COMMENT

OVERDRAFTING OREGON: THE CASE AGAINST GROUNDWATER MINING

BY

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People in the western United States rely on groundwater for agricultural, domestic, and conservation uses. Achieving balance among these often-competing interests is largely left to state legislatures and agencies. Oregon regulates groundwater according to a permit system based on prior appropriation. In some groundwater-dependent areas of the state, wells are drying up, and stream-levels and water tables are dropping. Oregon's aquifers are at risk of overdraft. Still Oregon's Water Resources Department has been approving new-use permits, allowing additional groundwater withdrawals, when it does not have sufficient information to determine that water is available. This Comment analyzes Oregon's governing statutes and regulations, and concludes that Oregon law prohibits groundwater mining and that Department's policy runs afoul of that prohibition. Comparing Oregon's groundwater law to other western states' law, the Article suggests that Oregon's legislature or the Water Resources Department should incorporate groundwater management mechanisms from these states to better enforce Oregon's groundwater mining prohibition.

* J.D. Lewis & Clark Law School 2017. *Environmental Law* Notes & Comments Editor, 2016–2017. This Comment and its title were inspired by *Draining Oregon*, an Oregonian investigative series by Kelly House and Mark Graves. This Comment aspires to provide a legal counterpart to the reportage of House and Graves. The Author would like to thank Professor Michael C. Blumm for introducing her to this issue and for his guidance and support through the writing process. She would also like to thank Lisa Brown of WaterWatch of Oregon for her insight and expertise.

"Giving away water with abandon has failed Oregonians repeatedly."[1]

I. INTRODUCTION

Groundwater—historically considered an elusive and secretive resource[2]—has made an uncharacteristically conspicuous splash in Oregon's mainstream news. *Draining Oregon*, an investigative series by the *Oregonian's* Kelly House and Mark Graves, brought to the surface the underground-water crisis in the arid regions of central and eastern Oregon. Oregon's Water Resources Department (the Department)—the agency that

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[1] Kelly House & Mark Graves, *Draining Oregon* (pt. 1), OREGONIAN (Aug. 26, 2016) [hereinafter House & Graves, *Water Giveaway*], https://perma.cc/A9ZZ-N5KQ.

[2] *See, e.g.*, Frazier v. Brown, 12 Ohio St. 294, 311 (Ohio 1861) ("Because the existence, origin, movement and course of [underground] waters, and the causes which govern and direct their movements, are so secret, occult and concealed, that an attempt to administer any set of legal rules in respect to them would be involved in hopeless uncertainty, and would be, therefore, practically impossible."), *overruled by* Cline v. Am. Aggregates Corp., 15 Ohio St. 3d 384 (Ohio 1984).

allocates and regulates water rights—has been giving away water where it cannot determine whether water is available to give.[3] This practice both threatens Oregon's groundwater supplies and violates Oregon's water code.

As the *Draining Oregon* series warned, if the Department continues to over-allocate groundwater, Oregon's groundwater supplies could be irreversibly depleted.[4] Over-allocation of underground aquifers can lead to groundwater mining, or pumping more water out of an aquifer than it can naturally recharge.[5] For agriculturalists who depend on aquifers to support their crops, for homeowners who depend on wells for their domestic use, and for wildlife dependent on interconnected surface water for life, groundwater mining poses a critical threat.[6]

The effects of groundwater mining are apparent in Oregon where water has been over-allocated. In Harney County for instance, where the Department granted too many new permits, household wells are drying up.[7] Concerned about over-allocation, WaterWatch of Oregon filed multiple protests against new groundwater applications, and the Department stopped issuing new-use permits for Harney County in 2015.[8] The moratorium will continue until the Department can study the area and determine whether current water usage is causing the well-lowering and other water-scarcity issues in the region.[9] In the Fifteenmile Creek Basin, where steelhead have adopted unnatural spawning and migration patterns in response to a lack of water, over-allocating groundwater has exasperated surface water shortages.[10] Scientists worry that fish runs all over the state could suffer the same consequences if water tables continue to drop from mining.[11] The

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3 House & Graves, *Water Giveaway*, *supra* note 1.

4 *Id.* (quoting Joe Whitworth, president of The Freshwater Trust, a Portland-based conservation group) ("We're basically writing checks we know we don't have money in our account to cover. . . . Eventually, they're going to bounce."); *see also* BARTON H. THOMPSON, JR. ET AL., LEGAL CONTROL OF WATER RESOURCES: CASES AND MATERIALS 445 (5th ed. 2013) ("[S]ome aquifers are 'recharged,' or replenished, very slowly or not at all." Pumping water from these aquifers may amount to mining a non-renewable resource, much as petroleum or gold is mined.").

5 *See* Kelly House, *Draining Oregon* (pt. 5), OREGONIAN (Aug. 26, 2016), https://perma.cc/3WHD-3G5T (finding that in many areas in eastern-Oregon the "legally permitted pumping volumes" exceed "the state's best estimate of what Mother Nature replenishes each year through rain and snow"); *see also* Barton H. Thompson, Jr., *Tragically Difficult: The Obstacles to Governing the Commons*, 30 ENVTL. L. 241, 250 (2000) (describing groundwater as a "natural commons" and noting the potential consequences of overdrafting aquifers).

6 *See* House & Graves, *Water Giveaway*, *supra* note 1.

7 Kelly House, *Draining Oregon* (pt. 2), OREGONIAN (Aug. 26, 2017), [hereinafter House, *Harney County Casualty*], https://perma.cc/V235-6V76; *see also* Thompson, *supra* note 5, at 250 ("Such overdrafting of aquifers can have adverse consequences to both the users of the groundwater and third parties. Overdrafting lowers the water table, forcing water users to pump the groundwater up greater distances at greater cost.").

8 House, *Harney County Casualty*, *supra* note 7.

9 House & Graves, *Water Giveaway*, *supra* note 1.

10 Kelly House, *Draining Oregon* (pt. 3), OREGONIAN (Aug. 26, 2016) [hereinafter House, *Fifteenmile Creek*], https://perma.cc/CNW7-D9HD.

11 *Id.*

authors of *Draining Oregon* reported that the Department's unofficial policy for approving new groundwater-use permits without knowing how much water is available allows groundwater mining.[12]

Because Oregon's water is a public resource,[13] each groundwater use requires a Department-issued permit or certificate which the agency approves according to Oregon's water code and the implementing regulations.[14] Unfortunately, the Department has been issuing new-use permits even when, by its own assessment, there is insufficient information to determine whether the new use can be fulfilled.[15] Put another way, when the Department has insufficient data to determine whether there is enough water to support the proposed use without harming existing uses, it opts for "yes, water is available."

No Oregon appellate court has yet decided whether this unwritten "opt-for-yes" policy violates Oregon's water code. But, as discussed below, the statutes and regulations governing groundwater forbid groundwater mining. For instance, Oregon's water code requires that beneficial use be "within the capacity of available sources."[16] It also requires that the Department make an affirmative finding that water is available before issuing a permit.[17] The opt-for-yes policy ignores these requirements.

This Comment argues that the Department's opt-for-yes policy is therefore illegal. Part II describes Oregon's current permit process, as exposed by the *Draining Oregon* series and legal challenges to the Department policies. Part III analyzes how the Department's opt-for-yes policy conflicts with Oregon's statutory and regulatory groundwater controls. This Part focuses on water availability requirements at various steps of Oregon's water-rights permit process. It concludes that the opt-for-yes policy violates those requirements. Part IV compares aspects of Oregon's groundwater management to other western states' more protective groundwater management and suggests that Oregon's legislature should incorporate anti-mining mechanisms from Idaho, Washington, Arizona, and Colorado into Oregon water law. The Comment concludes by suggesting steps the Department, the Oregon Legislature, and/or the Oregon Courts should take to stop and prevent groundwater mining in Oregon.

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12 House & Graves, *Water Giveaway*, *supra* note 1.

13 OR. REV. STAT. § 537.110 (2015) ("All water within the state from all sources of water supply belongs to the public."); *id.* § 537.525 ("[T]he right to reasonable control of all water within this state from all sources of water supply belongs to the public.").

14 *Id.* § 537.615(1), (7). The Department processes new-use permit applications "using a combination of basin rules, water availability reports, and public interest review." OR. WATER RES. DEP'T, WATER RIGHTS IN OREGON: AN INTRODUCTION TO OREGON'S WATER LAWS 19 (2013) [hereinafter WATER RIGHTS IN OREGON], https://perma.cc/NE5N-NC68.

15 Kelly House, *Draining Oregon* (pt. 4), OREGONIAN, (Aug. 26, 2016) [hereinafter House, *No Money to Measure*], https://perma.cc/UQ2C-P469.

16 OR. REV. STAT. § 537.525(3).

17 *Id.* §§ 537.135(3), .525(3).

II. BACKGROUND: OREGON'S PERMIT PROCESS, ADMINISTRATIVE PROCEDURES ACT, AND "OPT-FOR-YES" POLICY

Oregon allocates groundwater rights according to a permit system.[18] To issue a new permit, the Department must follow statutorily prescribed procedures and adhere to its own regulations.[19] If the Department fails to follow those procedures or acts inconsistently with its own regulations, then its action may be subject to judicial review under Oregon's Administrative Procedures Act.[20] For instance, permits issued under the Department's opt-for-yes policy can be challenged under the Act, and—as discussed in Part III—should be reversed by the reviewing court.

A. An Overview of Oregon's Groundwater Rights Permit Process

At various stages of review within the permit process, the Department must consider the amount of water, if any, that is still available for appropriation.[21] Most new "use[rs] must first obtain a permit from [the Department] to use water lawfully."[22] In addition to specifying an amount of water and conditions for its use, Department-issued permits secure for the permit holder a priority date—which safeguards the permit holder's right to water against permit holders whose priority dates are later.[23] In other words, a new or "junior" user will receive water only when there is sufficient water to fulfill the existing or "senior" user's needs.[24]

Permit applicants must provide specific information about themselves, the proposed use, and the timeline for construction. As to the proposed use, applicants must describe the nature of the proposed water use, the "amount of ground water claimed," a "description of the lands to be irrigated" including acreage, descriptions of the proposed wells, and a map or drawing showing "the proposed point of diversion and place of use."[25] Department rules also require information about the proposed water sources,[26] "why the amount of water requested is needed, measures the applicant proposes prevent waste, to measure the amount of water diverted, to prevent damage to aquatic life and riparian habitat" and potential mitigation measures to

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18 *Id.* § 537.130(1).

19 *Id.*; JANET NEUMAN, OREGON WATER LAW: A COMPREHENSIVE TREATISE ON THE LAW OF WATER AND WATER RIGHTS IN OREGON 59, 128 (2011). Part II.A, which discusses the permit process, relies heavily on Professor Neuman's treatise.

20 *Id.* at 64, 128; OR. REV. STAT. §§ 183.310–.750.

21 OR. REV. STAT. §§ 537.153(2)–(3), .170(8), .190(1).

22 NEUMAN, *supra* note 19, at 59. Some uses, including stock watering, lawn watering below a half-acre, watering school grounds, and some domestic uses are exempt from Department regulation. OR. REV. STAT. § 537.545.

23 NEUMAN, *supra* note 19, at 68. The priority date relates back to the date the Department received a complete application from the applicant. OR. REV. STAT. § 537.620(2)).

24 WATER RIGHTS IN OREGON, *supra* note 14, at 5.

25 OR. REV. STAT. § 537.615.

26 OR. ADMIN. R. 690-310-0040(1)(a)(B) (2016).

"prevent damage to public uses of affected surface waters."[27] Once submitted, the Department reviews the application for completeness.[28]

If the application is complete, the Department has thirty days to conduct and complete an initial review.[29] Water availability is an immediate concern. During this initial review the Department determines "whether there are any obvious barriers to the proposed use,"[30] including whether "water is available from the proposed source during the times and in the amounts requested."[31] Other barriers include statutory or regulatory limits on the proposed use, whether the specific source is over-appropriated—e.g., a critical groundwater area.[32] The Department at this first stage may also consult with other state agencies.[33] Once the Department concludes the initial review, it sends its findings to the applicant.[34] If the applicant chooses to move forward with the application, the Department has seven days to publish a public notice of its initial review, which is then made available for public review and comments.[35]

After the notice is published and comments are considered, the Department conducts a secondary review.[36] For thirty days of this second stage, "any person interested in the application" may submit comments to the Department.[37] The Department also conducts its own public interest review.[38] At this stage too, the Department must find that water is available to move on to the next stage of review.[39] As discussed below, if and only if among other prerequisites, "water is available, the use will not injure other water rights, and [the use] complies with [the Department's] rules," the Department then begins its public interest review "with a presumption that a proposed use will *not* impair the public interest."[40] Once its secondary

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27 OR. ADMIN. R. 690-310-0040(1)(a)(K).

28 OR. REV. STAT. § 537.620(2).

29 *Id.* § 537.620(4)–(5).

30 NEUMAN, *supra* note 19, at 62.

31 OR. REV. STAT. § 537.620(4)(b).

32 *Id.* § 537.620(3)–(4).

33 RICK BASTASCH, THE OREGON WATER HANDBOOK: A GUIDE TO WATER AND WATER MANAGEMENT 93 (rev. ed. 2006).

34 OR. REV. STAT. § 537.620(5).

35 *Id.* § 537.620(6). The Department must also "transmit notice to federal, state, and local agencies (including local planning departments) that may be affected by the application . . . [and] any property owners whose land may be crossed, affected Indian tribes, and people on the Department's weekly mailing list." Adell Amos, *Freshwater Conservation in the Context of Energy and Climate Policy: Assessing Progress and Identifying Challenges in Oregon and the Western United States*, 12 U. DENV. WATER L. REV. 1, 24 (2008) (citing OR. ADMIN. RULE 690-310-0090(1)–(2) (2008)).

36 OR. REV. STAT. § 537.621(1).

37 Comments must be submitted within thirty days of the Department's public notice of its intent to proceed with the application. *Id.* § 537.620(7).

38 *Id.* § 537.621(2).

39 *Id.*

40 NEUMAN, *supra* note 19, at 63 (citing OR. REV. STAT. § 537.621(2)). As discussed further *infra* Part II, this presumption is rebuttable by a preponderance of the evidence that either "[o]ne or more of the criteria for establishing the presumption are not satisfied" or "[t]he

review is complete, the Department issues a proposed final order, which may deny the permit, approve the permit, or approve the permit with conditions.[41] Along with its decision, the Department must publish findings of fact and conclusions of law, including "an assessment of water availability and the amount necessary for the proposed use," and the proposed interest's potential effect on existing water rights and the public interest.[42]

Following an additional round of public comment on the proposed final order, and within forty-five days of its publication, "any interested person" may file a protest.[43] If no protests are filed, the Department issues its final order.[44] But if a protest is filed, and the concerns within it cannot be resolved at the agency level—among the protestant, the applicant, and the Department—the Department may schedule a contested case hearing.[45] At the contested case hearing, the protestant, applicant—and interested persons whom the presiding Administrative Law Judge (ALJ) grants standing to participate[46]—present their arguments to the ALJ.[47]

Once the ALJ makes her decision and issues her recommendations to the Department, the Department will issue a final order.[48] After the Department issues its order, any party to the contested case may file exceptions with the Oregon Water Resources Commission, which has sixty days in which to approve the order as it is, deny the exception, or to issue a modified order.[49] Once the Commission has completed its review, the Department's final order is subject to judicial review.[50]

B. Judicial Review Under Oregon's Administrative Procedures Act

Under Oregon's Administrative Procedures Act, an agency's final order is reviewed either by the Court of Appeals or by a county circuit court.[51] The

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proposed use would not ensure the preservation of the public welfare, safety and health." OR. REV. STAT. § 537.621(2)(a)–(b).

41 OR. REV. STAT. § 537.621(3)(f).

42 *Id.* § 537.621(3)(c)–(e).

43 *Id.* § 537.621(7)–(8).

44 *Id.* § 537.621(9)(a).

45 *Id.* § 537.621(9)(b); NEUMAN, *supra* note 19, at 64.

46 *See* OR. REV. STAT. ANN. § 537.622(2) (explaining that participation will be limited to applicants, protestants, and persons who requested standing prior to the start of the contested case proceeding).

47 *Id.* § 537.622(4) (explaining that parties must "raise all reasonably ascertainable issues and submit all reasonably available arguments supporting the person's position by the close of the protest period" or in the contested case hearing).

48 *Id.* § 537.625(1) (explaining that the final order can either approve the application or modify the proposed final order).

49 *Id.* § 537.626.

50 *See* NEUMAN, *supra* note 19, at 64. Any party with standing may challenge the Department's order in circuit court, if the order was issued without a contested case proceeding, or in the Oregon Court of Appeals, if the order was issued after a contested case proceeding. *Id.* (citing OR. REV. STAT. §§ 183.480, .484 (judicial review of contested cases and judicial review of final orders in other than contested cases).

51 OR. REV. STAT. §§ 183.480, .484.

reviewing court reviews a final order for "legal error, abuse of agency discretion, and lack of substantial evidence in the record."[52] When an agency is required to make a finding of fact, that finding must be supported by substantial evidence in the record.[53] Substantial evidence exists "when the record, viewed as a whole, would permit a reasonable person to make that finding."[54] If a factual finding in the final order is not supported by substantial evidence in the record, the reviewing court must set aside the order, or remand it to the agency for reconsideration, invalidating, at least temporarily, the agency's action or decision made in the final order.[55]

C. The Department's Opt-for-Yes Policy

As part of its groundwater permit application review, the Department produces a water availability report.[56] The water availability report form requires the groundwater reviewer to choose among three options "[b]ased upon available data" for each proposed use she reviews.[57] Groundwater may be: 1) "over appropriated," 2) "not over appropriated," or 3) "cannot be determined to be over appropriated."[58] Because water permits may not issue where water is over-appropriated, these options translate to: 1) water is unavailable for the proposed use; 2) water is potentially available for the proposed use (subject to other factors in the assessment); and 3) the Department cannot determine whether there is water available for the proposed use. Under the Department's opt-for-yes policy, when a groundwater reviewer marks the third option, the Department generally approves the permit.[59]

III. CONFLICTS BETWEEN THE DEPARTMENT'S OPT-FOR-YES POLICY AND OREGON WATER LAW

The Department's opt-for-yes policy violates multiple Oregon statutes and groundwater regulations. First, the Department's opt-for-yes policy is inconsistent with a statutory requirement that beneficial use be "within the capacity of available sources."[60] Second, the Department's opt-for-yes policy circumvents necessary steps in of Oregon's groundwater permit process—statutorily required water availability assessments. Third, the Department's opt-for-yes policy conflicts with the Department's administrative rules,

52 Norden v. State *ex rel.* Water Res. Dep't, 996 P.2d 958, 959–60 (Or. 2000) (citing OR. REV. STAT. § 183.482(8)); *see also* OR. REV. STAT. § 183.484(5).

53 OR. REV. STAT. §§ 183.482(8)(c), .484(5)(c).

54 *Id.*

55 *Id.*

56 *See, e.g.*, Michael Zwart, Or. Water Res. Dep't, Public Interest Review for Ground Water Applications, No. G-17188 (2009), https://perma.cc/8ZQ4-Z8TM.

57 *Id.* at 2.

58 *Id.*

59 House, *Harney County Casualty*, *supra* note 7.

60 OR. REV. STAT. § 537.525(3).

which have similar water-availability requirements.[61] The opt-for-yes policy should be invalidated if challenged under Oregon's Administrative Procedures Act.

A. Contravening Oregon's Express Public Policy

As Oregon's water code recognizes,

> [T]he right to reasonable control of all water within this state from all sources of water supply belongs to the public, and that in order to insure the preservation of the public welfare, safety and health it is necessary that . . . [b]eneficial use without waste, *within the capacity of available sources*, be the basis, measure and extent of the right to appropriate ground water.[62]

The code's provisions demonstrate that the legislature is not merely aspirational. Instead, the code stipulates that "[r]easonably stable ground water levels be determined and maintained" and that "[l]ocation, construction, depth, *capacity*, yield and other characteristics of and matters in connection with wells be controlled in accordance with the purposes set forth in this section."[63] The legislature's repeated reference to capacity and its concern for stable groundwater supplies through the Department's control requires the Department—which regulates all water rights within the state—to determine a source's capacity before issuing a water right, and to avoid groundwater mining.[64]

But the Department's opt-for-yes policy effectively ignores the capacity of groundwater sources. By marking that the groundwater source "cannot be determined to be over appropriated during any period of the proposed use,"[65] the groundwater reviewer indicates that a particular use may or may not be

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61 *See, e.g.*, OR. ADMIN. R. 690-410-0070(1) (2016) ("The waters of the state shall be allocated within the capacity of the resource and consistent with the principle that water belongs to the public to be used beneficially without waste."); OR. ADMIN. R. 690-410-0070(2)(b) ("The groundwater of the state shall be allocated to new beneficial uses when the allocations will not contribute to the over-appropriation of groundwater sources."); OR. ADMIN. R. 690-310-0130(1)(b) (listing water availability as a criterion for the public interest presumption); OR. ADMIN. R. 690-310-0150(2)(c) (requiring a water availability assessment as part of the proposed final order). For more discussion of this issue, see *infra* Part III.B.3.

62 OR. REV. STAT. § 537.525(3) (emphasis added).

63 *Id.* § 537.525(7), (10) (emphasis added).

64 *See, e.g.*, Doherty v. Or. Water Res. Dir., 783 P.2d 519, 524 (Or. 1989) (holding that the director's interpretation of capacity was a "correct rendering of legislative policy" when director declared a critical groundwater area).

> Overdrafting of available ground water supply is legislatively declared to affect public health, safety, and welfare. Excessive decline in ground water levels or interference between wells are also legislatively declared to affect public health, safety and welfare. The rational connection between the facts found, of excessive decline in water levels, and the choice made, of creating a critical ground water area so something may be done about it, is evident.

Id.

65 *See* Zwart, *supra* note 56.

within the source's capacity. Thus, although the legislature declared that the Department may only approve proposed uses that are within the capacity of sources,[66] the Department is allocating new permits when it does not have sufficient information on capacity. The Department is violating its governing statutes, which demand stable groundwater levels and decision making based on capacity.

Worse, the opt-for-yes policy nests within a large-scale "information void."[67] In many basins within the state, the Department relies on a 1968 United States Geological Survey report to determine water capacity.[68] Although the Department also uses observation wells and sub-basin studies, that it relies on this 1968 report at all is concerning; the report is gravely outdated and has proven inaccurate in some places.[69] Indeed, "scientific data on groundwater availability is limited" and "[g]iven the lack of data, there is concern that insufficient analysis goes into groundwater appropriation decisions."[70]

Oregon courts have recognized that the Department *must act* in accordance with the code's express public policy.[71] Although litigants will be unsuccessful if they seek to "have one of the Act's policies implemented to the exclusion of the other policies of the Act,"[72] the Department's opt-for-yes policy violates multiple, specific provisions of the Act because it ignores the "capacity of available sources" and fails to protect existing uses.[73] In addition to determining and maintaining relatively stable groundwater levels, the Department must ensure that "[d]epletion of ground water supplies below economic levels . . . be prevented or controlled within practicable limits."[74] As illustrated by the *Draining Oregon* series, farmers and homeowners alike are paying the price for Oregon's failure to regulate groundwater sustainably. In areas where the Department has "put on the brakes" after decades of inaction, "farmers, many of whom had bet on water rights for their livelihoods, lost out."[75] For instance, a farmer in Morrow County was

66 *See generally* OR. REV. STAT. § 537.525 (defining public policy for water appropriations).

67 House & Graves, *Water Giveaway*, *supra* note 1. Still, the Department relied on a 1968 United States Geological Survey report in halting new permits in Harney County, where the report suggested annual recharge was 85 billion gallons and the Department had permitted withdrawals totaling 96 billion gallons. *Id.* at 10.

68 *Id.* at 9–10; J.H. ROBINSON, U.S. DEP'T OF THE INTERIOR GEOLOGICAL SURVEY, 68-232, ESTIMATED EXISTING AND POTENTIAL GROUND-WATER STORAGE IN MAJOR DRAINAGE BASINS IN OREGON (1968), https://perma.cc/C2MA-MMUS.

69 House & Graves, *Water Giveaway*, *supra* note 1.

70 Amos, *supra* note 35, at 112. This lack of knowledge continues in part because "[f]ive out of six wells across the state are exempt" from measuring and reporting to the Department on how much water they pump. House & Graves, *Water Giveaway*, *supra* note 1.

71 Doherty v. Or. Water Res. Dir., 783 P.2d 519, 523–24, 528 (Or. 1989) (citing OR. REV. STAT. § 537.525) (upholding the director's implementation of a critical groundwater area because it "advance[d] relevant legislative policy").

72 WaterWatch of Or., Inc. v. Or. Water Res. Dep't, 852 P.2d 902, 905 (Or. Ct. App. 1993) (rejecting plaintiffs' request to uphold one policy over others).

73 OR. REV. STAT. § 537.525(2), (3), (5)–(9) (2015).

74 *Id.* § 537.525(7), (8), (10).

75 House & Graves, *Water Giveaway*, *supra* note 1.

left with "$250,000 in debt on an unused well" when the Department restricted his water supply by half.[76] Likewise, in Harney County, the Department issued permits until, by its own admission, the groundwater was over-allocated and household wells started drying up.[77] Although the Department may be doing the best with the resources it has,[78] it is not fulfilling its duty to "determine whether the proposed use will ensure the preservation of the public welfare," as required by Oregon law.[79]

B. Failing to Perform Required Water Availability Reviews and Assessments

In addition to violating the water code's public policy provisions by over-permitting and failing to prevent groundwater mining, the Department is violating the more specific statutory provisions that control the groundwater permit process. For instance, before issuing a proposed final order approving a permit the Department must conduct a public interest review, which at two stages requires the Department to consider water availability.[80] The Department must also conduct a groundwater availability assessment and include its factual findings in the proposed final order.[81] In addition to this, the Department's administrative rules require it to make factual findings about the effect of the proposed use on hydraulically connected surface waters.[82] For the permit to survive judicial review, those factual findings must be supported by substantial evidence in the agency's record—including any data it collected and any comments submitted in the public process.[83] Because permits issued under the Department's opt-for-yes policy ignore water availability, these permits are inconsistent with Oregon's water code and the water rights they grant are invalid.

1. Public Interest Review

Before issuing a proposed final order approving a permit, the Department must determine "whether the proposed use will ensure the preservation of the public welfare, safety and health."[84] Water availability is critical to this finding.

A proposed use is entitled to a statutory rebuttable presumption that it is in the public interest, but only if it will not injure existing water rights, it complies with agency rules, and water is available for the proposed use.[85] If

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76 *Id.*

77 House, *Harney County Casualty*, *supra* note 7.

78 *Id.*

79 OR. REV. STAT. § 537.621(2).

80 *Id.* § 537.409(6).

81 *Id.* § 537.409(7).

82 OR. ADMIN. R. 690-009-0040 (2016).

83 OR. REV. STAT. § 183.482(8)(c) (requiring a court reviewing an agency's final order to set aside or remand the order if it is not supported by substantial evidence in the whole record); *id.* § 537.625(3) (requiring the Department to consider multiple factors before issuing a final order).

84 *Id.* § 537.621(2).

85 *Id.* § 537.621(2)(a).

the Department does not find that water is available, the presumption does not apply.[86] When the presumption does not apply, the Department may issue a proposed final order either recommending denying the proposed use or approving it with modifications or conditions.[87] To approve when the presumption does not apply, the Department must make "specific findings to demonstrate that even though the presumption is not established, the proposed use will not impair or adversely affect the public welfare, safety and health."[88] Those specific findings must address "[t]he amount of waters available for appropriation for beneficial use."[89]

Because permits issued under the Department's opt-for-yes policy lack sufficient evidence that water is available, permits issued under that policy are not entitled to the public interest presumption. The opt-for-yes policy's failure to meet the public interest criteria are illustrated by contrasting it with the permit that was upheld in *Save Our Rural Oregon v. Energy Facility Siting Council*.[90] There, the Oregon Supreme Court upheld a permit to drill a deep well amid the petitioners' shallow wells because substantial evidence supported the Department's finding that the proposed use would not interfere with existing rights.[91] Although hydrogeological testing showed a connection between the deep water from which the applicant would draw and the shallower water from which the already petitioners drew, the state's hydrogeologist expert explained that the "limited connection was unlikely to have any measurable impact on existing water rights."[92] The court upheld the Council's decision because the record, when viewed as a whole, supported the decision by substantial evidence.[93] By contrast, for permits approved by the Department's opt-for-yes policy, there may be no evidence in the record that shows water is available. At most, the evidence would show that the Department could not positively say that water is or is not available.[94] More likely, the "whole record"—including an "insufficient to determine" designation, comments, protests, or other evidence of lowering water tables or nearby well-level drops—would support a finding that water *is not* available. The Department's sheer lack of information should mean that the "water is available" criterion has not been met, and that the proposed use is not entitled to the public interest presumption.[95]

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86 *Id.*

87 OR. ADMIN. R. 690-310-0140(2)(b).

88 *Id.*

89 OR. REV. STAT. § 537.625(3)(d).

90 121 P.3d 1141 (Or. 2005).

91 *Id.* at 1159–60

92 *Id.* at 1160.

93 *Id.* Although it is true that the court found that the conditions imposed on the permit were significant, the petitioners argued that the conditions were insufficient; nevertheless, the court found that the council's decision was valid because it had considered petitioner's complaint and found some evidence more persuasive than other evidence. *Id.* at 1159–60.

94 Admittedly, the Department considers other information beyond the water availability review to make its decision, including information provided by the applicant and other participants in the permit process. House, *Harney County Casualty*, *supra* note 7.

95 Amos, *supra* note 35, at 112 ("Given the lack of data, there is concern that insufficient analysis goes into groundwater appropriation decisions.").

Because the presumption has not been established, the Department must make specific findings about water availability in order to approve the permit.[96] And without sufficient information to determine whether the water is over-appropriated, the Department cannot support a water-availability finding with substantial evidence. A reasonable person could not find that water is available when the record specifically states that the Department has insufficient information to make that finding.

2. Groundwater Availability Review

As its name suggests, the groundwater availability review is the stage at which the Department assesses how much groundwater is available for a proposed use. If the Department issues a proposed final order for any groundwater permit application, it is statutorily required to make findings of fact and conclusions of law, including "an assessment of water availability and the amount of water necessary for the proposed use."[97] The Department bears the burden of proving that water is available for the proposed use.[98] If water is unavailable for the proposed use, that unavailability should be reflected in the Department's water availability assessment and should be the basis for denying a permit.

Water is only available if it is not over-appropriated.[99] A groundwater source is over-appropriated if the "appropriation of groundwater resources by all water rights exceeds the average annual recharge to a groundwater source . . . or results in the further depletion of already over-appropriated surface waters."[100] Thus, when the amount of groundwater water used exceeds the amount that the region can naturally recharge within the year, no water is available for new appropriations.

The Department's opt-for-yes policy severely undermines the purposes of the groundwater availability review.[101] Evidence that a source "cannot be determined to be over-appropriated" does not support a finding that a water source "is not over-appropriated," which is what the statute requires the Department to find if it determines that water is available.[102] Any finding that water is available is therefore unsupported by substantial evidence.

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96 OR. REV. STAT. § 537.625(3)(d) (2015).

97 *Id.* § 537.621(3)(c).

98 *Id. See generally* NEUMAN, *supra* note 19, at 67 (discussing the shifting burden of production during the review process).

99 OR. ADMIN. R. 690-300-0010(57) (2016) (defining "Water is Available").

100 OR. ADMIN. R. 690-400-0010(11)(a)(B). Idaho calls the act of appropriating water beyond a source's average natural recharge "groundwater mining." Baker v. Ore-Ida Foods, Inc., 513 P.2d 627, 635–36 (Idaho 1973).

101 According to the leading treatise, this "water availability analysis is an important part of [the Department's] initial review," because without it, new appropriations may exacerbate conflict among users and interfere with instream appropriations. NEUMAN, *supra* note 19, at 62.

102 OR. REV. STAT. § 537.621(3)(c) (requiring a water-availability assessment); OR. ADMIN. R. 690-300-0010(57) (explaining that water is available if it "is not over-appropriated"); OR. ADMIN. R. 690-400-0010(11)(a)(B) (explaining that a water source is over-appropriated if "appropriation of groundwater resources by all water rights exceeds the average annual recharge to a groundwater source").

3. Groundwater–Surface Water Connection "Division 9" Review

The groundwater availability review considers only whether the groundwater itself is over-appropriated without consideration of the effects the proposed use may have on hydraulically connected surface water.[103] Thus, the Department must conduct an additional piece of the overall groundwater permit review under its own regulations, called the "Division 9" review, to determine whether the proposed use will substantially interfere with surface water supplies.[104] Although under applicable regulations, the Department "shall" determine a proposed use's "potential for substantial interference with surface water supplies,"[105] the Department asserts that, for purposes of the Division 9 review, it can ignore streams and tributaries that are dry for portions of the year, even when the streams run dry because of surface-water diversions.[106]

The Department's opt-for-yes policy is thus inconsistent with the detailed and specific Division 9 review process that is required when a proposed groundwater source is hydraulically connected to surface water.[107] Division 9 requires that when permitting and distributing groundwater the Department shall determine "the potential for substantial interference with surface water supplies."[108] During a Division 9 review, the Department will first determine whether the source aquifer is confined or unconfined—unconfined aquifers are presumed hydraulically connected to surface waters within a quarter-mile of the proposed well.[109] The Department will next determine whether a presumption of substantial interference applies,[110] or whether the proposed use would otherwise interfere with the groundwater source.[111] This multifaceted, multifactor analysis may be impossible if the

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104 OR. ADMIN. R. 690-009-0040 ("For the purposes of permitting and distributing ground water, the potential for substantial interference with surface water supplies shall be determined by the Department.").

105 *Id.*

106 House, *Harney County Casualty*, *supra* note 7; Zwart, *supra* note 56, at 4 (explaining that although "[g]round water in the basin fill is regionally unconfined and hydraulically connected to surface water sources," and "likely is discharging to lower reaches of Malheur Slough and/or Malheur Lake" because the Slough and tributaries in the area "are dry in most years," they are "not considered for Division 9 reviews"). Some commentators have observed that the Department applied less scrutiny to groundwater applications and note that "where the Department has no information regarding the public interest, the Department simply grants the permit." Amos, *supra* note 35, at 33 n.213.

107 OR. ADMIN. R. 690-009-0030 (explaining that the Division 9 rules "apply to all wells . . . and to all existing and proposed appropriations of ground water" except for exempt uses).

108 OR. ADMIN. R. 690-009-0040.

109 OR. ADMIN. R. 690-009-0040(1)–(2).

110 OR. ADMIN. R. 690-009-0040(4); *see, e.g.*, OR. ADMIN. R. 690-009-0040(4)(d) (explaining that the presumption will apply if "[t]he ground water appropriation, if continued for a period of 30 days, would result in stream depletion greater than 25 percent of the rate of appropriation, if the point of appropriation is a horizontal distance less than one mile from the surface water source" and listing methods by which the Department may determine stream depletion).

111 OR. ADMIN. R. 690-009-0040(5) ("In making this determination, the Department shall consider at least the following factors: (a) The potential for a reduction in streamflow or

Department has insufficient information to determine whether the groundwater source itself is over-appropriated. Water permits issued under the opt-for-yes policy are therefore contrary to the Department's own rules, and, if challenged in court, should be set aside or remanded to the agency for reconsideration.

In sum, each the public interest review, the Division 9 review, and the groundwater availability review require the Department to make an affirmative water-availability finding. The Department's opt-for-yes policy is inconsistent with each of these statutory and regulatory requirements. Any permit issued under that policy should be set aside or remanded to the Department as legal error. Moreover, each permit should be set aside or remanded because the underlying water-availability determination is not supported by substantial evidence in the record.

IV. INCORPORATING ASPECTS OF OTHER STATES' WATER LAWS TO PREVENT OVERDRAFT

Although the current statutory scheme clearly prohibits groundwater mining, the legislature should do more to prevent aquifer overdrafting. Specifically, Oregon's legislature should incorporate groundwater management practices used in other western states into the water code. For instance, Idaho, Washington, Arizona, and Colorado also manage groundwater through a permit system, and each, like Oregon, has arid, water-scarce areas and each state has taken steps to prevent overdraft and maintain stable groundwater levels. This Part discusses other states' groundwater management practices in order of complexity, with Idaho's prohibition on groundwater mining being the simplest, and Arizona's active management area regulations being the most complex. It suggests that Oregon should take cues from these states and incorporate additional water-preservation measures into its water code.

A. Idaho: Expressly Prohibiting Groundwater Mining

Idaho's Groundwater Act expressly prohibits groundwater mining, or "the withdrawal of ground water beyond the average rate of future recharge."[112] The same provision also precludes a water availability finding if the proposed withdrawal "would affect, contrary to the declared policy of [the Act], the present or future use of any prior surface or groundwater

surface water supply; or (b) The potential to impair or detrimentally affect the public interest as expressed by an applicable closure on surface water appropriation, minimum perennial streamflow, or instream water right with a senior priority date; or (c) The percentage of the ground water appropriation that was, or would have become, surface water; or (d) Whether the potential interference would be immediate or delayed; or (e) The potential for a cumulative adverse impact on streamflow or surface water supply.").

112 Baker v. Ore-Ida Foods, Inc., 513 P.2d 627, 635–36 (Idaho 1973) (citing IDAHO CODE § 42-237a(g)).

right."[113] Like Oregon, Idaho requires prior appropriations to "be protected in the maintenance of reasonable ground water pumping levels," as established by the director of its water resources department.[114] These provisions mean that a junior groundwater pumper's use may be enjoined if it will interfere with senior groundwater rights.[115]

Because Idaho and Oregon share core principles of groundwater management—for example, prior appropriation, reasonable use, and a permit system that considers water availability and potential injury to existing users[116]—Oregon's legislature could incorporate a similar provision into the Oregon water code. An express prohibition on groundwater mining would clearly reject the Department's opt-for-yes policy, clarifying the legislature's intent to prevent overdraft and strengthening Oregon's existing prohibitions on groundwater mining.

B. Washington: A Duty Not to Issue When Use Threatens the Public Interest

Although Washington's permit process is similar to Oregon's, Washington's statutory language is more protective against groundwater mining than Oregon's.[117] For instance, water availability is central to the permit review process; like Oregon, Washington requires its Department of Ecology to issue a permit if it finds certain prerequisites, including that water is available, and that the proposed use "will not impair existing rights or be detrimental to the public welfare."[118] But if all water in the source is already appropriated or if the proposed use will conflict with existing rights, the Department of Ecology has a duty to refuse to issue the permit.[119] Moreover, although Oregon law directs the Department to deny or place conditions on permits that will "impair or be detrimental to the public

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113 IDAHO CODE § 42-237a(g) (2016).

114 *Id.* § 42-226.

115 *Baker*, 513 P.2d at 637; IDAHO CODE. § 42-237a(g).

116 *E.g.*, IDAHO CODE § 42-226 (requiring "beneficial use in reasonable amounts" and applying prior appropriation—"first in time is first in right"—to groundwater); *id.* § 42-229 (setting forth the methods by which an appropriation of water may be perfected); IDAHO ADMIN. CODE. r. 37.03.08.025(01) (2016) (all applications to appropriate unappropriated water will be assessed for "impact of the proposed use on water availability for existing water rights, the adequacy of the water supply for the proposed use . . . and the effect of the proposed use on the local public interest"); IDAHO ADMIN. CODE. r. 37.03.11.010(07) (defining "full economic development of underground water resources" as the "diversion and use of [groundwater] for beneficial uses in the public interest at a rate that does not exceed the reasonably anticipated average rate of future natural recharge [and does not injure] senior-priority surface or groundwater rights").

117 WASH. REV. CODE. § 90.44.070 (2016).

118 *Id.* § 90.03.290(3); *accord* OR. REV. STAT. § 537.525(2)–(3) (2015) (requiring that priority rights "be acknowledged and protected," and that "[b]eneficial use without waste, within the capacity of available sources, be the basis, measure and extent of the right to appropriate ground water"); *id.* § 537.621(2) (listing the criteria to establish the public interest presumption). Washington, like Oregon, prohibits permits when the proposed use would exceed the capacity of the source, and its Department of Ecology, which manages its groundwater permit system, has authority to determine whether a proposed use will injure existing rights. WASH. REV. CODE § 90.03.290(3).

119 WASH. REV. CODE. § 90.03.290(3).

interest,"[120] Washington dictates that a proposed use may not "threaten" to do so.[121]

Oregon's legislature should incorporate the "duty to refuse" language into its water code, which would more explicitly require the Department to reject permit applications when it cannot determine that water is available. As the *Draining Oregon* series illustrates, any new groundwater use permitted where the Department cannot determine that water is available necessarily poses a threat to the public interest; new uses may draw down household wells and cause economic uncertainty in irrigation-dependent areas of the state.[122] The legislature should require the Department to reject permit applications when the proposed use "threatens" to impair the public welfare, which would make it easier to deny proposed uses that are not in the public interest.

C. Arizona: Decreasing Groundwater Use over Time

Arizona's Groundwater Management Code[123] designates "active management areas" that require a reduction of groundwater pumping over time.[124] In response to "chronic overdrafting" and a threatened loss of federal funds for diversion projects from the Colorado River,[125] Arizona's legislature delegated to its Department of Water Resources the power to designate active management areas.[126] In these areas, the Act "prohibits irrigating new lands, encourages a shift from irrigation to less consumptive, non-irrigation uses, and prohibits" transfers from nonirrigation to irrigation uses.[127] One goal of the Act is to gradually achieve safe annual yield.[128] To achieve safe annual yield, "groundwater accounts must balance every year."[129] Thus, within each active management area, there must be a "balance between the annual amount of groundwater withdrawn . . . and the annual amount of

120 OR. REV. STAT. § 537.135(4).

121 WASH. REV. CODE. § 90.03.290(3).

122 House, *Harney County Casualty*, *supra* note 7; *see also* House, *Fifteenmile Creek*, *supra* note 10(explaining that in some areas there are reports of household wells drying up and that "Oregon regulators have [already] given away rights to so much underground water that irrigators in several basins are drawing down aquifers, threatening future economic disruption and posing dangers to plants and wildlife"). As discussed above, any new groundwater use permitted without water availability data is also contrary to Oregon law. *See supra* Part III.

123 ARIZ. REV. STAT. ANN. §§ 45-401 to -704 (2016).

124 *Id.* § 45-402(2) (defining "active management area"); *id.* § 45-562 (stating the management goals for current active management areas). *See generally* Robert Jerome Glennon, *"Because That's Where the Water Is": Retiring Current Water Uses to Achieve the Safe-Yield Objective of the Arizona Groundwater Management Act*, 33 ARIZ. L. REV. 89 (1991) (discussing Arizona's Groundwater Management Code).

125 Glennon, *supra* note 124, at 90.

126 A. DAN TARLOCK, LAW OF WATER RIGHTS AND RESOURCES § 6:24 (2016). Four of the currently designated active management areas "cover 80% of the state's population, and 69% of the overdraft." *Id.*

127 Glennon, *supra* note 124, at 91.

128 ARIZ. REV. STAT. ANN. § 45-562.

129 TARLOCK, *supra* note 126, § 6:24.

natural and artificial groundwater recharge."[130] In this way, Arizona's Act "operates like a ratchet and moves only in one direction: controlling water use."[131]

In Oregon, the Department may designate critical groundwater areas to limit or prohibit groundwater use.[132] Critical groundwater areas enable the Department to prohibit or limit new permits, and also restrict existing uses, even when the users could otherwise put the water to beneficial use.[133] These designations are generally based on "recurring shortages or long-term decline in water tables . . . aquifer overdraft," declines in groundwater quality, and interference among wells or interference of senior users' surface rights.[134] Critical groundwater area designations are, however, "unpopular and fiercely resisted" by irrigators.[135] Indeed, these designations may upset irrigators' economic expectations.[136] Moreover, because the Department's groundwater data is limited, by the time the Department has sufficient data to institute such groundwater controls communities are already accustomed to overuse and "the damage has usually already been done."[137]

Arizona's active management areas are in some ways comparable to Oregon's critical groundwater areas. For instance, both Oregon's and Arizona's groundwater management acts allow the regulating agency to stop issuing new permits when overdraft is apparent.[138] But there is a critical difference: Arizona's focus on gradually decreasing use provides a mechanism to stabilize aquifers that are already overdrafted. Arizona's active management areas impose a gradual retirement of existing groundwater uses, encourage shifts from groundwater-intensive uses to nonintensive uses, and include long-term planning goals intended to achieve safe annual yield.[139] Other facets of Arizona's Act, including use fees and pump taxes, help provide its Department with funding to retire uses and to achieve safe annual yield.[140] By imposing a similar, ratchet-like safe-yield

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130 ARIZ. REV. STAT. ANN. § 45-561(12).

131 Glennon, *supra* note 124, at 91.

132 OR. REV. STAT. § 537.730 (2015).

133 NEUMAN, *supra* note 19, at 70.

134 *Id.* If the Department restricts groundwater use either by administrative rule, or by a determination that "a ground water use will impair, substantially interfere or unduly interfere with a surface water source" its decision must be supported by substantial evidence. OR. REV. STAT. § 537.780(2)(a)–(b).

135 BASTASCH, *supra* note 33, at 127.

136 *See* House & Graves, *Water Giveaway*, *supra* note 1. Particularly for farmers that have switched from the traditional dryland wheat—which does not require irrigation—to irrigated crops, groundwater controls can leave users with debt on unused wells, and destroy property values. *Id.*

137 BASTASCH, *supra* note 33, at 127.

138 OR. REV. STAT. § 537.735(3)(a) (allowing the adoption of a provision barring the approval of any permit to appropriate groundwater in critical groundwater areas.); TARLOCK, *supra* note 126, § 6:24 (explaining that new irrigation uses in Arizona are banned in irrigation non-expansion areas and may be limited in active management areas for the purposes of achieving safe-yield).

139 Glennon, *supra* note 124, at 91.

140 TARLOCK, *supra* note 126, § 6:24; *see also* Glennon, *supra* note 124, at 113 (arguing that the fees should be increased).

requirement in areas that are on their way to a critical groundwater determination, Oregon could alleviate or prevent the economic upset that groundwater users may experience due to critical groundwater designations.

D. Colorado: Predictive Conjunctive Management

Although both Oregon and Colorado practice conjunctive management—that is, they manage surface waters and groundwater together—Colorado has greater protections for senior surface-water users, and a better chance of maintaining stable groundwater levels. For example, Colorado requires groundwater pumpers to show that their proposed use will have no deleterious effect on surface water within the next one hundred years.[141] Colorado protects senior surface water users by applying the prior appropriation doctrine unequivocally to all groundwater sources that are categorized as "tributary," or hydraulically connected to surface waters.[142] In Colorado, as in Oregon, whether a hydraulic connection exists between an aquifer and a surface water depends on whether the groundwater "can influence the rate or direction of movement of the water in that alluvial aquifer or natural stream."[143] According to the Colorado Supreme Court, if a withdrawal from an unconfined aquifer will have a depletive effect on a natural stream or surface water within 100 years of the withdrawal, that aquifer is hydraulically connected.[144] Moreover, all groundwaters outside the Denver basin are presumed hydraulically connected.[145]

In Oregon, whether a groundwater withdrawal will substantially interfere with a surface water source is a two-step analysis. First, the Department determines whether a well produces water from a confined aquifer or from an unconfined aquifer.[146] The Department presumes that "[a]ll wells located a horizontal distance less than one-fourth mile from a surface water source that produce water from an unconfined aquifer shall be

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141 TARLOCK, *supra* note 126, § 6:17.

142 Colo. Ground Water Comm'n v. N. Kiowa-Bijou Groundwater Mgmt. Dist., 77 P.3d 62, 69–70 (Colo. 2003) ("Because tributary ground water is connected to surface waters, use of this ground water may reduce available surface water that decreed appropriators would otherwise be able to divert in order of priority," and therefore tributary groundwater "is subject to the constitutional right of prior appropriation.").

143 *Id.* at 70 n.8 (citing COLO. REV. STAT. 37-92-103(11)); *accord* OR. ADMIN. R. 690-009-0020(6) ("'Hydraulic Connection': means that water can move between a surface water source and an adjacent aquifer.").

144 Am. Water Dev., Inc. v. City of Alamosa, 874 P.2d 352, 367–68 (Colo. 1994) (explaining that water will be "nontributary ground water only if within one hundred years the withdrawal at the rate of 200,000 acre feet per year would not deplete the flow of a natural stream at an annual rate of one-tenth of one percent of that amount, or 200 acre feet per annum," and upholding the trial court's decision that because the challenged withdrawals "would exceed the statutory standard" the underlying water was tributary); TARLOCK, *supra* note 126, § 6:17.

145 *N. Kiowa-Bijou Groundwater Mgmt. Dist.*, 77 P.3d at 70. An amendment to Colorado's Groundwater Management Act, COLO. REV. STAT. § 37-90-101 to -143 (2016), exempted the Denver Basin from the tributary presumption, and that basin is managed under its own special regulations. *Id.* § 37-90-103(10.5), (10.7); TARLOCK, *supra* note 126, at § 6:19.

146 OR. ADMIN. R. 690-009-0040(1).

assumed to be hydraulically connected to the surface water source, unless the applicant or appropriator provides satisfactory information or demonstration to the contrary" and conducts additional analysis for wells farther from an unconfined aquifer.[147] Second, if there is a hydraulic connection, the Department must consider whether the proposed groundwater use will substantially interfere with the surface water in its Division 9 review.[148] But, as discussed above, the Department categorically excludes certain streams and thus may not always comply with its own regulations to conduct a Division 9 review before approving a permit.[149] Thus the groundwater permit evaluation process does not address the actual effects of an aquifer on all streams that fall within the hydraulic connection presumption or are otherwise hydraulically connected as the term is defined by Oregon's administrative rules. Oregon could remedy this deficiency by adopting a broader hydraulic-connection presumption that applies to basins, similar to Colorado's approach. Of course, for this type of analysis the Department would need to obtain more thorough and recent data.[150]

In sum, Idaho, Washington, Arizona, and Colorado's water management systems are instructive because each shares characteristics with Oregon and aims to address groundwater scarcity issues similar to what Oregon is facing now. Choosing among this array of legislative fixes, the Oregon legislature could clarify its intent to protect and maintain stable groundwater uses and prohibit new uses when there is insufficient information that water is available.

V. CONCLUSION

As the *Draining Oregon* series illustrated, groundwater policy that "giv[es] away water with abandon" risks continuing to overdraft Oregon's aquifers, posing a threat to Oregon's water supply and the economic well-being of Oregon groundwater pumpers.[151] Moreover, the Department's policy of opting-for-yes, when it has insufficient information to determine whether

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147 OR. ADMIN. R. 690-009-0040(1)–(2). When the well is located farther than one-quarter mile from the unconfined aquifer, the Department determines hydraulic connectivity based on the Water Well Report or if none is available, or if the one provided contains insufficient information,

> [The Department] shall make the determination on the basis of the best available information [including] other Water Well Reports, topographic maps, hydrogeologic maps or reports, water level and other pertinent data collected during a field inspection, or any other available data or information that is appropriate, including any that is provided by potentially affected parties.

OR. ADMIN. R. 690-009-0040(1).

148 OR. ADMIN. R. 690-009-0030 (explaining that Division 9 review applies to all proposed nonexempt groundwater uses that are hydraulically connected to surface waters); OR. ADMIN. R. 690-009-0040 (requiring the Department to determine "the potential for substantial interference with surface water supplies" when permitting and distributing groundwater).

149 *See supra* notes 105–106 and accompanying text.

150 Amos, *supra* note 35, at 111–12 (discussing lack of groundwater availability data).

151 *See* House & Graves, *Water Giveaway*, *supra* note 1.

water is available, is contrary Oregon's water code, and the Department's administrative rules. By incorporating practices and policies from other states, Oregon or the Department may be able to prevent or alleviate overdraft harms. As discussed below, solutions may come from the Department, judiciary, or legislature.

Regarding administrative action, the Department should change its opt-for-yes policy to an opt-for-no policy and stop issuing permits where it cannot affirmatively determine whether water is available.[152] It should act consistently with its governing statutes and regulations—conducting public interest reviews, groundwater availability reviews, and Division 9 analyses—and should develop ways to pass financial burdens and data collection requirements on to applicants.

Oregon courts, if presented with an administratively appealed final order on an opt-for-yes permit, should invalidate the Department's opt-for-yes policy as inconsistent with Oregon's water code, Oregon's administrative rules, and the prior appropriation doctrine generally. The courts can rely on the plain text of the statutes and administrative rules, as well as the case law of western states, like Idaho, that have faced similar groundwater crises.

The Oregon legislature should step in to clarify the Department's duty to determine groundwater capacity or to expressly prohibit groundwater mining. Moreover, the legislature must fully fund the Department, enabling it to conduct groundwater studies to effectively establish and regulate critical groundwater areas, and to properly implement the current permit system to curb overdraft and prevent further aquifer depletion.[153] According to a recent audit, the Department "is largely flying blind—just 20 percent of water rights holders are required to report how much water they use annually, and most agricultural users, which account for more than 85 percent of water usage—don't report their consumption" and as a result, auditors found that the Department "does not have a clear understanding of how much water is actually being used.[154] One water law scholar cautions that "good data" is required to make "[j]udgments about general groundwater availability, whether or not water tables are declining, impacts of new uses on nearby wells or streams and ultimately the public welfare itself."[155] Until Oregon

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152 House, *No Money to Measure*, *supra* note 15, at 35 ("The first, most basic step could be to reverse Oregon's unofficial policy of approving new wells in places where regulators can't determine their impact.").

153 *Id.* (suggesting that if lawmakers would "pay for studying how much each basin has to give," those studies would "give water resources managers better ammunition to reject new wells when necessary"). At the time of this writing, "three bills designed to address the state's long-standing inability to measure and study its groundwater supply, and how to pay for it," are set for hearing before the Oregon House Committee on Energy and Environment. Andrew Theen, *Draining Oregon: Lawmakers Plan Hearings on 3 Water Bills*, OREGONIAN (Mar. 21, 2017), https://perma.cc/2JQ4-JDKN.

154 Andrew Theen, *Audit: Oregon's Water Watchdog Agency is Understaffed, Overworked, Has No Plan for Future,* OREGONIAN (Dec. 15, 2016), https://perma.cc/NJF5-STDM.

155 BASTASCH, *supra* note 33, at 127; *accord* Amos, *supra* note 35, at 103 ("[T]he Department's limited resources restrict its review to determining whether or not a legal right to use water exists."). For further discussion regarding the Department's dire financial situation, see generally Theen, *supra* note 154.

develops mechanisms for acquiring and analyzing large amounts of water-availability data, managing groundwater via permit system "is likely to be a hit or miss proposition."[156] By opting-for-yes, the Department risks overdraft and drying-up already over-appropriated surface water sources and continues to violate Oregon law.

156 BASTASCH, *supra* note 33, at 127.