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When Water Isn't Wet: The Evolution of Water Right Mitigation in Washington State

*Rachael Paschal Osborn & Michael Mayer**

PART 1: INTRODUCTION

What is water right mitigation?

The allocation of surface and ground water resources for out of stream uses via the western water rights doctrine of prior appropriation comes with serious environmental consequences – depletion of streamflow and aquifers. Over-appropriation by water rights has led to deleterious impacts on natural resources, including salmon survival, water quality, and public uses of state waterways.

Because of the over-appropriated condition of Washington's rivers and aquifers, the issuance of new water rights has until recently required water-for-water or in-kind mitigation, with the goal to directly compensate for deleterious impacts. Historically, the Water Resources Program of the Department of Ecology has defined this mitigation as “replacing the amount of water being used with an equal amount of water, bucket for bucket.”¹

As water scarcity has increased, and following legislative response to the Washington Supreme Court decisions in *Whatcom County v. Western Washington Growth Management Hearings* (“*Hirst*”), and *Foster v. Department of Ecology and City of Yelm*, a second type of water resource mitigation, “out-of-kind” mitigation,

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¹ WASH. DEP'T OF ECOLOGY, CHANGES TO GROUNDWATER USE IN THE WALLA WALLA BASIN, PUB. NO. 07-11-032, at 2 (rev. 2012).

has come into vogue. This new approach, which purports to mitigate streamflow depletion through habitat restoration projects (or simply paying for such projects), will show itself to be ineffective and will exacerbate over-appropriation of water in Washington.

This article reviews the evolution of water right mitigation, the *Hirst* and *Foster* decisions and their aftermath, and concludes with a detailed critique of out-of-kind mitigation. Part 2 examines the factors leading to the over-appropriation of Washington's water resources, including water right claims, instream flow rules, endangered species listings for salmon, ground-surface connectivity, and tribal treaty rights. Part 2 then reviews how these factors led to an explosion, starting in the early 1990s, in the use of permit-exempt wells, further depleting Washington's rivers and streams.

Part 3 reviews the development of water rights mitigation through the "Statewide" water right appeals of the late 1990s, culminating in the Supreme Court's *Postema* decision, the legislative response to the mitigation issues raised in those court cases, and the first three instream flow rules to address permit-exempt well proliferation through in-kind mitigation in the Walla Walla, Upper Kittitas Valley, and Dungeness watersheds. Part 4 describes methods and tools to implement in-kind water resources mitigation, including water banks and instream flow rules, and reviews the first two legal cases to address out-of-kind mitigation: *Foster v. Okanogan Wilderness League v. Department of Ecology and Kennewick General Hospital*.

Part 5 reviews the blockbuster *Hirst* case and the legislative response, ESSB 6091, which partially removed priority protection for Washington's instream flow rules. Part 5 continues with a review of the Department of Ecology's implementation of ESSB 6091, including an analysis of the ongoing plan to employ out-of-kind mitigation to address the water-stressed Nooksack River and its tributaries.

Finally, Part 6 critiques in detail the difficulties that attend the use of out-of-kind mitigation projects to substitute for water, including a review of lessons learned from the wetlands' mitigation arena. Out-of-kind mitigation lacks objective foundation and a rational planning basis. It can harm both senior water rights and public uses of rivers, including healthy fisheries, water quality, and recreational use, and is inadequate to address the water stresses of climate change. We conclude that out-of-kind mitigation is neither appropriate nor effective to address the over-appropriation of Washington's water resources.

PART 2: THE OVER-APPROPRIATION OF WASHINGTON'S WATERS

A. *Antecedents of Over-Appropriation*

Between the early 1970s and the mid-1990s, it became increasingly difficult to obtain a water right in Washington.² Many basins were fully appropriated, i.e., water rights had been issued in amounts equal to or in excess of available supply. Several legal, scientific, and on-the-ground trends contributed to the effective closure of Washington's waterways to new water rights.

1. Water Right Claims

Water right "claims" are the starting point for understanding over-appropriation in Washington. The 1917 Surface Water Code and the 1945 Groundwater Code established a priority-based permit system for surface and groundwater rights.³ However, there already existed tens of thousands of common law claims to use water, and these were grandfathered in by the permitting statutes.⁴ Because these claims were not centrally recorded it was impossible to know how much water was legally claimed in any watershed.

To solve this data chaos, the legislature in 1970 enacted the Claims Registration Act, requiring all water right claimants to submit a record of their claims to the Department of Ecology.⁵ A deluge of claims were filed, indicating that water supply was over-allocated in many basins.⁶ Compounding the problem, water right claims are not actual, legal water rights until they are adjudicated in a formal judicial proceeding known as a general stream adjudication, which determines the validity and priority of all

² Water rights are granted pursuant to a four-part test, which requires affirmative findings that water is physically available, the purpose is beneficial and reasonably efficient, the new right will not impair existing rights, and the public interest is not harmed. WASH. REV. CODE § 90.03.290 (2018), 90.44.060 (1987). Permit-exempt water rights, discussed at length in this article, are exempt from the four-part test, although they share attributes of permitted rights, including being subject to impairment standards and regulation. WASH. REV. CODE § 90.44.050; Wash. Dep't. of Ecology vs. Campbell & Gwinn L.L.C., 43 P.3d 4, 8-9 (2002).

³ WASH. REV. CODE §§ 90.03, 90.44.

⁴ WASH. REV. CODE §§ 90.03.010 (1917), 90.44.040 (1945).

⁵ WASH. REV. CODE § 90.14. Subsequently the Legislature reopened the claims registry three times. See WASH. DEP'T OF ECOLOGY, PUB. NO. 97-2022-SWR, FAQ ABOUT WATER RIGHT CLAIMS (Rev. 2006).

⁶ Of approximately 230,000 water right claims, permits, and certificates, pre-code claims constitute about 75% or 166,000 claims. See *Water Rights*, WASH. ST. DEP'T OF ECOLOGY, <https://ecology.wa.gov/Water-Shorelines/Water-supply/Water-rights> [<https://perma.cc/X8R6-EJR4>] (230,000 water rights).

claims, permits, and certificates in a given watershed.⁷ This process has been completed for only a fraction of Washington's watersheds.⁸ Hence, there remains considerable uncertainty about the amount of water available in many watersheds because of unadjudicated claims.

2. Instream Flow Rules

Over-allocation of state waters is also demonstrated by the instream flow protection program. The 1969 Minimum Stream Flows Act and the 1971 Water Resources Act together established a pathway to adopt rules to protect what was left of instream flows in Washington's rivers.⁹ Instream flow rules are legally designated water rights for rivers, with the date of rule adoption serving as a priority date and specific flow quantities or levels protected from depletion by later issued water rights.¹⁰

Washington has two generations of instream flow rules. In the first generation, sixteen rules were adopted between 1977 and 1986.¹¹ A 1986 agency moratorium on rulemaking led to a 15-year hiatus on rulemaking, followed by ten new and amended rules.¹² In the latter era, state agencies came to understand that instream flow levels set by the rules are not being met in many rivers. Therefore post-rule water rights (including exempt wells) should be interrupted to protect instream values, particularly flows needed for fish survival.¹³ However, interruptible water rights issued after instream flow rules are adopted are a challenge to enforce.¹⁴ And

⁷ FAQ About Water Right Claims, ECY Pub. No. 97-2022SWR (ECY rev. 2006).

⁸ WASH. DEP'T OF ECOLOGY, PUB. NO. 19-11-073, COMPLETED ADJUDICATIONS IN WASHINGTON (2019).

⁹ WASH. REV. CODE §§ 90.22, 90.54; See Symposium, Robert F. Barwin, Kenneth Slattery & Steven J. Shupe, *Protecting Instream Resources in Washington State*, UNIV. COLO. SCH. OF L. (1988) (describing adoption and implementation of Washington instream flow statutes).

¹⁰ WASH. REV. CODE §§ 90.03.247, .345.

¹¹ WASH. ADMIN. CODE §§ 173-501 (Nooksack, 1985), -507 (Snohomish, 1979), -508 (Cedar-Sammamish, 1979), -509 (Green-Duwamish, 1980), -510 (Puyallup, 1980), -511 (Nisqually, 1981), -512 (Chambers-Clover, 1979), -513 (Deschutes, 1980), -514 (Kennedy-Goldsborough, 1984), -515 (Kitsap, 1981), -522 (Chehalis, 1976), -548 (Methow, 1976), -549 (Okanogan, 1976), -555 (Little Spokane, 1976 (rev. 2015), -559 (Colville, 1977), -563 (Columbia, 1980, 1982).

¹² WASH. ADMIN. CODE §§ 173-503 (Skagit, 2001), -505 (Stillaguamish, 2005), -517 (Quilcene-Snow, 2009), -518 (Dungeness, 2013), -527 (Lewis, 2009), -528 (Salmon-Washougal, 2009), -532 (Walla Walla amendment, 2007), -545 (Wenatchee amendment, 2008), -546 (Entiat, 2005), -557 (Spokane, 2015).

¹³ See *infra* Part 2.A.4 for discussion of ESA.

¹⁴ E.g., *Hubbard v. Ecology*, 936 P.2d 27 (1997). An interruptible water right, being junior to one or more senior rights, is subject to curtailment when water is sufficient only to satisfy the senior right, including senior instream flow rights.

even though permit-exempt wells are theoretically subject to interruption in favor of senior instream flows, these rights are never curtailed.¹⁵

It is state policy that a domestic water supply from any source, whether public purveyor or permit-exempt well, cannot be based on an interruptible water right.¹⁶ As a result, the Washington Department of Ecology (Ecology) decided that post-2000 instream flow rules must in some way provide a secure water supply for permit-exempt wells. This led to the adoption of instream flow reserves and mitigation models, discussed below.¹⁷

The legislative mandate to adopt instream flows statewide was never completed. Currently fewer than half of Washington's 62 watersheds are protected by an instream flow rule.¹⁸ The flow-setting program has ground to a halt.¹⁹ Nonetheless, in virtually every watershed where instream flow regulations have been adopted, the rule-based flows are not met during water-stressed months, demonstrating over-appropriation of those basins.

WASH. REV. CODE § 90.03.247 (2018); *See also* Barwin, *supra* note 9; *See also* LAWRENCE J. MACDONNELL, INSTREAM FLOW PROTECTION IN THE WEST, UNIV. OF COLO. NATURAL RES. L. CTR. 20-1 (1993).

¹⁵ Wash. Dep't. of Ecology vs. Campbell & Gwinn L.L.C., 43 P.3d at 9 (2002). For example, in 2004, the City of Roslyn was ordered to curtail diversions, impacting water supply for its customers while junior-priority domestic wells outside the city continued to operate without interference. *See* State of Washington v. Acquavella, Yakima County Sup'r Ct. No. 77-2-01484-5, Order Limiting Post-1905 Diversions During Periods of Water Shortage (2004); State of Washington v. Acquavella, Yakima County Sup'r Ct. No. 77-2-01484-5, Memorandum Opinion Re: City of Roslyn's Motion to Revise Order Limiting Post-1905 Diversions During Periods of Water Shortage (2005).

¹⁶ *E.g.*, WASH. DEP'T OF ECOLOGY, Pub. No. 16-11-002, FEASIBILITY STUDY TO MITIGATE GROUNDWATER IMPACTS THROUGH STORAGE IN SKAGIT BASIN 2 (2016) (water solutions needed because *SITC* decision meant homes "no longer have a secure, uninterrupted water right ...").

¹⁷ *See infra* Part 3 & 4.

¹⁸ WASH. DEP'T OF ECOLOGY, Pub. No. 19-11-86, REPORT TO LEGISLATURE: STATEWIDE PROGRESS ON SETTING INSTREAM FLOWS 3 (fig. 1) (Nov. 2019); *see* Instream Flow Rule Status Map, ECY Water Resources Program (Nov. 2016), <https://apps.wa.ecology.wa.gov/docs/WaterRights/wrwebpdf/wsif.pdf> [<https://perma.cc/6FTY-6ANV>].

¹⁹ WASH. DEP'T OF ECOLOGY, REPORT TO LEGISLATURE: STATEWIDE PROGRESS ON SETTING INSTREAM FLOWS, *supra* note 18, at 1 ("No new instream rules are planned for WRIs not covered by WASH. REV. CODE § 90.94. Recent court decisions ... make it challenging for Ecology to adopt new instream flow rules. While these cases do not directly restrict Ecology's authority to adopt instream flow protection in rule, they limit the available tools to balance water needs of diverse users.")

3. Ground and Surface Water Connectivity

In the 1980s, Ecology began to understand and acknowledge the science demonstrating physical connectivity between ground and surface water, dubbed “hydraulic continuity.”²⁰ However, even as Ecology limited surface water permits to protect rule-based flows, it continued to grant groundwater permits.²¹ By the mid-1990s, the state recognized that to preserve the “first in time, first in right” rule of priority²² and thus protect senior surface water rights and instream flows, it could not issue non-interruptible groundwater rights that captured water that would otherwise flow to a protected stream.²³ In 1996, Ecology issued approximately 600 water right decisions around the state, denying many proposed groundwater rights because of impacts on instream flow levels, stream ecology, and salmon.²⁴ The “Statewide” cases culminated in the *Postema* decision, which held that the state could and should deny groundwater applications if pumping groundwater would impair instream flows.²⁵

4. Endangered Salmon

Starting in the early 1990s, more than a dozen subspecies of Pacific salmon were listed as threatened or endangered pursuant to the federal Endangered Species Act (ESA).²⁶ These listings affected

²⁰ *Postema v. Pollution Control Hearings Board*, 11 P.3d 726, 732-733 (2000) (“Ecology’s understanding of hydraulic continuity has altered over time, as has its use of methods to determine hydraulic continuity and the effect of groundwater withdrawals on surface waters.”)

²¹ *E.g.*, *Hubbard v. Ecology*, 936 P.2d at 28 (1997)

²² WASH. REV. CODE § 90.03.010 (1917) (“as between appropriations, the first in time shall be the first in right”); WASH. REV. CODE § 90.44.020 (1945) (extending principles of surface water statutes to groundwater appropriations).

²³ Rachael P. Osborn, *Hydraulic Continuity in Washington Water Law*, 47 IDAHO LAW REV. 23 (2010); *see, e.g.*, Tom Ring, Review of Literature Pertinent to Impacts of Further Groundwater Development, Black Rock-Moxee Study Area, Washington (June 2, 1993) (describing impacts of groundwater pumping on Yakima River flows and senior surface water rights)(on file with author).

²⁴ *Postema*, 11 P.3d at 731-733. Of the 600 agency decisions on water right applications, approximately 150 were appealed to the State Pollution Control Hearings Board. Of those, 5 appeals ultimately were appealed to and consolidated before the Washington State Supreme Court. These cases are known collectively as the “Statewide” appeals.

²⁵ *Id.* at 736 (“The statutes plainly provide that *minimum flows*, once established by rule, are *appropriations* which cannot be impaired by subsequent withdrawals of groundwater in hydraulic continuity with the surface waters subject to the minimum flows. WASH. REV. CODE §§ 90.03.345, 90.44.030.”).

²⁶ NOAA FISHERIES, STATUS OF ESA LISTINGS AND CRITICAL HABITAT DESIGNATIONS FOR WEST COAST SALMON & STEELHEAD (July 2016), https://archive.fisheries.noaa.gov/wcr/publications/gis_maps/maps/salmon_steelhead/critical_habitat/wcr_salmonid_ch_esa_july2016.pdf [https://perma.cc/29PH-6RJS].

watersheds throughout the state.²⁷ The ESA protects habitat for species, which for salmon requires protection of instream flows necessary to support salmon migration (leaving natal streams and then returning as adults), spawning, and rearing.²⁸ This independent, federally enforceable call on water also illustrated how state-managed over-appropriation of Washington's waterways was harming legislatively mandated instream uses.²⁹

5. Tribal Water Rights

The water rights held by Treaty and Executive Order Native American tribes located in Washington include senior rights to water for on-reservation use as well as for instream flows in rivers and streams both inside and outside of tribal reservations.³⁰ Despite

²⁷ *Id.*

²⁸ See WASH. DEP'T OF FISH & WILDLIFE, PUB. NO. 11-12-015, COLUMBIA RIVER INSTREAM ATLAS PROJECT – FINAL REPORT 1 (2011). (“The need for stream flow restoration is well established in Endangered Species Act (ESA) salmonid recovery plans, Northwest Power & Conservation Council subbasin plans, [ESA] limiting factor analyses, local watershed plans, and others.”); ECOLOGY, INSTREAM FLOW AND VIABLE SALMON POPULATIONS (VSP) WORKSHOP SUMMARY, ECV Pub. No. 08-06-016 at 2 (2008) (“The alteration of flow regimes is considered by many ecologists to pose one of the greatest threats to the ecological integrity of river and stream ecosystems.”); CAROL J. SMITH, WASH. CONSERVATION COMM. SALMON HABITAT LIMITING FACTORS IN WASH. ST., at 183-89 (2005) (low flows adversely affect juvenile salmon rearing habitat, limit upstream migration and access, increase predation and competition, and dewater redds, killing salmon eggs); See *infra* WSU NEB Memo, at 211-24 (examining relationships between water withdrawals and life stages of salmonid fish species).

²⁹ WASH. REV. CODE § 90.54.020(3)(a) (2007) (“Perennial rivers and streams of the state shall be retained with base flows necessary to provide for preservation of ... fish ...”). For example, a draft notice of citizen enforcement under the Endangered Species Act, based on inadequate flows in the Walla Walla River, led local irrigation districts to forego diversions and maintain water in the river for salmon and steelhead. See Matthew Preusch, *Walla Walla Basin Sidesteps a Water War*, HIGH COUNTRY NEWS (Apr. 19, 2002), <https://www.hcn.org/issues/232/11356> [<https://perma.cc/3UD6-S62X>]; Jennie L. Bricker & David E. Filippi, *Endangered Species Act Enforcement and Western Water Law*, 30 ENVTL. L. 735, 761-64 (2000); Press Release, U.S. Fish & Wildlife Services, Irrigation Agreement Benefits Bull Trout (June 28, 2001). Similar threatened ESA enforcement led to water restoration in Manastash Creek, in the Yakima Basin. See *Manastash Creek Restoration Project*, KITTITAS COUNTY CONSERVATION PROJECT (2018), <https://www.kccd.net/manastash-creek-restoration> [<https://perma.cc/M4XM-N46Y>].

³⁰ *E.g.*, Wash. Dep't of Ecology v. Yakima Reservation Irrigation District, 850 P.2d 1306 (1993) (affirming off-reservation instream flow rights of Yakama Nation); United States v. Washington, 853 F.3d 946 (9th Cir. 2017) (state-built culverts that block salmon migration violate treaties). See also U.S. v. Adair, 723 F.2d 1394 (9th Cir. 1983), *cert. denied* 467 U.S. 1252 (1983) (Klamath Tribes retain off-reservation instream flow rights with “time immemorial” priority date); *Nez Perce Tribe, and State of Idaho, Snake River Water Rights Agreement*,

legal recognition, tribal water rights are unquantified and given no real consideration by Ecology in its water right evaluations.³¹ Many Tribes consider the state's management of instream flows and water right appropriations to be in denigration of their treaty-reserved rights.³² However, in some basins, notably the Yakima River basin, the formal adjudication of tribal water rights has led Ecology to cease issuing new water rights.³³

In sum, as the factors described above led to de facto moratoria on water right permitting around Washington, Ecology's backlog of water right applications began to grow into the thousands.³⁴ Fundamentally, the agency was reluctant to deny water rights, as denials often led to administrative appeals and even legislative budget cutting. Nonetheless, as described above, in 1996 the agency did deny hundreds of water rights, leading to the *Postema* decision. These cases were followed by attempts at legislative reversal,³⁵ but recognition of the over-appropriated state of Washington's waters also spurred the development of water right mitigation.

Mediator's Term Sheet and Agreement Summary at 2, U.S. DEP'T OF INTERIOR (May 2004) <https://idwr.idaho.gov/files/iwr/b/2004/20040420-Nez-Perce-Agreement-Mediators-Term-Sheet.pdf> [<https://perma.cc/2GST-6TTF>] (recognizing rights to "springs and fountains" on federal lands, pursuant to Treaty with the Nez Percés (1863)); Salish and Kootenai Water Rights Settlement Act of 2016, S. 3013, 114th Cong., § 11 at 42-43 (draft, filed in Congress on Dec. 11, 2019) (affirming instream flow water rights on federal lands, and waiving instream flow rights on state lands, pursuant to Treaty of Hellgate). See also Rachael P. Osborn, *Native American Winters Doctrine and Stevens Treaty Water Rights: Recognition, Quantification and Management*, VOL. II AM. INDIAN L. J., 76 (2013).

³¹ Ecology water right documents commonly included a statement such as "this authorization to make use of public waters of the state is subject to existing rights, including any tribal water rights held by the United States for the benefit of tribes, to the extent they may exist." See e.g. WASH. DEP'T OF ECOLOGY, PROTESTED REPORT OF EXAMINATION, WATER RIGHT No. S1-28777, at 19 (2015).

³² *Treaty Indian Tribes in Western Washington*, TREATY RIGHTS AT RISK 23 (July 14, 2011), <http://treatyrightsatrisk.org/> [<https://perma.cc/9RA2-FMVL>].

³³ Osborn, *Hydraulic Continuity*, *supra* note 23.

³⁴ In 1998, the application backlog stood at 5,000. By 2001, it had grown to 7,100 applications. See Mentor, J.P., *No Relief in Sight for State's Water Permit Backlog*, SEATTLE DAILY J. OF COMMERCE (May 5, 1998), <https://www.djc.com/special/constequip98/10038841.htm> [<https://perma.cc/U5F9-A54Q>]; Welch, C., *State Awash in Wrangling Over Water Rights*, SEATTLE TIMES (Mar. 11, 2001), <https://archive.seattletimes.com/archive/?date=20010311&slug=water11m> [<https://perma.cc/2JGX-MH5H>].

³⁵ For example, HB 2203 (1996) and HB 1116 and 2050 (1997), proposed to legislate new laws of physics in standards for assessing hydraulic connectivity between ground and surface waters.

B. Permit-Exempt Well Proliferation

One consequence of Ecology's unofficial water rights moratorium was a self-help trend by would-be water users, who resorted to the Water Code's groundwater permit exemption for water supply. That exemption authorizes the use of wells for small domestic and commercial purposes – without obtaining a formal water right (hence “permit exempt”).³⁶ As the application backlog grew, so did the drilling of permit-exempt wells, with estimates of 8,000 new wells per year in the 1990s, leveling off to 2,600 per year between 2008 and 2014.³⁷

The proliferation of exempt wells was problematic for two primary reasons. First, real estate developers were using and abusing the permit-exemption to supply water for large-scale residential and agricultural industry developments. The problem spilled into the courts. In 2002, *Ecology v. Campbell & Gwinn* clarified that the 5,000 gallon per day (gpd) limit on permit-exempt well use applied to all developments, whether single family residence, or multi-unit subdivision.³⁸ The widespread practice of using multiple exempt wells to serve water in excess of 5,000 gpd, sometimes called “daisy chains,” was illegal.

The daisy chain practice did not end, however. In 2011, the court found it necessary to reassert the *Campbell-Gwinn* holding outlawing subdivision reliance on exempt wells, abetted by regulatory indifference.³⁹ *Kittitas County* also held that the Growth Management Act (GMA) requires counties to protect water resources, as well as determine that water supply is adequate before

³⁶ WASH. REV. CODE § 90.44.050 (2003).

³⁷ Robert Caldwell, *Six Packs for Subdivisions: The Cumulative Effects of Washington's Domestic Well Exemption*, 28 ENVTL. L. 1099, 1105 (1998) (citing total estimates of between 263,000 and 404,000 permit-exempt wells); Tom Culhane & Dave Nazy, *Permit-Exempt Domestic Well Use in Washington State* at iii (Exec. Summary), ECY Pub. No. 15-11-006 (2015) (“[W]e conclude approximately 17,200 permit-exempt domestic wells were drilled statewide from 2008 through September 4, 2014”).

³⁸ Wash. Dep't. of Ecology vs. Campbell & Gwinn L.L.C., 43 P.3d at 12 (2002) (“whether or not the use is a single use, by a single home, or a group use, by several homes or a multiunit residence, the exemption remains at one 5,000 gpd limit The developer of a subdivision is, necessarily, planning for adequate water for group uses, rather than a single use, and accordingly is entitled to only one 5,000 gpd exemption for the project.”).

³⁹ *Kittitas Cty v. E. Wash. Growth Mgmt. Hearings Bd.*, 256 P.3d 1193, 1208-09 (2011) (“The record before the Board included evidence of . . . subdivision applications that allegedly evade the law under this court's interpretation of WASH. REV. CODE § 90.44.050 (requiring a permit to withdraw groundwater) in *Campbell & Gwinn* by relying on multiple exempt wells.”)

issuing new development permits.⁴⁰ The court clarified that water must be legally, as well as physically, available.⁴¹ Even though Ecology chose not to regulate permit-exempt wells under the Water Code, counties were required to assess water availability and impacts on existing water users when planning for and authorizing new developments that would rely on permit-exempt wells.⁴²

Exempt well proliferation led to a related problem, contributing to further over-appropriation by de facto impairment of senior water right holders and instream flows. Although the use authorized by individual domestic exempt wells is relatively small, the cumulative impact of many wells in small subbasins can lead to significant impacts.⁴³ As a senior water right, instream flows are protected, and even *de minimis* impairment is unlawful.⁴⁴ Ecology's efforts to address the effects of permit-exempt wells (and the developments that rely on them) falls within the larger story of water mitigation generally.

PART 3: UNDERPINNINGS OF WATER RESOURCES MITIGATION

A. Early Water Rights Mitigation

In Washington, the first proposals for using mitigation to offset adverse impacts of specific water rights arose in 1996, in the context of the Statewide water right appeals.⁴⁵ The appeals were heard by Washington's water rights appeals court, the Pollution Control Hearings Board (PCHB), in *de novo* proceedings, which

⁴⁰ *Id.* at 1208, citing water management duties under the Growth Management Act, WASH. REV. CODE §§ 36.70A.020(10), .070(1), and .070(5)(c)(4); *Id.* at 179, citing WASH. REV. CODE §§ 19.27.097, 58.17.110 (requiring "counties to assure adequate potable water is available when issuing building permits and approving subdivision applications").

⁴¹ *Kittitas*, 256 P.3d 1193, at 1208-1211.

⁴² WASH. REV. CODE § 90.03.290 (2018) (surface water right decision considers physical and legal water availability); WASH. REV. CODE § 90.44.060 (1987).

⁴³ *Culhane & Nazy*, *supra* note 37, at 12 (Table 3) (permit-exempt well constitutes 25% of summer season outdoor use in San Juan County, 20% in Pend Oreille County, 15% in Clark and Kitsap Counties); NORTHWEST INDIAN FISHERIES COMMISSION, ST. OF OUR WATERSHEDS (2016) (identifying water well development and impacts in the 22 watersheds where Treaty Tribes hold rights, e.g., Queets-Chehalis Report at 192, 198, 200 (9,991 new wells between 1980-2009, 580 new wells in the period 2009-2014; low flow trends); ST. OF OUR WATERSHED REPORT LUMMI WATERSHED, at 76, 81 (2016) (thousands of new wells in closed basins since 1985).

⁴⁴ *See Swinomish Indian Tribal Community v. Wash. Dep't of Ecology*, 311 P.3d 6 (2013) [hereinafter "SITC"]; *Postema v. Pollution Control Hearings Board*, 11 P.3d 726, 735-36 (2000).

⁴⁵ *See supra* Part 2.A.3. Policy proposals to require mitigation for new water rights first arose in the 1980s, but were not implemented due to political opposition. *Slattery*, *supra* note 14, at 20-21, 20-22.

allowed appellants to propose new evidence to support granting the water rights. One rejected applicant, Manke Lumber, argued that the removal of trees on its property, and installation of septic systems, would offset the impacts of its proposed new water withdrawals.⁴⁶ The PCHB, however, flatly rejected this “novel legal theory,” finding that:

A tree does not hold a water right. Trees grow, they die, they are cut down. The amount of ground water they suck up, and the amount of precipitation they intercept, is ever-changing. The water they leave in the ground at any point in time is merely a portion of the ground water resource that belongs to the people of the State, subject to the rights of prior appropriators.

To say that Manke can establish a water right for itself where none would otherwise exist, merely by cutting down trees, would be to gut the statutory scheme by which the Legislature has implemented the principle of first in time, first in right.

Another powerful reason to reject Manke’s argument is that water rights, once granted, are perpetual, while land uses are always changing. To grant a perpetual right based on one particular land use change at one point in time would burden future generations, as well as make legitimate prior appropriators mere bystanders at the dissipation of the resource.⁴⁷

Another early mitigation controversy involved a proposal to construct an open pit gold mine on Buckhorn Mountain, in the Okanogan Highlands of north-central Washington. Ecology issued several water rights and a Clean Water Act Section 401 Certification

⁴⁶ Manke Lumber v. Dep’t of Ecology, PCHB No. 96-102, et seq., Final Findings of Fact, Conclusions of Law and Order (Nov. 1, 1996). A number of rejected applicants proposed vegetation removal as a mitigation technique during the Statewide appeals. The cases are collected in CPM Development Corp. v. Dep’t of Ecology, PCHB No. 03-071, Order on Summary Judgment at 14 (Mar. 12, 2007).

⁴⁷ Manke Lumber, Slip Op. at 11. (“We conclude that Ecology, in assessing whether a use is consumptive, may not credit a water right applicant with the water used by vegetation removed from the site.” *Id.* at 12.). *See also* Giffen v. Colorado, 690 P.2d 1244 (1984) (reduction of consumptive water use by replacing trees with less-consumptive vegetation does not support grant of a water right).

to Battle Mountain Gold Corp. (BMG), contingent on implementation of a “Streamflow Mitigation Plan.”⁴⁸

Mitigation was required to compensate for the impact of the mine’s massive open pit on subsurface hydrology of the mountain. The resulting hydraulic shift was projected to deplete flow in several water-limited streams that originated on the mountain and were utilized by senior water right holders downstream or required minimum instream flows to protect aquatic resources.

BMG proposed drilling two-mile-long horizontal boreholes from the pit lake to headwaters of the affected streams, sending water via gravity flow to the affected drainages throughout the year, and posting bond to ensure that mitigation occurred in perpetuity.⁴⁹

The PCHB again rejected the proposed mitigation, finding that

[t]his approach is tantamount to entering a busy interstate highway on an exit ramp against the traffic. The availability of insurance in that circumstance is no more comforting than the proposed bonding here. The focus of our environmental laws must be on preventing pollution and habitat degradation. . . The long-term engineered solutions proposed in this case are legally insufficient. . . Without more information it is uncertain how much water will be needed for mitigation and when mitigation water will reach intended streams. . . . The speculative and perpetual nature of mitigation proposed here does not meet the requirements that new water rights not impair existing rights or the requirement that new rights not be detrimental to the public welfare.⁵⁰

Manke and *BMG* established the basic requirements for water resource mitigation in Washington. First, mitigation must be in-kind, meaning bucket-for-bucket wet water, provided in-time and in-place. Second, mitigation cannot be speculative. It must be certain, last for as long as the water right (meaning in perpetuity), and not duplicative of efforts required by other legal obligations.

⁴⁸ Okanogan Highlands Alliance v. Dep’t of Ecology, PCHB No. 97-146 *et seq.*, Final Findings of Fact, Conclusions of Law, and Order (Jan. 19, 2000).

⁴⁹ *Id.*; see WASH. REV. CODE § 78.56.110 (1995).

⁵⁰ Okanogan Highlands Alliance v. Dep’t of Ecology, PCHB No. 97-146 *et seq.*, Slip Op. at 36.

B. The 1996 Water Resource Management Techniques Statutes

During the Statewide cases, Ecology contended that it lacked statutory authority even to consider proposals for mitigation in the water right decision process. In 1996, the State Legislature responded by enacting water management “techniques” statutes authorizing Ecology to consider mitigation plans proposed by water right applicants:

The department shall, when evaluating an application for a water right, transfer, or change ... take into consideration the benefits and costs, including environmental effects, of any water impoundment or other resource management technique that is included as a component of the application.⁵¹

Ten years after *Manke Lumber*, a gravel mine operator relied on this statute to propose using vegetation removal and stormwater percolation as mitigation for a new water right. Ecology rejected the proposal, and argued on appeal that vegetation removal as a mitigation technique would create “incentives for water right applicants to remove trees and vegetation in exchange for obtaining water rights.”⁵² Ecology further argued such mitigation “would have broad ranging adverse consequences in violation of the well-recognized first in time first in right principle of water law.”⁵³ In other words, attempting to offset water impacts using non-water mitigation could lead to impairment, the ultimate sin in prior appropriation law. Agreeing with Ecology, the PCHB once again rejected proposed deforestation as a water right mitigation plan.⁵⁴

C. Permit-Exempt Well Mitigation

As court decisions clarified legal limits on permit-exempt wells,⁵⁵ Ecology began including special provisos for permit-exempt well usage in newly adopted instream flow rules. This policy backfired, however, in the Skagit River basin when Ecology attempted to sacrifice instream flows to support continued well

⁵¹ WASH. REV. CODE §§ 90.03.255 (1997), 90.44.055 (1997).

⁵² *Manke Lumber v. Dep’t of Ecology*, PCHB No. 96-102, *et seq.*, at 13.

⁵³ *Id.* at 11.

⁵⁴ *Id.* The Board held that *Manke Lumber’s* reasoning was not overturned when the legislature adopted the resource management technique statutes, WASH. REV. CODE §§ 90.03.255, 90.44.055.

⁵⁵ See *Wash. Dep’t. of Ecology vs. Campbell & Gwinn L.L.C.*, 43 P.3d 4 (2002); *Kittitas County v. E. Wash. Growth Mgmt. Hearings Bd.*, 256 P.3d 1193, 1208-10 (2011); See *supra* Part 2.B.

drilling. In 2001, Ecology adopted the Skagit River instream flow rule, subjecting all new water rights, including permit-exempt wells, to curtailment when the river was flowing at a rate lower than the rule-based instream flows.⁵⁶ Wanting to avoid a moratorium on new development, Skagit County challenged the rule and obtained an amendment from Ecology to include “reservations” of water in 27 subbasins to serve new domestic uses, without regard to the previously adopted (and protected) instream flows.⁵⁷

The Swinomish Indian Tribal Community in turn challenged the amendment. In 2013, the Court held that permit-exempt wells were not exempt from the prohibition on impairment of existing rights, including instream flow rules.⁵⁸ With this decision, water-for-water mitigation became an essential component of instream flow rules in order to compensate for the depleting impacts of permit-exempt wells.

Meanwhile, water resource mitigation was evolving elsewhere in the state. In 2007 and 2009, Ecology adopted exempt well mitigation procedures in two locations where demonstrable over-appropriation was occurring: the Walla Walla and the Upper Kittitas Valley. In these two basins additional water was not legally available for either permitted or permit-exempt uses.

The waters of the Walla Walla River, an agricultural area in south-central Washington, have been over-allocated for more than a century.⁵⁹ This over-appropriation affects not only water users, but has caused dramatic loss of salmon, steelhead and other native species in the watershed.⁶⁰ The river was so dry from agricultural diversions that the original 1977 instream flow rule for the Walla Walla basin closed the river but did not designate an instream flow.⁶¹ In 2007 amendments, Ecology finally adopted instream flows⁶² and

⁵⁶ WASH. ADMIN. CODE § 173-503 (2001).

⁵⁷ *SITC v. Wash. Dep’t of Ecology*, 311 P.3d at 9 (2013); WASH. ADMIN. CODE § 173-503A (adopted 2006, rescinded 2013).

⁵⁸ *SITC*, 311 P.3d at 18-19. Specifically, the Court held that Ecology could not use the “overriding considerations of the public interest” exception to flow protection, WASH. REV. CODE § 90.54.020(3)(a), as authority for the exempt well reserves.

⁵⁹ WALLA WALLA WATERSHED MGT. PARTNERSHIP, FINAL PROGRESS REPORT, WASH. DEP’T OF ECOLOGY 8 (2018), <https://fortress.wa.gov/ecy/ezshare/ocr/projects/walla/watershedreport.pdf> [<https://perma.cc/78CN-9W5V>].

⁶⁰ JED VOLKMAN, WALLA WALLA RIVER BASIN FISH HABITAT ENHANCEMENT PROJECT, ANNUAL REPORT (Background), Pub. No. DOE/BP-00006414-3 at 1-3 (Dec. 2005); *see supra* Part 2.A.4 for a discussion of ESA enforcement against water users.

⁶¹ WASH. ADMIN. CODE § 173-532 (1977).

⁶² WASH. ADMIN. CODE § 173-532-030 (2007). Because these flows are junior to pre-existing water rights, they do not represent actual water flowing in the river.

officially recognized that waters within the basin were over-appropriated.⁶³ Importantly, the rule also recognized the interconnection between shallow groundwater and surface flows. Pumping alluvial groundwater captures surface flow from the Walla Walla River and as a result affects both downstream (and more senior) water users as well as salmon restoration projects.⁶⁴

To avoid a moratorium on domestic wells, the amendments require new domestic water users to obtain in-kind mitigation, meaning new outdoor use must be offset by equivalent quantities of mitigation water, for usage from May 1 to November 30.⁶⁵ To facilitate this mandate, the Walla Walla Watershed Management Partnership operates a water bank,⁶⁶ a mechanism for new domestic water users to obtain mitigation credit for new household wells.⁶⁷

In the Yakima River basin, junior water rights are regularly curtailed in favor of senior rights, a textbook example of over-appropriation.⁶⁸ Senior rights include both out-of-stream irrigation

⁶³ WASH. ADMIN. CODE § 173-532-040(1) (2008) (“Based on historical and current low flows and water withdrawals by existing water right holders, the department has determined that no waters are available for new consumptive uses during periods of low surface water flows. Therefore, all rivers and streams in the basin are seasonally closed to any further consumptive appropriation [during irrigation periods].”)

⁶⁴ WASH. ADMIN. CODE § 173-532-040(2) (2007) (“Based on the hydrogeology of the basin, the department finds that gravel aquifers in the basin are hydraulically connected to surface waters in the basin. Therefore, the gravel aquifers are closed.”)

⁶⁵ WASH. ADMIN. CODE § 173-532-050(6) (2008). The mitigation mandate is incomplete, as it does not require compensation for in-house usage, nor does it call for in-place and in-time mitigation. *See* WASH. DEP’T OF ECOLOGY, CHANGES TO GROUNDWATER USE IN THE WALLA WALLA BASIN, Pub. No. 07-11-033 (rev. 2012), https://static1.squarespace.com/static/53763f93e4b02899e9210935/t/541b1c28e4b0ea4658881e37/1411062886279/Ecology_ExemptWellMitigation.pdf [<https://perma.cc/WS7R-7R9S>].

⁶⁶ *See infra* Part 4.A.1-2 for a discussion of water banking.

⁶⁷ *See supra* note 58. The Partnership also manages various types of water agreements, including non-diversion agreements, water banking, trust water rights, etc. *See id.*

⁶⁸ Surface water rights in the Yakima River basin have been adjudicated, and junior-priority rights are routinely curtailed to satisfy more senior water rights. *See* Joye Redfield-Wilder, *Watching the Water: Stream Temperatures Affecting Fish Throughout Central WA, North and South*, DEP’T OF ECOLOGY: ST. OF WASH. (June 11, 2019), <https://ecology.wa.gov/Blog/Posts/June-2019/Some-Yakima-Basin-irrigators-water-rationed,-some> [<https://perma.cc/F9YG-EM8L>] (describing 2019 water supply projections, including curtailments of up to 74% and water shutoffs depending on user priority); Joye Redfield-Wilder, Water supply update: Yakima Basin, DEP’T OF ECOLOGY: ST. OF WASH., BLOG (June 21, 2018), <https://ecology.wa.gov/Blog/Posts/June-2018/Water-supply-update-Yakima-Basin> [<https://perma.cc/R52Y-Y9W8>] (describing 2018 curtailments and history of water development in the basin); Kate Prengamen, *Drought Forces*

and municipal uses, as well as instream flow rights established by trust water right transfers and the treaty-based rights of the Yakama Nation.

In the upper Kittitas Valley subbasin of the Yakima, the County authorized a barrage of new vacation homes using permit-exempt wells for water supply.⁶⁹ Junior surface water users complained that their rights were being illegally subordinated to this even-more-junior groundwater development.⁷⁰ In response, Ecology adopted a rule closing the subbasin to all new drilling unless the water consumed by new wells was “water budget neutral,” allowing new wells only “in exchange for placement of other water rights into the trust water right program that are at least equivalent to the amount of consumptive use.”⁷¹ This development led to creation of numerous private, for-profit water banks in the Valley, a county operated water mitigation fund, and county code measures to ensure mitigation of both existing and future junior permit-exempt well usage.⁷²

The proliferation of permit-exempt wells led to the impairment of instream flows and senior water users around the state. The early responses in Walla Walla and Kittitas demonstrated that the bucket-for-bucket water mitigation required by the “first in time, first in right” rule of prior appropriation was a viable approach.

PART 4: WATER MITIGATION METHODS

A. *Water-for-Water Mitigation*

The over-appropriated condition of many watersheds around the state, combined with the proliferation of permit-exempt wells, pressed Washington policymakers to embrace water right mitigation. Historically, mitigation has focused on water-for-water

Farmers with Junior Water Rights to Get Creative, YAKIMA HERALD (Sept. 29, 2015), https://www.yakimaherald.com/news/local/drought-forces-farmers-with-junior-water-rights-to-get-creative/article_bc73c738-5f5c-11e5-9446-83a1249d6290.html [<https://perma.cc/7CEZ-RMUH>] (describing impacts on and responses by junior water users during severe 2015 drought and curtailment in the Yakima basin).

⁶⁹ See AQUA PERMANENTE, Petition to Dep’t of Ecology to Implement RCW 90.54.050 (Sept. 10, 2007) (seeking closure of basin).

⁷⁰ *Id.*; Kittitas County v. E. Wash. Growth Mgmt. Hearings Bd., 256 P.3d 1193, 1209-10 (2011) (outlining the Growth Management Act duties of the county to manage groundwater. Also, pressuring the County to address water management).

⁷¹ WASH. ADMIN. CODE § 173-539A-030 (2011).

⁷² WASH. ADMIN. CODE § 173-539A-050 (2011); *Water Banking and Water for Building Permits*, KITTITAS COUNTY: WASH. <https://www.co.kittitas.wa.us/health/services/water-banking-building-permits.aspx>. [<https://perma.cc/ZEU2-3WT4>]; see *infra* Part 4.A.1-.2.

offsets, that is, in-kind, “wet water” mitigation that matches the quantity, place, and time of the offending depletion.⁷³

In 1996 the state legislature passed two water resource management technique statutes,⁷⁴ positioning water-for-water mitigation as the standard mechanism for obtaining a water right in an otherwise fully allocated basin.⁷⁵ In 2003, an Ecology report on approved mitigation techniques for 25 new water rights described some form of “water-for-water” offset to compensate for loss of water in the stream.⁷⁶

The basic mechanism used to facilitate water-for-water mitigation is Washington’s Trust Water Right Program.⁷⁷ A trust water right is a legal tool that allows retirement and alternate use of an existing water right originally issued for an out-of-stream purpose such as irrigation or public water supply.⁷⁸ A water right suitable for trust may be acquired by purchase, lease, or donation.⁷⁹ Ownership of the trust right is held by Ecology and may be either temporary or permanent.⁸⁰ Once in trust, the water usage represented by the original right becomes available for other uses. Credit for the retired water right may support mitigation for a variety of new uses, including new water rights, streamflow restoration, creation of water banks, and avoidance of relinquishment.⁸¹

1. Water Banking

Trust water rights may be applied to create a water bank or water exchange, which in turn may be used for water resource

⁷³ A water right is limited by several conditions including the source, quantity (both rate of flow and total amount), purpose (e.g., irrigation, public water supply, etc.), place of use, and season of use. WASH. REV. CODE § 90.03.290(3) (2018).

⁷⁴ WASH. REV. CODE §§ 90.03.255 (1997), 90.44.055 (1997).

⁷⁵ Session Laws of the State of Wash., ch. 360, sec 1, RCW 90.44, 2165 (1997).

⁷⁶ WASH. DEP’T OF ECOLOGY, MITIGATION MEASURES USED IN WATER RIGHT PERMITTING (April 2003) (on file with author).

⁷⁷ Trust water rights are regulated under WASH. REV. CODE §§ 90.38 (2013), 90.42 (2003). See generally *Trust Water Rights Program*, WASH. DEP’T OF ECOLOGY, <https://ecology.wa.gov/Water-Shorelines/Water-supply/Water-rights/Trust-water-rights> [<https://perma.cc/GA86-7QBH>]

⁷⁸ WASH. REV. CODE §§ 90.38.040(3) (2013), 90.42.040(1) (2003); WASH. DEP’T OF ECOLOGY, Doc. No. GUID 1220, WATER RESOURCES PROGRAM GUIDANCE FOR PROCESSING AND MANAGING TRUST WATER RIGHTS 1 (Rev. Feb. 2016).

⁷⁹ WATER RESOURCES PROGRAM GUIDANCE, *supra* note 78, at 1-3.

⁸⁰ *Id.*

⁸¹ *Id.* A water right holder relinquishes all or part of their water right when they fail to use all or part of the right without good cause for five years. WASH. REV. CODE § 90.14.130 (2013).

mitigation.⁸² As of late 2019, twenty-two water mitigation banks were operating in Washington.⁸³ Each bank is “funded” with one or more trust water rights and created by agreement between Ecology and the owner of the water right converted to trust.⁸⁴ Ecology holds the legal right, but the original owner or bank operator sells the water mitigation benefit or credit at a price that offsets costs and in some cases, furnishes a profit.⁸⁵

Water banks or exchanges can be utilized in a variety of ways.⁸⁶ In the mitigation context, a bank allows a party who needs water in a closed basin to access water rights owned by others in a market-efficient manner. Water mitigation banks may be operated as for-profit ventures by private parties (a dozen or so in the Kittitas Valley),⁸⁷ by local governments (e.g., Spokane County,⁸⁸ Kittitas County),⁸⁹ or by non-governmental organizations on behalf of local governments (e.g., Washington Water Trust operates the Dungeness

⁸² WASH. REV. CODE §§ 90.42.100-.130 (2009); WASH. DEP’T OF ECOLOGY, Pub. No. 20-11-063, THE ST. WATER TRUST AND WATER BANKING: HISTORY AND FUNCTION (2020); *See generally Water Banks*, WASH. DEP’T OF ECOLOGY, <https://ecology.wa.gov/Water-Shorelines/Water-supply/Water-rights/Trust-water-rights/Water-banks> [<https://perma.cc/XCA2-ZTQH>]. Ecology describes water banking as “a critical tool to manage the beneficial use of water resources in watersheds with limited available water supply for appropriation.” *Id.* at 2. *See also* AMANDA E. CRONIN & LARA B. FOWLER, NORTHWEST WATER BANKING, MEETING INSTREAM AND OUT OF STREAM WATER NEEDS IN THE PACIFIC NORTHWEST, THE WATER REPORT 10-16 (2012).

⁸³ Carrie Sessions and Dave Christenson, *Strategic Planning: Water Banking in Washington*, WASH. DEP’T OF ECOLOGY 4 (Oct. 14, 2019), <https://apps.wa.gov/ecology/docs/WaterRights/wrwebpdf/BankingWRAC.pdf> [<https://perma.cc/D45Q-CZCP>].

⁸⁴ *Id.*

⁸⁵ *See generally*, REBECCA NELSON & MEG CASEY, TAKING POLICY FROM PAPER TO THE PUMP, STANFORD WOODS INSTITUTE FOR THE ENVIRONMENT 29, 46-52 (Sept. 2013) (mitigation banking in Washington and other western states).

⁸⁶ For example, the Snoqualmie Valley Irrigation District utilizes a water bank to distribute district-owned water each year to its members. *Irrigation: Water Right Leasing Program*, SNOQUALMIE VALLEY WATERSHED IMPROVEMENT DIST., <https://svwid.com/water-rights/> [<https://perma.cc/W4TH-L5N5>].

⁸⁷ *See, e.g., Water Banking*, MENTOR L. GROUP <https://www.mentorlaw.com/water-banking> [<https://perma.cc/QV5V-3TQ6>]; BOURNE WATER BANK, LLC, <https://www.bournewaterbank.com/> [<https://perma.cc/QE42-MHBB>].

⁸⁸ *Little Spokane River Water Bank (WRIA 55 Stream Flow Mitigation Certificates)*, SPOKANE COUNTY WATER RES., <https://www.spokanecounty.org/4145/Little-Spokane-River-Water-Bank> [<https://perma.cc/DMS8-UVFL>].

⁸⁹ WASH. ADMIN. CODE § 173-539A-050(1) (2011) (“Persons proposing a new use of groundwater shall apply to ecology for a permit to appropriate public groundwater or, if seeking to rely on the groundwater permit-exemption, shall submit to ecology a request for determination that the proposed permit-exempt use would be water budget neutral.”); *See Water Banking and Water for Building Permits*, KITTITAS COUNTY WASH., <https://www.co.kittitas.wa.us/health/services/water-banking-building-permits.aspx> [<https://perma.cc/H5CZ-ZAJA>].

Basin Water Bank,⁹⁰ Walla Walla Watershed Management Partnership operates the Walla Walla Bank).⁹¹ Most water banks sell the benefit of the banked trust right(s) to offset new water use by third parties. This does not involve a transfer of actual water. A homeowner or developer who wishes to use water via a new permit-exempt well in a closed basin purchases mitigation credit from the water bank; the original water right, now in trust, remains instream.

2. Observations about water banking

Where water banks are mandated by rule and operational, they can be effective in compensating for the flow depletions created by new domestic water use. If properly calibrated to the geographic and temporal impacts of depletions, banks and exchanges can offset the impacts of new water rights, including permit-exempt wells, in a manner that is efficient for buyer and seller.

These methods, however, are not problem-free. Under western water law, the “use it or lose it” rule operates theoretically, but in Washington, many water rights are not fully utilized.⁹² If a water right proposed for trust has not been fully and continuously exercised, then the mitigation benefit is not real because the water is either already instream or being used by another party.⁹³ It is critical that Ecology accurately evaluate and where indicated, relinquish

⁹⁰ WASH. ADMIN. CODE §173-518-075 (2013) (“The Dungeness water exchange and new water users choosing to mitigate must submit a mitigation plan to ecology to demonstrate how they will offset the impacts of their proposed consumptive use (see WASH. ADMIN. CODE §173-518-070 (3)(a) (2013)) (“The mitigation plan must receive Ecology approval and be implemented before the proposed water use begins.”); *Dungeness Water Exchange*, WASH. WATER TRUST, <http://www.washingtonwatertrust.org/water-exchange> [<https://perma.cc/8DVY-QNFF>].

⁹¹ WASH. ADMIN. CODE § 173-532-050(6) (2007) (“To avoid and/or mitigate cumulative impacts on existing water rights (which for purposes of this chapter are considered to include the instream flows established herein and the seasonally closed water sources), new permit-exempt users from the gravel aquifer in the high density areas must provide water-for-water mitigation, meaning equivalent quantities of water, for any outdoor water use from May 1 to November 30.”); WALLA WALLA WATERSHED MGMT. P’SHP, *Water Banking*, WALLA WALLA WATERSHED, <https://www.wallawallawatershed.org/water-banking> [<https://perma.cc/CTL3-6K94>].

⁹² WASH. REV. CODE §§ 90.14.130, .160-.180 (2013) (water right relinquishment and abandonment statutes); *Lummi Nation v. State of Washington*, 241 P.3d 1220, 1225-26 (2010); CTR. FOR ENVTL. LAW & POLICY, *DERELICTION OF DUTY 7* (2002) (on file with author).

⁹³ *Crown West Realty, LLC v. Pollution Control Hrgs. Bd.*, 7 Wn.2d 710, 721 (2019) (rejecting water right holder’s request to “transfer 5,874 AFY of water it never used to allow another entity to take that amount from the Columbia River.”)

unused portions of a water right before placing the valid portion into trust for use as mitigation.⁹⁴

Another problem is that private water banks can be expensive. This has been true in the Kittitas Valley, where private water banks dominate the market. A 2014 study concluded that the average cost to purchase an acre-foot of water from a public water bank was \$1,290, whereas private banks averaged \$54,345 per acre-foot, with a maximum of \$131,200.⁹⁵ In 2019, the Seattle Times reported on high-dollar, speculative Wall Street purchases of Washington water rights for large sums, with the goal of selling such rights through water banks.⁹⁶

Water bank creation requires certain legal and political conditions for success.⁹⁷ In Washington, the statutory framework for water banking is thin, creating uncertainties about the process.⁹⁸ Existing banks and exchanges have cropped up where over-allocation of water resources is combined with instream flow rulemaking.⁹⁹ It appears that conditions must be ripe for water banks to arise, and a prime condition is the inability of would-be water users to legally obtain a new water right.

Finally, as discussed in Part 5 *infra*, in 2018 the Legislature adopted a new statute to allow continued permit-exempt well development in basins where instream flows set by rule are not being met.¹⁰⁰ Water users will not be willing to pay a water bank for mitigation credit in places where a publicly subsidized program

⁹⁴ At present, the Trust Water Right statute allows donation of water rights into trust without evaluating the full extent and validity of the right. WASH. REV. CODE § 90.42.040 (2009). See also WASH. DEP'T OF ECOLOGY, GUIDANCE FOR PROCESSING AND MANAGING TRUST WATER RIGHTS, GUID-1220, WATER RESOURCES PROGRAM GUIDANCE FOR PROCESSING AND MANAGING TRUST WATER RIGHTS 22, 26 (rev. Feb. 2016), <https://apps.wa.gov/ecology/docs/WaterRights/wrwebpdf/guid1220.pdf> [<https://perma.cc/F2YN-S2S6>].

⁹⁵ Memorandum from Aspect Consulting to Spokane County, *Legal, Regulatory and Policy Framework for Water Banking in Washington State*, at 21, Table 5 (Sept. 30, 2014).

⁹⁶ Evan Bush, *Wall Street Spends Millions to Buy up Washington State Water*, SEATTLE TIMES (Oct. 27, 2019), <https://www.seattletimes.com/seattle-news/environment/wall-street-spends-millions-to-buy-up-washington-state-water/>.

⁹⁷ See CRONIN & FOWLER, *supra* note 82 for discussion of “lessons learned” in four Northwest water banking basins.

⁹⁸ Various bills were filed in the 2020 state legislative session to update and modify the trust water and water banking statutes. See e.g., S.S.B. 6494 (Wash. 2020); However, the Legislature instead directed Ecology to establish an advisory group to study the issues surrounding water banks and trust water rights during the 2020 interim. See WASH. DEP'T OF ECOLOGY, Pub. No. 20-11-064, FOCUS ON WATER BANKING AND TRUST WATER RIGHTS (2020).

⁹⁹ See *supra* Part 2.A.

¹⁰⁰ WASH. REV. CODE § 90.94 (2018).

allows for alternative, non-water mitigation. As a result, the new statute and its implementing program will likely undermine the development and use of new water banks in Washington.

3. Other examples of water-for-water mitigation

In-kind water mitigation is not limited to water banks. Several other methods can ensure quantitatively equivalent “wet water” compensation for instream flow depletions caused by new water rights and permit-exempt wells. In the Kittitas Valley, for example, which is closed to all new appropriations unless “water budget neutral,” water banks are not uniformly available.¹⁰¹ Where water bank mitigation is not possible, the County instead authorizes the use of cisterns to capture rainwater and for re-filling via bulk water hauling (water trucks).¹⁰²

On the Spokane Indian Reservation, in-kind mitigation has facilitated protection of instream water rights held by the Spokane Tribe of Indians for Chamokane Creek.¹⁰³ Piping water from the Spokane River into the Creek to augment stream flow and cool surface water temperatures helps mitigate the depletions to instream flow caused by permit-exempt well development.¹⁰⁴

A third example of water-for-water mitigation involves use of reclaimed water, i.e., highly treated sewage or industrial wastewater.¹⁰⁵ This under-utilized resource is employed in several locations around Washington as a substitute for potable water, but has not yet been extensively used as a source of water for water rights mitigation.¹⁰⁶

For each of these mitigation methods, bucket-for-bucket mitigation using actual water is the standard. As these examples demonstrate, legal mandates and recognition of the need to preserve

¹⁰¹ See *supra* Part 3.C.

¹⁰² Bulk water trucks must demonstrate they are filling at stations where water mitigation requirements have been met, in order to avoid simply shifting unmitigated water use to a different area. Cistern Water System Requirements, Kittitas County Code, ch. 13.25 (2011).

¹⁰³ U.S. v. Anderson, No. 3643, Judgment at 4 (E. D. Wash. 1979).

¹⁰⁴ Agreement on a Program to Mitigate for Certain Permit-Exempt Well Water Uses in Chamokane Creek under U.S. v. Anderson, at 20 (App. C) (April 2019).

¹⁰⁵ See WASH. REV. CODE § 90.46 (2007); WASH. ADMIN. CODE § 173-519.

¹⁰⁶ KATHARINE CUPPS & EMILY MORRIS, CASE STUDIES IN RECLAIMED WATER USE (Wash. Dep’t of Ecology, Pub No. 05-10-013, 2005), <https://test-fortress.wa.gov/ecy/publications/publications/0510013.pdf> [<https://perma.cc/F8JR-V8KS>]; Foster v. Wash. St. Dep’t of Ecology, 362 P.3d 959, 960 (2015) (describing elements of Yelm’s water right mitigation plan).

instream flows has led to creative and resource protective methods for directly addressing water shortage and basin closures.

B. Out-of-Kind Mitigation

Unlike in-kind or water-for-water mitigation, out-of-kind water right mitigation relies on habitat restoration projects, or monetary payments for such projects, to offset the stream-depleting impacts of a new water right. While water-for-water mitigation using banking or other mechanisms is a widely used and viable approach, the state has promoted out-of-kind mitigation for expedience. It is true that in-kind mitigation can be challenging. Finding a willing seller and transferring the water right into trust can take significant time and expertise. Some geographic areas do not have saleable rights available, particularly smaller watersheds where additional water development cannot be tolerated.¹⁰⁷

However expedient, out-of-kind mitigation remains controversial. No matter how meritorious a habitat project may be, if it does not replace water necessary for fish migration and other life stages, then it is problematic. Most problematic, out-of-kind mitigation lacks objective foundation. Scientists have yet to identify metrics to measure the effectiveness of habitat projects versus the direct ecological benefit provided by instream flows. Further, out-of-kind mitigation projects are often driven by development goals rather than holistic ecosystem planning.¹⁰⁸ Water rights exist in perpetuity, while habitat projects may not be guaranteed to exist in a lengthy timeframe. Once a river is over-appropriated, out-of-kind mitigation fails to repair the damage to both senior water rights and public uses such as maintenance of health fisheries and water quality, and recreational uses. Out-of-kind mitigation is ill-suited to address the coming calamity of climate change. Part 6, *infra*, discusses these myriad issues in detail, while the history of the development of out-of-kind mitigation, and its rejection by Washington courts, is discussed below.

1. Ecology Mitigation Policy

In 2013, Ecology adopted Program Policy POL-2035, purporting to authorize use of out-of-kind mitigation as a basis to issue new water rights.¹⁰⁹ Under POL-2035 mitigation for a water right ideally is in-kind, i.e., water-for-water compensation. Replacement water had to be available in the same place at the same time as the use it was replacing and in at least the same consumptive

¹⁰⁷ See *infra* note 221.

¹⁰⁸ See *infra* Part 6 for a detailed critique of out-of-kind mitigation.

¹⁰⁹ WASH. DEP'T OF ECOLOGY, POL-2035 WATER RESOURCE PROGRAM POLICY: EVALUATING MITIGATION PLANS (2013) (subsequently rescinded).

quantity as the water use requiring mitigation. But, if that was not possible, then replacement water could be less than perfectly matched to time and place of impact.¹¹⁰

Under POL-2035, if water-for-water mitigation was not available, then replacement water could constitute something other than water, i.e., out-of-kind mitigation. Out-of-kind mitigation was defined as “making water quality or habitat improvements, removing fish barriers, or providing other non-water improvements,” including “monetary investment strategies.”¹¹¹ Although there was no statutory authority for POL-2035, Ecology granted water rights that relied on out-of-kind mitigation to offset instream depletions in two controversial instances.

2. *Foster v. City of Yelm*

Ecology’s first major approval of out-of-kind mitigation served as a basis for water rights issued to the cities of Olympia, Lacey, and Yelm. These new rights relied on jointly implemented habitat projects to offset impairment of protected flows in the Deschutes and Nisqually Rivers and tributary creeks, which were closed to new year-round water rights because instream flows were not being met on a regular basis.¹¹² In their application, the cities proposed various mitigation actions: Yelm planned to use reclaimed water to replace flow depletion in local creeks, as well as habitat projects and funding contribution toward restoration of wetlands of a 200-acre farm in another watershed.¹¹³

While Yelm and Ecology claimed the mitigation would provide an overall ecological benefit to the impaired rivers, the Washington Supreme Court found that “Yelm’s new permit [would] impair minimum flows, most likely during ‘shoulder seasons,’ which are the weeks in April and October that are not covered by the retirement of irrigation water rights.”¹¹⁴

In *Foster*, the Washington Supreme Court rejected Ecology’s reasoning that out-of-kind mitigation was an acceptable method to offset impacts to senior rights, including instream flows:

[T]he [out-of-kind] mitigation plan does not mitigate the injury that occurs when a junior water right holder impairs a senior water right. The water code, including the statutory exception, is concerned with

¹¹⁰ *Id.*

¹¹¹ *Id.*

¹¹² *Foster v. Wash. St. Dep’t of Ecology*, 362 P.3d at 960 (2015)

¹¹³ *Id.*

¹¹⁴ *Id.*

the *legal* injury caused by impairment of senior water rights—water law does not turn on notions of “ecological” injury. Our cases have consistently recognized that the prior appropriation doctrine does not permit even *de minimis* impairments of senior water rights. . . . Therefore we reject the argument that ecological improvements can “mitigate” the injury when a junior water right holder impairs a senior water right.¹¹⁵

Understanding that water is not interchangeable with habitat, the Court declined to redefine the impairment standard. A water right is just that – a right to use water. Even when the “user” is an instream flow established for public benefit, the law protects the amount of water quantified and allocated to the stream in rulemaking, subject to senior rights.

3. *Kennewick General Hospital*

As *Foster* wound through the courts, Ecology issued another water right dependent on out-of-kind mitigation. Here, the department granted Kennewick General Hospital (KGH) a 4,000 acre-foot irrigation water right from an aquifer adjacent to the Columbia River.¹¹⁶ KGH intended to sell property, and the selling price increased substantially if the property came with water rights.¹¹⁷ However, Columbia River flows are protected under an instream flow rule and allocation of a new right to KGH would impair flows and require mitigation.¹¹⁸

Fueled by its \$200 million public bond allocation,¹¹⁹ Ecology’s Office of the Columbia River devised a mitigation plan which involved compiling a list of habitat projects in need of funding. The KGH water right appendix, “Planned Out-of-Kind Mitigation Elements,” set forth 11 projects which, if completed,

¹¹⁵ *Id.* at 963.

¹¹⁶ KENNEWICK GENERAL HOSPITAL, WATER RIGHT NO. G4-30584, REPORT OF EXAMINATION FOR WATER RIGHT APPLICATION (Sept. 26, 2013) [hereafter “KGH ROE”]. The water right was issued for groundwater use in direct hydraulic continuity with the Columbia River.

¹¹⁷ *Id.* at 5. In fact, the property had been sold to Easterday Farms.

¹¹⁸ WASH. ADMIN. CODE § 173-563-040, -020(4) (1982); WASH. ADMIN. CODE § 173-563-020(4) (1997) (“Any water right application considered for approval or denial after [1997] will be evaluated for possible impacts on fish and existing water rights. The department will consult with appropriate local, state, and federal agencies and Indian tribes in making this evaluation. Any permit which is then approved for the use of such waters will be, if deemed necessary, subjected to instream flow protection or mitigation conditions determined on a case-by-case basis through the evaluation conducted with the agencies and tribes.”)

¹¹⁹ WASH. REV. CODE § 90.90.090 (2011).

would require KGH (or its successor) to repay \$6 million to Ecology over a 43-year period.¹²⁰

The KGH mitigation package proposed a veritable smorgasbord of habitat restoration projects for the Columbia and Yakima River watersheds, none of which had a quantifiable streamflow benefit. The projects included levee removal and setbacks, floodplain conservation easement and in-channel placement of large woody debris, placement of riparian “vertical roughness” structures, logging road decommissioning, a water diversion fish passage structure, fish barrier removal, and purchase of private forest lands to prevent logging.¹²¹

Environmental groups challenged the use of out-of-kind mitigation before the PCHB. Pre-dating the Supreme Court’s decision in *Foster* by a year, the Board ruled initially that, as a matter of law, Ecology could use out-of-kind mitigation to offset impairment to instream flows.¹²² The Board then ordered a trial to determine whether the various habitat restoration projects would in fact prevent impairment of instream flows.

Rather than attempt to prove that habitat equals water, Ecology instead rescinded the original water right and issued a superseding right subject to curtailment when Columbia River instream flows were not being met.¹²³ Shortly thereafter, the Washington Supreme Court ruled in *Foster*, rejecting the use of out-of-kind mitigation to address impairment.¹²⁴

The Department of Ecology’s two efforts to use habitat projects and money as a substitute for instream flow deviated from past agency policy and practice and were devoid of objective foundation. Lacking legal and scientific bases for using out-of-kind mitigation to issue water right decisions in over-appropriated basins, Ecology turned to the state legislature in search of a different result.

¹²⁰ KGH ROE, *supra* note 116, at App. A.

¹²¹ *Id.*

¹²² Order on Def.’s Mot. for Summ. J., Okanogan Wilderness League (OWL) v. Dep’t of Ecology and Kennewick General Hospital (Ecology), 2014 PCHB No. 13-146 (2014); Order Vacating Order on Mot. For Summ. J., OWL v. Ecology, 2016 PCHB No. 13-146 (2014).

¹²³ KENNEWICK GENERAL HOSPITAL, WATER RIGHT NO. G4-30584, SUPERSEDING REPORT OF EXAMINATION FOR WATER RIGHT APPLICATION (Feb. 20, 2015).

¹²⁴ See *Foster v. Wash. St. Dep’t of Ecology*, 362 P.3d 959 (2015); The PCHB’s KGH order was vacated following issuance of the *Foster* decision. See *supra* note 122.

PART 5: THE *HIRST* DECISION AND ITS AFTERMATH

The political and ecological pressures detailed *supra* came to a head with the Washington Supreme Court's *Hirst* decision, a groundbreaking case that had the potential to reshape how development occurs in rural parts of the state.¹²⁵ This section describes *Hirst* and its immediate fallout in three parts. It begins with an explanation of the court's ruling in the context of Washington's long history of conflict between permit-exempt wells and instream flows. *Hirst* held permit-exempt wells accountable for their impacts to stream flows and would have required mitigation or moratoria where water was over-allocated.

The second part reviews Engrossed Substitute Senate Bill (ESSB) 6091, the legislature's response to the *Hirst* decision. The law prioritizes continued reliance on permit-exempt wells at the expense of water needed for healthy, functioning streams. Rather than adopt solutions such as water banking to mitigate for exempt well impacts, the statute creates an elaborate planning process and leaves rivers in half the state completely unprotected.

The section concludes with a review of the Department of Ecology's efforts to implement ESSB 6091. Ecology's approach is not only legally flawed, but also threatens further harm to the state's already-imperiled rivers and streams.

A. *The Supreme Court's Ruling*

In 2016, the Washington Supreme Court issued its decision in *Hirst*, a GMA dispute with broad water law implications. The *Hirst* court reaffirmed its earlier decision in *Kittitas* that required counties to confirm that the water supply for new development was not just physically available but legally available too.¹²⁶ That meant

¹²⁵ *Whatcom Cnty. v. W. Wash. Growth Mgmt. Hr'gs Bd.*, 381 P.3d 1 (2016) [hereinafter the *Hirst* case].

¹²⁶ *Id.* at 675 (citing *Kittitas Co. v. E. Wash. Growth Mgmt. Hr'gs Bd.*, 256 P.3d 1193 (2011)). The *Hirst* decision is grounded in the GMA, in particular the mandate in the State Building Code that building permit applicants must demonstrate an "adequate" water supply. WASH. REV. CODE § 19.27.097(1) (2018); see *Hirst*, 318 P.3d at 11, n. 6 (noting the provision's inclusion in the GMA). The Building Code applies to all counties in the state, regardless of whether they have undertaken planning pursuant to the GMA. See Richard Settle & Charles Gavigan, *The Growth Management Revolution in Washington: Past, Present, and Future*, 16 U. PUGET SOUND L. REV. 867, 872-74 (1993) (providing an overview of how different areas of the state participate in GMA planning). It has long been recognized that when granting building permits, cities and counties are required to assess the legal availability of water. See *Requirement of Adequate Water Supply Before a Building Permit is Issued*, 1992 Op. Att'y Gen. No. 17, 1992 WL 512197, at 6 ("any applicant for a building permit who claims that the

that developers could not simply rely on the fact that water could be pumped from a well; the new water supply must also be free from claims by senior water rights. If a new well would interfere with a senior right, then the water would not be “legally available” for withdrawal.¹²⁷

Hirst broke new ground, however, in its demand that local jurisdictions *independently* resolve whether water is legally available. Determining whether an exempt well will impair another water user’s right is a technical challenge; however, the conflict is brought into sharper relief when the senior right is an instream flow protected by rule. If a new well will have *any* effect on surface flows when an instream flow set by Ecology is not being met, then water is not legally available.¹²⁸

Whether an instream flow is affected by permit-exempt wells for new homes falls outside of Ecology’s usual regulatory reach.¹²⁹ In the Nooksack Basin, covering the western half of Whatcom County, the lack of adequate oversight at both the state and local level has led to hundreds of exempt wells drilled in areas where streams were ostensibly “closed” to new water appropriations.¹³⁰

After *Kittitas*, Whatcom County adopted development regulations to ensure that the growth of permit-exempt wells could continue unabated. The regulations stipulated that Ecology’s instream flow rule for WRIA 1, which expressly closed only a single subbasin to permit exempt wells, provided an implicit finding of “legally available” groundwater.¹³¹ In other words, Whatcom County argued that Ecology’s failure to explicitly restrict permit-

building’s water will come from surface or ground waters of the state, other than from a public water system, must prove that he has a right to take such water” (footnote omitted)); *id.* at 7, n.5 (“Even a person with a water right . . . may be unable to take water at certain times.”).

¹²⁷ Although there is no statutory or regulatory definition of “legally available,” the issue of whether water is “available” for use is also found in the four-part test for granting a water right. *See supra* note 2. In that context, “legal availability” merges with the question of whether a senior water right will be “impaired” by the new use. OFF. OF THE ATT’Y GEN., AN INTRODUCTION TO WASHINGTON WATER LAW, WASH. ST. IV:35 (2000) <https://fortress.wa.gov/ecy/publications/documents/0011012.pdf> [<https://perma.cc/AW4B-TZMR>].

¹²⁸ Washington Supreme Court cases “have consistently recognized that the prior appropriation doctrine does not permit even *de minimis* impairments of senior water rights.” Foster, 362 P.3d at 963 (citing Postema v. Pollution Control Hearings Board, 11 P.3d 726, 739-40 (2000)).

¹²⁹ *See supra* Part 2.B (discussing the proliferation of permit-exempt wells).

¹³⁰ Hirst, 381 P.3d 1, 6 (referring to Ecology’s 1985 instream flow rule for WRIA 1).

¹³¹ *Id.* at 13; *see also id.* at 30-31 (noting that the instream flow rule specifically closed only the Whatcom Creek subbasin to permit-exempt wells).

exempt wells throughout WRIA 1 justified continuing to ignore the watershed's clearly documented water shortages.¹³² The practical result was that water was considered "always available for permit-exempt appropriations," and no water mitigation was required for new wells.¹³³

Hirst squarely rejected Whatcom County's approach and held that local jurisdictions are responsible for ensuring that water is available before approving new developments relying on permit-exempt wells.¹³⁴ The 1985 Nooksack rule, the court explained, was adopted when Ecology's understanding of hydraulic continuity (*i.e.*, the depletion of surface flows by groundwater capture) was still evolving.¹³⁵ The court found that jurisdictions cannot blind themselves to reality by relying on Ecology's outdated rules as an endorsement of unrestricted groundwater availability.¹³⁶

B. The Legislative Backlash

The result in *Hirst* – although a natural extension of *Kittitas* and well-grounded in water law – led to an unprecedented political upheaval. In 2017, the Senate refused to approve the state's capital budget absent a legislative reversal of *Hirst*, leading to a six-month hiatus in capital expenditures around the state.¹³⁷ The outcry eventually resulted in passage of ESSB 6091 in the 2018 session, a controversial bill commonly referred to as the "*Hirst* Fix" legislation.¹³⁸

¹³² *Id.* at 6 (noting the finding that instream flows are not met on average 100 days per year).

¹³³ *Id.*

¹³⁴ The GMA "clearly places sole responsibility for land use decisions affecting groundwater resources on local governments." *Id.* at 15.

¹³⁵ *Id.* at 14. See also Osborn, *Hydraulic Continuity*, *supra* note 23. See *supra* Part 2.A.3.

¹³⁶ As one court observed in another water law matter, "No party has a vested right in ignorance." *Postema v. Pollution Control Hearings Board*, 11 P.3d 726, 740, n.6 (2000) (quotation marks and citation omitted). The court in *Postema* emphasized the continuous duty to update the technical means for determining impairment as they become available. *Id.* at 740-41 (noting that Ecology "should not be able to rely on use of outdated methodology which would allow impairment of surface water rights").

¹³⁷ Phuong Le, *Lawmakers Pass Water Bill, \$4 Billion in Construction*, SEATTLE TIMES (Jan. 18, 2018), <https://www.seattletimes.com/seattle-news/politics/deal-reached-on-washington-state-capital-budget-rural-water-dispute/> [].

¹³⁸ Portions of the act are formally known as the "Streamflow Restoration" law. See WASH. REV. CODE § 90.94 et seq. (2018). Although Republicans were responsible for the 2017 budgetary impasse, ESSB 6091 passed both chambers of the legislature with comfortable margins. See Bill Information, SB 6091, <https://app.leg.wa.gov/billsummary?BillNumber=6091> &Year=2017 [https://perma.cc/9V7R-N558].

The purpose of ESSB 6091 is plain from its preamble: to “ensur[e] that water is available to support development.”¹³⁹ The legislation eliminates the conflict between instream flows and permit-exempt wells by waiving the protections for instream flows.¹⁴⁰ Local jurisdictions need no longer determine whether the existence of water shortages would undermine the “legal availability” of water for permit-exempt wells; instead, they are responsible only for assessing whether watersheds are in compliance with ESSB 6091.

ESSB 6091 established three primary categories of watersheds. First, there are the fifteen watersheds with instream flow rules that – like the Nooksack rule at issue in *Hirst* – did not appear to systematically address permit exempt wells. They fall within Sections 202 and 203 of ESSB 6091. Those sections of the statute include provisions that expressly undermine established principles of water law mitigation while also introducing the untested concept of “net ecological benefit” as a governing principle. Second, there are a handful of watersheds where the legislature chose not to interfere with the existing regulatory framework in which permit-exempt wells must meet the demands of bucket-for-bucket mitigation. Those watersheds are instructive for demonstrating a perfectly viable road not taken by the legislature. Finally, there are the majority of the state’s watersheds that lack any established instream flow. There, the legislature chose to simply disregard the ongoing stresses caused by over-appropriation.

1. Impairment by Offset and Net Ecological Benefit

For basins that previously completed a plan under the state’s Watershed Planning Act, the local watershed planning group is

¹³⁹ 65TH LEG., ENGROSSED SUBSTITUTE SENATE BILL 6091 (2018), <http://lawfiles.ext.leg.wa.gov/biennium/2017-18/Pdf/Bills/Session%20Laws/Senate/6091-S.SL.pdf?cite=2018%20c%201%20C2%A7%20201> [<https://perma.cc/25SN-E77R>].

¹⁴⁰ The legislation only addresses “domestic” use of an exempt well, considered to include both in-home use and outdoor lawn and garden irrigation. WASH. REV. CODE § 90.94.020(8) (2018) (“does not restrict the withdrawal of groundwater for other uses that are exempt from permitting under RCW 90.44.050”); WASH. REV. CODE § 90.94.030(6) (2018); WASH. DEP’T OF ECOLOGY, POL-2094, STREAMFLOW RESTORATION POLICY AND INTERPRETIVE STATEMENT, at 5 (2019) (“POL-2094”). The other uses of permit-exempt wells remain unaddressed and unmitigated, despite the very real potential for impacts. See WASH. REV. CODE § 90.44.050 (2003) (listing stockwatering, lawn and garden irrigation, domestic, and industrial uses); *Five Corners Family Farmers v. Washington*, 268 P.3d 892 (2011) (permit-exempt withdrawals for stockwatering are unlimited in pumping quantity).

tasked with updating the plan.¹⁴¹ This is ESSB 6091's Section 202 pathway.¹⁴² For basins without a watershed plan, Ecology must establish "watershed restoration and enhancement committees" to work with Ecology to develop a plan.¹⁴³ This is the statute's Section 203 pathway. Although their processes for developing plans differ greatly, the substantive standards of Section 202 and 203 are largely the same.

An updated Section 202 plan must include recommendations for projects to offset – or mitigate for – the impacts of new permit-exempt wells on instream flows expected over the next twenty years.¹⁴⁴ This is key: the projected depletions caused by permit-exempt wells that are projected over the next two decades must be offset by an equal amount of water added to the basin's rivers and streams. A plan may also include projects to "protect or improve instream resources without replacing the consumptive quantity of water," but only if those projects are supplemental to actions needed to actually "offset potential consumptive impacts to instream flows[.]"¹⁴⁵

The statute details a two-tier hierarchy of actions to satisfy the mitigation mandate. The "highest priority" actions will replace consumptive water use during the same time and in the same subbasin.¹⁴⁶ However, the legislation contemplates out-of-place and out-of-time mitigation as well. These "[l]ower priority" actions allow for mitigation that is outside the subbasin where the domestic well impacts occur or only replaces water depletions during critical flow periods.¹⁴⁷

¹⁴¹ WASH. REV. CODE § 90.94.020(4)(a) (2018). In 1997, the legislature passed the Watershed Planning Act, encouraging localities to develop plans to manage water resources. WASH. REV. CODE § 90.82. Of the 62 WRIsAs across the state, 33 eventually adopted plans. See *Watershed Plan Archive*, WASH. DEP'T OF ECOLOGY, <https://ecology.wa.gov/Water-Shorelines/Water-supply/Streamflow-restoration/Watershed-plan-archive> [<https://perma.cc/8MXC-DRSX>]. The "planning units" were ideally to be composed of local jurisdictions, water suppliers, interested tribes, as well as a "wide range of water resource interests." WASH. REV. CODE § 90.82.060 (2009).

¹⁴² Watershed planning was problematic in many of the WRIsAs. Clare Ryan & Jacqueline Klug, *Collaborative Watershed Planning in Washington State: Implementing the Watershed Planning Act*, 48(4) J. OF ENVTL. PLAN. AND MGMT. 491, 491-506 (2005) (watershed planning problems including collaborative process, funding, and technical capacity).

¹⁴³ WASH. REV. CODE § 90.94.030(2) (2018).

¹⁴⁴ WASH. REV. CODE § 90.94.020(4)(b) (2018).

¹⁴⁵ *Id.*

¹⁴⁶ *Id.* The term "subbasin" is not defined by the legislation.

¹⁴⁷ *Id.*

This feature is a striking departure from traditional water law principles. As detailed, *supra*, mitigation requires in-kind water replacement, *i.e.*, bucket-for-bucket, wet water, in-time and in-place. Here, the legislature used ESSB 6091 as a vehicle to address grievances beyond the specifics of *Hirst*; it was also a direct reaction to the chain of legal decisions regarding water mitigation, described *supra*, that barred issuance of new, unconditioned water rights that would compromise instream flow protections.¹⁴⁸

Before Ecology can adopt a watershed plan, it must determine that the recommendations will result in an undefined “net ecological benefit” to instream resources.¹⁴⁹ If the local planning groups are unable to meet specific deadlines, then Ecology must adopt rules that “meet the requirements” noted here, including the one-for-one offset and the net ecological benefit standard.¹⁵⁰

For Section 203, Ecology is primarily responsible for the preparation of the plan, in collaboration with a newly formed local committee. If committee members unanimously agree, the plan may be approved by the committee.¹⁵¹ Failing that, Ecology will adopt the plan after a technical review by the state’s Salmon Recovery Funding Board.¹⁵² Within two years, Ecology must then adopt an amended instream flow rule.¹⁵³ As with Section 202, the recommended projects and actions in the plan must offset the

¹⁴⁸ See *Postema v. Pollution Control Hearings Board*, 11 P.3d 726, 740 (2000) (recognizing that proposed groundwater withdrawals cannot have even a *de minimis* effect on instream flows); *Foster v. Wash. St. Dep’t of Ecology*, 362 P.3d at 960 (2015). (rejecting a surface water permit that relied in part on out-of-kind mitigation to compensate for impairing instream flows); *SITC v. Wash. Dep’t of Ecology*, 311 P.3d at 21 (2013) (limiting Ecology’s authority to set aside water for future use when establishing instream flow protections). ESSB 6091 also establishes an experimental water right permitting project involving development of five pilot water supply projects. WASH. REV. CODE § 90.94.090(9) (2019). This provision is a direct response to the *Foster v. City of Yelm* decision, which held that out-of-kind mitigation may not be employed to prevent impairment to senior rights, including instream flows. See *supra* Part 4.B.2. A review of the pilot projects is outside the scope of this article; completion of the pilot projects and reports on outcomes will not occur until late 2020.

¹⁴⁹ WASH. REV. CODE § 90.94.020(3)(c) (2018).

¹⁵⁰ *Id.* at §§ 90.94.020(7)(a),(b)&(c). Section 202 applies to WRIAs 1, 11, 22, 23, 49, 55, 59. *Id.* at § 90.94.020(2).

¹⁵¹ *Id.* at § 90.94.030(3) (2018).

¹⁵² *Id.* at § 90.94.030(3)(h).

¹⁵³ *Id.* Section 203 applies to WRIAs 7, 8, 9, 10, 12, 13, 14, 15. WASH. REV. CODE § 90.94.030(2)(a).

projected twenty-year impacts of new permit-exempt wells, with the overarching mandate to produce a net ecological benefit.¹⁵⁴

2. In-Kind Mitigation Watersheds

For watersheds with instream flow rules that directly mitigate permit-exempt wells through water banking, ESSB 6091 allows the rules to continue to control future withdrawals.¹⁵⁵ These are the more recent generation of instream flow rules where wet-water mitigation has been successfully integrated to counter the impact of future permit-exempt wells.¹⁵⁶

The most comprehensive mitigation program was created for the Dungeness Basin in 2012, requiring new domestic well users to either draw from established reserves or mitigate their water use.¹⁵⁷ Ecology established the Dungeness Water Exchange, operated by the Washington Water Trust, which acquires water rights that are repackaged into mitigation credits, in amounts suitable for landowners to purchase before applying for building permits.¹⁵⁸

Other instream flow rules have similar requirements, albeit without the same institutional structure. The Spokane Basin's 2015 rule requires that consumptive use by permit-exempt wells must be mitigated through a plan approved by Ecology.¹⁵⁹ The 2007 amendment to the Walla Walla instream flow rule, requires mitigation for outdoor irrigation in high-density areas from a permit-exempt well between May 1 and November 30.¹⁶⁰

These rules, in place for a number of years, demonstrate the viability of protecting stream flows while allowing development to continue. The legislature could have directed Ecology to follow these models and expand water banking statewide, but instead chose to manufacture a crisis in response to the *Hirst* decision resulting in

¹⁵⁴ *Id.* at § 90.94.030(3)(b)&(c). ESSB 6091 addresses permit-exempt well usage going forward from the date of the statute, but does not require mitigation, offsets or net ecological benefits to address the enormous number of exempt wells that were put into use after adoption of instream flow rules but prior to 2018. WASH. REV. CODE § 19.27.097(5) (2018). *See supra* Part 2.B.

¹⁵⁵ WASH. REV. CODE § 19.27.097(1)(b) (2018).

¹⁵⁶ *See supra* Part 2.A.2.

¹⁵⁷ WASH. ADMIN. CODE § 173-518-070, -080 (2013).

¹⁵⁸ WASH. DEP'T OF ECOLOGY, OVERVIEW OF THE WATER RESOURCES MANAGEMENT PROGRAM RULE FOR THE DUNGENESS WATERSHED (WAC 173-518) (2012), <https://fortress.wa.gov/ecy/publications/documents/1211052.pdf> [<https://perma.cc/48CL-53XM>]. *See also* Bassett v. Ecology, 8 Wn.2d 563 (Wash. Div. II 2019) (rejecting a challenge to the Dungeness rule).

¹⁵⁹ WASH. ADMIN. CODE § 173-557-060 (2015).

¹⁶⁰ WASH. ADMIN. CODE § 173-532-050 (2007).

a statute that prioritizes development over streamflow protections.¹⁶¹

3. Leftover Watersheds

For the remainder of the state's 32 watersheds, ESSB 6091 eliminates the duty of local jurisdictions to determine the legal availability of water, regardless of actual instream flow conditions.¹⁶² Although these watersheds lack instream flow rules, stream flows in many rivers and streams are purportedly protected through the state's Surface Water Source Limitation (SWSL) program, under which Ecology has restricted stream depletions using water right permit conditions adopted pursuant to Washington Department of Fish and Wildlife recommendations.¹⁶³ ESSB 6091 does not acknowledge or address the legal protections the SWSL program provides to streams, leaving half or more of the state's aquatic waters unprotected from new permit-exempt wells, evading review by both local jurisdictions and Ecology.

C. The State's Implementation

Since passage of ESSB 6091, the Department of Ecology has released several interpretive documents, including a policy and interpretive statement for implementing the law; specific guidance on determining "net ecological benefit"; and recommendations for estimating water use from exempt wells.¹⁶⁴ Ecology has also now

¹⁶¹ There are two other instances in which ESSB 6091 takes a hands-off approach: watersheds governed by an instream flow rule that has been the subject of litigation before the Washington Supreme Court over future permit-exempt wells and three watersheds where the water rights have been fully "adjudicated." WASH. REV. CODE §§ 19.27.097(1)(e), (f) (2018). See *supra* note 7 & 8 and accompanying text for discussion of adjudications.

¹⁶² WASH. REV. CODE § 19.27.097(1)(g) (2018). Ecology's map of WRIAs affected by ESSB 6091 also reveals the substantial portion of the state where no instream flow rules have been adopted. See WASH. DEP'T OF ECOLOGY, STREAMFLOW RESTORATION DOMESTIC PERMIT-EXEMPT WITHDRAWAL: NEW REGULATIONS (2018), <https://apps.wa.ecology.wa.gov/docs/WaterRights/wrweb/pdf/essb6091-dpew-map.pdf> [<https://perma.cc/VS2M-V48G>].

¹⁶³ WASH. REV. CODE § 77.57.020 (2005) (authorizing Wash. Dep't of Fish & Wildlife water rights flow consultation); ("SWSL" List); WASH. ADMIN. CODE § 173-500-060(4) (1976) ("Low flow limitations to prevail (1) Notwithstanding the establishment of base flows established hereunder, existing low flow limitations shall remain in effect."); WASH. ADMIN. CODE § 173-500-050(8) (1976) ("Low flow' means those flow level limitations appearing as provisions on permits and certificates issued by the department, or its predecessors, prior to the effective dates of chapters 173-501 through 173-599 WAC."); WASH. DEP'T OF ECOLOGY, *ECY WAC and SWSL by Region* (2001) (on file with author).

¹⁶⁴ See POL-2094, *supra* note 140; WASH. DEP'T OF ECOLOGY, PUBL. 19-11-079, GUID-2094, FINAL GUIDANCE FOR DETERMINING NET ECOLOGICAL BENEFIT

dealt with both alternatives for Section 202 watersheds (i.e., those with existing watershed plans): the agency approved the plan developed by the Nisqually Basin's planning unit (WRIA 11) and it produced a draft rule for the Nooksack Basin (WRIA 1) after the planning unit failed to meet its deadline.¹⁶⁵

Ecology's interpretations of ESSB 6091 tend to reinforce and expand the law's reach. The legislation clearly redefines traditional in-time, in-place mitigation for new domestic wells by permitting out-of-place "offsets" that replace water only during "critical flow periods."¹⁶⁶ But Ecology has gone beyond even this aggressive re-writing of established mitigation requirements.

This section considers three aspects of Ecology's implementation of ESSB 6091, as applied to the Nooksack Basin. First, Ecology blends in-kind and out-of-kind mitigation, claiming habitat projects are suitable for providing in-kind mitigation, despite decades of water law to the contrary and a lack of necessary documentation as to the details of the habitat projects and their hydrologic benefits. Second, Ecology fails to take measures to ensure the likelihood that recommended mitigation projects will in fact occur. In doing so, Ecology ignores not only general principles of water mitigation but also the clear legislative directives of ESSB 6091. Finally, Ecology avoids evaluating whether the mitigation projects are a result of ESSB 6091. Projects are included in Ecology's calculations that lack a discernable cause-and-effect

(2019) ("Final NEB Guidance"); WASH. DEP'T OF ECOLOGY, PUBL. 18-11-007, RECOMMENDATIONS FOR WATER USE ESTIMATES (2018), <https://fortress.wa.gov/ecy/publications/documents/1811007.pdf> [<https://perma.cc/FV8A-NWBK>].

¹⁶⁵ The legislation set an ambitious deadline of February 1, 2019 for both watersheds. WASH. REV. CODE § 90.94.020(7)(a)&(b) (2018). For the Nooksack Basin, the proposal includes only modest changes to the actual existing instream flow rule, including adding new limits to the amount of water that can be withdrawn from a permit-exempt well for indoor and outdoor use. The bulk of Ecology's work is in the accompanying Rule Supporting Document. WASH. DEP'T OF ECOLOGY, PUBL. 19-11-093, DRAFT RULE SUPPORTING DOCUMENT, AMENDMENT OF CHAPTER 173-501 WAC INSTREAM RESOURCES PROTECTION PROGRAM – NOOKSACK WATER RESOURCE INVENTORY AREA 1 (2019) ("RSD"). WRIA 1 was the watershed at issue in the *Hirst* litigation.

¹⁶⁶ WASH. REV. CODE §§ 90.94.020(4)(b), .030(3)(b) (2018). The law's provisions related to permit-exempt wells avoid the term "mitigation," instead using "offset" and "net ecological benefit." Ecology warns that "offsets" are "fundamentally different than 'mitigation' for water rights permits (or other regulatory purposes)[.]" Final NEB Guidance, *supra* note 164, at 9; *see also id.* at 4 (defining "critical flow period"). The authors reject the assertion that offsets are substantively different than out-of-kind mitigation.

relationship between the legislation and the claimed mitigation of water.¹⁶⁷

1. Out-of-Kind Overdrive

The Nooksack plan includes considerable out-of-kind habitat restoration as part of its compensation for water depletions that will result from the next 20 years of permit-exempt well development.¹⁶⁸ Ecology has selected 13 projects to offset the impacts of exempt wells, as well as provide the net ecological benefit required by ESSB 6091.¹⁶⁹ Many of the projects do not involve bucket-for-bucket, wet water mitigation.

Ecology is blurring the established legal distinction between water-for-water replacement and habitat restoration, *i.e.*, in-kind versus out-of-kind mitigation.¹⁷⁰ Early mitigation cases rejected land use changes as mitigation for increased water use, as in *Black River Quarry*, which found, “No credit is merited nor authorized under the Water Code for returning to nature, what originally belonged to it.”¹⁷¹ Habitat conservation projects are out-of-kind mitigation, potentially useful for improving the ecological function of a stream generally but separate from the in-kind mitigation

¹⁶⁷ For more comments on and critiques of the Nooksack proposal, *see* CTR. FOR ENVTL. LAW AND POL’Y, LETTER FROM TRISH ROLFE (2020) https://commentinput.com/attachments/projectID_200013/200142/merged//EB9FF81jBOOr.pdf?v=6AFTY4GHS [<https://perma.cc/MRC3-LXQF>]; NOOKSACK INDIAN TRIBE, LETTER FROM ROSS CLINE (2019) https://commentinput.com/attachments/projectID_200013/200142/merged//12A79nxEN65.pdf?v=6AFTY4GHS [<https://perma.cc/5L4D-33UH>]; LUMMI INDIAN BUS. COUNCIL, LETTER FROM MERLE JEFFERSON (2019) (“Lummi Tribe Prelim Cmts”) https://commentinput.com/attachments/projectID_200013/200142/merged//79E4AgZwQ2Z.pdf?v=6AFTY4GHS [<https://perma.cc/4GMV-QJYR>].

¹⁶⁸ *See* RSD, *supra* note 165, at 39-48 (Chapter 6 – Projects and Actions).

¹⁶⁹ *Id.* at 41 (Table 6.1).

¹⁷⁰ WASH. DEP’T OF FISH AND WILDLIFE, LETTER FROM MEGAN KERNAN 2 (2019), https://commentinput.com/attachments/projectID_1001/10493/merged//683012xV8n1.pdf?v=R59CBW2F3 [<https://perma.cc/8EM6-JRNJ>] [hereinafter “WDFW Prelim Cmts”] (cautioning against “open[ing] the door to greater uncertainty by characterizing out-of-kind projects with possible streamflow benefits as having in-kind benefits”).

¹⁷¹ *Black River Quarry v. Ecology*, PCHB No. 96-56 Findings of Fact, Concl. of Law, at 15 (1996) (rejecting attempt to create “new water” though the infiltration of stormwater runoff); *Manke Lumber v. Ecology*, PCHB 96-102-106, Findings of Fact, Concl. of Law, at 11 (Nov. 1, 1996) (finding that the water trees leave in the ground at any point in time “is merely a portion of the ground water resources that belongs to the people of the State”). *See also* CPM Development Corp. v. Dep’t of Ecology, PCHB No. 03-071, Order on Summary Judgment, at 14 (Mar. 3, 2007) (collecting cases). *See supra* Part 3.A (discussing *Manke Lumber*), *supra* Part 4.B (discussing out-of-kind mitigation).

methods that provides wet water. Habitat projects are not a substitute for maintaining and improving flows.¹⁷²

Ecology fails to recognize that ESSB 6091 does not disturb that division. Instead, when the statute does refer to “out-of-kind” mitigation, it does so within its commonly understood meaning: projects that “improve or enhance existing water quality, riparian habitat, or other instream functions and values[.]”¹⁷³ This description of out-of-kind mitigation pointedly does not encompass water *quantity*.¹⁷⁴ Where the legislature intended to rewrite water law, it did so clearly and directly, as in the law’s embrace of out-of-time and out-of-place offsets for permit-exempt wells. That same unambiguous intent is absent to support the claim that out-of-kind mitigation can now be considered equivalent to in-kind mitigation.

Equally troubling, the supporting information for the Nooksack habitat projects is exceedingly thin. In its net ecological benefit guidance, Ecology maintains that habitat restoration can provide in-kind, water-for-water mitigation: habitat projects may “result in an increase in streamflow” even if they otherwise “prioritize the habitat benefits.”¹⁷⁵ Ecology acknowledges that it may be “difficult to quantify the offset benefits” and that this reality would “potentially increas[e] uncertainty” for any watershed plan.¹⁷⁶

Ecology’s reservations about the difficulty of quantification are largely abandoned in the Nooksack draft Rule Supporting Document (RSD), where – for example – a proposal for Skookum Creek forest restoration asserts, without explanation, the addition of 1,449 acre-feet per year (AFY) to a tributary of the Nooksack River. This represents more than a third of the total claimed water savings

¹⁷² See *Foster v. Dep’t of Ecology*, PCHB No. 11-155, Order Granting Partial Summary Judgment, at 27 (2013) (distinguishing habitat restoration projects with “flow enhancement benefits” from “in-kind mitigation”).

¹⁷³ WASH. REV. CODE § 90.94.090(9)(c) (2019).

¹⁷⁴ Proposed legislation from 2015 similarly demonstrates this conventional understanding, noting that out-of-kind mitigation includes “land development practices, habitat restoration, and best management practices[.]” Sub. Senate Bill 5965, 64th Leg. Session, Sec. 2(d) (2015).

¹⁷⁵ Final NEB Guidance, *supra* note 164, at 11. The Nooksack rule is in fact governed by Ecology’s earlier interim guidance. POL-2094, *supra* note 140, at 6 n.14; Dep’t of Ecology, Wash. St., Publ. 18-11-009, Interim Guidance for Determining Net Ecological Benefit, at 6 (2018) (“Interim Guidance”); see also RSD, *supra* note 165, at 54 (applying the Interim Guidance). Strikingly, the interim guidance is more cautious about crediting habitat work for instream flow benefits that can be considered in an offset calculation. Its list of “water offset projects” did not include activities such as forest regrowth or riparian restoration. Interim Guidance at 5-6.

¹⁷⁶ Final NEB Guidance, *supra* note 164, at 11.

for the entire watershed.¹⁷⁷ Similarly a second project involves a 7,000-acre conservation easement on Stewart Mountain. Although the RSD claims an eye-popping 7,240 AFY increase in river flows based on reduced timber harvest, Ecology does not include the figure in the offset total because it will “not be fully realized” in the twenty-year horizon demanded by the law.¹⁷⁸

Neither project explains how the projected streamflow increase is calculated, nor to what extent the benefits will accrue during the twenty-year time horizon. Ecology appears to view its role as little more than a rubber stamp for projects proposed by the planning group.¹⁷⁹

The Nooksack projects do not comport with ESSB 6091, which does authorize out-of-kind, non-water projects but only to augment in-kind mitigation for future exempt well use.¹⁸⁰ The Nooksack plan ignores that mandate by crediting multiple habitat projects with “wet water” benefits. The lack of documentation for the amount of water claimed highlights the peril of effacing the distinction between in-kind and out-of-kind mitigation.

2. Adaptive Management and Reasonable Assurances

Under both the Section 202 and 203 pathways of ESSB 6091, Ecology must determine that the identified projects and actions meet the “net ecological benefit” standard.¹⁸¹ Ecology

¹⁷⁷ RSD, *supra* note 165, at 41, 44. The total amount of water claimed by Ecology for all thirteen of the projects included in the watershed plan is 3,767 AFY. *Id.* at 56.

¹⁷⁸ *Id.* at 41, 44-45.

¹⁷⁹ WRIA 1 ENVTL. CAUCUS, LETTER FROM KARLEE DEATHERAGE 3 (2019) (stating that it “appears that Ecology conducted no independent assessment of the 13 projects”). In comments submitted on Ecology’s proposal for the Nooksack watershed, the Washington Department of Fish and Wildlife (WDFW) homed in on this point: “[S]ome habitat restoration and conservation projects are characterized as having streamflow benefits commensurate with in-kind (water-for-water) projects.” In WDFW’s view, the “uncertainties inherent with these kinds of projects ... make it extremely difficult to accurately quantify those benefits; WASH. DEP’T OF FISH AND WILDLIFE, LETTER FROM MEGAN KERNAN 3 (2020); *see also* WDFW Prelim Cmts., *supra* note 170, at 2. Ecology conceded this point in its guidance, but rather than addressing this limitation, the RSD exacerbates the problem. Final NEB Guidance, *supra* note 164, at 11; *see also* Interim Guidance, at 5 (“calculating the benefits may be more complicated for [non-water acquisition] projects”).

¹⁸⁰ WASH. REV. CODE § 90.94.020(4)(b) (2018) (“where such projects are in addition to those actions that the planning unit determines to be necessary to offset potential consumptive impacts to instream flows associated with permit-exempt domestic water use”); *see also id.* at § 90.94.030(3)(b) (2018).

¹⁸¹ WASH. REV. CODE §§ 90.94.020(4)(c), .030(3)(c) (2018). When Ecology assumes the role of finalizing the Section 202 process (after local default), as in

recognizes that in doing so it must be “reasonably assured” that the projects will “be carried out.”¹⁸² At the same time, Ecology’s guidance does not require that identified projects and actions actually come to fruition:

RCW 90.94.020 and 90.94.030 do not create an obligation on any party to ensure that plans, or projects and actions in those plans or associated with rulemaking, are implemented. Further, the law does not predicate the issuance of building permits on the implementation of watershed plans or any projects and actions in those plans.¹⁸³

This reasoning extends to the issue of mitigation funding. While projects identified in the watershed plans are prioritized, “[t]here is no guarantee that any application or project proposal will be funded[.]”¹⁸⁴

Ecology’s use of the term “reasonable assur[ance]” in its guidance document is instructive. This term also appears in the Clean Water Act Section 401 certification rules, providing a standard Ecology uses to certify that a federally permitted activity

the Nooksack Basin, it treats the RSD as an updated plan, requiring a net ecological benefits determination. RSD, *supra* note 165, at 54. Ecology conducted a “thorough scientific literature review” before concluding that the term does not have an established meaning in the natural sciences Final NEB Guidance, *supra* note 164, at 1. The term did, however, arise in the *Foster* litigation, where the Pollution Control Hearings Board approved the contested permit only after observing that Ecology evaluated the “net ecological benefit” of out-of-kind mitigation, among more than a dozen other factors. The Washington Supreme Court reversed, finding that water law is concerned with “impairment” rather than “notions of ‘ecological’ injury.” *Foster v. Wash. St. Dep’t of Ecology*, 362 P.3d at 963 (2015)

¹⁸² RSD, *supra* note 165, at 39 (“Ecology selected the list of projects based on the above criteria to be reasonably assured the projects would be carried out.”); *see* Final NEB Guidance, *supra* note 164, at 6 (“A watershed plan that includes a [net ecological benefit] evaluation based on this guidance significantly contributes to the reasonable assurances that the offsets and NEB within the plan will occur.”).

¹⁸³ POL-2094, *supra* note 140, at 10; RSD, *supra* note 165, at 49; *see also id.* at 40 (“Neither the completion of the projects nor the attainment of their anticipated results is guaranteed”).

¹⁸⁴ The legislature intends to appropriate \$300 million for projects “designed to provide access to new water supplies.” *See* ESSB 6091, Legis. Intent. 2018 c1 § 304. Priority is given to those projects that are “in watersheds developing plans” pursuant to Sections 202 and 203. WASH. REV. CODE §§ 90.94.060(2), .070(2), .080(2) (2018). *See* DEP’T OF ECOLOGY, WASH. ST., PUBL. 19-11-089, STREAMFLOW RESTORATION COMPETITIVE GRANTS, 2020 1 (2019); *see also* RSD, *supra* note 165, at 40 (“the listing of a project herein does not obligate Ecology to fund a project”).

will not violate state water quality standards.¹⁸⁵ The PCHB held that Section 401 “reasonable assurance” means “something is reasonably certain to occur. Something more than a probability; mere speculation is not sufficient.”¹⁸⁶ The Washington Supreme Court further recognized the need for robust adaptive management to support a finding of “reasonable assurance,” given the uncertainties of ecological mitigation outcomes.¹⁸⁷

Yet the Nooksack RSD’s so-called “adaptive management” section includes only information gathering, requiring Whatcom County to prepare annual and five-year self-assessments.¹⁸⁸ There are no built-in penalties, incentives, or adjustments designed to produce results. At the same time, Ecology appears to assume that the reports from the county will play an important role in the Nooksack Basin: “Ecology’s adaptive management approach will enable adjustments and course corrections over time and establishes an approach to incorporate new information as well as new projects and actions.”¹⁸⁹ How this will occur without an ongoing assessment of impacts through monitoring or triggers for mandatory intervention is not discussed.¹⁹⁰

The need for measures to ensure reliability has an established water law pedigree. As discussed, *supra*, the PCHB has expressed skepticism around mitigation plans that lack sufficient detail while assuming that they will operate in perpetuity.¹⁹¹ Here too, Ecology recognizes that offsets must “continue beyond the 20-year period [required by the law] for as long as new well pumping continues.”¹⁹² But Ecology has not taken steps to reasonably assure

¹⁸⁵ 40 C.F.R. § 121.2(a)(3) (2019) (agency must provide a statement that “there is a reasonable assurance that the activity will be conducted in a manner which will not violate applicable water quality standards”).

¹⁸⁶ *Port of Seattle v. Pollution Control Hearings Board*, 90 P.3d 659, 676 (2004) (citation and quotation marks omitted).

¹⁸⁷ *Id.* at 678-679 (“Monitoring and adaptive management provide a mechanism through which Ecology can mitigate [the] inherent uncertainty” that comes with predicting future results.). That uncertainty is only magnified when Ecology relies on projects that are not traditional “wet water” mitigation. *See, e.g.*, RH2, Technical Memorandum, Final Task 2 Deliverables – Projects and Actions, App. A, at 6 (Oct. 2, 2018) [hereinafter “RH2”] (noting the “uncertainty of the quantity of offset water provided” for the Skookum Creek Project).

¹⁸⁸ RSD, *supra* note 165, at 49-51.

¹⁸⁹ *Id.* at 63.

¹⁹⁰ *See* *Airport Comm. Coal. v. Dep’t of Ecology*, PCHB No. 01-160, at 82, Findings of Fact, Concl. of Law (Aug. 12, 2002) (noting that reliance on adaptive management means including “specific enforceable requirements” if “monitoring data indicate [that] standards are being violated”).

¹⁹¹ *See* *Okanogan Highlands Alliance v. Dep’t of Ecology*, PCHB No. 97-146 *et seq.*, Final Findings of Fact, Conclusions of Law, and Order (Jan. 19, 2000), and accompanying text.

¹⁹² Final NEB Guidance, *supra* note 164, at 5.

that the projects will serve their intended purpose and deliver the necessary water (and habitat improvements) mandated by ESSB 6091.

3. Double Counting Mitigation

The watershed plans under both Section 202 and 203 must make recommendations for projects and actions that will offset “potential impacts to instream flows associated with permit-exempt domestic water use.”¹⁹³ Built into this concept of recommended projects and actions is the implication that they are specific to ESSB 6091 and associated watershed planning. The law would have little value if its resulting plans do no more than adopt pre-existing commitments.

Ecology recognizes the need for some consideration of this concept of “additionality.”¹⁹⁴ Ecology will not credit mitigation already required by existing regulations, if the outcome would occur “regardless of the passage of chapter 90.94 RCW.”¹⁹⁵ Ecology has also introduced a timing element by disallowing projects that were completed before January 19, 2018, the date of the law’s passage.¹⁹⁶

Nevertheless, Ecology has not developed any means to evaluate whether projects would proceed independently of ESSB 6091. Given Ecology’s position that it is under no obligation to use ESSB 6091 funds to support Section 202 and 203 projects, projects funded entirely by other means, and for other purposes, may still be counted.¹⁹⁷

The Nooksack Basin illustrates the problem. The plan includes projects that are fully supported by alternative sources of money. Examples include a levee breaching, funded through Ecology’s separate Watershed Plan Implementation and Flow Achievement Program and the Skookum Creek restoration, funded

¹⁹³ WASH. REV. CODE §§ 90.94.020(4)(a)&(b), .030(3)(a)&(b) (2018).

¹⁹⁴ Undertaking a review of a project’s “additionality” is an attempt to determine whether a claimed effect would have happened anyway. *Additionality*, WIKIPEDIA, <https://en.wikipedia.org/wiki/Additionality> [<https://perma.cc/A49W-VFVG>]. The concept of additionality commonly arises in the context of greenhouse gas cap and trade programs for determining the validity of – appropriately enough – carbon “offsets.” See PEW CTR. ON GLOBAL CLIMATE CHANGE, CONGRESSIONAL POLICY BRIEF: GREENHOUSE GAS OFFSETS IN A DOMESTIC CAP-AND-TRADE PROGRAM 3 (2008), <https://www.c2es.org/site/assets/uploads/2008/11/greenhouse-gas-offsets-domestic-cap-trade-program.pdf> [<https://perma.cc/96ZL-RMQA>].

¹⁹⁵ POL-2094, *supra* note 140, at 8. As examples, Ecology lists critical area buffers, shoreline setbacks, and stormwater low impact development. *Id.*

¹⁹⁶ *Id.*

¹⁹⁷ *Id.*; see also *supra* Part 5.C.2.

by the Whatcom Land Trust and Washington's Recreation and Conservation Funding Board.¹⁹⁸ Many of the projects are already designed and intended to serve other purposes. Some appear to be required under other regulatory programs, such as water quality improvement plans (TMDLs) and salmon recovery.¹⁹⁹ This is the "Cookie Jar" effect, in which pre-existing projects in search of funding, repackage themselves to fit the streamflow offset and net ecological benefit requirements.

These projects will happen "regardless of the passage" of ESSB 6091. Indeed, in some cases the connection to the legislation appears nonexistent. If a project, such as levee breaching, is intended to *improve* flows it should not be hijacked to free up water for developers to build new homes and subdivisions. And yet the latter will be the result if Ecology's reasoning is allowed to stand.

4. Looking Ahead

One water-law observer characterized permit-exempt wells as long operating "in a highly privileged space where they have been allowed to proliferate as if they were not part of the legal system of water rights."²⁰⁰ The passage of ESSB 6091 not only further entrenches the state's reliance on permit-exempt wells but also represents a hard retreat from existing legal protections for instream flows and long-standing principles favoring in-kind water mitigation.

Yet the extent to which water resources will be compromised by future withdrawals from permit-exempt wells depends heavily on the Department of Ecology's work over the next two years implementing Sections 202 and 203 of the law. There remains the possibility of improving conditions, instream and out-of-stream, if Ecology faithfully interprets its responsibilities and seizes opportunities for real, in-kind mitigation supplemented by reliable habitat improvements. Its work to date, however, raises significant concerns over the direction of the law's implementation and

¹⁹⁸ RSD, *supra* note 165, at 45 (describing Porter Creek Alluvial Fan project); DEPARTMENT OF ECOLOGY 2017-19 CAPITAL BUDGET, WATERSHED PLAN IMPLEMENTATION AND FLOW ACHIEVEMENT GRANT AWARDS, <https://apps.wa.gov/docs/WaterRights/wrwebpdf/2017-19WRPIFA-ProjectList.pdf> [https://perma.cc/X7XL-Z7U4] (including Middle Fork Porter project); RH2, *supra* note 187, at App. C (describing funding for Skookum Creek Restoration).

¹⁹⁹ RSD, *supra* note 165, at 57-59.

²⁰⁰ Jean Melious, *The Controversy Over Permit-Exempt Wells in Washington*, 8 SEATTLE J. OF EVNTL. LAW 144, 151 (2018). The author was one of the attorneys in the *Hirst* case.

jeopardizes the tangible gains that could be realized in the coming years.

PART 6: APPLES-TO-ORANGES

A. *Wetlands Mitigation: A Cautionary Tale*

The concept of compensating for ecological damage through mitigation activities first developed in response to the substantial wetland destruction that resulted from nearly four hundred years of colonial settlement, agricultural expansion, and technological development in the United States.²⁰¹ In the early 2000s, a national “no net loss” policy for wetlands led federal agencies to develop a hierarchy of mitigation actions to mitigate and prevent future wetland loss.²⁰² The hierarchy is a sequenced process: preserve, enhance, restore, or, as a last resort, create artificial wetlands to mitigate for loss of natural wetlands and their ecosystem services.²⁰³

Wetlands mitigation is controversial and serves as a cautionary tale for Washington’s new out-of-kind water rights mitigation approach. Wetland and shoreline mitigation projects frequently prove inadequate due to failed function, improper mitigation ratios, lack of enforcement, and other reasons.²⁰⁴ In

²⁰¹ THOMAS E. DAHL AND GREGORY J. ALLORD, USGS WATER SUPPLY PAPER 2425, HISTORY OF WETLANDS IN THE COTERMINOUS UNITED STATES, U.S. GEOLOGICAL SURVEY (1997), <https://water.usgs.gov/nwsum/WSP2425/history.html> [<https://perma.cc/VWF8-PT6Z>].

²⁰² See U.S. ENVTL. PROT. AGENCY, NATIONAL WETLANDS MITIGATION ACTION PLAN (2002), https://www.epa.gov/sites/production/files/2015-08/documents/national_wetlands_mitigation_action_plan_0.pdf [<https://perma.cc/M753-9TJR>].

²⁰³ See *Wetlands*, U.S. ENVTL. PROT. AGENCY, <https://www.epa.gov/wetlands/wetlands-restoration-definitions-and-distinctions> [<https://perma.cc/8M4M-ZTRK>]. Mitigation sequencing is also addressed in National Environmental Policy Act regulations. 40 C.F.R. § 1508.20 (2019). Washington State has parallel policies governing wetland mitigation and habitat loss. The Washington Dep’t of Fish and Wildlife’s mitigation policy, “Requiring or Recommending Mitigation,” authorizes off-site and out-of-kind mitigation to replace wildlife habitat loss. WASH. DEP’T OF FISH AND WILDLIFE, POL-M5002, REQUIRING OR RECOMMENDING MITIGATION (effective Jan. 18, 1999). State Environmental Policy Act rules also endorse mitigation to offset ecological impacts associated with project development. WASH. ADMIN. CODE § 197-11-768 (1984).

²⁰⁴ Richard F. Ambrose, *Wetland Mitigation in the United States: Assessing the Success of Mitigation Policies*, UNIV. OF CAL., L.A. (2000), https://www.researchgate.net/publication/254855117_Wetland_Mitigation_in_the_United_States_Assessing_the_Success_of_Mitigation_Policies [<https://perma.cc/R26K-SJPV>]. Evaluation of wetland mitigation projects found 65% of the projects were failing one or more performance standards with about half the projects either marginally successful or failing. See also WASHINGTON

Washington, the current wetlands mitigation approach has struggled to succeed due to challenges in calculating habitat function equivalencies, poor design, failure to monitor and maintain, and lack of whole watershed approaches.²⁰⁵

The mitigation issues seen in wetlands management also arise in the water right mitigation context. Like wetlands, streamflow in Washington's rivers has been subject to significant depletion, due to over-appropriation, exempt well proliferation, and now climate change. The instream uses that river flows represent, including fish and wildlife habitat, recreation, water quality maintenance, and scenic beauty, have been degraded throughout the state, and even destroyed in places.²⁰⁶ Like wetlands, water is a "high value, difficult-to-replace resource."²⁰⁷ Ecology should study the wetland restoration experience and integrate the risks of habitat restoration-as-mitigation in its implementation of RCW Chapter 90.94.

B. The Fundamental Problems of Out-of-Kind Mitigation

In many respects, out-of-kind water right mitigation presents even more problems than does wetland mitigation. The following critique applies to the use of out-of-kind mitigation for all water allocation practices under the current state water codes.

1. The Science Deficit

In analyzing whether out-of-kind mitigation can fully compensate for the loss of streamflow, it is essential first to recognize all the functions that streamflow provides. A seminal 1997 article dispelled the notion that "minimum flows" are the sole metric for evaluating the amount of water needed for stream health:

STATE WETLAND MITIGATION EVALUATION STUDY, PHASE 1: COMPLIANCE (2000), <https://fortress.wa.gov/ecy/publications/publications/0006016.pdf> [<https://perma.cc/9CNL-Q6PL>]; WASHINGTON STATE WETLAND MITIGATION EVALUATION STUDY, PHASE 2: EVALUATING SUCCESS (2002), <https://fortress.wa.gov/ecy/publications/publications/0206009.pdf> [<https://perma.cc/X5ZY-57GC>].

²⁰⁵ WASH. DEP'T OF ECOLOGY, Pub. No. 08-06-023, MITIGATION THAT WORKS (rev. 2010). Ecology's workgroup evaluated what works, what doesn't, and why. Its recommendations include (1) avoid or minimize the impact to high value, difficult-to-replace resources in the first instance; (2) take an ecosystem or watershed-based approach to determining mitigation; (3) develop standard metrics and monitoring protocols; (4) require adaptation/adjustment if mitigation isn't working; and (5) dedicate sufficient human and monetary resources to the projects. *Id.*

²⁰⁶ See *infra* Part 6.B.F.

²⁰⁷ WASH. DEP'T OF ECOLOGY, Pub. No. 08-06-018, MAKING MITIGATION WORK 7-9 (2008).

Five critical components of the flow regime regulate ecological processes in river ecosystems: the magnitude, frequency, duration, timing and rate of hydrologic conditions. These components can be used to characterize the entire range of flows and specific hydrologic phenomena, such as floods or low flows, that are critical to the integrity of river ecosystems.²⁰⁸

Subsequent work has assessed the value of water to rivers and advanced the state of practice for instream flow evaluation to include hydrology, geomorphology, water quality, biology, connectivity and integrated function.²⁰⁹ The multiple services provided by river flow are reflected in Washington's instream flow statutes, albeit in simplified form, when they require that rivers and streams "shall be retained with base flows necessary to provide for preservation of wildlife, fish, scenic, aesthetic and other environmental values, and navigational values."²¹⁰

No objective metric or method exists to quantitatively compare the detriments that accrue from loss of water in a stream to the benefits of habitat restoration. It is truly an apples and oranges comparison. A study prepared by Washington State University (WSU) supporting Ecology's guidance for implementation of RCW Ch. 90.94 demonstrated the complexity of assessing out-of-kind mitigation.²¹¹ The report noted both the difficulty of quantifying the harm to fisheries that occurs when flows are depleted, and the significant uncertainties in quantifying non-water mitigation.²¹² In an elaborate analysis, the study evaluated four models to assess habitat function in the net ecological benefit context.²¹³

²⁰⁸ Leroy Poff, et al., *The Natural Flow Regime*, BIOSCIENCE 77 (1997).

²⁰⁹ ALLAN LOCKE, ET AL., INTEGRATED APPROACHES TO RIVERINE RESOURCE STEWARDSHIP, INSTREAM FLOW COUNCIL (2008).

²¹⁰ WASH. REV. CODE § 90.54.020(3)(a) (2007); *see also* WASH. REV. CODE § 90.22.010 (1997).

²¹¹ Stephen L. Katz, et al., *Technical Supplement: Determining Net Ecological Benefit*, WASH. STATE UNIV. WATER RESEARCH CTR. (March 2019). App. C in Final NEB Guidance, *supra* note 164 (hereafter "WSU NEB Memo").

²¹² *Id.* at 9 ("decreases in flow can have a positive impact on some life-stages of fish but negative impacts on others, or mitigation actions may take multiple years to take effect ..."). *Id.* at 12 (describing "uncertainty in offset magnitude" and "uncertainty in timescale response").

²¹³ The Habitat Equivalency Analysis model was criticized for relying on "critical assumptions that may be difficult to justify, ... reduc[ing] complex ecological services to a single metric ... [and] fail[ing] to properly account for ecological injuries." WSU NEB Memo at 34. The HEA method also uses a scoring system that are "assigned based on professional judgement, which can be problematic.

The WSU researchers, a competent and knowledgeable team, could not find a single method to compare habitat replacement with instream flow loss that did not involve complex data collection, years of analysis, unrealistic assumptions, or all of the above. And, the focus was solely on fisheries and did not consider other public uses of rivers. Ultimately, the WSU study noted that out-of-kind mitigation actions taken under RCW Ch. 90.94 may not result in stream benefits at all.²¹⁴ Ecology's out-of-kind mitigation guidance document recognized the implications of the WSU technical memo, explicitly recommending that watershed planners avoid using most of these models.²¹⁵

It is clear from the guidance and the aforementioned Nooksack example, that the agency does not expect scientific rigor, or even offset credibility, in water right mitigation projects.²¹⁶ The guidance list of projects considered acceptable includes floodplain restoration, beaver dams, forest management, and fish barrier removal.²¹⁷ In a significant understatement, the guidance acknowledges that it "may be difficult to quantify the offset benefits" of habitat projects.²¹⁸ In sum, the agency has foregone objective, science-based justification for out-of-kind mitigation projects because such justification cannot be found.

Professional judgement by itself is prone to high variability, low and untestable accuracy and high bias." *Id.* The report challenged the Species-Specific Habitat Capacity Replacement Model for "having a number of unrealistic assumptions and for being overly data intensive for the level of precision achieved." *Id.* at 39. The judgment used to create "habitat suitability curves" (relating fish habitat with available water) has been "forcefully criticized." *Id.* These models carry large amounts of uncertainties due to fish habitat associations, mismatch of scale in data, and neglect for species' habitat preferences. *Id.* at 39-40. The third model, Ecosystem Diagnosis & Treatment (EDT) is designed to replace fish abundance but does not work well on a large-scale basis, "making demands on habitat quality data far in excess of available monitoring data." *Id.* at 42. It relies on "expert-panel process" rather than data and is therefore subjective, limits scientific review, and lacks transparency. *Id.* at 42-43. ("Recent approaches to using the fish abundance metrics ... have demonstrated a number of critical uncertainties." *Id.* at 44.) Finally, the data intensive Fish Production Replacement Model is "one of the more complex models in fisheries and conservation use," making it unsuitable for the expedited watershed planning process contemplated. RCW 90.94. *Id.* 44-46, 50.

²¹⁴ *Id.* at 13. ("The potential that planned projects will not generate a positive NEB [net ecological benefit] is an important risk associated with these uncertainties.") The report recommends inclusion of an "explicit effectiveness monitoring plan to address this problem." *Id.*

²¹⁵ Final NEB Guidance, *supra* note 164, at 32 (preface to Appendix C).

²¹⁶ See *supra* Part 5.

²¹⁷ Final NEB Guidance, *supra* note 164, at 11.

²¹⁸ *Id.*

2. Abandonment of In-Place Mitigation

Chapter 90.94 RCW has abandoned the concept of in-place mitigation, i.e., replacing water where the impacts actually occur. Instead, the statute “allows offsets for permit-exempt domestic wells to occur anywhere within a WRIA, provided the watershed plan achieves a [net ecological benefit] within the given WRIA.”²¹⁹ This approach ignores one of the primary problems of exempt wells: the proliferation of multiple permit-exempt wells in small subbasins, causing significant harm to small streams.²²⁰

Ecology’s 2015 study of permit-exempt well use identifies “areas with high densities of permit-exempt domestic wells where the impacts on streams can be significant. Ecology suggests that the greatest return from a water management perspective will be gained by focusing on areas where the potential impact is greatest.”²²¹ Fast-developing but small subbasins adjacent to urban areas, where public water supply is not available, are exactly where mitigation is needed. Under RCW Ch. 90.94 and Ecology’s guidance, the likelihood of such mitigation is unknown. This lack of reliability will fail to resolve the permit-exempt well problem, thus causing permit-exempt wells to remain at issue in local land use jurisdictions and state courts.

3. Lack of Rational Planning

Ecology’s wetlands mitigation report recommends that mitigation planning be done on a watershed or ecosystem approach,

²¹⁹ *Id.* at 9 (Ecology optimistically and without explanation predicts that this will free watershed planners to put NEB projects where they are most needed.). *Id.* at 14 (“[T]here may be instances where the amount of offsets provided in certain subbasins will be more or less than the projected new consumptive water use there. This is acceptable ...”)

²²⁰ WSU NEB Memo, *supra* note 211, at 19 (“...ecological context can also affect the scale of ecological process that impacts instream flow. For example, a specific reduction in stream flow [] is likely to have a larger impact on a smaller tributary than a larger river. Alternatively, a given withdrawal may have a larger impact on habitat [] if taken higher in the watershed than closer to the confluence of the tributary to a large stream.”); *Id.* at 20 (“WRIA’s dominated by rain inputs in the western portion of the state (e.g. WRIAs 12,14, 22 & 23), may commonly experience localized areas of low flow in the late summer and fall.”); Culhane & Nazy, *supra* note 37, at 15-17 (Figs. 8, 9) (maps disclosing increases in permit-exempt well density, 2008-2014, in Thurston and Skagit Counties, Washington); *Id.* at 20 (discussing permit-exempt well impacts on small subbasins in Spokane County (“while the self-supplied residential sector [is small], associated water use can be significant at the sub-basin level. This is because several streams within Spokane County have summer low flows near 1 cfs. For example, in the California–Lower Rock Creek sub-basin, the forecasted increase in summer withdrawal was between 57 and 255 percent of stream flow.”)

²²¹ Culhane & Nazy, *supra* note 37, at 25.

urging that projects not be “dictated by factors of convenience.”²²² The report concludes that “[t]he fundamental goal of an ecosystem or watershed-based approach to mitigation is to put mitigation in the ‘right place’ in the landscape.”²²³

With water resources mitigation, however, the “Cookie Jar” rule prevails, i.e., first come is first served, without regard to what ecosystems require. This approach was first used with the Kennewick General Hospital water right,²²⁴ and continues in the Nooksack mitigation planning process.²²⁵ In both instances the Legislature has allocated substantial funding to Ecology that must be spent quickly; as a matter of budget expedience, ready-to-wear projects are prioritized over rational planning.

The new mitigation program offers no overarching analysis to identify which rivers and streams cannot sustain further water depletions. For example, in the Nooksack instream flow rule, seventeen creeks are closed to new surface water appropriations.²²⁶ The rule-based streamflow levels in the Nooksack River are unmet more than half the time during the low-flow summer months.²²⁷ River and stream flows in the Nooksack watershed are not flowing at levels adequate to support the life-cycle needs of ESA-listed salmon.²²⁸ These facts indicate that no further water is available for appropriation in many areas of the Nooksack watershed, and that streams should be closed to new, hydraulically connected groundwater withdrawals. In these circumstances, out-of-kind mitigation cannot compensate for the stream-depleting impacts of new wells.

Of concern, RCW Ch. 90.94 does not have an “off switch.” The statute effectively prohibits Ecology and local jurisdictions from halting new development that harms stream flows,²²⁹ or

²²² Mitigation That Works, *supra* note 205, at 9 (“The Forum believes, and the scientific evidence suggests, that when mitigation is needed, better outcomes will be achieved by carefully considering ecosystem processes and watershed conditions when we locate and design mitigation sites and projects.”)

²²³ *Id.*

²²⁴ See *supra* Part 4.B.3.

²²⁵ See *supra* Part 5.C.

²²⁶ WASH. ADMIN. CODE § 173-501-040 (1985) (note that these basins are not closed to groundwater, hence the *Hirst* case).

²²⁷ ECY, WRIA 1 RSD, at 19, Figure 3.1.

²²⁸ National Marine Fisheries Service, Puget Sound Chinook Salmon Recovery Plan – 2011 Implementation Status Assessment Final Report, at 43 (2011); Treaty Tribes of Western Washington, State of Our Watersheds, *supra* note 43, at 81; Smith, *supra* note 28.

²²⁹ WASH. REV. CODE §§ 90.94.020, .030 (2018) (“... potential impacts on a closed water body and potential impairment to an instream flow are authorized

requiring water-for-water mitigation, in contrast with, e.g., the approach taken in the Upper Kittitas and Dungeness basins.²³⁰ This failure to limit future withdrawals will lead to scenarios in which expensively created “streamflow restoration” habitat sits astride dry streambeds. Indeed, Ch. 90.94 establishes an elemental disparity in how different watersheds are treated around the state, creating “sacrifice watersheds” where new water depletions will lead to substantial ecological harm.

As in the Nooksack basin, over-appropriated rivers, streams, and aquifers are a widespread problem in Washington.²³¹ In 1995, Ecology’s Water Resources Program began an initiative to document how multiple rivers were not meeting their rule-based stream flow targets.²³² Many watershed rules close subbasins to new surface water appropriations,²³³ but groundwater development has continued, exacerbating the over-allocation. Compounding the problem, the science for selecting instream flow levels, particularly for the first generation of instream flow rules,²³⁴ was inadequate for protection of salmon fisheries.²³⁵

The program established by Chapter 90.94 still does not provide for rational planning and protection of Washington’s rivers, many of which can no longer sustain further depletion of streamflow, especially during critical low flow months, while also supporting healthy fish populations. Out-of-kind mitigation fails to

for new domestic groundwater withdrawals exempt from permitting under RCW 90.44.050 ...”).

²³⁰ See *supra* Part 4.A.

²³¹ See *supra* Part 2.A.

²³² See, e.g., WASH. DEP’T OF ECOLOGY, Initial Watershed Assessment, Water Resources Inventory Area 9, Green-Duwamish Watershed, at 33 (1995) (“Since 1980, instream flows were not met an average of 103, 100, and 82 days, compared with Auburn normal year, Palmer normal year, and Palmer critical year instream flows, respectively.”); WASH. DEP’T OF ECOLOGY, Draft Initial Watershed Assessment, Water Resource Inventory Area 49, Okanogan River Watershed, at 13 (1995) (“Flows in both the Okanogan and Similkameen Rivers which do not meet the minimum instream flow requirements 100 days or more on an annual basis occur approximately every three or four years, based on flow record for the past 30 years.”).

²³³ See, e.g., WASH. ADMIN. CODE § 173-522-050 (Chehalis River); WASH. ADMIN. CODE § 173-540-040 (Kennedy-Goldsborough Creeks); WASH. ADMIN. CODE § 173-555-060 (Little Spokane River).

²³⁴ See *supra* note 11.

²³⁵ John J. Hollowed & Larry Wasserman, *A Critique of the Washington State’s Instream Resource Protection Laws & Regulations*, CTR. FOR NATURAL RES. POL’Y, 213-75 (Working Draft 2001)(on file with author); Jim Pacheco, *Policy & Perspective: Instream Flow Protection in Washington State from the 1970s, 1980s, and 2000s*, SCIENCE 2-5 (n.d.) (“All this work buil[t] a defensible case that the hydrologic method [of flow setting] was insufficient at protecting and preserving instream resources.”)(on file with author).

account for the condition that over-appropriation has created for state rivers and streams. Rather than manufacture schemes to provide water supply to new development, the state should adopt full basin closures, as it did in the Upper Kittitas Valley, and move quickly to in-kind streamflow restoration programs, such as water banking, reclaimed water substitution, and in remote areas, bulk water hauling.²³⁶

4. Senior Water User Impairment

Chapter 90.94 RCW eliminated priority for instream flows vis-à-vis permit-exempt wells, by indicating that “potential impacts on a closed water body and potential impairment to an instream flow are authorized for new domestic groundwater withdrawals exempt from permitting under RCW 90.44.050.”²³⁷ While the law purports not to affect the legal protection afforded to existing water rights, including those both senior and junior to instream flows, the operation of the law could impair senior water rights or require curtailment of new permit-exempt wells.

Prior appropriation establishes a ladder of priority, under which senior water rights are legally authorized to deplete water supply to the detriment of junior rights.²³⁸ Conversely, in water-stressed basins, unregulated water use by juniors could improperly take water needed to satisfy senior rights, thus causing impairment. In the Kittitas and Walla Walla watersheds, where water is over-appropriated, the basin rules avoid impairment by authorizing only in-kind mitigation for new uses, protecting senior water right status as the priority system requires.²³⁹

New groundwater withdrawals can cause impairment to senior water users, and not just to instream flows set by rule. In the over-allocated aquifer systems of eastern Washington, for example, widespread groundwater decline means that new withdrawals risk impairment to pre-existing users. A 2015 U.S. geological survey of water availability for the Pacific Northwest calls out the “[p]otential capture of surface water appropriated through senior water rights by pumpage of groundwater appropriated through junior water rights.”²⁴⁰ This issue is in addition to the impacts of new wells on

²³⁶ See *supra* Part 4.A.3.

²³⁷ WASH. REV. CODE §§ 90.94.020(1), .030(1) (2018).

²³⁸ WASH. REV. CODE § 90.03.010 (“as between appropriations, the first in time shall be the first in right”).

²³⁹ See *supra* Part 3.C.

²⁴⁰ JOHN J. VACCARO, ET AL., GROUNDWATER AVAILABILITY OF THE COLUMBIA PLATEAU REGIONAL AQUIFER SYSTEM, WASH., OREGON, IDAHO, U.S. DEP’T OF

surface water quality, ESA-listed fisheries, climate change effects, and overall limited groundwater availability.

Climate change, discussed below, is also predicted to exacerbate water right impairment. Even the Department of Ecology acknowledged this in a 2016 report projecting climate impacts, noting that “[r]eductions in streamflows (and spring flows) due to climate-driven declines in aquifer discharge could also have far-reaching consequences for surface-water-dependent irrigation and municipal water supplies.”²⁴¹

In the Little Spokane River basin, domestic surface water rights issued *after* adoption of the instream flow rule are regularly interrupted due to low flows in the river.²⁴² New wells that lack in-kind mitigation will continue to impact pre-existing rights. This is an issue in several basins where post-rule water rights are curtailed, but new wells are now authorized without water-for-water mitigation.²⁴³

Existing senior water rights can be negatively impacted by new withdrawals that rely on out-of-kind mitigation to “offset” water loss.²⁴⁴ As noted in *Foster*,

[o]ur cases have consistently recognized that the prior appropriation doctrine does not permit even de minimis impairments of senior water rights. Therefore, we reject the argument that ecological improvements can “mitigate” the injury when a

THE INTERIOR, U.S. GEOLOGICAL SURVEY, GROUNDWATER RESOURCES PROGRAM, PROF. PAPER 1817, at 2, 6 (2015), <https://pubs.usgs.gov/pp/1817/pp1817.pdf> [<https://perma.cc/XBU4-UWMT>].

²⁴¹ Charles F. Pitz, *Predicted Impacts of Climate Change on Groundwater Resources in Washington State*, WASH. DEP’T OF ECOLOGY, Pub. No. 16-03-006, at 38 (2016), <https://fortress.wa.gov/ecy/publications/documents/1603006.pdf> [<https://perma.cc/3RVN-XB49>].

²⁴² Spokane County Water Resources, WRIA 55 (Little Spokane River) Groundwater Inventory and Mapping Project, at 1-2 (June 2009) (describing over-appropriation of the basin), <https://www.spokanecounty.org/DocumentCenter/View/3889/Little-Spokane-Groundwater-Inventory-and-Mapping-Final-Report-PDF> [<https://perma.cc/DC38-RECK>].

²⁴³ These include, e.g., the Chehalis, Wenatchee, Methow, and Okanogan basins. See Barwin, *supra* note 9, and Slattery, *supra* note 14, for discussion of post-rule water right enforcement.

²⁴⁴ In this respect, the WASH. REV. CODE Ch. 90.94’s silence on permit-exempt wells that post-date instream flow rules up until 2018 enactment (which requires offsets only for future wells) means that those wells could impair both pre- and post-rule water rights.

junior water right holder impairs a senior water right.²⁴⁵

Allowing continued permit-exempt well development in over-appropriated basins, relying on out-of-kind mitigation, will lead to impairment not just of flows, but of senior water rights. Further, the law offers new permit-exempt well users no protection against a call by senior water right holders.

5. Destruction of Public Uses of Rivers

Out-of-kind mitigation can harm legally protected uses of Washington water ways. Stream flows support many non-extractive benefits to the public, including flow-dependent fisheries, water quality, navigation and recreation, as well as aesthetic and scenic enjoyment. It is a hallmark of Washington water law that these uses and activities are recognized as legal, beneficial uses of state waterways.²⁴⁶ Although out-of-kind mitigation projects may be designed to provide ecological benefits for the overall river environment, public rights and values dependent on instream flows can be harmed or destroyed as flow are depleted.

Three particular public uses of water are harmed by over-appropriation. First, flow depletion has significantly degraded fisheries throughout Washington, especially cold water species of salmon and trout, as documented in Endangered Species Act analyses and tribal resource reports.²⁴⁷ The economic value of fisheries, with respect to both tribal treaty fishing cultures and economies and the non-treaty commercial and recreation industries is substantial.²⁴⁸

²⁴⁵ Foster v. Wash. St. Dep't of Ecology, 362 P.3d at 963 (2015) (citation omitted); see also Postema v. Pollution Control Hearings Board, 11 P.3d 726, 739-40 (2000).

²⁴⁶ WASH. REV. CODE § 90.54.020(1) (2007).

²⁴⁷ See Carol J. Smith, Salmon & Steelhead Habitat Limiting Factors in WRIA 1 at 173-187 (Washington Conservation Comm. 2002); Salmon Habitat Limiting Factors, WRIA 5, Stillaguamish Watershed at 6, 51-53 (Wash. Cons. Comm. 1999); Donald Haring, Habitat Limiting Factors – Yakima Watershed at 20, 94-100 (Wash. Cons. Comm. 2001); NORTHWESTERN INDIAN FISHERIES COMMISSION, STATE OF OUR WATERSHEDS, 2016 PUGET SOUND REGIONAL REPORT 18 (2016), https://geo.nwifc.org/SOW/SOW2016_Report/PugetSound.pdf [<https://perma.cc/Z9XP-GM6R>].

²⁴⁸ TREATY RIGHTS AT RISK, *supra* note 32; WASH. DEP'T OF FISH & WILDLIFE, FISH, ECONOMIC ANALYSIS OF THE NON-TREATY COMMERCIAL AND RECREATIONAL FISHERIES IN WASH. STATE (rev. 2012); WASH. DEP'T OF FISH & WILDLIFE, WILDLIFE AND WASH.'S ECONOMY (2010); EARTH ECONOMICS, ECONOMIC ANALYSIS OF OUTDOOR RECREATION IN WASHINGTON STATE (2015), <https://www.tre.wa.gov/wp-content/uploads/Willhite.pdf> [<https://perma.cc/J7QH-JDVE>].

Water quality in rivers and streams is also significantly degraded by reduced stream flow. Low flows are often the culprit in detrimental changes in water temperature and dissolved oxygen.²⁴⁹ Washington's inventory of impaired water bodies lists a thousand-plus segments of streams and rivers as impaired for temperature, and 900-plus impaired for dissolved oxygen.²⁵⁰ Further, thousands of sewage, industrial and other permittees discharge pollutants into Washington's waterways pursuant to state and federal pollution permits.²⁵¹ The allowable quantities for many pollutants is controlled by the amount of flow available to dilute the pollution, along with a "mixing zone" to facilitate the dilution.²⁵² As flows decrease, so do the capability of rivers to assimilate pollutants.

Finally, navigational use of rivers can be impaired as water is removed, a use that normally cannot be replaced by non-water mitigation. Recreational navigation in the Spokane River, for example, has been harmed by over-appropriation of groundwater that discharges into and supports flow in the river.²⁵³ As with fisheries, the economic value of recreational use of rivers in Washington is substantial.²⁵⁴

6. Inability to Mitigate in Perpetuity

A major challenge of water rights mitigation is the ability to monitor and maintain mitigation in perpetuity, to match the impacts of water rights, which are issued for permanent, perpetual use. Water rights never expire (unless abandoned or relinquished for non-use), and therefore mitigation to compensate for water right impacts should also not expire. Ecology's net ecological benefit guidance acknowledges that "[o]ffsets need to continue beyond the

²⁴⁹ See WASH. ADMIN. CODE § 173-201A-200(1) (2019) (describing water quality temperature and dissolved oxygen standards necessary to maintain "aquatic life uses;" WASH. ADMIN. CODE § 173-201A-602 (2019) (Table) (describing water quality standards and designated uses for each of Washington's rivers); .Water quality impacts of low flow are also documented in ESA limiting factor reports. See *supra* note 28 and 247.

²⁵⁰ *Current Water Quality Assessment*, WASH. DEP'T OF ECOLOGY, <https://apps.ecology.wa.gov/approvedwqa/ApprovedSearch.aspx> [<https://perma.cc/A4F5-YD5S>] (using search terms "Category 5" and "water" combined with "temperature," "dissolved oxygen").

²⁵¹ WASH. ADMIN. CODE §§ 173-216-040(1) (1993), 173-220-020 (1993); see WASH. DEP'T OF ECOLOGY "Water Quality permits" website and PARIS water quality permit database, <https://ecology.wa.gov/Water-Shorelines/Water-quality/Water-quality-permits> [<https://perma.cc/3PUG-BPMV>].

²⁵² WASH. DEP'T OF ECOLOGY, Pub. No. 92-109, NPDES PERMIT WRITERS MANUAL, at 169-72, 178, 180-81, 185 (Table 11) (rev. 2018).

²⁵³ See, e.g., *Ctr. for Envtl. Law & Policy v. WA Dep't of Ecology*, 9 Wn.2d 746 (2019) (rev. pending).

²⁵⁴ EARTH ECONOMICS, *supra* note 248.

20-year period for as long as new well pumping continues.”²⁵⁵ In point of fact, offsets need to continue forever, just like the underlying water right that creates the depletion requiring mitigation.

The need for perpetual mitigation is not met where monitoring and maintaining habitat restoration projects meet with significant failure, as illustrated in the context of wetlands mitigation.²⁵⁶ Restoration projects can be speculative,²⁵⁷ and as such, do not meet water law requirements for certainty that senior users will not be harmed.²⁵⁸

7. Double Counting, or the Need for Additionality

The need to avoid double counting, in which parties use mitigation actions to meet multiple obligations, has acquired a name from the climate change milieu: additionality.²⁵⁹ The concept is applicable in any natural resource mitigation scenario, including for water rights.

In Washington’s water resources arena, a project implemented to fulfill another program or legal responsibility should be part of the baseline for assessing the harm of new water withdrawals. A pre-existing project should not be available for use or otherwise counted as a water resource offset. Ecology’s guidance acknowledges this need,²⁶⁰ but the Nooksack example demonstrates what little rigor Ecology requires in application.²⁶¹ Projects to mitigate new domestic water withdrawals were already approved and funded through other programs, including pollution offset

²⁵⁵ WSU NEB Memo, *supra* note 211, at 5, 7.

²⁵⁶ See *supra* Part 6.A.

²⁵⁷ Okanogan Highlands Alliance v. Dep’t of Ecology, PCHB No. 97-146 *et seq.*, Final Decision and Order, 19 (Jan. 19, 2000) (“...because post-reclamation mitigation is required in perpetuity to offset the permanent shift in the groundwater divide, the ... facilities required for post-reclamation mitigation must be maintained forever. The speculative and perpetual nature of mitigation proposed here does not meet the requirements that new water rights not impair existing rights or the requirement that new rights not be detrimental to the public welfare.”).

²⁵⁸ Foster v. Wash. St. Dep’t of Ecology, 362 P.3d at 963 (2015).

²⁵⁹ MICHAEL GILLENWATER, WHAT IS ADDITIONALITY? GREENHOUSE GAS MANAGEMENT INSTITUTE, DISCUSSION PAPER NO. 1, GREENHOUSE GAS MGMT. INST. (2012). https://ghginstitute.org/wp-content/uploads/2015/04/Additionality_Paper_Part-1ver3FINAL.pdf [<https://perma.cc/8Q65-L6LT>]. “Additionality is not only an essential quality criterion for offset credits; it is fundamental to the very definition of an offset.” *Id.* at 4.

²⁶⁰ WASH. DEP’T OF ECOLOGY, WATER RESOURCES PROGRAM POLICY, *supra* note 140, at 8.

²⁶¹ See *supra* Part 5.C.3.

projects. As a consequence, there will be no actual net gain to the river, in- or out-of-kind.

8. Ignoring Climate Change

Any discussion of Washington water resource management must acknowledge the harmful and potentially catastrophic impacts of climate change on state waterways and hydrology. Climate scientists have already identified several climate-driven trends affecting Washington's water resources, including changes to glacial mass, snowpack, rainfall, river runoff, and groundwater levels.²⁶²

Most significant for water resource management and water right mitigation, the warming climate will lead to decreased surface flows in rivers and streams during summer months for much of the state. "Summer streamflow is projected to decrease by -34 to -44% on average for Washington State by the 2080s [and] [l]ow summer streamflow conditions are projected to become more severe in about 80% of watersheds across Washington State."²⁶³

Groundwater levels will also decline due to climate change, impacting the availability of groundwater in aquifer systems, as well as stream flows that depend on groundwater for base flow.²⁶⁴ An Ecology report notes that

Changes in patterns of flow between the surface and subsurface may be among the earliest and most noticeable *direct* groundwater-related consequences of climate change. ... [T]here may be important shifts in the timing of groundwater discharge to some PNW streams, potentially leading to reductions in baseflow discharge during the latter half of the summer. The *indirect* impacts of climate change, most importantly the significant potential for an

²⁶² HEIDI A. ROOP, ET AL., SHIFTING SNOWLINES AND SHORELINES, UNIV. OF WASH.: CLIMATE IMPACTS GROUP 5 (2020), https://cig.uw.edu/wp-content/uploads/sites/2/2020/02/CIG_SnowlinesShorelinesReport_2020.pdf [<https://perma.cc/Z9GN-TXVX>]; C. May, et al., *Impacts, Risks, and Adaptation in the United States: Fourth National Climate Assessment*, 2 U.S. GLOBAL CHANGE RESEARCH PROGRAM 1036-1100 (2018), <https://nca2018.globalchange.gov/chapter/24/> [<https://perma.cc/6WVF-68NK>].; WASH. DEP'T OF ECOLOGY, Pub. No. 12-01-004, PREPARING FOR A CHANGING CLIMATE, WASH. ST.'S INTEGRATED CLIMATE RESPONSE STRATEGY 99-120 (2012).

²⁶³ Amy Snover, *Climate Change Impacts and Adaptation in Washington State: Technical Summaries for Decision Makers*, UNIV. OF WASH.: CLIMATE IMPACTS GROUP 6-3, 6-4 (2013), <http://cses.washington.edu/db/pdf/snoveretalsok2013sec6.pdf> [<https://perma.cc/WE4K-J3M9>].

²⁶⁴ Vaccaro, *supra* note 240, at 58-64; Pitz, *supra* note 241.

increase in groundwater pumping, could lead to large reductions in natural groundwater discharge in many settings, even if there are only modest changes to natural recharge.²⁶⁵

Rivers will experience significant ecological stresses associated with warmer water and stream de-watering. Water right holders could be affected in their ability to divert from streams or withdraw from wells, particularly in shallow aquifers.²⁶⁶ On the demand side, hotter temperatures will increase crop irrigation and residential usage, including by owners of unmetered permit-exempt wells, who lack incentives to conserve. As demand for groundwater increases, Washington's aquifer systems will become unavailable as alternate sources of supply for surface water users.²⁶⁷

In the face of climate change, out-of-kind mitigation for unchecked domestic well appropriations and water right pilot projects makes no sense. Future decreases in water supply coupled with increases in demand, in basins where water is already in short supply, will lead to significant water conflicts. The failure to provide protection for instream flows and senior users, including senior tribal water rights to instream flows, sets the prior appropriation system on its head. Rather than facilitate new water appropriations, the state of Washington should focus on institutions and solutions to address upcoming, severe water shortages.

PART 7: CONCLUSION

The use of out-of-kind mitigation projects to compensate for streamflow loss is a "brave new world"²⁶⁸ for water resources management, a world that Washington courts have rejected to date as incompatible with state water law and the prior appropriation doctrine. The Washington Legislature, in adopting RCW Chapter 90.94, has created a system that will fail to protect both the existing structure for water rights, as well as the ecological needs of the state's rivers. New policies asserting that out-of-kind mitigation can adequately replace Washington water supplies are the result of political choices, but do not have a sound basis in science.

A great deal is at stake in the protection of the waters flowing through Washington rivers and aquifers. In particular, the survival of salmon and other aquatic species as climate change warms and depletes Washington's rivers is a matter of utmost public concern. Decisions about water resource management are often litigated, and

²⁶⁵ Pitz, *supra* note 241, at 9, 37-46 (emphasis in original).

²⁶⁶ *Id.* at 38.

²⁶⁷ *Id.* at 15.

²⁶⁸ ALDOUS HUXLEY, BRAVE NEW WORLD (1932).

that trend can be expected to continue so long as the out-of-kind mitigation program for permit-exempt wells remains in practice. Even worse, the new law will create conflicts over domestic water use by citizens that cannot be solved by litigation without creating winners, losers, and hardship.