

National Caucus of Environmental Legislators

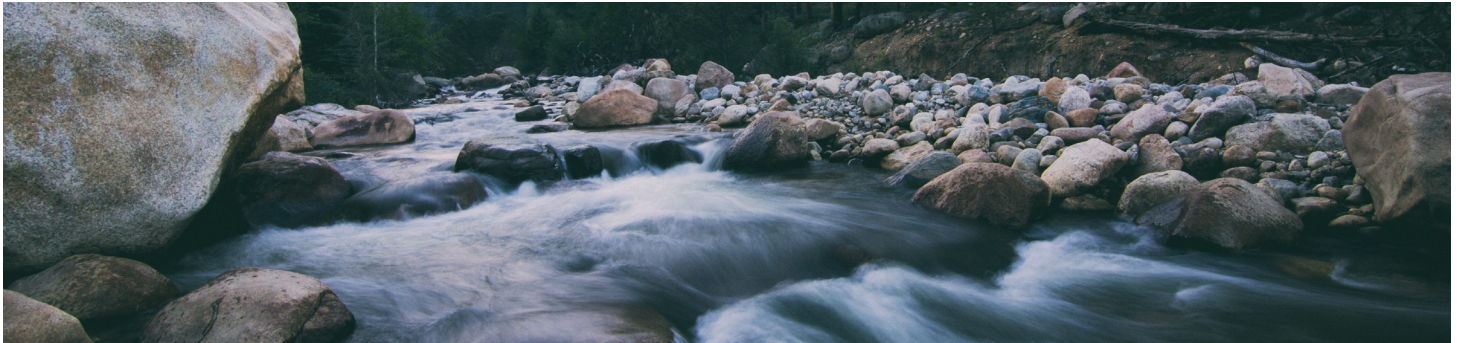
# Water Briefing Book



**NCEL**

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## Introduction

Climate change is altering the patterns of rainfall, snowfall and runoff, which creates challenges for existing water infrastructure developed with outdated assumptions. Population growth and demographic changes concentrate people in places that are often vulnerable to drought or flood, particularly impacting regions that produce food and energy. At the same time, fish, wildlife, and other natural resources rely on water, and if healthy environments are to persist, states must accommodate their needs through innovative policy solutions. These challenges combine to create a growing policy imperative to make best use of water resources and to ensure that future growth and development is water-efficient and takes into account natural resources needs. This briefing book addresses potential state legislative options to address water scarcity in one major area: water for people.

- 1. Agriculture and Water Scarcity** ..... p. 3
  - » **Summary:** As farmers increasingly draw from groundwater for crop irrigation, it is important to protect underground water stores, which take years to refill.
- 2. Exempt Wells** ..... p. 4
  - » **Summary:** Limiting the impact of exempt wells on stream flows and senior water rights is increasingly important because of burgeoning rural development.
- 3. Human Right to Water** ..... p. 5
  - » **Summary:** A human right to water is being increasingly recognized worldwide. In the US, California, Montana, Pennsylvania, and New York have recognized that right.
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- 5. Water District Planning and Efficiency Requirements** ..... p. 7
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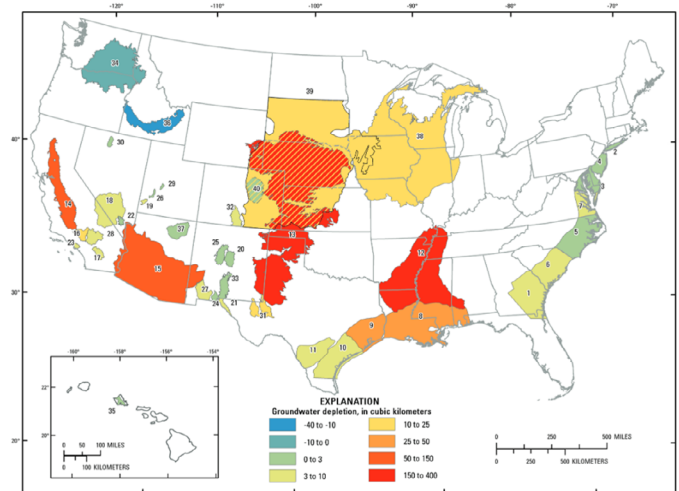
## Overview

Crop irrigation accounts for [almost half of all water withdrawals](#) in the United States. Although they normally rely on surface water, farmers are increasingly pulling from underground aquifers. Accordingly, many states may soon see [depleted](#) groundwater resources. As water is withdrawn, the remaining groundwater’s salinity increases to levels that may not be usable for agriculture or drinking.

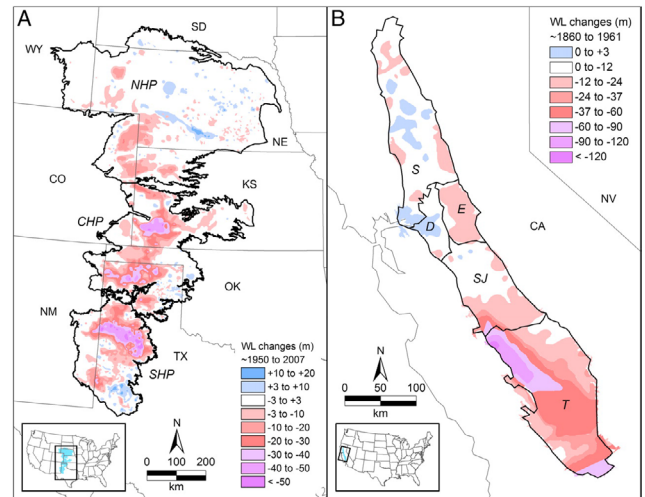
## Policy Options

- **Payments:** Under [Kansas’s](#) Conservation Reserve Enhancement Program, farmers receive rental payments and a host of one-time incentive payments for allowing land to lie unused. In this way, farmers can continue to make a living while allowing underground aquifers to slowly refill from rain and runoff.
- **Tax credits:** [Arkansas’s](#) groundwater conservation tax credits encourage farmers to reduce surplus irrigation and use surface water, helping to maintain farmer stability while preserving groundwater at healthy levels.
- **Permitting Criteria:** State and local agencies can distribute groundwater permits in ways that help stabilize falling groundwater levels over the long run, or in ways that prioritize certain water users. Many western states, like [Oregon](#) and [Nevada](#), have permitting criteria that require “beneficial” water use, without waste.
- **Redefining beneficial use and waste:** States have the [legislative authority](#) to change the definitions of “beneficial use” and “waste” as conditions change, and could take the more drastic step of designating thirsty crops, like corn, as wasteful in certain water-poor regions. California and New Mexico both have regulations in place that prevent “unreasonable” water use. These regulations [hold up](#) in court and prevent users from withdrawing more water than they need.

## Groundwater Depletion in the U.S.



**Figure 1:** Map of U.S. showing groundwater levels trends, 1900 to 2008. Source: [U.S. Geological Survey](#)



**Figure 2:** Groundwater depletion and sustainability of irrigation in the US High Plains and Central Valley. Source: [PNAS](#)



## Overview

Many of the western states, and some eastern states, allow domestic wells for rural development without strict compliance with the dominant water regulatory system. These “exempt wells” are proliferating – while a single well has little impact, thousands of them cumulatively impact other water rights holders and instream flows in rivers. In recent years, Supreme Courts in at least three states ([Washington](#), [Montana](#), and [New Mexico](#)) have ruled on controversial exempt well cases. Limiting exempt wells is politically complex, as wells are necessary to develop most rural land. With the proliferation of rural homes, and groundwater supplies fully tapped in many places, conflict over exempt wells will spread.

## Policy Options

- **Restrictions on type of use:** Exempt wells are typically confined to domestic use ([Arizona](#)) or both domestic use and livestock watering ([Colorado](#) and [Idaho](#)). Irrigating crops is usually limited to less than five acres (see below).
- **Limits on irrigated acres:** Several states, including [Washington](#) and [Oregon](#), allow only a small amount land (between 0-5 acres) to be irrigated with exempt well water.
- **Limits on quantity pumped:** All states except for Idaho, Kansas, North Dakota, and Oklahoma limit the quantity of water that can be pumped from an exempt well, ranging from 1 acre-foot per year ([New Mexico](#)) to 80 acre-feet per year ([Nebraska](#)).
- **Mandatory connection to public supply where available:** [Arizona](#) requires that landowners connect to public water supply when possible rather than drilling an exempt well.
- **Mandatory information disclosure from well users:** Kansas ([K.S.A. 82a-732](#)) requires that exempt well owners submit an annual report on their water use to the department of agriculture. Similar reports are required in [Nevada](#), [North Dakota](#), and [Wyoming](#).
- **Limits on subdivisions dependent on exempt wells:** Both [Washington and Montana](#) have considered restricting the use of exempt wells as water sources for new subdivisions.

## Case Study: Washington

Washington has wrestled with exempt well issues for several decades, due in part to unclear law and regulation, instream flow standards, and declining salmon populations. [S.B.6091](#) (2018) provided a path towards a more permanent solution, directing the Department of Ecology to review current watershed plans to identify the potential impacts of exempt well use. Updated watershed plans under SB 6091 must include steps to offset potential impacts to water flows, so that downstream users may still draw from their water source.

In specific areas of Washington, the issue has been resolved through the use of water banks that mitigate impacts of exempt well development on streamflow or senior water right holders. In both [Kittitas County](#) and [Clallam County](#), innovative mitigation banks acquire senior water rights and offer mitigation packages for development.





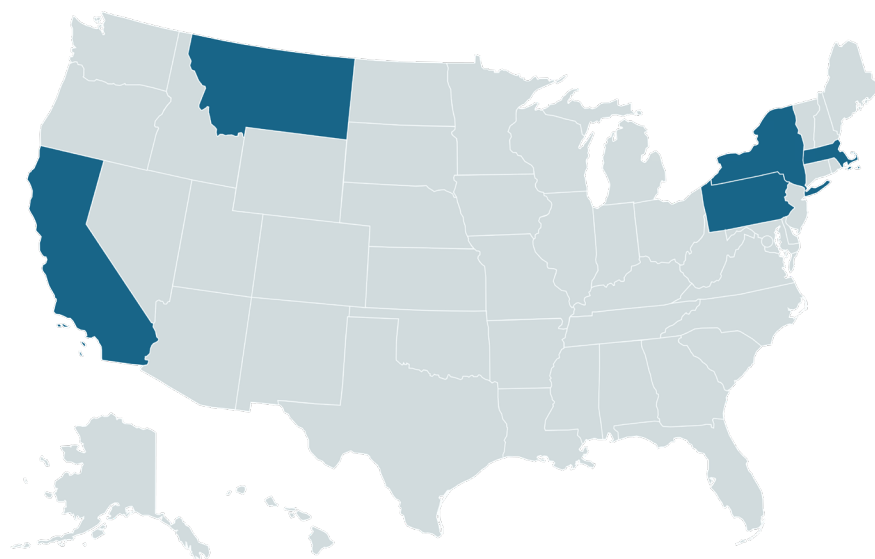
## Overview

In 2010, the United Nations recognized a [human right to water](#), but the United States abstained from the vote. The only mention of water in the Constitution is in reference to selling captured enemy warships. Several states, however, have recognized the right to water.

## Policy Options

- **State policy:** California recognized a human right to water in [A.B.685](#), which declares that every person has the right to clean, affordable water for cooking, cleaning, and sanitation. To realize that right, California established the Safe and Affordable Drinking Water Fund in 2019 with [S.B.200](#).
- **Constitutional amendment:** Massachusetts has enshrined the human right to water in its constitution, but the actual array of water assistance programs is [highly localized](#). Without uniform, statewide standards and programs for ensuring water access, the right to water remains unfulfilled. [Pennsylvania](#), [Montana](#), and [New York](#) have also added stipulations on the human right to clean water to their constitutions. This is an important first step, but each state lacks implementation or enforcement mechanisms for making that right a reality.
- **Dedicated funding:** In 2021, many states dedicated money towards affordable water resources through the federally-funded [Low-Income Water Rate Assistance Program](#). However, this funding is temporary. To fulfill the human right to water, states that have added it to their constitutions should consider establishing ongoing appropriations and distribution mechanisms like California's Drinking Water Fund.

## Which U.S. states recognize the human right to water?



**Figure 3:** Map of U.S. states (in blue) that currently recognize a human right to water, either through state legislation or constitutional amendment.



## Overview

Many states have a state water plan, which usually considers state demographics, economic growth projections, and potential water supply projects, while focusing attention on water issues and solutions. Common goals of state water plans include prioritization of funding, guidance for local and regional water planners, an inclusive process for stakeholder participation, and creation of a water data repository. Very few water plans lay out a vision, strategy and steps for implementation. Legislative authorization can shape the depth and direction of state water plans.

Arizona, Nebraska, Washington do not have a state water plan. These states delegate water planning to regional bodies, which usually partner with state natural resource departments to manage surface and groundwater stores.

## State Water Plan Elements



**1. Renewal process:** Most states renew their plan every five years ([California](#)), and some have a long-term vision to guide plan renewal, such as a consideration of tribal sovereignty, water affordability, collaboration, and other guiding principles ([Oregon](#)).



**2. Training and coordination:** Colorado's inaugural water plan in 2015 resulted in legislation ([S.B.15-008](#)) supporting cross-training of land use and water use managers to better connect these systems.



**3. Portfolio approach:** [Utah's](#) plan integrates information on all factors related to water supply such as groundwater, surface water, water quality, stormwater, flood management, and watershed health. [California](#) uses a similar portfolio approach, linking multiple surface and groundwater sources to increase reliability.



**4. Scenario planning:** Inclusion of a scenario planning process that takes into consideration climate change impacts on water supply and water use ([Oregon](#)).



**5. Efficiency requirements:** Some state water plans include requirements to reduce per capita water use, with efficiency increasing through time ([Georgia](#)). Another option is to include innovative supply sources such as from water recycling or desalination.



**6. Dedicated funding streams:** Rather than relying on General Funds each year, most state water plans include a dedicated funding stream. States without dedicated funding streams for water planning include: Arkansas, Nebraska, Nevada, Oklahoma.



**7. Pairings with flood, drought, and climate plans:** Some states pair their water plans with flood, drought, or climate plans in order to improve consideration of all factors that relate to water management ([California](#)).



## Overview

Water districts are special districts that supply water and sewer needs to communities. State laws can improve the scope and efficiency of water districts, ensuring that they plan for droughts (when appropriate), use water effectively, and maintain local water systems.

## Policy Options

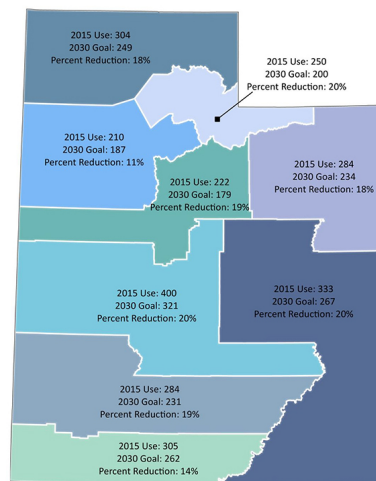
- **Requiring a conservation plan:** Arizona’s community water system laws ([ARIZ. REV. STAT. § 45-342](#)) require public systems to have a supply plan, drought plan, and conservation plan. Through planning, this approach encourages efficient water use, but does not require it.
- **Making funding contingent on meeting efficiency criteria:** Washington’s law goes one step further, requiring public system planning, and then laying out a variety of planning and system criteria, including water use efficiency measures, as considerations in granting state funding to public water systems. ([REV. CODE WASH. §§70.119A.170 \(4\)](#)).
- **Capping overall water use:** California provides a model for how water district planning can evolve from planning to conservation targets and then to hard caps on use. California requires urban water district planning under the [Urban Water Management Planning Act of 1983](#), which provides a framework for long term water planning. The Water Conservation Act of 2009 ([S.B.7](#)) added a per capita use reduction target of 20% by 2020. Legislation in 2018 ([A.B.1668](#) and [S.B.606](#)) shifts the emphasis from conservation (using less water) to efficiency (using water effectively) and sets a hard cap on indoor water use of 55 gallons per capita per day (GPCD) decreasing to 50 GPCD by 2030.

### Policy Option Case Study: Granting water districts self-governing authority

**Utah** gives water conservancy and reclamation districts the power to fund, collect taxes, charge rates, and issue bonds to maintain the state’s water infrastructure. These large districts allow cities to reuse wastewater and maintain drinking water safety. The state also provides technical and financial support to small and rural communities, which normally aren’t served by large districts. Because they lack funding or technical expertise, these communities struggle to maintain local water systems, create sewers, or implement updated technology to protect public health and waters.



**M&I Water Conservation Regions  
 2015 Use Vs 2030 Goals**



**Figure 4:** Utah’s Water Conservation Regions (each comprised of several water districts) including each region’s 2015 Municipal & Industrial (M&I) water use and their projected 2030 M&I water use goal in Gallons Per Capita Per Day. Source: [Utah Department of Natural Resources](#)





## Key Resources

- **How water is used in the US:** The United States Geological Survey issues a report every five years summarizing water usage. This report provides water information for the country, for each state, and even at the county level. [Learn more.](#)
- **Governors Associations:** Several organizations develop information and policy on behalf of governors. The Western States Water Council works on water policy issues throughout the west and has authored useful reports on [water laws and policies](#) and [exempt wells](#). The [National Governors Association](#) and [Western Governors Association](#) also have reports, especially on energy-water nexus, drought and water marketing.
- **State Water Efficiency Scorecards:** The Alliance for Water Efficiency released a summary and scorecard for state water efficiency standards in 2017. [Check out your state!](#)
- **Exempt Well Policy Information:** [Domestic Water Well Exemption in the Western United States](#) (National Groundwater Association) and [Existing Regulation of Exempt Wells in the United States](#) (Universities Council on Water Resources)