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HOW THE WEST IS WON: ADVANCING WATER LAW FOR WATERSHED HEALTH

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I. INTRODUCTION

For over one hundred fifty years, diversion was a touchstone of water law in the American West. A water right generally required moving water from its natural stream channel into ditches, canals, or pipes to serve a range of human needs.[1] The resulting water storage and delivery systems represent a triumph of human ingenuity and engineering,[2] but also a largely unbroken era of habitat loss and degradation for fish and wildlife that depend on free-flowing rivers and streams for survival.[3] The West's state-based water law systems, built upon the prior appropriation doctrine, legally sanction these dry rivers and streams.[4] Indeed, the traditional "use it or lose it" rule means that appropriators who leave water instream risk forfeiting their water rights.[5] Fortunately, in recent decades, the tide has begun to turn, and more places are harnessing the same human ingenuity

Cottonwood Creek, tributary to Montana's Gallatin River, routinely runs dry downstream of senior water right diversions. Photo Credit: Trout Unlimited, Laura Ziemer

1. Norman K. Johnson & Charles T. DuMars, *A Survey of the Evolution of Western Water Law in Response to Changing Economic and Public Interest Demands*, 29 NAT. RESOURCES J. 347, 350, 387 (1989).

2. DONALD WORSTER, RIVERS OF EMPIRE: WATER, ARIDITY AND THE GROWTH OF THE AMERICAN WEST 4 (Oxford Press 1992) (1985).

3. David S. Wilcove et al., *Quantifying Threats to Imperiled Species in the United States*, 48 BIOSCIENCE, no. 8, 1998, at 607–615, 611.

4. Lawrence J. MacDonnell, *Environmental Flows in the Rocky Mountain West: A Progress Report*, 9 WYO. L. REV. 335 (2009) ("This regional shift in how people view rivers . . . turns upside down 100 years of effort to put every drop of water to some kind of direct human use . . . in which success was measured by how much water was beneficially consumed").

5. DAN A. TARLOCK, LAW OF WATER RIGHTS AND RESOURCES, § 5:91 (2016).

that built the West to modernize water law and restore degraded habitats.[6] Critical gains in the law and on the ground have become all the more important as our waterways face increasing stress from climate change, drought, and urbanization. By examining these first-generation instream flow efforts, we can discern emerging strategies for the next generation of stream restoration.

This piece provides a brief overview of state instream flow authorities across the West, laying a foundation for the question, "What does an 'optimal' set of instream flow rules and practices look like?" It also analyzes how evolutions in instream flow rules have come about. Tension exists between two possible first steps: Should we first create the legal authority for instream flow protection so that on-the-ground work can follow, or should we first restore flows and habitat using existing tools and then seek to expand those tools?

That tension is rooted in this paradox: while intensely managed at the local level, water remains a fluid medium connected to the environment and communities downstream. In consequence, practitioners must adapt strategies to local conditions and also keep a steady gaze on the broader horizon of long-term policy. In some states this means prioritizing legal and regulatory reform, where conditions favor such a strategy, and in other states this means using available tools in ways that build credibility and a track record of restored streams. Under either approach, there is no substitute for engaging at the local level and building time-tested relationships while developing expertise in the field.

This piece then considers how the next generation of instream flow protection can adapt to be yet more nimble and effective. Ultimately, every western state needs a full suite of transaction tools and funding mechanisms for communities to respond to drought and dewatering at a basin scale. Yet we often need far less legal authority than we think to deliver real conservation wins on the ground. Both in the short-term and long-term, stream flow restoration involves an evolutionary process of partnerships with agricultural producers, shared learning, changing the predominant culture around water, and creating innovations in water management and watershed restoration. Pursuing legal and regulatory changes alone does not guarantee effective restoration. Rather, it requires selective

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6. Steven E. Yochum, *Guidance for Stream Restoration and Rehabilitation*, U.S. DEP'T OF AGRICULTURE. (May 2016), https://www.fs.fed.us/biology/nsaec/assets/yochumusfs-nsaec-tn102-4guidancestreamrestoration.pdf.

use of available tools, working carefully with project partners, and reducing transaction costs to enable a greater number and volume of instream flow transactions and restoration techniques, even as practitioners seek to break new legal ground.

Although early state-based efforts necessarily focused on the authority to change a consumptive right from irrigation to instream flow to benefit a fixed reach of stream, the next evolutionary stage envisions multiple, simultaneous short- and long-term water right changes in a watershed using market mechanisms or other basin-scale, drought-response tools. While water right changes will remain elements of such efforts, we need institutional structures and administrative processes that go further. Understanding the evolution and elements of success under current state laws is essential to creating new basin-scale tools that serve agricultural, municipal, and environmental uses, while maintaining the viability of all three sectors, particularly in the face of future, extended drought. The variety and creativity of state approaches suggest we can achieve this ultimate goal of balance among multiple water uses.

II. THE WESTERN STATES AT A GLANCE

The Montana Legislature passed one of the first state instream flow laws in 1969 when Senator James E. Murphy sponsored a bill to protect flows in twelve "blue-ribbon" trout streams.[7] This first-generation instream flow law recognized non-diversionary flows as a beneficial use but gave those flows a junior priority date. It would take Montana and other western states several more decades to authorize the change of senior irrigation rights to instream flows.[8] Now most western states recognize such transfers, although the formal legal tools and informal strategies vary.[9]

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7. 1969 Mont. L. ch. 345, § 1 (authorizing Montana Fish, Wildlife, and Parks to file appropriations for instream fisheries on twelve streams and rivers); Oregon followed in 1987 (OR. REV. STAT. §§ 537.332–537.360), and Colorado in 1986 (COLO. REV. STAT. § 327-92-102(3)).

8. Montana Water Use Act § 26, 1973 Mont. Laws ch. 452, 1121 (now codified at MONT. CODE ANN. § 85-2-316 (2019)); *see also* MacDonnell, *supra* note 4.

9. *See* Adell Louise Amos, *The Use of State Instream Flow Laws for Federal Lands: Respecting State Control While Meeting Federal Purposes*, 36 ENVTL. L. 1237 (2006).

The Pacific Coast states of Washington, Oregon, and California provide a model of the most complete and mature instream flow regimes, even as they illustrate the challenges of state agency implementation and the rigors of adapting a water right's purpose to meet instream flow needs.[10] The essential components of these laws are detailed further below.

In turn, the intermountain states of Colorado, Wyoming, Montana, Utah, and Idaho present an opportunity to expand and fine-tune statutory options to convert water rights to an instream purpose.[11] At the same time, the lack of statutory specificity in some of these states has lent itself to low transaction costs—demonstrating that less statutory authority can drive meaningful results based on the exercise of administrative discretion.[12] Utah's hard-won lesson on this point is instructive. When its legislature passed specific statutory authority for changing water rights to instream flow, the legislation engendered unforeseen implementation challenges, leading to high transaction costs and significant administrative burdens.[13] Montana's experience corroborates the lesson that, as statutory specificity increases, administrative flexibility can be constrained and transaction costs can increase.[14] Idaho's Water Supply Bank, on the other hand, yields a positive counter-example. Despite the Bank's limited geographic range in the Lehmi and Salmon River basins, it has become one of the most innovative examples of reducing transactions costs and responding to drought at a watershed scale.[15]

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10. Laura Ziemer, Tim Hawkes & Kevin Rechkoff, *How the West is Won, Advancing State-Based Instream Flow Authorities*, TROUT UNLIMITED (Dec. 16, 2016), http://www.tu.org/sites/default/files/How_the_West_is_Won_TU_Rpt_2016.pdf.

11. *Id.*

12. Leon F. Szeptycki et al., *Environmental Water Rights Transfers: A Review of State Laws Water in the West for The National Fish and Wildlife Foundation*, July 31, 2015, at 9, http://waterinthewest.stanford.edu/sites/default/files/WITW-WaterRightsLawReview-2015-FINAL.pdf.

13. *See* UTAH CODE ANN. § 73-3-30(3) (2019) (restricting private leases by type of fish protected, imposing additional administrative review and approval requirements, etc.).

14. Laura Ziemer, Stan Bradshaw & Meg Casey, *Changing Changes: A Roadmap for Montana's Water Management*, 14 U. DENV. WATER L. REV. 47, 50–52 (2010).

15. As of January 2013, the Board held 291 minimum flow water rights that cover roughly 994 miles of streams and three lakes; *see Idaho Minimum Stream Flow Program,* IDAHO BOARD OF WATER RESOURCES, Jan. 2013, at 1,

The Teton River Basin in Idaho has been an area of innovation in using the Idaho Water Supply Bank to protect instream flows even outside of the statutory-prescribed areas of the Lehmi and Salmon River basins. Photo Credit: Trout Unlimited, Kim Trotter

Looking toward the future, New Mexico, Nevada, and Arizona—states without explicit statutory authority for instream flow transactions[16]—have the opportunity to build on the progress made in other western states and by creating agile and flexible statutory tools that protect stream flows in the face of scarcity while maintaining low transaction costs.

III. LESSONS FOR SUCCESS

The West's instream flow successes and failures give rise to four key lessons for the future: the need for (1) a complete instream flow regulatory toolbox; (2) agency support for instream flow restoration; (3) watershed restoration without harming water rights; (4) on-the-ground trust and expertise; and (5) strong funding partnerships.

(1) A Complete Regulatory Toolbox Provides Authority & Options

Taken collectively, the Pacific Coast states showcase a complete toolbox of instream flow water rights:

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https://idwr.idaho.gov/files/iwrb/2013/201301-Minimum-Stream-Flow-Brochure.pdf.

16. Szeptycki et al., *supra* note 12, at 20–21, 37, and 40.

- Authority for permanent and short-term water right changes to instream flow rights, held by state agencies (CA, OR and WA), private parties, federal agencies, or local entities (CA).[17]
- Authority to add or "stack" an instream use onto an existing consumptive use and alternate between those uses (CA).[18]
- Authority to transfer water conserved through irrigation efficiencies to instream flow (CA, OR, and WA).[19]
- Expedited review for short-term changes to instream flow (OR),[20] or for temporary water right donations to an instream purpose (WA).[21]
- Relatively low transaction costs on water right changes to instream flow, and state agencies with programs that promote instream water rights (OR and WA).[22]

The Intermountain West states each have some form of one or more of these elements, although no Intermountain state has all of them.

(2) Administrative Support Reduces Transaction Costs

Legal authority for instream flow rights and state administration of those rights go hand-in-hand to create conditions for success.[23] Administrative hurdles directly correlate with transaction costs—the time, expense, and risk inherent in water right changes—and play a decisive role in the success of using water rights to benefit instream flows. When state agencies work towards instream flow restoration, notably in Oregon and Washington, it facilitates instream flow transactions in ways that make

17. WASH. REV. CODE § 90.42 (2019); OR. REV. STAT § 537.350 (2019); CAL. WATER CODE § 1707 (2019).

18. California State Water Resources Control Board, *In re Petition for Reconsideration of Order Approving 1707 Petition for Dedication of Instream Flow*, Order WR 2011-0001-EXEC, available at http://www.waterboards.ca.gov/waterrights/board_decisions/adopted_orders/orders/2011/wro2011_0001.pdf.

19. Wash. Rev. Code § 90.42; Or. Red. Stat. § 537.350; Cal. Water Code § 1707.

20. Szeptycki et al, *supra* note 12, at 13.

21. WASH. REV. CODE § 90.42.080(5) (2014).

22. Wash. Dep't of Ecology, *Trust Water Rights Program,* (May 23, 2017), http://www.ecy.wa.gov/programs/wr/market/trust.html; Oregon Water Resources Dep't, *Flow Restoration in Oregon*, (May 23, 2017), https://www.oregon.gov/owrd/pages/mgmt_instream.aspx.

23. Szeptycki et al, *supra* note 12, at 20–21, 37, 40.

statutory legal authorities more effective.[24] Idaho's Water Supply Bank, described above, tells another compelling story of how minimizing the time, expense, and risk associated with water right changes can lead to dramatic results in restoring flows, despite other limitations in a state's statutory toolbox.[25] In contrast, California, which has had the most complete statutory regime of any western state for twenty-five years, made almost no headway because its administrative process was complex, slow, and burdensome.[26] Recently, however, California has begun streamlining its water right transfer process and improving state administration, demonstrating how important these ingredients are for success.[27]

(3) Watershed Restoration Without Harming Water Rights

Water scarcity is the most dramatic, predicted expression of climate change for the western United States. A shrinking western snowpack and hotter temperatures, together with more frequent droughts, floods, and wildfires, are already challenging westerners and are predicted to intensify. Outside of the Colorado River Basin, western reservoirs capture less than ten percent of snowmelt. Even with the Colorado River Basin's reservoir storage capacity at four hundred percent of annual average snowmelt, its reservoirs are at historically low levels due to two decades of unprecedented drought conditions.[28] Building bigger or more reservoirs is neither a cost-effective nor scalable solution to a shrinking snowpack or to more precipitation coming as floods.

In contrast, new watershed restoration approaches are creating a response to water scarcity that simultaneously addresses the economic precariousness of western ranch lands, a shrinking snowpack, and more extreme precipitation events. These approaches reverse-engineer the lost natural water storage in degraded watersheds, creating ecological benefits while reducing drought and flood risk—an approach aligned with getting ahead of climate-change impacts in marginal environments.

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24. Wash. Dep't of Ecology, *supra* note 22; Oregon Water Resources Dep't, *supra* note 22.

25. IDAHO CODE §§ 42-1506, 42-1765A (2016); *Idaho Minimum Stream Flow Program*, *supra* note 15.

26. Szeptycki et al, *supra* note 12, at 23.

27. Water Quality, Supply, and Infrastructure Improvement Act of 2014, Assembly Bill No. 1471, Ch. 188 (Cal. 2014).

28. (Bureau of Reclamation site for Lakes Powell and Mead reservoir levels).

From upper-watershed range lands to watersheds supplying municipalities' drinking water, restoring the lost capacity of the landscape to act as a "sponge" to absorb snowmelt and flood events reduces flood risk while providing resilience during drought and wildfire. As a case in point, a growing community of practice shows that the construction of "artificial beaver dams" ("ABDs") and "beaver dam analogues" ("BDAs") can—when properly designed and deployed—make an important contribution to restoring lost hydrologic function.[29] In general terms, ABDs and BDAs are structures introduced into degraded, incised stream channels to restore hydrologic functions in floodplain areas that previously supported wet meadow and wetland systems, but have experienced significant levels of erosion and stream channel degradation following the extirpation of beaver, ditching of wetlands, and landscape-level vegetation removal.[30] This type of restoration is also referred to as "process-based restoration" because it harnesses natural geomorphic stream processes to enhance the restoration outcome over time.[31]

Some western states have now enshrined watershed restoration and protection as integral components of state water supply law. In California, for example, the 2016 Legislature passed AB 2480, which provides:

> It is hereby declared to be the established policy of the state that source watersheds are recognized and defined as integral components of California's water infrastructure [and] . . . Recognizing the critical role of source watersheds in enhancing water supply reliability, the maintenance and repair of source watersheds is eligible for the same forms of financing as other water collection and treatment infrastructure.[32]

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29. *See generally* Joe Wheaton et al., Low-Tech Process-Based Restoration of Riverscapes: Design Manual (2019), *available at* https://www.researchgate.net/publication/332304757_Low-Tech_Process-Based_Restoration_of_Riverscapes_Design_Manual_Version_10.

30. *Id*. at 6-16.

31. *Id.*

32. CHAPTER 695, Section 108.5 of the Water Code (emphasis added).

The 2017 Montana Legislature passed a similar bill, recognizing the importance of watershed function to water supply and making watershed restoration eligible for some state programs providing water infrastructure funding.[33]

The landscape-scale restoration of hydrologic function has had state agencies, water right holders, and restoration practitioners wrestling with how such restoration fits into the prior appropriation scheme. Similar to water right changes for instream flow, hydrologic restoration also must be done without harming existing water rights. What sets restoration of hydrologic function apart from instream flow changes, however, is that restoration actions are bringing stream conditions back to those found at the time of the first, and most senior, appropriators. Montana has issued agency guidance recognizing this, and has provided guidelines for addressing watershed restoration projects in the context of water rights.[34] Utah has similarly issued guidance, but requires a one-time, temporary high-water "storage" right for the hydrologic restoration that delays those peak flows on the landscape in the form of transient floodplain water retention.[35] Idaho's recently-minted guidance, in turn, focuses on the need to notify downstream water right holders.[36] Over time, hydrologic restoration and watershed function will no doubt find their place within the prior appropriation doctrine, much like instream flow rights.

(4) No Shortcut for Building Trust and Expertise

Across western states, conservation non-governmental organizations ("NGOs") have played an essential role in advancing instream flow resto-

33. HB 424, 65th Montana Legislature.

34. *See generally* Montana Department of Natural Resources and Conservation, Guidance for Landowners and Practitioners Engaged in Stream and Wetland Restoration Activities (Mar. 9, 2016), *available at* http://dnrc.mt.gov/divisions/water/water-rights/docs/new-appropriations/stream-wetland-restoration-water-right-guidance-04-16.pdf.

35. Utah Department of Natural Resources, Policy for Beaver Dam Analogue (BDA) Construction 1–2 (Dec. 28, 2018), https://www.waterrights.utah.gov/wrinfo/policy/20181228-Policy%20for%20Beaver%20Dam%20Analogue%20(BDA)%20Construction.pdf

36. Idaho Department of Water Resources, Processing Joint Applications for Permit Proposing Beaver Dam Analogs and Post Assisted Log Structures 2–4 (Dec. 19, 2019).

ration. Every state has needed a sustained investment of NGO time, energy, and experience to make progress.[37] In Wyoming, for example, after state agency efforts produced limited results, Trout Unlimited ("TU") implemented hundreds of stream restoration, channel improvement, and fish passage projects with Wyoming ranchers over the course of a decade.[38] In Wyoming's upper Green River Basin, a tributary to the Colorado River, TU built relationships within the agricultural community that in turn maximized new funding for agreements to reduce irrigation and leave water instream. TU's status as a trusted partner likewise facilitated favorable treatment of these agreements at the Wyoming State Engineer's office, protecting the ranchers' water rights from risk of forfeiture.[39] These on-the-ground experiences have set the stage for Wyoming to codify water right changes to instream flow that would have been non-starters just a decade ago.

Testimony to real collaboration in Utah is a joint "No Trespassing" sign between the South Weber Irrigation District and "Trouts Unlimited" on a joint project that upgraded a diversion structure. Photo Credit: Trout Unlimited, Scott Yates

In neighboring Utah, TU took a different approach, but one that still relied on building relationships with decision-makers and water right owners and developing deep expertise in the field.[40] Initially, TU invested time in

37. *How the West is Won*, *supra* note 10.

38. Lawrence J. MacDonnell, *Enhancing Stream Flows in Wyoming Final Report* PI, UNIVERSITY OF WYOMING COLLEGE OF LAW, (2011), https://www.uwyo.edu/owp/_files/project30finalreport.pdf.

39. Cory Toye, *Ranchers volunteer to save water, trout*, (May 10, 2017), http://www.tu.org/blog-posts/ranchers-volunteer-to-save-water-trout.

40. Governor's Water Strategy Advisory Team, *Recommended State Water Strategy*, (Sept. 2016), http://www.envisionutah.org/images/WaterStrategyPlan091216.pdf.

expanding statutory authority for instream flow rights at the legislature.[41] While the resulting statutory scheme proved challenging to implement, the engagement with stakeholders and policy makers engendered by that effort, coupled with successful habitat restoration and other projects on the ground, led TU to become a trusted partner on broader water issues within the state. As a result, Utah recently enacted, with broad support, new statutory tools that help empower instream uses, including water banking[42] and split-season leasing.[43] In the case of water banking, the recognized need to keep transaction costs low, based on the experience of other western states, played a critical role in shaping the final policy.

(5) Funding Partnerships are Key

Successful restoration programs require one final element: funding partnerships. The Columbia River Basin provides a powerful example. Since 2002, the Columbia Basin Water Transactions Program, a public-private partnership between the Bonneville Power Administration and the National Fish and Wildlife Foundation (NFWF), has funded hundreds of water right changes to instream flows in Washington, Oregon, Idaho, and

The Colorado River Basin's public-private partnership to improve river flows and reservoir storage involves flow restoration efforts at a multi-state scale. Photo Credit: Russ Schnitzer

41. Lynne M. Paretchan, *Choreographing NGO Strategies to Protect Instream Flows*, Natural Resources Journal, Vol. 42, at 56–57, http://lawschool.unm.edu/nrj/volumes/42/1/04_paretchan_ngo.pdf.

42. S.B. 29 Water Banking Amendments (2020), https://le.utah.gov/~2020/bills/static/SB0026.html.

43. H.B. 130 Water Use Amendments (2020), https://le.utah.gov/~2020/bills/static/HB0130.html.

western Montana to help recover threatened populations of salmon and steelhead.[44] A signature achievement of the program has been to support staff capacity among conservation NGOs and state water agencies, creating a new culture and expertise around instream flow restoration from the ground up. In California and Wyoming, the turning point came when NGO investments received an exponential boost from millions of dollars in the California Water Bond and the Colorado River's System Conservation Pilot Program.[45] Recent progress under the federal tax code also holds promise as a financing tool, with the IRS clarifying that a permanent, charitable donation of an appropriative water right entitles the donor to a tax deduction.[46]

Financial resources alone do not, however, guarantee success. The cautionary tale of Nevada's Walker Lake proves this point.[47] Prior to 2009, millions of federal dollars were spent to restore this terminal desert lake with no tangible results. Thereafter, the NFWF began building a trusted, experienced, on-the-ground staff base. This investment in local, credible staff, work with water right owners and agency decision-makers, and locally-tailored solutions turned the Walker Lake flow restoration around.[48]

IV. CONCLUSION

Water is a paradox: a liquid that becomes "sticky" when transferred between uses; a resource that is intensely local with impacts far downstream. We must be precise and local, while at the same time flexible and mindful of the larger picture within our basins, agencies, and legal regimes. The evolution of instream flow and watershed restoration, where western states have sometimes progressed and sometimes faltered, but then learned lessons from those setbacks, provides reason for optimism for

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44. Jared Hardner, R.E. Gullison, *Independent External Evaluation of The Columbia Basin Water Transactions Program* (2003–2006) (Oct. 7, 2007), http://www.nfwf.org/cbwtp/documents/cbwtp_eval_report_10-7_final.pdf.

45. Water Quality, Supply, and Infrastructure Improvement Act of 2014, Assembly Bill No. 1471, Ch. 188, (Cal. 2014); Colorado Water Conservation Board, *Instream Flow Program*, (May 10, 2017), http://cwcb.state.co.us/ENVIRONMENT/INSTREAM-FLOW-PROGRAM/Pages/main.aspx.

46. Dep't. of Treasury, *2016–2017 Priority Guidance Plan*, Number 22 at 12, (Aug. 15, 2016), https://www.irs.gov/pub/irs-utl/2016-2017_pgp_initial.pdf.

47. Walker Basin Restoration Program, NFWF (May 10, 2017), http://www.nfwf.org/walkerbasin/Pages/home.aspx.

48. *Id*.

the future of our rivers, streams, and communities. A growing portfolio of conservation successes demonstrate that proud Western traditions of perseverance, cooperation, and creativity in the face of adversity can all be harnessed to meet the challenge of restoring and protecting our rivers and streams.