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## **A THIRSTY GROWING IDAHO: INCREASING THE FLUIDITY OF WATER TRANSFERS IN IDAHO ASSISTS FUTURE GROWTH**

*Trevor Gruwell<sup>1</sup>*

**N**early doubling the national average, Idaho tops the list of water consumed domestically at 168 gallons of water per capita per day domestically.<sup>2</sup> That is, every resident of the State of Idaho consumes on average 168 gallons of water per day on things such as showers, food preparation, washing clothes etc. If indirect consumption through electrical power, agriculture, and livestock consumption were included, this number would probably be much larger. Even compared solely to states in the so-called “arid west,” citizens of Idaho consume more water than those of Arizona (147), California (108), Colorado (111), Nevada (134), Utah (167), and Wyoming (144). That’s a lot of water, especially for a state whose capital received only 8.86 inches of precipitation last year.<sup>3</sup>

Such exorbitant average use of water should be of concern to any Idaho official, given the expected population growth of more than two hundred thousand residents (or, as it were, more

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1 Trevor Gruwell is a senior at Brigham Young University majoring in Environmental Science. He will be attending law school fall of 2018. He is grateful for his editors Joshua Menden and Clarissa McIntire who helped throughout the process of writing and finalizing this paper.

2 Molly A. Maupin, Joan F. Kenny, Susan S. Hutson, John K. Lovelace, Nancy L. Barber, & Kristin S. Linsey, *Estimated Use of Water in the United States in 2010*, USGS, 2014, at 9-15.

3 Annual Precipitation Totals (1865-2017), Boise ID, Weather.Gov, <https://www.weather.gov/source/boi/climate/precip%20boise%20annual%20rank%20allsites.txt> (last visited Mar. 14, 2018).

than 30 million additional gallons of water consumed daily) between now and the year 2025.<sup>4</sup> With this in mind the system for appropriating and re-appropriating water takes on renewed urgency so as to avoid a Liebigian pickle,<sup>5</sup> where water becomes a limiting resource in years to come. There are many aspects of western water law that pose obstacles to transaction.<sup>6</sup> There are arguments that by simplifying and facilitating water right transfers this could facilitate more efficient use of limited water resources.<sup>7</sup> In short, the process of governing water right transfers should not impede the process of appropriately allocating water resources.

In Idaho applicants for a water right transfer have the burden of proof to show they meet the “no injury” to junior appropriators criteria as well as “no enlargement” criteria.<sup>8</sup> I suggest this is redundant and creates an unnecessary strain on the process of transferring water rights. I propose that by more clearly outlining the required information for a water right transfer application and promoting communication between protestants and applicants some current barriers impeding transfers of a water right can be alleviated. Facilitating the transfer of water rights will foster an

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4 *Population Projections*, IDAHO DEPT. OF LABOR (May 31, 2017), <https://lmi.idaho.gov/population-projections>.

5 ELDOR A. PAUL, *Soil Microbiology, Ecology and Biochemistry* 276, 4<sup>th</sup> ed. 2014. Liebig’s law of the minimum indicates that whatever is the least abundant resource, relative to amount necessary, will be the limiting resource. This limiting resource will determine how many individuals can inhabit a certain system.

6 Peter W. Culp, Robert Glennon, & Gary Libecap, *Shopping for Water: How the Market Can Mitigate Water Shortages in the American West*, THE HAMILTON PROJECT, 1-5 (2014) (discussion of barriers to trade in regard to water rights).

7 David P. Jones, *Meeting Idaho’s Water Needs Through the Water Right Transfer Process: A Call for Legislative Reform*, 39 IDAHO L. REV. 213 214-215 (2001).

8 IDAHO CODE § 42.2 (2017).

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environment where the State of Idaho can continue to grow.

## I. BACKGROUND

There are few—if any—fields of legal governance that can legitimately make the claim to affect *everyone* to the same degree that water law can. Because water is so important in every facet of modern life, the State of Idaho has declared it “the property of the state,” whose duty it is to “control,” “guard,” and “supervise” its use and appropriation.<sup>9</sup>

In Idaho, among other western states, laws governing water rights have evolved over time. Idaho implements a system of “first in time is first in right”;<sup>10</sup> or, in other words, “senior” and “junior” water rights holders are determined by who first put the water to beneficial use.<sup>11</sup> Such a system of water rights management is known as “prior appropriation,”<sup>12</sup> and it is the exclusive responsibility of the Idaho Department of Water Resources (IDWR) to manage these appropriations.<sup>13</sup> Prior appropriation was born out of conflicts involving water rights and gold miners.<sup>14</sup> The “beneficial use” requirement has allowed for flexibility of water rights among a growing and changing demographic in the arid west.<sup>15</sup> Though this system has had flexibility it has not been perfect. Legal issues and legislation are by nature complex, but in addition, our understanding of the natural river systems, losses of water to leaching, groundwater recharge and groundwater in general have been limited. In attempting to write

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9 IDAHO CODE § 42.1 (2017).

10 *Id.*

11 *Id.*

12 *Prior appropriation doctrine*, LEGAL INFORMATION INSTITUTE (2018).

13 IDAHO CODE § 42.2 (2017).

14 N.D. ST. U. AG LAW TEXT *Introduction to the Doctrine of Prior Appropriation*, <https://www.ndsu.edu/pubweb/~saxowsky/aglawtextbk/chapters/waterlaw/PriorAppro1.html>.

15 Jones, *supra* note 7, at 214.

laws, this complexity and lack of understanding have sometimes been passed on to the legal code in the form of vagueness. For example, the criteria for water right transfer explicitly states that in the process of transferring a water right “no other water rights are injured.”<sup>16</sup> However, the criteria do not explicitly state how those injuries could take place. It is then given to the Director of the IDWR to regulate trade of water rights within these criteria.

In this sense, Idaho is like other dry states. The principles of beneficial use and prior appropriation are hallmarks of states known for their droughty domains. In Idaho, a water right transfer application must be submitted to, and approved by, the IDWR before *any* change in “point of diversion, place of use, period of use, or nature of use” can take place.<sup>17</sup> Upon receipt of said application, the director of the IDWR should publish the application, giving potential protestants a brief window in which to file a formal claim<sup>18</sup> (that is, of course, unless the water transfer would essentially be a non-factor for all other water users, in which cases the director is only required to give notice as “he deems appropriate.”<sup>19</sup> If there are protestants, then a hearing date is set; otherwise, the director of IDWR uses all available evidence to make a decision.

Central to this decision are the criteria against which the director of IDWR judges whether to approve “in whole, or in part, or upon conditions” (or not at all) the submitted applications. The criteria comprise four requirements that an application must meet if it is to be approved: (1) “No other water rights are injured,” (2) “The change does not constitute an enlargement in use of the original right,” (3) “The change is consistent with the conservation of water resources...and is in the local public interest,” and (4) “the new use is a beneficial use.”<sup>20</sup> It is important

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16 IDAHO CODE § 42.1 (2017).

17 *Id.*

18 IDAHO CODE § 42.2 (2017).

19 *Id.*

20 *Id.*

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to understand these criteria, as they are the roots of all water use in Idaho, and therefore paramount to the issue at hand.

## II. THREE COMPONENTS OF NO INJURY CRITERIA

The process for application to transfer a water right in Idaho as it stands is functional but flawed. Partially to blame are the inherent complications present whenever humans attempt to dictate by law a process which follows its own natural cycle. There are also avoidable inefficiencies; I believe that by altering the process to transfer a water right some of these inefficiencies can be removed. I believe that there are three ways in which the transfer of a water right can injure another water right: disturbances in water quantity, water quality, or timing of water availability.

### *A. Water Quantity*

The criteria for no-injury is an application and extension of prior appropriation doctrine. It is an application in the sense that it protects senior appropriators from losing their water rights based on transfers of junior appropriators. It is an extension in that it extends protection to junior appropriators by maintaining their right under the same conditions as when their priority date (when they first started legally putting water to a beneficial use) took effect.<sup>21</sup>

One immediate risk posed to third parties who are not actively involved in a transfer of a water right but who nonetheless share a river or canal system with somebody who *is* involved, would be losing water quantity. Therefore, in addition to the no-injury criteria for approving a water transfer, parties are also subject to the no-enlargement criteria. Due in part because of a pivotal case heard by the Supreme Court of Idaho, *Barron v Idaho Dept. of Water Resources*, there has been confusion in how the no-enlargement and no-injury criteria are related.

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21 *Crockett v Jones*, Sup. Ct. Idaho (Apr 19, 1929), <https://www.case-mine.com/judgement/us/5914cd7cadd7b04934812cd0>.

In *Barron v. Idaho Dept. of Water Resources*, Barron's application for a water right transfer was denied. Barron sought to split a water right of six cubic feet per second into two separate 1.2 and 4.8 cubic feet per second.<sup>22</sup> The transfer would involve changing the location of diversion from the original water right to two new locations of diversion. The IDWR published notice of the application per Idaho state law, and no protests were filed.<sup>23</sup> In its ruling, the court addressed the no-injury criterion and no-enlargement criterion independently. Because these criteria were treated independently some believe that they are separate from each other.

Had Barron's application been successful, he would have violated both the no-injury and no-enlargement criteria. The relationship between these two criteria is tricky and misleading in that the no-injury criterion can be violated without violating the no-enlargement criterion. A water right transfer can have other negative externalities such as impairing water quality or disrupting timing of water availability but the amount of water other appropriators receive could remain the same. On the other hand, if an enlargement takes place, the no-injury criteria is also being violated in that other water rights owners are losing water. This is what the court attempted to indicate in its ruling when these two criteria were addressed independently.

The no enlargement principle deals not only with enlargement of amount of water being used but also area of land being irrigated. One could then argue that if the amount of water diverted remains the same then the irrigated area could be increased without violating the no-injury criterion. In this situation, it could be argued that if no additional water is diverted than was previously diverted other water rights would not be injured. In practice, it is not so simple. Water not directly absorbed and subsequently transpired through plants or lost to evaporation infiltrates the soil

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22 *Barron v. Idaho Dep'T of Water Resources*, 18 P.3d 219, 222, (Idaho 2001).

23 *Id.*

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profile.<sup>24</sup> This infiltration can lead to return flow for subsequent users or it can even move to the water table and recharge groundwater.<sup>25</sup> Thus, if an enlargement of irrigated land takes place other water rights holders would be negatively affected, whether from a disruption in surface water two miles away or a disruption in groundwater rights one hundred miles away.

Another criticism of considering the no-enlargement criterion as part of the no-injury criterion is based on the difference between a fully appropriated stream and a stream that isn't fully appropriated. When a stream is fully appropriated any enlargement would by necessity cause an injury because all of the water in that stream has been appropriated, and the rights thereof are all owned. So, an enlargement by one appropriator would be injuring a downstream appropriator by removing water from them. But, in a stream or system that is not fully appropriated in theory one could take additional water without injuring another water right because there is spare water that hasn't been appropriated. The no-enlargement criterion has thus been used to avoid instances where an enlargement could take place without injuring another water appropriator. This distinction is unnecessary because all water not appropriated is property of the State of Idaho. It is as if every river system is fully appropriated and any enlargement would injure the State of Idaho.

Therefore, the no-enlargement criteria as it is outlined in the Idaho State code functions very effectively to avoid disturbing the water quantity of other appropriators when considering a water right transfer. This means that if a party applying for a water right transfer can prove no-enlargement they have proven that they will not disrupt the water quantity of other water rights. Thus, I believe that the no-enlargement criterion fits within the no-injury criterion. Instead of being considered separately from the no-injury criterion it should be used to clarify and fulfill part of the requirements for no-injury.

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24 C.W. Fetter, *Applied Hydrogeology* 5 (4<sup>th</sup> ed. 2001).

25 *Id.*

## B. Water Quality

Subject to the no-injury criteria is a reasonable expectation for water quality to remain functional<sup>26</sup>. Imagine driving on the highway to go to work. It is July, yet the vehicle in front of you is a monster truck equipped with studded snow tires. As you travel, the studded tires rip up the asphalt, leaving unevenness and holes over which your vehicle passes. Not only is your drive rougher, but you suffer financial consequences as your tires, suspension, and other mechanical functions begin wearing out faster than normal. This is similar to what happens when upstream water rights holders degrade the quality of water before it reaches downstream holders.

Known as the universal solvent, water has an affinity to dissolve and transport ions and other materials as it flows.<sup>27</sup> This affinity can cause water quality issues depending on the intended use of the water in question, and the medium it flows through. Just like the monster truck destroying the pavement and causing indirect damage to other motor vehicles, water passing through soils can pick up unwanted materials, making the water less effective for its intended use and potentially harming soils<sup>28</sup> or equipment of subsequent appropriators. If water quality is diminished to the point that junior appropriators cannot use it for their beneficial use, then the no-injury criterion has been violated.<sup>29</sup>

In Idaho, the two main uses of water are for agricultural

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26 Jeffrey C. Fereday, Christopher H. Meyer, & Michael C. Creamer, *WATER LAW HANDBOOK: THE ACQUISITION, USE, TRANSFER, ADMINISTRATION, AND MANAGEMENT OF WATER RIGHTS IN IDAHO* 35 (2017).

27 *Why is Water the "Universal Solvent"?* United States Geological Survey, <https://water.usgs.gov/edu/qa-solvent.html>.

28 Nyle C Brady & Ray R. Weil, *ELEMENTS OF THE NATURE AND PROPERTIES OF SOILS*, 319 (3<sup>rd</sup> ed. 1999).

29 Jeffrey C. Fereday, Christopher H. Meyer, Michael C. Creamer, *WATER LAW HANDBOOK: THE ACQUISITION, USE, TRANSFER, ADMINISTRATION, AND MANAGEMENT OF WATER RIGHTS IN IDAHO* 36 (2017).

and municipal purposes.<sup>30</sup> For the purposes of this paper, agriculture includes ranching and other livestock animal production, and municipal use includes institutions such as hotels and hospitals. Of the potential risks for water quality issues resulting from a water right transfer in agricultural settings, salinity is the primary concern. This is because most dangerous chemicals used in agriculture are regulated under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) to ensure safe use.<sup>31</sup> Because these chemicals are regulated under FIFRA they don't need to be considered during a water right transfer. Soils in arid regions like Idaho are, however, at risk of salinity problems,<sup>32</sup> which vary in severity depending on the concentration and type of ions in the water.<sup>33</sup>

I recommend adopting a similar strategy as the state of Montana concerning water quality as it pertains to water right transfers. In Montana, when applying to transfer a water right, one is only required to prove the transfer won't injure the water quality of other appropriators if a complaint is filed against the transfer.<sup>34</sup> This lessens the burden of proof placed on the applicant because in many cases the applicant won't be required to provide evidence of no harm with regards to water quality. It also places water rights holders in a more active role because it is in their hands to protect the water they will be using. If a protest is filed, then testing for concentration of ions can be done in an environmental analytical lab as well as in

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30 IDAHO DEP'T OF NAT. RESOURCES WATER USE INFORMATION, <https://www.idwr.idaho.gov/water-rights/water-use-information.html> (last visited Feb. 8, 2018).

31 Federal Insecticide, Fungicide, and Rodenticide Act 7 U.S.C. §136 et seq. (1996).

32 Nyle C Brady & Ray R. Weil, ELEMENTS OF THE NATURE AND PROPERTIES OF SOILS, 159 (3<sup>rd</sup> ed. 1999).

33 *Id.*

34 MONT. STAT. TIT. 85, § 2-402 (2017).

the field <sup>35</sup>as evidence that the no-injury criteria has been met.

In an agricultural setting, Montana's system would work because there is an expectation that water quality will be degraded by upstream users<sup>36</sup> and because current irrigation methods have less potential for water quality impairment<sup>37</sup>. Transition from flood and furrow irrigation to sprinkler irrigation decreases the potential for salt leaching. Effective leaching of salt requires water in excess of saturation for top soil horizons.<sup>38</sup> Such an excess of water is much less likely to be used in sprinkler systems.

One potential counter argument is that Montana's system works for agriculture but not for municipal water use because more precautions need to be taken for municipal use compared to agricultural use. This is a valid concern, and it is likely that any water right transfers involving water systems upon which a city relies will be more closely examined. After all, municipal water has direct impacts on human health and it would be irresponsible of cities to allow transfers that could hurt their water supply. Thus, cities have a large motivation to protest water right transfers occurring upstream. The Environmental Protection Agency has set strict regulations on a wide array of chemicals, trace elements and microbial activity for drinking water<sup>39</sup>. Testing

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35 BYU ENVIRONMENTAL ANALYTICAL LAB <http://eal.byu.edu/> (last visited Feb. 8<sup>th</sup> 2018); see also NASCO PH, EC, AND TDS TESTING KIT FOR FIELD TESTING OF SOIL, WATER AND FERTILIZER, <https://www.enasco.com/p/C24851N> (last visited Feb. 14, 2018).

36 Jeffrey C. Fereday, Christopher H. Meyer, & Michael C. Creamer, *WATER LAW HANDBOOK: THE ACQUISITION, USE, TRANSFER, ADMINISTRATION, AND MANAGEMENT OF WATER RIGHTS IN IDAHO* 35 (2017).

37 W.D. Kemper, John Olsen, & Alan Hodgdon, *Fertilizer or Salt Leaching as Affected by Surface Shaping and Placement of Fertilizer and Irrigation Water*, 39 *ALLIANCE OF CROP, SOIL, AND ENVTL Soc'y*, 115, 115-116 (1974).

38 Nyle C Brady & Ray R. Weil, *ELEMENTS OF THE NATURE AND PROPERTIES OF SOILS*, 314 (3<sup>rd</sup> ed. 1999).

39 EPA, *NATIONAL PRIMARY DRINKING WATER REGULATIONS* (2017) <https://www.epa.gov/ground-water-and-drinking-water/national-primary-drinking-water-regulations#main-content>.

for potentially hazardous materials such as heavy metals or sulfur compounds requires a more in-depth and costly analysis. These tests can often be completed at a normal environmental analytical lab. One problem then, is the cost associated with these tests. With so many tests it is possible the cost of testing for over seventy different potential health risks.<sup>40</sup> could stagnate water rights transfers or discourage the transfer of a water right.

To deal with this objection I recommend adopting a system like that of Colorado, encouraging communication between the applicant and the protestant. In Colorado when a statement of opposition has been filed the applicant must file a decree explaining how the transfer could be limited to avoid injury.<sup>41</sup> This is to encourage dialogue between opposing parties so that a potential solution can be reached before any official decision is made. Additionally, I believe that the Colorado system could be altered so that municipalities that object to a water right transfer would be required to pay for testing of that water for harmful materials. In this way, there isn't an additional financial burden placed on the applicant of water right transfer and the health of citizens will be protected.

Some might argue against this plan of action because of the risk that a water right transfer could impair water quality of a third party without them knowing. The transfer of a water right is public knowledge. The current system requires public notice on the IDWR website as well as newspaper publication to spread awareness of a water right transfer.<sup>42</sup> Additionally, the Director of the IDWR must take into consideration the opinion of the watermaster before approving or rejecting a water right transfer.<sup>43</sup>

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40 *Id.*

41 Lawrence J. MacDonnell, et al., *Transfers of Water Use in Colorado*, in 2 THE WATER TRANSFER PROCESS AS A MANAGEMENT OPTION FOR MEETING CHANGING WATER DEMANDS, 5, (Natural Res. Law Ctr., Univ. of Colo. Sch. Of Law 1990).

42 IDAHO CODE § 42.2 (2017).

43 *Id.*

This opinion is based on if the watermaster believes a transfer in water right fits the criteria previously mentioned. I recommend that part of the process should include the watermaster reaching out to any owners of a water right whose right could be injured by the transfer. Theoretically this should not be too difficult because watermasters need to communicate with water appropriators to coordinate irrigation shares on a regular basis.

Using watermasters to spread awareness of a water right transfer will help improve processing of applications. In the Barron case, his proposed water right transfer would have violated the no-injury criteria on several accounts. For that reason, it is a good thing that it was denied. But examining the case further, one reason for this rejection came from the statement by Jim Statton, an IDWR watermaster.<sup>44</sup> His statement was nonspecific in describing how downstream users could be injured from the transfer and never mentioned what water right could have been injured. If Barron's application for a water right transfer would not have injured another water right it still probably would have been denied due to a negative statement from the watermaster. By having watermasters inform owners of a water right about potential harm and then letting the owners decide if they want to protest the transfer this will provide more specificity with regards to why a water right transfer is denied and thus more options for remediating the transfer. This will also provide an incentive for owners of water rights to play an active role in the management of water rights in their district.

### *C. Timing of Water Availability*

Another potential way the no-injury criteria can be violated is to disrupt the timing of water availability, which was another reason why Barron's application was denied.<sup>45</sup> His plan

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44 Barron v. Idaho Dep'T of Water Resources, 18 P.3d 219, 222, (Idaho 2001).

45 *Id.*

was to appropriate water throughout the summer when his original water right gave him water only through June.<sup>46</sup> This would have disrupted the timing of available water for other appropriators. It has been shown that crops have growth stages that are more drought sensitive than other stages.<sup>47</sup> Interruption during a drought sensitive growth stage could be disastrous for a farmer.<sup>48</sup> From a more urban perspective, it has become an expectation to have water available to citizens anytime they want it. Interruption of water availability would cause drastic changes in lifestyle and potential negative human health impacts.

Avoiding disruption of water availability requires complex modeling to simulate how the water will actually travel, especially in cases involving changes in points of diversion. Surface waters and subsurface movement of water are extremely complex. For this reason, I recommend the IDWR maintain any and all procedures in place for approval and denial of applications based on how timing of water availability affects the no-injury criteria.

### III. CONCLUSION

To make the transfer of a water right more fluid I recommend the system of water right transfer in Idaho incorporate practices from other arid states and make a slight alteration in the criteria used by the director of IDWR. There are three ways in which a water right can be injured: changes in water quantity, water quality, and the timing of water availability. The no-enlargement criterion is helpful for ensuring that water

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46 Barron v. Idaho Dep't of Water Resources, 18 P.3d 219, 223, (Idaho 2001).

47 H. Boonjung & S. Fukai, *Effects of Soil Water Deficit at Different Growth Stages on Rice Growth and Yield Under Upland Conditions: Growth During Drought*, 48 FIELD CROPS RESEARCH, 37, (1996). See also Hargurdeep S. Saini & Mark E. Westgate, *Reproductive Development in Grain Crops during Drought*, 68 ADVANCES IN AGRONOMY, 59, (1999).

48 J. VAN ZYL, ET AL., THE INFLUENCE OF DROUGHT AND GENERAL ECONOMIC EFFECTS ON AGRICULTURE: A MACRO-ANALYSIS (May 28, 2010).

quantity isn't injured and thus should be considered as part of the no-injury criteria instead of being treated separately. This consolidation removes a redundancy in the process which would make the transfer go more smoothly. With regards to water quality, I recommend merging ideas from Montana and Colorado so that protection is still afforded to downstream users and when protests occur they are remediated before a final decision on the transfer. Addressing timing of water availability, complex modeling is required to predict water movements through the soil, the IDWR should maintain current practices in place. These ideas combine to ensure that the desired criteria for a water right transfer are met while making the process more fluid.

Arid states are adopting practices to make their water go further. California has innovated leasing water through a water bank system to escape some of the externalities of drought.<sup>49</sup> Montana has changed requirements for when a formal water right transfer application is even necessary.<sup>50</sup> Idaho is one of these arid states and is expecting population growth. This growth will generate additional needs for water. By removing redundancies in requirements for a transfer of water right, efficiency of the process as a whole can be improved. This improvement combined with greater transparency on the part of the IDWR will not only help the transfer process but will reflect conservative values that many Idahoans espouse. With a more efficient water right transfer system much needed water can be supplied to a thirsty and growing Idaho population.

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49 CALIFORNIA DROUGHT WATER BANK, GOVERNMENT INNOVATORS NETWORK <https://www.innovations.harvard.edu/california-drought-water-bank>.

50 MONT. STAT. TIT. 85, § 2-102 (2017).