intensive groundwater use over many years has depleted the water in the High Plains Aquifer. Policy makers are seeking ways to reduce aquifer depletion while retaining the health of the local agricultural-based economy.
- **Purpose/goal:** Reduce aquifer declines, reduce spread of saline river water into the aquifer, restore stream and riparian health by enrolling up to 40,000 acres and reduce consumption of groundwater by 65,000 AF. Also reduce total annual use of electricity by 16M kwh and reduce soil lost to erosion by 150,000 tons/yr.
- **Administrators:** Kansas Department of Agriculture and U.S. Farm Services Agency (FSA)
- **Area affected:** Southwestern and South Central Kansas
- **Funding:** State of Kansas and FSA
- **Valuation approach**
  - UAR CREP provides steady income for 14-15 years through annual rent after voluntary agreements for cancelled groundwater rights are received
  - Program pays base rental rate of $153-193/ac/yr for 14-15 years from FSA as of 2015 and state pays upfront payment of $97 or $55/ac depending on soil erodability; bonus payment of $350/ac for shallow water area in Kearny or Finney counties; cost share of up to 50% on seeding, and $1000 for well plugging.
  - See description of program and brochure. As of September 30, 2022, 169 water rights had been enrolled that covered 23,430 acres and 47,643 AF of water. State contracts for these enrollments have totaled $1,669,373 over the previous 14 years.

Water Right Transition Assistance Program (WTAP)

- **Active dates**: 2007 to present
- **Situation:** Water levels in the High Plains Aquifer have declined and were projected to result in almost 70 percent depletion of the aquifer by 2070 if no intervention is made. The WTAP is a voluntary, incentive-based program to permanently retire privately held irrigation water rights in exchange for payment by the state of Kansas.
- **Purpose/goal:** Help restore aquifers and recover stream flows in critically depleted target areas
- **Administrator:** Division of Conservation of Kansas Department of Agriculture with assistance from Groundwater Management Districts and the Division of Water Resources of the Kansas Department of Agriculture
- **Area affected:** Rattlesnake Creek subbasin, Prairie Dog Creek basin, and six "High Priority Areas" of northwest Kansas Groundwater Management District No. 4.
- **Funding:** State of Kansas with federal and local match; as of FY 2023, $3,902,946 state funds have been expended with $1,011,393 of federal and local match
- **Valuation:** Average cost has been $1,413/AF. See this document for more data.
- See description of program (towards bottom of page)

Contact Laurel Saito **laurel.saito@tnc.org** for more information

Prepared by
The Nature Conservancy

**Note: Water right values can vary dramatically depending on location and reason for purchase*