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Putting Trust in Voluntary Demand Management: How and Why Wyoming Should Encourage the Development of a Water Trust

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PUTTING TRUST IN VOLUNTARY DEMAND MANAGEMENT: HOW AND WHY WYOMING SHOULD ENCOURAGE THE DEVELOPMENT OF A WATER TRUST

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ABSTRACT

The development of water trusts in the American West has followed a similar concept to the land trust model of conservation. Climate change has raised concerns among Colorado River Basin states about their water rights being curtailed. A key avoidance measure taken by states has been to focus on demand management, reducing the amount of water diverted from the river system through voluntary water transactions. While

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governments have made some investments in water conservation, more money is needed to keep adapting to a changing climate; water trusts can provide such money through investment from private sources. But the legal regime in Wyoming does not support the development of a water trust. Wyoming should change its laws regarding instream flows, conservation incentives, and water markets to create a friendlier environment for a water trust.

I. INTRODUCTION

The Colorado River is in crisis as drought has exacerbated an imbalance between the supply and demand of water in the basin.[1] As this imbalance worsens, water managers and basin states are increasingly concerned about how to share impending curtailments to water rights along the river system.[2] As home to the headwaters of the Colorado River's largest tributary—the Green River—Wyoming plays a vital role in the Colorado River system.[3] Wyoming state officials are preparing data for a "defensible consumptive-use number to take to the other states," as curtailments could come as early as 2028.[4] Some have proposed implementing demand management programs where water users are compensated to reduce consumption.[5]

Wyoming should take a proactive approach to protect its irrigators by reducing water consumption through voluntary measures.[6] In order to do so, the state should explore the development of a water trust, a private conservation organization that acquires instream flow rights, as other Western states have done.[7] But Wyoming does not provide a friendly regulatory environment for a water trust to flourish.[8] This Comment will first provide background context to understand the Upper Green River Basin in Part II.[9] Part III will provide information about existing water

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1 Jason Anthony Robison, *The Colorado River Revisited*, 88 U. COLO. L. REV. 475, 478–79 (2017).

2 Christopher Flavelle, *As the Colorado River Shrinks, Washington Prepares to Spread the Pain*, N.Y. TIMES (Jan. 31, 2023), [https://perma.cc/Y8XG-8C9M].

3 *See* Sallyrose Anderson et al., *Snowpack Reconstructions Incorporating Climate in the Upper Green River Basin (Wyoming)*, 68 TREE-RING RSCH. 105, 105 (2012).

4 Angus M. Thuermer Jr. & Dustin Bleizeffer, *Wyoming Girds for a Fight Over Green, Little Snake River Water*, WYOFILE, (Oct. 25, 2022), https://wyofile.com/wyoming-girds-for-a-fight-over-green-little-snake-river-water/ [https://perma.cc/AS7E-ZAZH].

5 Anne MacKinnon, *Dry Times on the Colorado River*, WYO. LAW., June 2022, at 40, 42.

6 *See infra* Part IV.

7 *See generally* Amy W. Beatie, *Riverbank: Water Trusts in the Western United States*, A.B.A. WATER RES. COMM. NEWSL., May 2009, at 2.

8 *See infra* Part IV.

9 *See infra* Part II.

trusts, focusing on Oregon and Colorado.[10] Finally, Part IV will provide a prescriptive solution for Wyoming to develop a robust water trust.[11]

II. BACKGROUND

The Green River Basin includes portions of Wyoming, Colorado, and Utah, with major tributaries such as the Yampa River and the Duchesne River.[12] For this Comment, references to the Upper Green River Basin will only include the mainstem of the Green River and its tributaries upstream of the Flaming Gorge Dam in Utah. The Colorado River Compact and the Upper Colorado River Compact govern Wyoming's apportionment of these waters.[13]

The Colorado River Compact apportions 7.5 million acre-feet annually to the Upper Basin, of which Wyoming is entitled to 14%.[14] But the Upper Basin apportionment is subject to a decadal obligation of 75-million acre-feet to the Lower Basin,[15] and additional obligations to Mexico.[16] These obligations require Upper Basin states like Wyoming to bear the burden of reducing water use during drought years to maintain their decadal obligation to the Lower Basin.[17]

Within each Colorado River Basin state, water is apportioned based on the prior appropriation system.[18] Traditionally in this system, a water right is acquired through "(1) notice of an intent to appropriate, (2) an actual diversion [of water from the source], and (3) application of the water to beneficial use."[19] Once a water right is perfected, meaning it meets all the elements to acquire a right, the right is granted a priority date.[20] The priority date of a water right is often described as first in time, first in right, granting those with more senior rights complete priority to their entire

10 *See infra* Part III.

11 *See infra* Part IV.

12 *See* John Kemper et al., *Sediment-Ecological Connectivity in a Large River Network*, 47 EARTH SURF. PROCESS & LANDFORMS 639, 641 fig.1 (2022).

13 *See* Upper Colorado River Basin Compact, WYO. STAT. ANN. § 41-12-401, art. II (2023).

14 Colorado River Compact, WYO. STAT. ANN. § 41-12-301 (2023), art. III(a); Upper Colorado River Basin Compact, WYO. STAT. ANN. § 41-12-401, art. III(a) (2023). The Upper Basin division states are Colorado, New Mexico, Utah, and Wyoming. *Id.* § 41-12-401, art. II.

15 WYO. STAT. ANN. § 41-12-301, art. III(d).

16 *See generally* Utilization of the Waters of the Colorado and Tijuana Rivers and of the Rio Grande, Treaty between the United States of America and Mexico, U.S.-Mex, Feb. 3, 1944, T.S. No. 994.

17 Robison, *supra* note 1, at 512.

18 *See* ANTHONY DAN TARLOCK & JASON ANTHONY ROBISON, LAW OF WATER RIGHTS AND RESOURCES § 5:1 (2023).

19 *Id.* § 5:44.

20 *Id.*

appropriative right over any water users with a junior right.[21] A water right holder can lose their right from abandonment or forfeiture through non-use, including losing part of their appropriative right if it is not fully used.[22] The threat of losing a water right if an appropriator does not use their entire right creates a disincentive to conserve because they would lose a property right with no compensation.[23] These principles of prior appropriation are applied in Wyoming's Green River Basin while also applying various interstate water compacts, and management by federal and Upper Basin authorities.[24]

A. The Upper Green River Basin

The Green River starts in the alpine of the Wind River Mountain Range before cutting through the high desert of western Wyoming, eventually flowing into Flaming Gorge Reservoir.[25] Of historical relevance, John Wesley Powell chose the Green River to set off on his 1869 and 1871–1872 adventures, where he would explore what is now Dinosaur National Monument, Glen Canyon, and the Grand Canyon.[26] The Green River is the largest tributary of the Colorado River; during a typical year, 2.6 million acre-feet of water flows between its banks.[27]

The Green River provides valuable habitat as well as recreation opportunities.[28] The Green River Basin recorded the most angler days in

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[21] *Id.* § 5:31.

> First in time, first in right refers to the priority system of the doctrine of prior appropriation. Appropriators are organized based on the date of their appropriation; the senior water rights holder has the earliest priority date and is first in line to receive his or her entire water right depending on water availability. Thus, the priority system manages water in times of shortage.

Leila C. Behnampour, *Reforming a Western Institution: How Expanding the Productivity of Water Rights Could Lessen Our Water Woes*, 41 ENV'T L. 201, 207 (2011).

[22] TARLOCK & ROBISON, *supra* note 18, § 5:90.

[23] Behnampour, *supra* note 21, at 209–10.

[24] *See* Connor Alexander Thompson, Comment, *Leading the Way: Wyoming and the Drought Management Plan*, 20 WYO. L. REV. 217, 220 (2020).

[25] *See* ROY WEBB, LOST CANYON OF THE GREEN RIVER: THE STORY BEFORE FLAMING GORGE DAM 1–3 (2012).

[26] WALLACE STEGNER, BEYOND THE HUNDREDTH MERIDIAN: JOHN WESLEY POWELL AND THE SECOND OPENING OF THE WEST 45 (1953); JAMES M. ATON, JOHN WESLEY POWELL: HIS LIFE AND LEGACY 3, 13 (2009).

[27] 1 WWC ENGINEERING ET AL., WYOMING FRAMEWORK WATER PLAN 4-2 (2007) [hereinafter Water Plan], https://waterplan.state.wy.us/plan/statewide/Volume_I.pdf [https://perma.cc/F8A4-F4BS].

[28] *See* LUKE MARTINSON, ENVIRONMENTAL AND RECREATIONAL WATER USE ANALYSIS FOR THE GREEN RIVER BASIN, WYOMING, 41–52 (2018), https://wwdc.state.wy.us/public_comment/GreenRBP_2017EnviroRec_DRAFT.pdf [https://perma.cc/97EY-2ZUP].

Wyoming, which is a measure of the number of days anglers fished.[29] The anglers often pursue brown and rainbow trout.[30] The Wyoming Game and Fish Department identified five fish species as species of greatest conservation need within the basin: the bluehead sucker, the Colorado River cutthroat trout, the flannelmouth sucker, the Kendal Warm Springs dace, and the roundtail chub.[31] Climate change threatens these species by increasing water temperatures and lowering flows.[32] Along with fish, the river provides valuable habitat for many species, such as the endangered whooping crane.[33]

The Green River also provides major economic benefits to the region through recreation.[34] Recreation provides over $50 million annually in economic activity within the entire Green River Basin.[35] This river also provides vast ecosystem services valued at over $8.9 billion annually within the Green River Basin, [36] which includes the headwaters to the confluence of the Colorado River in Canyonlands National Park in Utah.[37] These ecosystem services include water supply and regulation, habitat, food, and climate stability.[38]

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29 Water Plan, *supra* note 27, at 5–16.

30 *Green River Wyoming – Fly Fishing Float*, GRAND TETON FLY FISHING,, https://www.grandtetonflyfishing.com/river/green/ [https://perma.cc/J33L-JZ5E] (last visited May 11, 2023).

31 WYO. GAME & FISH DEP'T, WYOMING STATE WILDLIFE ACTION PLAN III-13-4 (2017), https://wgfd.wyo.gov/WGFD/media/content/PDF/Habitat/SWAP/Aquatic%20Basins/Green-River-Basin.pdf [https://perma.cc/22R7-SX55].

32 *Id.* at II-4-5.

33 *Whooping Crane*, U.S. FISH & WILDLIFE SERV., https://www.fws.gov/species/whooping-crane-grus-americana [https://perma.cc/6GA2-S233] (last visited May 11, 2023); *Grus Americana*, U.S. DEP'T OF AGRIC., https://www.fs.usda.gov/database/feis/animals/bird/gram/all.html (last visited Nov. 28, 2023).

34 *See* Water Plan, *supra* note 27, at 5-15–5-16.

35 DAVID BATKER ET AL., NATURE'S VALUE IN THE COLORADO RIVER BASIN 53 tbl.25 (2015), https://static1.squarespace.com/static/561dcdc6e4b039470e9afc00/t/5ebefa9b2667ae6f525a20e6/1589574409000/NaturesValueinColoradoRiverBasin_EarthEconomics_2014.pdf [https://perma.cc/U2AH-TG7G].

36 *Id.* at 68 tbl.32.

37 *Id.* at 14.

38 *Id.* at 17. "Ecosystem goods and services are defined as the benefits people derive from ecosystems. Humans need ecosystem services to survive: breathable air, drinkable water, nourishing food, flood risk reduction, water quality treatment, and stable atmospheric conditions are all examples of nature's services." *Id.* at 15. Specifically, rivers provide ecosystem services such as providing aquatic habitat for food, water availability for various uses, moderation of microclimates, and recreation opportunities. Brij Gopal, *A Conceptual Framework for Environmental Flows Assessment Based on Ecosystem Services and Their Economic Valuation*, 21 ECOSYSTEM SERVS. 53, 54 tbl.1 (2016).

Agriculture also heavily uses the river.[39] The Bureau of Reclamation operates two major irrigation projects in the Upper Green River Basin—the Eden Project and the Seedskadee Project.[40] The Eden Project irrigates just over 17,000 acres,[41] while the Seedskadee Project provides up to 345,360 acre-feet of water storage capacity.[42] The basin mainly consumes water for livestock forage, especially grass hay.[43] The total consumptive water use for livestock in the basin was 441,000 acre-feet in 2018.[44] Agriculture is vital to the basin's economy, providing $254 million in economic activity and over 4,000 jobs.[45] The Green River is a source of recreation, ecosystem services, and employment in southwest Wyoming.[46]

B. The Upper Colorado River Commission and Drought Management

Wyoming is part of the Upper Colorado River Commission (the Commission) as a signatory of the Upper Basin Compact.[47] The Commission is tasked with allocating the waters of the Upper Basin under the Upper Basin Compact and has aggressively sought to increase water storage and reduce consumptive use due to the ongoing drought in the Southwest.[48] One method of increasing storage has been through the Upper Basin Drought Contingency Plan, which focuses on: (1) "weather

[39] *See* BUREAU OF RECLAMATION, PROVISIONAL UPPER COLORADO RIVER BASIN CONSUMPTIVE USES AND LOSSES REPORT: 2016-2020 7–8 (2019) [hereinafter CONSUMPTIVE USES], https://www.usbr.gov/uc/DocLibrary/Reports/ConsumptiveUsesLosses/20220214-ProvisionalUpperColoradoRiverBasin2016-2020-CULReport-508-UCRO.pdf [https://perma.cc/CM48-7PMR].

[40] *See Projects & Facilities/Wyoming,* U.S. BUREAU OF RECLAMATION, https://www.usbr.gov/projects/facilities.php?state=Wyoming [https://perma.cc/G93P-V9UR] (last visited Mar. 28, 2023).

[41] *Eden Project*, U.S. BUREAU OF RECLAMATION, https://www.usbr.gov/projects/index.php?id=515 [https://perma.cc/H4NY-PWCP]. (last visited Mar. 28, 2023).

[42] *Seedskadee Project*, U.S. BUREAU OF RECLAMATION, https://www.usbr.gov/projects/index.php?id=426 [https://perma.cc/U2C7-XBJR] (last visited Mar. 28, 2023). An acre-foot of water is the amount of water that would cover one acre of land, one foot deep. *Acre Foot*, WATER EDUC. FOUND., https://www.watereducation.org/aquapedia/acre-foot (last visited Sept. 29, 2023).

[43] States W. Water Res. Corp., *Green River Basin Water Plan Technical Memoranda*, WYO. WATER DEV. OFF., https://waterplan.state.wy.us/plan/green/techmemos/aguse.html [https://perma.cc/P6PV-U3DW] (last visited May 11, 2023).

[44] CONSUMPTIVE USES, *supra* note 39, at i.

[45] KRISTIANA HANSEN ET AL., ECONOMIC ASSESSMENT OF A WATER DEMAND MANAGEMENT PROGRAM IN WYOMING'S PORTION OF THE COLORADO RIVER BASIN 45 (2021), https://www.uwyo.edu/uwe/wy-dm-ucrb/pdf/wy-crb_econ_impacts_water_study_final.pdf [https://perma.cc/5CBE-VCNT].

[46] *See supra* notes 28–45.

[47] *See* WYO. STAT. ANN. § 41-12-401.

[48] *See* Rodney Smith, *Mechanisms for Increasing Water Storage in the Colorado River Basin*, 2022 FOUND. FOR NAT. RES. & ENERGY L. INST., 2B-1, 2B-3–2B-7 (2022). Consumptive use is the amount of water diverted, less the amount of water that returns to the stream. *See, e.g.,* WASH. REV. CODE § 90.03.380(1).

modification (cloud seeding) and removal of invasive species; [(2)] drought response operations of Upper Basin federal reservoirs; and [(3)] investigation of demand management.[49]

In response to the Bureau of Reclamation's call for Colorado River Basin states to provide a plan for increasing water within the system by 2-to-4 million acre feet in June 2022, the Commission released its five point plan.[50] The five points provide a plan for the Commission to do its part by: (1) amending and reauthorizing the previously implemented System Conservation Pilot Program (SCPP); (2) developing the 2023 Drought Response Operations Plan; (3) considering an Upper Basin Demand Management Program while interstate and intrastate investigations are completed; (4) implementing the Bipartisan Infrastructure Law for drought contingency funding; and (5) continuing strict water management.[51]

The SCPP is of special interest as an example of a demand management program. Between 2015 and 2018, the Commission implemented the SCPP to determine whether voluntary measures can effectively mitigate declining water levels in Lake Powell.[52] Wyoming participants were relatively happy with their participation in the SCPP, with 57% of participants reporting a positive experience.[53] In early 2023, the SCPP began taking applications for its second iteration.[54]

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[49] ANNE CASTLE & JOHN FLECK, RISK OF CURTAILMENT UNDER THE COLORADO RIVER COMPACT 16 (2019), [https://perma.cc/BST6-HKN6].

[50] News Release, Upper Colo. River Comm'n, Upper Division States and UCRC Provide 5-Point Plan for Additional Actions to Protect Colorado River Storage Project (CRSP) Initial Units (July 19, 2022) [hereinafter 5-Point Plan], http://www.ucrcommission.com/wp-content/uploads/2022/07/UCRC-Press-Release-Regarding-Upper-Basin-5-Point-Plan-Jul-19-2022-1.pdf [https://perma.cc/V3ET-VKLS]. For scale of the adjustments called for by the Bureau, the Upper Basin allocation is 7.5 million acre feet annually. WYO. STAT. ANN. § 41-12-301.

[51] Letter from Charles Cullom, Exec. Dir., Upper Colorado River Comm'n, to Camille Touton, Comm'r, Bureau of Reclamation, 1–2 (July 18, 2022) [hereinafter Cullom Letter].

[52] *See* UPPER COLO. RIVER COMM'N, COLO. RIVER SYSTEM CONSERVATION PILOT PROGRAM IN THE UPPER COLORADO RIVER BASIN FINAL REPORT 3 (2018) [hereinafter FINAL REPORT], http://www.ucrcommission.com/RepDoc/SCPPDocuments/2018__SCPP_FUBRD.pdf [https://perma.cc/S382-WK6N]. The Commission's plan focuses on maintaining enough water remains in Lake Powell for the Glen Canyon Dam to remain operational and ensure that the Upper Basin's flow obligations to the Lower Basin is met. *See* 5-Point Plan, *supra* note 50; News Release, Bureau of Reclamation, Bureau of Reclamation Completes Project at Glen Canyon Dam to Protect Water Supply During Extremely Low Lake Levels (Jan. 12, 2023), https://www.usbr.gov/newsroom/news-release/4405 [https://perma.cc/XC6E-UXBD] (noting the Bureau's modifications to Glen Canyon Dam to protect against "dead pool" where excess water stored in the reservoir cannot pass through the dam).

[53] HANSEN ET AL., *supra* note 45, at 14.

[54] *See* Cullom Letter, *supra* note 51.

The final report to the Commission about the SCPP showed significant interest and participation by water users in the Upper Basin.[55] The most common project type employed by SCPP was split-season deficit irrigation, where irrigation is withheld during part of the season, while the second most common project type was fallowing fields, where no irrigation is applied for the season.[56] Wyoming had the highest number of submitted applications and approved projects for the SCPP's first three years.[57] During the first three years, over 22,000 acre-feet were conserved through the program.[58] Wyoming's interest in voluntary demand management programs reflects a 2018 study about interest in payments for ecosystem services (PES) in the Upper Green River Basin.[59] That study found that most ranchers in Sublette County support a PES program, but some still expressed reservations about how a PES system may require them to change their operations.[60] The SCPP provides one example of demand management in the Upper Green River Basin. The interest in the program, along with interest by ranchers in PES programs, suggests that a water trust may succeed as an alternative method of demand management.[61]

III. WATER TRUSTS

Western states have been interested in water trusts to provide voluntary transactions between water rights owners and the trusts to conserve water.[62] Colorado, Oregon, Washington, Montana, and Nevada already have water trust programs.[63] Water trusts are private organizations that acquire water rights and convert them to instream flows.[64] Instream flow rights, also called environmental flows, are appropriated water rights that ensure the amount of water appropriated is kept instream rather than

55 *See* FINAL REPORT, *supra* note 52, at 7.

56 *Id.* at 8.

57 *Id.* at 13–15.

58 *Id.* There was a high degree of variability each year. 2015 had 3,227 acre-feet of conserved consumptive use, 2016 had 7,475 acre-feet of conserved consumptive use, and 2017 had 11,408 acre-feet of conserved consumptive use. *Id.*

59 *See* Kristiana Hansen et al., *Rancher Preferences for a Payment for Ecosystem Services Program in Southwestern Wyoming*, 146 ENV'T ECON. 240 (2018) [hereinafter Wyoming PES]. PES is the voluntary transaction to compensate someone to preserve an ecosystem service, such as instream flows, between one who has control over that service and those who benefit from the service. *See* Stefanie Engel, Stefano Pagiola & Sven Wunder., *Designing Payments for Environmental Services in Theory and Practice: An Overview of the Issues*, 65 ENV'T ECON. 663, 664 (2008).

60 Wyoming PES, *supra* note 59, at 248.

61 *See id.*; FINAL REPORT, *supra* note 52.

62 Beatie, *supra* note 7.

63 Mary Ann King, *Getting Our Feet Wet: An Introduction to Water Trusts*, 28 HARV. ENV'T L. REV. 495, 496 (2004).

64 *See id.* at 495.

diverted, so long as no senior right holders make a call on the water.[65] These programs operate similarly to the model of land trusts by using free-market environmentalism to buy water rights and convert them to instream flows for environmental benefits.[66] In fact, water trusts evolved based on land trusts.[67] Land trusts are private entities that broker land transactions, often as conservation easements.[68] A land trust provides incentives, typically monetary payments or tax benefits, to private landowners in return for the landowner accepting limitations on land use through an easement.[69]

This model of using market-based environmentalism provides an alternative to regulation or litigation to achieve environmental goals.[70] Water trusts have adopted the land trust model by providing benefits to irrigators, such as money or in-kind payment, in return for a temporary or permanent transfer of their water rights.[71] The use of water trusts avoids litigation to change water rights while providing benefits to irrigators and the environment.[72] Because the Oregon and Colorado water trusts provide valuable examples of successful water trusts, they are analyzed further below.[73]

A. The Colorado Water Trust

Founded in 2001, the Colorado Water Trust (the CWT) has restored over 74,000 acre-feet to Colorado waterways as of 2022.[74] The CWT functions by acquiring temporary and long-term water rights transfers.[75] Colorado law allows only the Colorado Water Conservation Board

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65 Joseph Q. Kaufman, *An Analysis of Developing Instream Water Rights in Oregon*, 28 WILLAMETTE L. REV. 285, 286, 294 (1992).

66 Janet C. Neuman & Cheyenne Chapman, *Wading into the Water Market: The First Five Years of the Oregon Water Trust*, 14 J. ENV'T L. & LITIG. 135, 135–36 (1999) [hereinafter Wading into the Water Market].

67 King, *supra* note 63, at 499.

68 *Id.* at 508. Conservation easements provide an analog to water trusts acquisitions. *See generally About Land Trusts*, LAND TR. ALL., https://landtrustalliance.org/why-land-matters/land-conservation/about-land-trusts (last visited Sept. 30, 2023).

69 King, *supra* note 63, at 511.

70 *See* Wading into the Water Market, *supra* note 66, at 140.

71 *See* King, *supra* note 63, at 497.

72 *See* Janet C. Neuman, *The Good, the Bad, and the Ugly: The First Ten Years of the Oregon Water Trust*, 83 NEB. L. REV. 432, 443–46 (2004) [hereinafter Good, Bad, Ugly].

73 *Infra* Part III.A–B.

74 COLO. WATER TR., https://coloradowatertrust.org/ [https://perma.cc/BK3M-CKYR] (last visited May 11, 2023).

75 *Id.*

(CWCB), a state agency, to hold an instream flow right, and requires the CWT to transfer an acquired water right to the CWCB.[76]

The CWT has done considerable work restoring flows within the Colorado River Basin.[77] The trust restored 500 acre-feet on the Yampa River, supporting the endangered humpback chub.[78] The trust worked in collaboration with a group of stakeholders to accomplish this feat.[79] In the San Juan Mountain Range, the CWT acquired over 470 acre-feet after a land swap diminished the need for irrigation.[80] Today, that conserved water supports instream flows and is beneficial to recovering native cutthroat trout populations.[81] These are just a few examples of CWT's work.[82] The CWT has to navigate Colorado's water system, which requires a full court proceeding to change water use to instream flows, thereby increasing the time and costs expended.[83] The CWT provides a great example of a water trust in a neighboring state, but Oregon's water trust may be a more useful example due to how long it has existed, and its favorable water laws.

B. The Oregon Water Trusts

Oregon was an early leader in protecting instream flows. In 1915, Oregon ensured adequate flows on waterfalls in the Columbia River Gorge by prohibiting new appropriations and diversions that would diminish the waterfalls.[84] This was followed by the establishment of the 1955 Minimum Perennial Stream Flows Act, which established minimum flows to support

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[76] *See* COLO. REV. STAT. § 37-60-123.7 (2023); COLO. REV. STAT. § 37-92-102(3)–(4) (2023). Colorado, like some other states, only allows for state agencies to hold an instream flow water right. Beatie, *supra* note 7, at 5.

[77] *See e.g., Lower Yampa River-Elkhead Reservoir*, COLO. WATER TR., https://coloradowatertrust.org/project/lower-yampa-river-elkhead-reservoir [https://perma.cc/NKK5-6J27]. (last visited Nov. 28, 2023).

[78] *See id.*

[79] Allen Best, *Water Released From Elkhead Reservoir Lifts Call on Yampa River*, ASPEN JOURNALISM, (Sept. 8, 2020) https://aspenjournalism.org/water-released-from-elkhead-to-lift-call-on-yampa-river/.

[80] *Hermosa Creek-Three Sisters Ditch,* COLO. WATER TR., https://coloradowatertrust.org/project/three-sisters-ditch-hermosa-creek [https://perma.cc/8JMJ-F79G] (last visited May 11, 2023).

[81] *Id.*

[82] *See also Little Cimarron River – McKinley Ditch*, COLO. WATER TR., https://coloradowatertrust.org/projects/little-cimarron-river-mckinley-ditch/ [https://perma.cc/RR82-28RZ] (last visited Aug. 12, 2023).

[83] Lawrence J. MacDonnell, *Environmental Flows in the Rocky Mountain West: A Progress Report*, 9 WYO. L. REV. 335, 350 (2009) [hereinafter Environmental Flows]; *infra* Part IV.

[84] Act of Feb. 9, 1915, ch. 36, 1915 Or. Laws 49 (codified as amended at OR. REV. STAT. § 538.200 (2023)).

aquatic species,[85] and the 1987 Instream Water Rights Act, which declared instream flows as a beneficial use.[86] The Instream Water Rights Act allows temporary or permanent transfers, and any person can purchase, lease, or accept a gift of a water right for conversion to instream flows.[87] Crucially, the Instream Water Rights Act allows transfer of rights for instream flows to maintain priority dates.[88]

Not long after the Instream Water Rights Act was passed, the Oregon Water Trust, now called the Freshwater Trust (the FWT), was created to use market-based solutions to aid stream flows.[89] Janet Neuman, the first president of the FWT, noted that retention of the original priority date when transferring the right to an instream flow was essential to streamflow protection because it allows seniority over consumptive water users.[90] If the original priority date was not preserved, the FWT could not enforce its water rights against most irrigators.[91] Priority date preservation was not the only section of the law that encouraged water marketing in Oregon; the conserved water program was also noted for its importance.[92] The conserved water program encourages water right holders to participate in conservation measures by allowing those who undertake conservation efforts to retain some of their water savings rather than losing their appropriative right to the conserved water.[93]

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85 Act of May 26, 1955, ch. 707, 1955 Or. Laws 924 (codified as amended at OR. REV. STAT. § 536.235 (2023)). The act allows the state, through administrative processes, to establish minimum stream flows, preventing depletions below that amount. Kaufman, *supra* note 65, at 304. Most of the minimum stream flows were established on the western side of the state, which receives considerably more precipitation than the eastern side. *Id.*

86 Instream Water Rights Act of 1987, OR. REV. STAT. §§ 537.332(2), (5); 537.334(1), 537.336 (2023). Declaring instream flows as a beneficial use allows for a water right to be established in a similar manner as uses such as irrigation. Robert Davíd Pilz, *At the Confluence: Oregon's Instream Water Rights Law in Theory and Practice*, 36 ENV'T L. 1383, 1387 n.10 (2006).

87 OR. REV. STAT. § 537.348. The text of the statute allows any person to purchase, lease, or accept gifts, but is ambiguous about whether a private party can hold the instream right. Wading into the Water Market, *supra* note 66, at 167–68. The Oregon Water Resources Department determined only the State can hold instream rights. *Id.*

88 OR. REV. STAT. § 537.334.

89 Good, Bad, Ugly, *supra* note 72, at 436. In 2009, Oregon Water Trust and Oregon Trout merged to create the Freshwater Trust. *History*, FRESHWATER TR., https://www.thefreshwatertrust.org/about-us/history/[https://perma.cc/825A-E27S]. (last visited Aug. 7, 2023). All references to the Freshwater Trust include the time before the merger when the entity was the Oregon Water Trust.

90 Good, Bad, Ugly, *supra* note 72, at 438.

91 *See id.*

92 *Id.* at 439.

93 *See* OR. REV. STAT. §§ 537.455–.500 (2023); Good, Bad, Ugly, *supra* note 72, at 439. *But see* Salt River Valley Water Users' Ass'n v. Kovacovich, 411 P.2d 201 (Ariz. Ct. App. 1966). *Kovacovich* held that conserved water could not be applied to any lands other than the lands to which it was apportioned. *Id.* at 203. In effect, this caused any conserved

On the tenth anniversary of the FWT's founding, Neuman wrote an article in the *Nebraska Law Review* summarizing the successes and challenges the trust had faced.[94] She noted the trust successfully used voluntary methods to change water uses rather than contentious litigation.[95] Rather than causing current water users to dig in their heels by acquiring instream flows through adverse proceedings, leading to litigation costs, the trust worked with water users to provide conservation projects and payments for water transfers.[96] Neuman found the trust could make a difference while acquiring even small quantities of water, in part, because they could retain the priority date of the acquired right.[97]

One example of the FWT's ability to find creative solutions was its first deal as a water trust.[98] The FWT negotiated a deal with a rancher who was causing a tributary of the Deschutes River to become dewatered due to hay irrigation, restricting vital steelhead spawning.[99] In response, the FWT purchased hay for the rancher's cattle in return for a lease of the rancher's water rights.[100] The FWT is now joined by other water trusts in Oregon, putting the state's friendly policies to use to protect instream flows.[101] Other water trusts in Oregon include the McKenzie River Trust[102] and the Deschutes River Conservancy.[103] The success of the FWT, and the length of its existence provides a valuable example for the development of a Wyoming water trust.

IV. DESIGNING A WYOMING SOLUTION

To carry out the Upper Basin Drought Contingency Plan's call to study demand management, [104] Wyoming should investigate how it can develop

water to be subject to either new appropriation or the next junior right holder. *See* TARLOCK & ROBISON, *supra* note 18, § 5:20.

94 *See* Good, Bad, Ugly, *supra* note 72 (providing examples of FWT acquiring small amounts of water with senior priority dates).

95 *Id.* at 442.

96 *Id.* at 442–45.

97 *See id.* at 450–55.

98 *See* Wading into the Water Market, *supra* note 66, at 147–48.

99 *Id.*

100 *Id.*

101 *Infra* notes 102–03.

102 MCKENZIE RIVER TR., https://mckenzieriver.org/ [https://perma.cc/VKZ9-KKKY] (last visited May 11, 2023).

103 DESCHUTES RIVER CONSERVANCY, https://www.deschutesriver.org/ [https://perma.cc/UT6T-XEBV] (last visited May 11, 2023).

104 BUREAU OF RECLAMATION, AGREEMENT REGARDING STORAGE AT COLORADO RIVER STORAGE PROJECT ACT RESERVOIRS UNDER AN UPPER BASIN DEMAND MANAGEMENT AGREEMENT, at 4–5 (2019), https://www.usbr.gov/dcp/docs/final/Attachment-A2-Drought-Managment-Storage-Agreement-Final.pdf [https://perma.cc/XQ7E-CXL7].

a water trust as one method of conservation. While the SCPP saw success in providing payments to irrigators to reduce consumptive use, there are concerns about the economic impact on the basin.[105] One study found that demand management through a system such as the SCPP could result in $2.17 million to $4.77 million in lost income and a loss of 95 to 146 jobs in the basin.[106]

A water trust can provide an alternative demand management system with more flexibility than the SCPP by working more collaboratively with landowners.[107] A water trust may also be more politically acceptable as an alternative to federal projects like the SCPP in Wyoming, based on the state's "tendency towards adversarial federalism."[108] But Wyoming is unprepared for a water trust with its current laws.[109] Wyoming should foster a better environment for a water trust to provide these benefits by amending: (1) instream flow laws; (2) conserved water laws; and (3) creating more robust water markets.[110] Water trusts have shown success in Oregon and Colorado as a method of bringing private funding into demand management.[111] Government funding has provided 90% of funds for environmental water markets, but a recent study found that government funding alone will be insufficient, and there is a need for at least $86 million in new investment.[112] This lack of funding provides even more reasons why Wyoming should change its laws on instream flows, conserved water, and water marketing as the state continues to deal with worsening droughts.[113]

A. Instream Flows

Establishing an instream flow right requires a specified flow rate through defined stream segments.[114] Today, almost every Western state has accepted instream flows into their laws, including Wyoming in a limited manner.[115] Instream flows provide environmental, economic, and quality-

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105 HANSEN ET AL., *supra* note 45, at 4.

106 *Id.*

107 *See* Good, Bad, Ugly, *supra* note 72, at 443–46 (noting the ability to work with irrigators to increase water use efficiency or to purchase the water right based on the irrigator's needs).

108 Tara Righetti et al., *Unbecoming Adversaries: Natural Resources Federalism in Wyoming*, 21 WYO. L. REV. 289, 336 (2021).

109 *See infra* Part IV.A–C.

110 *See id.*

111 *See e.g.,* Good, Bad, Ugly, *supra* note 72, at 442–43.

112 Philip Womble, Allen Townsend & Leon F. Szeptycki, *Decoupling Environmental Water Markets from Water Law*, 17 ENV'T RSCH. LETTERS, May 2022, at 1, 1.

113 *See id.*

114 Environmental Flows, *supra* note 83, at 338–39.

115 *See id.*; Alan Matheson, Jr., *Let it Flow: Wading Through Utah's Instream Flow Statute*, 17 UTAH BAR J., Nov. 2004, at 18, 19–20 (2004).

of-life values as seen through healthy fisheries, habitat protection, and what Henry David Thoreau called the "comfort, spiritual renewal, meditation, [and] solitude" rivers provide.[116]

But Wyoming's instream flow laws are outdated.[117] Only the Wyoming Water Development Commission (the WWDC) can hold instream water rights in Wyoming.[118] Instream flow rights are further constricted because the WWDC may only hold these rights to maintain new or existing fisheries.[119] Instream flows provide essential benefits to fisheries, provide opportunities for recreational fishing, and help keep fish species from being listed under the Endangered Species Act.[120] The protection of fisheries provides another risk of federal intervention in Wyoming water use, through the Endangered Species Act, if reduced flows threaten aquatic species, providing another incentive to avoid command and control regulation.[121] For instance, irrigators on the Klamath River have had their water deliveries curtailed by the federal government to ensure sufficient flows for endangered fish species.[122] The Klamath provides an excellent example of how reduced flows could result in the federal government intervening in Wyoming's water system.[123]

Instream flows not only protect fisheries, they also provide valuable habitat to non-fish species, recreation opportunities, and ecosystem services.[124] But Wyoming's instream flow laws only reflect the benefits provided to fisheries by creating restrictions on the purpose of instream flows and who can hold instream flow rights.[125] These restrictions largely stem from concerns that instream flows would waste water and hamper

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116 *Id.* at 19.

117 *See* Allison E. Connell, Comment, *Left in the Dust: Wyoming's Instream Flow Laws from a Mountain West Perspective*, 19 WYO. L. REV. 197, 203–11 (2019).

118 WYO. STAT. ANN. § 41-3-1003(c) (2023). The WWDC consists of ten members, with two members from each water division in the state, one at large resident of Wyoming, and one member of either the Eastern Shoshone or Northern Arapahoe tribes. WYO. STAT. ANN. § 41-2-117(a) (2023). WWDC provides varies duties such as providing recommendations to the governor and legislature, develop plans and conduct studies, and enter into agreements with the federal government for water development projects. WYO. STAT. ANN. § 41-2-118(a) (2023).

119 WYO. STAT. ANN. § 41-3-1001(a)–(b).

120 *See* TERRY L. ANDERSON ET AL., TAPPING WATER MARKETS 87 (2012) (providing an example of reduced flows on the John Day River threatening fish populations).

121 *See id.*

122 *See* Good, Bad, Ugly, *supra* note 72, at 463–65.

123 *Id.*

124 Gopal, *supra* note 38, at 54.

125 Connell, *supra* note 117, at 201–02; WYO. STAT. ANN. § 41-3-1003(c) (2023); WYO. STAT. ANN. § 41-3-1001(a)–(b).

economic development.[126] One opponent of Wyoming's instream flow laws stated, "[t]ying up water for instream flows stagnates Wyoming!"[127] Yet proponents of the law noted that fishing generated $100 million to Wyoming's economy in 1986, the same year the instream flow law passed.[128]

The adoption of broader instream flow laws in other prior appropriation states provides examples of additional recreational, environmental, and quality of life benefits of instream flows.[129] Instream flows are a relatively new occurrence in Western water law because traditional principles of prior appropriation, such as diversion and beneficial use requirements did not include leaving water instream.[130] Oregon's experience of liberalizing traditional notions of prior appropriation suggests a water trust will fail in Wyoming without amendments to outdated instream flow laws.[131] Based on Oregon's successful water trusts, Wyoming should amend its instream flow laws to adapt to a changing climate.[132]

Academic researchers have identified Wyoming's instream flow laws as outdated.[133] Additionally, the Wyoming State Legislature has taken notice.[134] Since 2010, legislators have introduced five bills to change instream flow laws.[135] In 2011 and 2012, two nearly identical bills were introduced that would have redefined "beneficial use" to include

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126 Matthew Reynolds, *Wyoming's New Instream Flow Act: An Administrative Quagmire*, 21 LAND & WATER L. REV. 455, 459 (1986) (citing Cynthia Lummis, Legislative History of Wyoming's Instream Flow Act (July 1985) (unpublished manuscript sent to legislators before 1986 session)).

127 WYO. OUTDOOR COUNCIL, LEGISLATIVE ANALYSIS 11, at 5 (1982).

128 Reynolds, *supra* note 126, at 459.

129 *See generally* Environmental Flows, *supra* note 83.

130 *See* ANDERSON ET AL., *supra* note 120, at 88–89. Traditionally, a prior appropriation right was perfected by "(1) notice of an intent to appropriate, (2) an actual diversion, and (3) application of the water to beneficial use." TARLOCK & ROBISON, *supra* note 18, § 5:44. A 1965 Colorado case provides an example of how courts traditionally viewed instream flow appropriations being unable to meet the actual diversion requirement. *See* Colo. River Water Conservation Dist. v. Rocky Mountain Power Co., 406 P.2d 798, 801 (Colo. 1965) ("In order to acquire a prior or superior right to the use of such water, it is as essential that a riparian owner locate or appropriate the waters and divert the same as it is for any other user of water to do so.").

131 *See* Good, Bad, Ugly, *supra* note 72, at 438–39.

132 *See id.*

133 *See* Connell, *supra* note 117; Environmental Flows, *supra* note 83, at 374–76, 393; Reed Benson, *"Adequate Progress," or Rivers Left Behind? Developments in Colorado and Wyoming Instream Flow Laws Since 2000*, 36 ENV'T L. 1283, 1302 (2006).

134 *See infra* notes 136–140.

135 S. File 126, 62nd Leg., Gen. Sess. (Wyo. 2011); S. File 76, 62nd Leg., Budget Sess. (Wyo. 2012); H.B. 77, 64th Leg., Budget Sess. (Wyo. 2018); S. File 87, 65th Leg., Gen. Sess. (Wyo. 2019); S. File 75, 65th Leg., Budget Sess. (Wyo. 2020).

environmental and instream flows.[136] In 2019, a bill was proposed to revamp instream flow laws in the state.[137] This bill would have allowed any person to acquire and hold an instream right in their name for temporary purposes.[138] In 2020, a bill addressing game and fish public notice requirements was proposed.[139] The only legislation relating to instream flow laws that has passed, or even received a vote by the entire legislature, was one in 2018.[140] But this legislation only provided that the game and fish commission should bear consulting costs for instream flow studies rather than making substantive change to the instream flow laws.[141]

Legislators should not let the lack of progress so far deter them; the original Wyoming instream flow law took time and perseverance to finally pass.[142] Worsening drought and potential federal intervention in the Colorado River Basin should encourage amending instream flow laws, specifically allowing instream flows to be recognized as a beneficial use as proposed in the 2011 and 2012 bills.[143]

A stronger instream flow law would allow private parties, like a water trust, to acquire instream flows.[144] The 1986 debate on the current instream flow laws reflects nervousness about allowing private parties to hold instream flows and the effects it would have on agricultural communities.[145] However, permitting private parties to hold instream flows can allow for greater flexibility, because an agricultural user could buy the water right back from a private party, but when the government holds the right, it requires political pressure to transfer the right.[146] This solution may prove to be more acceptable to agricultural users based on prior concerns about the way instream flows could affect the economies of their communities.[147] Oregon's success in using temporary transfers to enhance stream flows provides an excellent example of their importance.[148]

136 S. File 126, 65th Leg., Gen Sess., § 1 (Wyo. 2011); S. File 76, 62nd Leg., Budget Sess., § 1 (Wyo. 2012).

137 S. File 87, 65th Leg., Gen. Sess. (Wyo. 2019).

138 *Id.* at § 1.

139 S. File 75, 65th Leg., Budget Sess., § 1 (Wyo. 2020).

140 H.B. 77, 64th Leg., Budget Sess., § 1 (Wyo. 2018).

141 *Id.*

142 *See WWRC 97-05qq Wyoming Water Development Commission's Role Under the Wyoming Instream Flow Law,* WYO. WATER DEV. COMM'N, http://library.wrds.uwyo.edu/wrp/97-05/abs-97-05qq.html [https://perma.cc/2HBW-VXHT] (last visited Nov 8, 2023).

143 *See Supplemental Environmental Impact Statement for Near-term Colorado River Operations*, BUREAU OF RECLAMATION, https://www.usbr.gov/ColoradoRiverBasin/SEIS.html [https://perma.cc/G5A7-PHNZ] (last visited May 11, 2023).

144 *See* Good, Bad, Ugly, *supra* note 72, at 439.

145 Reynolds, *supra* note 126, at 461.

146 ANDERSON ET AL., *supra* note 120, at 105.

147 Reynolds, *supra* note 126, at 461.

148 Wading into the Water Market, *supra* note 66, at 147–48.

B. Water Conservation

Water trusts can go beyond acquiring appropriative rights, they can also work with water users to improve water conservation practices.[149] Oregon especially encourages water conservation by allowing irrigators who improve their practices to retain 75% of conserved water, while the state may receive the other 25% for environmental purposes.[150] In comparison, Colorado does not allow water users to retain any water savings; instead, the water becomes available to the next senior water right holder.[151]

Wyoming's policy is unclear. The U.S. Supreme Court determined that Wyoming water consumers who used more efficient irrigation practices could not use conserved water to increase their irrigated acreage.[152] While this ruling may suggest a similar framework to Colorado, the Supreme Court only interpreted Wyoming's obligations for the Yellowstone River Compact, which does not affect most rivers in the state.[153] Wyoming has not clarified the law for the rest of the state through legislation or litigation. This provides more opportunity for the legislature to create incentives for a water trust by passing legislation similar to Oregon's.[154]

Oregon's water trust has an extensive record of working with irrigators to improve efficiency.[155] As noted earlier, there is interest in the Upper Green River Basin to help protect ecosystems, but ranchers are nervous about changes to their operations.[156] One poll showed that investing in better irrigation systems was the most favored demand management practice among irrigators in the basin, with 58% of respondents answering favorably.[157] Allowing irrigators to sell or lease their unneeded water creates an incentive to engage in conservation.[158] But the common law "use-it-or-lose it" prior appropriation policy creates a disincentive.[159]

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149 *See* Good, Bad, Ugly, *supra* note 72, at 443–45; *Our Approach*, COLO. WATER TR., https://coloradowatertrust.org/our-approach/ [https://perma.cc/B58K-28AZ] (last visited Aug. 12, 2023).

150 OR. REV. STAT. § 537.470 (2023).

151 Se. Colo. Water Conservancy Dist. v. Shelton Farms, Inc., 529 P.2d 1321, 1325 (Colo. 1974).

152 Montana v. Wyoming, 563 U.S. 368, 375–78 (2011).

153 *Id.*

154 *See* OR. REV. STAT. § 537.470.

155 *Water Quantity*, FRESHWATER TR., https://www.thefreshwatertrust.org/services/water-quantity/ [https://perma.cc/UN68-FWMY] (last visited May 11, 2023).

156 *See* Wyoming PES, *supra* note 59, at 248.

157 HANSEN ET AL., *supra* note 45, at 2.

158 Jesse Reiblich & Christine A. Klein, *Climate Change and Water Transfers*, 41 PEPP. L. REV. 439, 473 (2014).

159 ANDERSON ET AL., *supra* note 120, at 63.

A potential water trust could go beyond these incentives by working with irrigators to help improve their irrigation.[160] It also provides more significant incentives than the SPCC, where most projects required fallowing fields.[161] A better-conserved water program would allow farmland to remain in production while leaving more water instream.[162] For these reasons, Wyoming should adopt a conserved water policy similar to Oregon's to create incentives for improving water use efficiency.[163]

C. Water Markets

Water markets provide a method of reallocating water rights by allowing the selling or leasing of water rights between interested parties.[164] Early in statehood, Wyoming looked at water markets harshly.[165] Elwood Mead, the first state engineer of Wyoming, worried water markets would encourage speculation and allow a public good to be monopolized.[166] Yet laws prohibiting the marketing of water rights would evolve to permit markets.[167] As climate change exacerbates water scarcity, water markets provide a method of reallocating water rights.[168] Water trusts require market environmentalism, meaning a strong market is essential to their success.[169] In Wyoming, more robust water markets are needed to reduce transaction costs and to set critical terms for a potential water trust.[170] Wyoming's water markets can be improved by: (1) reducing transaction costs; (2) liberalizing transfer term lengths; and (3) improving access to information for buyers and sellers.[171]

1. Transaction Costs

Water trusts can face significant transaction costs when transferring ownership and type of use of the right, which can reduce market activity.[172] One cost is the due diligence required to research historical use by past

160 *See* Wading into the Water Market, *supra* note 66, at 151–54.

161 *Compare* FINAL REPORT, *supra* note 52, at 8, *with* Wading into the Water Market, *supra* note 66, at 151–54.

162 *Id.*

163 *See* OR. REV. STAT. §§ 537.455–.500 (2023); *supra* notes 92–93.

164 *See* Dustin Garrick et. al., *A Systems Perspective on Water Markets: Barriers, Bright Spots, and Building Blocks for the Next Generation*, 18 ENV'T RSCH. LETTERS, Feb. 13, 2023, at 2.

165 Lawrence J. MacDonnell, *The Development of Wyoming Water Law*, 14 WYO. L. REV. 327, 348 (2014).

166 *Id.*

167 *Id.*

168 *See* Mark Squillace, *Water Transfers for a Changing Climate*, 53 NAT. RES. J. 55, 56–58 (2013) [hereinafter Changing Climate].

169 *See* King, *supra* note 63, at 496.

170 *Id.*; *see infra* Part IV.C.1–3.

171 *See infra* Part IV.C.1–3.

172 ANDERSON ET AL., *supra* note 120, at 60.

water users.[173] Due diligence is also required to show that a change in use will not injure other water right holders.[174] If a right holder donates the right for instream flows, costs will increase due to paying for an appraisal to value that right for the donor to receive a tax benefit.[175]

Administrative oversight exists over water rights because water is a unique commodity—often called a public good—with many historical fears of monopolization.[176] One scholar emphasized that many obstacles to transferring water rights are traceable to agricultural communities wanting to stop transfers of water to non-agricultural use.[177] Obstacles to transferring water rights can be seen today in Colorado, where the major cities along the Front Range receive a considerable amount of water from the Western Slope by diverting it through the Continental Divide.[178] There are also fears of so-called buy and dry schemes where cities buy farms to convert the water to municipal use.[179] These fears are not unfounded in the Upper Green River Basin.[180] In the 1970s, transferring water from the Green River to the Powder River Basin to support coal-fired power plants was proposed.[181] Some in the Green River Basin saw this as a proposal for theft by removing water they saw as their own and giving it to industry on the other side of the state.[182] Two primary hurdles for transferring a water right, resulting in more transaction costs, include: (1) showing no-injury to other appropriators; and (2) convincing the Board of Control that the economic loss to the community and the state should not prevent the transfer.[183]

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173 Thomas Hicks, *An Interpretation of the Internal Revenue Code and Treasury Regulations Supporting the Tax Deductibility of the Voluntary Charitable Contribution in Perpetuity of a Partial Interest in an Appropriative or Riparian Water Right Transferred Instream for Conservation Purposes (With an Emphasis on California Water Law)*, 17 HASTINGS W.-N.W. J. ENV'T L. & POL'Y 93, 126 (2011).

174 *Id.*

175 *Id.* A 2011 article estimated that an independent appraisal can cost between $10,000-$15,000. *Id.*

176 ANNE MACKINNON, PUBLIC WATERS: LESSONS FROM WYOMING TO THE AMERICAN WEST, 22–24 (2022).

177 Changing Climate, *supra* note 168, at 61.

178 *Colorado-Big Thompson Project*, N. WATER, https://www.northernwater.org/what-we-do/deliver-water/colorado-big-thompson-project [https://perma.cc/Z3F5-38N7] (last visited May 11, 2023).

179 Changing Climate, *supra* note 168, at 62. Buy and dry schemes often result in the land becoming infested with non-native weeds which can discourage investment in the community. *Id.* Janet Neuman noted these as concerns for the FWT. Good, Bad, Ugly, *supra* note 72, at 473–75. She noted conserved water projects alleviate this risk by keeping that land in production. *Id.* at 475. When land is taken out of production, FWT has provided payments to help weed control in the area. *Id.*

180 *See* DAVID FREUDENTHAL, WYOMING: THE PARADOX OF PLENTY 64–66 (2022).

181 *Id.*

182 *Id.* at 65.

183 *See* WYO. STAT. ANN. § 41-3-104(a) (2023).

i. No-Injury Rule

Historically, junior right holders could only protect themselves against senior right holders by using the "no-injury rule."[184] This rule requires a showing by the transferor of the right that no other right holders—senior or junior—will be injured by a change in the right, including a transfer to another user.[185] Proving no-injury can create significant costs to hire experts to prove the transfer will not injure other right holders.[186]

Today, changing a water right requires burdensome administrative hurdles.[187] As far back as the 1960s, Frank Trelease, a noted water law expert and former dean of the University of Wyoming College of Law, pushed for making the process easier unless there was clear injury to other appropriators.[188] But Wyoming still maintains a reputation for making it difficult to transfer water rights.[189]

When petitioning for a change of use, a petitioner is required to provide information about the existing use and the proposed use, along with the locations of the current use and the proposed use.[190] This places the burden on the transferor to prove no-injury to other appropriators.[191] The Board of Control, the entity who adjudicates water rights in Wyoming, may then require a public hearing, at the petitioner's expense, further increasing transaction costs.[192] At this point, the Board of Control *may* allow the change of use if: (1) the rate of historical diversion, historical rate of consumption, and historical return flows are not increased; and if (2) no other appropriators are injured.[193] These hurdles have caused frustration among water users.[194]

The no-injury rule could be invoked to prevent transfers to a potential water trust.[195] In Oregon, the no-injury rule has been used to try to prevent transfers to the FWT.[196] Invocation of the rule required a contested hearing in front of an administrative law judge to affirm the transfer to the FWT,

184 TARLOCK & ROBISON, *supra* note 18, at § 5:78.

185 *Id.*

186 Changing Climate, *supra* note 168, at 60–61.

187 *See* Mark Squillace, *Water Marketing in Wyoming,* 31 ARIZ. L. REV. 865, 885–87 (1989). The author notes that Wyoming has a reputation "as a state with restrictive transfer laws." *Id.* at 892.

188 MACKINNON, *supra* note 176, at 152.

189 Squillace, *supra* note 187, at 892.

190 WYO. STAT. ANN. § 41-3-104(a).

191 *See id.*

192 *Id.*

193 *Id.*

194 MACKINNON, *supra* note 176, at 154.

195 *See* WYO. STAT. ANN. § 41-3-104(a).

196 Good, Bad, Ugly, *supra* note 72, at 459–61.

further increasing transaction costs.[197] In the case of an instream flow, no water would be diverted, and there would be more water in the stream than there was previously.[198] Even so, the statute would still require a potential water trust to bear these administrative burdens.[199] To reduce transaction costs, transfers to instream flows should (1) be exempted from the no-injury rule, or (2) require a complainant to show injury rather than requiring the transferor to prove no-injury.

ii. Economic Loss to the Community and the State

The Wyoming statute goes beyond the typical no-injury rule by allowing consideration of economic loss to the community and the state if the current water use is discontinued.[200] The statute passed soon after attempts to divert water from the Green River to the Powder River Basin.[201] The Board of Control could use this clause to prevent transfers to instream flows, especially considering the historical fears that instream flows are bad for economic development.[202] Even if the board did not prevent the transfer, the board is required to consider the economic loss to the community and the state, creating even more administrative costs.[203]

While removing administrative burdens encourages more water transactions, it increases the likelihood of out-of-basin transfers.[204] Based on the history of transboundary water diversions in the Green River Basin, it may be necessary to tailor reductions in transaction costs to only transactions involving instream flows.[205] Transfers to instream flows do not validate prior fears; rather than transferring the water outside the basin, instream flows inherently help keep water in the basin.[206] Like the no-injury rule, instream flows should be exempted from this investigation of economic loss to the community.[207]

Instream flows provide many economic benefits through both recreation and ecosystem services.[208] Exempting economic loss to the

197 *See id.*

198 Wading into the Water Market, *supra* note 66, at 164–65.

199 *See* WYO. STAT. ANN. § 41-3-104.

200 *Id.* § 41-3-104(a).

201 *See* FREUDENTHAL, *supra* note 180, at 70.

202 *See* Reynolds, *supra* note 126, at 461, 466.

203 WYO. STAT. ANN. § 41-3-104(a).

204 Changing Climate, *supra* note 168, at 63.

205 FREUDENTHAL, *supra* note 180, at 64–66.

206 *See* Wading into the Water Market, *supra* note 66, at 144–45. The FWT identified basins of highest interest to focus their work. *Id.* Once they were identified, they completed transactions that helped restore water into streams within these basins. *Id.* at 148–50. These instream flows help support important salmon and trout populations. *Id.*

207 *See supra* notes 200–206.

208 *See* BATKER ET AL., *supra* note 35, at 49.

community investigations for instream flows would reduce significant administrative hurdles that result in high transaction costs while acknowledging the economic benefits of instream flows.[209]

2. Transfer Term

It is also important to allow for short-term transfers, for a duration chosen by the buyer and seller, to provide more options for irrigators and water trusts to tailor specific programs that may require different terms of transfers.[210] In Oregon, short-term leases are a popular method of creating instream rights for the FWT.[211] Wyoming only allows for short-term transfers or leases of water rights for no more than two years.[212] As discussed above, significant investment and administrative efforts are required to transfer water rights.[213] Wyoming's temporary transfer statute limits the length a potential trust could work with private landowners,[214] and should be amended to permit transfers for longer than two years.

Short-term transfers also allow for creative solutions in rural communities.[215] One example is the FWT's first lease, where they provided hay as payment for temporarily acquiring a rancher's water right.[216] In another example, one scholar documented the Palo Verde Irrigation District engaging in rotational fallowing to provide domestic water to the Metropolitan Water District.[217] Rotational fallowing involves participating farmers who fallow some of their lands but can continue farming the remaining land and then rotate which areas of their property they fallow each year.[218] But this system is large and costly, which may make its adoption in other states unlikely.[219] One scholar has argued that allowing a

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209 *See* ANDERSON ET AL., *supra* note 120, at 60.

210 *See* Wading into the Water Market, *supra* note 66, at 147–48. The FWT's first deal provides an excellent example of using short term transfers. *Id.* The deal started with a one-year transfer and then FWT and the irrigator entered into additional short-term agreements. *Id.* By the time the Wading into the Water Market article was published, the FWT was considering a permanent transfer but was unable to because of a family partition suit. *Id.*

211 Good, Bad, Ugly, *supra* note 72, at 475.

212 WYO. STAT. ANN. § 41-3-110 (2023).

213 *See supra* Part IV.A–B.

214 *See* WYO. STAT. ANN. § 41-3-110.

215 Changing Climate, *supra* note 168, at 109.

216 Wading into the Water Market, *supra* note 66, at 147–48.

217 Changing Climate, *supra* note 168, at 109. The Palo Verde program does not involve short-term transfers; rather, the author noted that implementation of similar programs may face barriers. *Id.* The author believed that short-term transfers could provide a middle ground that may be more acceptable by not permanently giving up rights but allowing for short-term transfers that accomplish the same goals. *See id.*

218 *Id.* at 110.

219 *Id.*

similar system through short-term transfers could reduce hesitancy to adopt this or similar methods.[220]

Temporary transfers have proven to be popular for the FWT. In fact, in the first ten years of the trust, most of their acquisitions were short-term leases rather than permanent acquisitions.[221] Some have noted that temporary transfers can benefit both parties because they preserve the owner's long-term right while allowing for water uses for immediate needs.[222] Short-term transfers may also be more popular in the Green River Basin based on their history of proposals for transboundary diversions.[223] Temporary transfers have been seen as a way to preserve agricultural communities while also meeting non-agricultural needs.[224] The FWT found short-term leasing to be beneficial when working with irrigators.[225]

3. Access to Information

Mark Squillace, a leading water law scholar, noted characteristics of competitive water markets, and two of those characteristics revolved around access to information.[226] Both parties in a transaction should have information about the quality and price of water.[227] While water quality information is important, it is beyond the scope of this Comment in part because water quality involves many federal programs such as the Clean Water Act.[228] This section thus focuses on access to price information about water quantity.

The FWT's early work encountered difficulty in establishing a market price for acquiring water.[229] The SCPP may help alleviate these issues of finding an initial market price because the final report on the program found it paid, on average, between $190 and $200 per acre-foot for their projects in Wyoming.[230] Based on the success of the first round of the

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220 *Id.*

221 Good, Bad, Ugly, *supra* note 72, at 475.

222 Steven J. Shupe et al., *Western Water Rights: The Era of Reallocation*, 29 NAT. RES. J. 413, 417 (1989).

223 *See* FREUDENTHAL, *supra* note 180, at 64–66.

224 MACKINNON, *supra* note 176, at 181.

225 *See* Good, Bad, Ugly, *supra* note 72, at 453–55.

226 Changing Climate, *supra* note 168, at 68.

227 *Id.*

228 *See generally*, Kenneth M. Murchison, *Learning from More Than Five-and-a-Half Decades of Federal Water Pollution Control Legislation: Twenty Lessons for the Future*, 32 B.C. ENV'T AFFS. L. REV. 527 (2005).

229 Good, Bad, Ugly, *supra* note 72, at 442.

230 FINAL REPORT, *supra* note 52, at 13–15.

SCPP, the Commission approved the program again in 2023, providing a source of information for the future.[231]

While the SCPP can be beneficial in creating an initial baseline, more work should be done to continue to grow and disseminate data about the water market.[232] Even baseline data for consumptive use is limited as Wyoming's metrics are based on a high-water supply year.[233] Colorado has created an online database, HydroBase, which records diversions and has made water supply data easily accessible.[234] Wyoming should create its own diversion and water transaction database. This will help market participants understand current prices and supply, thereby providing parties in a transaction with the necessary water price information.

A pragmatic consideration of creating a database in Wyoming is the potential database will be limited by the number of transactions that take place outside of formal transaction processes.[235] A study of Colorado River Basin states' water marketing laws and transactions found Wyoming had some of the most restrictive marketing laws, but some of the most transactions.[236] Less than 5% of instream flow transactions throughout the basin used formal processes.[237] These informal transactions reduce transaction costs but lack legal protection for instream flows from other appropriators.[238]

High levels of informal transactions can be evidence of the early stages of an emerging instream flow market.[239] There is proven interest in instream flow marketing in the Upper Green River Basin.[240] Thus, Wyoming should mature water markets beyond informal transactions.[241] Wyoming can push for water market maturation by: (1) recognizing instream flows; (2) reducing transaction costs; and (3) expanding publicly available information about water transactions.[242] Doing so can bring these

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231 5-Point Plan, *supra* note 50. The SCPP has set a starting point for prices that a future water trust can use to support initial pricing efforts, something that caused struggles for the FWT. *See* Good, Bad, Ugly, *supra* note 72, at 442.

232 The FWT noted that prices differ based on various factors such as the seniority of the right, value of existing land uses, quantity of water, etc. Good, Bad, Ugly, *supra* note 72, at 446.

233 FINAL REPORT, *supra* note 52, at 12.

234 *Id.*; *HydroBase*, COLO. DECISION SUPPORT SYS., https://cdss.colorado.gov/software/hydrobase [https://perma.cc/M7E2-23LD] (last visited Aug. 12, 2023).

235 *See* Womble, Townsend & Szeptycki, *supra* note 112, at 6.

236 *Id.* at 5.

237 *Id.* at 1.

238 *Id.* at 6.

239 *Id.* at 10.

240 *Id.* at 5.

241 *See id.*

242 *See supra* Part IV.A, C.1, C.3.

informal transactions into a more formalized process, allowing for legal protection of instream flows and creating greater market information available to parties.

V. CONCLUSION

As Wyoming searches for solutions to the supply-demand imbalance that has become all too evident within the Colorado River Basin, water trusts have shown success in other states and should be considered.[243] Historically, Wyoming has been a leader in Western water law.[244] Wyoming was the first state to adopt an administrative system for prior appropriation,[245] and it was the first state to have a river equitably apportioned by the U.S. Supreme Court.[246] When it comes to water trusts, Wyoming has fallen behind, but can learn from other states that have created an environment for them to flourish.[247] While the Green River has received the focus of recent attention in Wyoming water law, including in this Comment, water shortages affect other major streams in the state, and a water trust could create benefits across the state.[248]

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243 *See supra* Part III.

244 *See* MACKINNON, *supra* note 176, at 3–4 (describing Elwood Mead's work on improving the systems implemented by California and Colorado to make water public property).

245 *Id.* at 29.

246 Wyoming v. Colorado, 259 U.S. 496 (1922).

247 *See supra* Part III.

248 *See, e.g.*, Dustin Bleizeffer, *Two Wyo Rivers Under Restrictions Due to Low Snowpack, Drought*, WYOFILE, https://wyofile.com/two-wyo-rivers-under-restrictions-due-to-low-snowpack-drought/ [https://perma.cc/ZRV6-4YNL] (Apr. 26, 2022) (noting curtailments on the North Platte River).