



Mechanisms for Protecting Groundwater-Dependent Ecosystems

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The logo for the Environmental & Natural Resources Law Center, featuring the letters "ENR" in a large, bold, white sans-serif font on a black rectangular background.

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research projects are the Conservation Trust Project; the Energy Law and Policy Project; the Food Resiliency Project; the Global Environmental Democracy Project; the Native Environmental Sovereignty Project; the Oceans Coasts and Watersheds Project; and the Sustainable Land Use Project. Each academic year, the Center awards one-year fellowships to a select group of University of Oregon School of Law students to work with ENR faculty members on specific research projects within each of the theme-based, interdisciplinary research projects.

About the Oceans, Coasts and Watersheds Project

The Oceans, Coasts, and Watersheds Project is one of seven theme-based, interdisciplinary research projects administered by the University of Oregon ENR Center. The Project is led by faculty leaders Adell Amos and Richard Hildreth. The mission of the Oceans, Coasts and Watersheds Project is to engage the law to promote sustainability for ocean, coastal, and freshwater resources. Important issues the Project has recently explored include the following: assessing instream flow in the Willamette River basin, evaluating U.S. ocean and coastal law and policy in a post-Obama administration, innovations at the nexus of food, energy and water, and integrated water resources planning.

For more information, please visit enr.uoregon.edu/

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I. INTRODUCTION

The Nature Conservancy in Oregon's Freshwater Team (hereafter, "the Conservancy" or "TNC") is working to advance groundwater science and modernize state policy to better support groundwater-dependent ecosystems and ensure people can sustainably meet their water needs. Currently the largest use of groundwater is for irrigation. The state's network of monitoring wells shows that many aquifers in areas with irrigated agriculture are in decline. Dropping water tables impact nature (drying of springs, wetlands, rivers, lakes) and people (drying domestic wells, increased pumping costs, state regulations). Solutions are needed that will bring aquifers to sustainable use levels.

Because many irrigation systems across the state are old and inefficient, there is significant interest in upgrading irrigation infrastructure with more efficient systems,

with the assumption that this will lead to a decline in total water pumped. However, there is evidence from the western US and around the world that increased efficiency paradoxically leads to an increase in total water consumption rather than a decrease.¹ Therefore, safeguards are needed to ensure that water saved through increased efficiency actually leads to recovery of the aquifer and the species and ecosystems it supports. It is not clear whether there is a mechanism to protect the saved groundwater *in the ground*, rather than the saved water being available for further appropriation.

This paper explores existing policy mechanisms for protecting groundwater, made "available" through possible irrigation efficiency projects, or other conservation efforts, in a way that leads to a water table rise or increased discharge to groundwater-dependent ecosystems. A full range of possibilities for in-place groundwater conservation are explored, including the

¹ E.g., Chris Perry et al., *Does Improved Irrigation Technology Save Water? A Review of the Evidence*, FOOD & AGRIC. ORG. U.N. (Issue Paper), May 2017, at 1, 11-33, available at <http://www.fao.org/3/i7090en/i7090EN.pdf> (wide-ranging international report showing introduction of hi-tech irrigation tends to increase local water consumption); Lisa Pfeiffer

& C.-Y. Cynthia Lin, *Does Efficient Irrigation Technology Lead to Reduced Groundwater Extraction? Empirical evidence*, 67 J. ENVTL. ECON. & MGMT., Mar. 2014, at 189, 190, 201-03 (Kansas study showing voluntary shift to high efficiency irrigation was correlated with *increases* in groundwater extraction).

possibility of establishing, perhaps for the first time ever, what could be called an “*in situ groundwater right*” under state law.

Part I of this paper summarizes instream, or non-consumptive water rights for surface water systems as they developed in western prior appropriation states like Oregon. This section also describes the challenges for groundwater conservation and begins to explore the possibility of extending “instream” or *in situ* water rights programs to groundwater. Part II describes Oregon water law with an emphasis on groundwater management in order to analyze whether an *in-situ groundwater right* is available. Part III provides examples from other prior appropriation states where groundwater protection has been advanced and describes the mechanisms used to accomplish these goals, primarily recognizing the significant role of federal actors. Part IV concludes with a set of guiding principles and recommendations about pursuing groundwater conservation and the protection

of *in situ* water rights in Oregon as well as other prior appropriation jurisdictions.

II. USING SURFACE INSTREAM FLOW PROGRAM TO PROTECT GROUNDWATER RESOURCES

In prior appropriation jurisdictions, groundwater allocation, management, and conservation present unique challenges.² Existing mechanisms for establishing non-consumptive or instream flow water rights for the surface water systems do not easily translate to the groundwater system. The literature on managing groundwater provides many illustrations of the challenges such as the basic lack of data, the complex dynamics of conjunctive management, and the willingness of many western states to exempt groundwater pumping from permitting in an otherwise highly regulated surface water system. As a result, western prior appropriation jurisdictions have struggled for decades to integrate surface and groundwater allocation systems and to

² See, e.g., John D. Leshy, *The Federal Role in Managing the Nation's Groundwater*, 11 HASTINGS W.-NW. J. ENVTL. L. & POL'Y 1 at 1 (2004), available at http://repository.uchastings.edu/faculty_scholarship/366; Dave Owen, *Taking Groundwater*, 91 WASH. U. L. REV. 253 (2013), available at <https://openscholarship.wustl.edu/>

law_lawreview/vol91/iss2/1/; Collin Gannon, *Legal Protection for Groundwater-Dependent Ecosystems*, 4 MICH. J. ENVTL. & ADMIN. L. 183 (2014), available at <http://repository.law.umich.edu/mjeal/vol4/iss1/8>.

responsibly address the over allocation and overuse of groundwater resources. Additionally, there is increased attention on the importance of groundwater-dependent ecosystems and the needs for groundwater to remain in place.³

No analysis of how groundwater management could evolve in Oregon is complete without first addressing the water allocation system – prior appropriation. From the basis of prior appropriation, the history of instream flows in Oregon provides an opportunity for instream flow protections to potentially protect groundwater-dependent ecosystems.

A. Foundational Prior Appropriation Principles

³ The challenges that groundwater now faces are much like the needs that were identified for surface water systems nearly four decades ago. Groundwater-dependent ecosystems in Oregon: an assessment of their distribution and associated threats, Jenny Brown, Leslie Bach, Allison Aldous, Abby Wyers, and Julia DeGagné; Front Ecol Environ 2010; doi:10.1890/090108; Protecting Groundwater-Dependent Ecosystems: Gaps and Opportunities. Allison Aldous and Leslie Bach, National Wetlands Newsletter, May-June 2011, 19-22.

⁴ See, e.g., OR. REV. STAT. § 536.310(1) (2017) (“Existing rights, established duties of water,

“Beneficial use without waste” is the central tenant and foundational requirement for establishing a water right in prior appropriation jurisdictions, including Oregon.⁴ As a result, a state’s definition of what constitutes a *beneficial use* of water provides the key to establishing a water right. Historically, to establish beneficial use, a water user was required to make a “diversion” of water. Over time, western states have modified their definitions of beneficial use to recognize uses of water that are often called “non-consumptive” – that is they do not require a diversion of water but are nonetheless valid public uses of water that are protected by the water rights system.⁵

In addition to the definition of beneficial use, two other tenants characterize prior appropriation jurisdictions: use-or-lose and first-in-time, first-in-right. The use-or-lose

and relative priorities concerning the use of the waters of this state and the laws governing the same are to be protected and preserved subject to the principle that all of the waters within this state belong to the public for use by the people for beneficial purposes without waste.”)

⁵ See, e.g., OR. REV. STAT. § 536.300(1) (2017) (defining “beneficial use” to include non-consumptive uses like power development, recreation, wildlife and fish life uses, and pollution abatement); OR. ADMIN. R. 690-400-0010(3) (2018).

principle provides that water must be put to a beneficial use and actually used or the right will be lost based on principles of abandonment and forfeiture. Priority, or first-in-time, first-in-right, provides that, in times of shortage, rights are exercised based on their seniority. Thus, the most senior right on the system is fully satisfied before any junior right can take water. Establishing non-consumptive uses as beneficial was necessary to avoid the problem of other water users asserting that the right had been abandoned or forfeited based on non-use. For rights that don't involve a diversion the use is for the water in its place rather than being diverted off stream. And perhaps more importantly, Oregon instream water rights system also allowed for instream flow rights to be exercised in order of priority such that a senior instream flow right must be satisfied before a junior diversionary water rights holder is allowed to divert.⁶

As the western states adopted prior appropriation as the doctrine to govern water use and allocation, the question of

groundwater use and management was not addressed for various reasons.⁷ This was partially due to the relatively unknown nature of groundwater resources and connections between groundwater and surface water systems.⁸ To a large extent, many western states, including Oregon, initially managed groundwater and surface water separately and allowed for exempt wells below certain volumes to proceed without water rights being established. More recently, however, the demands on surface and groundwater resources have necessitated that states conjunctively manage ground and surface water, including Oregon. In Oregon, surface and groundwater systems are managed conjunctively when there is showing of hydraulic connectivity.⁹ Unlike some jurisdictions, Oregon manages surface and ground water using principles of prior appropriation as discussed above.¹⁰

One existing legal mechanism provides a potential existing legal approach for protecting groundwater dependent

⁶ OR. REV. STAT. § 537.350(1) (noting that an instream water right has the same priority as a traditional water right).

⁷ See Leshy, *supra* note 3, at 8, 10, 14.

⁸ ROBERT GLENNON, WATER FOLLIES: GROUNDWATER PUMPING AND THE FATE OF AMERICA'S FRESH WATERS ch. 2, 29-31 (2002).

⁹ OR. ADMIN. R. 690-410-0010(2)(a) (2018) ("Groundwater and surface water shall be managed conjunctively where to do so will protect water resources, existing water rights, and the public interest.")

¹⁰ OR. REV. STAT. § 537.120 (2018) (stating that water in Oregon is subject to appropriation).

ecosystems. Instream flow, a non-consumptive use, is a legal concept that recognizes the value of maintaining water within a stream for certain purposes.¹¹ Essentially, the recognition of instream flow rights allows water to remain in a stream instead of requiring diversion and out of stream use.¹²

B. Instream Water Rights in Oregon

Oregon's instream flow protections originate from the concerning impacts that low river flows had on water quality and recreation in the early 20th century.¹³ The Oregon legislature first provided for minimum perennial instream flows in 1955, and later passed a statute for instream water rights in 1987.¹⁴ These mechanisms for instream flows provide a significant opportunity for Oregon to manage non-consumptive water uses under state law.¹⁵ Oregon's instream

conservation laws have evolved by allowing for non-consumptive uses in favor of the public interest.¹⁶ "After the adoption of the Oregon Water Code in 1909, thousands of consumptive water rights were issued, severely depleting stream flows around the state."¹⁷ The Oregon legislature first addressed instream flow protections by precluding appropriation for twenty-three streams and waterfalls along the highway in the Columbia River Gorge to protect their scenic attributes.¹⁸ The next significant protections for instream flow in Oregon came in 1955 and 1987.

To manage this complex system of water rights allocation and decision-making, the Oregon legislature established the State Water Resource Control Board in 1955 to "formulate a water resource program for the

¹¹ *Id.* "'Instream' means within the natural stream channel or lake bed or place where water naturally flows or occurs." OR. REV. STAT. § 537.332 (Definitions); "'Instream' as defined in ORS 537.332, means within the natural stream channel or lake bed or place where water naturally flows or occurs." OR. ADMIN. R. 690-077-0010 (2017) (Definitions).

¹² *Id.*

¹³ Janet C. Neuman et al., *Sometimes a Great Notion: Oregon's Instream Flow Experiments*, 36 ENVTL. L. 1125, 1131-32 (2006) (discussing the successes and failures of Oregon's instream flow program).

¹⁴ Janet C. Neuman, *The Good, the Bad, and the Ugly: The First Ten Years of the Oregon Water Trust*, 83 NEB. L. REV. 432, 437-38 (2004).

¹⁵ Adell Louise Amos, *Developing the Law of the River: The Integration of Law and Policy into Hydrologic and Socio-Economic Modeling Efforts in the Willamette River Basin*, 62 U. KAN. L. REV. 1091, 1124 (2014).

¹⁶ *See id.*

¹⁷ *Id.* at 1125.

¹⁸ Neuman, *The Good, the Bad, and the Ugly*, *supra* note 14, at 437.

state.”¹⁹ The legislature’s charge included that “[t]he maintenance of minimum perennial stream flows sufficient to support aquatic life and to minimize pollution shall be fostered and encouraged if existing rights and priorities under existing laws will permit.”²⁰

In 1987, Oregon was the first state to recognize instream flow as a beneficial use.²¹ The Oregon legislature passed the Instream Water Rights Act, (“the Act”), codified in Chapter 537 of ORS, to protect and promote instream uses of water.²² The Act fundamentally changed water use in

Oregon by recognizing that instream water rights provide a public benefit and therefore satisfies the statutory beneficial use requirement.²³ The Act specifically recognized four instream water uses for public benefit as beneficial uses: (1) recreation; (2) pollution abatement; (3) navigation; and (4) “conservation, maintenance, and enhancement of aquatic and fish life, wildlife, fish and wildlife habitat, and other ecological values.”²⁴

Prior to the Act, leaving water instream rather than diverting it would have constituted nonuse subject to forfeiture.²⁵ By

¹⁹ Amos, *Law of the River*, *supra* note 15, at 1125; Neuman, et. al., *Sometimes a Great Notion*, *supra* note 13, at 1139-40.

²⁰ *Id.*

²¹ Amos, *Law of the River*, 1124-25. Instream Water Rights Act, OR. REV. STAT. §§ 537.332 to .360 (2017); Obtaining New Water Rights, Or. Water Res. Dept., <http://www.oregon.gov/owrd/PUBS/docs/aquabook.pdf> (last visited Oct. 6, 2017).

²² OR. REV. STAT. §§ 537.332-.360 (2017); Adell Louise Amos, *Freshwater Conservation: Oregon Water Law and Policy*, Phase 1 Report, The Nature Conservancy 65 (Apr. 2009), https://law.uoregon.edu/images/uploads/entries/amos_freshwater.pdf [hereinafter *Freshwater Conservation Report*]; Amos, *Law of the River*, *supra* note 15, at 1125.

²³ 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. DENVER WATER L. REV. 1, 65 (2008); *See e.g.*, Or. Rev. Stat. § 537.348(2).

²⁴ Amos, *Freshwater Conservation Report*, *supra* note 23, at 65; OR. REV. STAT. § 537.332(5) (2017); OR. ADMIN R. 690-077-0000(3) (2018); *see also* OR. REV. STAT. § 537.332(3) (2017) (“‘In-stream water right’ means a water right held in trust by the Water Resources Department for the benefit of the people of the State of Oregon to maintain water in-stream for public use”); § 537.334(1) (“Public uses are beneficial uses.”); § 540.610(2)(n) (nonuse during a time when a water right was leased as an in-stream right does not subject the right to forfeiture).

²⁵ Amos, *Freshwater Conservation Report*, *supra* note 23, at 68; OR. REV. STAT. § 540.610 (2017) (defining beneficial as “the basis, the measure and the limit of all rights to the use of water in this state” and establishing a rebuttable presumption of forfeiture “[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 . . .”).

acknowledging instream flow as a beneficial use, the Oregon Water Code allows, and even encourages, users to leave water instream.²⁶ Although instream water rights theoretically are like traditional water rights, the Oregon Water Resources Department (“OWRD”) manages instream flow rights differently.²⁷ The OWRD is the only entity that may hold instream flow rights, and these rights are held in trust for the people of Oregon.²⁸ The OWRD holds and enforces instream flow rights as any other appropriator in the line of priority, but gets to set the minimum level of instream flow.²⁹ While these provisions did not specifically mention groundwater resources, they were also not expressly excluded. A future research project would be to do an extensive legislative history analysis to see if groundwater was referenced with the instream flow law was enacted.

²⁶ *Id.*

²⁷ Amos, *Freshwater Conservation Report*, *supra* note 23, at 66; see OR. REV. STAT. § 537.500(1).

²⁸ Amos, *Law of the River*, *supra* note 15, at 1126; OR. REV. STAT. § 537.332(3)

²⁹ Amos, *Law of the River*, *supra* note 15, at 1126; OR. REV. STAT. § 537.346.

C. Using Existing Instream Protections to Protect Groundwater

Oregon’s instream water rights system was imagined and adopted as a surface water mechanism for addressing valuable non-consumptive uses. The same kinds of non-consumptive needs and values are associated with groundwater, though the extension of these concepts to groundwater would be new.

Under current Oregon law, the key to applying existing instream regulatory mechanisms to groundwater relies on the definition of instream. By statute, “‘instream’ means within the natural stream channel or lake bed or place where water naturally flows or occurs.”³⁰ The definition of instream does not explicitly limit its application to surface water and could become applicable to groundwater with additional interpretation. The argument would be that water that supports a

³⁰ The key language in the definition of instream says the “‘place where water naturally flows or occurs.’”³⁰ OR. REV. STAT. § 537.332(2) (2018) (definitions); ‘Instream’ as defined in ORS 537.332, means “within the natural stream channel or lake bed or place where water naturally flows or occurs.” OR. ADMIN. R. 690-077-0010 (2017) (Definitions).

groundwater-dependent ecosystem is well within this language.

As a new unexplored pathway for groundwater conservation, a potential difficulty is that no existing precedent exists to support the expansion of the definition of instream.

Some new form of interpretation is necessary to expand the definition of instream to a groundwater context. This could take the form of a new regulatory provision, policy document, agency decision, or court decision that defines “instream” to include groundwater.

In addition to the instream water rights program, Oregon, like other western states has also developed other mechanisms for addressing the need to protect non-consumptive water uses.³¹ Like with instream flow water rights, groundwater is neither expressly included or excluded from those discussions. While these mechanisms have also not extended to groundwater, it is interesting to think about the possibilities for

protecting *in situ* groundwater rights in the context of these innovative Oregon approaches to surface water conservation.

Three potential pathways may provide protection for groundwater through expanding existing mechanisms in Oregon law. These include new instream water rights applications, instream transfers and leasing, and the Conserved Water Program.

D. Instream Water Rights Applications

By statute, three state level agencies in Oregon may apply for new appropriations for instream water rights – Oregon Department of Fish and Wildlife (“ODFW”), Department of Environmental Quality (“DEQ”), and Oregon Department of Parks and Recreation.³² Arguably these agencies, as discussed in some more detail below, may serve as catalysts for initiating an application for a non-consumptive, *in situ* water right under the provisions that allow for an application for instream flow. The existing framework for instream water rights

³¹ For information about groundwater protections in other states, see Section III (Groundwater Protections and Rights in Other Western States).

³² OR. REV. STAT. § 537.336. The water right application process may vary slightly from each

agency. The above focuses on how ODFW may acquire a water right. For further information about the Oregon Department of Environmental Quality’s application for instream water rights, see Amos, *Freshwater Conservation Report*, *supra* note 23, at 70-71.

is likely the most viable opportunity for groundwater *in situ*.

Applying ODFW's existing instream flow framework to groundwater is an unexplored opportunity. ODFW, or any of the other agencies, may acquire instream water rights for "conservation, maintenance and enhancement of aquatic and fish life, wildlife and fish and wildlife habitat."³³ ODFW's definition of an instream water right refers to OWRD's instream definition and provides that "[a]n instream water right does not require a diversion or any other means of physical control over the water."³⁴ This language may provide an opportunity to apply instream protections to groundwater because the definition of instream doesn't mention any distinction between surface or groundwater. However, this is an expansion of the traditional concept of instream uses – which generally applies to surface water – and OWRD may be reluctant to extend their authority in this manner. Nevertheless, nothing in the regulatory language precludes

the more expansive application to groundwater. Given OWRD's authority to acquire instream water rights, the agency could apply for groundwater instream flow rights that are consistent with wildlife habitat.

ODFW could present a groundwater right pursuant to existing instream flow regulations.³⁵ First, to request an instream flow right, a person within ODFW with the authority to do so must initiate the process.³⁶ The ODFW staff member will then prepare a draft instream water right application that will go through various levels of inner-agency approval before submission to OWRD.

The substance of the application is based on agency standards for selecting instream water rights that provide a priority for waterways.³⁷ While much of the priority is reserved for fish and wildlife, other parts of the regulation refer to wildlife habitat.³⁸ Two provisions provide potential instream

³³ § 537.336(1). The policy behind the instream right is to "obtain an instream water right on every waterway exhibiting fish and wildlife values." OR. ADMIN. R. 635-400-0005.

³⁴ OR. ADMIN. R. 635-400-0010(12) (referencing OR. REV. STAT. § 537.336 (2018)).

³⁵ ODFW may obtain instream water rights pursuant to the process in OR. ADMIN. R. 635-400-0030 (2018).

³⁶ *Id.* at 635-400-0030(1). Individuals with the requisite authority include "Department Field Operations staff or Fish, Wildlife or Habitat Conservation Division staff," the Commission, Direction, or Deputy Director.

³⁷ *Id.* at 635-400-0030(1)(a)(D); 635-400-0020.
³⁸ 635-400-0020.

flow protections for “maintenance of riparian and wetland habitats” as well as for “potential sites for habitat improvements.”³⁹ By paying attention to the priority structure of ODFW,⁴⁰ an application for a instream water right may prove more likely to succeed. This means that the likelihood of receiving an instream water right for groundwater would need to tie to a groundwater-dependent ecosystem—the stronger the connection, the higher likelihood of success.

Since a new instream water right through ODFW likely needs a wildlife or habitat protection connection, peat-forming wetlands called fens may serve as a viable candidate to test a new instream water right for a groundwater dependent ecosystem. Fens are susceptible to groundwater extraction from adjacent aquifers because they rely on groundwater levels. The likelihood of success in obtaining a new instream right likely rests on tying the abundance of fens to other wildlife that depends on fens for habitat related needs. Such a connection would be consistent with ODFW’s mission to protect wildlife and would likely receive the less pushback

depending on the strength of the correlation to wildlife habitat, but may also succeed under instream flow protections for “maintenance of riparian and wetland habitats.”⁴¹

In conclusion, an ODFW application for an instream water right is a potential approach to promoting groundwater *in situ* under the Oregon Water Code’s existing water rights structure.

E. Instream Transfer and Leasing Program

In addition to direct application for non-consumptive water rights by one of the three state agencies authorized to apply, instream water rights can also be established by the purchase or lease of an existing water right for non-consumptive water use. Oregon Revised Statute § 537.348 provides that, “Any person may purchase or lease an existing water right or portion thereof or accept a gift of an existing water right or portion thereof for conversion to an instream water right [which] . . . shall retain the priority date of the water right purchased, lease or received as a gift.”

³⁹ *Id.* 635-400-0020(h), (k).

⁴⁰ *Id.* 635-400-0020.

⁴¹ *Id.* 635-400-0020(k).

Transfers must comply with the requirements in Oregon Revised Statutes sections 540.505 through 540.585. The existing water rights holder must file a transfer application with OWRD to change the water's use.⁴² "For instream rights, the original water right must be severed from the land and its place of use changed to a natural streambed."⁴³ This mechanism would seem to allow an organization like TNC, as discussed in more detail below, to purchase or sign a lease agreement for in-place groundwater use to protect groundwater-dependent ecosystems. This groundwater right would operate, in priority, with the other groundwater rights on the system.⁴⁴

The distinction between an instream water right application and an instream water lease or transfer is the entity that may initiate the process. As discussed above, only three

Oregon agencies may initiate and hold new applications for instream water rights.⁴⁵ Instream transfers and leases offer more flexibility because a water user may initiate the process. Within a transfer or lease context, TNC could work directly with a landowner to purchase or lease a water right. This approach is likely more feasible because it would provide opportunities for groundwater protection outside the priority system that ODFW instream water rights applications are construed according to.

Another benefit of using a transfer or lease of an existing instream right is the priority date. New instream water rights by agencies receive priority dates according to the date of application,⁴⁶ which is in the same manner as traditional water rights. However, with a transfer or lease, TNC could benefit from an earlier priority date that would

⁴² OR. REV. STAT. § 540.520(1) (2018); Amos, *Freshwater Conservation Report*, *supra* note 23, at 74.

⁴³ Amos, *Freshwater Conservation Report*, *supra* note 23, at 74.

⁴⁴ See Robert David Pilz, Comment, *At the Confluence: Oregon's Instream Water Rights Law in Theory and Practice*, 36 ENVTL. L. 1383, 1387 (2006); Joseph Q. Kaufman, *An Analysis of Developing Instream Rights in Oregon*, 28 WILLAMETTE L. REV. 285, 302-309, 325-26 (1992). There is still some open interpretation

on whether these purchased and leased rights operate the same as an instream flow rights established through application and whether the right must be turned over to the State of Oregon for management and enforcement of the right. Some have argued that the language of the statute indicates a willingness on the part of the legislature to let private parties hold and enforce leased and purchased water rights that were converted to non-consumptive water use.

⁴⁵ OR. REV. STAT. § 537.336 (2018).

⁴⁶ § 537.341.

ensure a higher likelihood of receiving water in times of shortage.

As applied to groundwater-dependent ecosystems, transferring or leasing existing water rights allows a targeted approach for plants of particular interest to TNC. For instance, phreatophytes are deep-rooted plants that depend on groundwater in traditionally dry environments. This is a prime candidate for an instream water transfer or leasing scenario because TNC could target specific landowners in aquifers where the phreatophytes are located to try and keep the groundwater table at a higher level.

A challenge with transfer or leasing water arises from making sure that the unused instream water right actually would provide hydrologic benefits to groundwater-dependent ecosystems. Perhaps the best approach would be to target a transfer or lease candidate that was pumping groundwater, but would cease to consume the groundwater through receiving payment

for the water right. This would help keep the groundwater in place and could help facilitate protection for target species that are not parts of wetland habitat that could receive protection under a new instream water right.

F. Conserved Water Program

OWRD's Conserved Water Program creates an opportunity for existing water users to voluntarily establish instream water rights from preexisting rights with no loss of priority.⁴⁷ Allocations of conserved water may retain the original priority date of the source water right or be assigned a priority date one minute later.⁴⁸ The Conserved Water Program seeks to enhance water efficiency and availability for current and future uses by providing an incentive for water users to reduce waste by discouraging over-diversion and securing a percentage of the conserved water for instream flow.⁴⁹ By allowing water use on additional lands and for new uses of water, the Conserved Water Program provides water users an economic

⁴⁷ Amos, *Law of the River*, *supra* note 15, at 1129.

⁴⁸ Amos, *Law of the River*, *supra* note 15, at 1129; OR. REV. STAT. § 537.485 (2018).

⁴⁹ Amos, *Freshwater Conservation Report*, *supra* note 23, at 68; OR. REV. STAT. § 537.460-.470. For a brief discussion of Idaho's instream

practices in comparison to Oregon's Conserved Water Program, see Marie Callaway Kellner, *How a State Known for Its Rivers Ends up with Dry Riverbeds Every Year: A Look into Idaho's Minimum Stream Flow Law*, 58 ADVOC. 23, 25 (2015).

return on conservation investments.⁵⁰ When water rights holders undertake conservation measures and apply to the Conserved Water Program, they must convert a portion of the conserved water into an instream right.⁵¹ In exchange, the OWRD grants the right holder greater latitude in how they use the remaining portion of conserved water.⁵²

When a user files an application for allocation of conserved water, the OWRD determines the quantity of water conserved and may reduce that quantity to “mitigate the effect of other water rights.”⁵³ When any allocation of conserved water is made, the state will retain at least twenty-five percent of the conserved water.⁵⁴ The state then allocates seventy-five percent of the water right to the user and converts the remaining twenty-five percent into an instream right held in trust by the state.⁵⁵ If the OWRD determines that the conserved water is necessary to support instream flow purposes, it will convert the water to an instream water right.⁵⁶ However, if the state or federal

government provides more than twenty-five percent of the financing for the conservation project and that money is not subject to repayment, the state will convert the same percentage into an instream right.⁵⁷ Transfers or sale of conserved water must also comply with ORS § 537.490.⁵⁸

The Conserved Water Program is an existing mechanism that could initiate additional instream water rights to protect groundwater-dependent ecosystems. This is contingent, of course, upon applying the definition of instream under Oregon law to including groundwater. The Conserved Water Program has a benefit of freeing up water for instream rights by also giving the user some leeway on the use of the remainder of the right. As a result, the process for initiating an action through the Conserved Water Program lies essentially with individual water users that wish to take advantage of the protection from abandonment and forfeiture claims, as well as retain access to some future amount of

⁵⁰ Amos, *Law of the River*, *supra* note 15, at 1129; *see also* Neuman et al, at 1150.

⁵¹ Amos, *Law of the River*, *supra* note 15, at 1129.

⁵² *Id.*

⁵³ Amos, *Law of the River*, *supra* note 15, at 1130.

⁵⁴ Amos, *Law of the River*, *supra* note 15, at 1130; OR. REV. STAT. § 537.470(3) (2017).

⁵⁵ *Id.*

⁵⁶ *Id.*

⁵⁷ Amos, *Law of the River*, *supra* note 15, at 1130; OR. REV. STAT. § 537.470(6) (2017).

⁵⁸ Amos, *Freshwater Conservation Report*, *supra* note 23, at 74.

water.⁵⁹ The Conserved Water Program has been successfully used with regard to surface water rights in the basins.⁶⁰

III. FOCUS ON GROUNDWATER GOVERNANCE: USING OREGON'S GROUNDWATER MANAGEMENT TO PROTECT *IN SITU* GROUNDWATER

Groundwater management, like surface water management, in Oregon is primarily a matter of administrative law. As such, there is an extremely complex exchange of legal and political decision-making between the

State of Oregon's Legislature, Governor's Office, Judicial Department, the Oregon Water Resources Commission ("OWRC" or "Commission), the Oregon Water Resources Department ("OWRD" or "Department"), and Oregon's groundwater users. An introduction of these cast of characters and a description of their administrative roles is outlined below. The recent *Oregonian* piece *Draining Oregon*⁶¹ provides examples of the interplay between and among these various state entities.⁶² This Section offers up another set of unexplored pathways for individuals and organizations like the

⁵⁹ OR. REV. STAT. § 540.610 (2018) ("Whenever 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"); OR. ADMIN. R. 690-018-0012 (2018); OR. ADMIN. R. 690-018-0012 (2018). See OR. REV. STAT. § 537.470(3) (2018) (discussing how the Conserved Water Program allocates a water user's water right). The department may require a decrease in both rate and duty for applications to qualify for the Conserved Water Program, therefore it will be important to work with the department to ensure that applications that propose only a decrease in duty but do result in measurable water conservation are allowed under this program.

⁶⁰ Kendy, E., Aylward, B., Ziemer, L. S., Richter, B. D., Colby, B. G., Grantham, T. E., ... & Culp, P. W. (2018). Water Transactions for Streamflow Restoration, Water Supply Reliability, and Rural Economic Vitality in the Western United States. *JAWRA Journal of the American Water Resources Association*, 54(2), 487-504. Pilz, R. D. (2006). At the Confluence:

Oregon's Instream Water Rights Law in Theory and Practice. *Envtl. L.*, 36, 1383.

⁶¹ *Draining Oregon* won first place in environmental writing by an individual or team for the 83rd National Headliner Awards. The annual contest recognizes journalistic merit from across the country in the communications industry. The Oregonian/OregonLive, '*Draining Oregon*' Wins National Headliners Award, THE OREGONIAN/OREGONLIVE (April 18, 2017), https://www.oregonlive.com/editors/index.ssf/2017/04/draining_oregon_wins_national.html.

⁶² *Draining Oregon*'s publication spurred on a subsequent chain of events beginning with an independent Oregon Secretary of State Audit of the Oregon Water Resources Department, a budget recommendation by Oregon Governor Kate Brown for the 2017 legislative session to increase general funding to the Oregon Water Resources Department for statewide groundwater mapping studies, and a commitment by the Oregon Water Resources Department to publish a long-term agency plan, expected in August 2018, to prioritize agency responsibilities and set clear, measurable goals for water sustainability.

Conservancy to establish, perhaps for the first time ever, an *in situ* groundwater right under western state water law.

A. State of Oregon Legislature

The Oregon Legislature has at least three crucial responsibilities for groundwater management. First, the Legislature has exclusive authority in drafting and amending

Oregon's groundwater statutes, subject to executive veto by the Governor and a potential legislative override.⁶³ As a legal matter, Oregon's groundwater statutes are primary legal authority in any administrative dispute between the Water Resources Commission and Department and Oregon's regulated groundwater users. The Legislature also has the authority to withdraw by statute unappropriated Oregon surface and ground water sources.⁶⁴ Second,

⁶³ OR. CONST. art. V, § 15b (Legislative enactments; approval by Governor; notice of intention to disapprove; disapproval and reconsideration by legislature; failure of Governor to return bill). For example, in the Legislature's 2017 Regular Session, Chairman of the House Committee on Energy and the Environment, Representative Ken Helm, Democrat - City of Beaverton, passed through Committee three bills to require certain water rights holders to measure how much waters they appropriate with measuring devices, charge annual water management fees for business and agricultural water rights holders, and increase the Oregon Water Resources Department's ability to map groundwater supplies by \$8.2 million. H.R. 2705, 79th Legis. Assemb., Reg. Sess. (Or. 2017) (A bill for an act relating to the measurement of appropriated water), <https://olis.leg.state.or.us/liz/2017R1/Downloads/MeasureDocument/HB2705/Introduced>; H.R. 2706 A-Engrossed, 79th Legis. Assemb., Reg. Sess. (Or. 2017) (A bill for an act relating to management fees for water right; creating new provisions; amending ORS 536.009; and declaring an emergency), <https://olis.leg.state.or.us/liz/2017R1/Downloads/MeasureDocument/HB2706/A-Engrossed>; H.R. 2707 A-Engrossed, 79th Legis. Assemb., Reg. Sess. (Or. 2017) (A bill for an act relating to state financial administration; and declaring an

emergency) <https://olis.leg.state.or.us/liz/2017R1/Downloads/MeasureDocument/HB2707/A-Engrossed>. Although passed through the House Committee on Energy and the Environment, the bills sat idly by unenacted in the House Rules Committee and Ways and Means Committee upon adjournment of the Legislature's 2017 Regular Session. Representative Ken Helm planned to convene a water working group after Labor Day 2017 with agricultural interests and environmentalists to potentially revive the bills in the Legislature's 2018 Regular Session. Andrew Theen, *Draining Oregon: Lawmaker Strips Specific Dollar Amounts Out of Water Fee Bill*, THE OREGONIAN/OREGONLIVE, https://www.oregonlive.com/environment/index.ssf/2017/06/draining_oregon_water_bills_dr_1.html (Updated June 29, 2017).

⁶⁴ For groundwater-dependent ecosystems with strong public support, a legislative withdraw of the groundwater source, akin to the action on surface water sources and springs, may be an effective mechanism for conservation. The list of withdrawals by the Legislature for unappropriated Oregon surface and ground water sources include Tumalo Creek, Silver Creek, Diamond Lake, Hackett Creek, Johnson Creek, Lake of the Woods, Streams forming waterfalls near Columbia River Highway, Mill and Barr Creeks, Tributaries of Columbia River, Rogue River, McNulty Creek, and Milton Creek.

the Legislature has exclusive authority in appropriating the necessary State Treasury funds to administer and enforce Oregon's groundwater statutes.⁶⁵ As a practical matter, this is perhaps the Legislature's most important responsibility. As reported in the

OR. REV. STAT. § 538.110–.300 (2017) (Withdrawal of Certain Waters From Appropriation).

⁶⁵ OR. CONST. art. III, § 2 (Budgetary control over executive and administrative officers and agencies).

⁶⁶ *Draining Oregon* is filled with examples of insufficient legislative funding for Oregon's groundwater management. The Oregon Groundwater Act of 1955 mandated the Water Resources Commission and Department move “as rapidly as possible” to study Oregon's existing surface and groundwater resources. Six decades later, the Legislature has only funded Department groundwater mapping studies in four of Oregon's eighteen drainage basins, and only in reaction to groundwater overdraft crises. To date, the Commission and Department rely on a cursory U.S. Geological Survey report published in 1968 to manage Oregon's groundwater.

According to *Draining Oregon*, the Department's Groundwater Section is staffed with only 12 people, 11 hydrogeologists and one manager, to monitor Oregon's roughly 400,000 groundwater wells. Projected costs for the Department to complete groundwater mapping studies in Oregon's remaining fourteen uncharted drainage basins range from \$45 million to \$75 million. In over three straight budget cycles, from 2005 through 2011, legislative appropriations for Department groundwater mapping studies totaled \$100,000. In 2012, the Oregon Water Resources Commission warned the Legislature that the Department's groundwater mapping studies were “underfunded and have been for years.” The Legislature responded by appropriating \$51 million to develop future water needs and infrastructure, such as reservoirs, with only \$1

recent *Oregonian* piece *Draining Oregon*, effective groundwater management in Oregon has been stymied for decades due to lack of general funding to the Water Resources Department.⁶⁶ An additional responsibility of the Legislature is the

million for Department groundwater mapping studies. In 2015, just two percent of the Legislature's budget went to natural resources, with the Department receiving less than one-tenth of that percentage. Kelly House & Mark Graves, *Draining Oregon: No Money to Measure Oregon's Water Levels*, THE OREGONIAN/OREGONLIVE (August 26, 2016), http://media.oregonlive.com/environment_impact/other/Draining_Oregon_0826d.pdf

The *Oregonian* published *Draining Oregon* in August 2016. Shortly thereafter, Oregon Governor Kate Brown recommend in the 2017 – 2019 Governor's Budget a legislative funding increase of \$1.8 million to the Department, potentially adding a second team of hydrogeologists to the Department's Groundwater Section for statewide groundwater mapping studies. Andrew Theen, *Gov. Brown Asks to Expand Groundwater Studies Following Oregonian Investigation*, THE OREGONIAN/OREGONLIVE, https://www.oregonlive.com/environment/index.ssf/2016/12/gov_kate_brown_asks_to_expand.html (Updated December 3, 2016 at 9:17 PM).

By the end of the Legislature's 2017 Regular Session, however, no additional general fund budgeting was provided for the Department's groundwater mapping studies, despite Governor Brown's budget recommendation and a bipartisan bill passed in the Oregon House Committee on Energy and the Environment. Andrew Theen, *Draining Oregon: Lawmaker Strips Specific Dollar Amounts Out of Water Fee Bill*, THE OREGONIAN/OREGONLIVE, https://www.oregonlive.com/environment/index.ssf/2017/06/draining_oregon_water_bills_dr_1.html (Updated June 29, 2017).

The Legislature did appropriate two of Governor Brown's budget requests for the Oregon Water

Oregon Senate’s confirmation of state agency officials.⁶⁷ Appointments to the Water Resources Commission, the Water Resources Department, and other important state agencies responsible for groundwater management require Oregon Senate confirmation.⁶⁸

B. State of Oregon Governor’s Office

Under the Oregon Constitution, the Governor’s Office is the chief executive of the State.⁶⁹ Thus, the Governor has considerable power in shaping groundwater

management. One of the Governor’s enumerated powers is to “transact all necessary business with the officers of government.”⁷⁰ Through the Oregon Secretary of State Audits Division,⁷¹ the Water Resources Department can and has been audited to assess the Department’s capacity to administer and enforce Oregon’s groundwater statutes.⁷² The Governor also regularly makes recommendations to the Legislature. As previously mentioned, the Governor has executive veto power over legislative amendments to Oregon’s groundwater statutes.⁷³ In addition, the

Resources Department, anticipating a roughly \$500,000 increase in Department fees on water rights applications and transfers and declaring an emergency for public peace, health and safety. H.R. 2295 Enrolled, 79th Legis. Assemb., Reg. Sess. (Or. 2017) (An act relating to fees charged for Water Resources Department services; creating new provisions; amending ORS 536.050, 537.150, 537.610, 537.620 and 539.081; and declaring an emergency), <https://olis.leg.state.or.us/liz/2017R1/Downloads/MeasureDocument/HB2295>; H.R. 2296 Enrolled, 79th Legis. Assemb., Reg. Sess. (Or. 2017) (An act relating to processes affecting the physical conditions of wells; creating new provisions; and amending ORS 537.753), <https://olis.leg.state.or.us/liz/2017R1/Downloads/MeasureDocument/HB2296>; STATE OF OR. LEGISLATIVE FISCAL OFFICE, 2017-19 BUDGET HIGHLIGHTS 26, 46, 90, E-12 (2017), <https://www.oregonlegislature.gov/lfo/Documents/2017-19%20Budget%20Highlights.pdf>.

⁶⁷ OR. CONST. art. III, § 4.

⁶⁸ OR. REV. STAT. § 536.022(1).

⁶⁹ OR. CONST. art. V, § 1 (Governor as chief executive).

⁷⁰ OR. CONST. art. V, § 13 (Transaction of governmental business).

⁷¹ The Oregon Secretary of State is constitutionally independent of other agencies within the Executive, Legislative, and Judicial branches of Oregon government. OR. CONST. art. VI, §2 (Duties of Secretary of State).

⁷² JEANNE P. ATKINS & MARY WENGER, OR. SEC’Y OF STATE, OREGON WATER RESOURCES DEPARTMENT STATE AUDIT (2016), <https://www.documentcloud.org/documents/3239552-State-Audit-of-Water-Resources.html>.

⁷³ OR. CONST. art. V, § 15b.

As recounted in *Draining Oregon*, former Oregon Governor John Kitzhaber once vetoed a bill in 1995 introduced by then Chairman of the House Committee on Water Policy, former Representative Chuck Norris, Republican – City of Hermiston, dubbed at the time by some scientists and activists as “the anti-gravity bill.” The bill attempted to nullify the Water Resource Commission and Department’s administrative regulatory authority to manage hydraulically connected Oregon surface and ground water sources, claiming Oregon’s rivers and lakes were not connected with underground water. Kelly House & Mark Graves, *Draining Oregon*:

Governor sends budget recommendations to the Legislature on a biennial basis that can impact general funding to the Water Resources Department.⁷⁴ The Governor has statutory authority to declare a drought emergency which applies to both surface and ground water sources.⁷⁵ Equally important, the Governor appoints state agency officials. The Governor appoints the seven members to the Water Resources Commission, subject to Oregon Senate confirmation.⁷⁶ The Governor can vacate

and reappoint members to the Commission “for any cause.”⁷⁷ The Governor also appoints the Director to the Water Resources Department,⁷⁸ who serves her term “at the pleasure of the Governor.”⁷⁹ The Governor appoints other separate state agency officials with important responsibilities for Oregon’s groundwater management.⁸⁰ These state agencies include the Oregon Department of Fish and Wildlife,⁸¹ the Parks and Recreation Department,⁸² the Department of Environmental Quality,⁸³ the Department of

No Money to Measure Oregon’s Water Levels, THE OREGONIAN/OREGONLIVE (August 26, 2016), http://media.oregonlive.com/environment_impact/other/Draining_Oregon_0826d.pdf.

⁷⁴ Oregon Governor Kate Brown recommended in the 2017 – 2019 Governor’s Budget a nine percent increase in funding to the Water Resources Department, bringing potential total spending up to \$118.6 million, from the 2015 – 2017 Legislatively Approved Budget. Governor Brown’s budget recommendation intended to establish a new groundwater basin study team composed of five field workers. KATE BROWN, 2017 – 2019 GOVERNOR’S BUDGET STATE OF OREGON 182 – 185 (2016) (Water Resources Department), https://www.oregon.gov/das/Financial/Documents/2017-19_gb.pdf. The Legislature failed to enact Governor Brown’s budget request for an \$1.8 million funding increase to the Water Resources Department in the Legislature’s 2017 Regular Session. Andrew Theen, *Draining Oregon: Lawmaker Strips Specific Dollar Amounts Out of Water Fee Bill*, THE OREGONIAN/OREGONLIVE, https://www.oregonlive.com/environment/index.ssf/2017/06/draining_oregon_water_bills_dr_1.html (Updated June 29, 2017).

⁷⁵ OR. REV. STAT. § 536.720 (2017) (Declaration of state authority; Governor’s power to order water conservation or curtailment plan). See Janet C. Neuman, *Drought Proofing Water Law*, 7 U. DENV. WATER L. REV. 92, 101-02 (2003) (noting several special processes available throughout a declared drought, including the governor’s ability to order water conservation or curtailment plans).

⁷⁶ OR. REV. STAT. § 536.022(1).

⁷⁷ OR. REV. STAT. § 536.022(2).

⁷⁸ OR. REV. STAT. § 536.032.

⁷⁹ OR. REV. STAT. § 536.032.

⁸⁰ ADELL LOUISE AMOS, FRESHWATER CONSERVATION 7 (2009).

⁸¹ THE WATER QUALITY AND QUANTITY PROGRAM, <https://www.dfw.state.or.us/fish/water/> (last visited June 25, 2018).

⁸² OREGON PARKS & RECREATION DEPARTMENT: STEWARDSHIP: SCENIC WATERWAYS, <https://www.oregon.gov/oprd/NATRES/scenicwaterways/pages/index.aspx> (last visited June 25, 2018).

⁸³ WATER QUALITY HOME, <https://www.oregon.gov/deq/wq/Pages/default.aspx> (last visited June 25, 2018).

Agriculture,⁸⁴ the Health Division,⁸⁵ and the Department of Land Conservation and Development.⁸⁶ Perhaps the Governor's greatest power is the authority to declare a drought which applies to both surface and ground water sources.⁸⁷

These agencies are an integral part of the executive branch structure that exists for managing water resources and focusing on their authorities and expertise to utilize various provisions of the law could help advance groundwater protection. DEQ has significant statutory authority to protect and preserve freshwater quality standards, including Oregon's groundwater. DEQ, the Parks and Recreation Department, and ODFW each have statutory authority to claim instream water rights,⁸⁸ potentially extending to *in situ* groundwater.⁸⁹ Just as

significant, these state agencies can provide official comments to the Water Resources Department regarding proposed groundwater permit applications or changes of certified groundwater uses.⁹⁰

1. Oregon Watershed Enhancement Board

In addition to state agency officials, the Governor appoints the executive director and citizen members to the Oregon Watershed Enhancement Board (OWEB), subject to Oregon Senate confirmation.⁹¹ The Board is an interagency and citizen group tasked with implementing an Oregon plan to “enhance, restore and protect Oregon's native salmonid populations, watersheds, fish and wildlife habitat and

⁸⁴ AGRICULTURAL WATER QUALITY PLANS, <https://www.oregon.gov/ODA/programs/NaturalResources/AgWQ/Pages/AgWQPlans.aspx> (last visited June 25, 2018).

⁸⁵ GROUNDWATER SOURCE MONITORING, [HTTPS://WWW.OREGON.GOV/OHA/PH/HEALTHYENVIRONMENTS/DRINKINGWATER/RULES/GWR/PAGES/INDEX.ASPX](https://www.oregon.gov/OHA/PH/HEALTHYENVIRONMENTS/DRINKINGWATER/RULES/GWR/PAGES/INDEX.ASPX) (last visited June 25, 2018).

⁸⁶ OR. REV. STAT. § 197.040 (2017).

⁸⁷ OR. REV. STAT. § 536.720 (2017) (Declaration of state authority; Governor's power to order water conservation or curtailment plan). See Janet C. Neuman, *Drought Proofing Water Law*, 7 U. DENV. WATER L. REV. 92, 101-02 (2003) (noting several special processes available throughout a declared drought, including the

governor's ability to order water conservation or curtailment plans).

⁸⁸ OR. REV. STAT. § 537.336 (2017).

⁸⁹ “‘In-stream’ means within the natural stream channel or lake bed or place where water naturally flows or occurs.” OR. REV. STAT. § 537.332 (Definitions). “‘Instream’ as defined in ORS 537.332, means within the natural stream channel or lake bed or place where water naturally flows or occurs.” OR. ADMIN. R. 690-077-0010 (2017) (Definitions).

⁹⁰ Amos, *Freshwater Conservation Report*, *supra* note 27, at 7, 28 (2009).

⁹¹ OR. REV. STAT. § 541.900(2)(B) (Oregon Watershed Enhancement Board); OR. REV. STAT. § 541.902 (Executive director of Oregon Watershed Enhancement Board).

water quality, while sustaining a healthy economy.”⁹² The Board approves state and federal grants for watershed restoration projects, assessments, monitoring efforts, local watershed councils, education, and outreach activities.⁹³ Of particular interest for *in situ* groundwater, common projects include wetland restoration and the purchase of conservation easements and instream water rights.⁹⁴ The Board consists of seventeen members—eleven voting, six non-voting—including one voting member each from Oregon’s Environmental Quality Commission, Fish and Wildlife Commission, Board of Forestry, Board of Agriculture, and Water Resources Commission. As mentioned above, the remaining six voting members are citizens appointed by the Governor and confirmed by the Oregon Senate, one of whom must be a member of a local American Indian tribe. The six non-voting members on the Board serve in an advisory capacity and include one representative each from the U.S. Environmental Protection Agency, the U.S. Forest Service, the U.S. Bureau of Land Management, the U.S. Fish & Wildlife

Service, the Natural Resources Conservation Service, the National Marine Fisheries Service, and the Oregon State University Extension Administration. Although the Board is not directly involved in Oregon’s groundwater management, the Board’s state and federal grants for watershed enhancement should not be overlooked as an important groundwater *in situ* tool. TNC could try to focus OWEB’s attention, as a policy matter, on the need in Oregon to address groundwater-dependent ecosystems.

C. State of Oregon Judicial Department

By contrast, Oregon’s Judicial Department plays a more limited but decisive role for groundwater management. The Circuit Courts, the Court of Appeals, and the Oregon Supreme Court are composed of Judges elected by Oregon voters for six year terms.⁹⁵ In rather technical legalese, Oregon’s statutes provide for judicial review of final orders issued by the Water Resources Commission and Department.⁹⁶ Depending on the particular plaintiff’s legal

⁹² OR. REV. STAT. § 541.898(5).

⁹³ OR. REV. STAT. § 541.956 (Watershed Conservation Grant Fund purposes).

⁹⁴ OR. REV. STAT. § 541.932 (Watershed enhancement project assistance; criteria for

funding approval; acquisition of interest in land or water).

⁹⁵ OR. CONST. art. VII, § 1 (Courts; election of judges; term of office; compensation).

⁹⁶ OR. REV. STAT. § 536.055.

standing to sue, an administrative appeal against the OWRD begins in the lower Circuit Courts or the Court of Appeals.⁹⁷ On rare occasions, these administrative appeals are reviewed by the Oregon Supreme Court. Lawsuits against the OWRD range from allegations of under enforcement of Oregon’s groundwater statutes to over enforcement.⁹⁸ In the past, lawsuits by Oregon’s regulated groundwater users and public interest advocacy groups⁹⁹ have encouraged administrative reforms to the OWRD. Equally important, the State of Oregon’s Judicial Department governs general stream adjudications.¹⁰⁰

It is important to distinguish what OWRD calls “adjudicated basins” from the results of a “general stream adjudication” like we have in the Klamath Basin. When OWRD refers

to “adjudicated basins,” like here <https://www.oregon.gov/owrd/Pages/adj/index.aspx>, that refers only to state proceedings that reconcile state-issued water rights for a particular area. These adjudicated basins, most often, do not include any federal or Indian claims to water. With the passage of the McCarren Amendment, states could join the federal government in a state court proceeding so that all state and federal claims could be reconciled together – this is a “general stream adjudication” like we have in the Klamath Basin in Oregon. The Klamath Basin Adjudication is the only general stream adjudication in the State of Oregon.¹⁰¹

D. Oregon Water Resources Commission

⁹⁷ Legislative Counsel Committee, *Annotations to the Oregon Revised Statutes, Cumulative Supplement—2017, Chapter 537*, https://www.oregonlegislature.gov/bills_laws/ors/ano537.html (2017) (last accessed Mar. 30, 2018).

⁹⁸ *WaterWatch of Oregon, Inc. v. Water Resources Dept.*, 120 Or App 366 (2013) (allegation of under enforcement of Oregon’s groundwater statutes); *Doherty v. Oregon Water Resources Director*, 308 Or 543 (1989) (allegation of over enforcement of Oregon’s groundwater statutes).

⁹⁹ *E.g., Water Resources Dept. v. City of Klamath Falls*, 68 Or App 148 (1984).

¹⁰⁰ OR. REV. STAT. §§ 539.005–.240 (2017), available at

https://www.oregonlegislature.gov/bills_laws/ors/ors539.html; OR. REV. STAT. §§ 539.300–.360 (Water Rights of Federally Recognized Indian Tribes), available at https://www.oregonlegislature.gov/bills_laws/ors/ors539.html. The Gila River general stream adjudication in Arizona includes groundwater rights. Rhett B. Larson, *Overcoming Constitutional Obstacles to the Resolution of General Stream Adjudications*, 8 ARIZ. J. ENVTL. L. & POL’Y 52, 57 (2018) (discussing how groundwater rights are one cause of complexity in the forty-year Gila River general stream adjudication).

¹⁰¹ See *infra* discussion at FN 158.

Oregon's statutes reserve to the Water Resources Commission administrative rulemaking authority for groundwater management.¹⁰² As such, the Commission's ability to adopt or change administrative rules is an extremely important power. Scattered Oregon statutes charge the Commission with carrying out Oregon water law and policy,¹⁰³ but in practice, the Commission has largely delegated most of these administrative duties to the Water Resources Department and acts more like a corporate board of directors.¹⁰⁴ The Commission, however, cannot delegate its administrative rulemaking authority to the Department.¹⁰⁵ The Commission is also responsible for appointing members to a

Ground Water Advisory Committee, discussed in more detail below.¹⁰⁶

The Commission is composed of seven members appointed by the Governor and confirmed by the Oregon Senate.¹⁰⁷ One member of the Commission is appointed from each of the five statutorily defined regional river basin management areas,¹⁰⁸ with the Governor appointing one "at large" commissioner from the east side of the Cascades Mountains and another from the west side.¹⁰⁹ Members to the Water Resources Commission serve four year terms "at the pleasure of the Governor,"¹¹⁰ and are term-limited to serve a maximum of two consecutive terms.¹¹¹

¹⁰² OR. REV. STAT. § 536.027.

¹⁰³ OR. REV. STAT. § 536.025(1).

¹⁰⁴ OR. REV. STAT. § 536.025(2), (3).

¹⁰⁵ OR. REV. STAT. § 536.025(2).

¹⁰⁶ OR. REV. STAT. § 536.090 (Ground water advisory committee; duties; qualification; term; expenses).

¹⁰⁷ OR. REV. STAT. § 536.022(1); CURRENT OREGON WATER RESOURCES COMMISSION BIOGRAPHIES, <https://www.oregon.gov/owrd/pages/commis/bio.aspx> (last visited July 23, 2018).

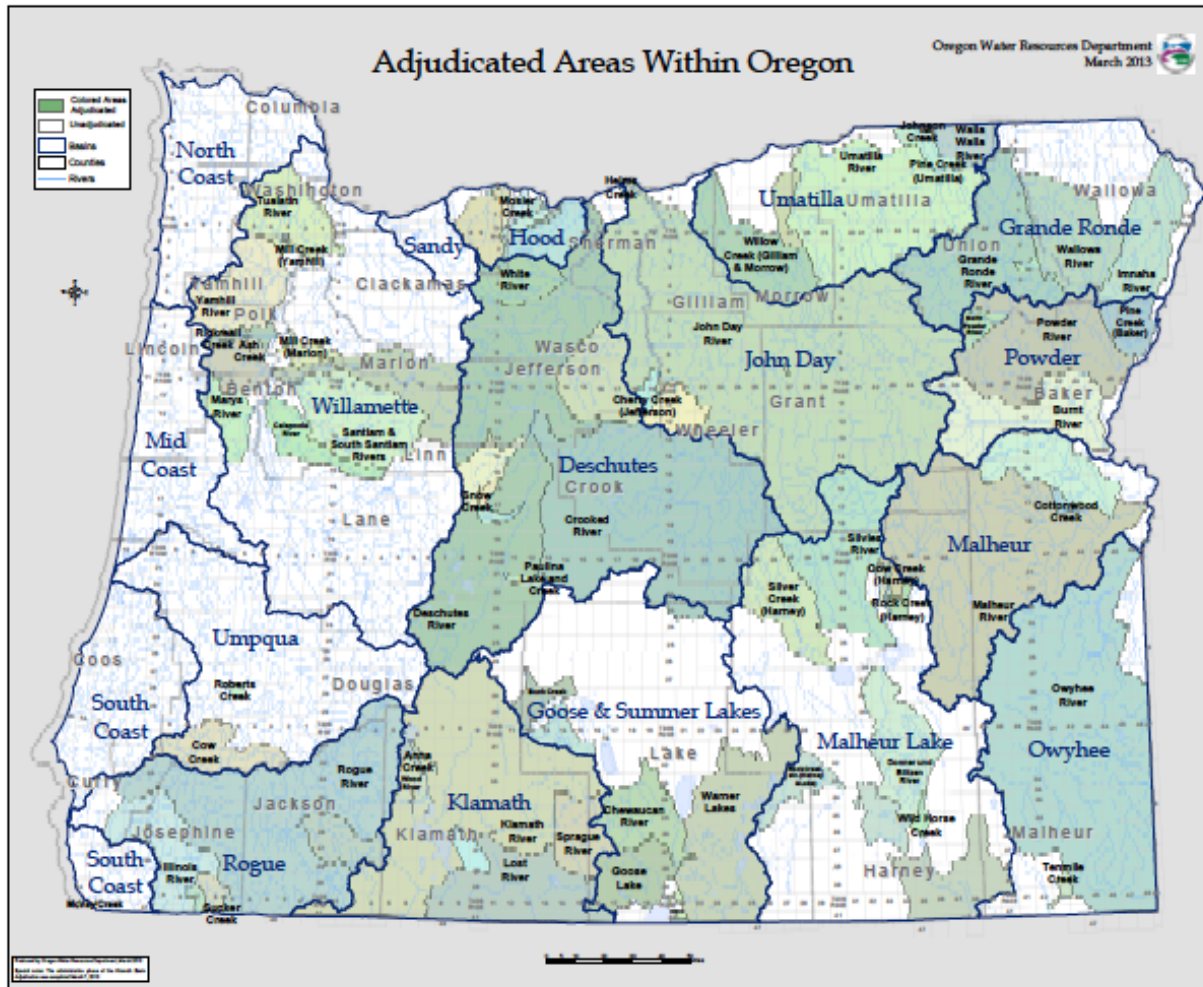
¹⁰⁸ The Commission's five regional river basin management areas include: the Upper Northwest Region, consisting of the Lower and Middle Willamette, North Coast and Sandy drainage basins and that portion of the Columbia River drainage basin below Bonneville Dam; the Southwest Region, consisting of the Rogue,

Klamath, Goose and Summer Lakes drainage basins and that portion of the South Coast drainage basins south of the mouth of the Rogue River; the West Central Region, consisting of the Umpqua, Mid Coast, Upper Willamette and that portion of the South Coast drainage basins north of the mouth of the Rogue River; the North Central Region, consisting of the Umatilla, John Day, Hood and Deschutes drainage basins and that portion of the Columbia River drainage basin above Bonneville Dam; and the Eastern Region, consisting of the Owyhee, Malheur, Grande Ronde, Malheur Lake, Middle Snake and Powder drainage basins. OR. REV. STAT. § 536.022(3).

¹⁰⁹ OR. REV. STAT. § 536.022(1).

¹¹⁰ OR. REV. STAT. § 536.022(2).

¹¹¹ *Id.*



1. Ground Water Advisory Committee

The Commission¹¹² is required by statute to appoint a Ground Water Advisory

Committee.¹¹³ The Committee is composed of nine members, three of whom must be actively engaged in some aspect of Oregon's water supply or monitoring Oregon's well drilling industry.¹¹⁴ The rest of the members

¹¹² While previously the responsibility of the Director, Ground Water Advisory Committee appointments were delegated to the Commission at the time of its creation in 1985. 1985 Or. Laws 237, available at https://archives.oregonlegislature.gov/ORS_Archives/1985-Chapter-536.pdf (amending OR. REV. STAT. §536.090 (1985)).

¹¹³ OR. REV. STAT. §536.090 (2017) (duties, qualification, term, expenses); see also OR. ADMIN R. 690-235-0005 (2018); OR. ADMIN R. 690-235-0020 (2018); Water Resources Department, GROUNDWATER ADVISORY COMMITTEE, oregon.gov, <https://www.oregon.gov/owrd/pages/gw/gwac.aspx> (last visited Aug. 12, 2018).

¹¹⁴ OR. REV. STAT. § 536.090(2).



to the Committee are appointed based on their individual or multiple interests in “the well drilling industry, hydrogeology, irrigation, local government, [American] Indian Tribes, environment, public health, industry, commerce, water project development, watershed enhancement, instream flow, agriculture, well pump installation, exempt ground water users, [and] any other category with a ground water interest.”¹¹⁵ Appointed members to the Committee serve three year terms, staggered so that three of the nine members’ terms expire each year.¹¹⁶ The Committee meets regularly once every three months and

potentially at other specified times and places at the request of the Commission.¹¹⁷

The Committee advises the Commission on rules for the development, security, use, and protection of Oregon groundwater; as well as for examining the licensing for well constructors.¹¹⁸ At least once a year the Committee reviews the Water Resources Department’s expenditures on revenue collected from new groundwater well construction fees. An annual expenditure plan for how best to utilize these revenues for new project activities is jointly crafted by the Committee and the Department, with the Commission’s final “concurrence.”¹¹⁹

¹¹⁵ OR. ADMIN. R. 690-235-0005.

¹¹⁶ OR. ADMIN. R. 690-235-0005.

¹¹⁷ OR. REV. STAT. § 536.090(2).

¹¹⁸ OR. REV. STAT. § 536.090(1)(A), (B).

¹¹⁹ OR. REV. STAT. § 536.090(1)(b).

2. Integrated State Water Resources Strategy

The Commission is also required by statute to publish an Integrated State Water Resources Strategy once every five years.¹²⁰

The Commission's first Strategy was published in 2012, with an iterative five year follow-up Strategy published in 2017.¹²¹

The Commission must submit a draft Strategy for comments to the Oregon Environmental Quality Commission, the Department of Agriculture, and the Department of Fish and Wildlife before final publication.¹²² A Policy Advisory Group was convened by the Commission in 2016 to provide further guidance and recommendations to the Strategy's Project Team.¹²³ The Strategy provides important information about groundwater management in Oregon. Oregon's instream and out-of-

stream water needs, including ecosystem services, water quality, and water supply needs, are outlined in detail.¹²⁴ The Strategy also discusses how the Commission will promote communication and partnerships with key Oregon stakeholders.¹²⁵

Of particular interest for *in situ* groundwater, the Integrated Water Resources Strategy mentions groundwater and groundwater-dependent ecosystems (GDEs) on multiple occasions.¹²⁶ The Strategy recommends the Commission take action to specify Oregon groundwater quantity and quality requirements to protect groundwater-dependent ecosystems.¹²⁷

3. Basin programs

The Water Resources Commission's administrative powers go far beyond appointing members to a Ground Water

¹²⁰ OR. REV. STAT. § 536.220(3)(e)(B).

¹²¹ OR. WATER RES. COMM., OREGON'S 2017 INTEGRATED WATER RESOURCES STRATEGY (2017), https://www.oregon.gov/owrd/LAW/docs/IWRS/2017_IWRS_Final.pdf.

¹²² OR. REV. STAT. § 536.220(3)(e)(B).

¹²³ INTEGRATED WATER RESOURCES STRATEGY, https://www.oregon.gov/owrd/Pages/law/integrated_water_supply_strategy.aspx (last visited July 4, 2018); OR. WATER RES. COMM., BRIEFER ON THE STRATEGY (2012), https://www.oregon.gov/owrd/LAW/docs/IWRS/IWRS_One_Pager_Final.pdf.

¹²⁴ OR. REV. STAT. § 536.220(3)(d)(A).

¹²⁵ OR. REV. STAT. § 536.220(3)(d)(E).

¹²⁶ OR. WATER RES. COMM., OREGON'S 2017 INTEGRATED WATER RESOURCES STRATEGY 53, 55, 59, 60 (2017), https://www.oregon.gov/owrd/LAW/docs/IWRS/2017_IWRS_Final.pdf.

¹²⁷ OR. WATER RES. COMM., OREGON'S 2017 INTEGRATED WATER RESOURCES STRATEGY 59, 60 (2017) (Recommended Action 3.B Determine Needs of Groundwater-Dependent Ecosystems), https://www.oregon.gov/owrd/LAW/docs/IWRS/2017_IWRS_Final.pdf.

Advisory Committee and publishing an Integrated State Water Resources Strategy. The Commission is vested by law to adopt rules and standards for Oregon's groundwater management.¹²⁸ Some administrative rules have statewide applicability.¹²⁹ Other administrative rules have specific applicability to Oregon's designated drainage basins, called "state water resources programs" or "basin programs."¹³⁰

The Commission has adopted basin programs for seventeen drainage basins.¹³¹ To date, these basin programs include the North Coast Basin, Willamette Basin, Sandy Basin, Hood Basin, Deschutes Basin, John Day Basin, Umatilla Basin, Grand Ronde Basin, Powder Basin, Malheur – Owyhee Basins, Goose and Summer Lakes Basin, Rogue Basin, Umpqua Basin, South Coast

Basin, Mid Coast Basin, Columbia River, and Middle Snake River Basin.¹³² The Commission has not adopted comprehensive basin programs for the Malheur Lake Basin or the Klamath Basin. Minimum perennial streamflows have been set by the Commission for the Malheur Lake Basin.¹³³ The Commission also adopted new administrative rules in April 15, 2016 restricting groundwater use in the Greater Harney Valley Groundwater Area of Concern.¹³⁴ In the Klamath Basin, an interstate compact between Oregon and California currently governs water rights allocations.¹³⁵ A general stream adjudication is ongoing in the Klamath Basin to determine state, federal, and American Indian tribal water rights.¹³⁶ The Commission governs Oregon's remaining seventeen designated drainage basins through adopted or amended basin

¹²⁸ E.g., OR. REV. STAT. § 536.07 (Rules and standards); OR. REV. STAT. § 536.241 (Policy on water supply).

¹²⁹ OR. ADMIN. R. 690-410-0010 (Statewide Water Resource Management Groundwater Management).

¹³⁰ OR. REV. STAT. § 536.300 OR. ADMIN. R. 690-500-0010 to 0020 (Division 500 – Basin Programs).

¹³¹ OR. ADMIN. R. 690-500-0010 (Basin Programs Preamble).

¹³² *Id.*

¹³³ OR. ADMIN. R. 690-512-0090 (Division 512 – Malheur Lake Basin Program Whitehorse and Willow Creeks); OR. ADMIN. R. 690-512-0100

(Division 512 – Malheur Lake Basin Program Home Creek Reservations).

¹³⁴ OR. ADMIN. R. 690-512-0020 (Groundwater use in the Greater Harney Valley Groundwater Area of Concern), *available at* <https://secure.sos.state.or.us/oard/displayDivisionRules.action?selectedDivision=3219>.

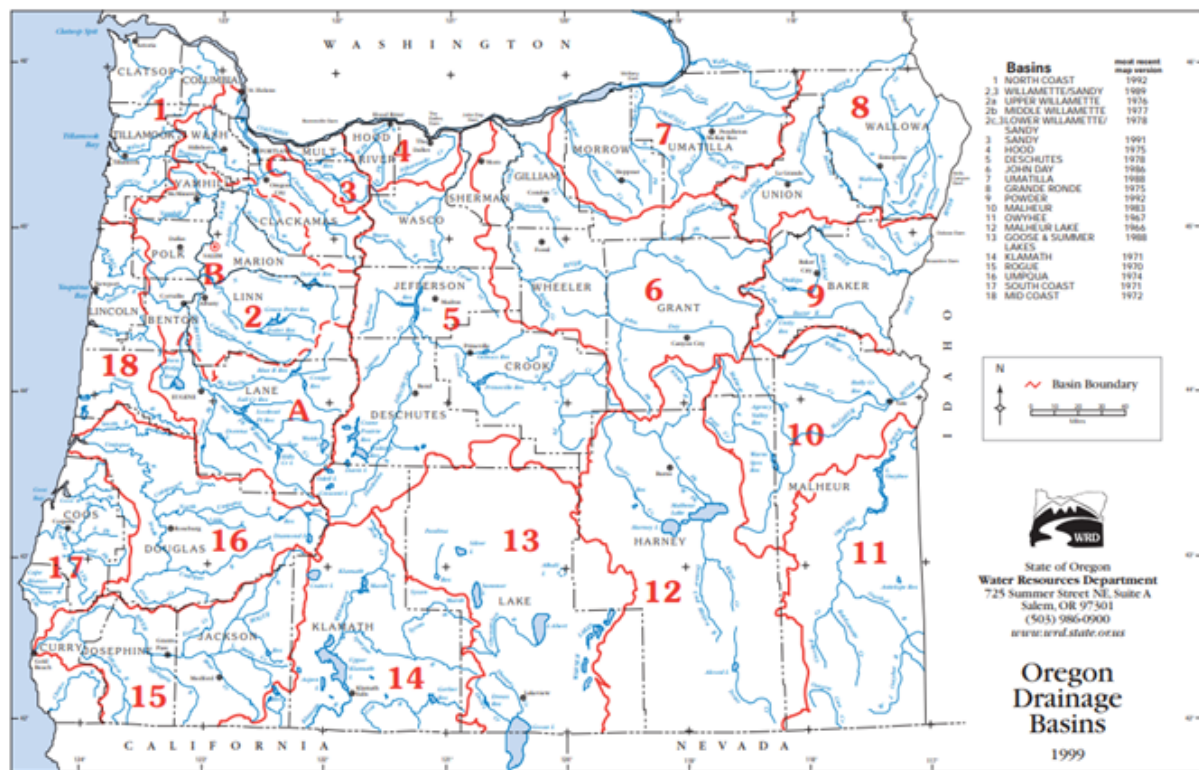
¹³⁵ OR. REV. STAT. §§ 542.610–.620 (2017) (Klamath River Basin Compact); OR. ADMIN. R. 690-500-0010(5) (2017).

¹³⁶ KLAMATH RIVER BASIN, https://www.oregon.gov/owrd/Pages/adj/Klamath_River_Basin_Adjudication.aspx (last visited July 4, 2018).

programs.¹³⁷ The Commission is required to hold at least one public hearing before adopting or amending basin programs in the affected river basin.¹³⁸ Once the Commission conducts a first public hearing in the affected river basin, the Commission may grant to the Director of the Water Resources Department additional authority to conduct follow-up public hearings,¹³⁹ but may not delegate to the Director the authority to actually adopt or amend a basin program.¹⁴⁰

Basin programs quantify the maximum amount of surface and groundwater supplies available for

appropriation in the affected river basin;¹⁴¹ classify water uses by administrative preference;¹⁴² may withdrawal current water uses from future uses;¹⁴³ prohibit future water uses;¹⁴⁴ and set minimum perennial streamflows for aquatic life.¹⁴⁵ The Commission is required by statute to give administrative preference to human and livestock consumptive water uses over all other proposed water uses when available



¹³⁷ OR. REV. STAT. § 536.310 (Purposes and policies to be considered in formulating state water resources program).

¹³⁸ OR. REV. STAT. § 536.300 (Public hearing in affected river basin).

¹³⁹ OR. REV. STAT. § 536.300(3).

¹⁴⁰ OR. REV. STAT. § 536.025(3).

¹⁴¹ OR. REV. STAT. § 536.340(1)(a) (Classification of water as to highest and best use and quantity of use).

¹⁴² OR. REV. STAT. § 536.340(1)(a), (c).

¹⁴³ *Id.*

¹⁴⁴ *Id.*

¹⁴⁵ OR. REV. STAT. § 536.310(7) (Maintenance of minimum perennial streamflows sufficient to support aquatic life); OR. REV. STAT. § 536.340 (Classification of water as to highest and best use and quantity of use; enforcement of laws concerning loss of water rights; prescribing preferences for future uses).

basin program water supplies are “in mutually exclusive conflict” or “insufficient for all who desire to use them.”¹⁴⁶ When classifying or reclassifying basin program water supplies or future water uses, the Commission must follow additional administrative rulemaking procedures.¹⁴⁷ The Commission must assure the proposed water use classifications will comply with statewide planning goals and local government comprehensive land use plans.¹⁴⁸ Notice of a public hearing to be held by the Commission must be published in a newspaper of general circulation for two consecutive weeks in each county where surface and ground water sources will be affected.¹⁴⁹ Particularly relevant for Oregon’s groundwater management, the Commission is required to follow additional administrative rulemaking procedures when the proposed water use classifications will limit statutorily exempt groundwater uses.¹⁵⁰ The Commission must review and make certain the proposed restrictions on statutorily exempt groundwater uses are

consistent with Oregon’s groundwater statutes.¹⁵¹ An opportunity for review must be afforded to any member of the Oregon Legislature who represents a district where the proposed restrictions on statutorily exempt groundwater uses would apply,¹⁵² and to any interim committee of the Oregon Legislature responsible for water-related issues.¹⁵³ The Ground Water Advisory Committee must review and provide recommendations to the Commission concerning the proposed restrictions on statutorily exempt groundwater uses.¹⁵⁴

When adopting or amending basin programs, however, the Commission does not have the authority to interfere with the internal affairs of any state agency or public corporation; or to modify, set aside, or alter pre-existing surface and groundwater rights.¹⁵⁵ In many parts of Oregon, for example, claims to the use of surface and groundwater predate the Commission’s administrative rulemaking authority to adopt or amend basin programs. These claims

¹⁴⁶ OR. REV. STAT. § 536.310(12); OR. REV. STAT. § 536.320(3).

¹⁴⁷ OR. REV. STAT. § 536.340(2).

¹⁴⁸ OR. REV. STAT. § 197.180 (State agency planning responsibilities); OR. REV. STAT. § 536.340(2); OR. ADMIN. STAT. 690-005-0010 to 0060 (Coordination on land use matters).

¹⁴⁹ OR. REV. STAT. § 536.340(2)(b).

¹⁵⁰ OR. REV. STAT. § 536.340(3).

¹⁵¹ OR. REV. STAT. § 536.340(3)(a); OR. REV. STAT. § 537.780 (Powers of Water Resources Commission; rules; limitations on authority).

¹⁵² OR. REV. STAT. § 536.340(3)(b)(A).

¹⁵³ OR. REV. STAT. § 536.340(3)(b)(B).

¹⁵⁴ OR. REV. STAT. § 536.340(3)(c).

¹⁵⁵ OR. REV. STAT. § 536.320 (Limitation of powers of commission).

must go through a general stream adjudication,¹⁵⁶ where the claimants' water rights are quantified, documented, and incorporated into basin programs by judicial decree.¹⁵⁷ State and federal water rights, including American Indian tribal water rights, have yet to be fully adjudicated in Oregon.¹⁵⁸

4. Wildlife and Watershed Enhancement Water Uses

As mentioned above, water uses are selectively adopted or amended by the Commission within each basin program.

Oregon's water statutes and administrative rules define water uses into eleven classifications for domestic, fish culture or fish life, industrial, irrigation, livestock, mining, municipal, pollution abatement, power or power development, recreation, and wildlife water uses.¹⁵⁹ Accordingly, at least in theory, the Commission has the administrative rulemaking authority to classify *in situ* groundwater appropriations as wildlife water uses in applicable basin programs, but groundwater uses for these ecosystems must be designated in the basin program first.

¹⁵⁶ See discussion *supra* p. 3 State of Oregon Judicial Department for more information about general stream adjudications.

¹⁵⁷ OR. WATER RES. COMM., OREGON'S 2017 INTEGRATED WATER RESOURCES STRATEGY 51 (2017), https://www.oregon.gov/owrd/LAW/docs/IWRS/2017_IWRS_Final.pdf.

¹⁵⁸ *Id.* 'Adjudication' may have different water rights implications depending on whether an adjudication resolves federally-held water rights. General stream adjudications are "state court proceedings in which all water rights within a river basin are adjudicated to determine who holds rights to how much water, for what uses, and in what relative priority." Rhett Larson, Kelly Kennedy, *Bankrupt Rivers*, 49 U.C. DAVIS L. REV. 1335, 1337 (2016). Until the 1950s, the federal government acquired numerous state water rights, but was not subject to state jurisdiction for water adjudications because of sovereign immunity. Dylan R. Hedden-Nicely, *The Legislative History of the McCarran Amendment: An Effort to Determine Whether Congress Intended for State Court Jurisdiction*

to Extend to Indian Reserved Water Rights, 46 ENVTL. L. 845, 849–50 (2016). This meant that ongoing and prior state adjudications without federal water rights were incomplete. *Id.* at 850. To resolve the immunity issue, Congress enacted the McCarren Amendment, which waived federal sovereign immunity to join the federal government as a party in state water adjudications. 43 U.S.C. § 666 (2018). While OWRD previously conducted adjudications without addressing federal rights, these adjudications are incomplete because they lack quantification of federal water rights. See OR. WATER RES. DEP'T, ADJUDICATED AREAS WITHIN OREGON, March 2013, https://www.oregon.gov/owrd/adj/docs/Adjudicated_areas_2013.pdf. In Oregon, the only general stream adjudication with federal water rights is the ongoing Klamath River adjudication. For more information about the Klamath River adjudication, see *supra* note 136. *Id.*

¹⁵⁹ OR. REV. STAT. § 536.300(1); OR. ADMIN. R. 690-500-0020 (Definitions); OR. ADMIN. R. 680-300-0010(62) (Wildlife Water Use).

Applicants like TNC may be able to receive such wildlife water use permits particularly where the overarching and underlying basin program recognizes the significance for the basin of groundwater-dependent ecosystems. The Oregon Water Resources Department has already granted at least fifty-nine groundwater permits for wildlife water uses.¹⁶⁰ Persons and public agencies listed as owners include the U.S. Bureau of Land Management, the U.S. Fish and Wildlife Service, the Oregon Department of Fish and Wildlife, and many more private Oregon groundwater users.¹⁶¹ Applications to acquire wholly new rights to appropriate ground water in Oregon, however, are uncertain and expensive. Applying for an *in situ* groundwater right permit to protect groundwater-dependent ecosystems is perhaps even more uncertain.

¹⁶⁰ OREGON WATER RESOURCES DEPARTMENT WATER RIGHTS INFORMATION QUERY RESULTS, https://apps.wrd.state.or.us/apps/wr/wrinfo/wr_query.aspx?SearchType=Name&name_last=&name_company=&basin_nbr=&start_priority=&end_priority=&use_category=W&wr_type=GW&view_canceled_rights=False (last visited August 14, 2018).

¹⁶¹ *Id.*

¹⁶² The Department's seven-step process for groundwater permitting consists of (1) filing the Department's "Application for a Permit to Use [Surface or Ground] Water"; (2) a determination of whether the application is complete and whether the proposed use is prohibited by statute; (3) an initial review to determine whether water is available and whether the

Notwithstanding uncertainty, Oregon's groundwater statutes provide a seven-step process for groundwater permitting.¹⁶² The first step has particular relevance for applicants like the Conservancy interested in appropriating *in situ* groundwater to protect groundwater-dependent ecosystems.¹⁶³ The applicant must first fill out a groundwater application form as prescribed by the Department.¹⁶⁴ Because processing of an *in situ* groundwater right permit with the OWRD would likely be a matter of first impression, the applicant should be specific in filling out her groundwater application form. The Department will only accept a water rights application if the application is

proposed use is restricted or limited by statute; (4) public notice of the application and a thirty-day comment period; (5) a proposed final order explaining the proposed decision to approve or deny the application; (6) another public notice with a 45 day period for the filing of a protest or standing statement; and (7) a final order approving, rejecting, or approving with modifications the proposed final order. OR. REV. STAT. §§ 537.615–.635 (2017).

¹⁶³ OR. REV. STAT. § 537.615 (Application for permit to acquire new right or enlarge existing right to appropriate ground water; plans and drawings).

¹⁶⁴ See AGENCY FORMS, <https://www.oregon.gov/owrd/Pages/pubs/forms.aspx> (last visited July 11, 2018).

“complete.”¹⁶⁵ Accordingly, among the other fill-out-the-form requirements, the applicant must fill out in her groundwater application the nature of the water use(s) for which the groundwater right permit is being made,¹⁶⁶ and since the applicant’s *in situ* groundwater is an “artesian or other ground water not requiring pumping, the rate of flow in gallons in such manner as the Water Resources Commission may prescribe.”¹⁶⁷ The “nature of the water use(s)” filled out in the applicant’s groundwater right permit should be carefully considered. Oregon’s water statutes and administrative rules classify water uses within each basin program individually. Oregon Revised Statutes section 536.300(1) declares wildlife water uses as a beneficial use entitled to Oregon surface and groundwater appropriation.¹⁶⁸ Oregon Administrative Rules 690-500-0020(11) defines “Wildlife Use” as a classifiable water use for basin programs.¹⁶⁹ Oregon Administrative Rules 690-300-0010(62) defines “Wildlife Water Use” as “the use of water by or for sustaining wildlife species and their

habitat.”¹⁷⁰ A “Wetland Enhancement Water Use” is also a potential water use for *in situ* groundwater appropriation. Oregon Administrative Rules 690-300-0010(61) defines “Wetland Enhancement Water Use” as “the use of water to restore, create, or enhance or maintain wetland resources.”¹⁷¹ Oregon Administrative Rules 690-300-0010(60) defines “Wetland” as “an area that is inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions.” Once the applicant submits to the OWRD a “completely” filled out groundwater application, the Department processes the *in situ* groundwater right permit for wildlife or wetland enhancement water use(s) following the remaining six-steps for groundwater permitting as the OWRD would for any other water right.¹⁷²

5. Groundwater Right Transfers

¹⁶⁵ OR. REV. STAT. §

¹⁶⁶ OR. REV. STAT. § 537.615(2)(b).

¹⁶⁷ OR. REV. STAT. § 537.615(2)(k).

¹⁶⁸ OR. REV. STAT. § 536.300(1).

¹⁶⁹ OR. ADMIN. R. 690-500-0020 (2017).

¹⁷⁰ OR. ADMIN. R. 690-300-0010(62).

¹⁷¹ OR. ADMIN. R. 690-300-0010(60), (61).

¹⁷² See Adell Louise Amos, FRESHWATER CONSERVATION 17–24, 29–48 (2009) (Water Right Permitting – Administrative Basics and Public Interest Review).

In addition, groundwater right transfers from one form of permitted water use to a “Wildlife Water Use” or “Wetland Enhancement Water Use” provide another alternative for *in situ* groundwater appropriation.¹⁷³ Applicants like the Conservancy with an interest in appropriating *in situ* groundwater to protect groundwater-dependent ecosystems may be able to purchase vested groundwater rights with senior priority dates and file a water use transfer application with the Department.¹⁷⁴ The Department’s criteria to grant a transfer application differs from the criteria for a wholly new groundwater application, making it easier, at least in theory, for applicants to acquire vested *in situ* groundwater rights with senior priority dates using wildlife or wetlands enhancement water use transfers.¹⁷⁵

6. Proposed Water Use Exceptions

Applicants like the Conservancy may also be able to receive proposed water use exceptions to appropriate *in situ*

groundwater to protect groundwater-dependent ecosystems. To request such an exception, the applicant must first file a groundwater application¹⁷⁶ with an accompanying letter to the Director of the Oregon Water Resources Department.¹⁷⁷ The letter must include an explanation that the proposed water use exception is of an unusual nature, not likely to recur in the basin, and that the Commission likely did not consider the use when setting the basin program’s classified water uses;¹⁷⁸ and “land use information as provided in the Department’s Land Use Procedures Guide . . .”¹⁷⁹ Upon receipt of the completed groundwater application and letter, the Director may accept the application by notifying the Commission, appropriate state and federal agencies, affected local government planning departments, appropriate American Indian tribes, other interested parties, and anyone else requesting notice.¹⁸⁰ The notice sets the time and manner for filing objections to the

¹⁷³ OR. REV. STAT. § 540.520 (2017)

¹⁷⁴ WATER RIGHT TRANSFERS, https://www.oregon.gov/owrd/Pages/mgmt_transfers.aspx (last visited 8/29/2018).

¹⁷⁵ See Amos, FRESHWATER CONSERVATION 25-26 (2009) (Application Process for Water Right Transfers).

¹⁷⁶ AGENCY FORMS, <https://www.oregon.gov/owrd/Pages/pubs/forms.aspx> (last visited July 11, 2018).

¹⁷⁷ OR. ADMIN. R. 690-082-0010.

¹⁷⁸ OR. ADMIN. R. 690-500-0010(1)(b), (2).

¹⁷⁹ OR. ADMIN. R. 690-500-0010(2).

¹⁸⁰ OR. ADMIN. R. 690-082-0040.

application.¹⁸¹ Unless otherwise specified, the period for objections last for 60 days beginning from the date the Department first mails the notice.¹⁸² The Director then proceeds to consider the groundwater application based on all the comments and objections received throughout the notice period.¹⁸³ The Director is further required by statute to evaluate if the proposed water use is consistent with the general policies established under the applicable basin program.¹⁸⁴ Once the Director affirmatively grants the groundwater application, the applicant must still go through the regular groundwater right permitting process, including whether the proposed water use would result in injury to an existing water right.¹⁸⁵

¹⁸¹ *Id.*

¹⁸² *Id.*

¹⁸³ OR. ADMIN. R. 690-082-0050.

¹⁸⁴ OR. REV. STAT. § 536.295(4).

¹⁸⁵ OR. REV. STAT. § 536.295(5).

¹⁸⁶ OR. REV. STAT. § 536.410 (Withdrawal of unappropriated waters from appropriation by commission order); *see also* Memorandum from Justin Iverson, Groundwater Section Manager, and Brenda Bateman, Tech. Serv. Div. Adm’x, Or. Water Res. Dep’t, to Water Res. Comm’n (Oct. 13, 2016) (on file with author) (listing the Commission’s ability to issue orders of withdrawal as an important groundwater management tool).

To date, the list of withdrawals by the Commission for unappropriated Oregon surface and ground water sources include Church Lake,

7. Orders of Withdrawal

Lastly, the Commission has the administrative rulemaking authority to issue orders of withdrawal for unappropriated Oregon surface and ground water sources.¹⁸⁶ Applicants like TNC with an interest in appropriating *in situ* groundwater to protect groundwater-dependent ecosystems may be able to achieve similar policy objectives by petitioning the OWRC to issue an order of withdrawal. In making such a petition, however, applicants face uncertainty about the prospects for success.¹⁸⁷ While an order of withdrawal is in effect, no applications for permits to appropriate water for any and all uses, including statutorily exempt groundwater uses, may be received by the Oregon Water Resources Department for

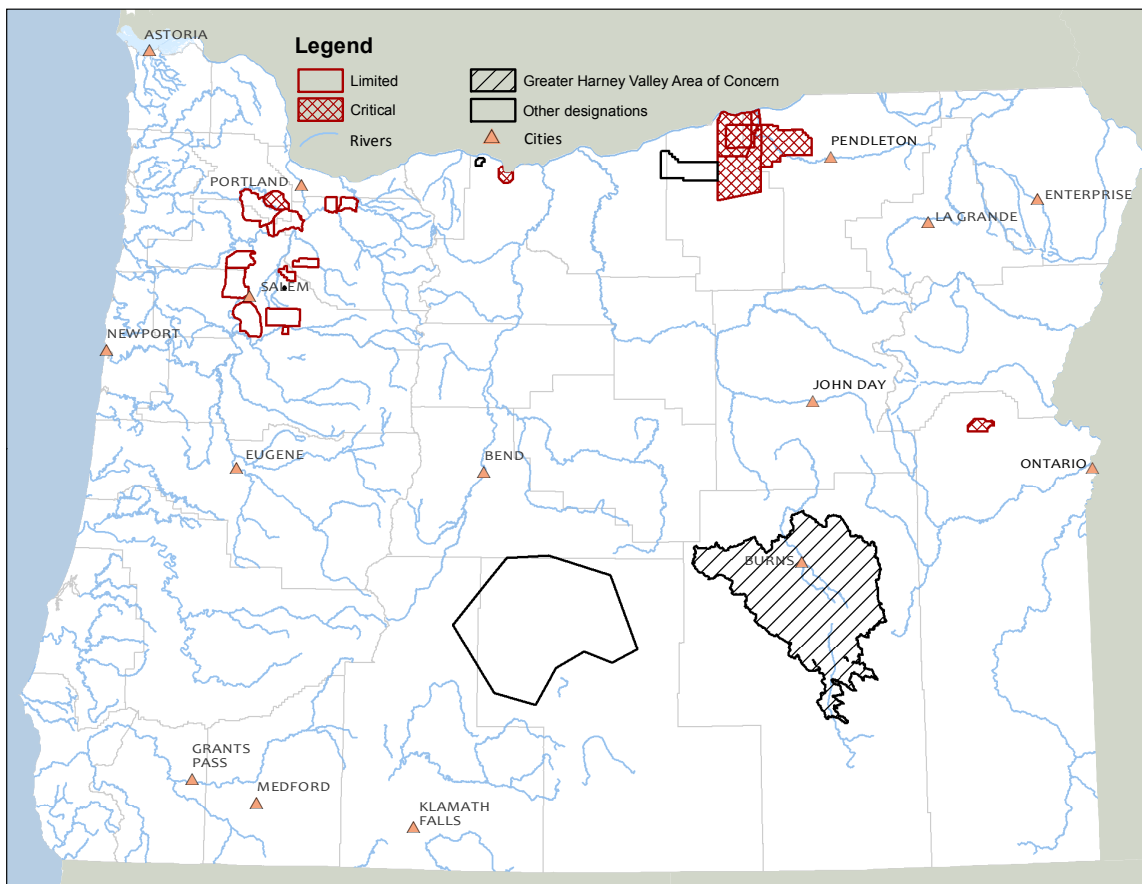
Deschutes River Basin – Trout Creek, Elk Creek, Fort Rock Basin, Goose & Summer Lakes Basin, Priest Rapids Aquifer, Pomona Aquifer, No Name Lake & Tributaries, Roberts Creek, Thomas Creek & Tributaries, South Umpqua River, Lookingglass Creek, Umatilla River, Walla Walla River, and the Willamette River System. OR. ADMIN. R. 690-080-0010(2) (Resume of Withdrawals by the Water Resources Commission of Unappropriated Water from Future Appropriation).

¹⁸⁷ *See*, Memorandum from Thomas M. Byler, Dir., Or. Water Res. Dep’t, to Or. Water Comm’n (Nov. 19, 2015) (on file with author) (Recommending the Commission take no action to consider a petition to issue an order of withdrawal of the Smith River).

filing in the affected river basin.¹⁸⁸ Orders of withdrawal must specify with particularity the waters withdrawn from appropriation, the water uses to be withdrawn, the reasons for the withdrawal, and the duration of the withdrawal.¹⁸⁹ The Commission is required to hold at least one public hearing before issuing an order of withdrawal.¹⁹⁰

E. Oregon Groundwater Basin Designations

Oregon law provides several categories for designation for groundwater basins and each designation has its own process and implications. OWRD typically refers generally to these designations as a group as—*groundwater administrative areas*. OWRD has indicated that there are 22 of these administrative areas statewide. These



designations may also provide an important pathway for advancing groundwater conservation initiatives. While not a mechanism for establishing an *in situ* water right, these designations do provide a mechanism for the management of the groundwater resource to protect the public's interest. Moreover, these management tools when combined with other efforts to protect groundwater-dependent ecosystems may help to set the larger stage and incentivize various approaches.

1. Critical Groundwater Areas

The Oregon Department of Water Resources Commission has the authority to designate “Critical Groundwater Areas” through the adoption of administrative rules.¹⁹¹ This is the most robust authority and was designed to address serious groundwater problems. There is a robust public process before this designation can be made including notice and public hearings.¹⁹² Once the designation has occurred, the Commission

can restrict new groundwater rights, restrict existing pumping, establish priority for uses outside the priority system, reduce rights, among other things.¹⁹³ Likely because this is such a powerful authority, as of 2016, there were only seven critical groundwater areas in Oregon covering about 800 square miles.¹⁹⁴

2. Groundwater Withdraw Areas (Currently 2)

As part of the Commission's authority in designating Critical Groundwater Areas, there is authority to completely withdraw an area from further appropriation.¹⁹⁵ This represents what is referred to in prior appropriation states as establishing a “closed basin” where no further appropriation is allowed. This tool represents the strongest component and most dramatic of the tools once a critical groundwater area is created. According to OWRD, in a 2016 memo, there are two groundwater withdrawal areas

§ 537.730(1) (2017).

¹⁹² OR. REV. STAT. § 537.730(2) (2017) (hearing shall occur at least 60 days after notice has been given); *id.* § 537.730(3)-(4) (notice requirements).

¹⁹³ OR. REV. STAT. § 537.735(3) (2017).

¹⁹⁴ Bastasch, *The Oregon Water Handbook* at 124-125 (indicating six as of 2006); OWRD

Memo responding to Draining Oregon at page 1 (indicating 7 as of 2016)(on file with author). This data indicates that only one additional critical groundwater areas has been designated in the last decade.

¹⁹⁵ OR. REV. STAT. § 536.410 (2017); OR. ADMIN. R. 690-080-0010 (2018).

that have been designated for no future appropriations in Oregon.¹⁹⁶

3. Groundwater Limited Areas (Currently 14)

The designation of a Critical Groundwater Area is generally thought of as a very reactive measure and used primarily once the situation has progressed to a high level of seriousness. In an effort to use more preventative solutions, Oregon law allows for various classifications of areas that have groundwater challenges. OWRD generally refers to these as “classified areas” and currently reports that there are 14 statewide with 12 in the Willamette River Basin. As discussed above, these mechanisms are largely implemented through the Commission’s basin planning programs. In particular, through the basin planning process, *Groundwater Limited Areas* can be designated. As a result of this designation

there are very limited future groundwater uses. This is an important mechanism when you have an indication of problems that can be remedied by not granting additional rights, rather than situations where existing rights need to be curtailed. The incentives to designate a Groundwater Limited Area may be present when users are concerned that without taking aggressive steps, the possibility of a *Critical Groundwater Area* is imminent.

4. Groundwater Management Areas and Areas of Groundwater Concern

These two designations stem from the authorities granted to the Oregon Department of Environmental Quality and are used to address problems associated with groundwater pollution and contamination.¹⁹⁷

¹⁹⁶ Letter from Karl Wozniak, Groundwater/Hydrology Section Hydrogeologist, & Justin Iverson, Groundwater/Hydrology Tech. Serv. Div. Manager, to Dir. Office, Or. Water Res. Dep’t, *Comments on The Oregonian Analysis by Mark Graves and Steve Suo “Comparing Water Use Versus Annual Recharge”* 1 (June 3, 2016) (on file with author). The Priest Rapids and Pomona Aquifers in the Hood River Basin were withdrawn by order of the Water Resources Commission in 1988 following a Ground Water

Report that indicated water levels would continue to decline if ground water development practices continued at their current rate. OR. ADMIN. R. 690-080-0010(2)(f)(A)-(B) (2018); Hydrogeology of the Basalt Aquifers near Mosier, Oregon: A Ground Water Resource Assessment, Ground Water Report No. 33 at 66 (OWRD 1988), *available at* https://www.oregon.gov/owrd/gw/docs/gw_report_33_hydrogeology_nr_mosier.pdf.

¹⁹⁷ Bastasch at 124-125; ORS 468B.175 -.180.

F. Oregon's Groundwater Mining Provisions

One of the principle problems in groundwater management is overdrafting, where aquifers may not contain enough water to supply the rights that have been granted or are being used for a sustained period of time. In the context of surface water, this is also a problem and is often referred to as over-appropriation. One of the key differences, however, with regard to overdrafting is that it may take decades, centuries, or more for an aquifer to be recharged.¹⁹⁸ For a surface water system there will be precipitation and run-off in the next hydrologic year. In this way, groundwater is susceptible to mining and ultimately land subsidence.¹⁹⁹ Several western prior appropriation jurisdictions

have addressed groundwater mining in their state water codes and in judicial opinions.²⁰⁰

Oregon's water code does not contain a specific prohibition against groundwater mining, but arguably does provide the Oregon Water Resources Commission and Department with the administrative rulemaking authority to prevent groundwater overdraft, mining, and land subsidence:²⁰¹

The Legislative Assembly recognizes, declares and finds that the 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:

. . . .

¹⁹⁸ In *Doherty v. Oregon Water Resources Director*, 308 Or. 543 (1989), the Oregon Water Resources Department conducted experimental pumping of various adjacent wells within the disputed Butter Creek Critical Groundwater Area. Carbon-14 dating indicated the well water sources within Butter Creek's subterranean subdivision were last exposed to the atmosphere predominantly from 2,570 to 27,290 years ago. The natural recharge rate of the Butter Creek Critical Groundwater Area was estimated to be in the thousands of years. *Doherty v. Oregon Water Resources Director*, 308 Or. 543, 548, 557 (1989).

¹⁹⁹ Thompson, Leshy & Abrams, Legal Control of Water Resources, 541 (2013).

²⁰⁰ *Mathers v. Texaco*, 77 N.M. 239 (1966) (applying N.M.S.A. Section 75-11-3); *Fundingsland v. Colorado Groundwater Comm'n*, 468 P.2d 835 (1970) (applying Colo. Rev. Stat. 37-107(5) which provides that, upon evaluating an application for new water rights, the agency must consider whether it will cause an "unreasonable lowering of the water levels . . . beyond reasonable economic limits of withdrawal or use."); *Baker v. Ore-Ida Foods, Inc.*, 513 P.2d 627 (Idaho 1973) (Interpreting Idaho Code 42-237a(g) stating that groundwater pumping should not result in the withdraw of the "groundwater supply at a rate beyond anticipated average rate of future natural recharge."); Wash Rev. Code 90.44.070 (2016).

²⁰¹ OR. REV. STAT. § 537.525(8).

(2) Rights to appropriate ground water and priority thereof be acknowledged and protected, except when, *under certain conditions, the public welfare, safety and health require otherwise.*

....

(5) *Adequate and safe supplies of ground water for human consumption be assured*, while conserving maximum supplies of ground water for agricultural, commercial, industrial, thermal, recreational and other beneficial uses.

...

(7) *Reasonably stable ground water levels be determined and maintained.*

(8) *Depletion of ground water supplies below economic levels . . . be prevented or controlled within practicable limits.*

(9) *Whenever wasteful use of ground water, impairment of or interference with existing*

*rights to appropriate surface water, declining ground water . . . interference among wells . . . overdrawing of ground water supplies . . . exists or impends, controlled use of the ground water concerned be authorized and imposed under voluntary joint action by the Water Resources Commission and the ground water users concerned whenever possible, but by the commission under the police power of the state . . . when such voluntary joint action is not taken or is ineffective.*²⁰²

In a judicial challenge to the Water Resources Department's implementation of this standard, water users argued that Oregon's groundwater statutes should allow them to pump until they could no longer raise a profitable crop. The Oregon Supreme Court rejected the notion that this standard would allow groundwater mining to that extent.²⁰³ Moreover, Oregon Administrative Rules specifically provide

²⁰² OR. REV. STAT. § 537.535 (2017) (Policy) (emphasis added).

²⁰³ *Doherty v. Oregon Water Resources Dir.*, 783 P.2d 519 (Or. 1989).

that groundwater shall be allocated . . . when the allocation “will not contribute to the over-appropriation of groundwater sources.”²⁰⁴ The Department arguably could use its authorities from Oregon’s water code and administrative rules to prevent and control the depletion of ground water resources to protect and manage groundwater-dependent ecosystems. In using such authority, however, the Commission is limited by statute in adopting any rule restricting groundwater use in an area unless the rule is “based on substantial evidence in the record of the Water Resources Department.”²⁰⁵ The same limitation on the Commission’s authority extends to determinations by the Department when a ground water use will impair or substantially interfere with surface water sources.²⁰⁶ While such an evidentiary standard for the OWRC and OWRD’s administrative rulemaking authority is

reasonable on its face, as mentioned above,²⁰⁷ the Department’s Groundwater Section is woefully understaffed and underfunded in mapping out Oregon’s drainage basins, making it extremely difficult for the Commission to justify its rules and determinations restricting groundwater uses.²⁰⁸ This unhealthy dynamic is likely to continue until the Oregon Legislature adequately funds the Department’s statewide groundwater mapping studies.

To pursue this as a pathway would involve determining whether OWRD is interested in exploring these authorities and adopting a groundwater mining policy. It would likely be a component of a statewide policy initiative as opposed to a response in an individual watershed. This may be most effective as a long-term policy strategy.

²⁰⁴ Or. Admin. R. 690-410-0070(2)(b). *See*, Souvanny Miller, *Overdrafting Oregon: The Case Against Groundwater Mining*, 47 *Environmental Law* 519, 527 (2017).

²⁰⁵ OR. REV. STAT. § 537.780(2)(a).

²⁰⁶ OR. REV. STAT. § 537.780(2)(b).

²⁰⁷ *See supra* discussion at FN 66 for more information about lack of general funding to the Water Resources Department.

²⁰⁸ As noted in *Draining Oregon*, the OWRD has opted not to consider adopting a rule assessing the cumulative impact of exempt water wells affecting Malheur Lake, but have adopted a similar rule making it effectively impossible to

obtain a groundwater permit in the Upper Deschutes Basin without agreeing to return every drop of groundwater used to the river. Such differences in the Department’s rules affecting conjunctive management of surface and ground water sources very likely has to do with the Department’s lack of “substantial evidence” in the Malheur Lake Basin. Kelly House & Mark Graves, *Draining Oregon: No Money to Measure Oregon’s Water Levels*, THE OREGONIAN/OREGONLIVE (August 26, 2016), http://media.oregonlive.com/environment_impact/other/Draining_Oregon_0826d.pdf.

G. Oregon Water Resources Department

In contrast to the Oregon Water Resources Commission, the Oregon Water Resources Department conducts the day-to-day operations of groundwater management. The OWRD implements the Commission's rules and issues orders to Oregon surface and ground water users in the form of water rights permits, transfers, adjudications, and other actions.²⁰⁹ State Treasury funds are for the most part divided within the Department between the general fund appropriated by the Oregon Legislature²¹⁰ and the Water Resources Department Water Right Operating Fund collected through water rights applications, water well constructor licensing, and transfer fees.²¹¹ The Department consists of five divisions, the Director's Office, Administrative Services, Field Services, Technical Services, and Water Rights and Adjudications.²¹² The

Director of the Department is appointed by the Governor, subject to Oregon Senate confirmation, and serves four year terms "at the pleasure of the Governor."²¹³ The Director has the statutory authority to hire and fire personnel within the Department, administer and enforce Oregon's water laws, represent Oregon citizens in matters concerning Oregon's water resources, enter onto private property when performing official duties, and coordinate the Department's involvement in approved projects by the Oregon Watershed Enhancement Board²¹⁴ with other state and federal agencies.²¹⁵ Equally important, field staff across the Department's twenty-one water districts help watermasters distribute surface and groundwater between Oregon water rights holders.²¹⁶ OWRD field staff include water rights specialists, hydrologists, hydrogeologists, well inspectors, and hydrographic technicians.

²⁰⁹ Amos, FRESHWATER CONSERVATION 7 (2009).

²¹⁰ See STATE OF OR. LEGISLATIVE FISCAL OFFICE, 2017-19 BUDGET HIGHLIGHTS 26, 46, 90, E-12 (2017), <https://www.oregonlegislature.gov/lfo/Documents/2017-19%20Budget%20Highlights.pdf>.

²¹¹ OR. REV. STAT. § 536.009 (Water Resources Department Water Right Operating Fund; uses; sources).

²¹² OR. OFFICE OF THE SEC'Y OF STATE, WATER RESOURCES DEPARTMENT ADMINISTRATIVE

OVERVIEW 3 (2007), available at <https://sos.oregon.gov/archives/Documents/recording/smsgmt/sched/overview-water-resources.pdf>.

²¹³ OR. REV. STAT. § 536.032.

²¹⁴ See discussion *supra* p. 14 for a summary of the Oregon Watershed Enhancement Board.

²¹⁵ OR. REV. STAT. § 536.037(1)(b)-(f).

²¹⁶ See generally OR. REV. STAT. § 540.010-.750 (Chapter 540 – Distribution of Water; Watermasters; Change in Use; Transfer or Forfeiture of Water Rights).

1. Place-Based Integrated Water Resources Strategies

A section in Oregon’s water administration statutes enacted in 2015 and set to be repealed by July 1, 2019 further provides the Department with special authority to implement place-based integrated water resources strategies.²¹⁷ The Department may award grants to “a person, a public body . . . or an American Indian tribe” for the development of place-based integrated water resources strategies.²¹⁸ Place-based integrated water resources strategies focus on sources within a single drainage basin,²¹⁹ and must be,

developed in collaboration with a balanced representation of interests; [balance] current and future in-stream and out-of-stream needs; [include] the development of actions that are consistent with the existing state laws concerning [Oregon’s] water resources [and] water resources policy; [facilitate]

implementation of local solutions; [be] developed utilizing an open and transparent process that foster public participation; and [be] developed in consultation with the department.²²⁰

The Department currently has awarded grants for place-based integrated water resources strategies in Oregon’s Mid-Coast Region, the Lower John Day Sub-Basin, the Upper Grande Ronde Sub-Basin, and the Malheur Lake Basin.²²¹ These planning processes could prove very instrumental in highlighting the importance of groundwater-dependent ecosystems and also laying the foundation for a basin plan.

2. Oregon Groundwater Users

Oregon’s groundwater users have perhaps the most important role of any entity for groundwater management. Oregon farmers alone appropriate nearly a trillion gallons of surface and ground water sources each year, financing a \$5.4 billion agricultural industry.²²² More than 5,000 farms depend on water

²¹⁷ OR. REV. STAT. § 535.200 Sec. 2.

²¹⁸ OR. REV. STAT. § 535.200 Sec. 2.(3).

²¹⁹ OR. REV. STAT. § 535.200 Sec. 2.(1).

²²⁰ OR. REV. STAT. § 535.200 Sec. 2.(4) (2017).

²²¹ PLACE-BASED INTEGRATED WATER RESOURCES PLANNING, https://www.oregon.gov/owrd/Pages/Place_Base

[d_Planning.aspx#Place-Based_Planning_Areas](#) (last visited August 12, 2018).

²²² Kelly House & Mark Graves, *Draining Oregon: Water Giveaway Threatens Economic Chaos and Hurts Wildlife*, THE OREGONIAN/OREGONLIVE (August 26, 2016),

wells to profit.²²³ Groundwater supply makes up about 95 percent of Oregon's available freshwater resources, with approximately 70 percent of residents, municipal and rural, relying on groundwater for drinking water.²²⁴ Oregon's groundwater provides essential base flows for most of the state's rivers, streams, and lakes.²²⁵ In fact, with nearly 32,000 mapped springs, Oregon has the highest density of springs in the western United States.²²⁶ The number of administratively defined beneficial uses for Oregon groundwater users to pump water wells under Oregon's

groundwater statutes are immense.²²⁷ Along with more conventional Oregon groundwater users, plant and animal species depend on groundwater to provide wetland and riparian habitat.²²⁸ As many as 652 sensitive plant and animal species rely on Oregon's groundwater to survive.²²⁹

As recently reported in the *Oregonian* piece *Draining Oregon*, Oregon groundwater users have a tremendous impact on groundwater management.²³⁰ When aquifers begin to dry up, Oregon groundwater users file lawsuits.²³¹ Elected

http://media.oregonlive.com/environment_impact/other/Draining_Oregon_0826d.pdf.

²²³ *Id.*

²²⁴ OR. DEP'T OF ENVTL. QUALITY, GROUNDWATER QUALITY IN OREGON: DEQ REPORT TO THE LEGISLATURE 3 (2017), <https://www.oregon.gov/deq/FilterDocs/GroundwaterQualityProtection.pdf>.

²²⁵ *Id.*

²²⁶ OR. WATER RES. COMM., OREGON'S 2017 INTEGRATED WATER RESOURCES STRATEGY 59 (2017), https://www.oregon.gov/owrd/LAW/docs/IWRS/2017_IWRS_Final.pdf.

²²⁷ See, e.g., OR. ADMIN. R. 690-300-0010 (2017) (Chapter 690 Definitions) including "Agricultural Water Use," "Aquatic Life Water Use," "Artificial Groundwater Recharge," "Commercial Water Use," "Cranberry Use," "Domestic Water Use," "Domestic Water Use Expanded," "Fire Protection Water Use," "Forestland and Rangeland Management," "Group Domestic Water Use," "Human Consumption," "Industrial Water Use," "Irrigation," "Mining Water Use," "Municipal Water Use," "Nursery Operations Use,"

"Planned Uses," "Pollution Abatement or Pollution Prevention Water Use," "Power Development Water Use," "Quasi-Municipal Water Use," "Recreation Water Use," "Stockwater Use," "Storm Water Management Water Use," "Stream or Riparian Area Enhancement Water Use," "Wetland Enhancement Water Use," and "Wildlife Water Use."

²²⁸ *Id.*

²²⁹ Kelly House & Mark Graves, *Draining Oregon: Water Giveaway Threatens Economic Chaos and Hurts Wildlife*, THE OREGONIAN/OREGONLIVE (August 26, 2016), http://media.oregonlive.com/environment_impact/other/Draining_Oregon_0826d.pdf.

²³⁰ See generally Kelly House & Mark Graves, *Draining Oregon*, THE OREGONIAN/OREGONLIVE (August 26, 2016), http://media.oregonlive.com/environment_impact/other/Draining_Oregon_0826d.pdf.

²³¹ See discussion *supra* p. 15 for more information about lawsuits filed by Oregon groundwater users and public interest advocacy groups.

representatives to the Oregon Legislature push bills to either thwart or encourage groundwater management reforms. Oregon groundwater users currently have little to no obligation to disclose their actual water consumption, making it virtually impossible for the Water Resources Department to enforce pumping limits.²³² The Department permits over 17,000 irrigation wells across Oregon.²³³ Five out of six of these wells are exempt from reporting how much groundwater they pump.²³⁴ The Water Resources Commission and Department are

also under constant political pressure by Oregon groundwater users to allocate groundwater supplies without basic scientific information.²³⁵ Oregon's groundwater statutes further exempt broad categories of Oregon groundwater users from permitting, called "statutorily exempt groundwater uses" or "exempt wells."²³⁶ Exempt wells are controversial. Critics say exempt wells provide a loophole for groundwater users to draw down Oregon surface and ground water supplies without any administrative safeguards.²³⁷

²³² One rancher from Harney County, Andy Root, admitted in *Draining Oregon* that irrigators in the area, including Mr. Root himself, often sink water wells first and then file for groundwater permits with the Water Resources Department later. Kelly House & Mark Graves, *Draining Oregon: Water Giveaway Threatens Economic Chaos and Hurts Wildlife*, THE OREGONIAN/OREGONLIVE (August 26, 2016), http://media.oregonlive.com/environment_impact/other/Draining_Oregon_0826d.pdf.

²³³ Kelly House & Mark Graves, *Draining Oregon: Water Giveaway Threatens Economic Chaos and Hurts Wildlife*, THE OREGONIAN/OREGONLIVE (August 26, 2016), http://media.oregonlive.com/environment_impact/other/Draining_Oregon_0826d.pdf.

²³⁴ *Id.*

²³⁵ JEANNE P. ATKINS & MARY WENGER, OR. SEC'Y OF STATE, OREGON WATER RESOURCES DEPARTMENT STATE AUDIT 2 (2016), <https://www.documentcloud.org/documents/3239552-State-Audit-of-Water-Resources.html>. According to *Draining Oregon*, the Water Resources Commission and Department have opted against further groundwater use restrictions in the Umatilla Basin while

acknowledging regulatory efforts to prevent drops in the water table have failed. In the Klamath Basin, due to shortages in available surface waters, the Commission and Department continue to grant pumping permits despite conceding the Klamath Basin's water table is declining beyond sustainable limits. Kelly House & Mark Graves, *Draining Oregon: Water Giveaway Threatens Economic Chaos and Hurts Wildlife*, THE OREGONIAN/OREGONLIVE (August 26, 2016), http://media.oregonlive.com/environment_impact/other/Draining_Oregon_0826d.pdf.

²³⁶ Statutorily exempt groundwater uses include stockwatering; watering a lawn or noncommercial garden less than one-half acre; watering school grounds less than ten acres if the school is located within a Critical Groundwater Area; single group domestic wells pumping less than 15,000 gallons per day; down-hole heat exchange purposes; a single industrial or commercial purpose requiring less than 5,000 gallons per day; or re-using certain groundwater for land application. OR. REV. STAT. § 537.545 (2017) (Exempt uses; map; filing of use; fee; rules).

²³⁷ *E.g.*, Robert Glennon, *High and Dry in the West: The Failure to Integrate Management of*

If Oregon’s groundwater users recognized the resilience and stability that protecting groundwater-dependent ecosystems could bring to the overall sustainability of the groundwater supply, potentially powerful partnerships could be developed.

IV. GROUNDWATER PROTECTIONS AND RIGHTS IN OTHER WESTERN STATES

There are some examples of groundwater “rights” and groundwater conservation efforts throughout the West that can serve as interesting, albeit problematic, examples to achieve the kind of *in situ groundwater right* imagined by this paper. The most significant characteristic of these water rights is the presence of the federal government as a land managing agency with either federal statutes or federal water rights to assert. Most likely the state was motivated to find a way to protect groundwater as a way to avoid the assertion of federal rights or because a federal statute

specifically recognized the need to protect groundwater. We discuss some of these examples in detail below.

A. Great Sand Dunes- Colorado

In Colorado, groundwater is managed through modified prior appropriation.²³⁸ The vast majority of the groundwater is within designated groundwater basins and is managed by the Groundwater Commission.²³⁹ In order to obtain a groundwater right, an interested party must apply to the Commission.²⁴⁰ In addition to some other information, the application must include which of the designated basins the water will come from, the proposed well location, the annual amount of water used, and the estimated maximum pumping rate.²⁴¹ These requirements assume that the groundwater will be pumped and used elsewhere. The vast majority of groundwater rights fit into this model.²⁴² However, there is at least one example of an *in situ* groundwater right in Colorado.

Ground- and Surface-Water Resources, SW. HYDROLOGY, July-Aug. 2003, at 12, 13.

²³⁸ COLO. REV. STAT. § 37-90-101 (2017).

²³⁹ COLO. REV. STAT. § 37-90-107.

²⁴⁰ *Id.*

²⁴¹ *Id.*

²⁴² COLORADO DIVISION OF WATER RESOURCES GROUND WATER ADMINISTRATION AND WELL PERMITTING, <http://water.state.co.us/groundwater/Pages/default.aspx> (last visited August 29, 2018).

In 2008, the Colorado Water Court entered a decree that gave the National Park Service (“NPS”) an *in situ* groundwater right in order to protect the unique hydrology of Great Sand Dunes National Park and Preserve. The decree gives the NPS the right to all unappropriated groundwater in the unconfined aquifer beneath the park. Using ten different monitoring wells the NPS, through the Colorado Division of Water Resources, can monitor the aquifer for a specific water level and prevent other, expanded or new, rights from infringing on this right.²⁴³

Regardless of whether this right came about because of the federal reserved water doctrine, or not, it sets important precedent. First, it establishes that *in situ* uses can be beneficial uses, even for groundwater. Second, rather than requiring that a well must actually divert the water, it establishes that the “point of diversion” can be an observation point instead. Finally, this right recognizes the hydrologic connectivity between surface and groundwater. These

same principles applied in other contexts could be a good jumping off point for *in situ* groundwater conservation.

B. San Pedro River Watershed- Arizona

Similar to the circumstances in Colorado with the Great Sand Dunes National Park, groundwater-dependent ecosystems were afforded some protection under Arizona state law through the enactment of federal legislation. There, the Bureau of Land Management declared the watershed a Riparian National Conservation Area and relevant legislation reserved federal water rights to conserve and protect the “riparian area and the aquatic, wildlife, archeological, paleontological, scientific, cultural, education and recreational resources” of the federal lands that had been set aside.²⁴⁴ Here, as in Colorado, the presence of federal interests and federal legislation helped to create a unique set of circumstances where the State of Arizona recognized a water

²⁴³ For information about 10 additional wells that have been drilled and associated monitoring, see COLORADO DIVISION OF WATER RESOURCES COLORADO’S WELL PERMIT SEARCH, <http://www.dwr.state.co.us/WellPermitSearch/default.aspx> (last visited August 29, 2018).

²⁴⁴ 16 U.S.C. 460(a) (2013); Gannon, Legal Protection for Groundwater Dependent Ecosystems, 4:1 Michigan Journal of Environmental and Administrative Law 183, 198 (2014).

right, here under federal law as opposed to state law, for groundwater protection.

C. Tribal Rights- California

Tribal groundwater rights in the United States have dramatically evolved following the Ninth Circuit's 2017 decision in *Agua Caliente*.²⁴⁵ The Ninth Circuit held that appurtenant federal groundwater rights were reserved for the Tribe's use under the *Winters* doctrine, and the Supreme Court denied review of the decision.²⁴⁶ *Agua Caliente* has now opened up a new opportunity to federally recognized American Indian tribes to acquire

traditionally high priority water rights for aquifers adjacent to their land; a recent estimate proposes that 236 tribes in the western United States have unresolved groundwater claims.²⁴⁷ In light of this recent development, tribal partnerships may provide an opportunity to establish groundwater rights for conservation.²⁴⁸ The *Agua Caliente* decision creates interesting scenarios for future American Indian tribal water rights claims in Oregon. The Burns Paiute Tribe is a federally-recognized Indian Tribe located in Harney County, Oregon with unasserted federal reserved water rights.²⁴⁹ The Burns Paiute Tribe could assert a federal Indian reserved water rights claim by undergoing a water rights

²⁴⁵ See *Agua Caliente Band of Cahuilla Indians v. Coachella Valley Water Dist.*, 849 F.3d 1262, 1271-72 (9th Cir. 2017), *cert. denied*, 138 S. Ct. 468 (2017), and *cert. denied sub nom. Desert Water Agency v. Agua Caliente Band of Cahuilla Indians*, 138 S. Ct. 469 (2017).

²⁴⁶ *Id.* The *Winters v. United States*, 207 U.S. 564, 575-78, is a landmark federal Indian water rights case holding federal government reservations of land also reserves the amount of water needed for the land to serve its intended purpose. Known as the *Winters* doctrine, this case has applied to establish numerous federal Indian reserved water rights to surface water, but had not been applied to groundwater until *Agua Caliente*. 849 F.3d at 1272 (holding that "the *Winters* doctrine does not distinguish between surface water and groundwater."); Jessica Duggan, *Ninth Circuit Applies Winters Doctrine to Groundwater*, 32 NAT. RES. & ENV. 55, 56 (Summer 2017).

²⁴⁷ Phillip Womble et. al, *Indigenous Communities, groundwater opportunities*, 361 SCIENCE 453 (Aug. 3, 2018) (mapping viable tribal groundwater claims across the United States).

²⁴⁸ Amos, *Freshwater Conservation Report*, *supra* note 23, at 12; see *id.* at 454.

²⁴⁹ OR. DEPT. HUMAN SERV., OVERVIEW OF THE NINE TRIBES, <https://www.oregon.gov/DHS/ABOUTDHS/TRIBES/Pages/Tribes.aspx>, last visited Aug. 12, 2018. Federally recognized tribes "is an American Indian or Alaska Native tribal entity that is recognized as having a government-to-government relationship with the United States, with the responsibilities, powers, limitations, and obligations attached to that designation, and is eligible for funding and services from the Bureau of Indian Affairs." BUR. OF INDIAN AFFAIRS, WHAT IS A FEDERALLY RECOGNIZED TRIBE?, <https://www.bia.gov/frequently-asked-questions> (last visited August 12, 2018).

negotiation with OWRD.²⁵⁰ The Oregon Water Resources Director may work with a tribe and federal trustees on their behalf “to satisfy tribal rights under treaty between the United States and Oregon.”²⁵¹ The next step in the assertion of a federal Indian reserved water rights process is for the tribe, OWRD, and the federal government as trustees to complete an agreement and submit it to the appropriate court.²⁵² Any negotiated agreement only becomes final when the reviewing court adopts a final decree.²⁵³ Although federal Indian reserved water rights for groundwater is at the cutting edge of water law, the potential impacts on water rights is worth noting for the potential benefits to preserving groundwater *in situ*.²⁵⁴

V. AN APPROACH TO GROUNDWATER CONSERVATION AND THE

ESTABLISHMENT OF IN SITU GROUNDWATER RIGHTS

As discussed above, there are several categories for addressing non-consumptive groundwater use and *in situ* water rights protection for groundwater-dependent ecosystems in Oregon.²⁵⁵ Within each category of action there are distinct mechanisms and strategies. It is likely that an effective strategy may involve deploying efforts on multiple fronts to create the kind of discussion and interactions between the various decision-making parties and stakeholders to motivate change. The broad categories of approaches include: (1) using and adapting the current surface instream water rights mechanisms to recognize a similar kind of non-consumptive right for groundwater or surface expressions of groundwater; (2) engaging the basin plans and the basin planning process to spur the

²⁵⁰ See OR. REV. STAT. § 539.310(1) (2018).

²⁵¹ *Id.* The negotiation process also includes several public notice requirements. *Id.* at § 539.301(2).

²⁵² *Id.* § 539.320.

²⁵³ *Id.* § 539.340(1).

²⁵⁴ Womble et. al, *supra* note 206, at 454-55 (asserting that tribal groundwater claims may provide significant management benefits for groundwater-dependent ecosystems). For more information about the potential for tribal water rights to benefit environmental conservation, see Susan M. Larned, *Water Is Life: The Native*

American Tribal Role in Protecting Natural Resources Water, Policy, and Native American Sovereignty, 8 BARRY U. ENVTL. & EARTH L.J. 52, 83-87 (2018).

²⁵⁵ Non-consumptive use is still quantifiable, such that it can be measured through mechanisms like evapotranspiration. In the past, there have been unsuccessful efforts to use ET rates as a measure of consumptive use. As a policy matter, this serves to undercut the goals of establishing rights to non-consumptive uses and has been disfavored by conservation groups.

Water Resources Commission to fully utilize its management authorities to address the need to find a mechanism to address water rights protection for groundwater-dependent ecosystems; (3) deploy the various groundwater basin designation authorities and largely unused groundwater mining doctrine to seek administrative action from the Commission and OWRD to utilize these statutory processes both within and outside the larger basin planning process; and (4) pursue strategies that engage federal stakeholders and tribal interests to leverage the overlay of federal law examples from other states to encourage innovative use of state law techniques. As this paper sets out, many of these strategies involve engagement across various branches of government and within and among the myriad of state agencies, commissions, and boards. Moreover, engaging in a broad range of processes is required – from water rights appropriation processes, to integrated water resource planning efforts, to service of relevant commissions and advisory groups. A well-integrated approach that accounts for these complex administrative, legislative, executive, and judicial roles will increase the likelihood of long-term success in protecting Oregon’s groundwater-dependent ecosystems for future generations.

Specific Recommendations Moving Forward
• Better data, mapping and study of groundwater, but this takes time and money and the crisis is now • Encourage agency with authority to request instream flow rights to submit application for <i>in situ groundwater rights</i> • Seek to purchase or lease existing groundwater rights and transfer them using the existing mechanism for purchase and lease of instream flow rights • Engage with existing water rights holders who may be interested in using the Conserved Water Program to benefit their own water use and would be interested in some portion of their water being dedicated to <i>in situ groundwater right</i> • Seek a wildlife use permit under existing basin programs for <i>in situ groundwater right</i> • Seek a water use exception for <i>in situ groundwater right</i> under existing basin program • Petition the Oregon Water Resources Commission for an order of withdraw for particular basin

- Encourage the Oregon Water Resources Commission to utilize the authorities in Oregon statutes to prevent depletion of groundwater resources and the ecosystems that depend on them
- Participate in the regional planning process and try to deploy existing groundwater management provisions in Oregon that would allow for closing a basin for more appropriations with the local community involvement based on education and realization about the fact that groundwater is being depleted
- Separately pursue designation as a closed basin so that no additional rights can be granted
- Engage with federal land management agencies with regard to their rights under state and federal law (particularly the

Malheur National Wildlife Refuge) that may hold senior surface water rights.

Threat of federal engagement seems to cause a state to be more creative about its own capacity, ex. Great Sand Dunes

- Engage and partner with the tribal water interests with regard to any unasserted claims to water in the basin under the reserved water rights doctrine
- Advance conversations about groundwater mining standards in other western states and try to get Oregon to pursue a more robust groundwater mining policy