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**FRESHWATER CONSERVATION IN THE  
 CONTEXT OF ENERGY AND CLIMATE POLICY:  
 ASSESSING PROGRESS AND IDENTIFYING  
 CHALLENGES IN OREGON AND THE WESTERN  
 UNITED STATES**

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## INTRODUCTION

Many, if not all, governmental entities today are facing tough and controversial questions involving energy demand and consumption. In the western United States, these energy questions are often inextricably linked to water resource issues. With increased population and development pressure, the challenges involving energy and water will only continue and intensify. Impacts from changes to climate and weather patterns in various areas of the country will cause changes to precipitation patterns, drought cycles, storm events, snow pack and spring melt, among other hydrologic changes. These climate change pressures will exacerbate the pressure on water supplies and challenge the relationship between energy and water policy.<sup>1</sup> Unfortunately, the laws and policies that deal with energy and those that address water have developed as independent and separate bodies of authority. Often, various pieces of applicable law and policy reside at different jurisdictional levels of government – the municipal land use board may have authority to approve or disapprove a new housing development, but the state government has the authority to grant or deny water rights associated with the development and the federal government may ultimately run the reservoir system that could provide the water or energy needed to support the development. Both within and among most jurisdictions the connections between energy and water policy are too often absent.

The Secretary of Energy received a letter in 2004 from the chairmen and ranking members of the House and Senate Subcommittee on Energy and Water Development Appropriation requesting a report focusing on threats to national energy production resulting from limited water supplies.<sup>2</sup> In 2005, Congress provided funding in the Consolidated Appropriations Act (H.R. 4818) for a report on the interdependency of energy and water.<sup>3</sup> The U.S.

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1. See generally, Kathleen A. Miller, *Climate Change and Water in the West: Complexities, Uncertainties and Strategies for Adaptation*, 27 JOURNAL OF LAND, RESOURCES AND ENVIRONMENTAL LAW 87 (2007)(summarizing the impacts of climate change on water resources in the West and explaining the inability of models to predict specific details).

2. Energy Demands on Water Resources: Report to Congress on the Interdependency of Energy and Water, (Dec. 2006) available at <http://www.sandia.gov/energy-water/docs/121-RptToCongress-EWwEIAcomments-FINAL.pdf>

3. Environmental and Energy Study Institute, *Understanding the Energy-Water-Climate Nexus: Implications for Policy* 1 (Sept. 13, 2006), [http://www.eesi.org/briefings/2006/Energy&Climate/9.13.06-Energy-Water-Climate/9.13.06\\_energy-water-climate\\_Notice.htm](http://www.eesi.org/briefings/2006/Energy&Climate/9.13.06-Energy-Water-Climate/9.13.06_energy-water-climate_Notice.htm) (This document was taken down during a

Department of Energy submitted their report to Congress in December of 2006. Also in 2006, the Environmental and Energy Study Institute in Washington, DC sponsored a congressional briefing entitled “Understanding the Energy-Water-Climate Nexus: Implications for Policy.”<sup>4</sup> This briefing offered members of Congress information on the connections between the continued security and economic health of the United States and the presence of a sustainable supply of energy and water.<sup>5</sup> The presenters recognized that water and energy needs are inextricably linked.<sup>6</sup> “[T]he production of energy requires large volumes of water while the treatment and distribution of water” requires large quantities of energy.<sup>7</sup> For example, “[e]lectricity production requires about 136 billion gallons of freshwater per day, accounting for over 40 percent of all daily freshwater withdrawals in the nation.”<sup>8</sup> On the energy side, “[i]n 2000, the United States used 123 billion [kilowatt-hours] to supply water and treat wastewater, just under four percent of total electricity sales.”<sup>9</sup>

The significance of the relationship between energy and water policy comes into clear focus as governments face the challenges of adopting new policies to address climate change. As we adapt to the inevitable changes that our cities, towns, states and communities will face in coming decades, it is extremely important to look at *how* we adapt.<sup>10</sup> If we are not careful about *how* we adapt, we may inadvertently and with good intentions, compound the very problems we set out to address. For example, assume that increases in average annual temperatures, caused by warming of the atmosphere, result in increased water evaporation from reservoirs, lakes and other water supplies.<sup>11</sup> In response to water shortages, governmental entities turn to proposals to desalinate seawater. Using existing technology, the desalinization of seawater requires huge quantities of energy, currently generated primarily through the burning of fossil fuels.<sup>12</sup> Burning more fossil fuel increases the carbon emitted into the atmosphere and exacerbates the warming cycle in the atmosphere.<sup>13</sup> As a result, a decision made regarding water policy has enormous

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re-organization of EESI’s website. A copy of the document is on file with the University of Denver Water Law Review).

4. *Id.*

5. *Id.*

6. *Id.*

7. *Id.*

8. *Id.*

9. *Id.*

10. Matthew D. Zinn, *Adapting to Climate Change: Environmental Law in a Warmer World*, 34 *ECOLOGY L.Q.* 61, 61 (2007).

11. Env’tl Prot. Agency, *Precipitation and Storm Changes* (Dec. 29, 2007), <http://www.epa.gov/climatechange/science/recentpsc.html> (“Increasing temperatures tend to increase evaporation . . .”).

12. *See generally* PETER H. GLEICK, *THE WORLD’S WATER 2006-2007: THE BIENNIAL REPORT ON FRESHWATER RESOURCES* 69-70 (2006).

13. Env’tl Prot. Agency, *Basic Information* (Oct. 29, 2008), <http://www.epa.gov/climatechange/basicinfo.html> (“If greenhouse gases continue to increase, climate models predict that the average temperature at the Earth’s surface could increase from 3.2 to 7.2°F above 1990 levels by the end of this century.”).

impacts on energy policy and only contributes to the source of the initial problem. One can find another example in proposed alternatives to fossil fuel usage. If policy makers determine that ethanol is the best alternative to carbon-based fuels, they should consider ethanol's impact on water resources. Corn, one source of ethanol, and the process used to convert corn to ethanol, are water intensive.<sup>14</sup> If policymakers propose increased corn production in areas of the country that already face water shortage concerns, then again, the lack of understanding the relationship between energy and water policy may exacerbate the problem we set out to solve.

Ultimately, the goal is to ensure in the face of climate change and increased demand on our natural resources that we make our communities and ecosystems resilient and able to deal with change. A recent summary issued by the Intergovernmental Panel on Climate Change ("IPCC") states, "[n]on-climate stresses can increase vulnerability to climate change by reducing resilience and can also reduce adaptive capacity because of resource deployment to competing needs."<sup>15</sup> Telling perhaps, making communities resilient to climate change often looks very similar to good conservation practices. For example, maintaining intact flood plains and functional watersheds, promoting efficient energy use, conducting comprehensive land use planning and establishing urban growth boundaries to concentrate population centers all help make communities more resilient.<sup>16</sup> By making the connections between water policy, land-use development and energy policy, decision makers help ensure that communities are prepared to deal with change. As we face the challenges of increased demand on natural resources, decision-makers must also consider the ethical and moral dimensions of increased demand. All too often, the greatest impact falls on disenfranchised and lower income segments of the population.<sup>17</sup> Good adaptation and resiliency strategies will account for the need to allocate and share natural resources among all the members of our communities.

One piece of any resiliency strategy concerns the role of freshwater protection and conservation. With increased pressure on the hydrologic system, freshwater conservation can easily fall to the wayside as communities try to adapt to change. Some observers have offered that efforts "to allocate more water *in situ* environmental uses may literally evaporate" as the pressure from climate change puts demands on our energy and water consumption.<sup>18</sup> In fact, the policy response may need to be the exact opposite—one of promoting freshwater conservation and water resource management as tools for

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14. Andy Aden, *Water Usage for Current and Future Ethanol Production*, SW. HYDROLOGY, Sept.-Oct. 2007, at 22.

15. NEIL ADGER ET AL., CONTRIBUTION OF WORKING GROUP II TO THE FOURTH ASSESSMENT REPORT OF THE INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE SUMMARY FOR POLICYMAKERS 19 (M.L. Parry et al. eds. 2007), available at <http://www.ipcc.ch/pdf/assessment-report/ar4/wg2/ar4-wg2-spm.pdf>.

16. See generally *id.*

17. *Id.* at 12.

18. A. Dan Tarlock, *Western Water Law, Global Warming, and Growth Limitations*, 24 LOYOLA L.A. LAW REVIEW 979, 980 (1991).

reducing the overall demand on the hydrologic system. In a time when new interest in expanding water supply capacity is on the rise, perhaps policy-makers should look instead at the impacts water conservation initiatives could have on demand reduction and increased energy efficiency. A serious investment in many of the conservation mechanisms detailed in this article may be a cheaper alternative and more energy efficient approach to increased demand than increasing storage capacity or building desalinization plants.

Recognition of the importance of freshwater conservation is a relatively recent development in the history of the prior appropriation doctrine in the western United States. Oregon is one of the leaders in freshwater conservation and was one of the first western states to recognize the value of minimum perennial stream flows and ultimately declare instream flow to be a beneficial use.<sup>19</sup> In many respects, the Oregon Water Code and accompanying administrative regulations set a standard for many western states to follow.

In broad terms, this article provides several examples of the important connections between energy and water policy and encourages national, state, municipal and local governments to begin to coordinate the exercise of their various authorities. Not only will elected leaders and policy makers benefit from making connections between energy, land-use, and water policy at their jurisdictional level, but efforts to integrate energy and water policy through the various levels of local, state and national government will serve communities well. By way of specific example, the article examines the doctrine of prior appropriation, particularly the provisions found in the Oregon Water Code, to investigate the places where existing water law may be able to address questions of conservation, energy efficiency and land-use. The article concludes by offering some specific water policy ideas that state water agencies, particularly those in the western United States, may want to explore. Finally, the article draws the connection and calls for integration of energy, climate and water policy.

The article uses the Oregon Water Code as a case study to delve into the details of freshwater conservation in the context of specific statutory provisions. Despite the use of the Oregon Water Code as the case study, the lessons and challenges discussed in the article are applicable to any state that follows the prior appropriation doctrine. In Oregon, like all western states, a combination of statutes, administrative rules, agency policies, and case law make up the framework for water management. Accordingly, the article isolates and examines provisions of the Oregon Water Code that impact freshwater conservation and discusses how the legislature, state administrative agencies, and the courts have interpreted these laws.

Section I details the basic administrative system governing new appropriations for surface and groundwater rights as well as transfers. Section II addresses the so-called "public interest review" in Oregon water law that is designed to address many of the concerns and issues around freshwater con-

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19. Cynthia F. Covell, *A Survey of State Instream Flow Programs in the Western United States*, 1 U. DENV. WATER L. REV. 177, 180-81 (1998).

servation. Section III covers enforcement of water rights including principles of beneficial use, forfeiture, and waste. Section IV analyzes the specific tools available to establish legally protected instream water rights in Oregon. Section V delves specifically into groundwater management in Oregon. Section VI explores various water-management mechanisms that impact the use of Oregon's water resources. Section VII is devoted to hydroelectric power and its relationship to freshwater conservation. This article provides a resource for those working on the ground on these issues. After each detailed section, the article identifies the implications and discusses the challenges of existing law and emerging trends. The article only briefly touches on the significant role of the federal government. A more detailed discussion of the role of the federal government will be part of future work on this topic.

Throughout this article, several overriding themes emerge. First, the energy, effort and emphasis placed on freshwater conservation in the western United States has been and continues to be significant in comparison to earlier decades. That said, there is certainly more work to do, particularly on the enforcement, monitoring and maintenance of instream flow rights and the implementation of other freshwater conservation initiatives. Second, the impacts of climate change and increased drought cycles in the western United States will inevitably drive many of the reform efforts in the area of water resources over the next decade. In the context of this effort, it will be increasingly important to make sure that the conservation of freshwater resources stays at the forefront of energy and climate policy discussions and debates. Third, and closely related to addressing climate and energy policy, is the need to look at water resources from a comprehensive planning approach. Taking a more comprehensive view of water resource management in the western United States will integrate many of the most challenging problems we face including species extinction, conjunctive management of ground and surface water resources, depleting supplies of freshwater, health and safety issues as well as the increasingly acknowledged relationship between land-use planning and water-use planning. Finally, prior appropriation in coming years may prove its value or its failure as a tool for the management of water resources as opposed to mechanism for allocating water rights. The urgent question is whether the doctrine of prior appropriation has the agility and flexibility to deal with the changing landscape at the intersection of water, energy and climate policy. In the modern era, states have allocated many, if not all, of the water rights, so the prior appropriation doctrine now must be a tool, not an impediment, to make a system of managing those allocations work for all of the citizens of the west. As a result, we may see the exploration and utilization of principles in every state water code, like waste, injury, beneficial use, and the rules for transferring water rights play an increasingly important role as state agencies and individuals become more focused on balancing various needs rather than securing new water rights.

## I. STATE ADMINISTRATIVE BASICS

### A. STATE WATER LAW IS ADMINISTRATIVE LAW

As any water lawyer knows, the basic building blocks for the allocation and management of water resources in the West are found in state administrative law. In fact, what separates the common law system of riparian rights found in the eastern United States from the more predictable prior appropriation systems in the West is the introduction of water code and an administrative permit system to deal with competing demands for water.<sup>20</sup> The Oregon Revised Statutes (“ORS”) broadly govern Oregon water law. Those portions of ORS dealing with water include general legislative purposes related to the use and management of water resources as well as a delegation of administrative authority to certain agencies.<sup>21</sup>

Many state agencies are involved in managing various aspects of Oregon’s water resources. Like most states, the legal and administrative structure governing water resources is fragmented and often uncoordinated. The Water Resources Commission (“Commission”) uses its rulemaking powers to set state water policy.<sup>22</sup> The Commission is appointed by the Governor and confirmed by the Oregon Senate.<sup>23</sup> The Water Resources Department (“Department”) implements the Commission’s rules and issues orders in the form of water right permits, transfers, adjudications and other actions.<sup>24</sup> The Oregon Department of Fish and Wildlife (“ODFW”) also plays a significant role in the water allocation process in the state, particularly as a commenter on permit and transfer applications where there is an impact on fish and wildlife.<sup>25</sup> During the Department’s initial review of a permit or transfer application, the Department often incorporates ODFW’s comments into the proposed final order on the application before the public review process.<sup>26</sup> In addition, ODFW, along with the Parks and Recreation Department, and the Department of Environmental Quality (“DEQ”), may request instream water rights to further their purposes.<sup>27</sup> These and other state agencies administer laws and regulations that affect water management as well. For example, the Parks and Recreation Department administers the state Wild and Scenic Riv-

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20. JOSEPH L. SAX ET AL., *LEGAL CONTROL OF WATER RESOURCES*, 215-16, 330-331. (4th ed. 2006).

21. *Don’t Waste Or. Comm. v. Energy Facility Siting Council*, 320 Or. 132, 136-37 (Or. 1994).

22. OR. REV. STAT. §§ 536.025(1), .027(1).

23. *Id.* § 536.022(1).

24. Or. State Archives, *Or. Blue Book: Or. Water Res. Dep’t* (2008), [http://bluebook.state.or.us/state/executive/Water\\_Resources/water\\_resources\\_duties.htm](http://bluebook.state.or.us/state/executive/Water_Resources/water_resources_duties.htm).

25. OR. ADMIN. R. 690-033-0120; *see also* Joy Ellis, *Drafting From an Overdrawn Account: Continuing Water Diversions from the Mainstem Columbia and Snake Rivers*, 26 ENVTL. L. 299, 312 (1996).

26. Interview with OWRD (Nov. 2007); *see generally* OR. ADMIN. R. 690-033-0000 to 690-033-0340 (2008); *see infra* Section I.C.2. (complete discussion of permitting process).

27. OR. REV. STAT. § 537.336 (2007).

ers Act,<sup>28</sup> DEQ administers the federal Clean Water Act and parallel state law,<sup>29</sup> the Department of Agriculture is responsible for agricultural water quality,<sup>30</sup> the Health Division administers the Safe Drinking Water Act<sup>31</sup> and the Department of Land Conservation and Development implements the land use program.<sup>32</sup> As this description of the agencies in Oregon demonstrates, states rarely have a single agency of Department to address water issues.

Federal agencies play a role in Oregon's water resources as well. Broadly, the Bureau of Reclamation manages reservoirs that provide water for irrigation projects and power generation.<sup>33</sup> The United States Army Corps of Engineers maintains waterways for navigation purposes, undertakes flood control projects, builds and operates hydropower facilities, and operates irrigation and flood control projects.<sup>34</sup> The Bonneville Power Administration, an agency of the United States Department of Energy, markets electrical power generated in part from federal and nonfederal hydropower generation facilities located on the state's rivers.<sup>35</sup>

In addition to managing physical water works, federal agencies also assert regulatory authority over certain Oregon waters. The United States Environmental Protection Agency interacts with the State of Oregon based on its responsibility to implement various federal statutes, most significantly the Clean Water Act.<sup>36</sup> The United States Fish and Wildlife Service, within the Department of the Interior, and the National Ocean and Atmospheric Agency ("NOAA") Fisheries, within the Department of Commerce, both play a role in state water law through the application and implementation of the Endangered Species Act and other federal authorities. Finally, all of the federal land-management agencies, which manage over 50 percent of Oregon's

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28. See Or. State Archives, Or. Blue Book: State Parks and Recreation Dep't: Agency History (2008),

[http://bluebook.state.or.us/state/executive/Parks\\_Recreation/parks\\_recreation\\_history.htm](http://bluebook.state.or.us/state/executive/Parks_Recreation/parks_recreation_history.htm).

29. See OR. ADMIN. R. 340-041-0002(1), (4) (2008).

30. Or. Dep't of Agric., Water Quality Program, [http://www.oregon.gov/ODA/NRD/water\\_quality\\_front.shtml#Program\\_overview](http://www.oregon.gov/ODA/NRD/water_quality_front.shtml#Program_overview) (last visited Oct. 18, 2008).

31. Beaverton Public Works, *Drinking Water Program*, <https://www.beavertonoregon.gov/departments/publicworks/utilities/drinkingwater.aspx> (last visited Oct. 18, 2008).

32. OR. REV. STAT. § 197.040 (2008).

33. See 43 U.S.C. § 390b (a)-(b) (2006).

34. U.S. ARMY CORPS OF ENG'RS, *Civil Works Overview*, in WATER RESOURCES DEVELOPMENT IN OREGON 2000, 1-10 (2000), available at <https://www.nwp.usace.army.mil/pa/wrdb2000.asp> (follow "Civil Works Overview" hyperlink).

35. See *Nw. Res. Info. Ctr. v. Nat'l Marine Fisheries Serv.*, 56 F.3d 1060, 1066 n.7 (9th Cir. 1995); Bonneville Power Administration, <http://www.bpa.gov/corporate/> (last visited Nov. 12, 2008).

36. See 33 U.S.C. § 1313(a)(1)-(2)(2006).

lands,<sup>37</sup> interact with state water law as they seek to secure water rights, in-stream or otherwise, to carry out federal purposes on federal lands.<sup>38</sup>

At the government-to-government level, the State of Oregon interacts with adjacent states that share freshwater rivers and lakes.<sup>39</sup> Oregon also interacts with Indian tribes that hold claims to water that often pre-date statehood and many senior water users in the State.<sup>40</sup> Because of the senior status of many tribal claims to water and their dependence and connection to aquatic species that need freshwater to survive, the tribes of Oregon are major players in the water resources area.<sup>41</sup>

## B. WHO ARE THE ACTORS AT THE STATE LEVEL?

While many agencies play a role in Oregon's water management, the Water Resources Department and the Department of Environmental Quality function as the primary regulatory authorities at the state level. Broadly dividing water resources into two categories, quality and quantity, the DEQ maintains jurisdiction over water quality while the Water Resources Department regulates water quantity.<sup>42</sup>

Although different agencies manage them, and different statutes govern them, water quality and quantity are interrelated. The quantity of water flowing in a stream affects pollutant assimilation, while stream velocity, volume, flow, and groundwater inflow influence water temperature. Simplifying the relationship between water quality and quantity, more water in the streams equals less concentrated pollutants and lower temperatures, two main indicators of enhanced water quality.<sup>43</sup>

### 1. Department of Environmental Quality

The DEQ regulates water quality by issuing water quality permits, administering onsite sewage system programs, implementing (jointly with the Department of Health Services) the state-wide drinking water source assessment and protection program, certifying drinking water protection plans for public water supply systems, and administering an underground injection

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37. U.S. DEPT. OF AGRIC. NATURAL RES. CONSERVATION SERV., HIGHLIGHTS OF NATURAL RESOURCE CONDITIONS AND TRENDS IN OREGON FROM 1982 TO 1997 1 (2006), <http://www.or.nrcs.usda.gov/technical/nri/Oregon%20NRI%20Fact%20Sheet.pdf>.

38. *See Arizona v. California* 373 U.S. 546, 598 (1963); *Cappaert v. United States*, 426 U.S. 128, 138 (1976); *U.S. v. New Mexico*, 438 U.S. 696, 699 (1978) (all finding that federal reserved water rights apply to federal lands for particular purposes).

39. *See* 4 WATERS AND WATER RIGHTS § 43.01 (Robert Beck ed., LexisNexis 2004).

40. *See id.* § 37.02(b).

41. *Id.*; *see generally* OR. REV. STAT. § 539.310 (2007).

42. OR. REV. STAT. § 468.035(1) (2007) (explaining that the Department of Environmental Quality functions to preserve water quality); *id.* § 536.025 (explaining the Water Resources Commission establishes the policies for the Water Resources Department); *id.* § 540.145 (explaining that the Water Resources Director may act through the Water Resources Commission to make rules about water distribution).

43. *See* Reed Benson, A Watershed Issue: The Role of Streamflow Protection in Northwest River Basin Management, 26 ENVTL. L. 175, 178, 200 (1996).

control program and an underground storage tank program.<sup>44</sup> In addition, the DEQ plays a role along with the Department as the state continues to explore Aquifer Storage and Recovery Projects (“ASR”).<sup>45</sup> The DEQ is also responsible for carrying out the State’s obligation under the federal Clean Water Act.<sup>46</sup>

Section 303(d) of the federal Clean Water Act requires states to identify and list water bodies that do not meet water quality standards.<sup>47</sup> The state will set a total maximum daily load (“TMDL”) for water bodies that do not meet the quality standards, and the TMDL will calculate the maximum amount of pollutants that can be discharged into the water body while still meeting the statutory standards.<sup>48</sup> The TMDL will include, among other criteria,<sup>49</sup> an identification of the pollutants causing the water quality impairment and an identification of the basin’s beneficial uses and specific water quality standards.<sup>50</sup>

Beginning with its 2002 Integrated Report,<sup>51</sup> the DEQ ceased placing water bodies that became impaired due to flow modification on the 303(d) list.<sup>52</sup>

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44. OR. DEP’T OF ENVTL. QUALITY, DEQ REPORT TO THE LEGISLATURE: GROUNDWATER QUALITY IN OREGON 18 (2007), *available at* <http://www.deq.state.or.us/pubs/legislativepubs/GroundwaterQualityLegReport2007.pdf>.

45. Water Res. Dep’t, Aquifer Storage and Recovery, [http://egov.oregon.gov/OWRD/mgmt\\_asr.shtml](http://egov.oregon.gov/OWRD/mgmt_asr.shtml) (last visited Oct. 14, 2008). For general information about Aquifer Storage and Recovery in Oregon, see Jen Woody, A Preliminary Assessment of Hydrogeologic Suitability for Aquifer Storage and Recovery (ASR) in Oregon (Nov. 20, 2007) (unpublished M.S. Thesis, Oregon State University), *available at* <http://ir.library.oregonstate.edu/dspace/handle/1957/7453>.

46. *See* OR. ADMIN. R. 340-041-0002(1), (4) (2008). For a more detailed discussion, *see infra* Section VIII.

47. 33 U.S.C. § 1313(d)(1)(A) (2006).

48. OR. ADMIN. R. 340-042-0030(15) (2008).

49. In addition to the criteria listed in the text, a TMDL will include the name and location of the area for which the TMDL is developed, the water body’s loading capacity and excess load, the pollutant’s source, wasteload and load allocations that determine what portions of the water bodies’ load capacity are allocated to point and non-point sources of pollution, a margin of safety, an accounting for seasonal variation in stream flow and pollutant loading, a reserve capacity allocating for increased pollutant loads due to future growth and new or expanded sources (a TMDL may allocate zero reserve capacity), and a Water Quality Management Plan. *Id.* at 340-042-0040(4)(a), (d) to (l).

50. *Id.* 340-042-0040(b) to (c). “Beneficial uses” in the water quality context are similar to, but slightly different than, beneficial uses in the water quantity context. When the water quality statutes refer to beneficial stream uses they are referring to basin-specific criteria that are compiled basin-by-basin in Oregon Administrative Rules sections 340-041-0101 through -0350. Specific water quality standards may include dissolved oxygen, water temperature, coliform bacteria concentrations, dissolved chemical substances, toxic materials, radioactivity, turbidities, color, and odor. *Id.* 340-041-0007(1).

51. Section 305(b) of the federal Clean Water Act requires each state to submit to Congress and the U.S. Environmental Protection Agency a biennial report describing various elements of in-state water quality. 33 U.S.C. § 1315(b) (2006). An “integrated report” includes both the 303(d) list and the 305(b) report. ENVTL. PROT. AGENCY, GUIDANCE FOR 2004 ASSESSMENT, LISTING AND REPORTING REQUIREMENTS PURSUANT TO SECTIONS 303(d) AND 305(b) OF THE CLEAN WATER ACT 1, (2003), *available at* [http://www.epa.gov/owow/tmdl/tmdl0103/2004rpt\\_guidance.pdf](http://www.epa.gov/owow/tmdl/tmdl0103/2004rpt_guidance.pdf).

The DEQ now classifies water bodies previously included on 303(d) lists because of flow modification as “water quality limited but not by a pollutant.”<sup>53</sup> As a result, these waters no longer require development of a TMDL.<sup>54</sup> In general, however, regulators must take flow into account when establishing a TMDL for other pollutants.<sup>55</sup> This requirement relates to the authority of DEQ to apply for instream flow rights to protect flow as part of a water quality standard as discussed below.<sup>56</sup>

The DEQ also issues Water Pollution Control Facilities (“WPCF”) permits that regulate discharge to non-navigable waters and National Pollutant Discharge Elimination System (“NPDES”) permits that govern point source discharge to navigable waters.<sup>57</sup> The DEQ categorizes permits into levels I through IV based on their “environmental and public health significance.”<sup>58</sup> Public notice and participation requirements vary according to the category with Category IV requiring the greatest level of public notice and opportunity for public participation.<sup>59</sup>

In addition to water quality permits, the DEQ may apply for instream flow rights to protect and maintain water quality standards.<sup>60</sup> Instream water rights protect and maintain water quality standards by protecting existing quantities from appropriation, which dilutes pollution concentrations.<sup>61</sup> If granted, the Department holds the instream water rights in trust for DEQ purposes.<sup>62</sup> The DEQ’s regulatory policy directs the agency to apply for an instream water right when the right benefits the public uses of recreation, conservation, pollution abatement, or navigation.<sup>63</sup> The DEQ’s policy further

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52. OR. DEP’T OF ENVTL. QUALITY, CONSOLIDATED ASSESSMENT AND LISTING METHODOLOGY FOR OREGON’S 2002 303(d) LIST OF WATER QUALITY LIMITED WATERBODIES AND INTEGRATED 305(b) REPORT 31 (2003), *available at* <http://www.deq.state.or.us/wq/assessment/docs/methodology02.pdf>.

53. *Id.*

54. *Id.* In 2000, the United States Environmental Protection Agency published a final rule to strengthen the TMDL program and require more comprehensive 303(d) lists, but E.P.A. withdrew the rule before it took effect, resulting in part from concerns from states and industry groups. Reed D. Benson, *Pollution Without Solution: Flow Impairment Problems Under Clean Water Act Section 303*, 24 STAN. ENVTL. L.J. 199, 222-24 (2005).

55. *See* OR. ADMIN. R. 340-042-0040(4)(d) (2008).

56. *See* OR. REV. STAT. § 537.336(2) (2007).

57. *See id.* 340-045-0015(1)(a)-(e) (stating that without a permit, a person may not discharge any waste from industrial or commercial establishments into waters of the state; construct, install, modify, or operate a disposal system or any new outlet to discharge waste into state waters; or discharge greater quantities or concentrations of wastes than an existing permit allows). DEQ issues WPCF permits for discharges such as using wastewater for land irrigation, wastewater lagoons, onsite sewage disposal systems, and underground injection control systems. Or. Dep’t of Envtl. Quality, Water Quality Permit Program Frequently Asked Questions, <http://www.deq.state.or.us/wq/wqpermit/permitfaqs.htm> (last visited Oct. 12, 2008).

58. OR. ADMIN. R. 340-045-0027 (2008).

59. *Id.* 340-045-0027(1) (2008).

60. OR. REV. STAT. § 537.336(2) (2007). The Oregon State Environmental Quality Commission establishes the water quality standards in section 467B.048 of the Oregon Code.

61. *See infra* Section IV. for a detailed discussion of instream flow.

62. OR. REV. STAT. § 537.332(3) (2007).

63. OR. ADMIN. R. 340-056-0100 (2008)(14) (2008).

directs it to protect streamflows of specially designated water bodies<sup>64</sup> and to maintain stream flows of water quality limited streams to assimilate the TMDL of pollution.<sup>65</sup> The DEQ filed a series of instream flow rights on small streams in the northern Willamette Basin in the early 1990s.<sup>66</sup> To date, the DEQ applied for and received approximately 35 instream flow rights for water quality purposes.<sup>67</sup> From the perspective of the Department, the DEQ comments relatively infrequently on new permit and transfer applications.<sup>68</sup>

## 2. The Water Resources Commission and The Water Resources Department

Turning to the quantity side of the administrative equation, the Water Resources Department oversees the amount of water flowing through, and being diverted from Oregon's water bodies.<sup>69</sup> The Water Resources Commission oversees the Water Resources Department, which sits within the executive branch of state government. Technically, by statute, the Commission is the body charged with carrying out state water law and policy, but in practice, the Commission has delegated most of its authorities to the Department. Essentially, the Commission reserved some direct authorities, but outside of these, the Commission functions much like a board of directors.<sup>70</sup>

The Department consists of five divisions: (1) Water Rights and Adjudications, which administers the surface and groundwater permitting systems; (2) Field Services; (3) Technical Services; (4) Administrative Services; and (5) the Oregon Water Resources Director's (Director) Office.<sup>71</sup>

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64. *Id.* 340-056-0015(1)(d) ("It is the policy of the Environmental Quality Commission . . . [t]o protect streamflows as needed in Outstanding Resource Waters and High Quality Waters to ensure that water quality standards are maintained and beneficial uses are protected."). Outstanding Resource Waters are those waters that the Environmental Quality Commission has designated as an outstanding state or natural resource based on their extraordinary water quality or ecological values, or that require special protection to maintain critical habitat areas. *Id.* 340-041-0002(44) (2008). High Quality Waters are those waters that support the propagation of fish, shellfish, and wildlife; recreation; and other designated beneficial uses. *Id.* 340-041-0002(23).

65. OR. ADMIN. R. 340-056-0015(1) (2008) ("It is the policy of the Environmental Quality Commission . . . [t]o maintain streamflows in water quality limited receiving streams to assimilate the identified total maximum daily pollution load.").

66. See OR. WATER RES. DEP'T DATABASE, available at [http://www1.wrd.state.or.us/files/uploads/for\\_deq/Instream\\_wr\\_state\\_DEQ\\_report.pdf](http://www1.wrd.state.or.us/files/uploads/for_deq/Instream_wr_state_DEQ_report.pdf) (last visited Dec. 1, 2008) (about thirty on small streams).

67. Interview with Dwight French, Water Rights Adjudication Adm'r, Or. Water Res. Dep't; see *infra* Section VIII. for an additional discussion about the federal Clean Water Act).

68. Interview with Or. Water Res. Dep't. (Nov. 2007).

69. The Water Resources Department has undergone name and structural changes throughout the years. See OFFICE OF THE SEC'Y OF STATE, WATER RESOURCES DEPARTMENT ADMINISTRATIVE OVERVIEW 1 (2007) available at <http://arcweb.sos.state.or.us/recmgmt/sched/special/state/overview/20060002wrdadov.pdf> [hereinafter ADMIN. OVERVIEW].

70. See generally *id.* § 536.039.

71. ADMIN. OVERVIEW, *supra* note 69, at 3.

The Department operates under the Water Resources Commission (“Commission”) that sets policies, adopts rules, and delegates authority to the Department.<sup>72</sup> The Commission consists of seven members, all of whom the governor appoints and the Senate confirms.<sup>73</sup> Commissioners serve four-year terms, and no commissioner may serve more than two consecutive terms.<sup>74</sup> Oregon law divides its watersheds basins into five regional river management basins,<sup>75</sup> with one member appointed to the Commission from each basin.<sup>76</sup> The governor appoints the remaining two commissioners “at large,” one from the east side of the Cascades and the other from the west side.<sup>77</sup>

The Director of the Water Resources Department acts as administrative head of the Department and the Commission may give the Director the authority to act in the Commission’s name and, when acting officially, bind the Commission.<sup>78</sup> The Director has the power to hire and fire personnel, administer and enforce state water laws, represent Oregon citizens in matters concerning water resources, enter onto private property when performing official duties, and, when the Oregon Watershed Enhancement Board (“OWEB”)

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72. OR. REV. STAT. § 536.025-536.027 (2007). Oregon Revised Statute section 536.050 provides that the Water Resources Department may collect fees associated with permits and sets a fee schedule. *Id.* § 536.050. Water well constructor’s fees, gifts, grants, and appropriations finance the operating fund. *See id.* § 536.009(2). The Department is funded through general funds appropriated by the legislature and application fees, and these fees generally cover about one third of the application processing costs according to the Department. Interview with Or. Water Res. Dep’t, *supra* note 68. The operating fund is separate from the General Fund, which also contributes resources to the Department. OR. REV. STAT. § 536.009(1) (2007). The operating fund pays for the water rights program and the administrative expenses that the Commission and Department incur while carrying out the provisions of Oregon Revised Statute chapters 536 (water resources administration) 537 (appropriation of water generally) 540 (distribution of water; watermasters; change in use: transfer or forfeiture of water rights) and 541 (watershed enhancement and protection; water development projects; miscellaneous provisions on water rights; stewardship agreements). *Id.*

73. OR. REV. STAT. § 536.022(1) (2007).

74. *Id.* § 536.022(2).

75. For purposes of appointing Commission members, the state’s drainage basins are divided into the following five areas: (a) Upper Northwest Region (Lower and Middle Willamette, North Coast, and Sandy drainage basins, and the Columbia River drainage basin below Bonneville Dam); (b) Southwest Region (Rogue, Klamath, Goose, and Summer Lakes drainage basins and South Coast drainage basins south of the Rogue River’s mouth); (c) West Central Region (Umpqua, Mid Coast, Upper Willamette, and South Coast drainage basins north of the Rogue River’s mouth); (d) North Central Region (Umatilla, John Day, Hood, and Deschutes drainage basins, and the Columbia River drainage basin above Bonneville Dam); and (e) Eastern Region (Owyhee, Malheur, Grande Ronde, Malheur Lake, Middle Snake, and Powder drainage basins). *Id.* § 536.022(3).

76. *Id.* § 536.022(1) (2007).

77. *Id.*

78. *Id.* § 536.025(2). While the Commission has general rulemaking authority, the Water Resources Director has exclusive authority over water rights adjudications. *See id.* § 539.021(1) (“The Water Resources Director upon the motion of the director, or in the discretion of the director, upon receipt of a petition from one or more appropriators of surface water from any natural watercourse in this state shall make a determination of the relative rights of the various claimants to the waters of that watercourse.”).

approves watershed enhancement projects, coordinate the Department's involvement in those projects with other state and federal agencies.<sup>79</sup> State watermasters are arms of the Department's staff, distributed throughout the state. The Department appoints one for each of the 21 water districts in the state, and each of which are employees of the Oregon Water Resources Department.<sup>80</sup> Watermasters regulate the distribution of surface and groundwater between water right holders.<sup>81</sup>

The Commission's enabling legislation enacted in 1955, requires the commissioners to "proceed as rapidly as possible to study" the state's water resources, conservation and augmentation measures, water needs and uses, and other related subjects such as drainage, reclamation, floodplains, and reservoir sites.<sup>82</sup> The Commission has the authority to conduct public hearings, issue subpoenas for matters before the Commission, administer oaths, and take depositions.<sup>83</sup> The Commission does not have the authority to interfere with the internal affairs of any other state agency or public corporation, alter any existing water right or priority date, or modify any standard or policy prescribed in Oregon Revised Statutes section 536.310.<sup>84</sup>

The Commission may delegate its power (other than the power to adopt rules), its duties, and its functions to the Director.<sup>85</sup> Once the Commission has held at least one public hearing in the affected river basin, it may also grant the Director the authority to conduct public hearings concerning the adoption or amendment of a basin program, but the Commission may not delegate the authority to actually adopt or amend a basin program.<sup>86</sup>

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79. OR. REV. STAT. § 536.037(1)(b)-(f) (2007). While the statutes list coordination of the OWEB as a function of the Director in practice, the Commission often undertakes this function. *See id.* § 536.037(1)(f). The legislature created the OWEB in order to promote the restoration and enhancement of Oregon's watersheds, which OWEB does by granting funds for watershed restoration projects, assessments, monitoring efforts, support for watershed councils, and education and outreach activities. *Id.* § 541.370(c), (e); OREGON STATE ARCHIVES, OREGON BLUE BOOK: OREGON WATERSHED ENHANCEMENT BOARD: PRESENT DUTIES 91 (2008), <http://bluebook.state.or.us/state/executive/watershed/watershedduties.htm>. The Board consists of seventeen members, including one member each from the Environmental Quality Commission, the State Fish and Wildlife Commission, the State Board of Forestry, the State Board of Agriculture, and the Water Resources Commission. OR. REV. STAT. §§541.360(1)-(2) (2007).

80. OR. REV. STAT. § 540.020(1) (2007); State of Or. Water Res. Dep't, Or. Water Res. Field Offices, <http://www.oregon.gov/OWRD/offices.shtml> (last visited Oct. 9, 2008). Counties assist watermasters by funding staff and office space. *Id.* §§ 540.075(1), 540.080(1).

81. OR. REV. STAT. § 540.045(1)(a) (2007). They do so, in part, by regulating, adjusting, and fastening the headgates, valves, or other means of controlling the local water works. *Id.* § 540.045(1)(c). In reality, the enforcement of water rights by watermasters is a delicate and complicated process.

82. *Id.* § 536.300(1).

83. *Id.* § 536.026(1).

84. *Id.* § 536.320. Section 536.310 of the Oregon Statute sets out the purposes and policies that the Commission shall consider when formulating the state water resources program. *Id.* § 536.310.

85. *Id.* § 536.025(2).

86. *Id.* § 536.025(3); *id.* § 536.300(3).

The Oregon legislature created the Commission in order to establish operating policies for the Department,<sup>87</sup> to adopt and enforce rules to protect groundwater, and to govern the construction and maintenance of wells.<sup>88</sup> The Commission carries out these objectives by exercising its rulemaking authority.<sup>89</sup>

### C. BASIC ADMINISTRATIVE FUNCTION OF THE WATER RESOURCES DEPARTMENT

#### 1. Rulemaking Process and Participation

The Commission adopts rules and standards that enable it to perform the functions the legislature assigned it.<sup>90</sup> The Oregon Statutes include a policy statement that calls for public involvement in policy development and rule drafting.<sup>91</sup> The Oregon legislature “encourages agencies to seek public input” before giving notice of intent to adopt a rule and also authorizes the agency to appoint an advisory committee to represent the interests of persons likely to be affected by the rule.<sup>92</sup> If the agency chooses not to appoint an advisory committee, it must explain its decision in the notice of rulemaking.<sup>93</sup>

#### 2. Water Right Permitting—Administrative Basics

Oregon’s Water Code follows the prior appropriation doctrine, which provides an administrative answer to questions of priority. The foundation of the system is the idea that waters of the state belong to the public, and the state may vest in people the right to use water by granting a water right permit.<sup>94</sup> Prior appropriation functions as a first-in-time, first-in-right priority system.<sup>95</sup> Under this system, senior uses take priority over junior uses of water. Thus, the priority date associated with a particular water use is extremely important. In principle, a senior user takes their full right before a junior user receives any water. Prior appropriation is also based on principles of beneficial use. A water user cannot secure a water right unless the use is deemed beneficial, and the user carries out the use without waste. Finally, prior appropriation operates on a use or lose system. So, if a water user fails

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87. *Id.* § 536.025(1).

88. GARY BRYNER & ELIZABETH PURCELL, *GROUNDWATER LAW SOURCEBOOK OF THE WESTERN UNITED STATES* 46 (2003) (citing OR. REV. STAT. §537.780 (2001)).

89. OR. REV. STAT. § 536.027(1) (2007).

90. *Id.* §§ 536.025-.027(1).

91. *Id.* § 183.333(1) (“The Legislative Assembly finds and declares that it is the policy of this state that whenever possible the public be involved in the development of public policy by agencies and in the drafting of rules.”).

92. *Id.*

93. *Id.* § 183.335(2)(b)(F).

94. *Id.* §§ 537.110, .130(1)-(2).

95. Jedediah Brewer et al., *Transferring Water in the American West: 1987-2005*, 40 U. MICH. J.L. REFORM 1021, 1026 (2007) (describing the prior appropriation system).

to put water to beneficial use, the user may forfeit or abandon their right due to non-use. The legislature codified the water code in various sections of Oregon Code, in Chapters 536, 537, 538, and 540.

Prior to 1909, the common law governed water rights and generally followed principles of prior appropriation.<sup>96</sup> When the Oregon legislature enacted the water code in 1909, the code's provisions pertained only to surface waters, not groundwater.<sup>97</sup> Starting in 1927, the state required permits to use groundwater east of the Cascades,<sup>98</sup> but the Oregon Legislature did not enact a statewide groundwater permitting code until the Groundwater Act of 1955.<sup>99</sup>

Before 1909, Oregon recognized water rights based on prior appropriation as a matter of common law with some recognition of riparian interests.<sup>100</sup> Pre-code rights are unique in that appropriators put the water to beneficial use before obtaining a permit.<sup>101</sup> When the Oregon legislature first established the prior appropriation-based water code in 1909, it was conscious of water users who had been appropriating water prior to the code's establishment. To account for the pre-code or inchoate rights,<sup>102</sup> the legislature created a section in the water code dedicated to pre-1909 surface water appropriators.<sup>103</sup> That section protected pre-code rights by stating that nothing in the Water Rights Act was to affect the relative priorities established by court decrees pending on or established prior to February 24, 1909.<sup>104</sup>

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96. CHAPIN CLARK, SURVEY OF OREGON WATER LAWS 93-97 (Oregon Law Institute, 1983).

97. *See Id.*

98. *See* Or. State Archives, Water Res. Dep't Records Guide, <http://www.sos.state.or.us/archives/state/water/hist/histnarr.htm> (last visited Oct. 15, 2008).

99. *See* OR. REV. STAT. § 537.505 (2007).

100. Joseph Q. Kaufman, *An Analysis of Developing Instream Water Rights in Oregon*, 28 WILLAMETTE L. REV. 285, 291-92 (1992); CHAPIN D. CLARK, SURVEY OF OREGON'S WATER LAWS 94-95 (1974); *see, e.g.*, *Morgan v. Shaw*, 83 P. 534, 535 (Or. 1906) (noting that Oregon recognizes "the common-law doctrine of riparian rights, as modified by the rule of prior appropriation"); *Brown v. Baker*, 39 P. 799, 801 (1901) ("The first settler upon public land through which a stream of water flows may either divert the water, and use it for a beneficial purpose, or exercise the common-law right prevailing in the Pacific Coast states, where the modified rule of riparian ownership is still in force, and insist that the stream shall flow in its natural channel undiminished in quantity, except when applied to the natural use of the upper riparian proprietors, and for irrigation if the stream affords a sufficient quantity of water for the latter purpose.") (citing *Low v. Schaffer*, 33 P. 678 (1893); *North Powder Mill. Co. v. Coughanour*, 54 P. 223 (1898)). The federal Desert Land Act of 1877 severed riparian water rights from public lands, making the water available for appropriation. *See Cal. Or. Power Co. v. Beaver Portland Cement Co.*, 295 U.S. 142, 160-61 (1935); *Hough v. Porter*, 98 P. 1083, 1097 (Or. 1909), *overruled on other grounds by* 102 P. 728 (Or. 1909).

101. *State ex rel. Cox v. Hibbard*, 570 P.2d 1190, 1194 (Or. Ct. App. 1977).

102. OR. ADMIN. R. 690-028-0010(10) (2008); *see also* OR. REV. STAT. § 536.007(11) (2007) (defining an "undetermined vested right" as a "water right claimed under ORS 539.010 as having vested or as having been initiated before February 24, 1909, that has not been determined in an adjudication proceeding under ORS chapter 539 nor is evidenced by a permit or certificate issued under the Water Rights Act").

103. OR. REV. STAT. §§ 539.005-.350 (2007).

104. *Id.* § 539.010(3).

Any person or agency that put surface water to beneficial use before this date, as a riparian user or under the authority of a riparian owner, was able to obtain a vested water right.<sup>105</sup> If an appropriator had not yet begun to divert water, but had begun constructing diversion works, the legislature deemed that the water right was vested with the riparian proprietor.<sup>106</sup> However, the proprietor had to complete the works within a “reasonable time” after February 24, 1909.<sup>107</sup> The provision allowing water users to convert riparian rights into vested surface water appropriative rights had a sunset date—any person or governmental agency claiming an undetermined vested right had to do so before December 31, 1992, or the Department assumed the riparian owner had abandoned the right.<sup>108</sup> However, any person or agency claiming a pre-code appropriation had one year following this date to rebut the abandonment presumption.<sup>109</sup>

Similar to how the water code dealt with existing surface water uses, when the legislature enacted the Groundwater Act of 1955 it provided a registration mechanism for existing groundwater uses.<sup>110</sup> Registration provided a way to integrate groundwater uses that were occurring prior to the Act’s passage in 1955 into the permit system.<sup>111</sup> The Act created a statutory window of three years from August 3, 1955, during which time any person or public agency could come forward to register their existing, beneficial use of groundwater.<sup>112</sup> If people or agencies failed to register their groundwater use within the three-year period, the Department presumed that they had abandoned the claim.<sup>113</sup> If they did register their groundwater use, the certificate of registration is evidence of the holder’s right to appropriate groundwater<sup>114</sup> and the registration’s priority date is the date on which the well construction began.<sup>115</sup>

While the Commission sets rules and policies regulating water permitting, the Department carries out those rules and issues the actual permits.<sup>116</sup> This section provides an overview of the permitting process and the roles of the Department and Commission in that process. The overview covers both surface and groundwater permitting and highlights differences in the two similar, yet distinct processes.<sup>117</sup>

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105. *Id.* § 539.010(1).

106. *Id.* § 539.010(2).

107. *Id.* The Director could extend the “reasonable time” after taking into consideration, the good faith of the appropriator, the appropriation costs, the market for water or power to be supplied, the present demands, and “the income that may be required to provide fair and reasonable returns upon the investment.” *Id.* § 539.010(5).

108. *Id.* § 539.240(1), (3).

109. *Id.* § 539.240(4).

110. *Id.* § 537.585.

111. *See id.*

112. *Id.* § 537.605(1).

113. *Id.*

114. *Id.*

115. *Id.* § 537.610(3).

116. *Id.* § 536.025(1)-(2); *see also id.* § 537.130(1).

117. *See infra* Section V. for a more detailed discussion of groundwater.

Oregon Revised Statutes sections 537.130 to 537.220 govern surface water permitting, while Oregon Revised Statutes sections 537.615 to 537.635 govern groundwater permitting.<sup>118</sup> Both provisions entail a seven-step process consisting 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 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.<sup>119</sup> Although the process for surface and groundwater permitting is similar, the Department uses different standards of review when considering the important public interest aspect of surface and groundwater permitting.<sup>120</sup>

*a. Application*

Applicants begin the process by filing the Department's application form with the Department.<sup>121</sup> The form requires applicants to provide their name and address; information on the proposed use, location, and amount of water; contact information for land owners whose land will be crossed by the proposed diversion ditch or canal; a statement of whether the applicant may access the diversion structures on non-owned land; a construction timeline; a map and description of the proposed diversion and use; and all other information and data that is required in the application form or that the Department deems necessary to evaluate the application.<sup>122</sup> Groundwater applications require information on the water table depth and well specifications.<sup>123</sup>

*b. Completeness Determination*

Within fifteen days after receipt of the application, the Department must undertake a "completeness determination" to evaluate whether the applica-

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118. OR. REV. STAT. §§ 537.130-.220, 537.615-.635 (2007).

119. See *id.* §§ 537.140(1)(a), .150(1), (3)-(4), (6)-(7), .153(1), (7), (8)(a), .170(6) (setting forth the procedure for surface water permitting); *id.* §§ 537.620(2)-(4), (6), (7), .621(1), (6)-(9), .625(1) (setting forth the procedure for groundwater permitting).

120. Compare *id.* §§ 537.153(2)(b)(A)-(B), .170(8) (surface water), with *id.* §§ 537.621(2)(a)-(b).

121. *Id.* § 537.140(1)(a).

122. *Id.* § 537.140(1)(a)(A)-(I), (3)-(4) (2007); see also OR. ADMIN. R. 690-310-0040 (2008). The statutes and regulations contain additional requirements for reservoirs and water storage projects, agricultural purposes, power purposes, municipal water supplies, and mining purposes. OR. REV. STAT. § 537.140(1)(b)-(f) (2007); OR. ADMIN. R. 690-310-0040(c)-(h) (2008).

123. OR. REV. STAT. § 537.615(1), (2)(g)-(j) (2007).

tion includes all of the necessary information.<sup>124</sup> If the application is complete and no statute prohibits the proposed use,<sup>125</sup> the priority date for any resulting permit will be the date on which the department received the application.<sup>126</sup>

*c. Initial Review*

Upon determining that the application is complete, the Department undertakes an “initial review.”<sup>127</sup> At this stage, one of five caseworkers in the Department’s water rights section reviews the application to determine whether a statute or rule restricts the proposed use, whether the requested amount of water is available, whether any other issues would preclude permit approval, and, in the case of groundwater application, whether the proposed use is located in a designated critical groundwater area and thus restricted.<sup>128</sup> Division 410 of the administrative rules provides various statewide water resource management policies. These policies include several provisions, namely Oregon Administrative Rules 690-410-030 and 690-410-070, which address various instream values that the Department should consider when evaluating applications for new water rights.<sup>129</sup> The Department has no formal step for evaluating the policies but includes these considerations as part of the public interest review discussed later in this section.<sup>130</sup>

During this review phase the Department consults with other agencies such as the state Departments of Fish and Wildlife and Environmental Quality.<sup>131</sup> The Department provides a specific comment form to these agencies and often incorporates comments into the proposed final order in advance.<sup>132</sup> The goal of the OWRD is to avoid a formal protest by working out potential issues at this stage in consultation with the resource agencies.<sup>133</sup> The OWRD reports that the ODFW is a far more active participant than the DEQ.<sup>134</sup> The Department must complete the initial review and inform the applicant of its preliminary decision no later than thirty days after determining the application is complete.<sup>135</sup> Applicants may choose to withdraw their permit applica-

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124. *Id.* § 537.150(1) (surface water); *id.* § 537.620(2) (ground water); *see also* OR. ADMIN. R. 690-310-0070(1) (2008).

125. OR. ADMIN. R. 690-310-0070(4) (2008). If any statute does prohibit the proposed use, the Department will reject the permit application and return all fees to the applicant. *Id.* One such statute is Oregon Revised Statute chapter 538, which withdraws certain water from appropriation. OR. REV. STAT. § 538.101-450 (2007).

126. OR. REV. STAT. § 537.150(2) (2007) (surface water); *id.* § 537.620(2) (groundwater).

127. *Id.* § 537.150(4) (surface water); *id.* § 537.620(4) (groundwater).

128. *Id.* § 537.150(4) (surface water); *id.* § 537.620(4) (groundwater); *see also* Interview with Dwight French, *supra* note 67.

129. OR. ADMIN. R. 690-410-030(1), -0070(1) (2008).

130. *See generally infra* Section II. for a discussion of the public interest review.

131. RICK BASTASCH, THE OREGON WATER HANDBOOK 93 (rev. ed. 2006).

132. Interview with Or. Water Res. Dep’t, *supra* note 68.

133. *Id.*

134. *Id.*

135. OR. REV. STAT. § 537.150(5) (2007) (surface water); *id.* § 537.620(5) (groundwater); *but see* Interview with Dwight French, *supra* note 67 (According to the OWRD, it often takes

tion within fourteen days of receiving the Department's preliminary decision notice.<sup>136</sup> If the applicants choose not to withdraw their permit application, the Department must give public notice of the application within seven days.<sup>137</sup>

*d. Public Notice*

The Department publishes water right public notices weekly on its website.<sup>138</sup> The notice must include a request for comments;<sup>139</sup> a note on what type of water use is being considered; the county in which the water will be used; the application file number; the applicant's name and address; the amount of the proposed water use in gallons per minute, cubic feet per second, or acre feet of storage; the common name of the basin; the nature of the use; and the location of the proposed point of diversion.<sup>140</sup> The Department must transmit the notice to federal, state, and local agencies (including local planning departments) that may be affected by the application.<sup>141</sup> The Department must also send notice to any property owners whose land may be crossed,<sup>142</sup> affected Indian tribes, and people on the Department's weekly mailing list.<sup>143</sup> Written comments are due to the Department thirty days after publication.<sup>144</sup>

*e. Proposed Final Order*

After receiving public comments, the Department will review the application and, within sixty days of completing the initial review, issue a proposed final order approving or denying the application or approving the application with modifications or conditions.<sup>145</sup> The Department must include findings of fact and conclusions of law in the proposed final order, including, but not limited to:

- a confirmation that the determinations made in the initial review are still correct, or a note on modifications to the initial review;

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longer than thirty days to complete the initial review, but the review is usually complete within forty-five days).

136. OR. REV. STAT. § 537.150(5) (2007) (surface water); *id.* § 537.620(5) (groundwater).

137. *Id.* § 537.150(6) (surface water); *id.* § 537.620(6) (groundwater).

138. Or. Water Res. Dep't, <http://www.wrd.state.or.us/> (last visited Nov. 20, 2008). You may sign up to automatically receive email notification when the weekly notice is posted by visiting <http://www.oregon.gov/OWRD/PUBS/subscriptions.shtml> and clicking on subscription option number 6, "OWRD Public Notice."

139. OR. REV. STAT. § 537.150(6) (2007) (surface water); *id.* § 537.620(6) (groundwater).

140. OR. ADMIN. R. 690-310-0090(1) (2008).

141. *Id.* 690-310-0090(2)(a).

142. This is primarily a concern for surface water applicants whose proposed ditch or canal will cross another's land. *See id.* 690-310-0040(1)(a)(F), -0090(2)(b).

143. *Id.* 690-310-0090(2)(b)-(d).

144. OR. REV. STAT. § 537.620(7) (2007).

145. *Id.* § 537.153(1) (surface water); *id.* § 537.621(1) (groundwater).

- a brief statement explaining what criteria the Department considered relevant, including the applicable basin program and the proposed use's compatibility with applicable land use plans;
- a water-availability and water-use assessment;
- an assessment of whether the proposed use would injure existing water rights;
- an assessment of whether the proposed use would ensure the preservation of the public welfare, safety, and health ("public interest");
- a draft of the permit to be issued, including any proposed conditions or, alternately, a recommendation to deny the application;
- whether the Department has established the rebuttable presumption that the proposed use preserves the public interest;
- the date by which the Department must receive protests; and
- for groundwater, the flow rate and duty, when applicable, of water that the permit will allow. When setting the flow rate, the Department will apply the general basin-wide standard unless the applicant provides information demonstrating the need for a higher flow rate and duty or less if requested by applicant.<sup>146</sup>

As of the late 1990s, the statute allows the presumption that the public interest is satisfied.<sup>147</sup> Thus, the Department presumes a water right application is in the public interest if five criteria are met. These criteria are: (1) no statute prohibits the water use; (2) no rule or policy prohibits the water use; (3) there is water available for the use; (4) the use complies with the rules of the Commission, including the applicable basin program; and (5) the new water use does not injure existing rights.<sup>148</sup> This article discusses each of these in more detail below. The presumption in favor of a new water right is rebuttable and can be overcome by a preponderance of evidence that any one or more of the criteria have not been satisfied.<sup>149</sup> The Department then issues a proposed final order recommending issuance of the permit subject to any appropriate modifications or conditions.<sup>150</sup> If the public interest presumption is not satisfied, the Department's proposed final order will deny the application.<sup>151</sup>

*f. Notice of Proposed Final Order*

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146. *Id.* § 537.153(3) (surface water); *id.* § 537.621(3)-(4) (groundwater).

147. *Id.* § 537.153(2). *See infra* Section II. for further discussion of the public interest review process.

148. *Id.* § 537.153(2).

149. *Id.* § 537.153(2)(a).

150. OR. ADMIN. R. 690-310-0140(4) (2008)(groundwater); OR. ADMIN. R. 690-310-0120(3)(surface water).

151. *Id.* 690-310-0140(5)(groundwater); 690-310-0120(2)(a)(surface water).

Within seven days of issuing the proposed final order, the Department again gives public notice in its weekly notice bulletin.<sup>152</sup> Any person who supports the proposed final order may request standing to participate in a contested case hearing,<sup>153</sup> and any person that opposes the order may submit a protest.<sup>154</sup> A person that opposes the proposed final order must submit a protest in order to preserve her standing to participate in a contested case proceeding.<sup>155</sup> If a person submits comments during the initial comment period but does not submit a protest following the release of the proposed final order, she will not have standing to participate in a contested case proceeding.<sup>156</sup> A non-applicant must pay a \$350 fee to submit a protest to the Department<sup>157</sup> and a separate fee to request standing.<sup>158</sup>

Interested parties, including but not limited to individuals, other agencies, and nonprofit groups, may comment on the application during either the initial review period or following the release of the proposed final order.<sup>159</sup> The Oregon Department of Fish and Wildlife (“ODFW”) plays a particularly important role at the initial review stage through operation of the Division 33 rules on the public interest review with regard to sensitive, threatened or endangered species.<sup>160</sup> While the ODFW is not mandated to review each new application, the agency does possess significant authority to address water rights applications.<sup>161</sup> A more thorough discussion of the Division 33 rules follows below in the public interest section.<sup>162</sup>

#### *g. Final Order*

Within sixty days after the close of the protest period, the Director must either schedule a contested case hearing or issue a final order.<sup>163</sup> The Department will hold a contested case hearing if it received a protest and if the Director finds there are significant disputes related to the proposed water use.<sup>164</sup> An administrative law judge oversees the hearing and determines

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152. OR. REV. STAT. § 537.153(4) (2007) (surface water); *id.* § 537.621(5) (groundwater).

153. *Id.* § 537.153(5); OR. ADMIN. R. 690-310-0160(2) (2008) (surface water); OR. REV. STAT. § 537.621(6) (2007) (groundwater).

154. OR. REV. STAT. § 537.153(6) (2007); OR. ADMIN. R. 690-310-0160(1) (2008) (surface water); OR. REV. STAT. § 537.621(7) (2007) (groundwater). Requests for standing and protests must be submitted within forty-five days of the when department’s notice is publicized. OR. REV. STAT. § 537.153(7) (2007) (surface water); *id.* § 537.621(8) (ground water). OR. ADMIN. R. 690-310-0160(1), (3) (2008) set forth the requirements for requesting standing and submitting a protest.

155. OR. REV. STAT. § 537.170(2)(c) (2007); OR. ADMIN. R. 690-002-0010(6) (2008).

156. OR. REV. STAT. § 537.170(2)(c) (2007).

157. *Id.* § 536.050(1)(j).

158. *Id.* § 536.050(1)(n).

159. *Id.* § 537.150(7) (surface water); *id.* § 537.620(7) (ground water).

160. OR. ADMIN. R. 690-033-0000(1) (2008).

161. *See id.* 690-033-0000(2).

162. *See infra* Section II.D.3.

163. OR. REV. STAT. § 537.153(8) (2007) (surface water); *id.* § 537.621(9) (groundwater).

164. *Id.* § 537.153(8)(b)(A) (surface water); *id.* § 537.621(9)(b)(A) (groundwater).

what issues the hearing will consider.<sup>165</sup> The statute limits those allowed to participate in the hearing to the applicant, any person who files a timely protest, and any person who files a timely request for standing and requests to intervene before the proceeding starts.<sup>166</sup> The rules allow for “any person” to request standing or submit a protest; thus a person need not have participated in the first round of comments or be a water right holder to oppose or support the order.<sup>167</sup> The Oregon Administrative Procedures Act governs the hearing, with the exception that the water code does not allow for interlocutory appeal.<sup>168</sup>

The Director will issue a final order if there is no protest or, if there is a protest, after the contested case hearing.<sup>169</sup> The final order may approve or reject the permit application, or the order may condition the approval based on modifying and/or restricting the permit.<sup>170</sup> When developing the final order, the Director must consider all of the comments and protests that the Department received, but the final order does not need to address each comment and protest separately.<sup>171</sup> If the Department approves the application, it issues a permit to appropriate water and the permittee may begin constructing diversion works.<sup>172</sup> The permittee must complete the construction within five years.<sup>173</sup>

After completing construction, the permit holder must perfect the right by putting the water to beneficial use, and hire a water right examiner to survey the appropriation.<sup>174</sup> At this point, the permittee can request a water right certificate from the Department.<sup>175</sup> The Department’s issuance of a certificate completes the water right process, and the right holder may use the water for beneficial purposes in accordance with the certificate’s terms.<sup>176</sup>

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165. *Id.* § 537.170(1) (surface water); *id.* § 537.622(1) (groundwater).

166. *Id.* § 537.170(2) (surface water); *id.* § 537.622(2) (groundwater).

167. *Id.* § 537.170(2)(b)-(c) (surface water); *id.* § 537.622(2)(b)-(c) (groundwater).

168. *Id.* § 537.170(3) (2007) (surface water); *id.* § 537.622(3) (groundwater). The Oregon Administrative Procedures Act is codified at OR. REV. STAT. §§ 183.310-690 (2007). An interlocutory appeal is an appeal that occurs before the trial court has made a final ruling on the entire case. BLACK’S LAW DICTIONARY (8th ed. 2004). “Some interlocutory appeals involve legal points necessary to the determination of the case, while others involve collateral orders that are wholly separate from the merits of the action.” *Id.*

169. OR. REV. STAT. § 537.170(6) (2007) (surface water); OR. ADMIN. R. 690-310-0200 (2008) (groundwater).

170. OR. REV. STAT. § 537.170(6) (2007) (surface water); OR. ADMIN. R. 690-310-0200 (2008) (groundwater).

171. OR. ADMIN. R. 690-310-0220(2) (2008).

172. OR. REV. STAT. § 537.211(1) (2007).

173. *Id.* § 537.230(1). If the permit is for municipal water use, the user must complete construction within twenty years. *Id.* § 537.230(2).

174. *Id.* § 537.230(4).

175. *Id.* § 537.250(1).

176. *Id.* § 537.250(3).

#### D. APPLICATION PROCESS FOR WATER RIGHT TRANSFERS

In Oregon today, virtually all of the surface water has been appropriated.<sup>177</sup> Thus, to meet changing and increasing water demands, parties will necessarily rely more heavily on the water rights transfer process. If a right holder wishes to use water for a purpose other than her water permit allows, use the water in a different location, or divert the water from a different spot, the right holder must file a transfer application with the Department.<sup>178</sup> A surface water user may also transfer her point of diversion to appropriate groundwater.<sup>179</sup> Only certain rights may be transferred, namely those that

- have been adjudicated and have received a court decree;
- have received a water right certificate;
- have a permit for which a request for issuance of a water right certificate has been received and approved; or
- the Department has approved a previous a transfer for and satisfactory proof of completion has been filed with the Commission.<sup>180</sup>

The application for a transfer must include: the applicant's name, mailing address, and telephone number; how the applicant previously used the water; a description of the premises where the water is used; a description of the premises where the application proposes to use the water; the water's proposed use; the reasons for making the proposed change; and evidence that the water has been used over the past five years, such that it is not subject to forfeiture.<sup>181</sup> Furthermore, if the applicant is filing for a change in the point of diversion, the right holder must provide a proper fish screen at the new point of diversion if the Department of Fish and Wildlife requests one.<sup>182</sup> For a temporary transfer, the Commission may require the applicant to include any other information the rule may require.<sup>183</sup>

After an applicant has filed for a transfer, the Department usually publishes a public notice in a local newspaper for three weeks and in the weekly

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177. OR. WATER RES. DEP'T, *WATER RIGHTS IN OREGON: AN INTRODUCTION TO OREGON'S WATER LAWS* 15 (2008), available at <http://www1.wrd.state.or.us/pdfs/aquabook.pdf>.

178. OR. REV. STAT. § 540.520(1) (2007). Oregon Statutory Chapter 540 codifies the requirements and process for transferring a water right. A water right holder may apply for a permanent or temporary transfer; the Department will grant a temporary transfer for a period no longer than five years. *Id.* §§ 540.520-.523; OR. ADMIN. R. 690-380-2000 (2008).

179. OR. REV. STAT. § 540.531(1) (2007). However, the Department must find that: (1) the aquifer is hydraulically connected to the surface water, (2) the change will not result in enlargement or injury to existing water rights, (3) the change will affect the surface water the same as the authorized use, and (4) the proposed groundwater use is located within 500 feet of the surface water, and when the surface water is a stream, is also located within 1,000 feet upstream or downstream of the original point of diversion. *Id.* § 540.531(2)(a).

180. OR. REV. STAT. § 540.505(4) (2007).

181. *Id.* § 540.520(2); see also OR. ADMIN. R. 690-380-3000 (2008).

182. OR. REV. STAT. § 540.525 (2007); OR. ADMIN. R. 690-380-5060 (2008).

183. OR. REV. STAT. § 540.523(1)(d) (2007).

notice published by the Department.<sup>184</sup> After the final notification, a thirty-day protest period begins.<sup>185</sup> During this time, any person may file a protest with the Department.<sup>186</sup> Essentially, any filing that shows a relationship to the water source and contains the appropriate fee constitutes a protest.<sup>187</sup> A protest triggers the contested case process.<sup>188</sup> Following the opportunity for protest, and contested case hearing if applicable, there is a three-month appeals period, after which the transfer order may not be challenged.<sup>189</sup>

The Department's criteria for a transfer application differ from its criteria for a new permit application. For example, during the transfer process, the Department does not conduct a water availability analysis.<sup>190</sup> Also, except for analyzing injury to existing water rights and checking for compliance with statewide planning goals, the Department does not conduct a full public interest review during the transfer process.<sup>191</sup> The Department is mainly concerned if the transfer will result in enlargement or injury to existing rights.<sup>192</sup> The instream transfer procedure includes the same application process as other transfers, but the Department evaluates the application with additional criteria.<sup>193</sup>

#### E. IMPLICATIONS OF THE BASIC ADMINISTRATIVE PROCESS

Though detailed and complicated, the administrative process in Oregon, like most western states, represents the mechanism by which water users, those impacted by water use, and the state agencies responsible for various resources can engage the system and participate in determining how water resources will be used in the state.

As western states begin to tackle the relationship among energy, water, land-use and climate policy, policymakers should evaluate the effectiveness of the planning and allocation systems envisioned in the water code both through the prior appropriation system and through the 1955 basin-planning program. Many commentators express frustration at the lack of coordina-

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184. *Id.* § 540.520(5).

185. *Id.* § 540.520(6).

186. *Id.*

187. *Id.* § 537.153(6).

188. *Id.* § 537.153(8); interview with Or. Water Res. Dep't, *supra* note 68.

189. *Kerivan v. Water Res. Comm'n*, 72 P.3d 659, 665 (Or. Ct. App. 2003).

190. *See* OR. REV. STAT. §§ 540.505-.560 (2007); *see also* OR. ADMIN. R. 690-380-4010 (2008).

191. *See infra* Section II. for the public interest analysis of new permit applications. *See, e.g.,* OR. REV. STAT. §§ 540.505-.560 (2007); OR. ADMIN. R. 690-380-4010 (2008); BASTASCH, *supra* note 131, at 136.

192. Interview with Bob Rice, Water Res. Dep't (Mar. 4, 2008). *See also* OR. ADMIN. R. 690-380-4010(2)(c)-(d) (2008). In point of diversion transfers, the holders of the injured water rights can consent to the proposed change; the Department must get a consenting affidavit from every holder of the injured water right. *Id.* 690-380-5030(1). If the proposed transfer will injure an instream right, the Department may consent to its injury only if it receives a recommendation from the agency that requested the instream right. *Id.* 690-380-5050.

193. OR. ADMIN. R. 690-077-0075(1)-(5) (2008). For a further discussion of instream right transfers, *see infra* Section IV.C.

tion, for example, between land-use planning and water planning in the state of Oregon, which will be discussed in more detail in Section 6 of this article. In adopting the 1909 water code, the legislature focused on creating a system that would allocate water rights, and the current situation may demand a system that manages and conserves water. Understanding the basic administrative structure and authorities allows individuals to evaluate the potential for existing law to meet our modern needs.

In particular, the transfer process becomes extremely important as the state looks to moving uses of water to those that are more critical or in higher demand in the state. Because there is very little unused or unaccounted for water left to allocate, the primary tool for shifting water use toward conservation and emerging consumptive needs will be the transfer process. As part of the transfer process, the Department must evaluate whether the transfer will injure existing right. The contours and factors in the injury analysis are critical because they will determine whether established existing uses lock in water or whether users can transfer it to more efficient or higher demand current uses.

The extensive administrative process set out above also demonstrates that the Oregon Water Resources Department, or any water allocation agency in the western United States, does not stand as the sole state agency with an important role to play in freshwater conservation. Too often, the scrutiny of freshwater conservation focuses directly on the agency responsible for water allocation. In fact, the Department of Environmental Quality plays a significant role in protecting and preserving the water quality attributes of our freshwater systems and has some authority to use instream rights to meet and achieve water quality standards. In addition to the DEQ, Parks and Recreation and the ODFW possess similar authorities to secure instream rights. Some agencies have explored these authorities more than others. Further, as part of the initial review process for water rights, the DEQ, Parks and Recreation and the ODFW can provide comments with regard to the impact of a proposed water right or change to the resources they are responsible for managing and protecting. In addition, water utilities and the Health Division also have a role to play in water source protection. The freshwater conservation community does not typically consider these entities part of the freshwater conservation community, but that perspective may change as they emerge as an important component of the overall legal and regulatory authorities that deal with the protection and conservation of water resources. These agencies and their authorities may be even more relevant as states look for ways to build resilience into systems as a method for dealing with climate change. In the end a thorough understanding of the basics of administrative law and the relevant administrative agencies will benefit those interested in freshwater conservation and those pursuing a more integrated energy and water policy.

## **II. WATER RIGHT PERMITTING: PUBLIC INTEREST REVIEW**

Beyond an in-depth understanding and appreciation for the administrative law context for freshwater conservation, it is important for policymakers to engage the substantive details of state water codes in the western United

States. Perhaps the most important, but often underutilized and sidelined principle embedded in western water codes is the notion of the public interest review. In nearly every western state, the water rights appropriation process includes a public interest review.<sup>194</sup> These reviews recognize that granting appropriations of water rights impacts the entire public and that the State, as the trustee for the water resources of the state, carries an obligation to evaluate the appropriations in light of the overall public interest. The public interest review may hold the most promise for providing the mechanism, in the existing water code to integrate energy and climate issue into water policy. Unfortunately, in many states the public interest review has been diminished or ignored.<sup>195</sup>

In Oregon, when the Water Resources Department determines whether or not to issue a water right permit, the public interest review functions as perhaps the most critical finding and encompasses many of the other findings required by the water code.<sup>196</sup> For a surface water right, the Department will presume that a proposed surface water use preserves the public welfare, safety and health if: (1) the use is allowed in the applicable basin program<sup>197</sup> or is statutorily preferred;<sup>198</sup> (2) water is available;<sup>199</sup> (3) the use will not injure other water rights;<sup>200</sup> and (4) the use complies with Water Resources Commission rules.<sup>201</sup> The presumption is rebuttable, however, and may be overcome upon either the Department's finding that one or more of the criteria for establishing the presumption is absent or that public comments, a protest, or a Department finding specifically show, by a preponderance of evidence, an aspect of the public interest that the proposed use would impair.<sup>202</sup>

Before 1995, the Department or Commission<sup>203</sup> did not presume that a proposed use was within the public interest.<sup>204</sup> Instead, Oregon statutes re-

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194. D. Craig Bell & Norman K. Johnson, *State Water Laws and Federal Water Uses: The History of Conflict, the Prospects for Accommodation*, 21 ENVTL. L. 1,7 (1991); Douglas L. Grant, *Two Models of Public Interest Review of Water Allocation in the West*, 9 UNIV. OF DENV. WATER L. REV. 488, 488, n. 1 (Spring, 2006).

195. See Generally, Douglas L. Grant, *Two Models of Public Interest Review in Water Allocation in the West*, 9 U. DENV. WATER L. REV. 485 (2006).

196. See BASTASCH, *supra* note 131, at 73.

197. Basin programs are established pursuant to OR. REV. STAT. §§ 536.300, .340 (2007) and governed by OR. ADMIN. R. sections 690-500-0005 to 690-520-0600 (2008). The Water Resources Commission has adopted basin programs for the following basins: 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; Middle Snake River Basin. *Id.*

198. OR. REV. STAT. § 536.310(12) (2007).

199. *Id.* § 537.621(2).

200. *Id.*

201. *Id.*

202. *Id.*; see also *id.* § 536.153(2) (applying the same principles and presumptions to groundwater appropriation).

203. The law changed over the years as to which agency, the Commission or Department, conducted the public interest analysis. See Gail L. Achterman & Peter D. Mostow, *Senate Bill 647: Increasing the Flow Rate of Oregon's Water Rights Permitting Process*, 32 WILLAMETTE L. REV. 187, 193 (1996).

quired the Commission to consider whether the proposed use impaired the public interest.<sup>205</sup> The change was due to the 1995 water-focused Oregon legislature, which passed 60 water-related bills.<sup>206</sup> In particular, Senate Bill 674 was the changing force for the public interest standard.<sup>207</sup> Before the bill was passed, the Commission considered seven factors to determine whether the proposed use would impair the public interest.<sup>208</sup> Following the state's enactment of SB 674, the Department now applies these seven factors only if the protestor rebuts the presumption of public interest.<sup>209</sup> SB 674 shifted the burden of proof from the new appropriator to the protestor.<sup>210</sup> Now, the burden is on the protestor who believes the proposed use is detrimental to the public interest.<sup>211</sup> Arguably, SB 674 also changed the state's water allocation focus. Before 1995, the state's focus was on protecting the public interest; after 1995, the focus shifted to allocating the state's water resources.<sup>212</sup>

The public interest review is, at least in theory,<sup>213</sup> stricter for groundwater permits than for surface water permits because the statutory language contains an affirmative obligation not present in the surface water provisions.<sup>214</sup> When reviewing an application for surface water withdrawal, the

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204. OR. REV. STAT. § 537.170 (1993) (amended by S.B. 674, 68th Leg., Reg. Sess. (Or. 1995)). See also Achterman & Mostow, *supra* note 203, at 202-03.

205. 41 Or. Op. Att'y Gen. 61 (1980) (the attorney general wrote, "[t]he director must determine whether the proposed application prejudicially affects the public interest.").

206. Achterman & Mostow, *supra* note 203, at 187.

207. S.B. 674, 68th Leg., Reg. Sess. (Or. 1995) (codified at OR. REV. STAT. §§ 537.170, .173 (2007)); Achterman & Mostow, *supra* note 203, at 187.

208. OR. REV. STAT. § 537.170(5) (1993) (amended by S.B. 674, 68th Leg., Reg. Sess. (Or. 1995)). The seven factors were: "(1) conservation of the highest use of the water for all purposes, (2) maximum economic development, (3) control of water for all beneficial purposes, (4) water availability, (5) prevention of waste, (6) existing water rights, and (7) the state water resources policy." Achterman & Mostow, *supra* note 203, at 210.

209. Achterman & Mostow, *supra* note 203, at 210.

210. *Id.*

211. OR. REV. STAT. § 537.153(2)(b) (2007) (mandating that the burden of proof for determining when a proposed use will hinder the public interest is by a preponderance of the evidence); OR. REV. STAT. § 537.170(5) (1993) (amended by S.B. 674, 68th Leg., Reg. Sess. (Or. 1995)) ("If in the judgment of the Water Resources Commission, the proposed use may prejudicially affect the public interest . . . the commission shall hold a public hearing.").

212. One of the motivations to pass SB 674 was to speed up the process of the water right permitting process. Achterman & Mostow, *supra* note 203, at 196-97.

213. BASTASCH, *supra* note 131, at 75 (citing CHAPIN D. CLARK, OR. WATER RES. RESEARCH INST., SURVEY OF OREGON'S WATER LAWS 195 (1974)). Bastasch writes that, in practice, the Department has not applied the stricter standard. *Id.* Oregon statutory section 537.621(2) affirmatively provides that the Department must determine "whether the proposed use will ensure the preservation of the public welfare, safety and health." OR. REV. STAT. § 537.621(2) (2007). Bastasch recognizes that in practice the Department has not applied the standard in the more stringent manner. See BASTASCH, *supra* note 131, at 75. Some commentators actually observe less scrutiny applied to groundwater applications and note that in a situation where the Department has no information regarding the public interest, the Department simply grants the permit. See generally *id.*

214. The statute regarding groundwater reads: "the department shall determine whether the proposed use will ensure the preservation of the public welfare, safety and health. . . . [t]he department shall presume that a proposed use will ensure the preservation of public, welfare, safety and health if" the same criteria as surface water provision is met. OR. REV. STAT. §

Department must consider whether the proposed use would impair the public interest, employing the presumption in favor of finding the public interest has been satisfied.<sup>215</sup> In contrast, when reviewing a groundwater application, the Department must affirmatively show that the proposed withdrawal will preserve the public welfare, safety, and health.<sup>216</sup> This stricter standard of review, in theory, could make the burden on a groundwater applicant greater than the burden on a surface water applicant. In practice, however, parties may experience no difference in the burdens between groundwater and surface water applications.<sup>217</sup>

Once the Department determines that the application meets the presumption of public interest preservation, the Department evaluates any information available in its files and any comments received from the public or other interested agencies to determine if any of that information overcomes the presumption.<sup>218</sup> The Department may also consult with state and federal agencies and local governments and must consider at least the following factors: water use efficiency and avoiding waste; threatened, endangered, or sensitive species; water quality; fish or wildlife; recreation; economic development; local comprehensive plans (including supporting provisions such as public facilities plans); and, for groundwater sources, stability of groundwater levels and thermal characteristics of the groundwater source.<sup>219</sup> Based on information gathered from the foregoing sources, the Department may overcome the presumption, and deny the permit, if a preponderance of evidence shows that the proposed use will not preserve the public interest.<sup>220</sup>

If the Department finds that the preponderance of evidence does not overcome the presumption, the Department will issue a proposed final order recommending that it issue the permit subject to any appropriate modifications or conditions.<sup>221</sup> If the presumption is not satisfied, the Department's proposed final order will deny the application.<sup>222</sup>

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537.621(2) (2007) (emphasis added). The statute regarding surface water contains no language like the italicized language above, but rather moves directly to the presumption, reading: "the department shall presume that a proposed use will not impair or be detrimental to the public interest if the proposed use is" allowed in the basin program, water is available, use causes no injury, and use complies with rules of Water Resources Commission. *Id.* § 537.153(2).

215. *Id.* § 537.153(3)(e) (2007) ("The proposed final order shall cite findings of fact and conclusions of law and shall include . . . [a]n assessment of whether the proposed use would impair or be detrimental to the public interest . . .").

216. *Id.* § 537.621(2) ("In reviewing the application . . . the department shall determine whether the proposed use will ensure the preservation of the public welfare, safety, and health . . .").

217. *See generally* BASTASCH, *supra* note 131, at 75.

218. OR. ADMIN. R. 690-310-0140(3)(a) (2008) (groundwater); *id.* 690-310-0120(3)(a) (surface water).

219. *Id.* 690-310-0140(3)(b)-(c) (groundwater); *id.* 690-310-0120(3)(b)-(c) (surface water).

220. *Id.* 690-310-0140(3)(a) (groundwater); *id.* 690-310-0120(3)(a) (surface water).

221. *Id.* 690-310-0140(4) (groundwater); *id.* 690-310-0120(4) (surface water).

222. *Id.* 690-310-0140(5) (groundwater) ("If the Department finds under section (4) of this rule that the presumption is overcome, the Department shall issue a final order in accordance with OAR 690-310-0190 denying the application *unless the Department makes specific find-*

When the Department engages in the public interest review it considers the following factors discussed in the following sections. These factors provide most of the substantive evaluation of a new water right. As a result, the public interest review serves as the vehicle for addressing many of the important freshwater conservation issues.

#### A. PUBLIC INTEREST CRITERIA: BASIN PROGRAMS AND STATUTORY PREFERENCE

“Basin programs are administrative rules which establish water management policies and objectives and which govern the appropriation and use of the surface and groundwater within the state’s major river basins.”<sup>223</sup> These programs supplement the statewide rules governing water use and allocation by withdrawing streams in some basins from further appropriation and greatly limiting the allowable uses in others.<sup>224</sup> Basin program rules enforce these limitations by classifying surface and groundwater according to permitted uses. The rules may establish preferences among uses, withdraw surface and groundwater from further appropriation, reserve waters for specified future uses, and establish minimum perennial stream flows.<sup>225</sup> In 1955, basin plans were prepared for every basin in the state,<sup>226</sup> but the state has not updated these plans on a regular basis despite the statutory directive.

#### B. PUBLIC INTEREST CRITERIA: WATER AVAILABILITY

If the basin program does not prohibit the proposed water use, the Department next determines if there is water available to appropriate.<sup>227</sup> The Department measures surface and groundwater availability differently.<sup>228</sup> While a detailed formula exists for measuring surface water, the Department uses no such formula for groundwater unless there is the potential for substantial interference with surface water, and then the Department employs surface water formulas.<sup>229</sup>

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*ings to demonstrate that the issuance of a permit will ensure the preservation of the public welfare, safety and health.”* (emphasis added); *id.* 690-310-0120(5) (surface water).

223. *Id.* 690.500.0010(2).

224. *Id.* For a more detailed discussion on basin management plans see *infra* Section VI.A.

225. OR. ADMIN. R. 690.500.0010(2) (2008).

226. See Janet Neuman, Anne Squier & Gail Achterman, Symposium Article, *Sometimes a Great Notion: Oregon’s Instream Flow Experiments*, 36 ENVTL. L. 1125, 1141 nn.92-93 (2006).

227. OR. REV. STAT. § 537.150(4)(a)-(b) (2007).

228. See *supra* Section II (elaborating on the bifurcated system of laws established for both ground water and surface water).

229. See OR. ADMIN. R. 690-009-0010 to -0050 (2008) (describing the procedures for determining “substantial interference” with surface water and the applicable standards to be applied).

To begin the water right application process, the Department determines if water is available from the proposed source.<sup>230</sup> The availability determination implements the broad policy goals underlying the state's water allocation system: (1) water must be available and not over-appropriated; (2) the Department must allocate water consistent with principles of public ownership; and (3) appropriations must use water for beneficial use without waste.<sup>231</sup>

### 1. Surface Water Availability; Water Must Not Be Over-Appropriated

In general, the Department determines water availability by calculating the natural stream flow of a particular water source and then subtracting existing water rights, storage rights and instream flow rights. The Department uses the following formula:<sup>232</sup>

$$WA = Q_{NSF} - ST - CU - IS$$

The formula subtracts the existing storage (ST), the out of stream consumptive uses (CU) and the instream demands (IS) from the natural stream flow ( $Q_{NSF}$ ) in order to arrive at the amount of surface water available for appropriation.<sup>233</sup>

As the administrative rule specifies, the Department determines water availability for appropriation based on the "eighty-percent exceedance rule."<sup>234</sup> This exceedance rate means that water is available for appropriation if, at a given time, there would be enough water in the stream at least 80 percent of the time.<sup>235</sup> In theory, at full appropriation, the most junior water right holder can expect water 80 percent of time during that period.<sup>236</sup>

230. OR. REV. STAT. § 537.150(4)(b) (2007) (mandating that this determination must come after a finding that the use is not restricted or limited by statute or rule, and there is no other issue the Department identifies which may preclude approval of or restrict the proposed use).

231. OR. ADMIN. R. 690-410-0070(1) (2008) (setting forth that the general policy behind the state's process on water availability is "[t]he waters of the state shall be allocated within the capacity of the resource and consistent with the principle that water belongs to the public to be used beneficially without waste . . . [the waters] shall be protected from over-appropriation.").

232. RICHARD M. COOPER, DETERMINING SURFACE WATER AVAILABILITY IN OREGON 1 (2002), available at <http://www1.wrd.state.or.us/pdfs/reports/SW02-002.pdf>.

233. *Id.*

234. OR. ADMIN. R. 690-400-0010(11)(a)(A) (2008); *see also id.* 690-400-0010(11)(b) (stating that these standards apply to all water availability determinations for permit applications submitted after July 17, 1992).

235. *Id.* 690-400-0010(11)(a)(A) (2008) (defining "over-appropriated" water allocation as that in which the quantity of surface water available during a specified period is not sufficient to meet the expected demands from all water rights at least 80 percent of the time during that period).

236. COOPER, *supra* note 232, at 2.

The Department bases allocations for instream and storage rights on the 50 percent exceedance natural stream flow.<sup>237</sup> The Department also uses the 50 percent exceedance as a proxy when calculating the estimated average natural flow (“EANF”) since the 50 percent exceedance represents the median flow.<sup>238</sup> The exceedance standard increases the potential for the Department to issue instream rights.<sup>239</sup> Because the Department need only find that there is enough water to meet an instream right’s demands 50 percent of the time, it may grant instream rights when there is less water in the stream.<sup>240</sup>

For either exceedance level, the Department cannot allocate new water rights unless there is enough water available to avoid over-appropriation as the Administrative Rules define it.<sup>241</sup> In reality, however, whether water is available in a given year depends on hydrology, not on exceedance levels. Even when a stream is over-appropriated, the Department may allow some additional uses if the uses further the public interest and are conditioned to protect instream values.<sup>242</sup> Occasionally, the Department receives requests to appropriate elevated or peak flows that occur even less frequently than the 50 percent or 80 percent exceedance levels.<sup>243</sup> With increased demand on freshwater, many observers anticipate that the Department will see more of these applications in the future.

The Department calculates water availability using either gaged stream flows or estimated stream flows at the downstream end of specific watersheds called Water Availability Basins (“WABs”).<sup>244</sup> Generally, the Department defines WABs above the mouths of significant tributaries, on main channels above significant tributaries, and for all instream demands.<sup>245</sup> WABs are not the same as the administrative basins discussed in Section 6 of this report, but exist within the boundaries of the administrative basins.<sup>246</sup> On average, there are approximately 150 to 250 WABs within each administrative basin.<sup>247</sup> The Department has not established WABs in all areas of

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237. *Id.* at 1. It appears that the Department has used its discretion to come up with the 50 percent exceedance standard; the Department mentions the standard in its publication, but the Oregon Revised Statutes and Oregon Administrative Rules do not explicitly include it.

238. *See generally id.*

239. *Id.*

240. *See* E. GEORGE ROBISON, OR. DEP’T OF FISH AND WILDLIFE, CALCULATING CHANNEL MAINTENANCE/ELEVATED INSTREAM FLOWS WHEN EVALUATING WATER RIGHT APPLICATIONS FOR OUT OF STREAM AND STORAGE WATER RIGHTS 35 (2007) [hereinafter ODFW Report].

241. OR. ADMIN. R. 690-410-0070(2)(a) (2008); *see also* OR. REV. STAT. § 536.241 (2007).

242. OR. ADMIN. R. 690-410-0070(2)(a) (2008); *see also* OR. REV. STAT. § 536.241 (2007).

243. ODFW Report, *supra* note 240, at 1 (“Since demand for water continues to increase, proponents of water development projects are beginning to look to the use of higher flood flow (or peak flow) storage as a way to further utilize water available less frequently than the 50% or 80% exceedance will allow.”).

244. COOPER, *supra* note 232, at 1, 4.

245. *Id.* at 4 (defining watershed in this context as “all lands draining to the stream upstream o the point of diversion or the downstream end of an in-stream water right reach.”).

246. *See id.* at 4-6.

247. *Id.* at 5.

administrative basins, and does not calculate water availability in these watersheds.<sup>248</sup>

*a. Natural Stream flow*

In the Water Availability formula, natural stream flow is the flow that consumptive use or storage does not affect, and represents “prehistoric” natural conditions.<sup>249</sup> The formula calculates natural stream flow as an 80 percent exceedance flow,<sup>250</sup> and “[e]xceedance flows are determined directly from gage records, or for ungaged streams by estimation through modeling.”<sup>251</sup> On gaged water sources, the Department calculates a monthly 80 percent exceedance flow based on measured mean daily flows for that month for the period of record.<sup>252</sup> To account for variability in flow from wet to dry periods, the Department calculates exceedance flows for a common base period: 1958-1987.<sup>253</sup> The Department uses the base period because it makes “[t]he assumption that past stream flow can be used as a predictor of future stream flow . . . .”<sup>254</sup> When the period of record for a gage does not coincide with the base period, the Department corrects the exceedance flows to the base period.<sup>255</sup> Upstream consumptive uses commonly affect gaged stream flows and the exceedance flows derived from them.<sup>256</sup> Accordingly, “[t]o obtain natural stream flow, the average consumptive use during the period of record for the gage is estimated and added to the exceedance stream flow derived from the gaged stream flow.”<sup>257</sup> Because upstream consumptive uses lower a measurement, the Department calculates the upstream uses and adds that number to the downstream measurement.<sup>258</sup> The added upstream uses consist of all water lost to consumptive uses, including water lost to evaporation and transpiration, but not storage, as the Department does not use meas-

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248. *Id.* at 4, 6, 9.

249. *Id.* at 3.

250. *Id.* at 2-3.

251. *Id.* at 1.

252. *Id.* at 11-12; *see also* Or. Water Res. Dept., Web Mapping Glossary (2008), available at [http://map.wrd.state.or.us/apps/wr/wr\\_mapping/glossary.htm](http://map.wrd.state.or.us/apps/wr/wr_mapping/glossary.htm) (describing the use of an 80 percent exceedance flow).

253. COOPER, *supra* note 232, at 9, 12. The Department chose the years 1958-1987 as the common base period. *Id.* at 11. Depending on how long the gage has provided records the Department uses different methods to correct to this base period. *Id.* at 12. Gages that have measurements that coincide with the base period are called index records. *Id.* at 11. Gages that do not have records that coincide with the base period are called short records. *Id.* The Department compares short records to index records to correct to the base period. *Id.*

254. *Id.* at 7. The Department uses the phrase “prehistoric” not to refer to the age of dinosaurs but rather to a stream flow condition in its unaltered, pre-development condition. In the face of precipitation changes due to climate change, the assumption that past stream flow can be used to predict future stream flow may be completely incorrect.

255. *Id.* at 11.

256. *Id.* at 9.

257. *Id.* at 24.

258. *See id.* at 10.

ured stream flows significantly affected by storage in its analysis.<sup>259</sup> When determining the appropriate time period to measure the natural flow, the Department states “[t]ypical statistics are mean daily flow, mean monthly flow, mean annual flow, ten-year flood event, and median monthly flow. The statistic chosen must have meaning in the context in which it will be used.”<sup>260</sup>

Because most WABs do not have gages, a regional regression analysis estimates most of the stream flows in Oregon.<sup>261</sup> The Department bases the regression analysis on the assumption that watershed characteristics influence stream flow.<sup>262</sup> For example, if other factors like precipitation remain equal, stream flow increases with watershed size.<sup>263</sup>

While the Department has the ability to estimate 93 watershed characteristics, the regression analysis most often uses ten characteristics: (1) watershed area; (2) maximum watershed relief; (3) mean watershed slope; (4) mean slope aspect; (5) mean elevation; (6) mean January precipitation; (7) mean July precipitation; (8) mean July minimum temperature; (9) mean January maximum temperature; and (10) soil permeability.<sup>264</sup> The Department enters these measurements into a mathematical equation<sup>265</sup> that derives the water source’s exceedance flow, which indicates the exceeding stream flow at any given percent of the time.<sup>266</sup> Generally, the known stream flow statistics used in developing the regression equations should represent natural stream flow.<sup>267</sup> “Flow regulation by reservoirs or withdrawals from the stream cannot be accounted for in the regression model. Including them results in a poor regression model that gives biased stream flow estimates.”<sup>268</sup>

In some instances, artificial changes to streams have precluded the Department from obtaining natural measurements.<sup>269</sup> In these cases, the Department does not calculate availability based on prehistoric condition, rather it adjusts its calculation to account for the change.<sup>270</sup> For example, “the isolation and draining of Lower Klamath Lake [has caused the Department to measure the natural stream flow] as though the lake never existed even though this does not represent the true prehistoric condition of the watershed.”<sup>271</sup>

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259. *Id.* at 24, 40.

260. *Id.* at 3.

261. *Id.* at 28.

262. *Id.*

263. *Id.*

264. *Id.* at 27, 32.

265. *Id.* at 29 ( $Q_{NSF} = \exp(-12.2)A^{1.02} S^{0.568} As^{0.962} E^{-1.03} JnP^{1.38} JIP^{0.617} JXT^{3.21} SP^{0.385}$  (where:  $Q_{NSF}$  = Natural Stream Flow, A = Area, S = Mean Slope, As = Mean Aspect, E = Mean Elevation, JnP = Mean Jan Precipitation, JIP = Mean Jul Precipitation, JXT = Mean Jan Max Temperature, SP = Mean Soil Permeability).

266. *Id.*

267. *Id.*

268. *Id.*

269. *Id.* at 3.

270. *See id.*

271. *Id.*

*b. Storage*

Once the Department determines the natural stream flow, the next step involves subtracting the amount of stored water.<sup>272</sup> The formula subtracts stored water from natural flow because it “diminishes availability both upstream and downstream of the point of diversion.”<sup>273</sup> Storage diminishes available upstream water because water must remain in the stream in order to be available for storage further downstream.<sup>274</sup> It diminishes downstream flow because storage impounds water rather than leaving it flowing in the stream.<sup>275</sup> “Where records are available, the expected storage demand is based on historical storage; otherwise, it is based on the full amount of the water right.”<sup>276</sup>

*c. Consumptive Uses*

The Department’s next step in determining water availability involves calculating the consumptive use on a stream and deducting that volume from the natural stream flow.<sup>277</sup> Consumptive use includes any diversion that results in a net reduction in stream flow.<sup>278</sup> Many domestic uses such as showering or dishwashing result in very little overall water loss since most of the water eventually returns to the stream, though questions remain about where and when the water returns.<sup>279</sup> The Department focuses on “water withdrawn from a stream [that, due to] evaporation, transpiration, or [being] transferred out of the watershed” will not return to the stream.<sup>280</sup>

For the purposes of the Water Availability calculation, the Department places consumptive uses into three major categories: (1) municipal; (2) irrigation; and (3) a catch-all category that includes all other consumptive uses, such as water used for domestic purposes or livestock watering.<sup>281</sup> In some basins, the Basin Management Plans, which this article describes in Section VI.A, divide consumptive use into more detailed and specific categories.<sup>282</sup> For example, in the Upper Deschutes Basin Management Plan, consumptive uses include: “domestic, livestock, municipal, irrigation, power development, industrial, mining, recreation, wildlife and fish life uses” in the Upper Deschutes Basin.<sup>283</sup> Similar to stored water, available upstream water is re-

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272. *Id.*

273. *Id.*

274. *Id.*

275. *Id.*

276. *Id.* at 40.

277. *Id.* at 3. The Department’s consumptive use calculation to determine water availability at this stage is slightly different than the consumptive use calculation it uses to correct “measured flow to natural flow.” *See id.* at 9-10.

278. *Id.* at 40.

279. *Id.*

280. *Id.* at 3.

281. *Id.* at 1.

282. OR. ADMIN. R. 690-500-0010(2) (2008).

283. *Id.* 690-505-0000(1)(a).

duced because it must be left in the stream to be available for the downstream consumptive use.<sup>284</sup> Moreover, upstream consumptive uses reduce available downstream water by diminishing stream flow.<sup>285</sup>

*i. Determining Availability with Actual Consumptive Use*

Measuring actual consumptive use versus merely subtracting the permitted quantity can result in substantially different determinations of a stream's available flow. This dynamic is described as the difference between "paper water" and actual "wet water." Water right holders may divert and/or consume less than their full appropriation ("paper water"), therefore the Department bases its water availability calculations on actual consumptive use rather than the permitted amount.<sup>286</sup>

Irrigation water rights provide a good example of the dynamic between paper and wet water and the impact of using actual consumptive use to calculate water availability. When the Department subtracts irrigation in the formula, it calculates the *actual* use. Many growers do not exercise their full paper right, irrigate as many acres as their permit allows, or follow agricultural practices such as crop rotation, thus using less water than the permit allows.<sup>287</sup> To account for the discrepancy between the amount of water that is permitted and how much water is actually being used, the Department uses information on the actual number of acres irrigated and the crops grown on those acres, and derives the consumptive use based on crop water requirements.<sup>288</sup> The Department derives the actual use based on reports issued from the United States Geological Survey ("USGS").<sup>289</sup> The Department uses USGS information that presents the "number of irrigated acres and total annual consumptive use."<sup>290</sup> By using actual consumptive use to determine availability rather than the permitted amount, the Department can potentially issue permitted rights that exceed the water available in the stream if all users maximized their permits.<sup>291</sup> As result, there can be more paper water rights than available water in a given basin.

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284. COOPER, *supra* note 232, at 3-4.

285. *Id.* at 4.

286. *Id.* A consumptive use is "[t]he amount of water consumed by a particular use and thus unavailable for further use." A diversion is the "extraction of water from its natural source . . ." SAX *supra* note 20 AT 1081-82. An appropriator does not always consume the full amount of water that he diverts. For example, a farmer may divert 10 cfs and 3 cfs may seep back to the stream as return flow. Therefore, the diversion equals 10 cfs, but the consumptive use equals only 7 cfs.

287. *Id.* at 46.

288. The Department uses USGS reports to determine a formula for the amount of water used based on the type of crop. *Id.* at 43-44.

289. The USGS reports are generated from the USGS Portland office, "which reports water use in the state every five years." *Id.* at 43-44. The USGS provides information by collecting, monitoring and analyzing the surface water, groundwater and water quality of Oregon. For more information visit <http://www.usgs.gov/aboutusgs> and <http://or.water.usgs.gov/index.html>.

290. *Id.* at 44.

291. *Id.* at 46, 49.

The state also allows some water users to apply for and receive water rights beyond the amount currently used. Though somewhat controversial in terms of what the law requires, this practice allows municipalities to hold rights to more water than they currently use with the expectation that as population and water demands increase over time, the municipalities will grow into their full rights.<sup>292</sup> Additionally, some government agencies can reserve water for future uses.<sup>293</sup> For instance, any local government, local watershed council, or state agency may request to reserve unappropriated waters for future storage for economic development.<sup>294</sup> In these situations, water is physically available and the appropriator is not currently using it, but the water is nonetheless off-limits to any other appropriation in terms of determining water availability in the stream.<sup>295</sup>

*d. Instream Flows*

After calculating the amount of water dedicated to storage and the amount consumptively used, the Department then determines the amount dedicated to instream flow. The Water Availability formula accounts for both instream water rights and scenic waterway flows.<sup>296</sup>

The Department uses the full amount of each instream water right or scenic waterway flow when determining availability.<sup>297</sup> “Instream demands generally refer to a specific length of stream, or reach, but occasionally refer to a single point on the stream.”<sup>298</sup> Unlike storage and consumptive uses, instream demands only diminish water availability upstream, not downstream, of their allocated reach.<sup>299</sup> Furthermore, because instream water rights may diminish as they flow downstream on account of natural losses, their impact, if anything, is lessened downstream.<sup>300</sup> In making this availability determination, non-established/non-water “righted” instream values are not accounted for.<sup>301</sup> Rather instream values, associated with high or peak flows, for example, are considered later in the application process when the Department evaluates whether a particular water rights application meets the public interest criteria.<sup>302</sup> These provisions come into play when the Department is considering whether to allow over-appropriation in a particular

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292. *Id.* at 38.

293. *Id.*

294. OR. REV. STAT. § 537.356(1) (2008). An individual may also make a water reservation request as long as he is cooperating with one of these local agencies. The request is filed on a form provided by the Department but must gain Commission approval so as to initiate the rulemaking process. *See also id.* §§ 537.249, .490.

295. COOPER, *supra* note 232, at 38.

296. *Id.* at 4.

297. *Id.*

298. *Id.*

299. *Id.*

300. *See* OR. ADMIN. R. 690-077-0075(2)(b)(D).

301. ODFW Report, *supra* note 240, at 3.

302. *Id.* at 2; OR. ADMIN. R. 690-410-0030(2)(a).

basin.<sup>303</sup> Once the Department calculates the natural stream flow and deducts storage, consumptive use, and instream flow, then it knows the amount of water available for appropriation.<sup>304</sup>

## 2. Groundwater Availability

Because the Department conjunctively manages groundwater and surface water in some circumstances, the groundwater availability analysis depends on whether or not the proposed groundwater withdrawal—most often from a well—has the potential to substantially interfere with a surface water source.<sup>305</sup> As is further discussed in section V.C., groundwater pumping has the potential to substantially interfere with surface water when the pumping lowers surface water flows and impairs surface appropriation. Thus, the Department will use the surface water review process in order to determine groundwater availability if any one of the following four conditions are met:

- (1) The proposed well is horizontally less than one quarter mile from a surface water source;<sup>306</sup> or
- (2) The proposed well's appropriation/pumping rate is more than five cubic feet per second and the well or other point of appropriation is horizontally less than one mile from a surface water source;<sup>307</sup> or
- (3) The rate of appropriation is greater than one-percent of the minimum perennial stream flow or instream water right with a senior priority date, or greater than one percent of the discharge that is equaled or exceeded eighty percent of the time, and the well is less than one mile from a surface water source;<sup>308</sup> or
- (4) The appropriation, if continued for thirty days, would deplete a surface water source by more than twenty-five percent of the rate of appropriation, and the well is less than one mile from the surface water source.<sup>309</sup>

If an application does not meet any of the above conditions and there is no potential for substantial interference, the Department will undertake a groundwater availability review.<sup>310</sup> In comparison with the Department's analysis to determine surface water availability, its groundwater availability analysis is relatively simple. Groundwater is available, according to the rules, if the source is not over-appropriated during any of the time for which

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303. OR. ADMIN. R. 690-410-0070(2)(a).

304. COOPER, *supra* note 232, at 3.

305. OR. ADMIN. R. 690-009-0050(2) (charging the Department with processing groundwater applications according to rules "similar to or compatible with, but not more restrictive than" surface water rules if there is a potential for substantial interference).

306. *Id.* 690-009-0040(4)(a).

307. *Id.* 690-009-0040(4)(b).

308. *Id.* 690-009-0040(4)(c).

309. *Id.* 690-009-0040(4)(d).

310. *See id.* 690-300-0010(58), 690-009-0040(4).

the applicant seeks to use the water.<sup>311</sup> A source is over-appropriated if any new withdrawals would cause the aggregate level of withdrawals to exceed the aquifer's annual recharge and thus cause the water table to drop, or if new withdrawals would cause less water to flow into over-appropriated surface waters.<sup>312</sup>

If the source is over-appropriated, the Department may nevertheless find that water is available if the applicant can meet one of two requirements: (1) the proposed use only requires water during a time period when the source is not already over-appropriated or (2) the applicant can obtain water from an alternate source during over-appropriated time periods.<sup>313</sup> For example, streams that receive their base flow from groundwater inflow generally drop during Oregon's dry summer months. During these months new groundwater uses are likely to be prohibited, whereas they may be allowed during the wetter winter or spring months.

While the groundwater analysis may seem simple, the technical and scientific aspects of determining groundwater flow and recharge make decision making in this area extremely difficult.

### 3. Implications of the Method for Calculating Availability in Oregon

The way Oregon statutes and administrative regulations calculate water availability raises several challenges to freshwater conservation and are particularly interesting in the face of the challenges the state will face in the energy and climate policy areas. First, the formula and its implementation do not necessarily account for the daily or instantaneous flows in a waterway that are often ecologically significant.<sup>314</sup> Thus, the Department may grant water rights without consideration, at least at this early stage of the analysis, of more detailed flow regimes and their ecological value.<sup>315</sup>

Second, once the Department establishes a water right, the full permitted amount is available for use. Even though the right application is evaluated at an 80 percent exceedance rate, once established the permittee is entitled to the full amount of her right 100 percent of the time if all senior uses have been satisfied. The use of the 80 percent exceedance rate contributes directly to the problem of over-appropriation. In terms of the pure exercise of priorities, this does not present a problem because the principles of first-in-time, first-in-right will govern in the event of a shortage between users. For freshwater conservation, however, this presents a serious problem because conservation envisions that some quantity of water will remain, usually undiverted from the stream, to preserve the natural system. Unless instream rights, or some other mechanisms for maintaining water in the system, are in place, the water availability calculation using the 80 percent exceedance rate will exacerbate the problem of over-appropriation despite the statutes clear

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311. *Id.* 690-300-0010(57)(a).

312. *Id.* 690-400-0010(11)(a)(B).

313. *Id.* 690-300-0010(57)(b)(A)-(B).

314. COOPER, *supra* note 232, at 17 (explaining how the formula uses averages).

315. *See id.*

mandate to avoid that situation. While using a lower exceedance rate to establish instream rights increases the chances of establishing the right, continuing the 80 percent exceedance rate when granting new consumptive rights increases the number of competing water users on a particular water source and questions of enforcement will inevitably arise. In addition, the consumptive use calculation impacts freshwater conservation.<sup>316</sup> As the Department explains in its water availability report, subtracting only the consumptive use is valid despite the potential for a user to go from using less than their paper water right to their full paper water right without seeking a change of use with the state.<sup>317</sup> A user may switch to a more consumptive crop, for example, without notifying the state.<sup>318</sup> The only limit on these types of changes is the prohibition against waste under the water code.<sup>319</sup> One of the open questions is the extent to which the state has the resources to enforce the waste principle.

Third, Oregon's formula does not adequately address several significant dynamics in the actual hydrology. In particular, the current formula does not address groundwater pumping unless the Department adopts special provisions, reservoir operations or river flow lag times. Despite advances in hydrologic modeling that integrate ground and surface water interaction, the Department does not look to groundwater pumping in determining surface water availability except in limited circumstances discussed in detail in section 5 on groundwater. In addition, while the Water Availability calculation deducts the amount of stored water from the natural stream flow, the calculation does not include the timing and quantity of the releases of that stored water.<sup>320</sup> Finally, the Department does not include reservoir operations because the owner of the reservoir controls those releases most often through the operation of separate, private contracts.<sup>321</sup> By excluding storage releases, the formula results indicate less water than may actually be physically present in the system.<sup>322</sup> In terms of granting new rights, this may help balance the tendency for over-appropriation. For instream flow rights, however, it may mean that less water is available in the system under the availability calculation.<sup>323</sup> This results in a decrease in the overall number of established instream rights. While contracts frequently allocate the water stored in reservoirs and render this water unavailable for conservation purposes, there are situations where reservoir operations can be modified to address conservation concerns.<sup>324</sup>

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316. *See id.*

317. *Id.* at 41.

318. *See id.*

319. OR. ADMIN. R. 690-410-0070 (2008).

320. *See id.*

321. *Id.*

322. *See id.*

323. *See id.*

324. *See, e.g.,* OR. REV. STAT. § 537.346(3) (allowing the state to enter into a contract to release stored water to satisfy the state's instream water right in the Willamette Basin).

### C. PUBLIC INTEREST CRITERIA: INJURY

The inquiry into whether issuing a new water permit will injure another water right holder is somewhat limited by the fact that neither the statutes nor regulations define injury as it pertains to the issuance of new rights.<sup>325</sup> Historically, the Department used the first in time, first in right principle to protect seniors from injury.<sup>326</sup> Currently, the Department does not invoke the concept of injury per se, but uses the water allocation policy and water availability analysis to get at the injury analysis for new appropriations.<sup>327</sup> Commentators speculate that the reason for this omission is that the Department assumes that the prior appropriation doctrine's call of "first in time is first in right" will automatically protect senior users' water rights.<sup>328</sup> The OWRD anticipates that the injury analysis will see increased attention in the context of groundwater.<sup>329</sup> In practice, the Department conducts the injury analysis for a new water right on a case-by-case basis, and this analysis may be somewhat limited or cursory unless another user contests the application.

### D. PUBLIC INTEREST CRITERIA: COMMISSION RULES

The Oregon Administrative Rules contain over seventy divisions of water resources rules,<sup>330</sup> potentially making this step in the public interest review quite sweeping in scope. However, out of the seventy divisions, only a few are applicable to protecting the public interest.<sup>331</sup> Those few divisions implicate statewide water regulations, statewide planning goals, local comprehensive plans, and endangered species protections.<sup>332</sup>

#### 1. Statewide Water Regulations

The Commission adopted regulations that govern eight "statewide water resource management" topics: (1) groundwater management; (2) hydroelectric power development; (3) instream flow protection; (4) interstate cooperation; (5) water resources protection on public lands; (6) conservation and efficient water use; (7) water allocation; and (8) water storage.<sup>333</sup> Through statewide regulation, the Commission seeks to establish common governing principles "to guide agency decisions and activities, including basin planning, permitting, and conservation."<sup>334</sup> As one example, the statewide policy

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325. Oregon Administrative Rules do define injury in the context of water transfers. For transfers, injury occurs when "a proposed transfer would result in another, existing water right not receiving previously available water to which it is legally entitled." OR. ADMIN. R. 690-380-0100(3) (2008).

326. Interview with Or. Water Res. Dep't, *supra* note 68.

327. *Id.*

328. BASTASCH, *supra* note 131, at 90.

329. Interview with Or. Water Res. Dep't, *supra* note 68.

330. See OR. ADMIN. R. 690-001-0000 to -600-0070 (2008).

331. BASTASCH, *supra* note 131, at 85.

332. *Id.* at 85-87.

333. OR. ADMIN. R. 690-410-0010 to 0080.

334. BASTASCH, *supra* note 131, at 86.

on groundwater management sets forth basic principles on conjunctive management, rules governing well construction, and low-temperature geothermal waters.<sup>335</sup> The regulations expand upon and put into effect these principles. In issuing a groundwater permit, the Department must now find that the new right uses comply with these rules in order to satisfy the public interest review.<sup>336</sup>

## 2. Statewide Planning Goals and Local Comprehensive Plans

One of the policies under the “water allocation” section of the statewide water regulations notes that when allocating water for new uses (i.e. surface or groundwater permitting), the Commission shall assure that the new use complies with statewide planning goals and local comprehensive plans.<sup>337</sup> This policy is expanded upon in an Oregon Administrative Rule that recognizes land use and water management are integrally related.<sup>338</sup> The regulation also states that “the Commission places a high priority on complying with statewide planning goals” and comprehensive plans.<sup>339</sup> Again, in order to find that the right preserves the public interest, the Department must determine whether the new right is consistent with these plans.<sup>340</sup> From a practical perspective, all applications must contain the land use consistency form signed by the local government.

## 3. Endangered, Threatened and Sensitive Species Protection—Division 33 Rules

The Oregon Administrative Rules establish additional public interest standards for the Department to use when evaluating permit applications in basins that contain threatened, endangered, or sensitive fish species called the Division 33 rules.<sup>341</sup> Many consider these provisions the strongest and most significant tools that the state possesses for limiting new stream flow appropriation. The statute and rules break down into three geographic regions: the Upper Columbia (above the Bonneville Dam),<sup>342</sup> Lower Columbia (below the Bonneville Dam),<sup>343</sup> and statewide.<sup>344</sup> When considering applica-

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335. OR. ADMIN. R. 690-410-0010(2)(a)-(b), (c).

336. OR. REV. STAT. § 537.620(4)(a) (2007).

337. OR. ADMIN. R. 690-410-0070(2)(i) (2008).

338. *Id.* 690-005-0020(1).

339. *Id.*

340. *Id.*

341. OR. ADMIN. R. 690-033-0010(8-9) (2008) (“Threatened or endangered” refers to fish species listed as such by the Oregon Department of Fish and Wildlife or federal Endangered Species Act; “sensitive” refers to fish species classified by the Department as critical, vulnerable, or peripheral).

342. OR. ADMIN. R. 690-033-0115(1) (2008) (Upper Columbia Rules apply to applications filed after July 17, 1992, in the following basins: Hood, Deschutes John Day, Umatilla, Grande Ronde, Powder, Malheur, Owyhee, Mainstem Snake River, and the Mainstem Columbia River above the Bonneville Dam); *see generally id.* 690-033-0115 to -0140.

343. *Id.* 690-033-0210(1-2) (Lower Columbia Rules apply to applications filed after April 8, 1994, in the portions of the North Coast Basin which drain into the Columbia River and the

tions that propose to appropriate surface waters and/or hydraulically connected groundwater<sup>345</sup> with the potential for substantial interference with surface water, the Department must determine whether the proposed use will be detrimental to listed fish species.<sup>346</sup> If the Department determines that the proposed use is detrimental to listed species, it will assume that the application impairs or is detrimental to the public interest and will deny the application.<sup>347</sup> With respect to groundwater, this requirement only applies to applications involving groundwater hydraulically connected to surface water with potential for substantial interference, as further discussed in section V.D.<sup>348</sup>

For some high-profile basins, more specific rules have been promulgated. For example, when determining if a proposed use is detrimental to listed species in the Columbia River, the Department consults with the Northwest Power Planning Council, Oregon Department of Fish and Wildlife, U.S. Fish and Wildlife Service, National Marine Fisheries Service, Indian tribes, and local governments.<sup>349</sup> Applications for groundwater appropriations along the Columbia River must comply with certain standards that will form the basis for permit conditions: the proposed use may not withdraw hydraulically connected groundwater that has the potential for substantial interference between April 15 and September 30 of any year;<sup>350</sup> and the proposed use must comply with state and federal water quality standards and with measurement, recording, and reporting requirements.<sup>351</sup>

In the Upper Columbia, the Department can except the date restrictions and approve a water right permit for domestic water use; projects that provide net benefit to native resident and anadromous fish recovery; emergency

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Clackamas Subbasin of the Willamette Basin, and applications filed after June 3, 1994, in the Sandy Basin, Willamette Basin excluding the Clackamas Subbasin, and the Mainstem Columbia River below Bonneville Dam); *see generally id.* 690-033-0210 to -0230.

344. *Id.* 690-033-0310(1-2) (Statewide Rules apply to applications filed after June 2, 1994 in waterways of the state where sensitive fish species are located and waterways of the state, other than the Columbia Basin, where threatened or endangered fish species are located); *see generally id.* 690-033-0310 to -0340.

345. *Id.* 690-033-0000(2)(a)-(b). The standards also apply to applications for permits to appropriate surface water, to appropriate water for groundwater recharge, and to store water or construct a reservoir. *Id.* 690-033-0000(2)(a), (c)-(d). Hydraulic connectivity refers to water moving between a surface water source and an adjacent aquifer. *Id.* 690-009-0020(6). *See infra* Section V.C. for a full of hydraulic connectivity.

346. *Id.* 690-033-0000(1).

347. *See, e.g., id.* 690-033-0120(1) (if a proposed use of water in the Upper Columbia area is inconsistent with the Northwest Power Planning Council's Columbia River Basin Fish and Wildlife Program, the Department will presume the application impairs or is detrimental to the public interest); *see also id.* 690-033-0220(1) (presumption for the Lower Columbia Area).

348. *Id.* 690-033-0000(2)(b). Substantial interference with surface water is determined by standards set in OR. ADMIN. R. 690-009-0040, known as the Division 9 rules. The Division 33 rules do not list non-hydraulically connected groundwater.

349. *Id.* 690-033-0120(1).

350. *Id.* 690-033-0120(2)(b) (Upper Columbia only).

351. *Id.* 690-033-0120 (2)(d)-(e) (Upper Columbia); *id.* 690-033-0220(2)(b)-(c) (Lower Columbia).

public health and safety uses; certain existing uses; or multipurpose storage projects.<sup>352</sup>

#### 4. The Significance of the Public Interest Review Throughout the Western United States

The public interest review process under the water code embodies many of the key freshwater conservation issues and provides the best vehicle for consideration of issues related to energy policy and land-use planning. As discussed above states vary on the approach and application of the public interest review.<sup>353</sup> Despite changes to the public interest review standards in 1995, Oregon continues to evaluate water right appropriations, at least at the permitting stage, in the context of public interest criteria.

The public interest review process provides the opportunity for the Department to evaluate new water rights appropriations for consistency with statewide water management policies.<sup>354</sup> The Department can also utilize the public interest review to analyze the broad policies in the administrative process, particularly those policies that relate directly or indirectly to in-stream flow values, such as Oregon Administrative Rule 690-410-0030 or Oregon Administrative Rule 690-410-0070.<sup>355</sup> In addition, the public interest review provides a clear opportunity for other agencies to weigh in on many of these issues. The public interest review process could also become a tool to coordinate endangered species recovery planning and the Division 33 administrative rules.<sup>356</sup>

In the context of the public interest review, there may also be room for the Department to consider the definition of beneficial use or reasonably efficient use. As demand on water supplies increases, agencies across the West may consider new rules that take into account the most efficient use of water or the use of the best available technology to determine if a particular use is consistent with the non-waste and beneficial use principles embedded in the water code. Adding these kinds of inquiries to the public interest review and conducting this kind of review when parties seek to transfer water rights would allow the state to manage future water use in a way that accounts for shortage and increased demand on the resource.

Some very specific areas could benefit from further exploration, particularly in determining water availability, including: (1) the scientific credibility of using past stream flow data to predict future stream flow and calculate water availability in the face of climate change; (2) an analysis of the number of watersheds in the state with established water availability calculations; (3) whether the water availability calculation addresses variability in daily flows, flood events or evaporation from storage; (4) whether the reports used to

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352. *Id.* 690-033-0140.

353. *See generally* Grant, *Supra* Note 195.

354. *See id.* 690-033-0000.

355. *See id.* 690-033-0000(1), -410-0030(1), -410-0070(1).

356. *See id.* 690-033-0000(1) (discussing the public interest review process with regard to sensitive, threatened, or endangered fish species).

calculate water availability and water use account for changes to irrigation practices over time or changes to groundwater consumption; and (5) to what extent the availability calculation accounts for recharge rates, lag times in observable impacts due to pumping, or water table drops that may occur over time.

### III. ENFORCEMENT

Beyond the administrative structure and the substantive contours of state water law, water users and conservation groups need to understand how the elaborate system is actually administered. After all the water rights, instream or otherwise, have been established, the Department must manage and enforce the various interests. These enforcement mechanisms make the difference between imagined conservation benefit and the reality of actual on-the-ground impacts. Once a water right is granted, the Commission and Department have various enforcement authorities including priority, forfeiture, waste prevention, and regulation of illegal use.

#### A. ENFORCING PRIORITY

Oregon's legislature, like most western states, based the water code on common law principles of prior appropriation, which is characterized by the phrase "first in time, first in right."<sup>357</sup> When the Department issues a water right, the right carries with it a priority date.<sup>358</sup> In times of water shortage, the right with the earliest priority date receives water first; the right with the second-earliest priority date receives water second, and so on.<sup>359</sup> When comparing two water rights with different priority dates, the senior right is the older water right, while the more recent water right is the junior right.<sup>360</sup>

Water rights with the same priority date become subject to a precedence of uses in times of shortage.<sup>361</sup> When water rights with the same priority date are in mutually exclusive conflict, domestic uses have preference over all others, and agricultural uses have preference over manufacturing uses.<sup>362</sup> This preference of uses reflects Oregon's water management prior to the code's passage in 1909.<sup>363</sup> If water rights do not have the same priority date, prior appropriation dictates that the senior use prevails in times of shortage.

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357. OR. REV. STAT. §§ 537.120, .250, .270; *Anderson v. Tumalo Irrigation Dist.*, 667 P.2d 13, 14 (Or. Ct. App. 1983); *see also*, Krista Koehl, *Partial Forfeiture of Water Rights: Oregon Compromises Traditional Principles to Achieve Flexibility*, 28 ENVTL. L. 1137, 1141 (1998).

358. OR. REV. STAT. § 537.150(2) (2007).

359. DAVID GETCHES, *WATER LAW IN A NUTSHELL* 75 (3rd ed. 1997).

360. *Id.*

361. *Id.*

362. OR. REV. STAT. § 540.140 (2007).

363. *Id.* This provision, enacted in 1893, predates Oregon's water code. *Phillips v. Gardner*, 469 P.2d 42, 43 (1970). Though the text of § 540.140 appears to apply to all water rights, the enactment of Oregon's water code served to repeal any conflicting or inconsistent existing provisions. *Id.* This code provision remains on the books, but is now limited to water rights with the same priority date. *See* TOM PAUL, *INFORMATIONAL REPORT ON 2005 FIELD REGULATION AND ENFORCEMENT ACTIVITIES, ATTACHMENT 3* (2005), *available at*

The Department adheres to a similar policy when multiple water right applications have the same priority date.<sup>364</sup> When the proposed water uses are mutually exclusive, or the amount of water cannot satisfy all uses, the Department's policy gives preference to applications requesting water for human consumption purposes over all others, followed by livestock consumption, and finally by other beneficial purposes that are in the public interest.<sup>365</sup>

When water runs low, mainly during the summer months, the priority system is the most important enforcement mechanism. Watermasters enforce the priority dates of water rights.<sup>366</sup> The request to cut off a junior user can originate from a watermaster's own investigation or a complaint from another appropriator, generally a senior right holder.<sup>367</sup> Sometimes, the watermaster will investigate a complaint and discover that even if she were to cut off the junior user, the water would still not reach the downstream senior user due to evaporation rate, soil moisture, and the like.<sup>368</sup> In such a case, the watermaster declares the senior appropriator's complaint a "futile call" and the junior user may still divert water.<sup>369</sup>

Most junior users comply with watermasters enforcement actions immediately—in 2005, the Commission reported a 96 percent compliance rate.<sup>370</sup> Yet, if a junior user does not initially comply, the watermaster will issue a notice of violation.<sup>371</sup> The notice specifies the nature of the violation, the request for compliance, a timeframe to comply, and the consequences for failure to comply.<sup>372</sup> If the right holder does not comply even after the notice, the watermaster will then seek the aid of the Department through the region's enforcement manager for a formal enforcement.<sup>373</sup> The enforcement manager is a part of the Department and after the formal enforcement,

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[http://www1.wrd.state.or.us/files/Publications/staff\\_reports/2006%20August/Item%20A%20%20Field%20Activities/Agenda%20Item%20%20A%20%20sws%20field%20regulation%20activities.pdf](http://www1.wrd.state.or.us/files/Publications/staff_reports/2006%20August/Item%20A%20%20Field%20Activities/Agenda%20Item%20%20A%20%20sws%20field%20regulation%20activities.pdf), at 3 (§ 540.140 is applicable to conflicting uses only when they have the same priority date).

364. See OR. REV. STAT. § 537.150(2) (2007) (stating that the Department assigns priority dates based on the date on which the Department receives the complete application).

365. *Id.* § 536.310(12); OR. ADMIN. R. 690-300-0010(24) (2008) (defining "human consumption" as "the use of water for the purposes of drinking, cooking, and sanitation.").

366. OR. REV. STAT. § 540.045(1)(a) (2007) (statutory and administrative law does not specifically lay out the priority enforcement process for watermasters; instead this statute gives watermaster's the authority to "regulate the distribution of water among the various users" and the enforcement process is within the Department's discretion). A field staff comprised of hydrologists, water right specialists, hydrogeologists, well inspectors, and hydrographic technicians help watermasters decide when priority dates should take effect. See Paul, *supra* note 363, at 1.

367. See Paul, *supra* note 363, at 2.

368. OR. ADMIN. R. 690-250-0020(1) (2008).

369. *Id.* 690-250-0020(2).

370. Paul, *supra* note 370, at 1, 4.

371. *Id.* at 5.

372. *Id.*

373. *Id.*

the Department can assess if there is sufficient evidence to pursue the matter or enforce civil penalties.<sup>374</sup>

Frequently, regulation occurs on water sources each year, and a watermaster can quickly generate a distribution letter to inform the junior user to stop using water.<sup>375</sup> Priority-date regulation plays a major role in enforcement; water masters regulate many streams in Oregon and have done so as far back as the 1800s.<sup>376</sup> The earliest priority date a watermaster has enforced is 1860.<sup>377</sup>

## B. ENFORCING FORFEITURE

In addition to the concept of “first in time is first in right,” a prior appropriation right is also conditioned on putting the water to use for a beneficial purpose, which gives rise to the so-called “use it or lose it” principle.<sup>378</sup> Forfeiture is a statutorily created doctrine that relies on a temporal non-use period.<sup>379</sup> Forfeiture involves the “involuntary or forced loss of the [water] right, caused by the failure of the appropriator or owner to do or perform some act required by the statute.”<sup>380</sup> Oregon’s statutory timeframe is five years.<sup>381</sup> Five successive years of nonuse establishes a rebuttable presumption of forfeiture.<sup>382</sup>

Water right holders can defend against forfeiture challenges by raising one of three defenses: (1) establishing a statutory excuse for a failure to use their water,<sup>383</sup> (2) that they had a facility capable of handling the right exists and the user was “ready, willing and able” to do so, but for whatever reason did not use the full permitted amount,<sup>384</sup> or (3) that the non-use resulted from a change in the point of diversion.<sup>385</sup>

The Department<sup>386</sup> can initiate forfeiture proceedings based upon its own determination or upon evidence submitted by any person.<sup>387</sup> If Department

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374. *Id.*

375. *Id.* at 3.

376. *Id.* at 3-4.

377. *Id.* at 4.

378. OR. REV. STAT. § 540.610(1) (2007); *see also*, Koehl, *supra* note 357, at 1143 (Two doctrines apply to the “use it or lose it” principle: abandonment and forfeiture. Abandonment derives from common law and is characterized as an “intentional relinquishment of a known right”).

379. OR. REV. STAT. § 540.610(1) (2007); *see also* Koehl, *supra* note 357, at 1143.

380. Koehl, *supra* note 357, at 1143.

381. OR. REV. STAT. § 540.610(1) (2007).

382. *Id.*

383. *Id.* § 540.610(2)(a)-(n).

384. *Id.* § 540.610(3).

385. *Hannigan v. Hinton*, 97 P.3d 1256, 1259-60 (Or. Ct. App. 2004).

386. The statutes provide that the Commission shall initiate forfeiture proceedings, while the administrative rules state that the Department shall initiate the proceedings. *See* OR. REV. STAT. §§ 540.631 to 670 (2007); OR. ADMIN. R. 690-017-0400 to 0700 (2008). This section addresses forfeiture enforcement as a Departmental action, because the Department is the enforcing agency within the Commission as noted in section 1.1.

personnel submit evidence to initiate the proceeding, the Department requires one affidavit setting out the forfeiture claim.<sup>388</sup> If non-Department individuals submit evidence to initiate forfeiture proceedings, the Department must receive two affidavits setting out the forfeiture claim.<sup>389</sup> The evidence must be enough to prove the forfeiture of the water right to the Department, and the Department must further find that none of the statutory defenses apply.<sup>390</sup> After this initial review, the Department sends written notice to the legal owner of the lands appurtenant to the water right.<sup>391</sup> The owner then has sixty days to respond to the notice.<sup>392</sup> If the owner fails to protest within sixty days, the Department may enter an order to cancel the water right.<sup>393</sup> If the owner files a protest, the Department will hold a hearing.<sup>394</sup> The Department must provide written notice of the hearing within ten days prior to the hearing to the owner as well as any other person who is deemed to be an interested party.<sup>395</sup> At the hearing, the owner can provide a defense, and the Department will make the decision to either cancel the water right, cancel the right in part, modify the water right, or choose not to cancel the water right.<sup>396</sup>

### 1. Statutorily Excused “Non-uses”

When faced with an assertion of forfeiture, a water right holder may rebut the assertion with one of several statutorily mandated defenses to forfeiture.<sup>397</sup> The first of the defenses is available to certain governmental right holders. It provides that if cities or towns hold the water right for reasonable municipal purposes, and a finding of forfeiture would impair the rights of the cities or towns, the Commission will not apply forfeiture.<sup>398</sup> Beyond this defense, municipalities occupy a unique position under the water code that allows them to retain water rights in preparation for anticipated growth without fear of forfeiture.<sup>399</sup> For example, municipalities may choose not to perfect (develop) a percentage of a water right permit without fear of loss through non-use.<sup>400</sup> When this occurs, the Department issues a certificate for the perfected portion of the water right permit and holds the remainder in

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387. OR. REV. STAT. § 540.631 (2007) (while the general public may submit evidence of forfeiture to the Water Resources Commission, the Commission has discretion to determine whether the evidence is sufficient to initiate forfeiture proceedings).

388. OR. ADMIN. R. 690-017-0400(4) (2008) (specifying the content requirements for the affidavit).

389. *Id.* 690-017-0400(2).

390. OR. REV. STAT. § 540.631 (2007); OR. ADMIN. R. 690-017-0400(1) (2008).

391. OR. REV. STAT. § 540.631 (2007); OR. ADMIN. R. 690-017-0400(6) (2008).

392. OR. REV. STAT. § 540.631 (2007); OR. ADMIN. R. 690-017-0400(6)(c) (2008).

393. OR. REV. STAT. § 540.641(1) (2007); OR. ADMIN. R. 690-017-0500 (2008).

394. OR. REV. STAT. § 540.641(2) (2007).

395. *Id.*

396. *Id.*; OR. ADMIN. R. 690-017-0700(4) (2008).

397. OR. REV. STAT. § 540.610(2) (2007).

398. *Id.* § 540.610(2)(a)-(b).

399. *Id.* § 540.610(4).

400. *Id.* § 537.260(4).

reserve for the municipality until the municipality perfects the remainder of the permit.<sup>401</sup> Upon perfection of the deferred amount, the municipality shall request a certificate for the remainder of the water right as specified in the original water right application.<sup>402</sup> Various parties read these particular provisions differently and the provisions may see increasing attention as the demands on water increase.

The appropriator's situation at the time of non-use can provide further defenses to forfeiture. For instance, the inability to use water due to economic hardship serves as a defense,<sup>403</sup> as does "using reclaimed water in lieu of using water under an existing right"<sup>404</sup> and "reusing water through land application . . . ."<sup>405</sup> Likewise, if the nonuse occurred while the water was included in a pending transfer application, the appropriator does not forfeit the water.<sup>406</sup> Additionally, if the nonuse of a supplemental water right occurred during a time when the primary water right and supplemental water right were leased as an instream right, the supplemental right is not lost to forfeiture.<sup>407</sup>

The water right holder also has defenses against forfeiture due to governmental action.<sup>408</sup> If the federal government withdrew land from an appropriator, and non-use occurred during the time when land was withdrawn, the holder can defend against forfeiture.<sup>409</sup> Furthermore, if the law prohibits the water right holder from using water, that water is not subject to forfeiture.<sup>410</sup>

Circumstances that are out of the government's and owner's control can also provide defenses to forfeiture. For example, if the owner could not make full beneficial use because the water was not available.<sup>411</sup> Forfeiture does not apply if a party submits evidence of non-use, or the Commission initiates forfeiture proceedings, more than fifteen years after the end of the alleged non-use.<sup>412</sup> Finally, if the nonuse occurred during a time when it was not necessary to exercise the full right due to a climatic condition and the right holder was otherwise ready, willing, and able to use the full amount, forfeiture will not apply.<sup>413</sup>

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401. *Id.*

402. *Id.* In addition to municipalities, if the water is appurtenant to Department of Veteran's affairs property the holder can defend against non-use. *Id.* § 540.610(2)(c).

403. *Id.* § 540.610(2)(d).

404. *Id.* § 540.610(2)(h).

405. *Id.* § 540.610(2)(i); *see also id.* § 537.141(1)(i) (land application of ground water does not require a permit if the ground water is reused for irrigation purposes, if statutory requirements are met).

406. *Id.* § 540.610(2)(m).

407. *Id.* § 540.610(2)(n).

408. *Id.* § 540.610(2)(g) (invoking OR. REV. STAT. § 537.775, which allows the Commission to order a discontinuance of a wasteful well).

409. *Id.* § 540.610(2)(e) (according to either Acts of Congress of May 28, 1956 or the Federal Conservation Reserve Program).

410. *Id.* § 540.610(2)(k).

411. *Id.* § 540.610(2)(j).

412. *Id.* § 540.610(2)(f).

413. *Id.* § 540.610(2)(l).

## 2. “Ready, Willing and Able” Defense to Forfeiture

Not only does an appropriator have the many statutory defenses listed above, but in 1997 the legislature created another defense for appropriators when it enacted the “ready willing and able” provision of the forfeiture statute.<sup>414</sup> The legislature enacted the new provision largely to address fear among appropriators that they were at risk of losing their full water right if they did not fully put it to use.<sup>415</sup> Based on this fear, water right holders diverted the full water right regardless of whether they needed the full amount to meet beneficial use.<sup>416</sup> Under the 1997 provision, water is not subject to forfeiture if the right holders can prove they have facilities capable of handling the entire rate and duty<sup>417</sup> of the water right and that they are otherwise *ready, willing and able to do so*.<sup>418</sup> The provision essentially offered an incentive to stop the diversion of unneeded water to avoid forfeiture claims.<sup>419</sup>

The words “ready, willing and able” leave ample room for interpretation. The legislative history demonstrates that the legislature intended a very broad defense.<sup>420</sup> An Attorney General’s opinion influenced the legislature’s adoption of the defense and offered an insight to the meaning of the words.<sup>421</sup> The opinion determined that “[t]he term ‘ready’ refers to whether the facility is functioning and the term ‘able’ refers to the capacity of the facility.”<sup>422</sup> The word “willing” has independent meaning and refers to the owner’s willingness to exercise his full right.<sup>423</sup>

Arguably, the legislature could have used principles of beneficial use and waste to address users who divert excess water to prevent claims of forfeiture. Instead, the legislature chose to enact a statutory defense that provides an incentive not to over-divert by simply allowing the user to maintain the ability to put the full water right to beneficial use without actually diverting the water.<sup>424</sup> Ultimately, the ready, willing, and able defense may benefit vested, established water rights more than it prevents wasteful water use.<sup>425</sup>

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414. *Id.* § 540.610(3)(b); *see also* Koehl, *supra* note 357, at 1137.

415. BASTASCH, *supra* note 131, at 160-61.

416. *Id.* at 161.

417. “[R]ate is the maximum instantaneous amount of water that may be diverted or pumped (normally expressed in cubic feet per second (cfs).” *Id.* at 101. “[D]uty is the volume of water that can be applied over the course of the season (expressed in acre-feet).” *Id.*

418. OR. REV. STAT. § 540.610(3) (2007).

419. Koehl, *supra* note 357, at 1139.

420. *Id.* at 1148 (“The legislative history demonstrates that, although the primary purpose was to provide flexibility for crop rotation, the legislature intended the defense to be very broad.”); *see generally* Rencken v. Young, 711 P.2d 954, 956 (Or. 1986) (forfeiture is an objective question of fact, regardless of whether the user intended to forfeit his or her water rights); Day v. Hill, 406 P.2d 148, 149 (Or. 1965) (“Whether or not an owner has failed to use the water appropriated for five or more successive years is a question of fact.”).

421. Koehl, *supra* note 357, at 1146.

422. *Id.* at 1149-50.

423. *Id.* at 1150.

424. *Id.* at 1138.

425. *Id.* at 1157-58.

In the end, regardless of where the true benefits are, the ready, willing, and able defense stands as a significant exception to enforcing forfeiture claims.

### 3. Distinguishing Non-Use from Changes in the Point of Diversion

In general, the Department must authorize any change to an existing water right through the transfer process.<sup>426</sup> Oregon courts, however, distinguish between an unauthorized use of water for a purpose other than what is stated in the water right—which constitutes forfeiture—and diverting water from a place other than that authorized in the water right—which does not amount to forfeiture.<sup>427</sup> In *Hennings v. Water Resources Department*, the Oregon Court of Appeals explored the first situation, non-authorized changes in use, and held that such changes are subject to forfeiture.<sup>428</sup> The appropriator in *Hennings* had a permit for irrigation but instead used the water to wet the ground for plowing.<sup>429</sup> The court stated: “[T]he [forfeiture] statute limits the certificate holder's right by authorizing use . . . only for the specific purpose set out in the application . . . .”<sup>430</sup> The court held that the permit did not specify wetting the ground for plowing as the specific irrigation purpose.<sup>431</sup> Thus, because the appropriator had not exercised the right for an authorized beneficial use for five years, the court held that the non-permitted purpose amounted to non-use, and the appropriator lost the water right to forfeiture.<sup>432</sup> This case demonstrates that an appropriator’s change in use is subject to forfeiture.<sup>433</sup>

In contrast, the court resolved in *Russell-Smith v. Water Resources Department* that a change in the point of diversion is not subject to forfeiture.<sup>434</sup> The appropriators in *Russell-Smith* changed their point of diversion on an unnamed spring without going through the transfer process.<sup>435</sup> However, unlike in *Hennings*, the appropriators continued to use the water for the use specified in the permit.<sup>436</sup> Because the appropriators also used the designated amount and diverted the water from the same permitted source, the court found that they satisfactorily used the water right, and this use did not subject the right to forfeiture.<sup>437</sup> *Hannigan v. Hinton* affirmed this finding “based on the recognition that Oregon water rights law treats ‘use’ and ‘point of diversion’ as distinct concepts and the forfeiture statute is addressed only to

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426. OR. REV. STAT. § 540.520(1) (2007).

427. See *Hennings v. Water Res. Dep’t*, 622 P.2d 333, 335 (Or. Ct. App. 1981).

428. *Id.* at 334-35.

429. *Id.* at 335.

430. *Id.*

431. *Id.*

432. *Id.*

433. *Id.* at 335; see also *Hannigan v. Hinton*, 97 P.3d 1256, 1258-59 (Or. Ct. App. 2004).

434. *Russell-Smith v. Water Res. Dep’t.*, 952 P.2d 104, 108 (Or. Ct. App. 1998). Therefore, a change in the point of diversion is not classified as non-use.

435. *Id.* at 105-08.

436. *Id.* at 110.

437. *Id.*

‘use.’”<sup>438</sup> In summary, *Russell-Smith* and *Hannigan* demonstrate that if an appropriator changes the permitted use of the water, uses a non-permitted water source, or uses an amount of water other than that permitted for, then the court can declare any of these changes as non-use and subject to forfeiture.<sup>439</sup> However, the courts do not view a change in point of diversion as non-use and will not rule an appropriator’s right is lost to forfeiture.<sup>440</sup>

### C. CONTROLLING ILLEGAL WATER USE

Depending on funding, the Director appoints one watermaster or assistant watermaster for each water district.<sup>441</sup> Watermasters regulate the distribution of surface and groundwater between water right holders.<sup>442</sup> They do so by regulating, adjusting, and fastening the headgates, valves, or other means of controlling the local water works as well as sending out notices if they cannot physically visit each site.<sup>443</sup> Watermasters also investigate and respond to complaints of water shortages or unlawful surface water uses, as well as groundwater complaints such as wells constructed in a way that wastes water.<sup>444</sup> If a watermaster believes illegal water use exists, then the Watermaster may enter onto private property.<sup>445</sup>

Watermasters regulate illegal water use such as “(a) [i]rrigating land without a [water] right; (b) [u]sing water for a purpose not authorized in the right; (c) [i]rrigating land or using water for a purpose with a priority different than the priority under which the water is diverted from the source; or (d) [w]asting water.”<sup>446</sup> The watermaster must give oral or written notice to the appropriator to stop the unlawful use.<sup>447</sup> If the unlawful use continues, the watermaster may take control of the diversion or well and reduce the amount of the water use by the amount of water being wasted or unlawfully used.<sup>448</sup>

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438. *Hannigan*, 97 P.3d at 1259.

439. *Russell-Smith*, 952 P.2d at 109; *Hannigan*, 97 P.3d at 1259-60. However, an appropriator using less than the permitted amount can defend the forfeiture claim under a statutory defense or the “ready, willing and able” defense. See *supra* sections III.B.1. and III.B.2.

440. *Hannigan*, 97 P.3d at 1259. The court also notes while an appropriator’s change in point of diversion is not subject to forfeiture, it is illegal without Department approval, and the Department might issue an injunction or civil or criminal penalties against him.

441. See OR. REV. STAT. § 540.045(1)(a) (2007)(establishing authority for one watermaster per district).

442. *Id.*

443. *Id.* § 540.045(1)(c).

444. OR. ADMIN. R. 690-250-0100(1), -0050(3) (2008).

445. *Id.* 690-250-0090(3) (allowing the watermaster may respond to complaints dealing with surface water and groundwater).

446. *Id.* 690-250-0050(1)(a)-(d). Oregon Water Law enforces penalties for the following violations: (1) refusing orders from the Commission or decrees of the appellate court; (2) use of water on lands from which the right is transferred and in the new temporary location during the same irrigation season or calendar year is prohibited; (3) interference with headgate, or use of water denied by watermaster; (4) unauthorized use or waste of water; or (5) interfere or obstruction with the use or access of the appropriator who has the lawful right for storage, diversion or carriage of water). See OR. REV. STAT. §§ 540.370(2), .570(5), .710-.730 (2007).

447. OR. ADMIN. R 690-250-0050(2) (2008).

448. *Id.*

If the illegal use continues, the watermaster can further reduce the amount and continue to do so until the reductions eliminate the unlawful use.<sup>449</sup> The state may prosecute anyone who interferes with the watermaster's regulation.<sup>450</sup>

Watermasters also have control over illegally stored water.<sup>451</sup> If necessary, they may release the illegally stored water, but must do so in a manner effective for downstream uses.<sup>452</sup> When releasing the water, watermasters may consult with the Oregon Department of Fish and Wildlife to prevent damage to fish and wildlife.<sup>453</sup>

The Department employs twenty watermasters who must regulate the state's 82,000 regular water rights and 1,500 instream rights.<sup>454</sup> An additional eighteen full-time and part-time assistant watermasters assist in smaller locales.<sup>455</sup> In 2005, watermasters conducted 218 investigations, took regulatory action of some form 11,451 times, and protected instream rights 157 of those times.<sup>456</sup>

Any person who feels that any watermaster's actions harms or adversely affects her may appeal to the circuit court for an injunction.<sup>457</sup> A court will grant an injunction if the water right holder can show that the watermaster failed to carry out his duties properly.<sup>458</sup>

#### D. ENFORCING THE PRINCIPLE OF NON-WASTE

Beyond priority and the requirement for actual use, the water code demands that users not waste water; in other words, a user cannot divert water in an amount beyond what the user needs to accomplish a particular beneficial use.<sup>459</sup> The Commission and Department control waste in three ways:

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449. *Id.*

450. *Id.*; see OR. REV. STAT. § 540.710 (2007).

451. OR. ADMIN. R. 690-250-0150(1) (2008).

452. *Id.*

453. *Id.*

454. BASTASCH, *supra* note 131, at 58, 114; Memorandum from Barry Norris, Technical Servs. Div. Admin., Or. Water Res. Dep't, on an Informational Report on 2004 Field Regulation and Enforcement Activities to the Oregon Water Resources Commission 1 (July 28, 2005), available at

[http://www1.Department.state.or.us/files/Publications/staff\\_reports/2005%20July/Agenda%20Item%20J%20-%20Field%20Regulation%20Activities.pdf](http://www1.Department.state.or.us/files/Publications/staff_reports/2005%20July/Agenda%20Item%20J%20-%20Field%20Regulation%20Activities.pdf) [hereinafter Memorandum from Norris I].

455. Memorandum from Norris I, *supra* note 454 at 1; see OR. REV. STAT. § 540.080 (Assistant Watermasters are to be paid by either the county court or board of commissioners, otherwise, the users under the assistant's responsibility shall pay the assistant's compensation.).

456. Paul, *supra* note 363, at Attachment 3.

457. OR. REV. STAT. § 540.740 (2007).

458. *Id.*

459. *Id.* § 540.610; OR. ADMIN. R. 690-400-0010(16) (2008).

(1) through the permit process;<sup>460</sup> (2) by regulating existing uses;<sup>461</sup> and (3) through a conserved water program.<sup>462</sup>

### 1. Preventing Waste through the Permit Process

Preventing waste through the permit process requires the Department to assess how much water a proposed use requires as part of its ground and surface water application reviews.<sup>463</sup> Applicants must describe why they need the requested amount of water and any measures they are taking to prevent waste.<sup>464</sup> By rule, the Department should base its water use requirements on efficient technology and management practices.<sup>465</sup> The Commission created administrative rules to guide the Department's analysis of (1) whether the technology and management practices are economically feasible; (2) the environmental impacts of making modifications; (3) what technology is proven and available; (4) how much time is needed to make modifications; (5) local variations in soil type and weather; and (6) relevant water management plans and sub-basin conservation plans.<sup>466</sup> However, some participants question whether the Department adequately implements these requirements at the permitting stage.<sup>467</sup> Contending instead that the Department is ensuring that new water use complies with "generous customary standards of beneficial use" rather than enforcing efficient, waste preventative measures.<sup>468</sup> Therefore, preventing waste through the permit process may have limited impact on the ground.

### 2. Regulating Existing Uses

In addition to regulating waste prospectively through the permit process, the Commission also regulates waste in existing uses by way of Department-appointed watermasters.<sup>469</sup> As discussed in Section III.C., watermasters have the power to regulate water rights when users waste water.<sup>470</sup> Watermasters may regulate waste on their own initiative,<sup>471</sup> or may investigate a complaint

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460. See OR. REV. STAT. §§ 537.130, .153(3)(c), .621(3)(c) (2007).

461. OR. ADMIN. R. 690-250-0050(1)(d) (2008).

462. OR. REV. STAT. § 537.470(2); see also BASTASCH, *supra* note 131, at 159-60; Karen Russell, *Wasting Water in the Northwest: Eliminating Waste as a Way of Restoring Stream-flows*, 27 ENVTL. L. 151, 174 (1997) (discussing the relationship between the regulation of waste and the protection of instream flow).

463. OR. REV. STAT. §§ 537.153(3)(c) (2007) (surface water); *id.* § 537.621(3)(c) (ground-water).

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

465. *Id.* 690-400-0010(16).

466. *Id.*

467. See Janet C. Neuman, *Beneficial Use, Waste and Forfeiture: The Inefficient Search for Efficiency in Western Water Use*, 28 ENVTL. L. 919, 960 (1998) [hereinafter Neuman I].

468. *Id.* at 961.

469. OR. ADMIN. R. 690-250-0050(1)(d) (2008).

470. *Id.*

471. *Id.* 690-250-0100(2).

brought by another appropriator.<sup>472</sup> One commentator notes that the Department plays a largely passive role in regulating existing uses.<sup>473</sup> For the most part, the Department does not regulate waste by its own investigations, but instead by way of complaint.<sup>474</sup>

#### E. ADDITIONAL COMMISSION AUTHORITIES

During periods with dramatically less available water than usual, the Commission can react to fluctuating water availability using four mechanisms. First, it can withhold unappropriated waters from appropriation.<sup>475</sup> Second, it can classify and re-classify water sources and thus restrict uses and quantities to only those written into policy.<sup>476</sup> Third, it can enforce laws concerning cancellation of water rights and discharge any excessive, unused claims to water, including making unused water available for appropriation and beneficial use by the public.<sup>477</sup> Fourth, the Commission may set preferences in basin programs for future water uses.<sup>478</sup>

The Department and Commission have the authority to measure water use by conditioning new permits or by requiring measurement on existing uses.<sup>479</sup> The Department may impose measurement conditions on a new permit if “an application discloses the probability of wasteful use or undue interference with existing wells or . . . [interferes with] existing rights to appropriate surface water.”<sup>480</sup> The Commission placed conditions requiring measuring devices on 8,000 water rights.<sup>481</sup>

If the Commission and Department do not include measuring requirements when they issue a permit, they still maintain the authority to require measurement.<sup>482</sup> For example, the Commission may require a water ditch or canal owner to place suitable measuring devices along the ditch or canal and may require the owner to report the measurements according to a Commis-

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472. *Id.* at 690-250-0100(1); *see also* Mark Honhart, *Carrots for Conservation: Oregon's Water Conservation Statute Offers Incentives to Invest in Efficiency*, 66 U. COLO. L. REV. 827, 843 (1995).

473. Neuman I, *supra* note 467, at 961.

474. *Id.* (citing Interview with Barry Norris, Or. Water Res. Dep't (Sept. 23, 1997), discussing examples of the Department's waste enforcement).

475. *See, e.g.*, OR. REV. STAT. § 538.110 (2007) (withholding the waters for the Tumalo Creek in Deschutes County from appropriation).

476. *Id.* § 536.340(1)(a).

477. *Id.* § 536.340(1)(b).

478. *Id.* § 536.340(1)(c).

479. BASTASCH, *supra* note 131, at 168.

480. OR. REV. STAT. § 537.629(1) (2007); *see also id.* § 537.211(1) (noting the Department shall set forth any terms, limitations and conditions as it considers appropriate).

481. *Relating to Measurement of Water: Hearing on Oregon H.B. 2564 Before the H. Comm. Energy and Env't*, 74th Or. Leg. 2 (Or. 2007) (statement provided by Barry Norris, Oregon Water Resources Department), available at <http://www.leg.state.or.us/listn/archive/archive.2007s/HEE-200702191301.ram> [hereinafter *H.B. 2564 Hearings*].

482. *See* OR. REV. STAT §§ 540.310(2), .330(1).

sion-established schedule.<sup>483</sup> The Commission can also require the owner or manager of a reservoir to place measuring devices on each natural stream or water source that discharges into the reservoir. Similar to ditches and canals, the Commission can require owners to place devices above and below their reservoirs to help the watermaster determine the entitlement of a particular water right holder.<sup>484</sup> Despite measurement requirements, the Department does not require many users to report their measurements. The Department estimates there are currently 122,562 existing points of diversion, including ground water and surface water appropriation.<sup>485</sup> Currently, only about eight percent of these water users' permits require them to report.<sup>486</sup> The eight percent, however, represent nearly forty-six percent of the state's water usage.<sup>487</sup>

Any government agency that owns a water right must make an annual report to the Department detailing the amount of water, the period of use, and the categories of beneficial use to which the agency applied the water.<sup>488</sup> Government agencies include "any state or federal agency, local government . . . irrigation district . . . water control district . . . and any other special purpose district organized under state law."<sup>489</sup> Currently, 735 public entities measure and report their current use.<sup>490</sup> The Commission must require reporting from a governmental agency, but it has the discretion to compel reporting in a few other instances.<sup>491</sup> For example, the Commission can declare an area to have a serious water management problem and ask for reporting.<sup>492</sup> It may require anyone in a serious water management area to install a measuring device and submit an annual water use report.<sup>493</sup> As of 2006, however, the Commission had not exercised this authority.<sup>494</sup> Additionally, the Commission has the authority to require measurement and reporting of exempt ground water uses.<sup>495</sup> The Department may also require measuring

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483. *Id.* § 540.310(2).

484. *Id.* § 540.330(1).

485. *H.B. 2564 Hearings*, *supra* note 481.

486. Karen McCowan, *How Much Water Flows? Who Knows?*, *THE REGISTER-GUARD* (Eugene, Or.) Mar. 1, 2007, at A1.

487. *Id.* (referencing House Bill 2564 and proposing to require small and medium water right holders to measure their actual water use; the bill did not pass in the 2007 legislative session).

488. OR. REV. STAT. § 537.099(1) (2007).

489. OR. ADMIN. R. 690-085-0008(9) (2008); *see also* OR. REV. STAT. § 537.099(3) (2007) (declaring any governmental agency that acquires land through default, such as debts owed to the state, is not required to submit an annual report); OR. ADMIN. R. 690-085-0010(1) (2008) (same).

490. *H.B. 2564 Hearings*, *supra* note 481.

491. OR. ADMIN. R. 690-085-0010 (2008).

492. OR. REV. STAT. § 540.435(1)-(2) (2007) (noting a serious water management area is created by "ground water decline, unresolved user disputes or frequent water shortages.").

493. *Id.* § 540.435(1); *see also* OR. ADMIN. R. § 690-085-0020(6) (2008).

494. BASTASCH, *supra* note 131, at 168.

495. OR. REV. STAT. § 537.545(2) (2007) (stating the Commission "may require any person or public agency using ground water for [the exempt uses] to furnish information with regard to such ground water and the use thereof.").

and reporting when a water right holder leases all or a portion of the water right for instream flow.<sup>496</sup>

The Commission recently began a strategy to increase water measurement.<sup>497</sup> Under this strategy, the Department is collecting an inventory of significant diversions in high priority flow restoration watersheds.<sup>498</sup> Significant diversions are those with measurement and reporting requirements, and “diversions greater than five cfs or greater than 10 percent of the lowest monthly 50 percent exceedance flow on a stream.”<sup>499</sup> The state has over 2,400 significant diversions identified within 293 priority basins.<sup>500</sup> As demands on available freshwater increase, the Commission and Department may need to consider increasing use of their existing authorities to withhold water from appropriation and to gauge and meter water rights. Legislative proposals during the 2007 legislative session to address measurement did not succeed.<sup>501</sup> Despite efforts to amend Oregon water law to require measurement, other ways may exist for the Commission and the Department to exercise their discretion under existing laws and achieve the same result.

#### F. WATER SHALL BE USED BENEFICIALLY WITHOUT WASTE

One additional guiding policy for the appropriation of water in Oregon is the requirement that all Oregon water users must appropriate the water beneficially without waste.<sup>502</sup> Beneficial use is the amount of water that is reasonable and appropriate (i.e., not wasting water) to accomplish the purpose of the appropriation using reasonably efficient practices.<sup>503</sup> The beneficial use requirement impacts availability by restricting how a user may divert the water and how much water the user may use once he or she diverts it.<sup>504</sup>

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496. *Id.* § 537.348(3)(b).

497. See Memorandum from Philip C. Ward, Dir., Or. Water Res. Dep’t, to Water Resources Comm’n, Attachment 3 (Feb. 22, 2007), available at [http://www1.wrd.state.or.us/files/Publications/staff\\_reports/2007%20Feb/Agenda%20Item%20A%20%20Coast%20Coho/Coastal%20Coho%20Staff%20Report.pdf](http://www1.wrd.state.or.us/files/Publications/staff_reports/2007%20Feb/Agenda%20Item%20A%20%20Coast%20Coho/Coastal%20Coho%20Staff%20Report.pdf).

498. OR. WATER RES. DEP’T, FULL TEXT OF ONGOING OREGON PLAN EFFORTS AND NEW COMMITMENTS 4 (Feb. 7, 2007) (draft), available at [http://www1.wrd.state.or.us/files/Publications/staff\\_reports/2007%20Feb/Agenda%20Item%20A%20-%20Coast%20Coho/Detail%20Attachment%203.pdf](http://www1.wrd.state.or.us/files/Publications/staff_reports/2007%20Feb/Agenda%20Item%20A%20-%20Coast%20Coho/Detail%20Attachment%203.pdf). In 2002, the Department of Fish and Wildlife teamed up with the Department to identify priority streamflow restoration areas throughout the state. The main focus of these priority areas is salmon recovery. Within the Coastal Coho Evolutionarily Significant Units (ESU) there have been 153 high priority areas identified in the state. *Id.* at 1.

499. *Id.* at 4.

500. H.B. 2564 Hearings, *supra* note 481.

501. See H.B. 2564, 47th Leg., Reg. Sess. (Or. 2007); H.B. 2566, 74th Leg., Reg. Sess. (Or. 2007).

502. OR. REV. STAT. § 536.310(1) (2007). For a further discussion on waste see section III.D. on enforcement of waste.

503. See OR. ADMIN. R. 690-400-0010(3) (2008).

504. See *id.*

Statutory law broadly references beneficial use.<sup>505</sup> Oregon statutes explicitly consider municipal, domestic, irrigation, power development, industrial, fish and wildlife, recreation, and pollution abatement as beneficial uses.<sup>506</sup> The administrative regulations are similarly broad and leave room for the Commission or the Department to make individual determinations based on the “economic and general welfare of the people of the state.”<sup>507</sup> When an applicant’s proposed use does not clearly fall into one of these enumerated categories, the Commission decides if the proposed use is beneficial.<sup>508</sup> Other appropriators have the right to challenge this decision.<sup>509</sup> When faced with a challenge, the circuit court or court of appeals will determine if the proposed use is beneficial.<sup>510</sup> In *Benz*, senior appropriators sued the Commission because it approved an application giving a new appropriator the right to use water for boron leaching.<sup>511</sup> The senior users argued that boron leaching was not a beneficial use under statutory law.<sup>512</sup> The court ruled that the Commission properly balanced the boron leaching against other beneficial uses, conflicting interests, and public concerns.<sup>513</sup> While the court affirmed the Commission’s decision, *Benz* serves as an example of the authority the courts possess over the Commission’s decisions of beneficial use and a broad view of what uses are within the concept of beneficial use.<sup>514</sup>

A water right entitles the user only to use the water for a beneficial use; the right does not entitle the user to waste water.<sup>515</sup> Waste occurs when a water user continually uses more water than he or she needs to satisfy the specific beneficial use of their granted right.<sup>516</sup> For example, if a user diverts more water than is actually needed to irrigate a crop, the excessive diversion may constitute waste.<sup>517</sup> Statutorily, a right holder may not willfully waste water to the detriment of another.<sup>518</sup>

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505. See, e.g., OR. REV. STAT. § 536.300(1) (2007) (illustrating beneficial use as “water for domestic, municipal, irrigation, power development, industrial mining, recreation, wildlife and fish life uses and for pollution abatement.”).

506. *Id.*

507. OR. ADMIN. R. 690-400-0010(3) (2008) (defining beneficial use as “an instream public use or a use of water for the benefit of an appropriator for a purpose concurrent with the laws and the economic and general welfare of the people of the state and includes but is not limited to, domestic fish life, industrial irrigation, mining municipal pollution abatement, power development, recreation, stock water and wildlife uses.”).

508. See *id.* (beneficial use includes but is not limited to the listed uses).

509. See e.g. *Benz v. Water Res. Comm’n*, 764 P.2d 594, 596 (Or. Ct. App. 1988); see also Neuman I, *supra* note 467, at 925-26.

510. OR. REV. STAT. § 536.075(1)-(2) (2007). If the case is not contested (as defined by § 537.170), the circuit court will hear the claim; otherwise the Court of Appeals will hear the claim. See also Neuman I, *supra* note 467, at 925-26.

511. *Benz*, 764 P.2d at 596.

512. *Id.*

513. *Id.* at 597.

514. *Id.*

515. See OR. ADMIN. R. 690-250-0050(1)(d).

516. *Id.* 690-400-0010(16).

517. See *id.*

518. OR. REV. STAT. § 540.720 (2007).

The broad definition of beneficial use gives the state flexibility in determining whether a particular use meets the definitions of beneficial at the time of reviewing the application.<sup>519</sup> The technical aspects of beneficial use, however, remain very undefined.<sup>520</sup> In particular, waste is defined based on the amount of water needed for beneficial use.<sup>521</sup> The lack of a more precise beneficial use definition can make enforcement of waste extremely difficult. To the extent that the regulation of waste may help to preserve more water instream, the broad definition of beneficial use and its integral relationship to the concept of waste may be an impediment.

This article identifies several areas where the principles of waste and the method of enforcing or ensuring that waste does not occur may benefit freshwater conservation overall. The first opportunity to address waste occurs at the permitting stage when the Department makes a determination of beneficial use. At this point, the Department should conduct a robust analysis of whether a particular proposed use of water qualifies as wasteful. Additional data on how the Department currently addresses waste at the permitting stage and some specific examples of any applications rejected on account of a “wasteful” use would assist in determining if this is an appropriate policy response. Furthermore, the state has appropriated most water and therefore it is important to look at how the transfer process addresses the principles of waste. Critics of the Department argue that agricultural users may waste water and the Department only begins to look at the question of waste when parties seek an instream transfer.

Overall, the water code contains several mechanisms addressing the misuse of water in the state. Enforcement by watermasters is largely complaint-driven, which allows action only when water users raise issues to the watermaster regarding other’s consumptive use. A complaint driven system may leave instream flow rights at a disadvantage because the state, already facing a lack of resources, is the entity that would most often initiate the complaint.<sup>522</sup> Similar resource limitations arise with the enforcement of the principles of waste and illegal water use. The water community should gather further data on the 157 instream water rights previously enforced in the state, as well as general data on the numbers of enforcement actions due to forfeiture and the use of the statutory defenses, waste, illegal water use, and the initiating source of these actions.

The enforcement authorities and principles of non-wasteful and beneficial use of water bear directly on policy questions about the most energy efficient uses of water and whether various energy alternatives use water in a wasteful manner. These enforcement authorities provide an important link in the overall conservation, climate and energy policy framework because they represent the actual and direct impact of active water resource management.

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519. See OR. ADMIN. R. 690-400-0010(3) (2008) (beneficial use includes *but is not limited to* listed uses).

520. *Id.* (defining beneficial use in broad terms).

521. *Id.* 690-400-0010(16).

522. *Id.*

#### IV. INSTREAM WATER RIGHTS

For the freshwater conservation community, the emergence of instream flow water rights in the western United States marked a milestone in the development of water law. Traditional water rights allowed appropriators to use water only for out of stream uses. Oregon stepped forward as an early proponent of instream protection, beginning with the legislature enacting the minimum perennial stream flow program in 1955.<sup>523</sup> In 1987, the legislature revamped instream protection and recognized the environmental value of leaving water in a water body by enacting the Instream Water Rights Act, which gives instream water rights equal footing with all other water rights.<sup>524</sup> This section reviews Oregon's treatment of instream water rights, including how state law defines them, the different mechanisms for creating instream rights, and the limitations facing instream water rights.

##### A. INSTREAM WATER RIGHTS ACT

The 1987 Instream Water Rights Act ("the Act") seeks to protect and promote instream uses of water.<sup>525</sup> Unlike agricultural, municipal, or industrial uses, which represent private out of stream applications of water, the Water Resources Department holds instream rights in trust, and this water remains in its natural stream for public use and benefit.<sup>526</sup> The Act fundamentally changed water use in Oregon by recognizing that instream water rights provide a public benefit and therefore satisfy the statutory beneficial use requirement.<sup>527</sup> The Act specifically recognized four public 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."<sup>528</sup>

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523. Act of May 26, 1955, ch. 707, 1955 Or. Laws 924 (codified as amended at OR. REV. STAT. § 536.325 (1995)); see also Jack Sterne, *Instream Rights & Invisible Hands: Prospects for Private Instream Water Rights in the Northwest*, 27 ENVTL. L. 203, 217 (1997).

524. OR. ADMIN. R. 690-077-0000(3) (2008).

525. OR. REV. STAT. §§ 537.332-.360 (2007).

526. See *id.* § 537.332(3) (Department holds instream rights in trust for the people of Oregon); see also *id.* § 537.341 (stating "[t]he certificate shall be in the name of the Water Resources Department as trustee for the people of the State of Oregon . . .").

527. See, e.g., *id.* § 537.348(2).

528. *Id.* § 536.332(5), .350(1); see also OR. ADMIN. R. § 690-077-0000(3) (2007); OR. REV. STAT. § 537.332(3) (2007) (stating that "[i]n-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."); *id.* § 536.310(1) (stating "[e]xisting rights, established duties of water, 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" (emphasis added)); *id.* § 537.334(1) (2008) (stating "[p]ublic uses are beneficial uses." Instream flow is a public use.); see also *id.* § 540.610(2)(n) (nonuse during a time when the water right was leased as an in-stream right does not subject the right to forfeiture); OR. REV. STAT. § 537.332(5) (2007).

Prior to the Act, leaving water instream rather than diverting it would have constituted nonuse subject to forfeiture.<sup>529</sup> By acknowledging instream flow as a beneficial use, the Oregon Water Code allows, and even encourages, users to leave water instream.<sup>530</sup> Instream water rights theoretically have the same legal status as any other water right.<sup>531</sup> As with other water rights, instream water rights receive a priority date and cannot impair senior water rights.<sup>532</sup> In fact, the Department will modify or reject the conversion of any traditional right into an instream right, as well as any state agency application for an instream right, if it would otherwise impair existing right holders.<sup>533</sup>

Despite the notion that instream rights are on par with traditional rights, the Department manages instream water rights differently than traditional water rights. First, instream rights must be held by the Department, not individual water users.<sup>534</sup> Instream rights “[do] not require a diversion or any other means of physical control over the water.”<sup>535</sup> Therefore, where the Department measures traditional water rights in cubic feet per second at their point of diversion, it instead measures instream water rights in cubic feet per second along specified reaches of a stream or river.<sup>536</sup> The typical reach of an instream water right extends from either the original point of diversion, or agency designated location, to the mouth of the affected stream, but may extend further where the instream water right is a measurable portion of the receiving stream.<sup>537</sup> Furthermore, any single instream right may require multiple reaches in order to account for naturally reduced flows due to evaporation, transpiration, or tributaries that draw from the stream.<sup>538</sup> The Department does not similarly reduce traditional water rights for natural losses, and in some circumstances, a court decree may make allowances for seepage.<sup>539</sup>

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529. *See id.* § 540.610 (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 . . .”).

530. *See id.* § 537.348(2).

531. *Id.* § 537.500(1).

532. *Id.* § 537.334(2); *see also* OR. ADMIN. R. 690-077-0000(5)-(6) (2008).

533. OR. ADMIN. R. 690-077-0047(2)-(4) (2008).

534. OR. REV. STAT. § 537.341 (providing that the Water Resources Department holds instream flow rights in trust for the people of Oregon).

535. OR. REV. STAT. § 537.332(3) (2007).

536. OR. ADMIN. R. 690-077-0015(7)-(8) (2008). While out-of-stream rights only require measurement at the point of diversion, instream water rights require measurement at several points along the affected stream. *Id.* Instream flow rights can be measured by a point or reach, but reach is preferred. *Id.*

537. *Id.*

538. *Id.* 690-077-0075(2)(b)(D), -0075(2)(c)(B).

539. *Id.* 690-077-0075(2)(b)(D). For example, in the decree for the Deschutes Basin the percentage of seepage loss is part of the water rights. BRUCE AYLWARD, ECOSYSTEM ECON. LLC, RESTORING WATER CONSERVATION SAVINGS TO OREGON RIVERS: A REVIEW OF OREGON’S CONSERVED WATER STATUTE 26 (2008), available at <http://cbwtp.org/jsp/cb/wtp/library/documents/Oregon%27s%20Conserved%20Water%20Program.pdf>.

In addition, with traditional water rights, inefficiencies and losses in the system may benefit other water users.<sup>540</sup>

Finally, the statute defines instream flow as the quantity of water that is necessary to satisfy the applicable public uses as requested by an agency.<sup>541</sup> Because some view instream water rights as defined in terms of the minimum quantity of water necessary in order to protect a public use, the regulations limit the quantity of legally protectable instream flow for a given body of water.<sup>542</sup> Generally, the Estimated Average Natural Flow (“EANF”) operates as an upper limit on the quantity of water that a user may secure under an instream water right.<sup>543</sup>

In special circumstances, however, a user may reserve a quantity of water that exceeds the EANF as an instream water right.<sup>544</sup> The administrative rule governing the quantity of instream flow allows flows to exceed the EANF when the flows are “significant for the applied public use.”<sup>545</sup> “[H]igh flow events that allow for fish passage or migration over obstacles” are one instance where a larger flow is significant for the applied public purpose.<sup>546</sup> Another example pertains to instream water rights established through instream transfers, leases, or allocations of conserved water.<sup>547</sup> For these instream water rights, a presumption exists that a flow exceeding the EANF is significant for the applied public use upon the satisfaction of certain criteria.<sup>548</sup> First, the flow must not exceed the maximum amount of any instream water right applied for by the DEQ, the ODFW, or Parks and Recreation for the same reach of the stream and for the same public use.<sup>549</sup> Second, the ODFW must either determine the stream is in a “flow restoration priority watershed,”<sup>550</sup> or listed as water quality limited by the DEQ.<sup>551</sup> If these criteria are satisfied, the Department can establish an instream water right that exceeds the EANF.<sup>552</sup>

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540. SAX, THOMPSON, LESHY AND ABRAMS, *LEGAL CONTROL OF WATER RESOURCES*, 128-9 (4th ed. 2006).

541. OR. REV. STAT. § 537.332(2) (2007).

542. *See generally*, OR. ADMIN. R. 690-077-0015(2) (2008).

543. *Id.* 690-077-0015(4) (stating “[i]f natural stream flow or lake levels are the source for meeting instream water rights, the amount allowed during any identified time period for the water right shall not exceed the estimated average natural flow. . . .”). The EANF “means average natural flow estimates derived from watermasters distribution records, Department measurement records and the application of appropriate available scientific and hydrologic technology.” *Id.* 690-077-0010(10).

544. *Id.* 690-077-0015(4).

545. *Id.*

546. *Id.*

547. *Id.* 690-077-0015(5).

548. *Id.* (stating that the presumption applies “[u]nless the Director determines otherwise.”).

549. *Id.* 690-077-0015(5)(a).

550. *Id.* 690-077-0015(5)(b).

551. *Id.* 690-077-0015(5)(c). The DEQ must also have “provided scientific information that demonstrates that increased flows would improve water quality.” *Id.*

552. *Id.* 690-077-0015(5).

## B. MECHANISMS FOR CREATING INSTREAM RIGHTS

Since the inception of the Instream Water Rights Act, the Department has issued approximately 1,500<sup>553</sup> instream rights using four mechanisms.<sup>554</sup> These mechanisms include the conserved water program,<sup>555</sup> designated state agency requests,<sup>556</sup> conversion of minimum perennial flows,<sup>557</sup> and purchases, leases or gifts.<sup>558</sup> Regardless of the mechanism, the Department will issue the right in its own name and hold the right in trust for the people of Oregon.<sup>559</sup>

### 1. Conserved Water Program

Section IV.G. discusses the Conserved Water Program more thoroughly. Briefly, the 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.<sup>560</sup> The program allows water right holders who invest in more efficient water delivery systems to either leave the conserved water instream indefinitely, or apply it to another piece of land.<sup>561</sup> The program's purpose is to incentivize efficiency in water use and encourage the protection of instream flow.<sup>562</sup>

### 2. State Agency Requests for Instream Rights

Only designated state agencies may apply for new instream rights in Oregon; private and other public entities may not.<sup>563</sup> Only three state agencies may apply for instream water rights: the ODFW, the DEQ, and the State Parks and Recreation Department.<sup>564</sup> Agency-requested instream rights receive priority dates just as traditional appropriative rights do. For agency-

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553. See, e.g., Memorandum from Barry Norris, Administrator, Technical Services Div., State of Or. Water Res. Dep't, to Water Res. Comm'n 3 (May 21, 2004), available at [http://www1.wrd.state.or.us/files/Publications/staff\\_reports/2004%20May/Agenda%20Item%20K%20-%20ISWR%20use%20rpt.pdf](http://www1.wrd.state.or.us/files/Publications/staff_reports/2004%20May/Agenda%20Item%20K%20-%20ISWR%20use%20rpt.pdf) [hereinafter Memorandum from Norris II] (In 2001, 1,437 instream rights were issued; 1,447 were issued in 2002; and 1,451 were issued in 2003).

554. The Scenic Waterways Act also protects instream flow. See OR. REV. STAT. §§ 390.805-.925 (2007); See also *Diack v. City of Portland*, 736 P.2d 198, 201 (Or. Ct. App. 1987) (requiring the state to make a finding that a proposed use would not diminish scenic waterway flows below the level needed to support fish, wildlife, and recreation).

555. OR. REV. STAT. §§ 537.455-.465 (2007).

556. *Id.* § 537.336.

557. *Id.* § 537.346.

558. *Id.* § 537.348.

559. *Id.* § 537.341 (requiring that a copy of the certificate must be forwarded to the requesting state agency and may be requested by an appropriate party).

560. See *id.* § 537.460-.470.

561. *Id.* § 537.490(1).

562. See generally *id.* §§ 537.470; see also *id.* § 537.465 (explaining the application procedure for conserved water program).

563. *Id.* § 537.336.

564. *Id.*

requested rights, the filing date with the Department sets the priority date.<sup>565</sup> However, applicants for municipal purposes, multipurpose storage projects, and hydroelectric projects may petition to establish precedence over an in-stream right, regardless of their junior priority date.<sup>566</sup> For the Department to grant a petition, it must conduct a review of the proposed project in accordance with the contested case hearing proceedings.<sup>567</sup>

In addition to subordination to particular future uses, agencies that request instream rights may consent to their injury during the transfer process of another water right.<sup>568</sup> The scope of the agencies' ability to consent to injury is quite narrow. For one, limitations include point of diversion transfers only.<sup>569</sup> Additionally, an agency can only consent to the injury of an instream right that it requested.<sup>570</sup> The agency may not consent to injury for instream rights that "any person" acquired by lease, gift or purchase.<sup>571</sup> Also, the agency can only recommend that the Department allow the proposed transfer if it will result in a net benefit to the water source, and is consistent with the instream right's purpose.<sup>572</sup> Furthermore, the agency may include necessary conditions to ensure the transfer is consistent with the recommendation.<sup>573</sup> The agency's consent must be in writing, available to the public for commenting, and provide an explanation detailing both the extent of the injury to the instream right and the reasons for finding a net beneficial gain.<sup>574</sup>

Each of the three agencies has developed its own methods and administrative regulations for determining how much instream flow is necessary to achieve the agency's goals.<sup>575</sup> However, because the administrative rules require the agencies to notify each other of the proposed application, the individual agency requests do not operate in a vacuum.<sup>576</sup> After the proposing

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565. OR. REV. STAT. § 537.341 (2007). Any person purchasing, leasing, or accepting a gift of an existing water right may apply for conversion to an instream water right and retain the initial priority date; conversion of minimum perennial stream flows to instream flows also retain the initial priority date. OR. REV. STAT. § 537.352 (2007); *see also id.* §§ 537.346, .348.

566. *Id.* § 537.352; *see also* OR. ADMIN. R. 690-077-0100 (2008) (explaining that this system of precedence is subject to Departmental review).

567. *See generally* OR. REV. STAT. §§537.170, .352 (2007). *See also* OR. ADMIN. R. 690-077-0100(4) (2008).

568. *Id.* § 540.530(1)(c); *see also* OR. ADMIN. R. 690-380-5030(2) (2008).

569. OR. REV. STAT. § 540.530(1)(c)-(d) (2007).

570. *Id.* § 540.530(1)(c).

571. *See id.* §§ 537.348, 540.530(1)(c).

572. *Id.* § 540.530(1)(c).

573. *Id.* § 540.530(1)(d)(B).

574. *Id.* § 540.530(1)(d).

575. OR. ADMIN. R. 690-077-0020(3) (2008).

576. *Id.* 690-077-0020(2); *see also id.* 340-056-0300(6)-(7) ("The Department [of Environmental Quality] will submit the draft application to ODFW and Parks for review and comment" and "ODF&W and Parks may incorporate other public uses into . . . [an instream] application and jointly apply. . . ."); *id.* 736-060-0030(5)-(6) (noting that Parks and Recreation Department "shall notify ODF&W and DEQ of the proposed application" and "DEQ, or ODFW, or both, may incorporate the public uses for which they are responsible. . . ."); *id.* 635-400-0030 (requiring the Department of Fish and Wildlife to send draft instream water right applications to DEQ and Parks for their review and comment).

agency has notified the other two agencies that it is submitting an instream application, the non-proposing agencies (ODFW, DEQ, or Parks) have the opportunity to incorporate the public uses for which they are responsible into the instream application.<sup>577</sup>

To fulfill their requests for instream rights, the Department of Fish and Wildlife and the State Parks and Recreation Department may secure water by purchasing it, leasing it, or receiving it as a gift from an out of stream right holder.<sup>578</sup> Only the Water Resources Department can hold the right in trust after an agency secures that right.<sup>579</sup> In addition to applying directly for a new water right, each of the three agencies may seek water from a reservoir or storage facility to supply its requested instream rights.<sup>580</sup> In order to utilize storage water, the agency must show in writing that it has entered into an agreement with the owners of a reservoir and that the reservoir impounds enough water for the purposes set forth in the request.<sup>581</sup>

*a. Department of Fish and Wildlife Requests for Instream Rights*

The Department of Fish and Wildlife (“ODFW”) may request instream water rights for “conservation, maintenance and enhancement of aquatic and fish life, wildlife and fish and wildlife habitat.”<sup>582</sup> The ODFW has broad authority to request instream rights for the quantity of water necessary to support the public uses ODFW recommends including flows for “any other ecological value.”<sup>583</sup> To date, the ODFW has filed approximately 950 applications for instream flow water rights.<sup>584</sup>

The ODFW calculates how much flow is necessary to achieve its goals using one of the following methodologies: the Forest Service Method, the Instream Flow Incremental Methodology, or the Oregon Method.<sup>585</sup> The Forest Service Method determines the flow requirements of salmonids, while

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577. *Id.* 690-077-0020(2).

578. *Id.* 635-400-0035 (Department of Fish and Wildlife); *id.* 736-060-0040(1) (Parks and Recreation Department). Administrative rules regulating DEQ requests for instream rights do not contain a provision granting the agency this capacity, whereas both the DRW and PRD do.

579. OR. REV. STAT. §§ 537.341, .332(3) (2007).

580. *Id.* § 537.336(4).

581. *Id.*

582. *Id.* § 537.336(1); OR. ADMIN. R. 635-400-0005 (2008) (“It is the policy of the Oregon Fish and Wildlife Commission to apply for instream water rights on waterways of the state to conserve, maintain and enhance aquatic and fish life, wildlife, and fish and wildlife habitat to provide optimum recreational and aesthetic benefits for present and future generations of the citizens of this state. The long-term goal of this policy shall be to obtain an instream water right on every waterway exhibiting fish and wildlife values.”); OR. REV. STAT. § 537.332(5)(b) (2007) (explaining that the definition of “public use” partially mirrored by the ODFW policy for instream requests is the “[c]onservation, maintenance and enhancement of aquatic and fish life, wildlife, fish and wildlife habitat and any other ecological values” (emphasis added)). The Department of Fish and Wildlife requests instream rights pursuant to OR. ADMIN. R. 635-400-0000 to -0040.

583. OR. REV. STAT. § 537.336(1) (2007).

584. Interview with Dwight French, *supra* note 67.

585. OR. ADMIN. R.. 635-400-0010(8), (10), (14) (2008).

the Instream Flow Incremental Methodology determines the flow requirements for fish and other aquatic life, generally.<sup>586</sup> The Oregon Method is the oldest method available; the Oregon State Game Commission developed it to determine the instream flow requirements for fish.<sup>587</sup>

*b. Department of Environmental Quality Requests for Instream Rights*

The Department of Environmental Quality may request an instream water right to protect and maintain water quality standards that the Environmental Quality Commission establishes.<sup>588</sup> The amount of the request shall be for the quantity of water necessary for pollution abatement per the DEQ's recommendation.<sup>589</sup> Similar to ODFW's authority, the DEQ has broad authority to request instream rights within the agency's goals.

The DEQ may request instream flows for any body of water within the state.<sup>590</sup> It determines the necessary amount of instream flow by analyzing water/water quality correlation, load assimilation, and water quality models, as well as using a non-degradation flow methodology.<sup>591</sup> To date, the DEQ has filed approximately thirty-five applications for instream flow rights for water quality purposes.<sup>592</sup> The DEQ filed all of its instream rights in the early 1990s for locations entirely in the northern Willamette Basin within thirty to forty miles of the City of Portland.<sup>593</sup>

*c. State Parks and Recreation Department Requests for Instream Rights*

The State Parks and Recreation Department may request instream water rights for the purposes of recreation and scenic attraction.<sup>594</sup> The request shall be for the quantity of water necessary to support the public uses that the State Parks and Recreation Department recommends.<sup>595</sup> As with the ODFW and the DEQ, the Parks and Recreation Department has broad authority to

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586. *Id.* 635-400-0010(8), (10).

587. *Id.* 635-400-0010(14); *see* OR. ADMIN. R. § 635-400-0010(15) (explaining that the Oregon State Game Commission was the predecessor of the Department of Fish and Wildlife).

588. OR. REV. STAT. § 537.336(2) (2007); OR. ADMIN. R. § 340-056-0015(1) (2008) ("It is the policy of the Environmental Quality Commission . . . [t]o apply for instream water rights for pollution abatement where such action provides a public benefit . . ."). Requests by the Department of Environmental Quality for instream rights are made pursuant to OR. ADMIN. R. §340-056-0005 to -0400.

589. OR. REV. STAT. § 537.336(2) (2007).

590. OR. ADMIN. R. 340-056-0200 (2008).

591. *Id.* 340-056-0400.

592. Interview with Dwight French, *supra* note 67.

593. *Id.*

594. OR. REV. STAT. § 537.336(3) (2007); OR. ADMIN. R. 736-060-0005 (2008) ("It is the policy of the Parks and Recreation Department to apply to the Water Resources Department for instream water rights on the streams, rivers, lakes, and wetlands of the state to protect scenic attraction and recreational values for the benefit of present and future generations of citizens of this state."). The Department of State Parks and Recreation requests instream rights in accordance with OR. ADMIN. R. 736-060-0000 to -0040.

595. OR. REV. STAT. § 537.336(3) (2007).

request instream rights within the agency's goals, and it may do so for any body of water within the state.<sup>596</sup> The quantity necessary to accommodate the predominant recreational use or uses of any given month helps determine the quantity of water to request.<sup>597</sup> To date, the Parks and Recreation Department has filed for less than ten instream water rights.<sup>598</sup>

### 3. Minimum Perennial Stream Flows Converted into Instream Rights

Oregon adopted the minimum perennial stream flow program in 1955.<sup>599</sup> The program allowed individual basin programs to reserve a quantity of water for instream flow by prohibiting future appropriations from designated streams.<sup>600</sup> Though called minimum perennial stream flows, the flows do not ensure a minimum quantity of instream flow but rather secure water instream through administrative rule with a priority date, just like any other water right.<sup>601</sup> Oregon established hundreds of minimum perennial stream flows between 1955 and 1988.<sup>602</sup> The Instream Water Rights Act, which converted the existing minimum perennial stream flows into instream rights, largely superseded the former program.<sup>603</sup> Prior to conversion, there were a total of 547 minimum flows.<sup>604</sup> To date, twenty-four minimum perennial stream flows still exist in Oregon, seventeen of which are in the Umatilla Basin.<sup>605</sup> Converted rights remain subject to priority, and retain the date the minimum perennial stream flow establishment as their priority dates.<sup>606</sup> Along with the priority date, converted instream rights also retain any conditions placed on the minimum perennial stream flow.<sup>607</sup> Unlike some instream rights, converted minimum perennial stream flows are not subordinate to multipurpose storage, municipal use, and hydroelectric purposes.<sup>608</sup> However, when a transfer occurs, an agency may consent to the injury of converted minimum perennial stream flows in a very narrow set of circumstances.<sup>609</sup>

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596. See OR. ADMIN. R. 736-060-0005 (2008).

597. *Id.* 736-060-0015 (2008).

598. Interview with Dwight French, *supra* note 67 (stating Parks and Recreation have filed a small number of joint requests with ODFW).

599. Or. Dep't of Fish and Wildlife, *Instream Water Rights*, BACKGROUND, Jan. 22, 1997, at 1, available at <http://www.dfw.state.or.us/fish/water/docs/BKGWaterRights.pdf>.

600. BASTASCH, *supra* note 131, at 112 (explaining that whereas water rights issued by the Department are secure in perpetuity, administrative regulations may be changed).

601. OR. REV. STAT. § 537.346; see also BASTASCH *supra* note 131, at 112.

602. BASTASCH, *supra* note 131, at 113.

603. OR. REV. STAT. § 537.346(1) (2007); see also BASTASCH, *supra* note 131, at 114-15.

604. BASTASCH *supra* note 131, at 113.

605. *Id.* at 114-15 (noting that the seventeen minimum perennial streamflows remaining in the Umatilla Basin were adopted after the Instream Water Rights Act, and the Act only required the conversion of existing minimum perennial streamflows).

606. OR. REV. STAT. § 537.346(1) (2007).

607. *Id.* § 537.343.

608. *Id.* § 537.352 ("The precedence given under this section shall not apply if the instream water rights was established pursuant to [OR. REV. STAT.] § 537.346.").

609. Agency consent is limited to point of diversion transfers and only when it will result in a net benefit to the water source and is consistent with the instream rights purpose. *Id.* § 540.530(1)(c) (addressing the conversion of minimum perennial streamflows and specifically

Stored water is frequently used to meet the twenty-four remaining minimum perennial stream flows. As a result, there are several special regulations governing the relationship between stream flow and stored water. These regulations are typically part of a basin program where the storage project is located. Some basin programs make the water released from storage available for appropriation despite the minimum perennial stream flow.<sup>610</sup> Another common regulation states that the Water Policy Review Board may establish additional minimum flows during its review of application for appropriation of water from storage.<sup>611</sup> Likewise, these regulations encourage storage projects that are consistent with the purposes of the minimum perennial stream flows.<sup>612</sup>

There are also special statutory provisions that govern the release of stored water in the Willamette Basin.<sup>613</sup> For one, regardless of priority date, the Department cannot mandate the release of stored water to satisfy an instream right until the state enters into a contract with either a private or state-run storage center, or reservoir, to satisfy the instream right; nor may the Department otherwise regulate the use of water in order to satisfy an instream right.<sup>614</sup> These contracts must include the state and the owner of the storage facility as parties to the contract, explicit permission allowing the state to use the released storage water to satisfy a minimum perennial stream flow right, and a method for determining the specific quantity of stored water that will be released to satisfy the minimum perennial stream flow.<sup>615</sup> However, where a federal storage facility fails to fulfill a valid contract to supply water for instream rights, the Department may not regulate or impair other right holders, regardless of a valid contract.<sup>616</sup>

#### 4. Purchasing, Leasing, and Gifting—Instream Transfers of Existing Rights

The fourth mechanism for creating instream rights involves purchasing, leasing or gifting the out of stream rights for the transfer of out of stream use to instream use.<sup>617</sup> The State authorizes instream transfers, which convert all

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mentioning instream water rights established under OR. REV. STAT. § 537.346(1)). See also *id.* § 537.352. For further discussion see *infra* section IV.D.

610. See, e.g., *id.* 690-515-0000(2)-(3) (2008) (Upper Rogue Basin); *id.* 690-515-0030(2)-(3) (Applegate River Basin); *id.* 690-515-0040(2)-(3) (Middle Rogue Basin).

611. See e.g., *id.* 690-515-0000(3)(a) (Upper Rogue Basin); *id.* 690-515-0030(2)(a) (Applegate River Basin); *id.* 690-515-0040(2)(a) (Middle Rogue Basin).

612. See e.g., *id.* 690-515-0000(3)(a) (Upper Rogue Basin); *id.* 690-515-0030(2)(a) (Applegate River Basin); *id.* 690-515-0040(2)(a) (Middle Rogue Basin).

613. OR. REV. STAT. § 537.346(3)-(5) (2007).

614. *Id.* § 537.346(3) (The Department may not compel the release of stored water or regulate other users in order to satisfy instream rights based upon converted minimum flows within the Willamette Basin.)

615. *Id.* § 537.346(4) (2007).

616. *Id.* § 537.346(5) (2007).

617. *Id.* § 357.348; Robert David Pilz, Comment, *At the Confluence: Oregon's Instream Water Rights Law in Theory and Practice*, 36 ENVTL. L. 1383, 1387 (2006); BASTASCH, *supra* note 131, at 116 (“Acquisition may hold the greatest promise of any mechanism in restoring instream flows through the water rights system.”).

or a portion of an existing out of stream water right into an instream right, without loss of priority.<sup>618</sup> While agency-requested rights lead to relatively new and, therefore, junior instream water rights, the instream transfer program provides an opportunity to establish more senior instream water rights. By allowing any current right holder to convert an out of stream right by sale, lease, or gift, this mechanism can increase the chance that instream flow will be available even in times of low flow.

Furthermore, instream transfers offer other benefits over other forms of instream rights. For one, instream transfers are excluded from the subordination of uses that apply to agency requested instream transfers and arguably instream rights from the conserved water program.<sup>619</sup> Additionally, agency-requested rights and converted minimum perennial stream flows are subject to provisions that allow the Department to consent to their injury in the transfer process.<sup>620</sup> However, the Department is not able to consent to injury for an instream right established through purchase, lease, or gift.<sup>621</sup>

The Oregon Water Code authorizes state agencies to acquire water rights through this mechanism. For instance, “[a]ny person may purchase or lease all or a portion of an existing water right or accept a gift of all or a portion of an existing water right for conversion to an in-stream water right.”<sup>622</sup> The applicable definition of “person” includes, among others, “the state and any agencies thereof.”<sup>623</sup> Though any person may purchase, lease, or accept a gift of a water right for conversion to instream use, only the Department of Water Resources may hold the instream water rights.<sup>624</sup>

As previously discussed, the Department of Fish and Wildlife and the Parks and Recreation Department have promulgated regulations regarding the purchase, lease, or acceptance of gifts of existing water rights for the purpose of transfer from out of stream to instream use.<sup>625</sup> Like a privately held right, this type of instream right maintains its original priority date and

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618. OR. REV. STAT. § 537.348(1) (2007); OR. ADMIN. R. 690-077-0010(15) (2008); *see* OR. REV. STAT. § 537.348(2) (2007) (reaffirming the ability of a water rights holder to split their water right by leasing a portion for instream use while still retaining the right to use a specified quantity for out-of-stream use).

619. OR. REV. STAT. § 537.352 (2007). The statute only explicitly excludes two types of instream rights from the precedence the Department may give to municipal supply, multipurpose storage, or hydroelectric generation: (1) minimum perennial streamflows that have been converted to instream flow rights; and (2) rights that have been purchased, leased, or gifted for conversion to instream rights.

620. *Id.* § 540.530(1)(c) (stating that the Department may only consent to injury for a proposed change in the point of diversion, and upon recommendation from the agency that requested the right); *see infra* section IV.D. for a detailed discussion of injury to existing instream rights.

621. *See* OR. ADMIN. R. 690-380-5050(1) (2008) (Department must seek consent from the agency that requested an instream right; for purchased, gifted, and leased rights, there are no agencies to give consent).

622. OR. REV. STAT. § 537.348(1) (2007) (emphasis added).

623. *Id.* § 536.007(6).

624. *Id.* § 537.332(3).

625. OR. ADMIN. R. 635-400-0035 (2008) (Department of Fish and Wildlife); *id.* 736-060-0040(1) (Parks and Recreation Department).

is not subject to a precedence of uses.<sup>626</sup> Unlike the ODFW and Parks and Recreation though, the DEQ has not yet promulgated regulations regarding this mechanism.

The Oregon Water Trust, founded in 1993, is a 501(c)(3) non-profit organization that facilitates instream transfers.<sup>627</sup> The Trust constructs agreements with willing water rights holders and compensates them for leaving all or a part of their water right instream.<sup>628</sup> As of 2006, the Oregon Water Trust had protected 160 cfs of flow in eighty-six streams through agreements with over 200 landowners.<sup>629</sup> Other local organizations dedicated to stream flow restoration, such as the Deschutes River Conservancy, have also protected significant instream flows through leases, conservation, and acquisition.<sup>630</sup> Since the Instream Water Rights Act passage in 1987, the Trust has facilitated over 1000 instream leases and sixty permanent instream transfers in Oregon.<sup>631</sup> As a result of these efforts, Oregon has protected 750 cfs of instream flow.<sup>632</sup> The Bonneville Power Administration through the Columbia Basin Water Transactions Program has provided a portion of the funding for these efforts.<sup>633</sup>

### C. WATER RIGHT TRANSFERS

All transfers, including instream transfers, must meet the standard transfer conditions set forth in the Oregon Revised Statutes sections 540.505 through 540.585.<sup>634</sup> A water right holder may transfer those rights that were established by an official adjudication, a water right certificate,<sup>635</sup> a water use subject to a lien,<sup>636</sup> or a water use for which an application for transfer<sup>637</sup> has been approved and the transfer completed.<sup>638</sup>

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626. OR. REV. STAT. §537.352 (2007) (exempting from precedence of uses all instream rights acquired by purchase, lease, or gifts from out of stream right holders); *see also id.* § 537.348 (an in-stream right's certificate shows the original priority date of the purchased, gifted or leased water right.).

627. Fritz Paulus, *Instream Flow Restoration: Cooperative Free Market Solutions in Oregon*, 43 THE WATER REPORT, Sept. 2007, at 14.

628. *See* 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 (2004) [hereinafter Neuman II].

629. Paulus, *supra* note 627, at 17.

630. *See* DESCHUTES RIVER CONSERVANCY, 2006 ANNUAL REPORT 3 (2006), available at [http://www.deschutesriver.org/CEDocuments/Downloads\\_GetFile.aspx?id=227777&fd=0](http://www.deschutesriver.org/CEDocuments/Downloads_GetFile.aspx?id=227777&fd=0).

631. *See* Paulus, *supra* note 627, at 16.

632. *Id.*

633. COLUMBIA BASIN WATER TRANSACTIONS PROGRAM, FINDING BALANCE IN THE BASIN 2007 ANNUAL REPORT 3 (2007), available at [http://www.narrativelab.com/files/CBWTP\\_Annual07\\_web.pdf](http://www.narrativelab.com/files/CBWTP_Annual07_web.pdf).

634. *See* OR. REV. STAT. §§ 540.510(1), 537.348(1) (2007). However, the transfer or sale of conserved water is subject to the conditions of OR. REV. STAT. § 537.490.

635. *Id.* § 537.250.

636. *Id.* § 537.252(1).

637. *Id.* § 540.530.

638. *Id.* § 540.505.

The Oregon Water Code maintains that all water rights are appurtenant, or attached, to the land upon which the water is used.<sup>639</sup> To change the place of use, the point of diversion, or the water's use, a water right holder must file a transfer application with the Department.<sup>640</sup> To create an instream right, the original right must be severed from the land and its place of use changed to its natural streambed.<sup>641</sup>

### 1. Transfers May Not Injure Existing Rights

A transfer, for any purpose, may not injure existing rights unless all affected parties consent to the injury in signed affidavits.<sup>642</sup> Injury occurs when a proposed transfer would result in an existing water right's loss of previously available water to which it is legally entitled.<sup>643</sup> In *Kusyk v. Water Resources Department*, the Oregon Court of Appeals held that the Department has an unambiguous, nondiscretionary statutory duty to make a "no impairment finding."<sup>644</sup> Following this decision, the Department will not approve a transfer unless it can make an affirmative finding of no injury to any existing rights. The Department makes a determination of injury, and upon a protest or at the Director's discretion, the Commission may hold a hearing to determine if the transfer would result in injury.<sup>645</sup> Upon a finding of injury, the Department may still approve the transfer if the applicant agrees to the inclusion of any modifications or conditions that the Department concludes are necessary to resolve any injury issues associated with the transfer.<sup>646</sup>

As an initial matter, it is important to distinguish between water to which a protestant is legally entitled, such as return flow, and water to which the protestant is not legally entitled, such as seepage across the surface to another property or seepage or percolation into the groundwater system. Ultimately, distinguishing between return flow and seepage can be a difficult hydrological undertaking, and some claims of injury likely arise out of this complicated dynamic.<sup>647</sup>

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639. *Id.* § 540.510(1).

640. *Id.* § 540.520(1).

641. Recall the special status allotted conserved water: OR. REV. STAT. §540.510(2) permits severing conserved water from the conserved water program after merely notifying the Department of the transfer or sale according to OR. REV. STAT. § 537.490 (2007); an application need not be filed under OR. REV. STAT. § 540.520. *See id.* § 540.510(6).

642. *Id.* § 540.530(1)(b).

643. OR. ADMIN. R. 690-380-0100(3) (2008).

644. *Kusyk v. Water Res. Dep't*, 994 P.2d 798, 801 (2000); *see* OR. REV. STAT. § 540.530(1)(a) (2007).

645. OR. REV. STAT. § 540.520(7) (2007) (noting that hearings shall be held within the area where the rights are located).

646. OR. REV. STAT. § 540.530(1)(b)-(c); email from Doug Parrow to Adell Amos, Assistant Professor & Dir., Envtl. & Natural Res. L. Program, Univ. of Or. School of Law. (on file with author).

647. For an excellent discussion of the hydrology of return flow see Pilz, *supra* note 617, at 1392-95; *see also* Vaughn v. Kolb, 280 P. 518, 521 (Or. 1929) (distinguishing return flow from seepage).

Return flow is not currently described by statute or regulation, but the definition has developed in the common law. The Oregon courts define “return flow” as “water that returns to the natural course of the stream from which it was taken, after being applied by an appropriator.”<sup>648</sup> By contrast, the courts have defined “seepage” as water that does not return to the original source.<sup>649</sup> Any claim of injury turns on whether an existing water right fails to receive previously available water to which it is legally entitled.<sup>650</sup> Oregon law entitles water users to return flow.<sup>651</sup> Thus, it is critical to determine whether return flow exists, as well as its quantities and timing. At least one commentator asserts that watermasters in Oregon calculate return flow by subtracting consumptive use from the diverted amount, which assumes that any unconsumed quantity returns to the original source.<sup>652</sup> A common situation arises when a senior user operates efficiently and does not use the full duty of his water right. Junior users come to rely on the extra water that the senior left in the system by not diverting. If the senior started using the full duty, the junior would have no claim of injury. But if the senior sought to transfer that full duty instream, the junior would likely raise a claim of injury if it reduced the amount he was previously relying on.

At first glance, it seems difficult to imagine that the transfer of an existing diversionary right to an instream use, which by its very nature is adding water to the stream, could cause injury to a downstream water user. A few scenarios may help illustrate how these claims of injury arise. One scenario involves claims of injury by parties who share an irrigation ditch, and the transfer of one water right to instream flow on the main water source reduces the total amount of water moving down the irrigation ditch. Many commentators refer to this as an impact to “carriage” water, which describes how one water right might carry or shape a quantity of water downstream or down “ditch” so that water physically reaches another point of diversion.<sup>653</sup> The Department has taken the position that the loss of carriage water in a shared ditch will not constitute injury.<sup>654</sup> In this circumstance, the impacts are viewed as the same as the user voluntarily canceling the right.

Another scenario involves injury claims that may arise if upstream senior users who try to satisfy the full transfer of water right to instream flow pass more water downstream than the historical diversion amount. To satisfy the instream flow, the upstream user may have to let more water pass by than the downstream diversionary right required. The Department has taken the position “that there is no injury if the demands on the system of the proposed new use are no greater than could have reasonably occurred under the exist-

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648. Pilz *supra* note 617, at 1392; *see also* Jones v. Warm Springs Irrigation Dist., 91 P.2d 542, 546-48 (Or. 1939).

649. Vaughn, 280 P. at 521; Pilz, *supra* note 617, at 1393.

650. OR. ADMIN. R. 690-380-0100(3) (2008).

651. Vaughn, 280 P. at 522.

652. Pilz, *supra* note 617, at 1394.

653. *Id.* at 1408.

654. Email from Doug Parrow to Debbie Colbert, October 20, 2008.

ing right.”<sup>655</sup> The Department’s analysis turns on this inquiry, not whether the impacts are greater due to the historic use.<sup>656</sup>

According to the Department, the most common injury issue to arise in the context of instream flow involves instream rights that extend further downstream than the original point of diversion. This dynamic occurs when an instream right is used to protect a reach of a stream and the reach extends further downstream than the point at which the original right would have re-entered the watercourse as return flow. In this situation, there may be a junior downstream diverter that will be regulated off if the Department seeks to enforce this instream right though the entire reach. The possibility of regulating this junior right that previously relied on return flow would, according to the Department, likely be viewed as injurious.<sup>657</sup> The next paragraphs describe some specific examples of injury in the context of instream flow transfers.

A dispute that arose in Little Creek, located in the Grand Ronde Basin area of Union County, provides an example of injury claims arising from transfer applications.<sup>658</sup> When the Oregon Water Trust applied to transfer water rights from irrigation to instream use, neighboring water right holders and a ditch improvement district filed a protest claiming that the transfer would injure existing water rights.<sup>659</sup> The protestors held junior water rights and were concerned that the transfer to instream use would result in their junior uses being regulated off during irrigation season to protect the senior downstream instream right.<sup>660</sup> The Department’s Hearing Officer Panel held a contested case hearing in April of 2002, and the panel issued a proposed order in November 2002.<sup>661</sup> The proposed order addressed the protestors’ concerns and the issue of injury in some detail.<sup>662</sup> However, the parties ultimately settled the case, and the Hearing Officer Panel issued a generic final order that left the proposed order’s conclusions only illustrative rather than precedential.<sup>663</sup> Despite the lack of precedent, the proposed order’s issues provide insight into how the Department examines the question of injury.

The proposed order found that the following situations did *not* constitute injury:

- 1) A downstream appropriator’s risk of being regulated off the stream, if the risk was present when the upstream right was fully exercised;

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655. *Id.*; *see also*, Technical Operations Manual, State of Oregon, Water Resources Department, Section 11.01-Water Right Transfer Reviews at 3 (August 15, 2008).

656. Parrow, *supra* note 654; *see also*, Technical Operations Manual at 1 (discussing Oregon as a “face value” state, not a state that bases transfer on the amount that has “historically” been diverted).

657. *Id.*

658. Pilz, *supra* note 617, at 1403.

659. *Id.*

660. *Id.* at 1403.

661. *Id.* at 1403 n.119.

662. *Id.* at 1404-09.

663. *Id.* at 1403 n.123.

- 2) A claim that the transfer included more water than had been historically diverted, provided the holder remained ready, willing, and able to divert the full amount;
- 3) A claim that previously the full amount was not diverted, provided forfeiture does not apply;
- 4) Changes to the shape or timing of the water right provided they are within the scope of the original right;
- 5) Possibility of continued sub-irrigation through wetlands after the transfer of the right;
- 6) Reduction in the efficiency of a shared convergence channel, or so-called "carriage" water.<sup>664</sup>

Furthermore, the Proposed Order indicated that the parties must present evidence of the existence of return flow, not just speculation that it exists.<sup>665</sup>

Another proposed instream transfer, this one in the Walla Walla basin of northeastern Oregon, helps illustrate how return flow affects the injury analysis. In the Walla Walla case, a landowner who irrigated one hundred acres of land adjacent to the Walla Walla River applied to transfer the water right for nineteen of those acres to an instream use.<sup>666</sup> After receiving the application, the Department consulted with the local watermaster, who calculated the nineteen acres' consumptive water use based on the irrigated crop's transpiration rate.<sup>667</sup> That calculation assumed that all water the crops did not directly use made its way back to the river as return flow and was thus available for downstream users.<sup>668</sup> The Department subsequently limited the amount of water available for instream transfer based on those calculations.<sup>669</sup> The Oregon Water Trust and landowner disagreed with the Department's calculations, and a dispute arose over how to calculate and measure the amount of water available for return flow.<sup>670</sup>

The Walla Walla dispute illustrates three dynamics regarding calculation of return flow. First, when an instream injury analysis calls for determining return flow, the calculation should include the timing of the return.<sup>671</sup> Hydrology and topography impact how long it takes for irrigation water to return to the source. Thus, depending on the hydrology and topography of the area, the irrigation season may end before return flow makes it back to the source, thus impacting the injury analysis.<sup>672</sup> Second, the return flow may also be related to the length of the irrigation season.<sup>673</sup> For example, a claim of injury may not be valid if the lack of return flow occurs outside the estab-

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664. *Id.* at 1405-08.

665. *Id.* at 1412.

666. *Id.* at 1409.

667. *Id.*

668. *Id.*

669. *Id.*

670. *Id.* at 1410.

671. *Id.* at 1412.

672. *Id.*

673. *See id.*

lished irrigation season. These examples leave open the question of whether the analysis of return flow is the same for all water rights or different where an instream right is at stake.

Another dynamic that arises in the transfer process involves challenges to water rights to be transferred to instream flow. Opponents of the instream transfer may allege partial or complete forfeiture of the original right. Often such claims focus on whether the permit holder was ready, willing, and able to put the water to beneficial use. If successful, such a challenge may reduce the quantity of water available for the instream transfer.<sup>674</sup>

Enlargement is a form of injury resulting from a transfer whereby the transfer effectively expands the water right.<sup>675</sup> Examples of enlargement include, but are not limited to: using a greater rate or duty of water per acre than a right currently allows; increasing the acreage that a user irrigates under a right; failing to keep the original place of use from receiving water from the same source; diverting more water at the new point of diversion or appropriation than is legally available to that right at the original point of diversion or appropriation.<sup>676</sup> In some situations upstream juniors could suffer reduction in the diversion in order to let water flow to downward instream flow reach.<sup>677</sup>

In general, enlargement of a water right is not allowed. Issues of enlargement arise when transferring irrigation rights to instream flow, specifically in the method of calculations of the rate and duty of the water right.<sup>678</sup> Open questions remain including: (1) whether the presence of a transfer of the same duty will possibly increase the rate if there is no injury; (2) whether this would constitute enlargement; and (3) is enlargement a derivative of the no-injury rule? The Oregon statutes do not directly address these issues, and the administrative provisions represent the law and policy currently in operation.<sup>679</sup>

## 2. Permanent Instream Water Right Transfers

In addition to the standard transfer requirements, applications for all instream transfers must include information on the public uses for the desired instream right; a description of the time periods of the instream use and quantity of water they seek to transfer to instream use; the location of the proposed instream use, including upstream and downstream reaches or the

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674. *Id.* at 1391.

675. OR. ADMIN. R. 690-380-0100(2) (2008); *see* OR. REV. STAT. § 540.510 (2007).

676. OR. ADMIN. R. 690-380-0100(2) (2008).

677. *See id.*

678. *See* OR. REV. STAT. § 540.510 (2007) (establishing the procedure for determining the amount of a transfer).

679. OR. ADMIN. R. 690-380-3400 (2008); OR. ADMIN. R. 690-380-2250(3) (prohibiting transfer of a supplemental water right or permit if the transfer would result in injury or enlargement).

appropriate lake level; recommendations for conditions such as a measuring and monitoring flow and lake level to ensure no injury to existing rights.<sup>680</sup>

To support the creation of instream flows, Oregon statutes and regulations provide for waivers of some of the above requirements. The Director may assist in describing premises upon the water's use or proposed use. The Director may also waive the requirement altogether for an application for an instream transfer under Oregon Revised Statutes section 537.348; for the completion of a watershed enhancement project under Oregon Revised Statutes section 541.375; or for endorsements by the Department of Fish and Wildlife that create a net benefit for fish and wildlife habitat.<sup>681</sup> Furthermore, the Director can waive the mapping requirements and reduce application fees by \$100 or fifty percent, whichever is greater, when the application seeks to create instream rights.<sup>682</sup>

Once the instream transfer is complete, the Department cancels the original certificate and issues a new certificate in the name of the Department for instream use.<sup>683</sup> At this point the state holds the transferred instream right in trust for the people of Oregon and has the power to enforce its terms.<sup>684</sup>

### 3. Temporary Instream Water Right Transfer—Leasing Instream Water Rights

In addition to permanent transfers, water rights may be leased for instream use through a temporary transfer or lease.<sup>685</sup> Leases may not last longer than five years, though they are infinitely renewable.<sup>686</sup> One of the principal benefits of leasing instream rights is that the user retains the underlying water right, while avoiding any risk of forfeiture because so long as the right holder maintains the original diverting facilities, the leasing of instream rights allows the right holder to remain ready, willing, and able to use the water.<sup>687</sup> Moreover, the Department has taken the position that “the lease of a water right instream does constitute the beneficial use of the right.”<sup>688</sup>

The application process for temporarily leasing instream rights is largely the same as for permanently transferring instream rights. The same waivers

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680. OR. ADMIN. R. 690-077-0070(2)(a)-(f) (2008).

681. *Id.*

682. OR. ADMIN. R. 690-380-3400 (2008); *id.* 690-380-3410.

683. OR. REV. STAT. § 539.140 (2007); *see* Kerivan v. Water Resources Comm'n, 72 P.3d 659, 661 (Or. Ct. App. 2003).

684. OR. REV. STAT. § 537.332(3) (2007) or OR. REV. STAT. §537-341 (both provisions indicate that rights are held in trust; neither mention enforcement).

685. *See id.* § 540.523.

686. *Id.* § 540.523(1).

687. OR. ADMIN. R. 690-380-8002(4) (2008); *see also* Pilz, *supra* note 617, at 1402.

688. OR. ADMIN. R. 690-77-0077(11) and 690-380-8002(4); *see also*, Parrow, *supra* note 654; *see also*, Preliminary Determination, *In the Matter of Instream Transfer Application T-10544 and Mitigation Credit Project MP=113, Descutes County, Findings 19 and 20* (December 9, 2008), available at

[http://apps2.wrd.state.or.us/apps/misc/vault/vault.aspx?Type=TRFolder&folder\\_image\\_id=8668](http://apps2.wrd.state.or.us/apps/misc/vault/vault.aspx?Type=TRFolder&folder_image_id=8668).

apply,<sup>689</sup> as does the requirement for an affirmative finding of no injury.<sup>690</sup> However, there are a few additional requirements an applicant must meet:<sup>691</sup>

- Clearly mark the application as a temporary transfer
- Indicate the duration of the lease (no more than five years)
- Include payment of the appropriate fee pursuant to section 536.050 of the Oregon Code (base fee: \$175)
- Include a map (however, water right examiner need not certify it)
- Provide a description of the use
- Provide evidence that an agreement exists between the parties

Additionally, when evaluating temporary transfer applications, the Department requires a watermaster or other field staff to submit a written assessment affirming that the lease meets all necessary requirements for an instream lease application.<sup>692</sup> In 2007, there were 390 active instream leases, protecting a total of 596 cubic feet per second, statewide.<sup>693</sup>

The Oregon Code also allows for “split-season” leases of instream flow rights.<sup>694</sup> This allows a water user to lease a portion of a given season’s water right to instream flow while still using water for consumptive use for the remainder of the season.<sup>695</sup> By rule, the Department has placed several limitations or conditions on split-season leases. First, the period for the consumptive use and instream use must not be concurrent; second, the number of “splits” per season is limited to one per year, and the Department allows only two existing use periods and one instream period.<sup>696</sup> Third, the Department

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689. *Id.* (“A person who transfers a water right by purchase, lease or gift under this subsection *shall* comply with the requirement for the transfer of a water right under OR. REV. STAT. § 540.505-540.585.”); OR. ADMIN. R. 690-380-3400(1) (2008); *id.* at 690-380-3410(1)(a).

690. OR. REV. STAT. § 540.523(2) (2007).

691. *Id.* § 540.523 (1)(c); OR. ADMIN. R. 690-380-8004(1) (2008). The requirements for split season leasing are very similar and may be found under OR. ADMIN. R. 690-077-0079. Note, however, that the split leasing provision is set to expire on January 2, 2008.

692. OR. ADMIN. R. 690-077-0077(2) (2008). *Id.* 690-077-0076(3) lists the necessary requirements.

693. Email from Bob Rice, Field Services Division, Oregon Water Resources Department to Adell Amos, Assistant Professor & Dir., Envtl. & Natural Res. L. Program, Univ. of Or. School of Law (March 4, 2008) (on file with author).

694. OR. REV. STAT. § 537.348(3) (2007).

695. *Id.* § 537.348(3).

696. OR. ADMIN. R. 690-007-0079(2) (2008); *see also* Pilz, *supra* note 617, at 1388 n.22. The user must prove that non-instream flow use did not exceed the full quantity of the right by measuring and reporting consumptive use. Interview with David Pilz (March 26, 2008). It then becomes the Department’s responsibility to measure and enforce the instream portion of the right. OR. REV. STAT. § 537.332(3) (2007). The Department is mainly concerned that the user does not exceed the full quantity (or duty) during the non-instream period because the Department wants to avoid enlargement of the water right. Usually the non-instream use occurs first, and the remaining amount of water becomes the set quantity for the instream right. Rice, *supra* note 693.

requires that individuals holding a split-season lease must measure and report their non-instream use.<sup>697</sup>

#### D. INJURY TO EXISTING INSTREAM RIGHTS

Once the Department has established an instream flow right, it subjects the right to the same protections against injury as any other right.<sup>698</sup> However, in 2001, the legislature amended the law to allow for Departmental consent to injury of an instream right in some limited circumstances.<sup>699</sup> To exercise this authority, the Department must receive a recommendation from either the ODFW, the DEQ, or Parks and Recreation, and the Water Resources Department may only consent to injuries for a proposed change in point of diversion to an agency-requested instream right and for rights converted from minimum perennial stream flows.<sup>700</sup> The Department may not consent to injury for any instream rights established by purchase, lease, or gift.<sup>701</sup> Furthermore, the Department acts on a case-by-case basis and will only grant the transfer if it results in a net benefit to the source.<sup>702</sup> If an agency consents to a transfer despite injury to existing instream rights, the consent must be in writing, available to the public, and provide an explanation detailing the extent of the injury to the instream right and the reasons for finding a net beneficial gain.<sup>703</sup> The Department may not consent to injury from transfers of any type for the instream rights resulting from purchase, lease, or gift.<sup>704</sup>

Where new appropriations threaten to injure existing instream rights, the Department follows the same process set out for other rights to determine water availability and injury.<sup>705</sup> Instream rights are protected and enforced like other water rights in the system, and by design enjoy the same legal protection as any other water right.<sup>706</sup>

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697. OR. REV. STAT. § 537.348(3)(b) (2007); OR. ADMIN. R. 690-007-0079(3) (2008); see also Pilz *supra* note 617, at 1388 n.22.

698. OR. REV. STAT. § 537.350(1) (2007).

699. S.B. 870, 71st Leg., Reg. Sess. (Or. 2001) (amending OR. REV. STAT. § 540.530). One motivation behind the 2001 legislation was to assist ODFW initiatives. ODFW was working with water users to modify their diversion structures to make them more fish friendly. During the course of those modifications, ODFW needed to move the points of diversion upstream. However, the Department's position is that on stream reaches with instream rights, moving a point of diversion constitutes injury to those instream rights. Therefore, the Legislature facilitated the ODFW initiatives when it amended the language to allow for consent to injury, thereby making the point of diversion changes possible. Parrow, *supra* note 654.

700. OR. REV. STAT. § 540.530(1)(c) (2007); *id.* § 537.336 (providing authority to these agencies to request instream flow rights).

701. *Id.* § 540.530(1)(c); see also OR. ADMIN. R. 690-380-5030(2) (2008).

702. OR. REV. STAT. § 540.530(1)(c) (2007).

703. *Id.* § 540.530(1)(d)(A)-(C).

704. See *id.* § 540.530(1)(c).

705. BASTASCH, *supra* note 131, at 91.

706. OR. REV. STAT. § 537.350(1) (2007).

## E. ENFORCING INSTREAM WATER RIGHTS

Watermasters enforce Oregon's water laws, including the protection of instream rights.<sup>707</sup> Watermasters must frequently measure and monitor flows in order to effectively enforce water rights, both instream and out. To that end, the Department requires all government entities holding water rights to submit reports detailing the past year's water use at each point of diversion, within fifteen percent accuracy.<sup>708</sup> As the government entity in charge of all 1,500 instream water rights in Oregon, the Department must report on the monthly volume of instream rights.<sup>709</sup> However, the Commission waived the fifteen percent accuracy requirement in 1993 for all instream rights.<sup>710</sup> The Commission cited practical difficulties, most likely attributable to insufficient resources.<sup>711</sup>

Watermasters frequently regulate water users in reaction to complaints by other users not receiving their water.<sup>712</sup> This tendency places instream rights at a disadvantage since the Department itself holds them in trust, and there is no particular outside party, depending on the fulfillment of the right to call and complain.<sup>713</sup> As a result watermasters have little time or incentive to monitor and enforce instream rights.<sup>714</sup> Nonetheless, the Department enforced instream water rights 157 times in 2005.<sup>715</sup> Moreover, when groups like the Oregon Water Trust ("OWT") or the Deschutes River Conservancy ("DRC") acquire water for instream use, especially if there are federal funds involved, they must ensure enforcement.<sup>716</sup> In these situations, OWT and DRC regularly call on the Department to enforce instream rights.<sup>717</sup> The DRC has even paid for automated gauges in order to monitor and ensure that water stays instream.<sup>718</sup> The Department is working to become more proactive in its enforcement, largely by fostering better voluntary regulation among users, which would permit watermasters to better monitor instream rights.<sup>719</sup> Watermasters also regularly assist in negotiating a distribution of water that will allow junior users to divert at least some water, where they

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707. OR. REV. STAT. § 540.045(1)(a)-(d) (2007). It is especially important they protect instream rights, as there is no private party regularly relying on them.

708. OR. ADMIN. R. 690-085-0010(1), (3) (2008).

709. Memorandum from Norris II, *supra* note 553, at 2; BASTASCH, *supra* note 131, at 114. Out of the 1,500 instream water rights, 177 have continuous gaging stations, showing 113 instream water rights were met 80 percent of the time.

710. Memorandum from Norris II, *supra* note 553, at 1.

711. *See id.* at 4.

712. *See* Pilz, *supra* note 617, at 1396.

713. OR. REV. STAT. § 537.341 (2007); *cf.* OR. REV. STAT. § 540.100(1).

714. *See id.* at 1395-96.

715. Paul, *supra* note 363, at Attachment 3.

716. Mary Ann King, *Getting Our Feet Wet: An Introduction to Water Rights*, 28 HARV. ENVTL. L. REV. 495, 520 (2004).

717. *Id.* at 517-18.

718. KAREN LAMSON & JENNIFER SHANNON CLARK, WASCO COUNTY SOIL AND WATER CONSERVATION DISTRICT, WHITE RIVER WATERSHED ASSESSMENT 33 (2004), available at <http://www.wasco.oacd.org/WRAssessment%20Final%20Version.pdf>.

719. *See* Pilz, *supra* note 617, at 1396.

would otherwise be regulated off but, according to the Department, these negotiations do not include changes to established instream flow rights.<sup>720</sup>

In Oregon, only the State can hold and enforce instream flow rights. In fact, the Oregon Code defines instream flow rights specifically as, “a water right held in trust by the Water Resources Department for the benefit of the people of the State of Oregon.”<sup>721</sup> Because the Department holds this right in trust for the public, members of the public can complain and seek legal action against it to prompt enforcement. There is one situation, however, where non-state entities may also be able to enforce instream rights. In the context of the instream leasing program, the administrative regulations provide that “[a] lessee has the same standing as the lessor for all purposes regarding management and enforcement of the instream water right.”<sup>722</sup> In theory, the language of the instream lease regulation equates the lessee to a consumptive water right holder. This appears to be inconsistent with the regulatory scheme where the OWRD holds other instream water rights in trust. The unique nature of the right the instream lessee holds may have significant consequences in terms of administrative and judicial standing as well as in enforcing the right against other water users. Yet, the precise implications remain uncertain.

#### F. THE IMPORTANCE OF MAINTAINING AND ENFORCING INSTREAM WATER RIGHTS

In the face of climate change and potentially competing demands on water resources based on energy and land-use policy, it is more important than ever to maintain and enforce established instream flow rights. Moreover, protecting freshwater ecosystems, wetlands, floodplains and other water-dependent system may provide some of the best protection and resiliency in our natural system.

The Oregon Water Code treats instream rights differently than traditional rights in some significant ways. A number of these differences limit instream water rights despite the legislature’s intent to put instream rights on par with traditional consumptive use water rights.

As an initial matter, the Department still needs to convert remaining minimum perennial stream flows to instream flow rights as the 1987 Act provided. In addition, there are a number of outstanding instream water rights applications by the state agencies, some of which have protests pending that are in need of resolution.

In addition to these procedural issues, there are numerous substantive issues that arise with regard to the instream flow program in Oregon. To begin, traditional water rights easily satisfy the beneficial use requirement for

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720. OR. REV. STAT. § 540.100(1) (2007); *id.* § 540.150; BASTASCH, *supra* note 131, at 152; *see* Pilz, *supra* note 617, at 1396.

721. *Id.*

722. OR. ADMIN. R. 690-077-0077 (12) (2008).

all water rights.<sup>723</sup> In practice, applicants for traditional water rights must subjectively believe that the stated use is of value and is satisfiable with reasonable efficiency.<sup>724</sup> While the instream right program does contain an exclusive list of instream uses that satisfy the beneficial use requirement, in practice the uses are typically one or more of four recognized public uses: (1) recreation, (2) pollution abatement, (3) navigation, or (4) “[c]onservation maintenance, and enhancement of aquatic and fish life, wildlife, fish and wildlife habitat, and any other ecological values.”<sup>725</sup>

During the review process, the Department gives applicants for traditional water rights additional protection, which it does not explicitly afford to instream applicants.<sup>726</sup> When the Department exceeds 180 days from the initial filing to decide on a traditional right or an instream right, the applicant may seek a court order compelling the Department either to issue a final order or to conduct a contested case hearing.<sup>727</sup> When the application is for an “out-of-stream” right, the court must compel the Department to issue the permit unless the Department can establish by affidavit that the new use would result in harm to an existing water right.<sup>728</sup> The statute does not explicitly mention if the court must compel the Department to issue a permit for instream rights.<sup>729</sup>

One limitation on both traditional and instream rights is that transfers may not injure existing water rights.<sup>730</sup> When preparing its preliminary determination, the Department must evaluate whether the proposed transfer will injure existing water rights.<sup>731</sup> As part of this determination, the Department must publish notice of the proposed transfer, and any person may file a protest.<sup>732</sup> If someone does file a protest, or if the Director thinks that a hearing is necessary to determine if the proposal would result in injury, the Department must hold a hearing.<sup>733</sup> If the Department holds a hearing, the applicant must show that the proposed transfer will *not* injure existing water rights, which effectively places the burden of proof on the transfer applicant.<sup>734</sup> This requirement acts as a significant burden to all water right trans-

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723. See Oregon Water Trust, Utilizing Water Law, [http://www.owt.org/water\\_law.html](http://www.owt.org/water_law.html) (last visited Oct. 28, 2008).

724. BASTASCH, *supra* note 131, at 59.

725. OR. REV. STAT. § 537.332(5)(a)-(d) (2007).

726. See, e.g., *id.* § 537.175(4)

727. *Id.* (a court order compelling the Department to act is referred to as a writ of mandamus).

728. *Id.* The statute reads, “[i]f the application is for out-of-stream use, the writ of mandamus shall compel the department to issue a water right.” The argument could be made that while the court has the authority to compel the Department to issue an instream right, it is not bound by statute to do so.

729. *Id.*

730. See OR. ADMIN. R. 690-380-4010(2)(d) (2008).

731. *Id.*

732. OR. REV. STAT. § 540-520(5)-(6) (2007).

733. *Id.* § 540.520(7).

734. *Id.* § 540.530(1)(a) (“If, after hearing or examination, the Water Resources Commission finds that a proposed change can be effected without injury to existing water rights, the commission shall make an order approving the transfer . . .”).

fers because applicants must likely devote additional resources to gathering proof for the hearing, and often, affirmative proof that no injury will occur is elusive.<sup>735</sup> Because not-for-profit non-governmental organizations typically drive instream transfers, rather than the for-profit interests that typically drive traditional transfers, some have criticized this requirement as weighing disproportionately on instream transfers. Participants in the process have also asserted that the Department, in practice, presumes injury and requires an affirmative finding of non-injury in the instream transfer process, but not in the transfer process for consumptive rights—essentially imposing a stricter injury analysis for instream rights than out-of-stream transfers of consumptive rights.<sup>736</sup>

Furthermore, the Department's heavy reliance on formal and informal complaints to local watermasters for enforcement of water rights may impact instream rights.<sup>737</sup> In general, the absence of anyone with an economic interest in seeing the instream right fulfilled, as opposed to individuals or organizations holding water rights, can reduce the effectiveness of this method of enforcement for instream rights. While the Department has been working to increase proactive measures on the part of watermasters as an effort to enhance enforcement of instream rights, it remains underfunded and short-handed.<sup>738</sup> That being said, the emergence of organizations like OWT and DRC create economic interests that seek to enforce instream rights.

Oregon's strict public ownership of instream rights compounds the Department's enforcement shortcoming as it prohibits private parties from directly suing for enforcement of instream rights.<sup>739</sup> Therefore, not only is notice of injury to instream rights relatively rare (157 out of 11,451 total regulatory actions protected instream rights<sup>740</sup>), but also when formal notice does occur, the only public recourse may be to sue the Department as the holder of all instream rights for a court order to compel Departmental action.<sup>741</sup> One solution to this problem may be in the ability of the lessee to manage and enforce temporary leases of instream flow rights but this may be

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735. See *Kusyk v. Water Res. Dep't*, 994 P.2d 798 (2000) (“On remand in a contested case hearing, it is uncertain whether petitioners will be able to provide any additional information on this matter that would allow the department to make a pre-transfer determination in petitioners' favor regarding the transfer request.”).

736. WATER RES. DEP'T, WATER RIGHT TRANSFER SUPPLEMENTAL FORM C (Oct. 13, 2006) available at [http://www1.wrd.state.or.us/pdfs/Supplemental\\_Form\\_C.pdf](http://www1.wrd.state.or.us/pdfs/Supplemental_Form_C.pdf). This assertion is perhaps due in part to the Department's supplemental instream transfer application, which includes “recommendations for conditions on the instream use to avoid taking away or impairing existing water rights.”

737. OR. REV. STAT. §537.332(3) (2007); BASTASCH, *supra* note 131, at 149 (about half of all actions taken by watermasters is a response to a complaint).

738. BASTASCH, *supra* note 131, at 152.

739. OR. REV. STAT. § 537.332(3) (2007); BASTASCH, *supra* note 131, at 157.

740. Paul, *supra* note 363, at Attachment 3. However, the Department indicates that instream rights represent only 4 percent of the total water rights in the state, thus instream rights may be over-represented in the total number of enforcement actions.

741. OR. REV. STAT. § 540.740 (2007).

challenging since the state, through the Department, ultimately manages and regulates the water rights system.

According to the Department, the State of Oregon places high priority of regulating uses based on the need to protect instream flow rights.<sup>742</sup> The State of Oregon sets annual targets for instream regulation.<sup>743</sup> The ratio of streams regulated to protect instream rights to all streams regulated for 2006 was 56 percent. The target ratio for 2006 was 35 percent and increased to 40 percent for 2008 and 2009.<sup>744</sup> The Annual Performance Measures for the Department also lists possibilities for improving regulation of instream rights but does not consider external enforcement mechanisms.<sup>745</sup> This level of instream rights enforcement reflects a commitment to instream flow protection which makes Oregon a leader among the western states.

One commentator has suggested that the Department “may use [forfeiture] to limit landowners’ ability to permanently transfer rights instream at the conclusion of a five-year [instream] lease period.”<sup>746</sup> When the landowner applies for a permanent transfer, the Department may require the landowner to demonstrate that she has used her water for the last five years.<sup>747</sup> The allegation is that the Department seizes on the likelihood that the right holder would not have maintained her diversion facilities during the lease, and therefore will have a relatively weak “ready, willing and able” defense, causing the right holder to lose part of the water right.<sup>748</sup> If this is true, traditional right holders effectively face penalization for supporting instream flow. However, instream rights supposedly have the same legal status as other water rights and fit the definition of beneficial use, although users do not consume them.<sup>749</sup> Therefore, the counterargument to this allegation is that the “forfeiture clock” does not run during the instream lease because the water was being put to beneficial use, and only non-use leads to forfeiture.<sup>750</sup> While theoretically possible, the Department, has not taken this position.<sup>751</sup>

Furthermore, where injury to instream rights results from a change in point of diversion, the Department can often consent to the injury, though only in a very narrow set of circumstances. The instream right must be agency-requested or the result of a converted minimum perennial stream flow.<sup>752</sup> Also, the agency that requested the right must submit a written report to the Department detailing how the injury to the instream right yields a

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742. Email from Debbie Colbert to Leslie Bach, October 21, 2008 (on file with author).

743. WATER RES. DEP’T PERFORMANCE PROGRESS REPORT (APPR) FOR FISCAL YEAR 2006-07 at 9, available at [http://www1.wrd.state.or.us/pdfs/OWRD\\_Annual\\_PM\\_Report\\_2007.pdf](http://www1.wrd.state.or.us/pdfs/OWRD_Annual_PM_Report_2007.pdf).

744. *Id.*; Total regulation may decrease in years of high stream flows, which may account for the large difference between the target and actual ratio of instream regulation in 2006.

745. *Id.*

746. Pilz, *supra* note 617, at 1401.

747. OR. REV. STAT. § 540.520(2)(g) (2007).

748. Pilz, *supra* note 617, at 1401; see OR. REV. STAT. § 540.520(2)(d) (2007); see also *supra* section III.B. (discussing forfeiture and the ready, willing, and able defense).

749. OR. REV. STAT. §§ 537.334, .350(1) (2007).

750. Pilz, *supra* note 617, at 1401-02.

751. Parrow, *supra* note 654.

752. *Id.* § 540.530(1)(c).

net benefit.<sup>753</sup> If the agency's report recommends consenting to the injury, the Department must not only find a net benefit but also provide public notice and allow public commenting on the recommendation.<sup>754</sup> Agency-requested instream rights face limitations in other respects as well: applications for certain other types of use can subordinate them.<sup>755</sup> Specifically, these instream water rights are subject to water permit applications for a multipurpose storage facility, a municipality, or a hydroelectric project—regardless of greater relative seniority within the priority system.<sup>756</sup> For the Department to allow this subordination, it must conduct a review in accordance with the contested case hearing process.<sup>757</sup>

Finally, the water code limits the quantity of water that the Department may legally protect within any given stream,<sup>758</sup> by limiting the quantity of water that may be dedicated to instream rights at any one time.<sup>759</sup> The water code restricts the protected quantity of instream flows to “the minimum quantity necessary to support the public use requested by an agency,” and to the minimum to “maintain water instream for public use.”<sup>760</sup> Through these definitions, the Department has essentially equated the amount necessary for instream purposes with the amount an agency's request of instream rights for a particular purpose, or what the Department determines is appropriate to maintain public use.<sup>761</sup> Further, the regulations prohibit the creation of instream rights that would otherwise, “exceed the amount needed to provide increased public benefits”—commonly referred to as the beneficial use cap.<sup>762</sup>

As a result, the Department measures transferred instream flow rights as a contribution to the level that the agency established, but *not* an addition to the established instream flow right.<sup>763</sup> The volume or number of transferred rights may make this a small distinction currently. But, in the future, transfers may be a more significant avenue for establishing instream flow rights. For stream segments where no agency has established an instream flow right, the amount of instream flow that the Department can protect is not so limited because the Department uses the estimated average natural flow standard. The Department will issue instream flow rights for up to the estimated average natural flow of a particular stream segment.

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753. *Id.* § 540.530(1)(c), (d)(B).

754. *Id.* § 540.530(1)(d).

755. *Id.* § 537.352; *id.* § 540.530(1)(c)(d)(C) (noting that the net benefit report must include an analysis of the cumulative impacts to the instream right).

756. *Id.* § 537.352; *see also id.* § 537.282 (defining municipal applicant).

757. *Id.* § 537.352; *see also id.* § 532.170 (stating review procedures).

758. *Id.* § 537.332(1)-(2); OR. ADMIN. R. 690-077-0015(10)-(11) (2008).

759. OR. REV. STAT. § 537-332(1)-(2) (2007); OR. ADMIN. R. 690-077-0015(4), (10)-(11) (2008).

760. OR. REV. STAT. § 537.332(2)-(3) (2007).

761. *See* OR. REV. STAT. § 537.332(2)-(3) (2007); *see also* OR. ADMIN. R. 690-077-0015(10)-(11) (2008).

762. OR. ADMIN. R. 690-077-0015(11) (2008).

763. *See* OR. REV. STAT. § 537.332(2) (2007); *see also* OR. ADMIN. R. 690-077-0015(10)-(11) (2008).

The regulations reflect the statutory limits on the quantity of water that can be dedicated to instream flow. First, the regulations prohibit the creation of instream rights that would otherwise “exceed the amount needed to provide increased public benefits”—referred to above as the beneficial use cap.<sup>764</sup> Again, the Department likely bases this determination on the quantity of the agency- requested instream rights. Secondly, the administrative regulations permit reducing the protected quantity of instream flow to account for natural losses such as evaporation, seepage, and transpiration.<sup>765</sup> Historically, at least, traditional rights did not experience a similar reduction following a change in point of diversion.<sup>766</sup>

Thirdly, the Department may limit the quantity of water protected by instream rights based on a stream’s Estimated Average Natural Flow (“EANF”).<sup>767</sup> EANF is a calculation of a stream’s historic monthly average flow.<sup>768</sup> Using EANF, the Department can limit instream rights to quantities no greater than the established EANF for a particular stream segment. For example, if a river’s EANF is 5 cfs in July, and 2 cfs in August, then regardless of the combined quantities that the instream rights list, the maximum protected instream flow for the month of July is 5 cfs, and 2 cfs in August.<sup>769</sup> The original reasoning behind this rule was that flows in excess of the natural average could not provide additional public benefits.<sup>770</sup> The Department, however, asserts that for instream rights that are *issued as additive*, the Department will protect the combined quantities of water regardless of whether the quantity is above or below EANF.<sup>771</sup>

The 2005 amendment to the EANF regulations provide an example of a right that can be issued as additive. The Amendment declares that subject to the Director’s discretion, “for instream rights established through instream transfers, leases, or allocations of conserved water, it is presumed that flows that exceed the estimated average natural flow or natural lake levels are significant for the applied public use,” provided the circumstances satisfy two of three criteria.<sup>772</sup>

The first requisite criterion is that “the flow does not exceed the maximum of any instream rights applied for [by the state agencies] for the same reach or portion thereof and for the same public use.”<sup>773</sup> The second criterion requires either: (1) “[f]or the specified time period that flows are requested to exceed the estimated average natural flow or lake level, the stream is in an

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764. OR. ADMIN. R. § 690-077-0015(11) (2008).

765. *Id.* 690-077-0075(2)(c)(B).

766. *Id.* 690-380-2110.

767. *See* Pilz, *supra* note 617, at 1399.

768. *Id.* 690-077-0010(10) (“‘Estimated Average Natural Flow’ means average natural flow estimates derived from watermaster distribution records, Department measurement records and application of appropriate available scientific and hydrologic technology.”).

769. Pilz, *supra* note 617, at 1397-98.

770. *Id.* at 1399.

771. Parrow, *supra* note 654.

772. OR. ADMIN. R. 690-077-0015(5)(a)-(c) (2008).

773. *Id.* 690-077-0015(5)(a).

ODFW flow restoration priority watershed”; or (2) “[t]he stream is listed as water quality limited and DEQ has provided information that demonstrates that increased flows would improve water quality.”<sup>774</sup> The first criterion holds the quantity of protected instream flow to the amount the agency-requested instream rights protect for the same public use.<sup>775</sup> Therefore, if the public use listed on the other instream rights differs from that of the agency-requested instream right, the amount could theoretically exceed the maximum quantity that the agency-requested rights allow. The other criteria each function as absolute barriers—either the stream is located in a priority restoration watershed/water quality limited or it is not.<sup>776</sup> Nonetheless, this amendment renders the EANF limitation inoperative for all applicable streams, leaving the beneficial public use cap as the primary limitation on instream rights. This amendment allows for groups or private individuals to pursue instream transfers above EANF levels if two conditions exist. First, there is no agency instream right already established. And, second, either ODFW has listed the stream in a priority watershed or DEQ has listed the stream as water quality limited.<sup>777</sup>

#### G. CONSERVED WATER PROGRAM: COMBINING WASTE PREVENTION AND INSTREAM FLOW PROTECTION

The state not only has authority to establish instream rights through agency requests and transfers, but also through the Conserved Water Program.<sup>778</sup> Like the transfer mechanism, the conserved water program creates an opportunity to establish instream water rights from pre-existing rights with no loss of priority.<sup>779</sup> The stated goal of the Conserved Water Program is to enhance efficiency and water availability by providing users an incentive to reduce waste.<sup>780</sup> If users participate in the conserved water program, they get to use, as part of a permitted water right, some of the conserved water while the other portion of conserved water is designated as instream flow. The program aims to meet this goal by encouraging and incentivizing more efficient water use, which makes water available to enhance instream flows.<sup>781</sup> When water right holders undertake conservation measures and apply to the program, they must convert a portion of the conserved water into an instream right.<sup>782</sup> In exchange, the Department grants the right holders

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774. *Id.* 690-077-0015(b)-(c).

775. *Id.* 690-077-0015(5)(a).

776. *Id.* 690-077-0015(5)(b)-(c).

777. OR. ADMIN. R. 690-077-0015(5)(b)-(c).

778. The program is codified at OR. REV. STAT. §§ 537.455-.500 (2007). *See* OR. REV. STAT. §537.463 (2008). Statutorily, conservation occurs when users reduce the amount of water they are using by improving the technology or method of diversion or transportation. *See id.* § 537.455(1). For a detailed analysis of Oregon’s conserved water statute, *see generally* AYLWARD, *supra* note 539.

779. OR. REV. STAT. § 537.470(3), (6) (2007)

780. *Id.* § 537.460(2).

781. *Id.*

782. *Id.* § 537.470(3).

greater latitude in how they use the remaining conserved water.<sup>783</sup> Since the 1993 amendment to the statute for the Conserved Water Program through 2007, the Department has received fifty-three applications to allocate conserved water and approved thirty-four; the Department directly denied only one application.<sup>784</sup>

After the user files an application for allocation of conserved water, the state determines the quantity of water conserved and may reduce that quantity to “mitigate the effect of other water rights.” The state then allocates 75 percent to the user and converts the remaining twenty-five percent into an instream right that the state administers.<sup>785</sup> However, if the state or federal government provides more than 25 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.<sup>786</sup> The applicant may also choose to turn over the entire amount of conserved water to the state as an instream right.<sup>787</sup> Furthermore, the Department may determine additional instream flow is not necessary to support established instream purposes, in which case that portion will revert to the public and be made available for future appropriation.<sup>788</sup> A user must file an application for conserved water within five years of the date from which the conservation measures were implemented.<sup>789</sup>

The water right holder may choose the priority date to use the conserved water, which can be either the same as or one minute after the priority date of the original water right.<sup>790</sup> The chosen priority date will apply both to the state’s 25 percent allotment and the user’s 75 percent allotment.<sup>791</sup>

The Conserved Water Program in Oregon has received considerable attention and well-deserved praise for its innovative and incentive-based approach to freshwater conservation.<sup>792</sup> Issues and questions about effectiveness from 1993 to 2007 have been systematically examined for the first time in a recent report to the National Fish and Wildlife Foundation.<sup>793</sup> This conserved water program report finds that the most water has been conserved by piping ditches and other measures to improve the efficiency of irrigation

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783. *See id.*

784. AYLWARD, *supra* note 539, at 11-12. The amendment of this statute in 1993 made it clear that reducing diversions could conserve water and that water conservation was not limited to reductions in consumptive use only. These numbers reflect statistics between 1993 and 2007. OR. REV. STAT. § 537.455 (2007); Honhart, *supra* note 472, at 845-46; *see* BASTASCH, *supra* note 131, at 163.

785. OR. REV. STAT. § 537.470(3) (2007).

786. *Id.* § 537.470(3).

787. *Id.*

788. *Id.*; *see supra* Section IV.F. (discussing agency-requested rights’ impact on the establishment of additional instream rights).

789. OR. REV. STAT. § 537.465(1)(b) (2007).

790. *Id.* § 537.485(1).

791. *Id.* § 537.485(2).

792. *See, e.g.*, Or. Water Res. Dep’t, Stewardship and Conservation Awards, State of Oregon, [www.wrd.state.or.us/OWRD/mgmt\\_awards.shtml](http://www.wrd.state.or.us/OWRD/mgmt_awards.shtml) (last visited Dec. 1, 2008).

793. Bruce Aylward, *Restoring Seepage Loss to Oregon Rivers: A Review of Oregon’s Conserved Water Statute – A Report to the National Fish and Wildlife Foundation*, July 2008.

systems, reviews how return flows and injury to other water rights have been addressed in such cases, and frames a host of issues about the Conserved Water Program for further exploration.<sup>794</sup>

#### H. SCENIC WATERWAYS

The Oregon Department of State Parks and Recreation administers the scenic waterways program created by the legislature through the Scenic Waterways Act of 1970 to protect free-flowing rivers and lakes.<sup>795</sup> The program protects designated free-flowing waterways that “possess outstanding scenic, fish, wildlife, geological, botanical, historic, archaeologic, and outdoor recreation values of present and future benefit to the public.”<sup>796</sup> A scenic waterway designation prohibits construction of dams, reservoirs, or other water impoundment facilities on scenic waterways.<sup>797</sup> The program also prohibits construction of new water diversion facilities unless the Commission finds that the proposed diversion would be consistent with the policies of the scenic waterways program.<sup>798</sup> The program also protects “[r]elated adjacent land,” which extends the borders of a protected waterway for a quarter mile along the banks.<sup>799</sup> Related adjacent lands may not be altered, filled, or have material removed.<sup>800</sup> The scenic waterway program does not affect existing appropriations and uses.<sup>801</sup>

A scenic waterway may achieve its designation through any one of three mechanisms: (1) adoption by the governor, (2) by vote in the legislature, or (3) by public vote through a ballot initiative.<sup>802</sup> Most of Oregon’s scenic waterways were created by ballot initiative.<sup>803</sup> Currently, the scenic waterway program protects nineteen river segments and one lake (Waldo Lake), for an approximate total of 1,100 miles.<sup>804</sup>

#### I. OTHER MECHANISMS FOR ENHANCING INSTREAM FLOW

In recent years various entities have explored alternatives to instream rights for enhancing instream flows, including forbearance agreements, changes to points of diversion, source switching, and voluntary cancellation or diminishment.<sup>805</sup> The Oregon Water Trust has recently used voluntary,

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794. See generally AYLWARD, *supra* note 539 (detailing an analysis of the conserved water program).

795. OR. REV. STAT. § 390.845(1) (2007); OR. ADMIN. R. 736-040-0400(2)(b) (2008) (stating that scenic waterways are individually managed).

796. OR. REV. STAT. § 390.815 (2007).

797. *Id.* § 390.835(1).

798. *Id.* See *infra* section VIII. for a discussion of federal law, particularly that the Federal Wild and Scenic Rivers Act is a separate mechanism that operates differently.

799. OR. REV. STAT. § 390.805(1)(2007); see *id.* § 390.845(3).

800. *Id.* § 390.835(2).

801. *Id.* § 390.835(6)(b).

802. BASTASCH, *supra* note 131, at 237.

803. *Id.*

804. *Id.*; see also OR. REV. STAT. § 390.826.

805. Paulus, *supra* note 627, at 16-17.

short-term agreements to limit legally permitted uses of water that have significant impact.<sup>806</sup> For example, an agreement may compensate a landowner who stops diverting when water levels drop below a certain point. In the Lostine River Basin, near Enterprise, the Oregon Water Trust has used forbearance agreements to keep a target of fifteen cfs instream during Chinook salmon spawning up to the Willowa Mountains.<sup>807</sup> Because these agreements are informal, there is no need for approval by the Department.<sup>808</sup>

Frequently changing a point of diversion from a tributary to the mainstream of a water source will help protect critical habitat for at-risk species.<sup>809</sup> Provided the mainstream has sufficient flow, encouraging a water user to change his point of diversion can have a significant impact.<sup>810</sup> Similarly, switching from a surface water source to a groundwater source may help enhance surface stream flows, but the risks are high since the relationship between surface and groundwater may be less obvious.<sup>811</sup> Decisions regarding these source switches should consider a “thorough knowledge of the hydrology of the system.”<sup>812</sup>

Finally, the Oregon Water Trust has entered into agreements with water users to voluntarily cancel all or a portion of their water rights.<sup>813</sup> Pursuant to section 540.621 of the Oregon Revised Statutes, a permit holder may cancel an existing right, and the water reverts to public ownership and is subject to appropriation again. Because this mechanism does not establish an instream flow right, its effectiveness in enhancing stream flows lies in basins that have been closed to further appropriation or where downstream landowners are not likely to seek new appropriations in the targeted reach.<sup>814</sup>

## V. GROUNDWATER

### A. THE GROUNDWATER RESOURCE

Groundwater provides a valuable water source for many Oregonians and in the face of competing demands for water and largely over-appropriated surface water sources the importance of groundwater to the policy debates is clear. It is the primary source of drinking water in Oregon, with approximately 70 percent of all residents state-wide relying on it for their drinking water.<sup>815</sup> That percentage jumps to 90 percent in rural Oregon.<sup>816</sup> Addition-

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806. *Id.* at 16, 18.

807. *Id.* at 19.

808. *Id.* at 14.

809. *Id.* at 17.

810. *Id.*

811. *Id.*

812. *Id.*

813. *Id.*

814. Paulus, *supra* note 627, at 14.

815. OR. DEP’T OF ENVTL. QUALITY, GROUNDWATER QUALITY IN OREGON: DEQ REPORT TO THE LEGISLATURE 3 (2007), *available at* <http://www.deq.state.or.us/pubs/legislativepubs/GroundwaterQualityLegReport2007.pdf>.

816. *Id.*

ally, 90 percent of Oregon public water supply systems draw their water exclusively from groundwater sources.<sup>817</sup> While groundwater provides its most well-known use as drinking water from wells, it also provides essential water supplies for irrigation, industry, and base flows for most of the state's rivers, lakes, and streams.<sup>818</sup>

Certain regions of the state depend more heavily on groundwater than others. In the Willamette Valley, groundwater accounts for 30 percent of all water withdrawals, while the Columbia Plateau depends on groundwater for 18 percent of its water withdrawals.<sup>819</sup> In the remaining regions of the state, groundwater constitutes approximately 5 percent of total withdrawals.<sup>820</sup> Because the majority of Oregon's rivers are over-appropriated, groundwater satisfies many new water rights.<sup>821</sup>

The Groundwater Act of 1955<sup>822</sup> ("Act") defines groundwater as any water, other than capillary moisture, which lies "beneath the surface of the land or beneath the bed of a stream, lake, reservoir, or other body of surface water" within the state boundaries.<sup>823</sup> Groundwater may be present in any geologic formation or structure in which the water "stands, flows, percolates, or otherwise moves."<sup>824</sup> The Act declares that the public (by way of state control) has the right to control all sources of water supply within the state, including groundwater, and sets forth the following policies to preserve public welfare, safety, and health:

- *Permit System*: A permit and registration system governs groundwater appropriation within the state.<sup>825</sup>
- *Priority*: The state will acknowledge and protect appropriative groundwater rights and their priority dates, except when "public welfare, safety, and health require otherwise."<sup>826</sup>
- *Beneficial Use*: Beneficial use, without waste, is the "basis, measure, and extent of the right to appropriate groundwater."<sup>827</sup>
- *Public Records*: All appropriative groundwater claims will be a matter of public record.<sup>828</sup>
- *Conservation*: Permitting must assure adequate and safe supplies of groundwater for human consumption, and must conserve maximum supplies of groundwater for beneficial uses such as "agricultural,

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817. *Id.*

818. *Id.* at 3-4.

819. OR. PROGRESS BOARD, OR. STATE OF THE ENV'T REPORT ch. 3, at 14 (2000), available at [http://www.oregon.gov/DAS/OPB/docs/SOER2000/Ch3\\_1a.pdf](http://www.oregon.gov/DAS/OPB/docs/SOER2000/Ch3_1a.pdf).

820. *Id.*

821. *See id.* at 2.

822. The Groundwater Act is codified at OR. REV. STAT. §§ 537.505-.795, .992 (2007).

823. OR. REV. STAT. § 537.515(5) (2007).

824. *Id.*

825. *Id.* § 537.525(1).

826. *Id.* § 537.525(2).

827. *Id.* § 537.525(3).

828. *Id.* § 537.525(4).

commercial, industrial, thermal, recreational, and other beneficial uses.”<sup>829</sup>

- *Sources*: The state is to determine the “location, extent, capacity, quality, and other characteristics of particular sources of groundwater.”<sup>830</sup>
- *Stability*: The state is to determine and maintain reasonably stable groundwater levels.<sup>831</sup>
- *Prevent Depletion*: The state is to prevent or control, within practicable limits, the “depletion of groundwater supplies below economic levels,” pollution that impairs the natural quality of groundwater, and practices that waste groundwater.<sup>832</sup>
- The Water Resources Commission may, under the state police power, control the use of groundwater resources within the state.<sup>833</sup>
- *State Control Over Wells*: The state controls the “location, construction, depth, capacity, yield and other characteristics of groundwater wells.”<sup>834</sup>
- *Prevent Contamination*: All activities in the state that affect groundwater quality or quantity must be consistent with the State’s goal of preventing groundwater contamination.<sup>835</sup>

## B. EXEMPTIONS

The Groundwater Act sets forth fairly stringent criteria for acquiring groundwater rights, but exempts broad categories of uses from permitting.<sup>836</sup> There are no permit or registration requirements for the following uses, which leads to the term “exempt wells:”

- (1) Stockwatering;<sup>837</sup>
- (2) Watering a lawn or noncommercial garden less than one-half acre;<sup>838</sup>
- (3) Watering school grounds less than ten acres if the school is located within a critical groundwater area;<sup>839</sup>
- (4) Single or group domestic wells pumping less than 15,000 gallons per day;<sup>840</sup>

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829. *Id.* § 537.525(5).

830. *Id.* § 537.525(6).

831. *Id.* § 537.525(7).

832. *Id.* § 537.525(8).

833. *Id.* § 537.525(9).

834. *Id.* § 537.525(10).

835. *Id.* § 537.525(11).

836. *See generally id.* § 537.525. As discussed in more detail in section 5.4, the Commission has the statutory authority to classify or withdraw groundwater to preclude future exempt uses, see, OR. REV. STAT. § 536.340(3). Attempts to use this authority have been extremely controversial as discussed below.

837. *Id.* § 537.545(1)(a).

838. *Id.* § 537.545(1)(b).

839. *Id.* § 537.545(1)(c).

840. *Id.* § 537.545(1)(d).

- (5) Down-hole heat exchange purposes;<sup>841</sup>
- (6) A single industrial or commercial purpose requiring less than 5,000 gallons per day;<sup>842</sup> or
- (7) Re-using certain groundwater for land application.<sup>843</sup>

The exemption for domestic wells that pump less than 15,000 gallons per day, “exempt wells,” is a particularly controversial exemption. Critics say it provides a loophole that encourages rural development and allows individuals to draw down groundwater supplies without any checks.<sup>844</sup> Exempt domestic wells are located mostly in rural housing developments, which municipal water suppliers do not serve.<sup>845</sup> Local government controls rural housing development,<sup>846</sup> but due to limited groundwater data and staff expertise, local government usually assumes groundwater is available if the Water Resources Department fails to formally restrict water development.<sup>847</sup> This assumption worries some commentators who observe the disconnect between land use planning and water resources management in the state.<sup>848</sup> When county planners review proposed land use permits, they tend to address water availability concerns by deferring to the Water Resources Department.<sup>849</sup> In turn, the Department’s limited resources restrict its review to determining whether or not a legal right to use water exists.<sup>850</sup> This bifurcation creates the possibility that the basin’s long-term water supply and the new use’s net effect on water supply will fall through the cracks.<sup>851</sup> These concerns create a particu-

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841. *Id.* § 537.545(1)(e).

842. *Id.* § 537.545(1)(f).

843. *Id.* § 537.545(1)(g).

844. *See, e.g.*, Russell Sadler, *Oregon’s Future Dependent on Water*, Op.-Ed., MAIL TRIBUNE (Medford, Or.), Mar. 18, 2007, available at <http://www.mailtribune.com/apps/pbcs.dll/article?AID=/20070318/OPINION/70405007>; *see also* Robert Glennon, *High and Dry in the West: The Failure to Integrate Management of Ground- and Surface-Water Resources*, SW. HYDROLOGY, July-Aug. 2003, at 12, 13, available at [http://www.swhydro.arizona.edu/archive/V2\\_N4/feature1.pdf](http://www.swhydro.arizona.edu/archive/V2_N4/feature1.pdf).

845. *See also* Glennon, *supra* note 844, at 13.

846. *See* OR. ADMIN. R. § 690-005-0010 (2008) (setting forth regulations for compliance with Statewide Planning Goals and compatibility with Comprehensive Plans).

847. Memorandum from Barry Norris, Administrator, Water Res. Dep’t to Water Res. Comm’n 1 (Oct. 22, 2004), available at

[http://www1.wrd.state.or.us/files/Publications/staff\\_reports](http://www1.wrd.state.or.us/files/Publications/staff_reports) (Click “2004 Oct”, then click “Agenda Item F”) [hereinafter Memorandum from Norris III].

848. *See* Gail Achterman, Oregon State University, *Water Regulation vs. Land Use Planning*, Presentation at the Northwest Water Policy & Law Symposium (Sept. 19, 2006), available at [http://inr.oregonstate.edu/download/NW\\_Water\\_Conference.pdf](http://inr.oregonstate.edu/download/NW_Water_Conference.pdf). (“The bottom line is that in Oregon we have two separate planning systems that relate to one another on paper, but often fail to connect in practice . . .”).

849. TAMRA MABBOTT, WATER, UMATILLA COUNTY PLANNING DIR., PAPER OR PLANNING? 1 (2006), available at

[http://www.co.benton.or.us/boc/water/documents/mabbott\\_water\\_planning.pdf](http://www.co.benton.or.us/boc/water/documents/mabbott_water_planning.pdf); Letter from Michael F. Ladd, Reg’l Manager, Or. Water Res. Dep’t, to Tamra Mabbott, Umatilla County Planning Dir. (Dec. 1, 2006), available at [http://centralpt.com/upload/301/1996\\_hsb82waterresourcesletter.pdf](http://centralpt.com/upload/301/1996_hsb82waterresourcesletter.pdf).at 2.

850. *Id.* at 3.

851. *Id.*

lar tension for proposed land uses that rely on exempt wells. Because county planning commissions defer to the Department and the Department does not have authority to restrict exempt wells, there is a concern that neither the land-use planning nor water resources-management side of the equation adequately addresses groundwater availability.<sup>852</sup>

The exemption for industrial and commercial use is equally controversial for many of the same reasons. As demand for water outstrips availability, these types of exempt uses will likely receive increased scrutiny and attention.

Many western states have similar exemptions, which are rooted in the historical policy judgment that it is cumbersome to require small groundwater users to obtain a water right and permit.<sup>853</sup> State legislatures hold the view that exempt domestic uses are minor compared with the large amounts of water irrigation uses and that the overall domestic consumption is relatively small; in fact, exempt wells can have a profound impact in the aggregate and in specific, concentrated locations.<sup>854</sup> The Water Resources Department estimates that there are approximately 230,000 exempt wells throughout Oregon.<sup>855</sup> If each well withdraws its full 15,000 gallons per day, the exempt wells alone have the potential to withdraw approximately 3.5 billion gallons of groundwater per day.

Exempt wells affect both ground and surface water resources. There are no restrictions on exempt wells that are hydraulically connected to surface water, so exempt wells can and do directly affect surface water flows.<sup>856</sup> Additionally, the Department allows exempt wells in groundwater restricted areas, which the Department creates in reaction to groundwater shortages. Oregon recognizes two types of groundwater restricted areas: Critical Groundwater Areas and Groundwater Limited Areas. Critical Groundwater Areas may restrict current and future water permits, while Groundwater Limited Areas limit future permits to certain specified uses.<sup>857</sup> Exempt wells are restricted in only one of Oregon's seven Critical Groundwater Areas, and in none of the state's Groundwater Limited Areas.<sup>858</sup> In these restricted areas, as in all other areas of the state, exempt wells essentially enjoy an enforceable priority date relating back to when the well began pumping water.<sup>859</sup> If it becomes necessary for the Department to regulate groundwater

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852. *See id.*

853. *See* Glennon, *supra* note 844, at 13.

854. *See id.*

855. Sadler, *supra* note 844.

856. *See* TROUT UNLIMITED'S WESTERN WATER PROJECT, GONE TO THE WELL ONCE TOO OFTEN: THE IMPORTANCE OF GROUNDWATER RIVERS IN THE WEST 14 (2007), available at [http://www.tu.org/atf/cf/%7B0D18ECB7-7347-445B-A38E-65B282BBBD8A%7D/ground%20water%20ed\\_lores.pdf](http://www.tu.org/atf/cf/%7B0D18ECB7-7347-445B-A38E-65B282BBBD8A%7D/ground%20water%20ed_lores.pdf).

857. *Id.*; *see also infra* section V.E. for further discussion of groundwater restricted areas.

858. *See* Memorandum from Norris III, *supra* note 844, at 2.

859. OR. REV. STAT. § 537.545(3) (2007).

use, it can use that priority date to regulate and protect exempt uses along with permitted uses.<sup>860</sup>

### 1. Legislative Attempts to Reduce Exemption

Throughout the years, there have been various legislative attempts to reduce the exemption. House Bill 2566, which the Committee on Energy and the Environment introduced before the 2007 House, is the most recent.<sup>861</sup> The bill attempted to close some of the perceived loopholes by lowering the volume allowance for single domestic purposes from 15,000 gallons per day to 5,000 gallons per day, and authorizing the Commission to pass rules requiring permits for exempt groundwater uses in Groundwater Limited Areas and Critical Groundwater Areas.<sup>862</sup>

The bill failed, as did several previous bills attempting to limit well withdrawals to 5,000,<sup>863</sup> and even 500,<sup>864</sup> gallons per day. Other failed bills proposed eliminating exemptions altogether and requiring all groundwater users to file for a permit.<sup>865</sup>

### C. CONJUNCTIVE MANAGEMENT

One of the Department's guiding groundwater principles states that it shall conjunctively manage ground and surface water where conjunctive management will protect "water resources, existing water rights, and the public interest."<sup>866</sup> The Water Resources Department determines whether wells have the potential to cause substantial interference with surface water supplies and, if so, will conjunctively manage the ground and surface water to control the interference.<sup>867</sup> The potential for substantial interference occurs when groundwater pumping lowers surface water flows and thus impairs surface appropriation.<sup>868</sup> Oregon Administrative Rule 690, Division 9

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860. *Id.*

861. In its final version, the bill proposed to: (1) lower the volume allowance for single domestic purposes from 15,000 gpd to 5,000 gpd; (2) establish a \$250 fee recording fee for certain exempt uses and directed that state earmark revenues for groundwater studies and monitoring; (3) authorize the Commission to pass rules requiring permits for exempt groundwater uses in Groundwater Limited Areas and Groundwater Critical Areas; and (4) create a Task Force on Exempt Uses to identify basins and sub-basins where groundwater management problems exist, study whether restrictions on exempt wells or additional groundwater measurements would improve identified groundwater management problems, identify financial resources to study groundwater resources, and review laws that regulate Oregon water use. H.B. 2566, 74th Leg., Reg. Sess. (Or. 2007).

862. *See id.*

863. H.B. 3481, 69th Legis., 69th Sess. (Or. 1997).

864. H.B. 2395, 68th Legis., 68th Sess. (Or. 1995).

865. H.B. 3421, 70th Legis., 70th Sess. (Or. 1999); H.B. 3622, 71st Legis., 71st Sess. (Or. 2001).

866. OR. ADMIN. R. 690-410-0010(2)(a) (2008).

867. *Id.* 690-009-0050. For a detailed look at the issue of conjunctive management in Oregon the Deschutes Groundwater Mitigation Program is a fascinating and informative case study.

868. *See id.* 690-009-0040.

establishes the criteria for determining connectivity between all groundwater appropriations (except the exempt uses discussed above) and surface water sources.<sup>869</sup> These criteria are often referred to as “Division 9 Rules,” for their place in the Oregon Administrative Rules.<sup>870</sup>

Determining whether the groundwater source—usually a well—is hydraulically connected<sup>871</sup> to the surface water source provides the baseline trigger for conjunctive management.<sup>872</sup> The particular well’s Water Well Report serves as the basis for the determination,<sup>873</sup> except in situations where no report is available or if the well is located within one-fourth of a mile of an unconfined aquifer.<sup>874</sup> If no report is available, the Department will use the “best information available” to determine hydraulic connectivity.<sup>875</sup> If the well is located within one-fourth of a horizontal mile of “a surface water source that produce[s] water from an unconfined aquifer,” the Department will assume that the well and surface water source are hydraulically connected “unless the applicant or appropriator provides satisfactory information or demonstration to the contrary.”<sup>876</sup>

If the ground and surface water are not connected, then the Department manages groundwater and surface water separately and, as a result, does not evaluate impacts to surface water when granting groundwater permits.<sup>877</sup> If, however, the Department determines that the ground and surface water are hydraulically connected, the Department assumes that the wells that pump water from that aquifer have the potential to substantially interfere with the surface water source if the appropriation meets any one of the following four conditions:

- (1) The well is horizontally less than one quarter mile from the surface water source,<sup>878</sup> or
- (2) The well’s appropriation/pumping rate is more than five cubic feet per second and the well or other point of appropriation is horizontally less than one mile from the surface water source,<sup>879</sup> or
- (3) “The rate of appropriation is greater than one-percent of the minimum perennial stream flow or instream water right with a senior priority date,” or greater than one percent of the discharge that is

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869. See *id.* 690-009-0010 to -0050.

870. See generally *id.*

871. *Id.* 690-009-0020(6) (“‘Hydraulic connection’ means that water can move between a surface water source and an adjacent aquifer.”).

872. *Id.* 690-009-0040(1).

873. *Id.*

874. *Id.* 690-009-0040(1)-(2).

875. *Id.* 690-009-0040(1) (The best information available “may include other Water Well Reports, topographic maps, hydrogeologic maps or reports, water levels and other pertinent data collected during a field inspection, or any other available, date or information that is appropriate . . .”).

876. *Id.* 690-009-0040(2).

877. *Id.* 690-009-0040(6).

878. *Id.* 690-009-0040(4)(a).

879. *Id.* 690-009-0040(4)(b).

- equaled or exceeded eighty percent of the time, and the well is less than one mile from the surface water source,<sup>880</sup> or
- (4) The appropriation, if continued for thirty days, would deplete the stream by more than twenty-five percent of the rate of appropriation, and the well is less than one mile from the surface water source.<sup>881</sup>

Because the regulations set out specific conditions to determine the potential for substantial interference, Oregon's rule is sometimes referred to as a "bright-line" test.<sup>882</sup> The advantage of a bright-line test is that it is "relatively easy to administer," it "reduces transaction costs," and in the opinion of some, succeeds in covering "most groundwater that is hydrologically connected to surface flows."<sup>883</sup> Other parties disagree with this last assertion and argue that the bright-line test fails to cover an increasingly substantial portion of actual groundwater use. The disadvantage is that it does not account for individual hydrologic variations.<sup>884</sup>

If the above conditions are met and there is a presumption of interference, the Department will conjunctively manage ground and surface waters.<sup>885</sup> As such, the regulations charge the Department with processing groundwater applications according to rules "similar to or compatible with, but not more restrictive than" surface water rules.<sup>886</sup> In theory, this means that the Department will not grant a new groundwater permit if surface water is unavailable. This has resulted in restricting groundwater development in many parts of the state.

The Department must also review existing appropriations on a case-by-case basis if it suspects that the appropriation substantially interferes with a surface water source.<sup>887</sup> If the Department asserts control over the existing appropriation, the imposed controls must be "similar to or compatible with, but not more restrictive than controls on the affected surface water source," and be in accordance with the relative ground and surface water priority dates.<sup>888</sup>

#### D. GROUNDWATER RESTRICTED AREAS

The Commission employs various tools to protect groundwater. If there is an imminent need to act, the Commission may designate a Critical

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880. *Id.* 690-009-0040(4)(c).

881. *Id.* 690-009-0040(4)(d).

882. *See* Glennon, *supra* note 844, at 12.

883. *Id.* However, some disagree with the assertion that the test succeeds in covering most hydraulically connected waters. *See id.* at 13 (acknowledging that in Colorado, a similar system's exceptions are a response to "the political clout of Denver's fastest growing suburbs").

884. *See id.* at 13.

885. OR. ADMIN. R. 690-009-0050 (2008).

886. *Id.* 690-009-0050(2).

887. OR. ADMIN. R. 690-009-0050(1).

888. *Id.* 690-009-0050(2).

Groundwater Area in order to reduce current groundwater withdrawals.<sup>889</sup> Alternatively, it may designate a Groundwater Limited Area in order to limit future groundwater uses.<sup>890</sup> The Commission designates critical and limited areas by rule; it then incorporates the rules into basin programs.<sup>891</sup>

### 1. Critical Groundwater Areas

A Critical Groundwater Area designation connotes that an area's groundwater is already at risk or is likely to be at risk shortly.<sup>892</sup> In essence, it is the Commission's reaction to falling groundwater levels and noticeable interference with other water uses. The Commission may designate an area as a critical groundwater area if:

- The water table is declining or has declined excessively;
- There is a pattern of substantial interference between wells in the area or interference between wells and geothermal resources;
- The wells in the area are interfering with an earlier-priority surface water right or minimum perennial stream flow;
- The available groundwater supply is or will be overdrawn;
- The groundwater is or may reasonably become polluted; or
- Groundwater temperatures are or will be substantially altered.<sup>893</sup>

Establishing a Critical Groundwater Area is an arduous, contentious, and expensive undertaking.<sup>894</sup> The Commission must hold a hearing before designating a Critical Groundwater Area, and water users who resist the designation often attend the hearings. Bastasch has explained that, "when data are sufficient to trigger groundwater controls, the damage has usually already been done and communities are heavily invested in the customary level of (over-) use. . . . the controls are . . . unpopular and fiercely resisted . . . ."<sup>895</sup> The Butter Creek Critical Groundwater Area provides one example of the fierce resistance. The Department designated the area in 1976, but it was not until fourteen years—and a trip to the Oregon Supreme Court—later that controls went into effect.<sup>896</sup> Perhaps for these reasons the Commission has only designated seven Critical Groundwater Areas in the state.<sup>897</sup>

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889. See OR. REV. STAT. § 537.730 (2007).

890. Or. Water Res. Dep't, Water Protections and Restrictions, State of Oregon, available at [http://www.oregon.gov/OWRD/PUBS/aquabook\\_protections.shtml](http://www.oregon.gov/OWRD/PUBS/aquabook_protections.shtml).

891. See OR. REV. STAT. § 537.735 (2007).

892. *Id.* § 537.730(1).

893. *Id.* § 537.730(1)(a)-(g).

894. BASTASCH, *supra* note 131, at 124.

895. *Id.* at 127.

896. *Id.* at 124.

897. Water Protections and Restrictions, *supra* note 890 (listing Oregon's critical groundwater as Cow Valley near Vale; The Dalles in Wasco County; Cooper Mountain-Bull Mountain southwest of Beaverton and Tigard; and the Butter Creek, Ordnance and Stage Gulch areas in Morrow and Umatilla Counties).

Of the state's seven Critical Groundwater Areas, the Umatilla Basin contains four—the Stage Gulch, Butter Creek, Ella, and Ordnanee (divided into Ordnanee Basalt and Ordnanee Gravel) Critical Groundwater Areas.<sup>898</sup> The remaining three Critical Groundwater Areas are Cow Valley near Vale; The Dalles in Wasco County; and Cooper Mountain–Bull Mountain southwest of Beaverton and Tigard.<sup>899</sup>

In a Critical Groundwater Area, the Commission will adopt administrative rules designating the critical groundwater area's boundaries and indicating which reservoirs are included, in whole or in part, in the designation.<sup>900</sup> The rules set forth corrective actions, and may close the area to any new appropriations (i.e. prohibit any new permits), limit the total amount of groundwater that may be withdrawn from a particular groundwater source, and/or may enact any other provision as is necessary to protect the public welfare, health, and safety.<sup>901</sup> After the Commission has held a contested case hearing, it may restrict current groundwater rights.<sup>902</sup> It may do so by apportioning out the total allowable withdrawal amount among existing appropriators;<sup>903</sup> prioritizing certain uses regardless of priority date;<sup>904</sup> reducing the amount a right holder is allowed to withdraw; forbidding a right holder with more than one well from using all of the wells, requiring an owner to seal a well that admits pollutants into the groundwater supply; and/or setting a rotation schedule for groundwater use.<sup>905</sup>

## 2. Groundwater Limited Areas

While both Critical Groundwater Areas and Groundwater Limited Areas are reactionary, Groundwater Limited Areas focus on preventative measures and in these areas, no existing rights are curtailed. The Department classifies Groundwater Limited Areas in basin programs and, through changes in the basin program, limit future permits to a few designated uses.<sup>906</sup> There are

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898. OR. WATER RESOURCES DEP'T, GROUND WATER SUPPLIES IN THE UMATILLA BASIN 2 (2003), available at <http://www1.wrd.state.or.us/pdfs/UmatillaGWkshpRptApril2003.pdf>. In reaction to the Umatilla Basin's declining groundwater, the area's diverse interests (agriculture, business, the Confederated Tribes of the Umatilla Indian Reservation and local governments) have taken the somewhat unusual step of banding together and cooperatively promoting legislation. Dennis Doherty, Letter, *Cooperation Key for Getting Water to Umatilla Basin*, E. OREGONIAN (Feb. 13, 2008) (Dennis Doherty was a Umatilla County Board Commissioner); see also S.B. 1069, 74th Leg., Spec. Sess. (Or. 2008) (directing the Water Resources Department to conduct a regional aquifer recovery assessment for the Umatilla Basin.) (Governor Kulongoski signed SB 1069 on March 3, 2008).

899. Water Protections and Restrictions, *supra* note 890.

900. OR. REV. STAT. § 537.735(1)(a) (2007).

901. *Id.* § 537.735(3).

902. See *id.* § 537.742.

903. *Id.* § 537.742(2)(a) (the apportionment will be based on the groundwater right's priority date).

904. *Id.* § 537.742(2)(b) (residential and livestock watering receive first priority).

905. *Id.* § 537.742(2)(a), (c)-(f).

906. Water Protections and Restrictions, *supra* note 899.

twelve Groundwater Limited Areas in the northern Willamette Valley,<sup>907</sup> and two outside of the Willamette Valley.<sup>908</sup>

#### E. TRANSFERRING GROUNDWATER RIGHTS

The regulations and administrative processes governing groundwater right transfers are largely the same as those governing surface water transfers.<sup>909</sup> The same criteria govern permanent changes to the use; place of use; point of diversion (surface), or point of appropriation (groundwater); and temporary changes to the place of use for surface and ground waters.<sup>910</sup> The regulations set forth additional criteria when a proposal seeks to transfer the point of diversion for a surface water right to a groundwater right point of diversion.<sup>911</sup>

When a surface water right holder proposes to transfer the point of diversion from a surface water source to a groundwater source, the proposal must meet the following criteria in order for the Department to approve the transfer request: (1) the groundwater source must be an unconfined aquifer hydraulically connected to the authorized surface source, (2) the new groundwater withdrawal must affect the surface water source similarly to the original authorized point of diversion, and (3) the new groundwater withdrawal must be within 500 feet of the surface water source.<sup>912</sup> If the surface water source is a stream, the new groundwater withdrawal must be within 1,000 feet of the original point of diversion, unless the applicant provides evidence from a licensed geologist that: (1) the groundwater withdrawal will be from an unconfined aquifer that is hydraulically connected to the surface water, (2) the original water right will not be enlarged and the transfer will not injure other water right holders, and (3) the new withdrawal will similarly affect the surface water.<sup>913</sup>

#### F. THE FUTURE OF GROUNDWATER POLICY

Three major areas of concern emerge when reviewing Oregon's groundwater law, or any western states' groundwater law. Because concern over

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907. *Id.* The Willamette Valley limited areas are located in the following approximate areas: Sandy-Boring, Damascus, Glad Tidings, Kingston, Mt. Angel, Sherwood-Damascus-Wilsonville, Stayton-Sublimity, Parrett Mountain, Chehalem Mountain, Eola Hills, South Salem Hills, and Amity Hills-Walnut Hill. The Willamette and Sandy Basin programs list the limitations.

908. *Id.* The two limited areas outside of the Willamette Valley are located in Fort Rock and Ella Butte.

909. *See generally* OR. REV. STAT. § 540.505-.587 (2007) (change in use and transfer of water rights); OR. ADMIN. R. 690-077-0000 to -0100 (2008) (instream water rights); *id.* 690-380-0010 to -9000 (water right transfers).

910. OR. ADMIN. R. 690-380-0010(1).

911. *See id.* 690-380-2130 (2008).

912. *Id.* 690-380-2130(2)(a)-(d).

913. *Id.* 690-380-2130(2); *see* OR. WATER RES. DEP'T, CRITERIA FOR EVALUATING TRANSFER APPLICATIONS, <http://www1.wrd.state.or.us/pdfs/transfercriteriareview.pdf> (last visited Oct. 11, 2008).

groundwater depletions is a relatively new phenomenon in western water law, many state codes need updating to address contemporary issues. First, with increased demand on water supplies, the continued reliance on exempt wells seems misplaced. As with any expansion in permit programs, efforts to eliminate exempt wells will be costly, but increased pressure on freshwater supplies may council in favor of an investment of resources. In Oregon, particularly as rural development increases and residential communities are developed, the impact of the exempt well provisions will be greater. This dynamic re-emphasizes the importance of connecting land use planning with water resource planning generally, but particularly groundwater because many see it as the most available new source of water.

Second, although the freshwater conservation community should commend Oregon as one of the first western states to recognize a relationship between ground and surface water, the conjunctive management system is reactive rather than predictive or proactive. Currently, the state will conjunctively manage surface and groundwater rights once interference has been shown, unless special groundwater districts have been designated. As a result, conjunctive management reacts to existing interference and may emerge relatively late in the process as a management tool. Further studies could gather more information on the Department's use of its authority to review existing appropriations of groundwater when there is demonstrated surface water interference. This information would help policymakers better understand the dynamics of conjunctive management in Oregon. Finally, any policy analysis should account for the fact that often groundwater pumping impacts on surface water supplies are delayed. Thus, by the time users detect impacts to one source, the cessation of pumping may not immediately solve the problem. A lag time between withdraw and affect make effective conjunctive management extremely challenging.

Third, Oregon does have significant tools for dealing with critical groundwater areas. The only impediment is the lengthy administrative process needed to take advantage of their provisions. In the areas where the Department has employed these designations, the process has been controversial and time-consuming.

Finally, on a broader note, the role of scientific data, or the lack of it, in the area of groundwater management is an important consideration. Currently, scientific data on groundwater availability is limited. In light of the 1955 Groundwater Act's call to prevent depletion, this lack of data makes the question of whether there is water available to appropriate quite challenging. Given the lack of data, there is concern that insufficient analysis goes into groundwater appropriation decisions.

## VI. WATER MANAGEMENT AND PLANNING MECHANISMS

One of the most significant challenges for any state government in the face of policy choices regarding climate and/or energy policy is the lack of overall comprehensive planning with regard to water resources. Focusing on planning and freshwater conservation will provide some of the greatest opportunities to address water supply and demand issues. In Oregon, the

Commission and Department generate and enforce the laws and administrative rules governing water,<sup>914</sup> yet their authority interacts with other organizations and management boards. In terms of water management and planning within the state, three primary mechanisms exist: (1) Commission-established basin management programs;<sup>915</sup> (2) a Watershed Enhancement Board that provides money to improve state watersheds;<sup>916</sup> and (3) water user organizations.<sup>917</sup> The interrelationship between these programs dictates how agencies physically manage water within the state and provides opportunities for comprehensive watershed planning.

#### A. BASIN MANAGEMENT PROGRAMS

Basin management programs are administrative rules establishing water management policies and objectives for individual basins.<sup>918</sup> Each program's rules govern the appropriation and use of the surface and groundwater within the state's major river basins.<sup>919</sup> These programs supplement the statewide rules governing water use and allocation by determining and controlling what uses can be made of water in a particular basin.<sup>920</sup> The administrative rules classify water use into eleven categories; the individual basin programs specify which categories the Department may issue new water rights for in each basin.<sup>921</sup> The basin programs may also withdraw surface and groundwater from further appropriation, reserve waters for specified future uses, and establish minimum perennial stream flows.<sup>922</sup> The Commission must adopt or amend basin programs through a public process.<sup>923</sup>

Basin programs are based on hydrogeography. For purposes of the programs, a basin includes "all the land area, surface water bodies, aquifers, and tributary streams that drain into the major namesake river."<sup>924</sup> Out of the

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914. See Or. State Archives, Water Res. Dep't Records Guide: Agency History—Current Organizations, <http://www.sos.state.or.us/archives/state/water/hist/histcurr.htm> (last visited Oct. 12, 2008).

915. OR. REV. STAT. §§ 536.300(2)-(3) (2007); OR. ADMIN. R. 690-500-0010 to -521-0600 (2008).

916. OR. REV. STAT. §§ 541.351–.420 (2007).

917. OR. REV. STAT. §§ 545.001–554.590 (2007).

918. OR. ADMIN. R. 690-500-0010(2) (2008). Statutory law divides the twenty drainage basins in the state into five regional river management basins. See OR. REV. STAT. § 536.022(3) (2007). These basins represent the area over which an individual Commissioner has responsibility. See *id.* § 536.022(1).

919. OR. ADMIN. R. 690-500-0010(2) (2008).

920. See *id.*

921. *Id.* 690-500-0200 (The eleven categories of water use are domestic, fish culture or fish life, industrial, irrigation, livestock, mining, municipal, pollution abatement, power or power development, recreation, or wildlife use.).

922. *Id.* 690-500-0010(2).

923. OR. REV. STAT. § 536.300(3) (2007) ("The commission may adopt or amend a basin program only after holding at least one public hearing in the affected river basin."); *id.* § 536.025 (the Commission may delegate the authority to conduct a public hearing to the Director, but the Director may not actually adopt or amend a basin program, the Commission must take this action).

924. Water Protections and Restrictions, *supra* note 890.

twenty basins in Oregon, the Commission has enacted management programs for eighteen.<sup>925</sup> Most recently, the Commission amended the Mid-Coast Basin Plan and the amended version took effect on January 5, 2007.<sup>926</sup> Outside of this amendment, there has been no comprehensive, wholesale planning in Oregon for well over a decade. The two basins for which the Commission has not adopted basin programs are the Klamath and Malheur Lake basins.<sup>927</sup> In the Klamath basin, the general state water code and Klamath Compact, an interstate compact between Oregon and California, govern water allocation.<sup>928</sup> The Klamath Basin is currently undergoing a general stream adjudication to determine water rights in the Basin.<sup>929</sup> In the Malheur Lake basin, waters are likewise subject to statewide policy, with the exception of specific streams in the basin for which the Commission has adopted minimum perennial stream flows outside of the basin program process.<sup>930</sup>

If a water right applicant wishes to appropriate water for a use that the basin program does not recognize, the applicant may submit a petition for an exception.<sup>931</sup> The Department, and then the Commission, will review petitions and consider possible exceptions on a case-by-case basis.<sup>932</sup>

To request an exception, the applicant must first file an application with the Director.<sup>933</sup> The application must include a letter to the Director showing (1) the water will only be appropriated for a short duration each year, or will not be appropriated continuously for more than five years; and (2) that the use is unusual, not likely to recur in the basin, and that the Commission like-

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925. OR. ADMIN. R. 690-500-0010(3) (2008); *see id.* 690-501-0005 to -0040 (North Coast Basin Program); *id.* 690-502-0010 to -0260 (Willamette Basin Program); *id.* 690-503-0010 to -0060 (Sandy Basin Program); *id.* 690-504-0000 to -0160 (Hood Basin Program); *id.* 690-505-0000 to -0630 (Deschutes Basin Program); *id.* 690-506-0010 to -0080 (John Day Basin Program); *id.* 690-507-0010 to -0840 (Umatilla Basin Program); *id.* 690-508-0000 to -0120 (Grande Ronde Basin Program); *id.* 690-509-0000 to -0160 (Powder Basin Program); *id.* 690-510-0000 to -0110 (Malheur Basin Program); *id.* 690-511-0010 to -0110 (Owyhee Basin Program); *id.* 690-513-0010 to -0060 (Goose and Summer Lakes Basin Program); *id.* 690-515-0000 to -0060 (Rogue Basin Program); *id.* 690-516-0005 to -0040 (Umpqua Basin Program); *id.* 690-517-0000 to -0050 (South Coast Basin Program); *id.* 690-518-0010 to -0060 (Mid Coast Basin Program); *id.* 690-519-0000 to -0050 (Columbia River Basin Program); *id.* 690-520-0000 (Middle Snake River Basin Program).

926. *Id.* 690-518-0010 to -0060 (2008).

927. Water Protections and Restrictions, *supra* note 890.

928. OR. ADMIN. R. 690-500-0010(5) (2008); OR. REV. STAT. §§ 542.610-.620 (2007).

929. Or. Water Res. Dep't, Klamath Basin Adjudication/ADR, <http://www.wrd.state.or.us/OWRD/ADJ/index.shtml> (last visited Oct. 9, 2008); *see also* OR. REV. STAT. § 539.005 (2007) (providing process for general stream adjudications in Oregon).

930. OR. ADMIN. R. 690-500-0010(4) (2008); *see also* OR. REV. STAT. § 536.235 (2007) (designating priority of minimum perennial streamflows); OR. ADMIN. R. 690.500.0010(2) (2008) (describing the administrative nature of basin programs); BASTACH, *supra* note 131, at 112 (While the Department still has the authority to create minimum instream flows, their status as regulations makes them susceptible to exceptions and amendments, whereas instream water rights are permanent and of equal status as regular water rights.).

931. *See* OR. REV. STAT. § 536.295(1) (2007).

932. *See id.* § 536.295(5).

933. *See* OR. ADMIN. R. 690-082-0030(1) (2008).

ly did not consider the use when setting the basin program.<sup>934</sup> After receiving this information, the Director notifies the Commission if the Department proposes to accept the application.<sup>935</sup>

When considering the application, the Department will evaluate seven criteria to determine if the proposed use: (1) is for a short duration; (2) is for a continuous period no longer than five years; (3) is largely non-consumptive in nature; (4) is necessary to ensure public health; (5) is necessary to avoid extreme hardship; (6) will provide a public benefit such as a riparian or watershed improvement; or (7) is of an unusual nature not likely to recur in the basin, or unlikely to have been considered by the commission when it decided the previous uses.<sup>936</sup> If the use meets one or more of these criteria, the Commission must also evaluate whether the use is consistent with the general policies of the applicable basin program.<sup>937</sup> The Commission must affirmatively grant the exception and then the applicant must go through the regular permitting process.<sup>938</sup> This includes determining if the proposed use would result in an injury to an existing right.<sup>939</sup>

The basin management process occurs outside of the state land use planning system. Oregon's land use and water management system, like many in the United States, are not integrated.<sup>940</sup> While the basin management programs derive from administrative rules establishing water management policies in individual basins, there are no overarching administrative rules that consider statewide water management in conjunction with land use planning. This dynamic raises concern that no state agency analyzes particular land use permit applications for cumulative impacts on the water resources of the state.<sup>941</sup> These cumulative impacts have the potential to affect a basin's sustainability and undermine the basin water management programs.

## B. OREGON WATERSHED ENHANCEMENT BOARD

The Oregon Watershed Enhancement Board ("OWEB"), an interagency and citizen group created by the legislature in 1999, provides grants to re-

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934. *Id.* 690-082-0030(1).

935. *Id.* 690-082-0040.

936. OR. REV. STAT. § 536.295(1)(a)–(g) (2007); *see also id.* § 536.295(1)(g)(A)–(D) (unusual water uses include, but are not limited to, exploratory thermal drilling, heat exchange, maintaining water levels in a sewage lagoon, or facilitating the watering of livestock away from a river or stream).

937. *See id.* § 536.295(4).

938. *Id.* § 536.295(5) (2007).

939. *Id.*

940. *See* MABBOTT, *supra* note 849, at 2.; *see generally* North Coast IRWMP, North Coast Integrated Regional Water Management Plan, <http://www.northcoastirwmp.net/Content/10318/preview.html> (last visited Oct. 15, 2008); Integrated Management Plan for the Platte River Basin (Draft), <http://tribasinrtd.org/documents/imp.pdf> (last visited Oct. 15, 2008); GA. WATER COUNCIL, GEORGIA COMPREHENSIVE STATE-WIDE WATER PLAN (2008), *available at* [http://www.georgiawatercouncil.org/Files\\_PDF/water\\_plan\\_20080109.pdf](http://www.georgiawatercouncil.org/Files_PDF/water_plan_20080109.pdf).

941. MABBOTT, *supra* note 849, at 3.

store and enhance Oregon's watersheds.<sup>942</sup> The group meets four times a year, and provides grant funding for watershed restoration projects, assessments, monitoring efforts, watershed councils, and education and outreach activities.<sup>943</sup> Common projects include reseeding, planting, fence construction, and wetland restoration, as well as purchasing conservation easements and instream water rights.<sup>944</sup> OWEB receives funding from the federal government, as well as local funding from the state lottery and salmon license plates.<sup>945</sup>

OWEB collaborates with local, regional, state, tribal, and federal governments. It establishes frameworks for locally based, integrated watershed planning and management processes.<sup>946</sup> OWEB encourages more efficient use of planning resources by local watershed councils and soil and water conservation districts.<sup>947</sup> To this end, OWEB has established guidance for watershed assessments that both encourages consistent assessment methods and requires public availability of information, resulting in reduced duplicative efforts.<sup>948</sup> This guidance requires that a watershed assessment incorporate various components, such as conditions that promote watershed restoration.<sup>949</sup>

Though OWEB is not directly involved in managing water resources, because it provides funding, it has a role to play and influence on the water planning process. In particular, OWEB has adopted statewide and regional goals and priorities that form the basis of its funding decisions.<sup>950</sup> For example, OWEB prefers projects that focus on upslope or upstream treatments instead of projects that focus on downslope or downstream treatments.<sup>951</sup> OWEB also has the authority to designate high priority watersheds.<sup>952</sup> Such

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942. OR. REV. STAT. §§ 541.360, .375 (2007); Or. State Archives, Or. Blue Book: Or. Watershed Enhancement Board: Present Duties (2008), <http://bluebook.state.or.us/state/executive/watershed/watershedduties.htm>.

943. OR. REV. STAT. § 541.370 (2007); OR. REV. STAT. §§ 541.360, .375 (2007); OREGON STATE ARCHIVES, OREGON BLUE BOOK: OREGON WATERSHED ENHANCEMENT BOARD: PRESENT DUTIES (2008), <http://bluebook.state.or.us/state/executive/watershed/watershedduties.htm>.

944. BASTASCH, *supra* note 131, at 270.

945. Or. Watershed Enhancement Board, About Us, [http://www.oregon.gov/OWEB/about\\_us.shtml](http://www.oregon.gov/OWEB/about_us.shtml) (last visited Oct. 11, 2008). The Board's total budget for 2005 to 2007 was approximately \$39,000.00. OR. SENATE SPECIAL COMM. ON BUDGET, BUDGET REPORT AND MEASURE SUMMARY, at 1 (2005), *available at* [http://www.leg.state.or.us/comm/lfo/2005budget\\_reports/HB5172.PDF](http://www.leg.state.or.us/comm/lfo/2005budget_reports/HB5172.PDF); Telephone Interview with Cindy Silbernagel, Fiscal Manager, Watershed Enhancement Bd., (Oct. 10, 2007) (revenue from salmon plates averaged approximately \$25,000 per month between January and October as of this 2007; however, the amount has increased steadily throughout the year).

946. *Id.* § 541.371(1)(a).

947. *See id.*

948. *Id.*; *see also*, OR. WATERSHED ENHANCEMENT BOARD, OREGON WATERSHED ENHANCEMENT MANUAL 3 (1999), [http://www.oregon.gov/OWEB/docs/pubs/wa\\_manual99/a\\_intro\\_print.pdf](http://www.oregon.gov/OWEB/docs/pubs/wa_manual99/a_intro_print.pdf) (providing an OWEB assessment manual).

949. OR. REV. STAT. § 541.371(1)(a)(A) (2007).

950. *Id.* § 541.371(c).

951. OR. ADMIN. R. § 695-010-0030(5) (2008).

952. OR. REV. STAT. § 541.384(2) (2007).

a designation serves as a management tool for state agencies when allocating resources to support coordinated watershed management activities.<sup>953</sup> OWEB may place conditions in its grant agreements that are necessary to carry out the purpose of the watershed enhancement program.<sup>954</sup> However, OWEB expressly lacks regulatory or enforcement authority.<sup>955</sup>

### C. WATER USER ORGANIZATIONS

The legislature has created a statutory framework for the types of water user organizations allowed in the state: (1) irrigation districts;<sup>956</sup> (2) drainage districts;<sup>957</sup> (3) diking districts;<sup>958</sup> (4) water improvement districts;<sup>959</sup> (5) water control districts;<sup>960</sup> and (6) corporations for irrigation, drainage, water supply or flood control.<sup>961</sup> Each district works to maintain its interests in the water planning process.<sup>962</sup> While the Commission and Department manage the overall water allocation system, districts are independent local governmental entities with their own sets of statutes and procedures.<sup>963</sup> These water organizations often control much of the water in a particular basin due to their prevalence and the large number of water rights they hold.

Groups of land irrigators who join together to irrigate their lands can create irrigation districts.<sup>964</sup> Districts may then acquire water rights like any other party.<sup>965</sup> They have express authority to purchase, lease, and condemn water and water rights.<sup>966</sup> Any rights obtained immediately vest in the district and the district holds those rights in trust for the uses and purposes set forth in the "Irrigation District Law."<sup>967</sup> Title to these rights must be in fee simple or whatever lesser estate the appropriation designates.<sup>968</sup> After formation of the district, it holds water rights for the land within it and follows administrative guidelines to change boundaries, create subdistricts, and merge with other districts.<sup>969</sup> Irrigation districts may distribute water to lands

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953. *Id.*

954. OR. ADMIN. R. § 695-005-0050(10) (2008).

955. OR. REV. STAT. § 541.371(1)(f) (2007).

956. *See id.* § 545.001–.685.

957. *See* OR. REV. STAT. §§ 547.005 –.990 (2007) (relating to drainage); OR. REV. STAT. § 548.005 – .995 (2007) (relating to irrigation and drainage).

958. *See id.* §§ 551.

959. *See id.* §§ 552.

960. *See id.* §§ 553.

961. *See id.* §§ 554.

962. *See id.* §§ 552.108(1); 553.020(1) (2007).

963. *See* OR. REV. STAT. § 536.037(1)(c) (2007). Compare to the individual chapters the Oregon legislature provided to water user organizations within the Oregon Revised Statutes. *Supra* notes 957 to 961.

964. OR. REV. STAT. § 545.025(1) (2007) (describing the petition process required for formation of irrigation districts).

965. OR. REV. STAT. § 545.239(1) (2007).

966. *Id.*; *see also id.* § 545.249.

967. *Id.* § 545.253.

968. *Id.*

969. *See id.* §§ 545.051–.131. The question of whether the individual irrigators or the organized irrigation district owns the water rights can be a controversial one. In the Klamath

not included within their district,<sup>970</sup> and may require their water users to have water measuring devices and water control devices.<sup>971</sup> Irrigation districts can temporarily transfer water rights to other land within the legal boundaries of the district without going through a formal process, allowing for easier reallocation of water rights inside a district than outside a district.<sup>972</sup> The transfer, however, may not injure any existing water rights or result in enlargement.<sup>973</sup>

Landowners, with acreage that border on swamps, wetlands, irrigated lands, or waters that contribute to a swamp, can petition to form drainage districts.<sup>974</sup> The Oregon Revised Statutes provide for drainage in order to protect lands, for sanitary or agricultural purposes, or if conducive to public health.<sup>975</sup> Similar to irrigation districts, unique rules and procedures govern drainage districts.<sup>976</sup> Additionally, the legislature has enacted a set of laws pertaining to both drainage and irrigation districts.<sup>977</sup> These laws mainly relate to insurance for district employees,<sup>978</sup> the legal status of board members,<sup>979</sup> government loans,<sup>980</sup> dissolution of a district,<sup>981</sup> and other monetary issues.<sup>982</sup>

Landowners representing at least one half of land subject to tidewaters or floods may petition to form a diking district.<sup>983</sup> After the petition, the court will apportion the cost to build the dam or dike among the landowners.<sup>984</sup> A compilation of statutes guides the process of building and maintaining the dams.<sup>985</sup> Diking district dams differ from hydroelectric and storage. The diking district's purpose is to build dams to prevent flooding.<sup>986</sup> Hydroelectric dams generate electricity and water storage facilities (or storage dams) maintain future water resources.<sup>987</sup> Other districts have the power under sta-

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Basin considerable time and energy have been spent on this question in the 5<sup>th</sup> Amendment Takings litigation that was recently filed. In the end, the takings question was resolved without definitively answering the ownership question. *Klamath Irrigation Dist. v. United States*, 532 F.3d 1376, 1380 (Fed. Cir. 2008).

970. OR. REV. STAT. § 545.271 (2007).

971. *Id.* § 545.279(1)(b).

972. *See id.* § 540.570(1). For a further discussion of water right transfer, see *supra* section I.D.

973. *Id.* § 540.570(1).

974. *Id.* § 547.005.

975. *Id.*

976. *See id.* §§ 547.005–.990.

977. *See id.* §§ 548.005–.995.

978. *Id.* § 548.050.

979. *Id.* § 548.105.

980. *Id.* § 548.305.

981. *Id.* § 548.905.

982. *Id.* § 548.715.

983. *Id.* § 551.020.

984. *Id.* § 551.060.

985. *See id.* §§ 551.070–.180.

986. *Id.* § 551.020.

987. *See id.* § 543.650 (hydroelectric projects); *id.* § 537.238 (storage facilities).

tute to create hydroelectric capabilities; however diking districts do not possess this authority.<sup>988</sup>

Water improvement districts exist for many purposes: to prevent damage or destruction of life and property due to floods; to improve the agricultural and other uses of lands and waters; to improve public health, welfare and safety; to provide domestic and municipal water supply; to provide water-related recreation; and to enhance water pollution control and fish and wildlife resources.<sup>989</sup> While improvement districts have separate laws, these laws may not interfere with any other water laws or rights.<sup>990</sup> The district's board may work with the Commission to formulate a watershed improvement plan, but for the most part, it is its own separate entity.<sup>991</sup>

Water control districts are very similar to water improvement districts and have overlap with the purposes of other districts. Landowners form control districts to prevent damage or destruction of life and property due to floods, to improve agricultural and other uses of land, and to improve public health and safety.<sup>992</sup> The main difference between water control districts and improvement districts is that the state creates control districts to provide water for domestic and municipal supply, recreational purposes, or to enhance pollution control or fish and wildlife resources.<sup>993</sup> A control district must obtain a city or district's consent to include lands that are a part of an irrigation district, drainage district, or city.<sup>994</sup>

Recognizing the many demands on Oregon's natural resources, the state legislature authorized Soil and Water Conservation Districts ("SWCDs") in part to conserve and develop natural resources, control and prevent soil erosion, control floods, conserve and develop water resources and water quality, and prevent dam and reservoir impairment.<sup>995</sup> Subject to the Water Resources Commission's authority, the districts may play a role in flood prevention by planning, constructing, maintaining, managing, or administering flood prevention projects within their district.<sup>996</sup> In addition, many of the districts are active participants in watershed improvement efforts.<sup>997</sup> The Oregon Department of Agriculture administers the forty-five current SWCDs, which cover much of the state.<sup>998</sup>

Watershed Councils are voluntary local organizations that "address the goal of sustaining natural resource and watershed protection, restoration, and

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988. *See id.* § 543.650 (listing all other districts, specifically, except diking districts).

989. *Id.* § 552.108(1).

990. *Id.* § 552.113(1).

991. *See id.* § 552.403(1)-(4).

992. *Id.* § 553.020(1).

993. *Id.*

994. *Id.* § 553.110(2).

995. *Id.* § 568.225(1).

996. *Id.* § 568.552.

997. BASTASCH, *supra* note 131, at 268.

998. Or. Dep't of Agriculture, Or. Soil and Water Conservation District Guidebook: A Guide to Operations and Management Ch. 1, at 3 (2002) *available at* [http://www.oregon.gov/ODA/SWCD/swcd\\_guidebook.shtml](http://www.oregon.gov/ODA/SWCD/swcd_guidebook.shtml) (follow hyperlink to History – ch. 1).

enhancement” within Oregon’s watersheds.<sup>999</sup> Local governments, such as counties, cities, or water supply districts, convene the councils.<sup>1000</sup> Diverse interests within a watershed make up the councils, which work towards articulating and achieving common goals of ecological and economic sustainability within a watershed.<sup>1001</sup>

Municipal water suppliers are “publicly or privately owned water distribution system[s] that deliver[] potable water for community needs, either to individual customers or another distribution system, or that deliver[] water primarily for commercial or industrial uses.”<sup>1002</sup> Municipal suppliers hold water rights, which the Water Resources Department has the authority to, and often does, condition on the municipal suppliers preparing water conservation plans.<sup>1003</sup> Oregon requires municipalities to develop these plans in order to receive permit extensions.<sup>1004</sup> Thus, municipal water suppliers are integral players in the water conservation arena.

Any of the above districts can turn into a corporation through a legal filing process.<sup>1005</sup> When they incorporate, their name changes from “district” to “district improvement company.”<sup>1006</sup>

### 1. The Value of Comprehensive Planning

One of the most significant improvements in freshwater conservation would be for the state to devote resources and time to further efforts in water resource planning. To the extent that this planning process involved the stakeholders concerned with freshwater conservation, it would be valuable as well. As currently written, the best mechanism provided by the water code is the basin programs. It would be useful to gather further data on the status of planning under the basin programs and to understand how often exceptions to the basin programs are granted and under what circumstances. In addition, OWEB may have unexplored authorities to integrate the plans and programs of the various agencies engaged in water resource issues particularly in terms of data integration and funding prioritization.

Perhaps more important or more urgent, is the need to develop and enhance water management and planning mechanisms in light of climate change. For example, many policymakers are poised to move forward on new storage projects to meet increased energy demand in basins that may not have comprehensive water management plans in place. Before moving forward, it is critical that policymakers fully understand the current and future demand on the system and the tools may be available to better manage and reallocate water resources.

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999. OR. REV. STAT. § 541.351(15) (2007).

1000. *Id.*

1001. BASTASCH, *supra* note 131, at 269.

1002. OR. ADMIN. R. 690-086-0030(6) (2008).

1003. *See* OR. ADMIN. R. 690-086-0100(1) (2008).

1004. OR. ADMIN. R. 690-086-0100(1) (2008).

1005. OR. REV. STAT. § 554.005-.590 (2007).

1006. *Id.* § 554.040(2)(b).

In 2007 the Oregon legislature provided funds to the Department for the Oregon Water Supply and Conservation Initiative (OWSCI).<sup>1007</sup> In 2008, HDR, Inc, a private consulting firm hired by the Department, conducted a conservation inventory and water demand assessment of the State of Oregon as part of the OWSCI. As part of that process HDR developed a forecasting tool to evaluate demand under various scenarios across the state of Oregon.<sup>1008</sup> While there may be some critiques of the details of this process, these kinds of efforts represent important steps as states try to be proactive in water resource management. In particular, this model developed by HDR accounted for the impact that conservation initiatives can have on reducing the overall demand on the water resources of the state.

Too often, policy makers, governments, citizens and agencies assume that population growth and increased economic activity means municipal and agricultural demand for water will increase. Certainly, one can point to local examples where there is real demand for new supply. But, there may also be instances where the notion of “increased demand” may not be consistent with the reality on the ground and may rather be a justification for new water supply projects, increased public funding for infrastructure or the preservation competing water institutions.<sup>1009</sup> In the face of climate change and pressure for alternative energy sources, including hydropower, the pressure to have accurate demand information is even more important. Before proceeding on any project premised on increased demand numbers, policymakers should carefully examine the underlying data regarding increased pressure on existing water sources and consider the role that conservation initiatives may play in reducing overall demand. Water conservation initiatives should be weighed against new supply projects in terms of overall cost effectiveness, carbon impact and energy efficiency, adopting a “least cost planning” approach to water resource management and investment.<sup>1010</sup>

## VII. HYDROELECTRIC PROJECTS

Hydroelectric projects are important to freshwater conservation due to their profound environmental impact on Oregon’s rivers and freshwater eco-

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1007. See OR. WATER SUPPLY AND CONSERVATION INITIATIVE DECEMBER 2007 UPDATE, available at <http://www1.wrd.state.or.us/pdfs/OWSCI%20Update%20Dec%202007.pdf>.

1008. HDR Presentation available at <http://aquadoc.typepad.com/waterwired/2008/09/oregon-water-supply-conservation-initiative-inventory-and-demand-forecasts.html>

1009. See generally, Achterman, et al, *Oregon Coastal Community Water Supply Assessment*, INST. FOR NAT. RESOURCES., OR. ST. U. (June 2005) (discussion the dynamics of jurisdictional fragmentation and competition among water resource institutions).

1010. See generally, S. Fane, A. Turner, and C. Mitchell, *The Secret Life of Water Systems: Least Cost Planning Beyond Demand Management*, Institute for Sustainable Futures in Conference Proceedings for 2<sup>nd</sup> IWA Leading Edge Conference on Sustainability In Water Limited Environments, Sydney, Australia, November 8-10, 2004.

systems.<sup>1011</sup> The detrimental impacts of hydropower, including habitat inundation and blockage, on river ecosystems throughout the West, have been well documented.<sup>1012</sup> In addition, hydropower projects play a major role in freshwater conservation because releases from reservoirs can be timed to enhance or harm downstream environmental needs. And finally, hydropower projects emerge as popular “green” energy solutions in the face of climate change and energy policy debates. The governor of California, for example, has proposed a series of new hydropower projects to replace carbon-based electricity production.<sup>1013</sup> For all of these reasons, hydropower is at the front of any agenda dealing with the interface of water, energy and climate policy. This section provides a brief overview of the state and federal hydropower licensing processes.

Hydroelectric projects fall into two primary categories—those authorized or permitted by the state government and those authorized or permitted by the federal government. Federal projects include those authorized through particular federal legislation,<sup>1014</sup> and private projects in navigable water that require a license from the Federal Energy Regulatory Commission (“FERC”).<sup>1015</sup> State projects fall into similar categories—those authorized by the state legislature,<sup>1016</sup> and those private projects that require a state license.<sup>1017</sup> Complicating matters, some state authorized projects may also require a FERC license.<sup>1018</sup> Parties must determine if the hydroelectric project will be located on a navigable waterway, as defined in the Federal Power Act, to determine whether the government requires a FERC license.<sup>1019</sup>

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1011. See, e.g., G.P. Harrison et al., *Climate Change Impacts on Hydroelectric Power*, 18 IEEE TRANSACTIONS ON POWER SYSTEMS 1324, 1324 (2003), available at <http://www.see.ed.ac.uk/~gph/publications/GPH-Upec98.pdf>.

1012. Michael C. Blumm, et. al, *Saving Snake River Water and Salmon Simultaneously*, 28 ENVTL. L. 997, 999-1000 (1998); Michael C. Blumm, *The Amphibious Salmon: The Evolution of Ecosystem Management in the Columbia River Basin*, 24 ECOLOGY L.Q. 653, 653-654 (1997); Philip M. Bender, *Restoring the Elwha, White Salmon and Rogue Rivers: A Comparison of Dam Removal Proposals in the Pacific Northwest*, 17 J. LAND RESOURCES & ENVTL. L. 189,192 (1997); see generally, A. Dan Tarlock, *Putting Rivers Back in the Landscape: The Revival of Watershed Management in the United States*, 14 HASTINGS W.-NW. J. ENVTL. L. & POL'Y 1059 (2008).

1013. See generally Press Release, Governor of California, California Governor Signs Ten Energy Bills, available at <http://www.pewclimate.org/node/5313> (last visited Oct. 10, 2008).

1014. See, e.g., Interior Department Appropriations Act of 1955, Pub. L. No. 83-465, 68 Stat. 361, 365 (1954) (authorizing the Bureau of Reclamation to construct and rehabilitate the Crescent Lake Dam project).

1015. See 16 U.S.C. § 799 (2008); OR. REV. STAT. § 543.050(2) (2007); *id.* § 543.260.

1016. See, e.g., CAL. WATER CODE § 12934(d) (2008) (describing the state water facilities of California). The authority for a state legislature to authorize hydroelectric projects derives from its general police power and its ability to provide for the public health and welfare.

1017. See OR. REV. STAT. § 543.050(2) (2007) (authorizing the Water Resources Commission to issue licenses to construct, operate and maintain dams).

1018. See *id.* § 543.260(1).

1019. See generally 16 U.S.C. § 799 (2008); see also *id.* § 796(8) (defining “navigable waters” as “those parts of streams or other bodies of water over which Congress has jurisdiction under its authority to regulate commerce with foreign nations and among the several States,

### A. AUTHORIZATION PROCESS FOR STATE PROJECTS

Three categories of applicants apply for state hydroelectric projects in Oregon: (1) private citizens, groups of citizens, or a private corporation;<sup>1020</sup> (2) public applicants, including cities, towns or other municipal corporations;<sup>1021</sup> and (3) private individuals or corporations that jointly develop a hydroelectric project with a municipality.<sup>1022</sup> Oregon treats joint municipal-private projects the same as a public project, provided that the municipality retains sufficient benefit and control in the project in order for the Commission to consider it a municipal project.<sup>1023</sup> The state or municipality has the right to take over a privately run project at any time, as long as just compensation is paid.<sup>1024</sup>

All applicants applying for a state hydroelectric project, including potential public parties, must comply with public interest and environmental standards.<sup>1025</sup> The process begins with a Water Resources Commission initial review of the public interest and environmental impact.<sup>1026</sup> Municipal project applicants then apply for a water right similar to how any appropriator would, and subsequently apply for a license to operate the hydroelectric project.<sup>1027</sup> Private project applicants apply for a preliminary permit from the Commission, and then for a license to gain the water right.<sup>1028</sup>

#### 1. Public Interest Standards

The Commission considers public interest factors in determining whether to allocate water for hydroelectric development, including present and future

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and which either in their natural or improved condition notwithstanding interruptions between the navigable parts of such streams or waters by falls, shallows, or rapids compelling land carriage, are used or suitable for use for the transportation of persons or property in interstate or foreign commerce, including therein all such interrupting falls, shallows, or rapids, together with such other parts of streams as shall have been authorized by Congress for improvement by the United States or shall have been recommended to Congress for such improvement after investigation under its authority.”).

1020. OR. REV. STAT. § 543.050(2) (2007).

1021. *See id.* § 543.150; *see also id.* §§ 537.282-.299.

1022. *Id.* § 537.285.

1023. *Id.*; OR. ADMIN. R. 690-051-0410 (2008). The municipal applicant must retain a minimum percentage of the project’s annual income, must retain proprietary interest in the project lands, and must assure payment of annual fees, compliance with state-imposed restrictions, and maintenance of state-required facilities.

1024. *Id.* § 543.610(1).

1025. BASTASCH, *supra* note 131, at 107-08.

1026. OR. REV. STAT. § 543.017 (2007).

1027. *See* OR. REV. STAT. § 537.282-.299 (2007); *see* e-mail from Mary Graine, Or. Water Res. Dep’t to Adell Amos, Assistant Professor & Dir., Env’tl. & Natural Res. L. Program, Univ. of Or. School of Law. (April 21, 2008) (on file with author) At one time, the Energy Siting Council and the Department had joint licensing authority over hydroelectric projects. In 1995, however, the state legislature redefined the Council’s jurisdiction over energy facilities and removed hydroelectric projects from the list. Therefore, an applicant need not go through the Energy Siting Council.

1028. *See* OR. REV. STAT. § 543.210-.260 (2007) (describing the procedure to gain a permit and a license).

power needs.<sup>1029</sup> The Commission must also consider any recommendation from the Energy Facility Siting Council in order to uphold the public interest.<sup>1030</sup> When determining whether the public interest is impaired, the Commission will have due regard for: conserving water for all purposes; maximizing economic development; controlling the water for beneficial purposes; the amount of available water; preventing waste; protecting vested water rights; and the state water resources policy.<sup>1031</sup>

## 2. Protecting Natural Resources

In addition to the general public interest factors, the Commission must also consider the protection of Oregon's natural resources with any action it takes toward hydroelectric development.<sup>1032</sup> All projects, municipal or private, must adhere to strict environmental standards.<sup>1033</sup> The standards are consistent with Oregon's general policy to ensure that hydroelectric projects protect natural resources from possible adverse effects of power production.<sup>1034</sup> The Commission, Energy Facility Siting Council, Department of Environmental Quality, and other affected state agencies participate to "the fullest extent" to protect the natural resources.<sup>1035</sup>

Several "minimum standards" apply to any Commission action relating to hydroelectric projects.<sup>1036</sup> The Commission shall not approve any activity that will cause habitat loss, kill, or injure anadromous salmon or steelhead, and any activity must be consistent with the Columbia River Basin Fish and Wildlife Program.<sup>1037</sup> Additionally, the Department shall impose conditions on any permits or licenses requiring the operator of the facility to perform, or allowing the Department of Fish and Wildlife to perform, tests to measure fish protection.<sup>1038</sup> The Commission shall not approve a project that results in a net loss of wild game fish or recreational opportunities, unless the applicant proposes a mitigation strategy that the Commission finds acceptable.<sup>1039</sup>

## 3. Water Rights and Hydroelectric Licenses

After completing the review discussed above, the processes applicable to private projects versus public projects diverge. The state issues time-limited water rights to private projects in the form of a "license" from the Depart-

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1029. *Id.* § 543.017(1)(e).

1030. *Id.* (This requirement is for projects over 25 megawatts.).

1031. *Id.* § 543.225(3)(a)-(g). There is no reported case law on the public interest factors.

1032. *Id.* § 543.017(1)(d).

1033. BASTASCH, *supra* note 131, at 107.

1034. *Id.* at 108; *see* OR. REV. STAT. § 543.015(1)-(2) (2007).

1035. OR. REV. STAT. § 543.015(3) (2007).

1036. *Id.* § 543.017(1).

1037. *Id.* For a copy of the Columbia River Basin Fish and Wildlife Program, see NORTHWEST POWER PLANNING COUNCIL, COLUMBIA RIVER BASIN FISH AND WILDLIFE PROGRAM (2000), available at <http://www.nwncouncil.org/LIBRARY/2000/2000-19/FullReport.pdf>.

1038. OR. REV. STAT. § 543.265 (2007).

1039. *Id.* § 543.017(1)(c).

ment.<sup>1040</sup> The water rights granted to a private hydroelectric project are vested in the licensee.<sup>1041</sup> This means that as long as the license, or any lawful extension of it, is in force, the appropriator has a valid state-issued water right just like any other water user in the state.<sup>1042</sup> Upon the license's termination, the water right reverts back to the public as an instream right.<sup>1043</sup> During the license's lifetime, the state conditions the water use so that it is "inferior in right and subsequent in time to any future appropriation of water upstream."<sup>1044</sup>

In contrast, public projects, which are usually run by municipalities, do not need a preliminary permit and do not go through a separate water right application process.<sup>1045</sup> The public project applicants acquire a water right through the traditional process and receive non-expiring water rights in the form of a permit to appropriate water for hydroelectric power generation.<sup>1046</sup> For joint projects between private parties and municipalities, the municipality must remain qualified as a municipality in order to maintain the non-expiring water right.<sup>1047</sup> If the Commission believes that the holder is no longer municipal, it may cancel the permit.<sup>1048</sup>

In the 2007 session, the Oregon Legislature adopted a new, expedited procedure for existing water right holders to obtain a hydroelectric certificate.<sup>1049</sup> The expedited application process is only available to hydroelectric projects that are exempt from FERC's jurisdiction.<sup>1050</sup> The expedited application process requires a thirty-day comment period.<sup>1051</sup> The application must demonstrate that the proposed hydroelectric use does not impair and is not detrimental to the public interest.<sup>1052</sup> After the Department issues a final order approving the application, the water right holder receives a 50-year

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1040. *Id.* § 543.050(2); *Id.* § 543.260(1).

1041. OR. ADMIN. R. 690-051-0380 (2008).

1042. *Id.*

1043. *Id.*; *see also* OR. REV. STAT. § 543A.305(3) (2007) ("upon expiration of a hydroelectric water right not otherwise extended or reauthorized, . . . up to the full amount of the water right associated with the hydroelectric project shall be converted to an in-stream water right.").

1044. OR. ADMIN. R. 690-051-0380 (2008) (so long as the upstream appropriation is a consumptive beneficial use); *see also* OR. REV. STAT. § 543.050(2) (2007) (stating that the Commission will grant power to citizens, an association of citizens and private corporations to appropriate, perfect, acquire and hold rights to use water, "including waters over which the state has concurrent jurisdiction.").

1045. OR. REV. STAT. § 543.150 (2007).

1046. *Id.* (exempts municipalities from the application of, among others, section 537.260, which limits the duration of license to fifty years); *see also* BASTASCH, *supra* note 131, at 106.

1047. OR. REV. STAT. § 537.295 (2007); *see also id.* § 537.292(1)(b).

1048. *Id.* § 537.295; *see also id.* § 537.292(1)(b) (2007). However, if the Commission believes that canceling the permit will hurt the public interest, it may delay the cancellation until the Commission authorizes another entity to take over the facility. *Id.* § 537.299(2)(a).

1049. H.R. 2785, 74th Leg., Reg. Sess. (Or. 2007) (enacted).

1050. *Id.* § 2(1).

1051. *Id.* § 2(3)(a).

1052. *Id.* § 2(4).

license for hydroelectric use with the priority date of the underlying water right.<sup>1053</sup>

#### 4. State Preliminary Hydroelectric Permit Process for Private Applicants

As mentioned above, while public applicants go through the standard water right application process,<sup>1054</sup> private applicants must apply for a preliminary permit prior to submitting the license application.<sup>1055</sup>

Private applicants apply to the Commission for the preliminary permit, and after processing the application, the Commission provides notice to anyone likely to be interested in the project.<sup>1056</sup> If the Commission believes it to be necessary, it holds a public hearing on the application.<sup>1057</sup> When the Commission is through with these proceedings, it sends the application to the Department for further proceedings consistent with the Commission's order.<sup>1058</sup>

In considering the application, the Director determines the cumulative impact of the hydroelectric project along with the impacts of other proposed and existing projects in the same river basin.<sup>1059</sup> In making this determination, the Director essentially conducts another public interest review.<sup>1060</sup> If granted, the preliminary permit is valid for a period not exceeding three years.<sup>1061</sup> The preliminary permit also establishes a priority date for the project.<sup>1062</sup>

#### 5. State Licensing Process (maximum of 50 years)

After receiving a preliminary permit, the applicant must file for a license from the Commission.<sup>1063</sup> If both municipal and private applicants request to appropriate the same water for separate projects, the Commission will give the municipal applicant preference.<sup>1064</sup>

When the Commission grants licenses to private projects, it includes time-limited water rights.<sup>1065</sup> The licenses do not last more than fifty

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1053. *Id.* §§ 2(6), (9).

1054. BASTASCH, *supra* note 131, at 106. The standard water right application process is discussed further in *supra* section I.G.

1055. OR. REV. STAT. § 543.210(1) (2007).

1056. *Id.* § 543.220(1)-(2), The Commission shall give notice to a municipality or any person likely to be interested in the project, and landowners that are adjacent to the proposed site and adjacent to any portion of the stream that will decrease because of the project. The Commission shall also publish notice of the application once a week newspaper of general circulation in the affected area for at least four consecutive weeks.

1057. *Id.* § 543.230.

1058. *Id.* § 543.225(4).

1059. *Id.* § 543.225(1).

1060. *Id.*

1061. *Id.* § 543.250.

1062. *Id.*

1063. *Id.* § 543.260(1).

1064. *Id.* § 543.260(3).

1065. *Id.* § 543.260(1).

years.<sup>1066</sup> Also, when the Commission grants a license, it does so on the following conditions: (1) that the potential project must adapt well to the water power involved; (2) that the licensee will develop and build the project according to the maps approved previously by the Commission; (3) that the licensee control of storage and the release of storage shall be reasonable; (4) that the licensee will maintain the facilities; (5) that the licensee will pay the state not more than one dollar per each horsepower generated by the license; and (6) other conditions the Commission deems necessary in the public interest.<sup>1067</sup> If the Commission revokes a license, the circuit court may sell all or part of the license.<sup>1068</sup> However, the purchaser must perform all the duties as stated under the license.<sup>1069</sup> The Commission may waive or modify any of the above requirements of the preliminary permit process and licensing process for a minor project of less than 100 horsepower.<sup>1070</sup>

## B. AUTHORIZING FEDERAL PROJECTS

The law requires federal hydropower permits when the project would affect foreign or interstate commerce, be on navigable waters of the United States, use water from a federal dam, or occupy any public lands or reservations of the United States.<sup>1071</sup> There are two categories of federal projects: (1) projects that are under operation by the federal government, and (2) projects that are under license by the federal government but under operation by private entities. Federally licensed projects must still apply for a state water right.<sup>1072</sup> Private applicants that apply for Oregon water rights, but will operate under a federal license, are not subject to the same procedure as state-based projects.<sup>1073</sup>

The Federal Energy Regulatory Commission (FERC) has the authority to issue licenses to private hydropower projects for a period up to fifty years.<sup>1074</sup> The federal project must be licensed by FERC, and it must apply for a state water right through the Commission and Department.<sup>1075</sup> Any project that applies for a preliminary permit from FERC must, at the same time, apply for a state preliminary permit in order to acquire a water right.<sup>1076</sup> The fifty-year

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1066. *Id.*

1067. *Id.* § 543.300(1)-(6).

1068. *Id.* § 543.430.

1069. *Id.*

1070. *Id.* § 543.300(7).

1071. 16 U.S.C. 797(e) (2006); BASTASCH, *supra* note 131, at 107.

1072. OR. REV. STAT. §§ 543.050(1)-(2), .210 (2007); *see also id.* § 543A.071 (discussing the reauthorization process, but mentions that state water rights are issued to federally licensed projects).

1073. OR. REV. STAT. § 543.140 (2007) (“The provisions of [OR. REV. STAT. § 543.010-.610] shall not apply to any water power project or development constructed by the United States.”).

1074. 16 U.S.C. § 799 (2008).

1075. *Id.* § 797(e); OR. REV. STAT. §§ 543.050(1)-(2), .210 (2007).

1076. OR. REV. STAT. § 543.210(1) (2007); *see also id.* § 543.210(2)(a)-(e) (“The application must include: (a) the name and post-office address of the applicant; (b) the approximate site of any proposed dam or diversion; (c) the amount of water in cubic feet per second; (d) the theoretical horsepower; and (e) any other data the commission may by rule require.”).

state license term (the water right) is concurrent with the federal license and expires when the federal license expires.<sup>1077</sup>

### C. HYDROELECTRIC PROJECT REAUTHORIZATION PROCESS

Oregon reauthorizes water rights for state and federal hydroelectric projects.<sup>1078</sup> Similar to the authorization process, the reauthorization process focuses on public interest and environmental standards, but it also focuses on boosting the benefits of the project while shrinking the costs.<sup>1079</sup> As of 2002, under the state project and federal project reauthorization process (which was implemented in 1995), the state conducted Hydroelectric Application Review Team (“HART”) review for twenty state jurisdictional projects, but had not yet reauthorized any of the forty-seven federal projects.<sup>1080</sup>

#### 1. Reauthorizing State-Licensed Projects

When a private operator’s license comes within three years of expiration, the Department is to give notice of the expiration and ask for a notice of intent.<sup>1081</sup> The notice shall include whether the operator intends to reauthorize or end the project.<sup>1082</sup> If the operator intends to reauthorize, the Department will call upon the HART.<sup>1083</sup> The Department sits as the lead agency on the team, with Department of Environmental Quality and the Oregon Department of Fish and Wildlife joining as well.<sup>1084</sup> Other state agencies with specific interest in the project, such as the Parks and Recreation Department or Division of State Lands, may also join the review team.<sup>1085</sup>

Before the application goes to HART, the Director must find that the project will not be detrimental to the public interest.<sup>1086</sup> When determining whether the project impairs public interest, the Director will consider the same public interest factors as the Commission did for the authorization.<sup>1087</sup> The public interest consideration also requires that the state permittee mitigate any adverse impacts on fish and wildlife that result from the project.<sup>1088</sup>

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1077. OR. REV. STAT. §§ 543.050(2), .260 (2007).

1078. *Id.* § 543A.010.

1079. *Id.* § 543A.020.

1080. Memorandum from Dick Bailey, Administrator, Water Rights/Adjudication Div. on Hydroelectric Program to Water Res. Comm’n 3 (Aug. 8, 2002), *available at* [http://www1.wrd.state.or.us/files/Publications/staff\\_reports](http://www1.wrd.state.or.us/files/Publications/staff_reports) (follow hyperlink for 2002 August, then the hyperlink for Work Session Item 1).

1081. OR. REV. STAT. § 543A.030(1) (2007).

1082. *Id.* § 543A.030(2)-(3).

1083. *Id.* § 543A.035(3).

1084. *Id.*; *see also*, Memorandum from Bailey, *supra* note 1080, at 2.

1085. Memorandum from Bailey, *supra* note 1080, at 2.

1086. OR. REV. STAT. § 543A.025(1) (2007).

1087. *Id.* § 543A.025(1) The factors considered are: (1) conserving water for all purposes; (2) maximizing economic development; (3) controlling the water for beneficial purposes; (4) the amount of available water; (5) preventing waste; (6) protecting vested water rights; and (7) the state water resources policy.

1088. *Id.* § 543A.025(2)(a).

The mitigation requirement prioritizes mitigation actions in the following order:

- (1) Avoiding the impact altogether by not taking a certain development action or parts of that action;
- (2) Minimizing impacts by limiting the degree or magnitude of the development action and its implementation;
- (3) Rectifying the impact by repairing or rehabilitating the affected environment;
- (4) Reducing or eliminating the impact over time by preservation or maintenance operations during the life of the development action by monitoring and taking appropriate corrective measures; and
- (5) Compensating for the impact by replacing or providing comparable substitute resources or environments.<sup>1089</sup>

The Director must also consider recreational uses, scenic and aesthetic values, historical, cultural and archeological sites, and botanical resources.<sup>1090</sup> Additionally, the project must also comply with Pacific Northwest Electric Power and Conservation Council plans, Oregon Department of Environmental Quality standards, and it must protect wetland resources and provide for the proper protection from seismic activity.<sup>1091</sup>

HART collects public comments on the project and prepares a draft of the proposed order.<sup>1092</sup> The proposed order must contain findings of fact and conclusions of law.<sup>1093</sup> The Department receives the proposed order and either rejects or approves the application.<sup>1094</sup> When the Department approves applications, it then holds a contested case hearing.<sup>1095</sup> The hearing is open to the applicant, anyone that filed a timely protest, and anyone that filed a request for standing.<sup>1096</sup> Following the hearing, if the Director does not find any reason to reject the project, he or she issues a final order.<sup>1097</sup>

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1089. *Id.* § 543A.025(5).

1090. *Id.* § 543A.025(2)(f).

1091. *Id.* § 543A.025(2)(b)-(e).

1092. *Id.* § 543A.040(1)-(2).

1093. *Id.* § 543A.120(2)(a)-(g). The order shall include but not be limited to: (1) confirmation or any modification of the preliminary determinations made in the initial review; (2) brief statement that includes the criteria relevant to the decision; (3) an assessment of the water availability; (4) an assessment of whether the project would cause injury to existing water rights; (5) an assessment of whether the project would be detrimental to the public interest; (6) a draft certificate, including any proposed conditions; and (7) the date by which protests to the proposed final order must be received by the Department.

1094. *Id.* § 543A.125(1)-(2).

1095. *Id.* § 543A.130.

1096. *Id.* § 543A.130(2)(a)-(c).

1097. *Id.* § 543A.130(5).

## 2. Reauthorizing Federally Licensed Projects

Federally licensed projects must go through a FERC relicensing process. As part of that process, the state is asked to re-issue the underlying state water right.<sup>1098</sup> When a federally licensed project is reauthorized, HART and the Director conduct the state reauthorization review in a way that is consistent with, but does not duplicate, the federal review process.<sup>1099</sup> In conducting the reauthorization renewal for a federally-licensed project, the Department and HART<sup>1100</sup> focus on: (1) fish passage (namely the Endangered Species Act); (2) water quality (namely the Clean Water Act); (3) mitigation factors; (4) terms of the water right; (5) public interest factors; (6) recreation factors; and (7) other issues such as ramping rates, cultural and historic issues, and similar issues.<sup>1101</sup>

### D. DECOMMISSIONING PROJECTS

If the state does not reauthorize a project or if the owners choose not to reauthorize, the project will be decommissioned.<sup>1102</sup> Upon the decommissioning of a federally licensed or state run project, a hydroelectric facility's water right converts to an instream right, held in trust by the Department.<sup>1103</sup> Up to the full amount of the water right associated with the project converts to an instream right.<sup>1104</sup> If hydroelectric production is not the sole beneficial use of the water right, only that portion used exclusively for production will convert into an instream right.<sup>1105</sup> The Department will not convert the hydroelectric water right if the project is on boundary waters of the state and has water rights issued by Oregon and any other state.<sup>1106</sup>

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1098. *Id.* § 543A.071; see Memorandum from Bailey, *supra* note 1080, at 1 (“The state issues water rights for a term of up to 50 years for new privately-owned projects.”).

1099. OR. REV. STAT. § 543A.060(1) (2007).

1100. See *id.* § 543A.120 (describing the standards for a proposed final order from the Department and HART team).

1101. Memorandum from Bailey, *supra* note 1080, at 4-5.

1102. OR. REV. STAT. § 543A.300(1) (2007).

1103. *Id.* § 543A.305(3) (“Five years after the use of water under a hydroelectric water right ceases, or upon expiration of a hydroelectric water right not otherwise extended or reauthorized, or at any time earlier with the written consent of the holder of the hydroelectric water right, up to the full amount of the water right associated with the hydroelectric project shall be converted to an in-stream water right, upon a finding by the Water Resources Director that the conversion will not result in injury to other existing water rights.”); see also Memorandum from Bailey, *supra* note 1080, at 3. For further information on instream water rights, see *supra* section IV.

1104. OR. REV. STAT. § 543A.305(3) (2007) (conversion into an in-stream right will occur, so long as the Director finds that there is not injury to existing water rights).

1105. *Id.* § 543A.305(6).

1106. *Id.* § 543A.305(5). In this situation, the water right holder can submit a written request to have the rights converted.

## CONCLUSION

Increasingly, governmental leaders are recognizing that climate change is not only an environmental issue, but a risk management problem for many communities.<sup>1107</sup> As a result, governments at every level from the Congress and the U.S. Department of Energy to state water agencies and local land use boards are beginning to grapple with difficult questions about water availability and precipitation patterns.<sup>1108</sup> In many areas of the western United States the availability of freshwater is the primary constraint of future development. Pat Mulroy, head of the Southern Nevada Water Authority, has indicated that one of the primary limiting factors for the continued growth of Las Vegas and the southern Nevada is the availability of water.<sup>1109</sup>

While scientists have done a relatively complete job in modeling temperature changes that we are likely to see as a result of climate change, data that extrapolates precipitation predictions from the temperature models is still being developed.<sup>1110</sup> To the extent that precipitation data has been generated and modeled, the changes in hydrology due to a warming atmosphere are quite variable.<sup>1111</sup> Some areas will see increases in the precipitation; some areas will see decreases; some annual precipitation amount will remain the same, but the water will come in differing patterns.<sup>1112</sup> Many predict increases in major storm events that may overwhelm reservoir capacity, increased evaporation due to higher temperatures, and early snow pack melt in mountainous states. Some models predict that the greatest impact will be at the 4000-foot elevation and above watersheds and the lower elevation communities that rely on those watersheds to supply their drinking and agricultural water. Many of the impacts will be felt first on those entities that manage reservoirs, hydropower producers, and irrigation and drinking water suppliers.

A recent study of water and energy use in California provides a powerful example of the connections between water, climate, and energy policy.<sup>1113</sup> In response to the need to reduce carbon releases into the atmosphere, Califor-

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1107. See GENERAL GORDON SULLIVAN (RET.), *On Risk, in NATIONAL SECURITY AND THE THREAT OF CLIMATE CHANGE* 10, 10 (2007), available at <http://securityandclimate.cna.org/report/>.

1108. See Sarah Klahn, *The Blind Man and the Elephant: Describing Drought in Colorado*, 6 U. DENV. WATER L. REV. 519, 529 (2003).

1109. Felicity Barringer, *Lake Mead Could Be Within a Few Years of Going Dry, Study Finds*, N.Y. TIMES, February 13, 2008, at A18; Joe Gertner, *The Future is Drying Up*, N.Y. TIMES, October 21, 2007, §6 (N.Y. TIMES MAGAZINE).

1110. See Brian E. Gray, *Global Climate Change: Water Supply Risks and Water Management Opportunities*, 14 HASTINGS W.-NW J. ENVTL. L. & POL'Y 1453, 1454-55 (2008).

1111. *Id.*

1112. Kathleen A. Miller, *Climate Change and Water in the West: Complexities, Uncertainties, and Strategies for Adaptation*, 27 J. LAND RESOURCES & ENVTL. L. 87, 91 (2007).

1113. See J. Harder, *California Water Agencies Solicit Input from Experts and Public on Responding to Climate Change*, 11 W. WATER L. & POL'Y REP., 11 307 (2007); see also CAL. ENERGY COMM'N, INTEGRATED ENERGY POLICY REPORT (Carolyn Walker et al. eds., 2005), available at <http://www.energy.ca.gov/2005publications/CEC-100-2005-007/CEC-100-2005-007-CMF.PDF>.

nia's Assembly Bill 32 set ambitious carbon reduction targets for the state.<sup>1114</sup> The California Energy Commission conducted a study looking at energy use throughout the state and discovered that nearly 20 percent of the energy consumed in the state is used to treat, transport and deliver water.<sup>1115</sup> Peter Gleick from the Pacific Institute for Studies in Development, Environment and Security testified before the California Water Resource Agencies that "according the California Energy Commission, reductions in energy consumption by water programs would result in almost identical energy savings as the energy efficiency programs identified by the Public Utilities Commission, but at about half the cost."<sup>1116</sup> With the energy cost associated with water usage reaching nearly 20 percent, the question is whether California can hope to meet its ambitious carbon targets without addressing the use of energy to transport, treat and deliver water. In fact, Senate Bill 820 adopted in both Houses of the California legislature in 2005, but ultimately vetoed, "would have required urban water management plans to include information about the amount of energy produced and consumed by current and future water sources and . . . an analysis of energy-related costs and benefits."<sup>1117</sup>

Policy makers need to take energy considerations into account in order to make sound water policy decisions, and vice versa. Fortunately, western water law in particular may offer some tools for addressing energy and efficiency issues in the context of existing water law. Prior appropriation, the common structure of water codes in the seventeen western states, has long been criticized as being an antiquated system that protects older and often inefficient uses of water. The *first-in-time, first-in-right* principle in prior appropriation ensures that older uses, that may not be the best use of water in current times, must be fully satisfied before newer uses can be met. The prior appropriation system has been described as rigid and lacking the necessary flexibility to respond to current water management needs because the priority system essentially locks in time and place the use of water.<sup>1118</sup> Transfers of water rights are allowed but the process allows existing users to protest the transfer of water and claim harm. The burden of providing that a transferred use does not harm other existing users usually falls on the party requesting the transfer.<sup>1119</sup> Prior appropriation is also criticized as creating incentives to waste water as a *use-or-lose* system. If a user fails to use water, she risks losing her right under principles of abandonment and forfeiture. Thus, regardless of whether a permitted water user needs all the water secured by her water rights, she is likely to divert the full amount to protect against claims that she has not fully used her right. Moreover, prior appropriation law, in most states, lacks a mechanism for re-evaluating water uses

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1114. *Id.* at 306.

1115. *Id.* at 307

1116. *Id.* at 307.

1117. *Id.*

1118. Christopher L. Len, *Synthesis – A Brand New Water Law*, 8 U. DENV. WATER L. REV. 55, 87 (2004).

1119. *See e.g.*, *Green v. Chaffee Ditch Co.*, 371 P.2d 775, 782-83 (Colo. 1962).

outside the formal water transfer process. Thus, the state water agency usually has very limited, or non-existent, authority to reconsider water use. Water dedicated to particular use in 1910, even though that use may not be of high public value in 2008, is protected under prior appropriation because water rights are permitted in perpetuity. Provided a water right holder continues to use the water for the established purpose, the state has little authority to shift water use. The appropriative system contrasts with the time-limited permits common in regulated riparian jurisdictions in the eastern United States. As a result, prior appropriation affords little opportunity for the state water agency to reevaluate decisions about the appropriate use of water and often creates expectations of private property interests in water among users.

All that said, the western system of prior appropriation may inherently embody concepts that would allow state and local governments to address energy and efficiency issues within the context of the existing legal structure. First, prior appropriation is built on the principles of shortage as expressed in the priority system. Thus, water users in western states are more accustomed to the idea that there may not be enough water to satisfy all uses in a given year. Prior appropriation may use the wrong factors – *first in time* and *use or lose* – to determine which uses are satisfied, but at least the notion of limited water supply is embedded in the foundation of the doctrine.

Second, water use in prior appropriation states is premised on putting water to “beneficial use.” Each western state defines what uses constitute a beneficial use of water. Over the years, states have made modifications to the definition of beneficial use and as a result, there may be some inherent flexibility, given the necessary political will, to make modifications to the definition of beneficial use to address the efficiency or amount of energy consumption associated with particular uses. The broad definition of beneficial use gives the state flexibility in determining whether a particular use meets the definitions of beneficial at the time when the application is presented. The technical aspects of beneficial use, however, remain undefined. In particular, waste is defined based on the amount of water needed for beneficial use. The lack of a more precise beneficial use definition can make enforcement of waste extremely difficult. In Oregon, the first opportunity to address waste occurs at the permitting stage when the Department makes a determination of beneficial use. At this point the Department could conduct a robust analysis of whether a particular proposed use of water qualifies as wasteful. Furthermore, because much of the water of the state has already been appropriated, it is important to look at how the principles of waste are addressed during the process for transferring water rights. For example, a state could evaluate a proposed water use based on the amount of energy required to put the water to the proposed use. The concept of beneficial use without waste could be expanded to address the energy consumption associated with various water uses and state water agencies could use this evaluation when making decisions to grant new water rights or transfer existing rights.

Third, nearly every western state requires a public interest review as part of approving new water rights. The public interest review process, both when granting new water rights and when consider applications for transfers of water rights, may be a place in the existing water code to address questions of energy consumption and efficiency of water use.

Fourth, jurisdictions may want to more fully explore their planning and water management authorities. The provisions of existing water codes that provide for comprehensive water availability studies and basin management plans may be important tools in the future as governments face pressure to respond to climate change. Recently, in Oregon and elsewhere, two trends have emerged to increase supply in response to increased demand – accessing groundwater supplies and increasing storage capacity. Both of these have important implications on energy consumption. Groundwater takes a significant amount of energy to pump to the surface and distribute and building increased storage capacity also requires significant energy both at the construction and operational stage. Many policymakers are poised to move forward on new storage projects in basins that may not have comprehensive water management plans in place. Before moving forward, it is critical to fully understand the current and future demand on the system and the tools may be available to better manage and reallocate water resources. While the energy consumption associated with these water supplies may ultimately be worthwhile, it is important for any decision to pursue these sources also take into account and evaluate the energy that will be used.

Fifth, policymakers need to carefully consider the importance and overall value of existing freshwater conservation strategies. This article spends considerable pages looking at the challenges posed in the law for conservation efforts, but in the end, despite these challenges, freshwater protection may be one of the strongest tools for adapting to changing climate conditions and ensuring the resiliency of our natural systems.

The available tools for improving freshwater conservation in Oregon have yielded noteworthy successes: the Department takes into account in-stream flow requirements to determine availability, the Department currently holds more than 1,500 instream rights; conjunctive management is evolving and providing better protection for surface water from excessive groundwater appropriation; and basin management programs combined with assistance from the Oregon Watershed Enhancement Board have enhanced larger scale improvements in conservation. In the coming decades freshwater conservation must be evaluated and advanced in the context of energy and climate policy.

In particular, the tools available under the existing water code – from the definitions of beneficial use and waste to the comprehensive planning mechanisms to the connections between land use energy and water planning – should be explored. In addition to an exploration of existing water law tools for addressing climate change, freshwater conservation advocates may also want to consider changes to law and policy to address the impacts to water resources. Considering new and innovative mechanisms may be particularly beneficial as we face a time when policymakers may be ready and willing to

consider more far-reaching changes to a water allocation system that has often been criticized as out-dated. Moreover, as new proposals to the water code are inevitable whether from the water user or conservation community, it will be increasingly important for freshwater advocates to ensure that these new proposals account for ecosystem and conservation needs. Western water law has been criticized as addressing conservation needs as an after thought. The next decade may provide the opportunity to proactively consider conservation and ecosystem protection at the same time that we are considering reform to the overall management and allocation system.

Given that much of the water in the state of Oregon, like most western states, is already subject to water rights permits under the prior appropriation system, the transfer process is the primary mechanism for re-allocating water to new and emerging needs. Thus, a thorough analysis of the transfer process will serve conservation groups well—not just transfer to instream flow but transfer more generally. In particular, conservation groups could devote attention to looking at the role of the public interest review when water rights are transferred. The public interest review is the primary mechanism for considering conservation and freshwater ecosystem goals in the new water rights permitting process. While most western states conduct this review for new water rights, very few, including Oregon, conduct the public interest review for transferred water rights. Because of the importance of the transfer process, conservation advocates may want to explore some mechanism for addressing freshwater ecosystem issues when application to transfer water rights are processed.

Additional data and analysis is needed on enforcement issues in general. During the last few decades considerable progress has been made on securing and establishing instream flows. The real challenge in the next decade is ensuring that these instream flow rights are held properly and enforced, particularly in times of shortage. It would be extremely valuable to gather comparative enforcement data from various states to get a sense, across the western United States, of the effectiveness of the current mechanisms for instream flow protection.

As the perception or reality of increasing demand takes hold, more and more states will look to new sources of water.<sup>1120</sup> Particular focus has emerged on accessing groundwater supplies and developing aquifer storage capacity. As a result, the conservation community may want to consider further investigation in both of these areas. In most western states, including Oregon, groundwater law is a relatively new development and the notion of securing non-consumptive, in-situ rights to groundwater is novel. However, from a freshwater ecosystem perspective, groundwater is integrally connected to the dynamics on the surface and may support groundwater dependent ecosystems. As policymakers turn to groundwater as a source of increased supply, they need to consider the value of groundwater conservation. In addition to tapping groundwater for increased supply, there are proposals

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1120. See Robert Glennon & Michael J. Pearce, *Transferring Mainstream Colorado River Water Rights: The Arizona Experience*, 49 ARIZ. L. R. 235, 255 (2007).

to use groundwater aquifers to increase storage capacity.<sup>1121</sup> The freshwater conservation community may want to consider further investigation and research on issues such as aquifer storage and recovery as well as proposals for increased surface storage reservoirs.

Ultimately, water resource agencies may need to shift their central goals away from water allocation and toward water management. Traditionally water resource agencies in the western United States have seen their mission as focused on the allocation of water rights and not necessarily on the overall management and conservation of water and energy resources. As we face challenges with regard to water and energy policy, it will be vital for these agencies to begin to see themselves as water managers with the goal of efficient water use.

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1121. See Gray, *supra* note 1110, at 1458.