

COMMENTS

AT THE CONFLUENCE: OREGON'S INSTREAM WATER RIGHTS LAW IN THEORY AND PRACTICE

BY
ROBERT DAVID PILZ*

Water law has two important dimensions. The first is theoretical—in textbooks, treatises, statutes, administrative codes, and case law. Here, the law is portrayed as a technical system for the distribution and use of a scarce natural resource. More importantly though, water law is manifest in the rivers themselves where gravity, precipitation, and climate govern, ignoring the demands of legislators, judges, and bureaucrats. The practice of manipulating and distributing water in the real world is fraught with practical difficulties and tough policy choices. Understanding this dual existence is essential because the law as written often looks vastly different from the water it purports to distribute. Nowhere is the dichotomy more obvious than in the regulation of instream water rights. On paper, instream rights are the legal equal of any other right to use water in Oregon. In practice, however, applications to transfer consumptive uses instream are met with skepticism and are often held to a different standard. A deeper understanding of the context and origins of this skepticism, and of the standard itself are necessary to achieve greater streamflow protection without sacrificing respect for established water use. This Comment illustrates the confluence where the law of instream rights meets the realities of water regulation in Oregon. It explores both the challenges facing streamflow protection and creative solutions to address these challenges. As the first state in the country to enact positive law on

* © Robert David Pilz, 2006. J.D. May, 2006, Lewis and Clark Law School; B.A. May 2002, Colorado College. David is currently working as a Project Manager for the Oregon Water Trust in Portland, Or. The Comment was written before David was hired at the Oregon Water Trust and the views expressed herein do not reflect the official position of that organization.

instream water rights, Oregon is a model for other western states. With this in mind, a careful examination of Oregon's experiences will help guide policy choices not only in Oregon but also throughout the West.

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I. INTRODUCTION

This Comment explores streamflow protection issues as they intersect and conflict with existing water regulation practice in the state of Oregon. Numerous factors make the protection of streamflows for ecological benefit difficult. These factors include: the practical limitations of managing a complex and unpredictable natural system; the administrative reluctance stemming from local opposition to non-consumptive uses and years of enforcing the status quo; and the formal, legal opposition on the part of those who fear that protecting streamflows will interfere with their own rights. The difficulties represent not only conscious choices but inhere in the antiquated doctrines of Western water law. This Comment explores particular impediments to streamflow protection raised by the prohibition against *legal* injury to others' water rights. By illuminating the practical, regulatory, and legal parameters of injury analysis and superimposing this framework on the realities of Oregon's administrative and legal regulation of streamflow, this Comment seeks to assist parties in navigating the complexities of instream transfers. Outside of Oregon's state lines, the hope is that this analysis will aid parties in other western states and the states themselves, as they develop streamflow protection laws and policies.

The Comment begins with an overview of Oregon's streamflow protection laws and the administrative and regulatory processes designed to apply the law on the ground.¹ Next, the prohibition against injury to existing water rights is examined in detail.² With this background in mind, the practical,³ administrative,⁴ and legal⁵ challenges to implementing streamflow protection are discussed. Central to this Comment is the analysis of these challenges and the questions they raise—are they based in sound law and policy? Do they treat streamflow protection on an equal legal footing with other types of water use? What can be learned from a close examination of these hurdles? Finally, the Comment concludes with a discussion of successful models of streamflow protection and a summary of recommendations for the future.

II. OREGON WATER LAW: FIRST IN TIME, FIRST IN RIGHT

Because water in the arid West is a limited resource, a system for distributing it during times of shortage has become an entrenched part of Western law.⁶ This law is called the “prior appropriation doctrine.” The most basic tenet of the doctrine is that the first person to appropriate water from a source has the most senior right and will therefore be the last appropriator cut off during times of shortage.⁷ Conversely, later appropriators, called juniors, will be required either to shut off or diminish the amount of their diversions during shortages to leave water in the river for the seniors.⁸

A. Instream Water Rights

Oregon was one of the first states in the West to protect water instream when it removed streams feeding waterfalls in the Columbia River Gorge from appropriation to protect the streams' “scenic beauty.”⁹ This step was followed by the establishment of minimum perennial stream flows in 1955.¹⁰

¹ *Infra* Part II.A.

² *Infra* Part II.B.

³ *Infra* Part III.A.

⁴ *Infra* Part III.B.

⁵ *Infra* Part III.C.

⁶ The following section is meant as an introduction to water law in general and Oregon's laws in particular. This background is provided to widen the appeal of this Comment beyond those already knowledgeable in water law. The author hopes this Comment can be a guide for both the uninitiated and experienced professionals.

⁷ See *Low v. Rizer*, 37 P. 82, 84 (Or. 1894) (discussing prior appropriation doctrine); *Cole v. Logan*, 33 P. 568, 569 (Or. 1893) (holding that plaintiffs, who began diverting water two and a half years after defendants, “made their diversion and appropriation subject” to defendant's right).

⁸ *Cole*, 33 P. at 569.

⁹ Act of Feb. 9, 1915, ch. 36, 1915 Or. Laws 49 (codified as amended at OR. REV. STAT. § 538.200 (2005)).

¹⁰ Act of May 26, 1955, ch. 707, 1955 Or. Laws 924 (codified as amended at OR. REV. STAT. § 536.235 (2005)). Minimum perennial stream flows were set by administrative rule and were not considered equal to certificated appropriations of water. However, they were nonetheless

Minimum flow protection had limited effect, however, because the flows took precedence only over appropriations later than 1955. In 1987, the Oregon legislature took the final step toward meaningful instream protection by creating a legal right to maintain streamflows. The Instream Water Rights Act¹¹ (the Act) begins by declaring that instream uses are beneficial uses¹² and have an equal legal footing with “any other water right for which a certificate has been issued.”¹³

Instream rights are created in several ways. First, the Act converted the minimum perennial stream flows set in 1955 to instream rights with a priority date according to the date the minimum flow was established.¹⁴ Because of the late priority dates of these rights, however, their importance is minimal. Instream rights can also be created by state agencies. The Oregon departments of Fish and Wildlife, Environmental Quality, and Parks and Recreation are empowered to request instream rights for public use.¹⁵ Again, these rights post-date the 1987 Act and are therefore at the back of the prior appropriation line.¹⁶ The only method of creating senior instream rights, and therefore the most important method, is the purchase, lease, or gift of a water right by a private party for conversion to instream use.¹⁷ Existing water rights of any seniority may be leased for temporary conversion to an instream use or may be sold for permanent conversion.¹⁸ Short-term leases are by far the most popular of these options and are therefore the primary vehicle in Oregon for creating instream rights.¹⁹

binding on appropriations made subsequent to their creation. *See id.* at 927–28 (stating that in formulating the water resource program the board must consider the maintenance of minimum perennial streamflows).

¹¹ OR. REV. STAT. §§ 537.332–537.360 (2005).

¹² *See id.* § 537.334 (“Public uses are beneficial uses.”).

¹³ *Id.* § 537.350.

¹⁴ *Id.* § 537.346.

¹⁵ *Id.* § 537.336. Public uses depend on the agency applying for the instream right and include maintaining and improving fish habitat, protecting and maintaining water quality, and public recreation and scenic uses.

¹⁶ For other commentary on the shortfalls of Oregon’s early attempts at instream protection, see Scott B. Yates, Comment, *A Case for the Extension of the Public Trust Doctrine in Oregon*, 27 ENVTL. L. 663, 669–72 (1997).

¹⁷ OR. REV. STAT. § 537.348 (2005); see Joseph Q. Kaufman, *An Analysis of Developing Instream Rights in Oregon*, 28 WILLAMETTE L. REV. 285, 289–97 (giving a detailed analysis of the genesis of instream rights in Oregon).

¹⁸ OR. REV. STAT. § 537.348 (2005).

¹⁹ *See* OREGON WATER TRUST, 2004 ANNUAL REPORT 4 (2004), available at <http://www.owt.org/images/OWT%202004%20Annual%20Report.pdf> (showing the popularity of short-term instream lease agreements compared to long-term and permanent deals brokered by the Oregon Water Trust from 1994 to 2004). The Oregon Water Trust, founded in 1993, specializes in cooperative, scientific, and market-based solutions to restore streamflows in priority streams across Oregon. For a detailed description of the Oregon Water Trust’s beginnings and methods, see Janet C. Neuman & Cheyenne Chapman, *Wading into the Water Market: The First Five Years of the Oregon Water Trust*, 14 J. ENVTL. L. & LITIG. 135, 139–48 (1999) and Janet C. Neuman, *The Good, the Bad and the Ugly: The First Ten Years of the Oregon Water Trust*, 83 NEB. L. REV. 432, 442 (2004).

Short-term lease agreements are not to exceed five years.²⁰ These agreements allow landowners, who are unwilling to transfer their rights instream permanently, the freedom to do so for a trial period. In addition, landowners who are not using water, and are therefore at risk of forfeiting their right, can lease the right instream, stopping the clock on forfeiture by putting their water to “use.”²¹ Instream lease agreements also enjoy the freedom to split the season between instream and out-of-stream uses.²²

B. Nuts and Bolts: On the Ground Regulation of the Right to Use Water in Oregon

In practical terms, the “first in time, first in right” priority system is difficult to administer.²³ Two primary impediments to meaningful regulation of water rights are a lack of accurate measurement of diversions and a lack of resources to direct towards enforcement efforts.²⁴ State employees called watermasters, whom the director of the Oregon Water Resources Department (OWRD) appoints, carry out on-the-ground regulation of water rights in Oregon.²⁵ Oregon is divided into twenty-one districts roughly following watershed boundaries.²⁶ Watermasters and their staff are charged with the general duty of distributing water among users according to their rights.²⁷ As part of their duty to oversee the distribution of water, watermasters are also charged with preventing wasteful practices.²⁸ However, actions by the state of Oregon against wasteful water users are rare and only occur in extreme instances of waste.²⁹

²⁰ OR. ADMIN. R. 690-77-0077(1) (2006).

²¹ *Id.*

²² OR. REV. STAT. § 537.348(3) (2005). The Oregon Water Resources Department (OWRD) approves “split-season” leases with several conditions regarding the use of water: first, the existing water use and the instream use cannot be concurrent; second, for rights with defined seasons of use, the “split” is limited to one existing use period and one instream period, while for year-round rights, the “split” can include two existing use periods and one instream period. OR. ADMIN. R. 690-077-0079(2)(b)(A)–(B) (2006). Additionally, the holder of a split season lease must measure and report the amount of water withdrawn for the existing use to OWRD. *Id.* at 690-077-0079(3).

²³ See generally RICK BASTASCH, WATERS OF OREGON: A SOURCE BOOK ON OREGON’S WATER AND WATER MANAGEMENT 115–20 (Or. State Univ. Press, 1st ed. 1998) (describing enforcement of Oregon’s water laws).

²⁴ Karen A. Russell, *Wasting Water in the Northwest: Eliminating Waste as a Way of Restoring Streamflows*, 27 ENVTL. L. 151, 157 (1997).

²⁵ OR. REV. STAT. § 540.020(1)–(2) (2005).

²⁶ See State of Oregon, Water Resources Department, Region/Watermaster Map, http://www.wrd.state.or.us/OWRD/offices.shtml#Region_Watermaster_Map (last visited Nov. 12, 2006) (showing Oregon’s water regions and watermaster districts).

²⁷ OR. REV. STAT. § 540.045 (2005).

²⁸ *Bennet v. City of Salem*, 235 P.2d 772, 778 (Or. 1951).

²⁹ Russell, *supra* note 24, at 173.

C. The Mechanics of Leaving Water Instream

Maintaining flows instream requires a watermaster to regulate—i.e. reduce or shut off completely—the point of diversion (POD) of out-of-stream appropriators junior to the instream right, thereby allowing the proper amount of water to flow in the river. Though simple in theory, achieving instream flow requires careful planning and intimate knowledge of the river system. Instream rights are defined and protected as either points or reaches.³⁰ When an instream flow is protected at a point, the watermaster is charged with ensuring that at least as much water as is called for by the instream right passes that point. The preference, however, is that instream rights be defined as “river reaches.”³¹ In general, a senior instream right that has been acquired from an existing user and that is protected as a reach is maintained from the old POD—where the landowner once diverted water out of the river—to the mouth of the river.³² Instream rights can also be separated into several reaches, each with a different instream rate, to mitigate against injury to other users or to account for natural conveyance losses.³³ If mitigation for loss of return flow is necessary, the instream right will be reduced by the amount of return flow at the point where return flow previously entered the stream. If this point cannot be identified, the right will be reduced at the old POD.³⁴ Alternatively, if a river passes through a reach where natural flow losses occur by seepage from the river bottom, the instream right will be reduced to reflect this natural decrease.³⁵

The preceding discussion highlights the importance state regulators place on protecting existing rights from interference by instream rights. Before an instream right is created, either by request from a state agency or by conversion from an existing right, OWRD analyzes the proposal for potential injury to other users. The doctrine controlling this review is called the “no injury” rule. It has deep roots in Western water law and is the forum for a majority of the challenges faced by applicants for streamflow protection. This comment focuses on application of the doctrine in the context of an existing user who wishes to transfer their right instream.

D. The “No Injury Rule”

Under the no injury rule, junior appropriators are protected by maintenance of the stream conditions that existed at the time of their

³⁰ OR. ADMIN. R. 690-077-0015(6)–(7) (2006).

³¹ *Id.* at (6).

³² *Id.* at (7). If the protected amount is an identifiable portion of the river into which the source river flows, the instream reach can be extended into that river.

³³ OR. ADMIN. R. 690-077-0075(2)(b) (2006).

³⁴ *Id.* at (2)(c). For example, if known return flow of 1.0 cubic foot per second (cfs) returns to the river one mile below the old point of diversion, the instream reach will be divided at the point where the return flow reenters the river. In the reach above that point, the entire instream right will be protected, while below that point, 1.0 cfs less will be protected to allow that water to flow to juniors.

³⁵ *Id.* at (2)(b)(D).

appropriation.³⁶ These conditions are not limited to natural conditions but include anthropogenic stream influences such as water returning to the river from an irrigated field.³⁷ Understanding the rule requires a step-by-step explanation beginning with a description of the nature of the property right in water, a discussion of the context in which the rule is applied, and, finally, an in-depth discussion of the legal and practical contours of the rule itself.

1. The Property Right in Water

Once a water right has been issued by OWRD, the right to use the water becomes a fully vested property interest.³⁸ Like an owner of real property, appropriators are entitled to enjoy their right free from injury by other property owners. However, the comparison to real property ownership only goes so far because a water right, while a vested property right, is limited to a right of use.³⁹ “Ownership” of Oregon waters lies with the people of Oregon.⁴⁰ The no injury rule therefore preserves juniors’ *use* of water rather than their *ownership*.

2. Context for Application of the Rule in Oregon: Transfer Proceedings

Application of the no injury rule is most common in proceedings called “transfers,”⁴¹ where decisions can be made to change from one water use to another or from a specific place of use to a new location such as in-stream. The key question in transfers is how much of the water right may be transferred. Oregon is called a “paper right” state because transfers begin with the assumption that the entire certificated amount is transferable.⁴² Other western states define water subject to transfer based on historical patterns of use.⁴³ In these states, if a user historically used

³⁶ *Williams v. Altnow*, 97 P. 539, 540 (Or. 1908). This rule pervades Western water law. *See Eglar v. Baker*, 4 Alaska 142, 144–45 (D. Alaska 1910) (applying the no injury rule in Alaska); *Gassert v. Noyes*, 44 P. 959, 962 (Mont. 1896) (stating that “the rights of each are to be determined by the condition of things at the time . . . [of] appropriation”); *Farmers Highline Canal v. Golden*, 272 P.2d 629, 631 (Colo. 1964) (stating that “junior appropriators have vested rights in the continuation of stream conditions as they existed at the time of their respective appropriations”).

³⁷ *See Hough v. Porter*, 98 P. 1083, 1109 (Or. 1909) (holding that changing the location of a water right use is impermissible if the change substantially injures the water rights of others, such as if the change causes runoff to return to a stream below the point where it is normally diverter by another water user).

³⁸ *See Hale v. Water Res. Dep’t of State*, 55 P.3d 497, 499 (Or. Ct. App. 2002) (explaining that “[a] person whose application for a permit has been granted [by the OWRD] may then apply for a water rights certificate that essentially vests in the applicant a permanent water right”).

³⁹ *Sherred v. City of Baker*, 125 P. 826, 830 (Or. 1912).

⁴⁰ *See OR. REV. STAT. § 537.110* (2005) (stating that “[a]ll water within the state from all sources of water supply belongs to the public”).

⁴¹ *See generally* COMM. ON W. WATER MGMT., *WATER TRANSFERS IN THE WEST: EFFICIENCY, EQUITY, AND THE ENVIRONMENT*, 70–76 (National Academy Press ed., 1992) (explaining the no injury rule and water transfers).

⁴² *See OR. REV. STAT. § 540.505(4)(a)–(d)* (2005) (“Water use subject to transfer.”).

⁴³ *See, e.g., COLO. REV. STAT. § 37-92-302(2)(a)* (2006) (requiring a transfer applicant to

less than their allotted right, that pattern of use defines the permissible future use of the right.

Despite the “paper” status of Oregon water rights, appropriators in Oregon can nonetheless lose some or all of their water right through historical non-use.⁴⁴ Non-use of water for a period of five or more years creates a rebuttable presumption of forfeiture.⁴⁵ However, Oregon law exempts from forfeiture any water right under the following circumstance:

if the owner of a . . . water right uses less water to accomplish the beneficial use allowed by the right, the right is not subject to forfeiture so long as (a) [t]he user has a facility capable of handling the entire rate and duty authorized under the right; and (b) [t]he user is otherwise ready, willing and able to make full use of the right.⁴⁶

In other words, no forfeiture results from using less than the “paper right” if the user is ready, willing, and able to use the full amount. The critical impact of this law is that downstream juniors, who historically depended on the unused portion of an upstream senior’s right, are not legally entitled to that water if the senior meets the “ready, willing, and able” requirement.⁴⁷

Under this doctrine, the face of the water right certificate is the first place to look at the beginning of a transfer proceeding. The parties then must work from this amount to determine how much water can be transferred without injury.

3. Defining Legal Injury

OWRD bars transfers when there is a determination that the change will injure other water users.⁴⁸ In Oregon, injury occurs when an “existing water right [is] not receiving previously available water to which it is legally entitled.”⁴⁹ Another species of legal injury, enlargement, occurs when a water right is expanded beyond what is set out in the certificate.⁵⁰ The crux

provide, among other things, a map which shows the historical use of the rights); *see* WASH. REV. CODE § 90.03.380(1) (2005) (stating that a transfer may not result in an “increase in the annual *consumptive* quantity of water used under the water right” (emphasis added)). In these states, if appropriators used less water than their certificate allowed, they may only transfer the amount they were using and will lose the right to the remainder of water authorized under the certificate.

⁴⁴ OR. REV. STAT. § 540.610(1) (2005) (explaining that “[w]henver the owner of a perfected and developed water right ceases or fails to use all or part of the water appropriated for a period of five successive years, the failure to use shall establish a rebuttable presumption of forfeiture of all or part of the water right”).

⁴⁵ *Id.*

⁴⁶ *Id.* § 540.610(3)(a)–(b). This law is referred as the “limited forfeiture” law.

⁴⁷ *See infra* Part III.C.1.c (describing the impact of the “ready, willing, and able” language in transfer proceedings); *see also* Krista Koehl, *Partial Forfeiture of Water Rights: Oregon Compromises Traditional Principles to Achieve Flexibility*, 28 ENVTL. L. 1137, 1149–50 (1998) (critiquing this feature of Oregon law).

⁴⁸ OR. ADMIN. R. 690-380-5000(1)(d) (2006).

⁴⁹ OR. ADMIN. R. 690-380-0100(3) (2006).

⁵⁰ *Id.*

of the injury analysis is determining what water was “previously available” and, thereby, what water juniors are *legally* entitled to. The question of what water was “previously available” is decided using the doctrine of “return flow.” The concept of return flow is often confused with similar terms and physical phenomenon. Understanding the doctrine therefore requires familiarity with both legal and scientific concepts of return flow.

4. Contours of the Rule Part I: Legal Definitions of Return Flow

Oregon courts have adopted the definition of return flow as water that returns to the natural course of the stream from which it was taken after being applied by an appropriator.⁵¹ “Possession” of water lasts until it “wastes back or percolates from lands . . . or leaves the control of the owner of such lands.”⁵² Stated differently, discharging excess irrigation water back into its source after use, absent the intention of recapture or reuse, effects an abandonment.⁵³ Downstream users are then free to appropriate the returned water.⁵⁴

Two similar situations confuse the doctrine. First, if the appropriator recaptures the water on her land before it rejoins its source, the water does not become “return flow.”⁵⁵ The appropriator has not lost control nor effectively abandoned the water. Second, if the water finds its way onto adjacent lands or into a ditch or stream other than its original source after application, the “return flow” label does not attach. Appropriators who rely on this water, called “seepage” or “waste water,” cannot compel continuation of the irrigation practice that results in the seepage.⁵⁶ The key

‘Enlargement’ means an expansion of a water right and includes, but is not limited to: (a) Using a greater rate or duty of water per acre than currently allowed under a right; (b) Increasing the acreage irrigated under a right; (c) Failing to keep the original place of use from receiving water from the same source; or (d) Diverting more water at the new point of diversion or appropriation than is legally available to that right at the original point of diversion or appropriation.

Id.

⁵¹ Jones v. Warm Springs Irrigation Dist., 91 P.2d 542, 546–47 (Or. 1939).

⁵² *Id.* at 548.

⁵³ *Id.* at 547.

⁵⁴ *Id.* at 548.

⁵⁵ See Cleaver v. Judd, 393 P.2d 193, 195 (Or. 1964) (“[I]f the waste and seepage water is recaptured for reuse within the boundaries of the district, those who have previously used such waters have no cause of action for having been deprived of the water.”).

⁵⁶ Vaughan v. Kolb, 280 P. 518, 521 (Or. 1929).

[A] claimant to wastewater acquires a temporary right only to whatever water escapes from the works or lands of others, and which cannot find its way back to the natural stream from which it was taken; that such a use of water does not carry with it the right to any specific quantity of water . . . and the appropriators are under no obligation, nor have they the right to permit any specific quantity of water to be discharged as “waste water” for his benefit.

Id.

difference in this scenario is that the water has yet to commingle with its natural source and is therefore not legally appropriable.

Once defined as return flow, however, water is appropriable by downstream water users and “can not afterward be taken out by the original appropriator to the injury of other rights which have attached and vested to it.”⁵⁷ In other words, an upstream senior may not deprive downstream juniors of return flow by changing the use of water on her land or by changing the point of return of used water to the river below the downstream junior’s point of diversion.⁵⁸ As is often the case, using broad legal definitions risks oversimplifying reality. In the field, return flows are difficult to identify and differentiate from “seepage” or water destined for recapture and even more difficult to quantify.

5. Contours of the Rule Part II: Hydrologic Definitions of Return Flow

For the purpose of understanding return flow in the context of injury analysis, the most important hydrologic processes are those that remove water from the system—“consuming” water—or that result in water returning to its source and becoming return flow. The movement of water through soil after being applied for irrigation is controlled by two processes known as infiltration and redistribution.⁵⁹ Infiltration is the process whereby water percolates into the soil.⁶⁰ Redistribution refers to the movement of water once it has entered the soil.⁶¹ The rate at which water infiltrates from the surface into the soil depends on many factors. These factors include the rate of application of irrigation water, the hydraulic conductivity of the soil, the degree of saturation of the soil, the inclination and roughness of the soil surface, the chemical characteristics of the soil surface, and the physical and chemical properties of water.⁶² Once water infiltrates the soil, redistribution is controlled by gravity, pressure, and evapotranspiration from vegetation.⁶³ On an irrigated field, evapotranspiration is the most significant redistribution force and is particularly important in the return flow analysis because it represents the amount of water that does not become return flow.

⁵⁷ *Jones*, 91 P.2d at 546.

⁵⁸ *Hough v. Porter*, 98 P. 1083, 1109 (Or. 1909).

[I]f by changing the place of use, when the water is needed by others, the quantity returning to the stream after changing the place of use as compared to its previous application is substantially diminished, or if, by reason of such change, the “run off” reverts to the stream or channel below the point diverted by another, thereby reducing the supply at such point, it must necessarily operate to the injury of the rights of such other party

Id.

⁵⁹ S. LAWRENCE DINGMAN, *PHYSICAL HYDROLOGY* 220 (Prentice Hall 2d ed. 2002).

⁶⁰ *Id.*

⁶¹ *Id.*

⁶² *Id.* at 246.

⁶³ *Id.* at 265.

Evapotranspiration describes a number of processes by which liquid or solid water becomes water vapor.⁶⁴ Among these processes, transpiration is particularly important. Transpiration is the process by which water is taken from the soil by plants, moved through the vascular system of the plant and evaporated into the atmosphere.⁶⁵ Predictions of the rate at which transpiration occurs in crops are an important tool irrigators use to determine how much water to apply to their field.⁶⁶

Water transpired by an irrigated field represents water that will not become return flow—water that is “consumed,” in other words. Watermasters often rely on this figure alone to calculate return flow. They subtract “consumptive use” from the total amount of water the irrigator is diverting and label the difference return flow. The assumption is that all water not consumed returns to the river and is used by downstream water rights. This oversimplifies the analysis however, because redistribution processes other than transpiration also result in consumption of water.⁶⁷ For instance, water flowing through an unlined, dirt irrigation ditch can escape the system either through surface evaporation or through infiltration and redistribution into the groundwater system.⁶⁸

Some water applied to the field and not consumed by plants or surface evaporation percolates into the ground and mingles with groundwater.⁶⁹ Most groundwater is connected to a surface water source such as a river or lake.⁷⁰ This hydraulic connectivity between ground and surface water is the basis of return flow. However, many variables control the amount and timing of groundwater movement into surface bodies. In discussing return flow and injury, therefore, timing of return flow is a critical factor.⁷¹

Timing varies depending on the hydraulic conductivity, hydraulic gradient, and flow direction of the soil and groundwater at issue.⁷² Hydraulic

⁶⁴ *Id.* at 272.

⁶⁵ *Id.* at 294.

⁶⁶ RICHARD H. CUENCA ET AL., OREGON CROP WATER USE AND IRRIGATION REQUIREMENTS 2 (1999). The rate of transpiration for crops in Oregon, crop E_T , is modeled by multiplying the rate of transpiration from a reference crop by a specific crop factor. The reference crop used is green grass, disease and weed free, uniform in height and well-watered. The crop factor represents the transpiration rate of specific Oregon crops in relation to the reference crop. In other words, crops which transpire faster than the reference crop result in a crop factor multiplier greater than the reference crop while crops which transpire slower result in a multiplier less than the reference crop. The result of multiplying the reference crop by the crop factor gives the crop water requirement. The difference between this number and the effective precipitation of a given region gives the net irrigation requirement of a given crop in a given location. Transpiration is affected by climate factors such as wind, heat, humidity and length of day. High winds and heat combine to increase transpiration while high humidity lowers the effective pressure differential inside and outside the plant, decreasing E_T . *Id.*

⁶⁷ See DINGMAN, *supra* note 59, at 220 (listing exfiltration, capillary rise, recharge, interflow, and percolation as examples of redistribution processes).

⁶⁸ DRAFT EVALUATION LAMPSON INSTREAM PROPOSAL WALLA WALLA RIVER 5 (Apr. 21, 2005) [hereinafter LAMPSON INSTREAM PROPOSAL] (on file at the Oregon Water Trust).

⁶⁹ *Id.*

⁷⁰ DINGMAN, *supra* note 59, at 325.

⁷¹ LAMPSON INSTREAM PROPOSAL, *supra* note 68, at 8–9.

⁷² *Id.* at 9.

conductivity is the rate at which water moves through the soil and varies depending on the soil-grain size.⁷³ The hydraulic gradient describes the topographical inclination of the soil either toward or away from the source stream. Groundwater flow direction depends on the contours of the water table surface and affects where return flow may occur at a given time.⁷⁴ In concrete terms, timing of return flow to a stream from an irrigated field is a function of the field's soil type and its topography with relation to the stream.

From the perspective of hydrology, the presence of return flow depends on a host of factors including consumptive use (transpiration) by crops and other mechanisms that transport water out of the system or back to the source. Imposed onto these factors is the additional variable of timing. The injury analysis should therefore take into account all of these factors to ensure that an accurate picture of return flow is drawn.

III. OBSTACLES TO INSTREAM FLOW PROTECTION

Obstacles to instream protection can be separated into three categories. First, practical limitations stemming from a lack of resources and local opposition to instream protection lead to deficiencies in the physical ability to manage the system. Second, "creative" administration of the water laws by OWRD often imposes an unfair double standard on instream transfers. Finally, the formal transfer process provides a forum for official challenges to instream transfers.

A. Practical Limitations

The first category of limitations on instream transfers are those imposed by a lack of resources directed to state administration of water and those imposed by political opposition to the idea of instream water rights. These are inextricably related. Opposition to instream protection comes from many who believe water should be put to "productive" uses such as farming and ranching.⁷⁵ Often, those charged with administering instream rights share some of this opposition. Watermasters live and work in the agricultural communities they regulate, making impartial treatment of instream rights difficult at best and a conflict of interests at worst. In addition, regulation of water rights is complaint driven. As holders of instream rights, the state does not "complain" on behalf of instream rights with the same vigor a private right holder would.⁷⁶ This problem is

⁷³ DINGMAN, *supra* note 59, at 231.

⁷⁴ LAMPSON INSTREAM PROPOSAL, *supra* note 68, at 8.

⁷⁵ See Debby Schoeningh, *Farmers Battle Oregon Water Trust over In-Stream Water Rights Transfer*, CAPITAL PRESS, Sept. 27, 2002, at 29. See generally Water For Life, Inc., <http://www.waterforlife.net> (last visited Nov. 12, 2006) (Water for Life is a group dedicated to promoting agricultural water rights).

⁷⁶ See Jack Sterne, *Instream Rights and Invisible Hands: Prospects for Private Instream Water Rights in the Northwest*, 27 ENVTL. L. 203, 217, 232-33 (1997) (discussing the lack of

compounded by a lack of accurate knowledge about how much water is being diverted from a given river at any given time and by the sheer volume of administration required to oversee the system.

Individual watermasters oversee large land areas with hundreds, possibly thousands, of individual water rights. The John Day Basin for example, is roughly the size of Massachusetts and has only one watermaster.⁷⁷ Monitoring each individual water right throughout the state is therefore impossible, and the system relies to a large degree on self-policing and complaints from right holders when their rights are infringed. Compounding this difficulty, a tiny fraction of diversions among those 70,000 rights are metered. In other words, measurement of water use is not mandatory. At the discretion of OWRD, water users may be required to install measuring devices on their diversions.⁷⁸ As of 2003, however, only 8% of combined surface and ground water rights are required to do so.⁷⁹ Governmental entities, including state and federal agencies, local governments, irrigation districts and water conservation districts which appropriate water are required to submit an annual water use report to the OWRD.⁸⁰ Compliance with this rule is not 100%.⁸¹ Installation of a more comprehensive, statewide measurement program is an expensive proposition and one for which no budget currently exists.⁸² The importance of this lack of measurement must not be overlooked. A system designed to regulate water use and continually balance use among competing interests that has no means of measuring and monitoring such use is flawed. Without measurement, water resource management is, *at best*, a guessing game.

The practical problem of doing a big job with insufficient people and information is compounded by the complaint-driven nature of Oregon water law. Water users commonly divert more than their certificated right, especially during times of the year such as early summer when water is plentiful. So long as all out-of-stream diversion rights are being met and water diversions are not being measured, this practice goes unregulated by watermasters.⁸³ When water becomes scarce, however, water users are legally entitled to ask their watermaster to regulate other users according to the priority scheme.⁸⁴ This complaint system works well for out-of-stream diversions and other water uses for which owners are identifiable, as these

enforcement of public instream rights in the Northwest and suggesting privatization of instream rights).

⁷⁷ BASTASCH, *supra* note 23, at 115.

⁷⁸ OR. REV. STAT. § 540.310(2) (2005).

⁷⁹ BARRY NORRIS, STATUS REPORT ON WATER MEASUREMENT AND REPORTING 2 (2003), available at http://www1.wrd.state.or.us/files/Publications/staff_reports/2003%20April/WS%20Item%20II%20-%20Measurement.pdf.

⁸⁰ OR. REV. STAT. §§ 294.004, 537.099 (2005).

⁸¹ See NORRIS, *supra* note 79, at 3 (stating that compliance is about 85%).

⁸² See *id.*

⁸³ See Reed D. Benson, *Maintaining the Status Quo: Protecting Established Water Uses in the Pacific Northwest, Despite the Rule of Prior Appropriation*, 28 ENVTL. L. 881, 890 (1998) (discussing the lackadaisical enforcement of water use).

⁸⁴ See OR. REV. STAT. § 540.100(1) (2005).

owners will be motivated to immediately “call” for water when they are not receiving their share.

Instream rights, however, are held by the State of Oregon in trust for the people of Oregon.⁸⁵ As trustee, the state is charged with complaining on behalf of public instream rights.⁸⁶ In other words, the state must complain to itself when state watermasters are not enforcing instream rights.⁸⁷ This is an unlikely prospect. On the other hand, a lessee of a water right for temporary instream transfer has the same legal standing as the lessor regarding management and enforcement of the instream right.⁸⁸ Short-term instream leases therefore have an enforcement advantage over public instream rights. Lesees can complain on behalf of their rights, however, they may nonetheless be hampered by a lack of accurate streamflow information.

B. “Creative” Administrative Challenges to Instream Transfers

On top of the practical obstacles to instream protection, OWRD’s administrative interpretations of Oregon’s transfer laws make life difficult for instream applicants. Three administrative policies in particular have the potential to discourage future instream transfers.⁸⁹ These include limiting total instream rights on a river to “estimated average natural flow,” refusing to create instream rights greater than state-created instream rights, and challenging the creation of permanent instream rights at the end of a lease period based on the “ready, willing, and able” language. These policies are not mandated by Oregon’s water law; rather they represent the choice of OWRD to scrutinize instream transfers and, more importantly, epitomize the divergent handling of instream and out-of-stream rights.

1. ENAF Is Enough?: Estimated Average Natural Flow as a Ceiling for Instream Rights

OWRD’s rules limit the amount of an instream right to the “estimated average natural flow” (referred to by the misnomer “ENAF”) of the river.⁹⁰ This number varies by month, and for most rivers in Oregon it decreases throughout the summer. For example,⁹¹ the hypothetical “River Why” in Eastern Oregon has an ENAF in June of 3 cubic feet per second (cfs), in July of 2 cfs, and in August of 1 cfs. If a landowner on the River Why had a 2.5 cfs irrigation right they wished to transfer instream, OWRD’s rules would limit the instream right in July and August of a given year to 2 and 1 cfs,

⁸⁵ OR. REV. STAT. § 537.341 (2005).

⁸⁶ See Sterne, *supra* note 76, at 217.

⁸⁷ See *id.*

⁸⁸ OR. ADMIN. R. 690-077-0077(17) (2006).

⁸⁹ Interview with Fritz Paulus, Executive Dir., Or. Water Trust (Jan. 23, 2006) [hereinafter Paulus Interview] (on file with author).

⁹⁰ OR. ADMIN. R. 690-077-0015(4) (2006). OWRD often uses a 50% exceedence figure to set ENAF. ENAF is basically what it says—*average* flow.

⁹¹ It should be noted that this is a highly simplified example, used only to demonstrate one possible operation of the ENAF policy.

respectively, regardless of how much water was *actually* available. In other words, during a wet year, if 4 cfs flowed instream through August, the instream right could nonetheless be limited by ENAF—potentially allowing irrigators with junior rights to diminish flow instream below 2.5 cfs. OWRD allows for an exception where “flows that exceed [ENAF] are significant for the public uses applied for. An example of such an exception would be high flow events that allow for fish passage or migration over obstacles.”⁹² Two questions are raised by this hypothetical. First, how would a landowner have a water right greater than ENAF in the first place? Second, ENAF doesn’t seem to be much of a limitation. If the water is not normally available anyway, how does it matter that the instream right is limited?

The answer to the first question is simple. When many senior water rights were established, no one knew what the ENAFs for particular rivers were.⁹³ Therefore, many rivers in Oregon are overappropriated—the sum of the water rights is greater than the average flow of the river at any particular time. The second question, related to the first, can only be answered by comparing the treatment of the instream right with how the right would be treated if it remained an irrigation right. Out-of-stream uses are not limited by ENAF.⁹⁴ On the hypothetical River Why, therefore, in a wet year with 4 cfs flowing through August, a 2.5 cfs out-of-stream right would be satisfied through August, assuming all senior rights were being met as well. In contrast, OWRD could allow irrigators with rights *junior* to the instream right, to withdraw water, reducing the instream right to ENAF—2 cfs in July and 1 cfs in August. This result is not fair; after all, when creating instream rights, the legislature clearly stated that instream rights should be on equal legal footing with “any other right for which a certificate has been issued.”⁹⁵

⁹² OR. ADMIN. R. 690-077-0015(4) (2006). The Water Resources Commission (Commission) met on August 10–11, 2006, and approved a change to this rule. The new rule creates a presumption that ENAF may be exceeded:

(5) *Unless the Director determines otherwise*, for instream water rights established through instream transfers, leases, or allocations of conserved water . . . if the criteria in Subsection (5)(a) and (b) . . . are met: (a) The flow does not exceed the maximum amount of any instream water right application applied for under OAR 690-077-0020 for the same reach or portion thereof, and for the same public use. (b) For the specified time period that flows are requested to exceed the estimated average natural flow or lake level, the stream is in an ODFW flow restoration priority watershed.

Final Proposed Rules, OR. ADMIN. R. 690-077-0015(5) (proposed Aug. 11, 2006) (to be codified at OR. ADMIN. R. 690-077-0015(5)) (emphasis added). At the request of Water for Life, an agricultural water rights lobbying group, the Commission inserted the language allowing the Director of Water Resources to “make a finding different from the presumption.” Memorandum from Phillip C. Ward, Dir., Or. Water Res. Dep’t, to Water Res. Comm’n 5 (Aug. 11, 2006) (on file with author). This language could significantly weaken the new exception if it leaves the process open to lobbying efforts by influential groups opposed to instream transfers.

⁹³ ENAFs for specific rivers were only established at the time ODFW began applying for state instream water rights.

⁹⁴ The only limitation on out-of-stream uses is the priority system. *See supra* note 7 and accompanying text.

⁹⁵ OR. REV. STAT. § 537.350 (2005); *see also id.* § 537.334.

OWRD's rationale for limiting instream rights to ENAF is that adding water instream above the average natural flow is not a beneficial instream use.⁹⁶ This may be a valid legal argument—it may seem like too much to ask to protect *more* water instream than average natural flow. However, this argument assumes no marginal benefits accrue above average flows. In reality, above average flows could result in above average fish survival or other related ecosystem benefits. Zero flexibility in the ENAF policy unfairly precludes these potential benefits and further tilts the field toward consumptive users. Out-of-stream users, even on over-appropriated rivers, are only regulated off according to priority. Imposing the ENAF limitation is an unnecessary burden on instream rights.

2. Another “Beneficial Use” Ceiling

In addition to the ENAF ceiling limiting new instream rights, OWRD may also limit the conversion of existing rights to instream rights in relation to the amount of *state-created* instream rights on the river. As noted earlier, since 1987, the departments of Fish and Wildlife, Environmental Quality, and State Parks and Recreation have been able to ask OWRD to create instream water rights to promote specific “public uses.”⁹⁷ Fish and Wildlife requests instream rights on behalf of the public for “conservation, maintenance and enhancement of aquatic and fish life, wildlife and fish and wildlife habitat.”⁹⁸ The Department of Environmental Quality does so in the name of “pollution abatement,”⁹⁹ and Parks and Recreation in the name of “recreation and scenic attraction.”¹⁰⁰ In conjunction with these statutorily defined “public uses” OWRD will only approve instream rights that “serve a public use or uses”¹⁰¹ and will not allow the combined amount of instream rights for a reach to “exceed the amount needed to provide increased public benefits.”¹⁰² In other words, once an instream right is granted on a river or through a reach for a purpose requested by Fish and Wildlife, Environmental Quality, or Parks and Recreation, the right becomes the maximum OWRD will protect instream on that river or reach.

In practice, the result of this policy is that instream transfer applications by private landowners with senior rights are allowed only up to the cap set by the state created instream rights. For example, if Fish and Wildlife applied for and was granted a 5 cfs right on the hypothetical River Why in 1988, the total amount of instream rights on the River would be capped at 5 cfs. A 2 cfs instream right created by temporary lease, with a senior date of 1909, would not augment Fish and Wildlife's instream right, but instead be subsumed within it. The total amount of instream rights on

⁹⁶ Interview with Oregon Water Trust Staff, Oregon Water Trust (Jan. 23, 2006) [hereinafter Staff Interview] (on file with author).

⁹⁷ OR. REV. STAT. § 537.336(1)–(3) (2005).

⁹⁸ *Id.* § 537.336(1).

⁹⁹ *Id.* § 537.336(2).

¹⁰⁰ *Id.* § 537.336(3).

¹⁰¹ OR. ADMIN. R. 690-077-0015(9) (2006).

¹⁰² *Id.* at 690-077-0015(10).

the River Why would remain 5 cfs but 2 cfs of the rights would have a senior priority date of 1909 and 3 cfs would have a priority date of 1988. Another applicant who then sought to transfer an additional 4 cfs instream on the River Why would be limited to 3 cfs such that the combined instream rights do not exceed the 5 cfs specified by Fish and Wildlife.

Application of the policy operates differently when the instream right requested by a state agency exceeds the current amount of available unappropriated water.¹⁰³ In this case, OWRD uses the instream amount requested as a “management objective.”¹⁰⁴ As landowners apply for instream rights on the river, those rights will accumulate toward the “objective” amount of instream water until the goal is met. Once the objective amount is reached, OWRD would cap instream rights on the river as outlined above.

Nothing in the Instream Water Rights Act requires a cap on the combined amount of instream rights. OWRD may be misinterpreting “beneficial use” in imposing this limitation. When creating instream rights, the legislature defined two important terms. First, “instream flow” is “the *minimum* quantity of water necessary to support the public use requested by an agency.”¹⁰⁵ Second, the legislature made clear that “public uses are beneficial uses.”¹⁰⁶ OWRD reads these provisions together to mean that instream rights, whether state-created or created by private-party purchase or lease, are only beneficial to the extent they support the *minimum* amount necessary for a public use. The legislature did not impose this limit, and a plain reading of the law does not require it. Nowhere does the Act refer to the combined amount of instream rights in a river or reach and limit that amount to the instream flow requested by state agencies. In fact, the language giving private parties the right to lease water rights for conversion instream is devoid of reference to public uses, instead declaring simply that “the use of the [leased] water right as an in-stream water right shall be considered a beneficial use.”¹⁰⁷ A plain reading of the statute, then, supports two separate types of instream rights: State agency-created rights limited to the minimum quantity necessary for public uses and rights created by private-party lease or purchase which are beneficial uses separate of their relation to public uses.

OWRD’s handling of state agency instream rights makes the assumption that the agencies “hit the nail on the head” every time they request instream rights. Yet fish biologists, for example, disagree about the interaction between streamflow and fish habitat.¹⁰⁸ As a result, an instream request for fish habitat could prove inadequate in the future as streamflow needs are better understood. The law also lacks any standards for the agencies to

¹⁰³ Unappropriated water available means “water that exceeds the quantities required to meet existing water rights of record, minimum streamflows and instream water rights and for known and yet to be quantified Native American treaty rights.” OR. ADMIN. R. 690-077-0010(30) (2006).

¹⁰⁴ *Id.* at 690-077-0015(2).

¹⁰⁵ OR. REV. STAT. § 537.332(2) (2005) (emphasis added).

¹⁰⁶ *Id.* § 537.334(1).

¹⁰⁷ *Id.* § 537.348.

¹⁰⁸ Neuman & Chapman, *supra* note 19, at 161.

aspire to, except that, within their discretion, they “may request” instream rights to support public uses.¹⁰⁹ Because the agency-requested rights can effectively become caps on allowable instream rights, an arbitrary request could have far-reaching consequences—limiting in perpetuity the total amount of possible streamflow protection.

The purpose of this discussion is not to say OWRD’s policy is illegal and should be overturned. Rather, the point is to shed light on some of the weaknesses of OWRD’s policy *choices* and demonstrate again the hesitancy of the agency to fully embrace the idea of instream flows for their own sake. Oregon law, through OWRD’s policies, allows out-of-stream diversions to completely dewater numerous rivers throughout the state. Common sense dictates that the opposite should also hold. Oregon law and OWRD’s policies should allow for a river where all out-of-stream diversions are converted to instream rights resulting in zero diversions and year-round water flow.

3. NOT “Ready, Willing, and Able?”: A Creative Application of the Forfeiture Law

Oregon’s limited forfeiture statute exempts from forfeiture any amount of water use less than the certificated amount if the appropriator is nonetheless “ready, willing, and able” to put the full certificated amount to use.¹¹⁰ In other words, if, at the time of a transfer, an appropriator no longer has an irrigation system capable of handling the full amount of their water right, they forfeit the amount of water they are no longer “able” to use. OWRD may use this language to limit landowners’ ability to permanently transfer rights instream at the conclusion of a five-year lease period.¹¹¹ The limitation would go something like this: the watermaster would challenge the instream transfer alleging that, because the landowner’s irrigation system sat unused for ten years, the landowner is no longer “ready, willing, and able” to put their entire right to use. Alternatively, the watermaster could challenge the transfer on the grounds that the water right had been forfeited before the instream lease period began. They would then determine how much the dilapidated irrigation system could handle and limit the instream transfer to that reduced amount.

This limitation is a *creative* application of the law, at best. At worst, it represents an expression of hostility toward conversion of existing uses to instream uses. Instream uses are equal in the eyes of the law to other beneficial uses.¹¹² Use of the entire right instream during the lease period

¹⁰⁹ OR. REV. STAT. § 537.336(1)–(3) (2005).

¹¹⁰ *Id.* § 540.610(3)(a)–(b). This feature of Oregon law standing alone is problematic enough to merit an entire article. See Koehl, *supra* note 47, at 1143.

¹¹¹ Staff Interview, *supra* note 96.

¹¹² OR. REV. STAT. §§ 537.332–537.360 (2005). Instream rights are subordinated in some strictly limited contexts not germane to this discussion. See *id.* § 537.352 (granting limited precedence over some types of instream rights for municipal storage projects, municipal uses applied for by municipal applicants, and hydroelectric projects); *id.* § 537.534 (declaring instream rights subject to emergency water shortage regulations); *id.* § 537.360 (giving precedence to pending hydroelectric applications over applications for instream rights

does not begin the forfeiture clock—the right is in “use,” and only non-use leads to forfeiture. The “ready, willing, and able” language is only germane to water rights requiring physical diversions and should not be applied to instream rights, which are fundamentally different. Specifically, when the Oregon legislature created instream rights one of the founding tenets of Western water law had to be unearthed and rearranged. The requirement that a landowner physically divert water from the stream to have a valid water right could not coexist with instream rights—rights which by their nature are not diverted out of the stream.¹¹³

The dichotomy between the physical diversion required for consumptive uses and the lack of such a requirement for instream uses highlights why the “ready, willing, and able” language of the limited forfeiture law should not apply in instream transfer scenarios. Water is always ready, willing, and able to flow down its natural course and the legislature has declared that water flowing in its natural course is essentially being put to “use.” In contrast, putting water to consumptive use requires controlling works such as dams or pumps to transport water out of the river. The limited forfeiture law was, in part, an attempt by the legislature to encourage conservation by allowing irrigators the flexibility to reduce water use—for example by switching to lower water use crops—without the threat of losing some of their water right.¹¹⁴ The flexibility came with some costs however. Foremost was the requirement that, to retain their entire water right, irrigators had to maintain a system capable of putting the whole right to use should they want to switch to a more consumptive use in the future. In contrast, if an irrigator decides to transfer their right instream permanently after a lease period during which they used their *whole right* instream, the “ready, willing, and able” language should not apply. Doing so takes the limited forfeiture law entirely out of context and is a misreading of Oregon law.

C. Formal Opposition to Instream Transfers

Oregon law provides a forum for water users to oppose proposed transfers and present evidence of potential injury from the proposed changes.¹¹⁵ Formal proceedings, called “contested case hearings,” are held in accordance with Oregon’s Administrative Procedures Act (APA).¹¹⁶ The formal procedure is not the only method by which instream transfers are opposed, however. Opposition voiced by local watermasters prior to initiation of formal transfer proceedings can stop an instream transfer as well. Both forms of opposition demonstrate the vigor with which OWRD

submitted during the pendency of the hydroelectric permit application).

¹¹³ See *id.* § 337.332(3) (including in the definition of “in-stream right,” the requirement that such a right “does not require a diversion or any other means of physical control over the water.”).

¹¹⁴ Koehl, *supra* note 47, at 1148.

¹¹⁵ OR. ADMIN. R. 690-380-4030 (2006).

¹¹⁶ OR. REV. STAT. §§ 183.310–183.550 (2005).

undertakes injury analysis in the face of potential instream transfers. On the other hand, understanding how OWRD analyzes injury in instream transfers will allow future applicants to come to the process better prepared and with applications better tailored to comply with the no injury rule.

1. Big Trouble on Little Creek: The Water Trust's Contested Case Hearing

In 1998, the Oregon Water Trust applied to transfer 0.341 cfs of irrigation rights dating from 1863 and 1925 to instream use on behalf of a landowner in Union County, Oregon.¹¹⁷ Both rights authorized diversions from Little Creek, a tributary of Catherine Creek, which in turn flows into the Grande Ronde River. The 1863 right was for irrigation use and was used intermittently throughout the year.¹¹⁸ The Oregon Water Trust proposed protecting the water instream as a reach for 2.5 miles from the old POD on Little Creek to the confluence with Catherine Creek and changing the intermittent use of the 1863 right to continuous flow from June through September at a lower flow rate.¹¹⁹ A group of landowners and a local ditch improvement district (the "protestants") filed a protest of the proposed transfer. All of the protestants' rights are junior to the applicant's 1863 right, and with the exception of the improvement district, all of the protestants' water rights are upstream of the proposed instream reach.¹²⁰ In addition, none of the protestants rely on return flow from the applicant's lands for their water rights.¹²¹ The protestants' opposition to the transfer was based on the fear of being regulated off during the irrigation season to protect the more senior instream right downstream of their diversions.¹²² In response to the protest, OWRD initiated a contested case hearing to decide the matter.¹²³

Contested case hearings, held under Oregon's APA,¹²⁴ are quasi-judicial proceedings during which evidence is presented, including witness testimony

¹¹⁷ State of Or., Certificate of Water Right, Number C-6236 (July 1, 1863), *available at* <http://stamp.wrd.state.or.us/apps/misc/vault/vault.php> [hereinafter Water Right Certificate 6236] (enter 6236 in the "Certificate" field and click on "Search"); State of Oregon, Certificate of Water Right, Number C-12036 (July 21, 1938), *available at* <http://stamp.wrd.state.or.us/apps/misc/vault/vault.php> (enter 12036 in the "Certificate" field and click on "Search").

¹¹⁸ Water Right Certificate 6236, *supra* note 117.

¹¹⁹ Proposed Order at 5, *In re* Protest Against Transfer Application T-8058 (Hr'g Officer Panel for Or. Water Res. Dept., Nov. 22, 2002) [hereinafter Proposed Order] (on file with the Or. Water Trust).

¹²⁰ *Id.*

¹²¹ *Id.* at 6.

¹²² *See id.* at 6-9 (detailing individual protestants' beliefs about the effect of the proposed order based on their past use and experiences).

¹²³ In February of 2006, the Oregon Water Trust settled the dispute with the protestants. OWRD mediated the settlement and should be commended for their participation. Under the settlement terms, a majority of the existing right was transferred to an instream right and a generic final order was issued that *did not* incorporate the findings of the hearing officer in the Proposed Order. While the Proposed Order therefore has no value as precedent in future transfer proceedings, it is quoted extensively in this comment to illuminate the formal transfer process and OWRD's formal transfer policies. E-mail from Fritz Paulus, Executive Dir., Or. Water Trust, to author (Apr. 6, 2006) (on file with author) [hereinafter Paulus E-mail].

¹²⁴ OR. REV. STAT. §§ 183.310-183.550 (2005).

and cross-examination.¹²⁵ According to the APA the burden of proof in a contested hearing “rests upon the proponent of the fact or position.”¹²⁶ The applicant for a transfer therefore has the burden of proving that no injury will occur if the transfer is approved. However, because the purpose of a contested case hearing is to develop a full record upon which a decision on injury can be made, the burden of proof is “not so explicitly assigned.”¹²⁷ The primary concern in the water right context is that the hearing develop a record upon which OWRD can make an affirmative finding by a preponderance of the evidence that “the proposed change can be effected without injury”¹²⁸

The protestants presented two main arguments against the transfer: 1) the proposed transfer would result in more water being left instream than was historically used on the applicant’s land, and 2) the instream right would change the historical pattern of use and result in reduced seasonal availability of water to downstream irrigators.¹²⁹ The question before the hearing officer was whether the changes protestants feared constituted *legal* injury. As noted above,¹³⁰ differentiating *legal* injury from allowable changes is the crux of the injury analysis. The Oregon Water Trust and OWRD contended the changes did not constitute *legal* injury because they were no different than the impacts protestants would suffer had the applicant exercised his water right to its full “paper” extent.¹³¹ The hearing officer agreed with this interpretation and issued a “Proposed Final Order” stating “the transfer can be effected without legal injury to existing water rights.”¹³²

A number of key “guideposts” for injury analysis in formal transfer scenarios can be gleaned from the Proposed Order and the testimony during the hearing of Thomas J. Paul, the Administrator of the Field Services Division at OWRD:¹³³

¹²⁵ See Proposed Order, *supra* note 119, at 1–2.

¹²⁶ OR. REV. STAT. § 183.450(2) (2005).

¹²⁷ Proposed Order, *supra* note 119, at 10; see OR. REV. STAT. § 183.482(7) (2005) (mandating that judicial review of orders in contested hearings is limited to the record developed in the hearing); Or. Env’tl. Council v. Or. State Bd. of Educ., 761 P.2d 1322, 1326 (Or. 1998) (stating that in contested case proceedings “the agency must base its decision on a record of evidence that the contesting parties have an opportunity to develop, it must confine its decision to the evidence so developed, and it must explain how its decision complies with the law and is supported by the facts”); *cf.* Norden v. State *ex rel.* Water Res. Dep’t, 996 P.2d 958, 960 (Or. 2000) (ruling on the standard for judicial review of orders other than those issues through contested case hearings).

¹²⁸ Proposed Order, *supra* note 119, at 10; see also OR. ADMIN. R. 690-380-4030 (2006).

Each person submitting a protest shall raise all reasonably ascertainable issues and submit all reasonably available arguments supporting the person’s position Failure to raise a reasonably ascertainable issue in a protest or failure to provide sufficient specificity to afford the Department an opportunity to respond to the issue precludes consideration of the issue during the hearing.

Id.

¹²⁹ Proposed Order, *supra* note 119, at 11.

¹³⁰ See *supra* Part II.D.3.

¹³¹ Proposed Order, *supra* note 119, at 12.

¹³² *Id.*

¹³³ It should be noted that after negotiations between the protestants, OWRD, and the Water

a. Regulation of Junior Rights Is Not Legal Injury

The protestants' major concern was that after creation of the instream right, they would be regulated off from use of their rights to a greater extent than in the past. Again, all of the users but the irrigation district were not only junior, but also upstream of the proposed instream right. Because of their junior priority dates, however, the protestants could have been regulated off at any time regardless of whether the applicant's right was an instream right or an irrigation right. Prior appropriation is based on a system that regulates in favor of senior rights at the expense of junior rights.¹³⁴ Inherent in this system is the inevitable shut-off of junior diversions to allow water to pass to seniors. While this type of regulation may cause hardship, it does not represent legal injury. In the context of instream rights the Oregon legislature conferred upon them equal legal status with other types of appropriations. As such, if an instream right is senior, regulation in favor of the right to the detriment of juniors is not legal injury.¹³⁵

b. Water Right Transfers in Oregon Begin with the Presumption that the Entire "Paper" Right Is Transferable

The protestants also argued that the proposed regulation of the new instream right would result in protecting more water than was historically used by the applicant. Again, under Oregon law, this is not *legal* injury. Oregon's transfer statute is explicit that water subject to transfer includes the water represented by a "water right certificate."¹³⁶ This language creates the initial presumption that transfers begin with the amount printed on the certificate. Oregon's law contains no reference to historical use that would limit transferable water to what was historically used by the appropriator. Further supporting this proposition, Oregon's limited forfeiture law exempts from forfeiture any amount of water less than the certificated amount if the appropriator is nonetheless "ready, willing, and able" to put the full certificated amount to use.¹³⁷ In other words, using less than your "paper" right does not work a forfeiture if you are otherwise capable of diverting the entire amount.¹³⁸ OWRD interprets these statutes as mandating that, "in evaluating transfers, the Department begins with the full face value of the water right . . . and then examines the proposal to determine whether it

Trust, the parties agreed to a settlement over the transfer. The following discussion does not represent legal conclusions from the resolution of the transfer but rather represents the analysis of the author based on the applicable law and analysis and testimony in the Proposed Order.

¹³⁴ *Low v. Rizor*, 37 P. 82, 84 (Or. 1894); *Cole v. Logan*, 33 P. 568, 569 (Or. 1893).

¹³⁵ OR. REV. STAT. § 537.350 (2005).

¹³⁶ *Id.* § 540.505(4)(b).

¹³⁷ *Id.* § 540.610(3)(b).

¹³⁸ Proposed Order, *supra* note 119, at 13.

would cause injury.”¹³⁹ Therefore, unless OWRD determines injury will occur, it must approve a transfer of the full “paper” water right.

c. A Water Right Holder Is Not Entitled to the Undiverted Portion of Another Right Holder's Water

Based on Oregon's limited forfeiture law, downstream users—such as the improvement district in the Little Creek dispute who are accustomed to receiving an undiverted portion of an upstream user's water right—are not *legally* entitled to continuance of that amount of water. Oregon law allows a change from a historic use that consumed a fraction of a water right to a use that consumes the entire water right and leaves no excess water flowing to downstream users as long as no legal forfeiture has occurred.¹⁴⁰ This includes transfer from a consumptive use to instream protection. The undiverted portion of an upstream users' right should not be confused with established return flow from an upstream user to which downstream users *are legally* entitled.¹⁴¹ In the Little Creek dispute, none of the parties could identify return flow from the applicant's land and the dispute was over undiverted water.¹⁴² Return flow is limited to water returning to the source stream *after* use and is not the same as undiverted water.¹⁴³ Once again, what instream proponents seek is equal treatment with consumptive uses. The limited forfeiture law does not discriminate between consumptive and instream uses and the formal protest process should reflect this.

d. Changing the Historic "Shape" of a Water Right Is Not Injury If the Change Is Within the Extent Allowable Under the Right

An important part of the Oregon Water Trust's application for the Little Creek instream right involved changing the use from intermittent use to continuous flow so that the water would be protected, i.e. in “use” for a continuous but shorter time period. Changes in the parameters of a water

¹³⁹ Written rebuttal testimony of Thomas J. Paul Admin., Field Service Div. at 5, *In re* Protest Against Transfer Application T-8058 (Hr'g Officer Panel for Or. Water Res. Dept., June 4, 2002) [hereinafter, Rebuttal testimony of Thomas J. Paul] (on file with Or. Water Trust).

¹⁴⁰ Written Rebuttal Testimony of Thomas J. Paul at 5, *In re* Protest Against Transfer Application T-8058 (Hr'g Officer Panel for Or. Water Res. Dept., June 4, 2002); *see also*, OR. REV. STAT. § 540.610(3) (2005) (exempting historical use below certificated amount from forfeiture). Whether wise or not, this is Oregon's law and other states have chosen different paths; *cf.* COLO. REV. STAT. §37-92-302(2)(a) (2005) (requiring a transfer applicant to provide information on historical consumptive use).

¹⁴¹ *See* Jones v. Warm Springs Irrigation Dist., 91 P.2d 542, 546 (Or. 1939); *see also* Stuart L. Somach, *Who Owns Reclaimed Wastewater?*, 25 PAC. L.J. 1087, 1095 (1994) (stating that an appropriator has a right to the natural flow but once it is diverted and returned it is considered “unappropriated water” and cannot be appropriated by upstream users).

¹⁴² Proposed Order, *supra* note 119, at 6.

¹⁴³ Jones, 91 P.2d. 542 at 546; *see* Dale B. Thompson, *Of Rainbows and Rivers: Lessons for Telecommunications Spectrum Policy from Transitions in Property Rights and Commons in Water Law*, 54 BUFF. L. REV. 157, 178 (2006).

right such as timing of use are often referred to as “shaping.” Such shaping of a water right is not injurious if the new “shape” “could . . . have been affected by the exercise of the water right . . . to the fullest extent allowed by law.”¹⁴⁴ Water rights certificates specify the rate at which an appropriator may divert water, the full extent of the monthly or seasonal duty (expressed as the total amount of water that may be applied to each acre of appurtenant land each month or for the season if one is specified), and the season of use of the water right.¹⁴⁵ Enlargement, a species of legal injury, occurs if the reshaped water right exceeds any of these parameters.¹⁴⁶ However, changing the historic timing of use as the Oregon Water Trust proposed for the Little Creek right, is not injury because the applicant would have been within his “paper” right to make the change regardless of the transfer.¹⁴⁷ In other words, the applicant was not proposing to use more water or use the same amount of water for a longer period of time. Instead, the new “shape” of the water use would be a lower but continuous flow for a concentrated period of time rather than intermittent use throughout the year.

e. Continued “Subirrigation” from Adjacent Lands After an Instream Transfer Does Not Constitute Enlargement

In the Little Creek dispute, the protestants claimed that the applicant’s land could not be prevented from receiving water from Little Creek even after transferring the entire right instream because his land would continue to be subirrigated from neighboring lands and because a wetland fed by Little Creek could not be dried up and would continue to seep water onto the applicant’s land.¹⁴⁸ Under Oregon’s administrative rules, a water right will be considered enlarged if under a change in place of use, the original place of use cannot be prevented from receiving water from the same source.¹⁴⁹ This rule prevents users from transferring a water right to a new place of use in such a way that the old place of use continues to benefit from subirrigation by water applied on the new place of use.¹⁵⁰ OWRD interprets

¹⁴⁴ Rebuttal testimony of Thomas J. Paul, *supra* note 139, at 5 (stating that it is injurious if the new shape “could not have been affected by the exercise of the water right”).

¹⁴⁵ Some certificates do not specify total or monthly maximum duties in which case appropriators are not regulated by that figure. However, if a water right does not specify season of use, the season is limited by rule to March 1 through October 31. OR. ADMIN. R. 690-250-070(1) (2006).

¹⁴⁶ *Id.* at 690-380-0100(2)(a)–(d) (2006).

¹⁴⁷ *See* Proposed Order, *supra* note 119, at 12–13 (stating that a change in the historic use of a water right, including season, is not the determining factor of whether the transfer will be injurious to existing water rights).

¹⁴⁸ *Id.* at 18.

¹⁴⁹ *See* OR. ADMIN. R. 690-380-0100(2)(c) (2006) (stating that failure to keep the original place of use from receiving water from the same source is considered enlargement).

¹⁵⁰ An example may be helpful: A landowner has two adjacent fields, one uphill of the other, the lower of which has a water right for irrigation. The uphill field does not have a water right. The landowner would be prevented by this rule from changing the place of use of her water right from the lower field to the upper field if the lower field would continue to receive

this rule to mean that if the original place of use continues to benefit from the transferred water right, enlargement occurs.¹⁵¹ But under OWRD's interpretation of its own rules, the "same source" language refers to "water diverted from the water right being transferred,"—the specific water that was previously being diverted and irrigating the transferor's land—and excludes subirrigation from water rights used on adjacent land or from springs or wetlands not included in the water right being transferred.¹⁵² Therefore, because the applicant's land in the Little Creek dispute would receive only limited subirrigation from adjacent lands and springs—natural phenomena that could not reasonably be prevented—the hearing panel found no enlargement would occur.

f. Efficiency of a Water User's Conveyance System Is Not an Injury Consideration

Finally, the protestants argued that once the applicant stopped diverting his irrigation water, those users who shared the applicant's irrigation ditch would not receive their entitled water because the applicant's diversion was necessary to help "carry" their water down the ditch.¹⁵³ On Little Creek, as in many other places, water users often share one POD and one conveyance system such as a ditch, canal, or pipe, with each landowner taking his water from the system as it passes his land. Because of inefficiencies in conveyance systems such as leaky pipes, surface evaporation from open ditches, or seepage losses out of unlined ditches, together referred to as "carriage losses," transporting a given amount of water from the source to the place of use can be difficult. Often, diversion of more than the sum of the water rights the system serves is required to provide sufficient "head" to transport the water to the respective places of use.¹⁵⁴ Maintenance of a diversion and conveyance system capable of diverting a user's full water right is the responsibility of the user.¹⁵⁵ More importantly, water rights certificates specify the rate of diversion at a specific point on the source stream.¹⁵⁶ Because water right certificates specify the rate at the point of diversion and not at the place of use, watermasters are charged with ensuring the specified amount of water is available at the POD, but are not charged with ensuring that amount of

subirrigation from the water now being applied to the upper field.

¹⁵¹ Rebuttal testimony of Thomas J. Paul, *supra* note 139, at 3–4. An agency's interpretation of its own rules is entitled to deference so long as the interpretation is "plausible." *County of Morrow v. Dep't of Fish & Wildlife*, 37 P.3d 180, 184 (Or. App. 2001) (quoting *Don't Waste Or. Comm. v. Energy Facility Siting Council*, 881 P.2d 119, 125 (Or. 1994)).

¹⁵² Rebuttal testimony of Thomas J. Paul, *supra* note 139, at 3–4.

¹⁵³ Proposed Order, *supra* note 119, at 19.

¹⁵⁴ *See id.* at 18–19.

¹⁵⁵ OR. ADMIN. R. 690-250-0030 (2006).

¹⁵⁶ OR. REV. STAT. § 537.250 (2005) (outlining the requirements for a certificate and some of the information required therein); *id.* § 539.140 (listing information included in the certificate).

water makes it to the place of use.¹⁵⁷ In other words, no injury occurs because an inefficient conveyance system—like the ditch in the Little Creek dispute—is made more inefficient when one user ceases diverting their share through the ditch.

The foregoing discussion is an attempt to shed light on many of the issues encountered in formal contests of instream transfers. The discussion is by no means exhaustive. As evident in the next section, new challenges lie around every corner. However, keeping these “guideposts” in mind at the outset can help an instream transfer applicant anticipate and mold their application around potential difficulties. The next section further illuminates the vigor with which OWRD applies formal injury analysis to instream transfers.

2. Imposing the “No Injury Rule” Come Hell or High Water: Watermaster Opposition

The Walla Walla River originates in the Umatilla National Forest in far northeast Oregon and flows twenty-eight miles before crossing the border into Washington where it spills into the Columbia River. A landowner with 100 acres adjacent to the Walla Walla River approached the Oregon Water Trust desiring to transfer water instream from nineteen of the acres. Under a water right certificate issued in 1895, the applicant irrigates land as pasture for livestock.¹⁵⁸ The water is delivered to the land through a one-and-a-half-mile-long, unlined, earthen ditch. The rate of diversion of Walla Walla River water associated with the nineteen acres is 0.7125 cfs measured at the POD of the ditch.

With the Trust’s help, the landowner submitted an application to OWRD to effectuate the instream transfer. In consultation with the local watermaster, OWRD sought to reduce the amount available for transfer instream to account for loss of return flow. No formal protests were filed, and the proposed reduction occurred in the context of OWRD’s initial review of the transfer. The watermaster based his calculations on the Cuenca tables’ model of crop water requirements.¹⁵⁹ He calculated the consumptive use of nineteen acres of the applicant’s pasture based only on the crop use from transpiration and set that as the amount available for transfer, calling the entire difference return flow. This calculation assumes all water not directly used by the applicant’s crops is return flow available to downstream irrigators. During July, when the pasture crop is using the most water, OWRD has indicated they would limit the instream right to roughly twenty-five percent of the total certificated amount or 0.179 cfs. After July, the

¹⁵⁷ OR. ADMIN. R. 690-250-0030 (2006).

¹⁵⁸ State of Oregon, Certificate of Water Right, No. 12750 (Apr. 5, 1940), available at http://apps.wrd.state.or.us/apps/misc/vault/vault.php?submit=Search&cert_nbr=12750; see also LAMPSON INSTREAM PROPOSAL, *supra* note 68, at 9.

¹⁵⁹ Compare CUENCA, *supra* note 66, at 115 (outlining relevant calculation factors), with LAMPSON INSTREAM PROPOSAL, *supra* note 68, at 10 (applying factors to the data from irrigated land).

instream right would decrease further as crop transpiration decreases with the cooler fall weather.

The applicant and the Trust hoped to put more than 0.179 cfs back into the river during the driest months of the summer. The Trust therefore hired consultants to evaluate return flow from the pasture back to the Walla Walla River. Based on the consultant's calculations, some return flow from the pasture does find its way back to the river, but the time it takes for the water to do so ranges from twenty to fifty days depending on where the water is applied. For their calculations the consultants assumed an irrigation season beginning in March and ending October 1. October 1 is a common ending point for irrigation seasons in Oregon. Under this assumption, water applied to acres furthest from the river during the later months of the summer does not return to the river before October 1, after which, the Trust assumed, it would no longer be useful to downstream irrigators. As a practical result, the Trust felt this water should not be subtracted as return flow and should therefore be available for transfer instream.

Specifically, the Trust's consultants calculated that water applied 400 feet from the river takes twenty days to return to the river through underground channels, water applied 700 feet distant takes thirty-five days, and water applied 1000 feet away takes fifty days to reach the river.¹⁶⁰ The amount of the total diversion applied 1000 feet from the Walla Walla River is 0.3652 cfs. The consultants then calculated the latest dates of water application at the various locations that would allow return flow from these lands to reach the Walla Walla before October 1. For land 400 feet from the river, water applied after September 11 will not reach the river before October 1. Water applied 1000 feet distant after August 12 will not return to the river before October 1.¹⁶¹ Using these dates combined with the amount of water applied at each distance interval, the consultants calculated that, from August 12 to October 1, 0.39 cfs is effectively "consumed" because it *does not return* to the river before the assumed end of irrigation season.¹⁶² The Trust felt this number represented an amount of water that could be protected instream beginning on August 12 and avoid injury to downstream users. Before August 12, the consultants recommended using OWRD's consumptive use numbers¹⁶³ from the Cuenca tables to set the amount of instream protection. The Trust and the applicant did not object to these lower numbers during the early summer months because flows are higher in the Walla Walla during these times and instream protection is not as vital.

The Trust and the applicant were confident they had found a solution balancing protection for downstream users with intelligent, site-specific

¹⁶⁰ LAMPSON INSTREAM PROPOSAL, *supra* note 68, at 10.

¹⁶¹ *Id.*

¹⁶² *Id.* To arrive at this final number, the rate of water application per distance interval was multiplied by the number of days between D_{nr} and the end of irrigation season and divided by 183 days in the irrigation season. These numbers were then added together with August and September's total crop E_T and the amount by which return flow from the ditch would be reduced based on the distance of the ditch from the river.

¹⁶³ *Id.* at 11. These values were: April: 0.034 cfs; May: 0.072 cfs; June: 0.100 cfs; July: 0.179 cfs; and August 1-11: 0.144 cfs. *Id.*

water management for instream benefit. OWRD did not agree—even after reviewing the Trust’s hydrologic report.¹⁶⁴ Instead, OWRD raised a new challenge to the transfer from a different angle.

OWRD’s new argument centered on the lack of a limited irrigation season on the Walla Walla River. The outer limits of irrigation seasons in Oregon are set by court decree.¹⁶⁵ The irrigation season for the Walla Walla River is unrestricted.¹⁶⁶ According to the decree:

Unlike most irrigated sections, the water users in the Walla Walla Valley apply the water to their lands throughout the year. Such use tends to saturate the ground and build up the water table so as to retard and reservoir [sic] the water, making it available for use later in the season. This practice appears to be beneficial and necessary for the production of good crops¹⁶⁷

The Trust’s proposed solution incorporated a limited irrigation season under the assumption that downstream irrigators would cease diverting some or all of their right after October 1 when wet weather returns. Based on the decree’s unrestricted irrigation season, however, OWRD claims the water, *whenever it returns* to the Walla Walla—even if it returns after October 1—should be available for downstream users. In other words, OWRD does not agree with the Trust’s assumption that return flow is not useful to downstream irrigators if it returns after October 1.

In light of this disagreement, the question should be, “did downstream irrigators in the past, *in fact*, rely on return flows from the applicant’s lands after October 1?” If the answer is affirmative, OWRD is reasonable in continuing to limit the instream right after August 12. If, however, downstream irrigators have never depended on the contribution of return flow from the applicant’s land after October 1, continued OWRD opposition would be another example of the double standard on instream transfers. Finding a definitive answer requires a factual determination of historical irrigation practices in the area. However, the Trust’s assumption that irrigation ends on October 1 is likely supportable—by October, temperatures are moderating, rains are returning, and downstream irrigators are less likely to rely on the small contribution in return flow from the applicant’s land.¹⁶⁸ No definitive answer is necessary, however, for the discussion to provide important guidance. Four more “guideposts” for instream transfers arise from the scenario.

¹⁶⁴ Paulus Interview, *supra* note 89.

¹⁶⁵ Renken v. Young, 711 P.2d 954, 960 (Or. 1985) (stating irrigation season may be set by judicial decree). Individual rights may have their own limitations separate from the decree, but will never exceed the irrigation season set by the decree.

¹⁶⁶ In the Matter of the Determination of the Relative Rights to the Use of Waters of the Walla Walla River and Its Tributaries, A Tributary of the Columbia River, State Eng’r of Or., Umatilla County 75, 77 (Dec. 12, 1930) (Findings and Order).

¹⁶⁷ *Id.* at 76–77.

¹⁶⁸ In the Cuenca tables, this phenomenon is expressed as a reduced Crop E_T —in other words a reduced crop need for water. CUENCA, *supra* note 66, at 2.

a. The Standard for Proving Return Flow Requires More Than Mere Speculation

As the Walla Walla scenario demonstrates, the presence of return flow depends on a number of site-specific hydrologic and topographic variables and cannot be theoretically assumed or taken for granted.¹⁶⁹ Site-specific analysis is necessary to determine the existence, amount, and timing of return flow. Basin-wide observations are insufficient and the person opposing the transfer on the basis of return flow must offer more than “mere speculation” about the flows’ existence.¹⁷⁰ Therefore, in the face of opposition from OWRD, the applicant seeking an instream transfer should ask OWRD to provide more than speculative evidence—more than the local watermaster’s “gut” feeling—that there is return flow.

b. Timing of Return Flow Must be Taken into Account

When water is removed from a source either permanently or for long enough that it returns to the source only after irrigation ceases for the year, that amount of water should be counted as consumptive use and should *not* be subtracted from a proposed instream transfer as presumed return flow available to other users. Watermasters are often more conservative than this, using the Cuenca tables to determine crop E_T of specific crops in a transfer proceeding and using this number alone to determine how much water is available for transfer. The flaw in this approach is that it assumes all water not consumed by plants returns to the source, and does so in time for downstream users to divert and use the water during irrigation season. Crop E_T should be a starting place in determining injury based on the presence of return flow, but relying on this number alone oversimplifies the analysis. To the extent that return flow will not return to the source before the end of irrigation season, the entire water right should be protectable instream.

c. Instream Applicants Should Pay Close Attention to Irrigation Season Limitations

Analyzing the timing of return flows requires that the applicant know whether an official irrigation season is set by decree or included in the water right itself, or alternatively, what the prevailing local practices dictate. In the Walla Walla transfer, the Trust ran headlong into the problems caused by a year round irrigation season. If the Walla Walla decree, like many other decrees in Oregon, ended the irrigation season on October 1, the Trust’s model would have met less resistance from OWRD. Knowing the irrigation season is also important for applicants seeking to transfer a right instream and change

¹⁶⁹ DINGMAN, *supra* note 59, at 220.

¹⁷⁰ Proposed Order, *supra* note 119, at 16–17.

the “shape” of the right because the shape will be restricted by the irrigation season if it is limited.

d. Return Flow Entering the River at a Point Above a Downstream Junior’s POD Should be Subtracted to the Extent of Potential Injury

With all that has been said about when return flow should *not* be subtracted from an instream transfer, it would be irresponsible to ignore situations where return flow should be subtracted to protect other river users. Proven return flow—flows demonstrated by affirmative evidence—should be subtracted from the amount of water available for transfer to avoid injury to downstream appropriators.¹⁷¹ This is appropriate for transfers to either instream or different consumptive uses or places of use. OWRD’s policy “works backward from the full face value of a water right, presuming all other transfer application criteria are met, limiting the proposed transfer to the extent that injury is found.”¹⁷² For instream transfers in particular this means reducing the amount that will be protected instream by the amount of proven return flow legally and actually relied upon by other water users. However, this process need not be static; dynamic compromises are possible when parties are willing to work together. For instance, instream rights may be separated into distinct reaches defined by where return flow enters the river.¹⁷³ If the exact location of the return flow is known, the full amount of the water right may be protected instream from the old POD down to this point, and the instream right can diminish thereafter.¹⁷⁴ On the other hand, if the exact point of return for return flow is unknown, it may be appropriate to reduce the instream right at the old POD to account for uncertainty.¹⁷⁵ However this is done, instream transfer and consumptive use transfers should be treated the same.

IV. ACHIEVING STREAMFLOW PROTECTION BY MODELING SUCCESS

The final section of this Comment will explore the future of streamflow protection in Oregon. Perhaps the greatest step Oregon could take toward

¹⁷¹ Rebuttal testimony of Thomas J. Paul, *supra* note 139, at 5.

¹⁷² *Id.*

¹⁷³ OR. ADMIN. R. 690-077-0075(2)(c)(B) (2006) (“Where an instream water right passes through an area of known natural losses these losses shall be prorated between the instream water right and the balance of the available flow.”).

Where return flows occur at a definite point, a substantial distance below the point of diversion, an instream water right may be defined by more than one reach, for example one reach from the point of diversion to the location of the return flow and another from this point to the mouth of the stream.

Id. at 690-077-0075(2)(b)(B).

¹⁷⁴ *Id.* at 690-077-0075(2)(c)(A).

¹⁷⁵ *Id.*

more effective management of water rights—both in and out-of-stream—is implementation and strict enforcement of a comprehensive metering and reporting requirement.¹⁷⁶ The impact of such a law would likely be immediate—rivers dewatered by wasteful, unregulated consumptive uses would have the chance to flow again and junior instream and out-of-stream rights that have gone unsatisfied for decades might be fulfilled. With a clearer picture of actual water use and availability, resource management decisions could be more responsive and accurate. That said, large-scale changes like comprehensive metering take time and streamflow protection cannot wait. Creative solutions within the existing legal and regulatory context are necessary.

The evolution of the water trust concept, employing cooperative, market-based, approaches to arrive at these solutions, is a primary innovation.¹⁷⁷ Two examples in the following discussion illustrate the creativity necessary to increase streamflow protections under the current regime. In the John Day Basin in central-eastern Oregon, the Oregon Water Trust recently finalized a deal on the Austin Ranch to shorten the irrigation season for the use of several water rights, thereby leaving water instream during key parts of summer. This transaction exemplifies creative application of the transfer laws respecting existing rights while increasing streamflow protection. Farther north and east from the John Day Basin in the Lostine River Valley, the Oregon Water Trust brokered another unique deal with a large number of landowners who agreed to limit their late-summer diversions to maintain a specified amount of water in the Lostine River. This deal demonstrates the potential for purely private agreements to achieve instream protection outside the boundaries of the law.

The next sections discuss three successful examples of the above-mentioned strategies. First, Washington State's measurement program is analyzed. Next, the two Water Trust deals are examined in detail.

A. A Measurement Model: Washington's Measurement Requirement

In 1993, Washington enacted a requirement of “metering of diversions or measurement by other approved methods” as a requirement for all new surface water rights and for some existing rights as well.¹⁷⁸ The law requires measurement of new surface water permits, new and existing surface water rights in waters containing depressed or critical salmonid stocks, new and existing groundwater rights where withdrawal could affect depressed or critical salmonid stocks, and existing surface water rights where the diversion exceeds 1 cfs.¹⁷⁹ In contrast, Oregon has no comprehensive surface measurement requirement. Through permit conditions and other

¹⁷⁶ Russell, *supra* note 24, at 188.

¹⁷⁷ For a detailed discussion of the genesis of the water trust movement and the Oregon Water Trust in particular, see Neuman & Chapman, *supra* note 19, at 139 and Neuman, *supra* note 19, at 442.

¹⁷⁸ WASH. REV. CODE § 90.03.360(1) (2006).

¹⁷⁹ WASH. ADMIN. CODE 173-173-040 (2005).

sporadic regulations, Oregon measures only 8% of combined surface and groundwater rights accounting for only 46% of the water subject to diversion.¹⁸⁰ Much of this measurement is of municipal water use and groundwater wells. OWRD has also inventoried “significant”¹⁸¹ diversions, but has yet to impose measurement requirements.

The ineffectiveness of Oregon’s measurement program stems from the types of water uses measured. Small, salmon-supporting creeks in rural parts of the state, which is a majority of the streams that groups like the Oregon Water Trust work on, have few municipal water withdrawals. Instead, these streams are dewatered by small irrigation diversions, often diverting more than their certificated right. Without a comprehensive metering requirement, irrigators are left to divert as much water as their ditch can handle.¹⁸² Unless another user calls for regulation, this unlawful practice often goes unnoticed.¹⁸³ Non-enforcement against unlawful diversion is the most significant symptom of Oregon’s measurement failure and instream rights will bear the brunt of the impact. Relying on self-policing by irrigators lacking accurate information and with little incentive to minimize diversion and use results in instream rights throughout the state not being met despite water availability.

By 2002, Washington had issued administrative orders for 903 water rights representing 80% of total estimated water diversions in its fish critical basins.¹⁸⁴ Perhaps more importantly, Washington provided more than \$3,000,000 in financial assistance to help defray the costs of installing metering equipment.¹⁸⁵ Both the number of administrative orders, and the financial commitment demonstrate that Washington has a significant head start over Oregon in instituting meaningful water measurement. Oregon’s current scattered measurement requirements lack focus, comprehensiveness, and financial backing. Oregon would benefit from a more targeted measurement approach modeled on Washington’s laws. Specifically, OWRD should focus on small, fish producing streams where incremental increases in instream water would have large impacts.

B. Austin Ranch: Changing Use Without Risk of Injury

While many instream transfers are limited by injury considerations to small amounts of water, the Oregon Water Trust recently completed a deal on the Middle Fork of the John Day River and two important tributaries to protect as much as 10 cfs instream during the driest months of the summer.

¹⁸⁰ See NORRIS, *supra* note 79, at 2.

¹⁸¹ See *id.* at 1.

¹⁸² See Janet C. Neuman, *Beneficial Use, Waste, and Forfeiture: The Inefficient Search for Efficiency in Western Water Use*, 28 ENVTL. L. 919, 955–56 (1998) (discussing the catch-22 faced by users who want measurement of “that other guy[s]” water use but hesitate at the thought of their own use being measured).

¹⁸³ See Russell, *supra* note 24, at 173 (describing the rarity of enforcement of wasteful use).

¹⁸⁴ WASH. STATE DEP’T OF ECOLOGY, REPORT TO THE LEGISLATURE: ACTIONS AND PROGRESS ON WATER USE—EFFICIENCY 14 (2003), available at <http://www.ecy.wa.gov/pubs/0311014.pdf>.

¹⁸⁵ *Id.* at 15.

Beginning July 20 of every year, Austin Ranch, with a senior water right, will stop diverting water from the Middle Fork and from two mountain tributaries.¹⁸⁶ Shortening their irrigation season may require Austin Ranch to reduce the number of livestock they raise by approximately 20%.¹⁸⁷ The Trust has compensated them monetarily for this change. The agreement is a simple and *permanent* change in the season of use of the water rights.¹⁸⁸ To effectuate the change, Oregon Water Trust and the landowner submitted an affidavit to OWRD to “abandon” use of the water right during the late summer months.¹⁸⁹ OWRD will not need to regulate other water users to enforce the 10 cfs instream, so injury considerations did not affect the change.

The added flow late in the summer will ensure that downstream irrigation withdrawals do not dewater the river as long as the downstream irrigators stay within their legal limits. The Oregon Water Trust and the owners of the Austin Ranch are confident the deal will result in “real” streamflow. No new appropriations are allowed in the John Day Basin¹⁹⁰ so the water that was previously diverted by the ranch is not subject to new appropriation downstream. Even if the water were subject to appropriation, the adjacent downstream water right holders are conservation entities such as the Nature Conservancy and the Warm Springs Tribe who are not interested in out-of-stream uses.¹⁹¹ The next out-of-stream user is twenty miles downstream.¹⁹² Most importantly, the project has qualitative benefits on top of any increase in water quantity. Increased flows in the two mountain tributaries will improve fish habitat by adding much-needed cold water to entice migrating salmon.¹⁹³ These qualitative benefits may be felt up to seventy miles downstream.¹⁹⁴

¹⁸⁶ OR. WATER TRUST, AUSTIN RANCH PROJECT PROFILE 1 (Feb. 2, 2006) [hereinafter AUSTIN RANCH PROFILE] (on file with author).

¹⁸⁷ *Id.*

¹⁸⁸ *Id.*

¹⁸⁹ See OR. REV. STAT. § 540.621 (2005) (confirming that when an owner certifies under oath that he has abandoned the water right and desires cancellation thereof, the commission “shall enter an order canceling the water right”). OWRD allowed the landowner to “abandon” use of the water beginning on July 20. AUSTIN RANCH PROFILE, *supra* note 186, at 1. The parties called this surrendering of late season water a “partial season diminishment” rather than an outright abandonment. Paulus E-mail, *supra* note 123.

¹⁹⁰ OWRD has statutory authority to withdraw waters from availability for appropriation. OR. REV. STAT. § 536.410(1) (2005). OWRD calculates water availability using an 80% exceedance rule. OR. ADMIN. R. 690-400-010 (11)(a)(A) (2006). When “the quantity of surface water available during a specified period is not sufficient to meet the expected demands from all water rights at least 80 percent of the time,” the river is considered “over-appropriated” and is closed to future appropriations. *Id.*

¹⁹¹ Paulus E-mail, *supra* note 123.

¹⁹² *Id.*

¹⁹³ AUSTIN RANCH PROFILE, *supra* note 186, at 2.

¹⁹⁴ *Id.*

C. Private, Market Solutions on the Lostine River

The Oregon Water Trust's work on the Lostine River in northeastern Oregon is unique, involving a private agreement not requiring OWRD approval and an unheard of number of participant-landowners. Seeking to avoid federal regulatory intervention on behalf of listed anadromous fish species, irrigators along the Lostine River met with the Oregon Water Trust to discuss options for increasing summer streamflows.¹⁹⁵ The result of these meetings was a deal involving five ditch companies and more than one hundred landowners.

Rather than pursuing short-term, instream leases, each involving a potentially complicated transfer analysis, the parties agreed to enter a contract requiring no OWRD approval. With the help of local fish biologists and Indian tribes, the parties set a goal of keeping 15 cfs instream during the late summer.¹⁹⁶ Accomplishing the desired streamflow involved careful monitoring and day-to-day adjustment of the amount of water diverted out-of-stream. OWRD participated by installing a stream-flow gauge above the irrigators' diversions and paying an independent hydrologist to monitor flows twice daily. The hydrologist relayed his flow readings to the heads of the five ditch companies encompassing all of the irrigators. Based on these readings, the irrigators controlled their withdrawals—always trying to leave 15 cfs instream. In return, the Oregon Water Trust compensated the irrigators for each day during the contract period that the goal was met.

The Lostine deal is remarkable in two ways. First, using private contracts outside OWRD's leasing program was previously unheard of. The high participation by irrigators demonstrates the power of using individualized market incentives to drive water apportionment decisions. Protecting habitat has market value to landowners who might otherwise face sanctions. At the same time, the cooperative solution respected the landowners' way of life—leaving the ultimate decision of whether to meet the daily goal in the hands of the irrigators. Second, the Lostine deal highlights the potential of comprehensive metering and reporting to promote effective water distribution. Real-time knowledge of streamflow conditions was essential for the landowners to meet the daily goal. The task is similar throughout the state. The constant flux of water availability necessitates accurate measurement and, in turn, accurate measurement ensures impartial and effective distribution.

Several drawbacks take away from the Lostine project's success. The deal was limited to one summer. Absent another agreement, the Lostine River is not protected for the future.¹⁹⁷ The arrangement was also expensive.

¹⁹⁵ Joe Rojas-Burke, *Salmon, Ranchers Win in Deal*, THE OREGONIAN, Oct. 23, 2005, at B1.

¹⁹⁶ *Id.*

¹⁹⁷ At the time this Comment was published, the parties were in talks to renew the agreement on similar terms for the 2006 summer irrigation season. The irrigators, with help from the Nez Perce Tribe, are also pursuing a long-term funding solution from Bonneville Power Administration for ditch lining, improving headgates, and rebuilding diversion structures. E-mail from Ryland Moore, Project Manager, Or. Water Trust, to author (Mar. 31, 2006) (on file with author).

The Oregon Water Trust paid more than \$100,000 for one summer of instream flow protection.¹⁹⁸ This level of financing is not sustainable on a long-term basis. Finally, many irrigators were unsatisfied with how the water was apportioned.¹⁹⁹ Some felt cheated when flows in the Lostine exceeded 15 cfs feeling that water was being left instream that should have been used for irrigation. Of the five ditch companies participating in the deal, only one was equipped with a modern diversion capable of accurate metering. If all the ditch companies had similar equipment, the resulting accuracy of distribution would obviate the need to overshoot the daily goal and would result in more water availability for irrigators.

Despite these drawbacks, the Lostine River deal, as well as the Austin Ranch deal, are models for achieving streamflow protection by working “outside the box.” Any solution that balances instream uses with respect for existing consumptive uses involves trade-offs on both sides. Both of the Trust’s deals show that the two sides, irrigators and streamflow protection advocates, are willing to make these sacrifices in the name of mutual benefit.

V. RECOMMENDATIONS FOR THE FUTURE

Recommendations based on the forgoing discussion are two-tiered. On the first-tier are recommendations to change the way instream rights are administered. These changes require institutional and political changes—changes that take time and steady pressure from advocates. The second-tier of recommendations are modeled after successes within the existing regime. The successes on the John Day and Lostine Rivers exemplify the future of streamflow protection in Oregon and the West. Both solutions avoid injury to existing uses without necessitating OWRD scrutiny or implicating OWRD’s administrative policy hurdles.

A. First-Tier Recommendations

1. Enact a Comprehensive Measurement Requirement

Washington’s model and the success of measurement on the Lostine River underline the need for accurate measurement in Oregon. Improving the availability and accuracy of information about water withdrawals would have an immediate effect on the distribution of water. Unlawful diversions and waste would decrease and instream and consumptive water uses both would experience higher rates of satisfaction. The common criticism of this proposition is that it will be too costly—either water right holders will be forced to bear the burden or the state will have to take money away from other important initiatives. However, spending money on measurement makes sense as a public expenditure because it avoids unseen costs

¹⁹⁸ *Id.*

¹⁹⁹ *Id.*

associated with unlawful water use and provides valuable benefits. Before implementing its measurement requirement, Washington examined several areas within the state where intense regulation, including measurement, was already being implemented and found that fishery benefits alone could amount to upwards of \$18.1 million in a single basin.²⁰⁰ Other benefits may be less quantifiable but no less important, such as increased water availability during future droughts.

2. Treat Instream Transfers Equally with Consumptive Uses in Transfer Proceedings

This Comment outlines numerous examples of disparate treatment of instream transfers despite the mandate that instream rights are legally equal. Several specific changes would make huge strides towards leveling the playing field: 1) Molding injury analysis to better reflect site-specific hydrology and patterns of use by codifying the standards and burdens of proof OWRD must meet to prove injury or enlargement; 2) doing away with caps on total instream rights such as the ENAF policy which discourage instream protection and are not applied to other consumptive uses and; 3) limiting application of the limited forfeiture law's "ready, willing, and able" language to consumptive uses rather than instream uses. The important thing to recognize about each of the policies these changes address is that they represent OWRD's choices. The law does not compel the strict application of the ENAF policy, nor does it compel application of the "ready, willing, and able" language to instream rights. Our water use priorities are slowly shifting away from total consumptive use and OWRD should embrace this shift and lead the way in encouraging it rather than shying away.

B. Second-Tier Recommendations

1. Strive for Creative Solutions Within the Existing Legal and Regulatory Regime

Asking for large-scale policy change is a long-term solution. In the short-term, success requires familiarity with the spectrum of potential challenges to instream deals and the foresight to maneuver through them. Where possible, projects should be designed that do not implicate the "no injury" rule. Projects that effectively put water instream without creating official "instream rights," like the Oregon Water Trust's change in season of use on the Austin Ranch, avoid many complications. Before applying for an instream right, practitioners should ask if any changes can be made to the existing use to achieve the desired streamflow without implicating injury analysis. Possibilities include changing the season of use, split-season leasing, and outright cancellation of

²⁰⁰ WASH. DEP'T OF ECOLOGY, EVALUATION OF PROBABLE BENEFITS AND COSTS 3 (Nov. 19, 1991), available at <http://www.ecy.wa.gov/programs/WR/measuring/images/pdf/cost%20benefit.pdf>.

rights in basins where new appropriations are barred.

2. Look for Private Solutions

The Oregon Water Trust's Lostine River deal highlights a new avenue for streamflow enhancement. For emergency situations or other short-term water requirements, private contracts provide a powerful and flexible tool. The range of potential agreements is vast. Examples include compensating irrigators for self-policing and maintaining instream goals, compensation for installing metering equipment and reporting use, or rotational irrigation agreements where each of several irrigators agrees to forgo water on a seasonal schedule. The key to finding these solutions is working with irrigators themselves to pinpoint where their interests and the interests of those advocating streamflow enhancement intersect.

VI. CONCLUSION

Advocates for streamflow protection must recognize the sea of change instream rights are bringing upon Western water law. The disconnect between using a system honed to distribute water *out* of rivers, to leave water *in* rivers for ecological benefit, is obvious from the preceding discussion of the confluence of theory and practice. Each new instream transfer calls upon the parties and OWRD to stretch the limits of existing laws to accommodate new values while trying to protect old ones. In light of this, OWRD should be highly commended for working with instream transfer applicants and groups like the Oregon Water Trust. Oregon's status as the first state to create instream water rights gives it a valuable head start in the movement to shift away from total consumptive use to a more sustainable balance. As a result, the amount of water left instream in Oregon is increasing each year. However, without continued innovation in the regulation and administration of water both instream and out, the risk of reaching a plateau is real. Hopefully, the lessons learned at the confluence of theory and practice are a starting place for these changes.