



## Conservation Quandaries, Part 2: Water Law

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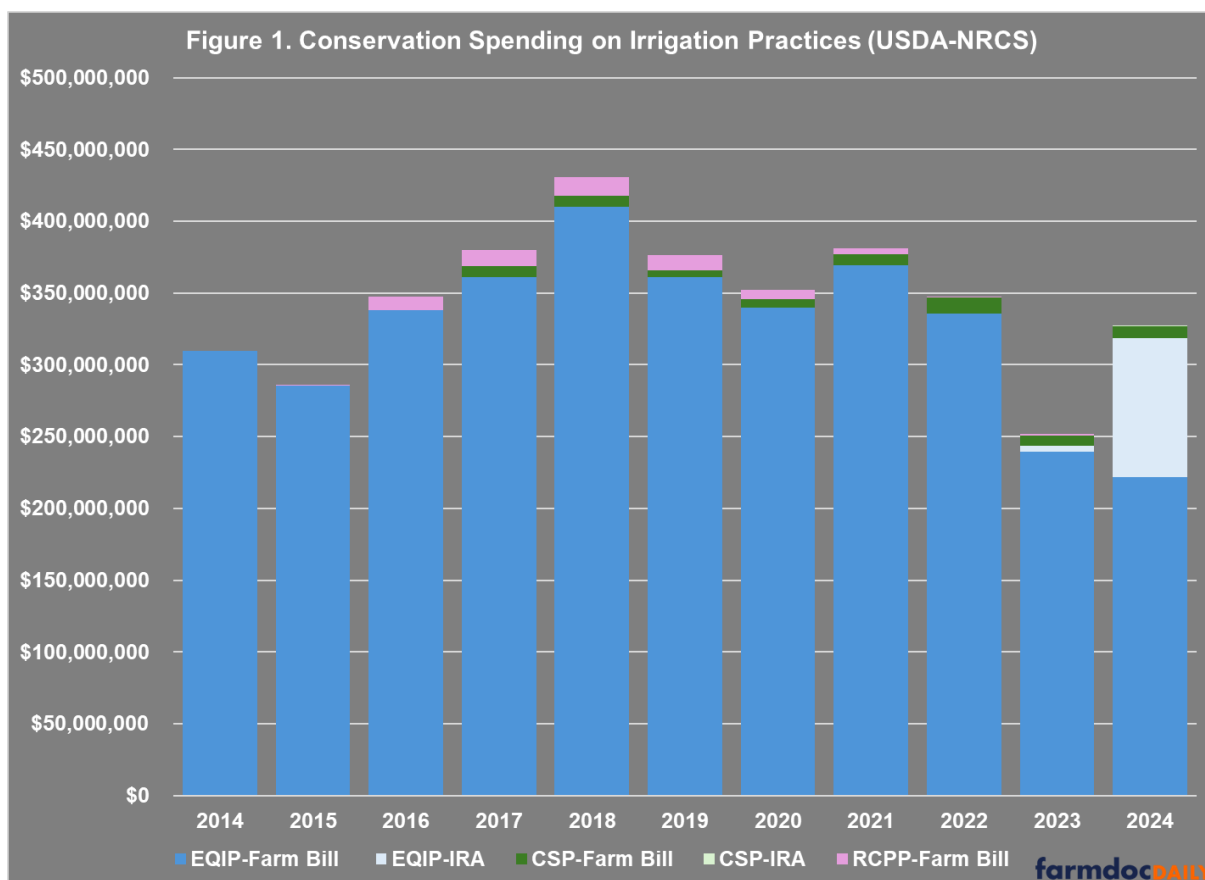
In the Farm Bill, Congress has authorized policy to “conserve the quality and condition of natural resources” (CSP, [16 U.S.C. §3839aa-21](#)) and “promote agricultural production, forest management, and “environmental quality as compatible goals, and to optimize environmental benefits” (EQIP, [16 U.S.C. §3839aa](#)). The previous article opened an exploration of the myriad challenges confronting agricultural conservation policy. Trying to do too much with too little, conservation’s limited funds are stretched across multiple programs and hundreds of practices. The primary quandary for conservation is the result, challenging the purpose statements quoted above (*farmdoc daily*, [February 13, 2025](#)). This article generally reviews U.S. water law and the challenges for conserving ground and surface water resources.

### Background

Figure 1 illustrates the total funding for irrigation practices from the Conservation Stewardship Program (CSP), the Environmental Quality Incentives Program (EQIP), and the Regional Conservation Partnership Program (RCP), as reported by USDA’s Natural Resources Conservation Service through January 2025. It includes the funds reported as obligated from the Inflation Reduction Act appropriations (USDA-NRCS, [RCA Data Viewer](#)). The totals are for all 50 states of those practices determined to be primarily for, or most relevant to, irrigation and water conservation based on a review of NRCS data and information. As is clear in Figure 1, most of the funding for irrigation practices is through EQIP and the second year of Inflation Reduction Act funding included a significant amount of financial assistance for irrigation.

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Over eleven years (2014 to 2024), NRCS reports a total of \$3.8 billion in financial assistance for irrigation practices and most of it (\$3.6 billion, 94%) through EQIP. That funding equals about 10.7% of total conservation financial assistance from these programs and roughly 18% of EQIP funding. The historical complexities of American water law raise questions about the effectiveness of this funding for water conservation purposes. These challenges are explored in the discussion below to better understand the interactions of law and policy, with a view towards potential innovations in policy design to improve its effectiveness.

## Discussion

To call water law complicated seems about as trite as pointing out that water is essential for all life on Earth; water is wet, after all. The following is a background discussion through the lens of Farm Bill conservation policy. It is not intended to be a comprehensive explication or primer of American water law.

### (1) Water Law: Riparianism vs. Prior Appropriation; The Basics

In the United States, the dividing line for water law has historically been at the 100th meridian (North Dakota down to Texas), although this might be shifting eastward (Lanick, [April 24, 2023](#); Krajick, [April 11, 2018](#); Leifert, [January 9, 2018](#)). West of that line, water law operates mostly under the doctrine of prior appropriation; east of that line, much of water law is riparian. The second divide in water law is between surface water (e.g., rivers and lakes) and groundwater (e.g., aquifers) (Klein, [2021](#); Dellapenna, [2013](#); Dellapenna, [2011](#); Smith, [2008](#)). (Note: matters of international treaties and water are not addressed).

Water can be thought of as a special type of property right, a “semicommon” right that mixes both private and public or common elements. Real property tends to emphasize possession and exclusion rights, for example, whereas water is a more complex right of use, known as usufructuary rights (Smith, [2008](#); *Nat'l Audubon Soc'y v. Superior Court*, 658 P.2d 709, 724 (CA, 1983)). Water law developed “about fifty years before science understood the hydrologic cycle” and a hundred years before groundwater became a key source of water; invention of a high-speed, centrifugal water pump in 1937, started a “groundwater revolution” and the law developed in response to the disputes that flowed as a result (Klein, [2021](#), at 494;

Dellapenna, 2013). Problematic disconnections between law and the science of hydrology resulted and have persisted; the two sources of water are generally connected, as groundwater can feed surface water, and vice versa (see e.g., Haase, 1978).

In further historical context, riparian rights trace to a New Jersey dam dispute in the 1790's, but rooted in English law; conceptually, the law developed from the use of rivers and streams to power mills (Dellapenna, 2011). The prior appropriation doctrine developed in the western states as a response to the needs for diverted water to mine gold (see, Smith, 2008; *Nat'l Audubon Soc'y v. Superior Court*, 658 P.2d 709 (CA, 1983); *People v. Shirokow*, 605 P.2d 859 (CA 1980); *In re Water of Hallett Creek Stream Sys.*, 749 P.2d 324 (CA 1988)). Unique among states, California operates under a dual system of both appropriative and riparian water rights (*People v. Shirokow*, 605 P.2d 859, 864 (CA 1980); see also, Freyfogle, 1989).

The most critical component of riparian water rights is the ownership of land connected to a body of water. Each owner of land adjoining a water source has equal rights of reasonable use, equal with all other owners of land abutting the same water body, such that “no property owner may exercise its riparian rights in such a manner so as to prevent the exercise of the same rights by other similarly situated property owners” (*Holm v. Kodat*, 211 N.E. 3d 310, 315 (IL 2022) (internal quotations omitted); *Stratton v. Mt. Hermon Boys' School*, 103 N.E. 87 (MA 1913); *Taylor v. Tampa Coal Co.*, 46 So. 2d 392, 394 (FL 1950); see also, *U.S. v. Willow River Power Co.*, 324 U.S. 499 (1945), *U.S. v. Cress*, 243 U.S. 316 (1917)). Use of the water must be reasonable “in terms of both purpose and quantity of water used” and is unreasonable if a use interferes with the reasonable use of other riparian owners; in some jurisdictions, moreover, the use must be on the land connected to the water source or within the same watershed (Klein, 2021, at 503-04). Reasonableness of any use may also depend on whether it is for “natural wants” or consumption versus “artificial wants” which may include power and irrigation (Smith, 2008, at 473). What uses are deemed reasonable usually requires a balancing amongst competing factors such as the economic and social value of the use, the purpose of the use, the suitability of the use for the area, the harm caused to other users by the use, and the practicality of avoiding the harm; common examples include irrigation versus recreational uses, like fishing (see e.g., *Tunison v. Harper*, 690 S.E.2d 819 (GA 2010); *Harris v. Brooks*, 283 S.W.2d 129 (AR 1955)).

By comparison, the prior appropriation doctrine generally allocates water rights on a “first in time, first in right” basis, the priority of use (senior to junior) determined by the order in which the water was diverted for beneficial use (*F. Arthur Stone & Sons v. Gibson*, 630 P.2d 1164, 1168-69 (KS 1981); *Coffin v. Left Hand Ditch Co.*, 6 Colo. 443 (CO 1882); see also, Smith, 2008, at 447). All water not being used belongs to the people of the State until it is diverted (generally under permit) for a beneficial use, preventing later appropriators from reducing the rights of earlier appropriators. Importantly, in times when water is scarce, senior appropriators “are entitled to fully satisfy their water rights before more recent ‘junior’ water users receive even a single drop of water” (Klein, 2021, at 505-06; *Southeastern Colorado Water Conservancy Dist. v. Shelton Farms, Inc.*, 529 P.2d 1321, 1326 (CO 1974)). Prior appropriation applies only to beneficial uses but does not limit the place of use, such that appropriators can move water across watersheds and potentially over great distances. Beneficial use is in addition to diverting water, requiring that it be applied such as through irrigating crops (*State Eng'r v. Diamond K Bar Ranch, LLC*, 385 P.3d 626, 631 (NM 2016); *Widefield Water & Sanitation District v. Witte (In re Water Rights of Widefield Water & Sanitation Dist.)*, 340 P.3d 1118 (CO 2014); *In re United States*, 386 P.3d 952 (MT 2016)).

## (2) Water Law: Groundwater

As noted above, the law for groundwater developed much later—only after centrifugal pumps were invented in 1937—and adds further complexity. State laws initially “bifurcated” ground water based on whether it was considered an underground stream or percolating groundwater (e.g., aquifers into which water has seeped through soil and rock); while “hydrologically meaningless,” the former were regulated like surface water, while the latter were treated more like a mineral right (Klein, 2021; Dellapenna, 2013). Percolating groundwater was subject to the “rule of absolute ownership” and the landowner could take as much water as they wanted regardless of how it impacted other landowners, and the water could be used away from the land overlying the source (*F. Arthur Stone & Sons v. Gibson*, 630 P.2d 1164, 1168-69 (KS, 1981)). Under this absolute dominion doctrine, the “landowner is the absolute owner of groundwater flowing at the surface from its well, even if the water originated beneath the land of another” (*Edwards*

*Aquifer Authority v. Day*, 369 S.W.3d 814, 826 (TX 2012); *City of San Marcos v. Tex. Commission on Environmental Quality*, 128 S.W.3d 264, 270 (TX App., 3d Dist., 2004)).

Aside from the absolute dominion rule, State groundwater laws tend to be categorized in different systems that are more confusing than clear, often overlapping or operating as hybrids. Conceptually, groundwater law may involve: correlative rights (equitable apportionment to all landowners overlying the aquifer and able to be used off of the land overlying the source); reasonable use (used for reasonable purposes on the overlying land but not off of it), or a hybrid of both; treated like soil or minerals and part of the ownership of land but with some restrictions and responsibilities to other users; or, based on a modified version of the prior appropriation doctrine (Klein, 2021; King et al., 2021; ).

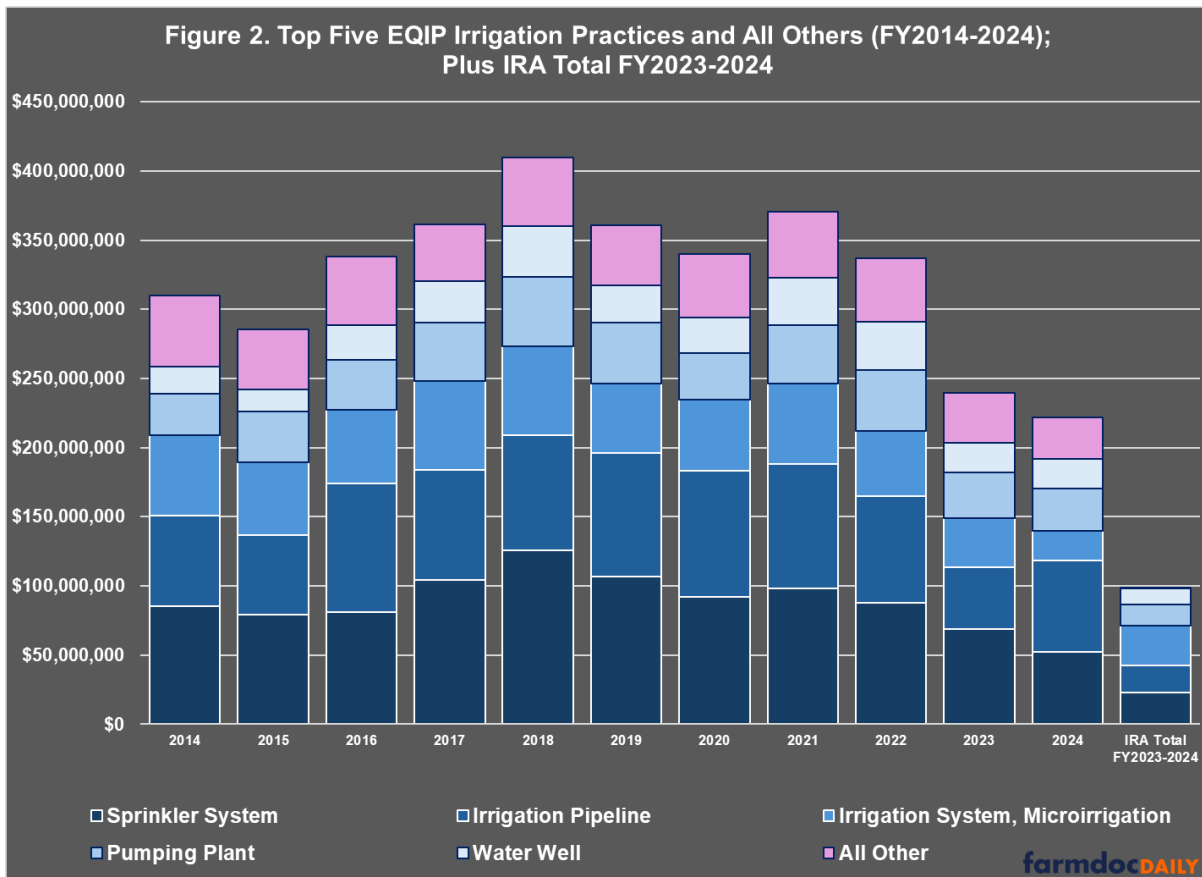
### (3) Conservation Policy Water Law; An Introduction

Prior appropriation systems and groundwater laws are the most relevant to conservation policy and present the greatest challenges. Consider that under prior appropriation, continuing the “beneficial use of the water is required in order to maintain the right” (*Colo. River Water Conservation Dist. v. United States*, 424 U.S. 800, 805 (1976)). The challenge for conservation policy is self-evident: the system does not easily allow for changes in use or circumstances; and under its use-it-or-lose-it nature, reductions in use can jeopardize the right (Smith, 2008, at 468-69 (citing Peck & Crittenden Owen, 1995); Norris, 2011). Additionally, water not used by senior appropriators (including because it was conserved) may become available to junior appropriators without any reduction in water consumed. In other words, conservation efforts could have the unintended effect of unilaterally changing use rights for water or fail for their stated purpose. Some states have worked to modify their laws because of the consequences for conservation (Smith, 2008).

Other rules highlight the lack of clarity and consistency, as well as the challenges for conservation. For example, the “no-injury rule prevents appropriators from making certain water-right changes that would harm other appropriators,” but the Supreme Court has concluded that the rule is “not absolute; it generally concerns changes in the location of the diversion and the place or purpose of use,” while “[i]mprovements to irrigation systems seem to be the sort of changes that fall outside the no-injury rule as it exists in Montana and Wyoming” (*Montana v. Wyoming*, 563 U.S. 368, 378-79 (2011)). Similarly, the “doctrine of recapture” applies to “diverted water for irrigation purposes” in which the appropriator “has the right to recapture and reuse his own runoff and seepage water before it escapes his control” if “for the same purpose on the same land” (*Id.*, at 380-81). The Court concluded that improvements in irrigation efficiency fell within the rule and the original appropriation; the use of sprinklers, therefore, were “simply different mechanisms for increasing the volume of water available to the crops without changing the amount of diversion” (*Id.*, at 384).

These rules combine with the use-it-or-lose it nature of appropriative water rights to challenge conservation policy. If a conservation practice reduces water consumption, it risks reducing the water right or losing it—a loss that cannot be restored. In operation, any changes in irrigation practices would be unlikely to reduce water consumption because any water saved would be reused on the land if it were to avoid being lost. Simply put, rights lost do not equate to water conserved, as junior appropriators can make use of the water.

To conclude this introductory discussion, Figure 2 returns to the funding invested in water conservation practices by EQIP. Illustrating the top five funded practices from FY2014-2024, Figure 2 also includes total IRA funding for FY2023-2024. Sprinkler systems (27.5%) and irrigation pipelines (23.4%) have consistently received the most EQIP Farm Bill funding for water conservation, followed by irrigation system-microirrigation (15.6%).



### Concluding Thoughts

Water law presents arguably the second biggest challenge or quandary for conservation policy, second only to the insufficient funds—too much for too little—discussed previously. This article provided an overview of, or basic background on, water law as relevant to conservation policy. The discussion is the first dive into a complex and complicated topic. Subsequent articles will explore the operation of water conservation assistance, as well as individual State water laws.

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