

# Protecting Local



# Economies



**Legislative Options  
to Protect Rural Communities  
in Northeast Washington  
from Disproportionate  
Economic, Agricultural,  
and Environmental Impacts  
when Upstream Water Rights  
are Purchased and Transferred for Use,  
or Idled and Used as Mitigation, in a  
Downstream Watershed or County**



**REPORT TO THE  
LEGISLATURE**

**STATE OF  
WASHINGTON**

Lawrence J. MacDonnell, P.C.  
Boulder, Colorado

November 30, 2008

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*When the well's dry, we know the worth of water.*

—Benjamin Franklin (1706-1790), *Poor Richard's Almanac*, 1746



Columbia River meandering through eastern Washington. Photo: Dave Logan / iStock.

## INTRODUCTION

The demands for water to meet new uses in the State of Washington continue to grow while the availability of unclaimed water to meet these demands diminishes. One response has been the acquisition of existing water rights and the change of their use to meet new needs. Such acquisitions are voluntary agreements between the seller of the water right, a property right, and the new user. The terms of the agreement, including the price, must satisfy both parties. State water law ensures that other water rights are not impaired if the use of the right is changed. Effects on local communities, including their economies, are not considered, however.

Particularly in rural, agriculturally-based areas, sales of water rights that result in movement of the associated water to use in another area can have measurable adverse economic effects—referred to here as “third party effects.” National Academy of Sciences, 1992. An increase in such water transfers in northeast Washington in recent years prompted legislators from this region to introduce bills in the 2008 legislative session that would have prohibited changes of place of use to points outside the Water Resource Inventory Area (WRIA) in which the existing use is located. SB6348 – Interwatershed Water Right Transfers (HB 2978). While the bills did not pass, the legislature requested a study of legislative options to address this issue. This report is in response to this request.

Study results are organized into four parts:

- Study area, Washington law, and transfer activity in the northeast counties
- Review of studies addressing the nature and scale of “third party” effects
- Summary of related legislative approaches in other states, and
- Options and recommendations

# THE CONTEXT: Study Area, Washington Law, and Transfer Activity in the Northeast Counties

## Study Area

The legislature requested that particular consideration be given to the five counties of northeastern Washington: Pend Oreille, Stevens, Lincoln, Okanogan, and Ferry. See Figure 1 for a map of Washington counties. We begin with a profile of these counties to help set the context for the report. More detailed information is provided in Appendix A.

These five counties are largely rural, with economies primarily based on agriculture and development of natural resources—especially in Lincoln and Okanogan counties. With an estimated 43,700 inhabitants in 2008, Stevens County is most populous of the five. Next is Okanogan County with 40,100 people, followed by Pend Oreille County with about 12,800 residents. Lincoln with 10,400 inhabitants is next, followed by Ferry County with 7,700 residents. Between 1998 and 2008, Stevens grew about 14%,

followed by Ferry at 9%. Pend Oreille grew about 8.5%; Lincoln about 3%; and Okanogan about 1.7%.

Irrigated agriculture is important on lands along the tributaries to the Columbia River and lands irrigated with ground water. Most of the irrigated agriculture in these five counties occurs in Lincoln and Okanogan counties: 43,700 acres and 43,500 acres respectively. Next is Ferry with 9,120 acres and Stevens with 4,260 acres. Irrigation uses of water in Okanogan County in 2000 totaled 81,300 acre-feet, 59,100 from surface diversions and 22,200 from groundwater withdrawals. Lincoln County irrigation used 40,260 acre-feet in 2000, 9,060 from surface diversion and 31,200 from groundwater withdrawals. Next came Stevens, about 9,000 acre-feet from surface sources and 1,700 from ground water. Ferry County irrigators used 5,030 acre-feet, 4,130 from surface sources and 900 from ground sources. Pend Oreille irrigators used about 8,300 acre-feet—5,200 from surface water and 3,100 from ground water.

Before addressing water transfer activity in these counties we provide a brief summary of Washington's water transfer law.

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## Water Transfer Law<sup>1</sup>

Water is regarded as a public resource. Its use may only be made according to state law. In Washington, particularly in the eastern portion of the state, rights to use water are established under the principles of prior appropriation. R.C.W. § 90.03.250. The user must establish physical control of some portion of water, typically by diverting flows from a stream or by pumping water from a well, and apply that water to a beneficial use. The use is tied to a particular source of water, a specific point of diversion, a maximum rate of diversion, a particular place of use, and a specified purpose of use. Because supplies of water are limited,

priority is given to the earliest appropriators (first in time, first in right). Senior users are able to fully satisfy their diversion rights even if this means junior appropriators may not take any water. Because the priority right to use water is so important in places with limited supplies, state law requires the use to be continued for the right to be maintained (use it or lose it). R.C.W. § 90.14.160.

Water rights in Washington are regarded as appurtenant to their place of use. R.C.W. § 90.03.380. Ownership of the right may be transferred to others, and the use of the right, including its location, may be changed, so long as the change does not impair other existing rights. Application to make a change of use must be filed either with the Department of Ecology

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1 For a more complete discussion of Washington water transfer law, see Appendix B.

(R.C.W. § 90.03.380) or the county conservancy board if one has been established in the area (R.C.W. § 90.80.020; § 90.80.070). In addition to ensuring the water right is valid, the process is primarily concerned with making sure the change does not cause injury to other water rights.

There is nothing in existing law that calls for consideration of local economic or environmental effects associated with a change of use, especially ones that involve the removal of water from a local area. The Washington Supreme Court has ruled that the public interest standard does not apply to changes of surface water rights. *PUD No. 1 of Pend Oreille County v. Ecology*, 146 Wn.2d 778 (2002). There is a requirement that a proposed change that would move water from one irrigation district to another not adversely affect the districts' ability to deliver water to others nor impair their financial integrity. R.C.W. § 90.03.380 (2). Water rights established under the

Family Farm Water Act may not be transferred for use outside of the WRIA or urban growth area in which they were established. R.C.W. § 90.66.065 (2), (5). The Washington State Environmental Policy Act may apply to decisions approving changes of water rights if the proposed change would significantly affect the human environment.<sup>2</sup> R.C.W. § 43.21C.030. And, if the proposed change before a county conservancy board involves water taken from a source outside the county or WRIA in which the use would be made, the board is required to hold a hearing in the area from which the water would be taken. R.C.W. § 90.80.070 (2). If the proposed change would move water outside the WRIA that is the source of the water, the board must consult with Ecology.

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<sup>2</sup> See the discussion of SEPA in Appendix B.



## Out-of-WRIA Transfer Activity in Northeastern Washington

To get a sense of out-of-WRIA transfer activity involving water rights in the five counties of northeastern Washington, we obtained from Ecology a listing of all such applications since 2000. A more detailed discussion is provided in Appendix C. As shown in Table 1, there were no reported applications involving out-of-WRIA transfers in Pend Oreille or Ferry counties. See Figure 2 for a map showing WRIA boundaries. There were 13 out-of-WRIA transfer proposals in Stevens County, 12 in Lincoln County, and 25 in Okanogan County. All but two of the out-of-WRIA transfers in Stevens County would stay in the county. One would move water to Lincoln County and one to Douglas County. Six of the Lincoln County out-of-WRIA transfers would stay in Lincoln County. Two would move to Adams County; two to Douglas County; and two to Franklin County. However, only one of the Okanogan County out-of-WRIA transfer applications were to stay in the county. 15 were to go to Douglas County; two to Chelan County; four to Grant County; two to Benton County; and one to Kittitas County.

Of the 50 total applications during this eight-year period, 16 have been approved to date, 4 have been rejected, and the rest are pending. 14 were filed in either 2007 or 2008.

In general, the quantities of water proposed for out-of-WRIA transfer were modest—a median diversion rate of 0.76 cubic feet per second and a median volume of 160 acre-feet. The largest amount of water proposed for transfer was 1,830 acre-feet.

Most applications did not involve a proposed change of purpose of use. Of the 18 that did, 12 involved a proposed shift of purpose, at least in part, from irrigation to municipal or domestic use. Thus, while all of the applications involved a proposed change of place of use outside the WRIA, most would keep the water in irrigation use.

**Table 1. Summary of Out-of-WRIA Transfer Applications In Northeast Washington, 2000-2008**

From	To: Pend Oreille	Ferry	Lincoln	Okanogan	Stevens	Other
Pend Oreille	-	-	-	-	-	-
Ferry	-	-	-	-	-	-
Lincoln	-	-	6	-	-	6
Okanogan	-	-	-	1	-	24
Stevens	-	-	-	-	11	2

Source: Washington Department of Ecology

## THIRD PARTY EFFECTS<sup>3</sup>

### Introduction

Transfers of existing water rights to new uses are an increasingly common means of meeting new water demands. The reasons are clear. Most sources of water are fully appropriated, at least during the irrigation season. The costs of new water development often exceed the ability of water users to pay. And the effects of such new development on stream conditions needed to maintain aquatic life, protect water quality, and support recreation are difficult to offset.

The highly interconnected nature of water uses greatly complicates the task of making changes of use. While a right authorizes a maximum instantaneous rate of diversion, actual use varies considerably from month to month and from year to year. Through time, water diversion and use practices develop general patterns. Irrigation uses not only cause large amounts of water to be withdrawn from their sources during the summer, application of that water to crops results in much of that water being consumed by the plants or otherwise lost to evaporation. Some of the unconsumed water returns to the source through surface drainage systems. Some of the water percolates into the ground and returns to the stream much more slowly as ground water. Other uses, particularly those with a junior priority, may be based on these return flows. Changes of use must take into account these established patterns of diversion and return flow to ensure the change does not impair existing uses, including those of junior appropriators.

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<sup>3</sup> A much more comprehensive discussion is provided in Appendix D.

### Local Economic Effects

There can be other interests affected by a change of use. The existing use typically is generating direct economic benefits. For example, water used in irrigated agriculture makes possible the growth of crops. Revenues earned from the sale of the crops pay for the labor necessary to grow and harvest the crop. They pay for the use of the land, the purchase of the seed, the fertilizer, and the farm equipment, as well as the costs of operating and maintaining the irrigation system. If water is removed from this irrigation use, the land is typically taken out of agriculture. Particularly in rural settings, there may not be an alternative economic use for the land. If only a small portion of the agricultural land in the area is retired, the effects on the local economy are likely to be negligible. As larger portions of land are retired, the effects may become more significant.

Local economies are constantly adjusting to changes that affect their businesses. A decision by a business to close can have the same kinds of economic effects as those associated with an irrigator's decision to stop farming. We do not generally intervene in business closures to protect local economies. Why should we intervene to protect local economies in decisions to stop irrigating?

Not everyone thinks we should. Young, 1986. Yet there has been substantial support for the idea that these so-called third party effects of water transfers should somehow be considered. The National Research Council, an arm of the National Academy of Sciences, convened a committee in the early 1990s to consider this matter. In its report, *Water Transfers in the West* (1992), the committee concluded: "allocation processes should accord third parties with water rights—and those without them—legally cognizable

interests in transfers and ... states should develop new ways to consider these interests.”

Why this special concern for the removal of water from an “area of origin?” In part, it may be explained by the public nature of water. Water is an important natural resource that provides a broad array of benefits. While no one owns water, all share in some of its common benefits—such as the human and other life it supports, the habitat it creates, the recreation it makes possible, and the assimilation of wastes it allows. From an economic perspective, the availability of water in rivers and aquifers makes possible its use for a wide range of revenue-generating activities, such as power generation and irrigated agriculture. The presence of water contains all of these possibilities. The removal of water diminishes them.

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*Changes of use must take into account these established patterns of diversion and return flow to ensure the change does not impair existing uses, including those of junior appropriators.*

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Yet human demands for water sometimes exceed the local supply. In such cases, it is necessary to find other sources of supply and transport water to the place of use. The importance of allowing natural resources to move to the place of demand is fundamental to a shared economy, even if that movement is across state lines. *Idaho ex rel. Evans v. Oregon*, 462 U.S. 1017 (1983). In some cases, these sources of supply are found in other watersheds and even, other water basins. The facilities needed to control and carry this water to the place of use can be substantial, perhaps involving tunneling through mountains and using pumps to lift the water. As we will discuss in the next section, many states have established special procedures for reviewing applications to divert large quantities of water from an area of origin for use in another location.



Apple Orchard on Okanagon River.  
Photo: Michael Major / iStock.

Here we are concerned not just with possibilities but with existing beneficial uses of water that are providing measurable benefits for the user and indirect benefits for those linked to the use. For whatever reason, the user has decided to cease use of the water. Rather than abandon the right of use with its valuable priority, the user has the option to transfer the right to another. If the transferee intends to continue the existing use, little will change. If, however, the transferee intends to put the right to a different use, effects on other water rights must be considered.

If the transferee intends to use the water for a different purpose but in the same location, the economic activity supported under the original use will simply be replaced by another economic activity. There may be some changes in the local economy, but the value generated by the water will remain in the community. Thus, if the transferee intends to take formerly irrigated lands out of agriculture and put in a new commercial development, changing the water use from irrigation to commercial purposes, the water from the local source is still providing local economic benefits.

If the transferee intends to shift the place of water use away from one local area to a different location—for example, from use for irrigated agriculture in a rural area to commercial and household use in a distant urban area—the water and its associated benefits both will leave the area. While the transferor is compensated for the transfer of the right, potential costs other than those to other water rights are not considered.

Considerable work has been done to examine the effects of taking water out of irrigated agriculture when the use of the water leaves the local area. See Appendix D. A study of the effects of fallowing lands in the Central Valley of California during the drought of the early 1990s found a correlation between acres of land taken out of irrigation and declines in local employment, agricultural income, and county income. Hanak, 2003. In two of the counties studied, each one percent increase in the number of acres fallowed led to between a 0.17 and a 0.36 loss of jobs. In one county, fallowing of six percent of the land reduced county agricultural income by between two and three percent. The reduction in total county income was less than one percent. Dixon, et al, 1993; Howitt, 1994. The studies noted these transactions were temporary water transfers so the irrigators did not go out of business. They also noted the variations among counties dependent on how diversified the economies were.

An analysis of the anticipated local economic effects of shifting water out of agricultural use in the Imperial Valley of California for use in the City of San Diego estimated that for each one percent reduction in water there would be a 0.016 percent reduction in agricultural employment and a 0.05 percent reduction in county employment. Martin, 2003. Under the agreement, no more than 10 percent of total irrigated acreage in the district would be fallowed at any one time.

Local effects associated with a rotation agreement between the Palo Verde Irrigation District and the Metropolitan Water District in the early 1990s also have been evaluated. As with the Imperial Valley arrangement, the intention was to enable a portion of the water historically used for irrigation to temporarily shift to urban use. Water was made available by fallowing fields on a rotational basis. Nevertheless there were some job losses associated with the reduction in agricultural activity: fallowing of approximately 25 percent of the district's irrigated land resulted in the loss of 60 jobs, approximately 1.5 percent of local employment. Berman, 2006.



Rolling farmland in Washington's Palouse region.  
Photo: Robert Hunt / iStock.

The lower Arkansas Valley in Colorado has been the location of numerous large water transfers, taking water permanently out of irrigated agriculture and shifting the use to urban areas along the Front Range of the Rocky Mountains. Between 1979 and 1995, 68,000 acres of irrigated land went out of production in this area. Howe and Goemans, 2003. Using an input-output model, Howe and Goemans determined that the direct and indirect loss in local output per acre-foot of water transferred was \$117. The effect on local property and sales taxes was about \$12 per acre-foot. And about 2.5 jobs were lost per 1,000 acre-feet of water transferred. This study compared these results to transfers in the South Platte basin, a more economically-diversified area of Colorado, and found that local economic effects in the South Platte were considerably less than in the Arkansas.

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*All studies have identified measurable local economic effects associated with transfers.*

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In sum, all studies have identified measurable adverse local economic effects associated with transfers that take water out of irrigated agriculture. These effects include loss of jobs, loss of income, and loss of tax revenue. The magnitude of the losses depends on the extent to which the local economy is based on irrigated agriculture. More diversified economies tend to be less affected. We turn next to legislative responses in some states to consider third party effects.

# LEGISLATIVE RESPONSES TO THIRD PARTY CONCERNS

## Introduction

We examined the statutes of all 50 states and the Canadian provinces to find examples of legislation that address third party concerns associated with water transfers. We found such examples in two different areas—one involving proposals to transfer previously unused water out of one hydrologic unit for use in another and the other involving changes of existing water rights. The general approach is to call for consideration of certain effects as part of the application review process. In a few cases, more specific requirements have been included. Our findings are summarized here and presented in more detail in Appendix E.

## Review of Proposed Interbasin Transfers

At least 16 states/provinces have some legislative provisions addressing proposals to move previously undeveloped water out of one hydrologic or governmental unit for use in another location. Often these provisions are triggered only for proposals involving specified minimum quantities of water. Alaska, Alberta, Colorado, Connecticut, Massachusetts, Nebraska, North Carolina, Oklahoma, Oregon, South Carolina, Tennessee, and Texas all have provisions addressing proposed transfers of water out of one river basin or sub-basin to another. California, Florida, and Nevada link their provisions to proposed uses that would take water outside of a county. Kansas requires special review of proposed transfers that would move water more than 35 miles from the point of diversion.

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The most common approach in these provisions is to set out a list of factors the decision maker is to consider. For example, the State of Connecticut provides for review of many proposed withdrawals of water. Conn. Gen. Stat. § 22a-369; § 22a-377. The statute lists nine factors to be evaluated in making the decision. In addition, if the proposal involves an interbasin transfer of water, the decision maker is authorized to require the applicant to file an “environmental impact report.” Matters to be included in this report are: (1) the effect of the transfer on present and future water uses in the proposed “donor” basin; (2) a plan for meeting the water supply needs and demands in the donor basin for at least the following 25 years; and (3) alternative solutions for meeting the water need, including a comparison of costs of the alternatives with costs of the proposed project. This concern about effects on future water uses in the basin of origin is also included in the review requirements for Colorado, Minnesota, Nebraska, North Carolina, Oklahoma, Oregon, South Carolina, and Texas. Most of these states require the decision maker to consider the need for the water in the proposed area of use, often including whether there are alternative means of meeting the needs—sometimes including conservation.



Left: Washington Scenery. Photo: Rick Frye. Right: Acreage and shop for sale along Columbia River. Photo: Phil Augustavo/iStock.

California and Oklahoma have a unique approach for protecting future water needs in local areas: authorizing such users to obtain needed rights with a priority that supersedes the out-of-basin use. Thus, Oklahoma law states: “Only excess or surplus water should be utilized outside of the areas of origin and citizens within the areas of origin have a prior right to water originating therein to the extent that it may be required for beneficial use therein.”<sup>82</sup> Okl. St. § 1086.1(4). Oregon law provides for a reservation of water to meet future needs in a basin of origin. Or. Rev. Stat. § 537.809. Alberta law allows the withholding of up to 10 percent of the water proposed for out-of-basin transfer if determined to be necessary to protect the aquatic environment or to achieve a conservation objective. Alberta 1996 cW-3.5 s8. Colorado imposed the following requirement on projects to be constructed and operated by a water conservancy district that would take water from the Colorado River basin to the state’s Front Range: “the present appropriations of water and, in addition thereto, prospective uses of water for irrigation and other beneficial consumptive use purposes, including consumptive uses for domestic, mining, and industrial purposes, within the natural basin of the Colorado river in the state of Colorado from which water is exported will not be impaired nor increased in cost at the expense of the water users within the natural basin.” Colo. Rev. Stat. § 37-45-118 (1)(B)(II). This requirement has been met by the construction of a “compensatory” dam and reservoir with water stored for use within the Colorado River basin.

Other factors most often listed for consideration include effects on water quality, on recreation, and on fish and wildlife. Thus Connecticut may require any applicant for a new water withdrawal (not just for out of basin transfers) to provide information respecting effects on “public water supplies, water quality, wastewater treatment needs, flood management, water-based recreation, wetland habitats, waste assimilation, agriculture, fish and wildlife and low flow requirements.” Conn. Gen Stat. § 22a-369 (7). Florida sets out seven factors to consider in determining whether an out-of-county use of either surface or ground water is in the public interest. Fla. Stat. § 373.223 (3). Included are potential environmental impacts. Kansas calls for a state-level benefit/cost evaluation of proposed transfers of water more than 35 miles from the point of diversion, in which one of the factors is the “economic, environmental, public health and welfare and other impacts of approving or denying the transfer.” K.S.A. § 82a-1502 (c)(3). Massachusetts requires an environmental review of proposed interbasin transfers under the Massachusetts Environmental Policy Act. ALM GL ch. 21, § 8D (3). Massachusetts’ law also specifies that applications should provide, among other things, information regarding the effects of the proposed withdrawal on “public drinking water supplies, water quality, wastewater treatment, waste assimilation, groundwater recharge areas, navigation, hydropower resources, water-based recreation, wetland habitats, fish and wildlife, agriculture, and flood plains.” ALM GL ch. 21G, § 8 (7). Nebraska law calls for consideration of



Left: Washington apples. Photo: Eric Simard/iStock. Right: Orchard at the base of the Columbia River. Photo: Ken Vanderputten/iStock.

the “economic, environmental, and other benefits of leaving the water in the basin of origin for current or future beneficial uses.” R.R.S. Neb. § 46-289 (5). North Carolina sets out a list of considerations very similar to those contained in the Connecticut statute: “public, industrial, economic, recreational, and agricultural water supply needs, wastewater assimilation, water quality, fish and wildlife habitat, electric power generation, navigation, and recreation.” N.C. Gen. Stat. § 143-215.22L (k)(2). South Carolina includes among its 13 considerations water quality as well as “navigation, hydropower generation, fish and wildlife habitat, aesthetics, or recreation.” S.C. Code Ann. § 49-21-30 (C)(12).

All of the states and provinces that are party to the Great Lakes Compact, as well as several other states, subject out-of-basin transfers to approval by either the governor or the state legislature. For example, both Idaho and Oregon require legislative approval of proposed transfers involving more than 50 cubic feet per second of water. Idaho Code § 42-108; Ore. Rev. Stat. § 537.810. Minnesota requires legislative approval of proposed out-of-basin transfers of more than 2,000,000 gallons per day. Minn. Stat. § 103G.265. Alberta requires approval by special act of the legislature for interbasin transfers. Alberta 1996 cW-3.5 s47.

In general, a project constructed to divert water in one basin for use in another is likely to be substantial. The facilities required to make such use of water include those necessary to divert and store water in the basin of origin and then transport the water to a place of storage in the basin of use. Structures for the generation of electric power typically are included, both because the movement of water likely requires pumping and because excess electricity can be sold to help pay project costs. The scale of such projects probably explains the kind of comprehensive reviews established in many of the referenced statutory provisions. As we discuss next, third party considerations in reviews of proposed changes of an existing water use are more limited.

## Review for Changes of Water Rights

All 17 prior appropriation states authorize the holder of a vested water right to change the use of the right, subject to the requirement that the change not impair other water rights. In each case, there is a designated reviewer that must specifically approve the proposed change of use. Five of these states include additional requirements that address other third-party concerns. These provisions are discussed on a state-by-state basis.

### 1. California

California law requires an applicant for a change to “[i]nclude all information reasonably available to the petitioner, or that can be obtained from the Department of Fish and Game, concerning the extent, if any, to which fish and wildlife would be affected by the change, and a statement of any measures proposed to be taken for the protection of fish and wildlife in connection with the change.” Cal. Water Code § 1701.2 (c). It authorizes temporary changes subject to the condition that they “not unreasonably affect fish, wildlife, or other instream beneficial uses.” Cal. Water Code § 1725. “Significant” changes in water quality also are not allowed. Cal. Water Code § 1727 (1). It authorizes “long term” changes (more than one year) so long as they will not “unreasonably affect” fish, wildlife, or other instream beneficial uses. Cal. Water Code § 1736. Finally, in the event of a “water emergency,” local or regional water authorities are authorized to make water available outside of their normal service areas so long as this action does not unreasonably affect fish, wildlife, or other instream beneficial uses or unreasonably affect the overall economy of the area from which the water is being transferred.” Cal. Water Code § 386. California law also authorizes a water supplier to contract with the state water bank to make water available for use by others. Cal. Water Code § 1745.04. Water made available to the bank by fallowing irrigated lands cannot exceed 20 percent of the water that would

have otherwise been used. The policies guiding use of California’s 2009 Drought Water Bank include a prohibition of transfers that would injure other water users, unreasonably affect fish, wildlife, or other instream beneficial uses, or unreasonably affect the overall economy or the environment of the county from which the water is transferred. 2009 Drought Water Bank Overview, accessed at [http://www.water.ca.gov/drought/docs/2009water\\_bank.pdf](http://www.water.ca.gov/drought/docs/2009water_bank.pdf). In addition, no more than 20 percent of the cropland in any county can be idled to make water available to the bank.

### 2. Colorado

Colorado subjects proposals to change rights from irrigation to other beneficial uses to several specific requirements. First, approval must include provisions for revegetation and noxious weed management for the lands from which water would be removed. Colo. Rev. Stat. § 37-92-305 (4.5)(a). Second, for proposals that would remove more than 1,000 acre-feet per year of consumptive use water from irrigated lands (termed a “significant water development activity”), a “transition mitigation payment” and a “bonded indebtedness payment” may be imposed. Colo. Rev. Stat. § 37-92-305 (4.5)(b). Mitigation payments are to equal the amount by which property tax revenues are reduced because lands are taken out of irrigation. Bonded indebtedness payments are to offset the reduction in bond repayment revenues attributable to the proposed transaction. In general, such payments are to be made for a period of 30 years. Third, approval of changes removing more than 1,000 acre-feet of consumptively-used irrigation water that includes a change of point of diversion may be conditioned to require actions to offset exceedances in stream water quality standards, if any, attributable to the removal of water. Colo. Rev. Stat. § 37-92-305(4)(V). The second and third requirements do not apply to transfers of water for use within 20 miles of the original location of use. Colo. Rev. Stat. § 37-92-305 (4.5)(c)(III).

### 3. Idaho

Idaho law subjects changes of water rights involving a proposed new use outside the watershed or local area of the existing use to the requirements that they be in the “local” public interest and they not adversely affect the local economy of the watershed or local area within which the water originates. Idaho Code § 42-222. Local public interest is defined as “the interests that the people in the area directly affected by a proposed water use have in the effects of such use on the public water resource.” Idaho Code § 42-202B (3). Changes of irrigation rights to non-irrigation uses are not permitted if they would “significantly affect the agricultural base of the local area.”

### 4. Nevada

Nevada subjects applications for permits for new uses and for changed uses that would take ground water outside the county in which it is withdrawn to several requirements. The state engineer must give notice to the county commissioners of any such applications. Nev. Rev. Stat. Ann. § 533.363 (1). The county of origin is authorized to impose a fee of \$10 per acre-foot per year, subject to the approval of the state engineer. Nev. Rev. Stat. Ann. § 533.438 (1) & (2). Alternatively, the applicant and the county commissioners may develop a “plan to mitigate” the adverse economic effects caused by the out-of-county water transfer. Nev. Rev. Stat. Ann. § 533.4385 (1). The plan may include a reservation of designated water rights to the county of origin and compensation for the reasonably foreseeable effects of the transfer.

### 5. Wyoming

Wyoming includes as factors for consideration in a proposed change of use the economic loss to the community and the state if the original use is discontinued and the extent to which this economic loss will be offset by the new use. Wyo. Stat. § 41-3-104 (a)(i)&(ii).

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*Only a few states have identified local economic impacts associated with changes of water rights as a matter for consideration in the review process.*

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To summarize, only a few states have identified local economic impacts associated with changes of water rights as a matter for consideration in the review process. Two states, Idaho and Wyoming, include local economic effects within their public interest review. One, California, only includes this consideration for emergency transactions (such as for a drought). Two states, Colorado and Nevada, provide for payments to offset losses of property tax revenues. One state, Nevada, provides for development of a mitigation plan in lieu of making fixed payments. One state, Colorado, specifically requires revegetation and weed management for former cropland. For transfers of more than 1,000 acre-feet of consumptive use water, Colorado also provides for consideration of effects on stream water quality standards. We turn now to a discussion of legislative options and recommendations.

# OPTIONS AND RECOMMENDATIONS

## Summary of Options

At the outset it is worth noting that no state absolutely prohibits transfers of water out of one part of the state for use in another part, even when the transfer involves moving water between separate water basins. In the case of proposed development of previously undiverted water, some states appear to make their review processes especially detailed as a mechanism for ensuring their acceptability. By imposing extensive information requirements on applicants, the state is both expressing a high degree of concern about potential adverse effects and creating substantial costs for the applicant. Yet the decision maker is only required to “consider” this information. There are no standards that must be met in most cases, except those relating to the sufficiency of remaining water to meet expected future needs. Kansas, North Carolina, and Nebraska call for a kind of cost/benefit analysis, but the economic uses of water in the proposed location of use are almost certain to outweigh the dollar value of the in-place benefits in the place of origin.

Thus, by far the most common approach is to require administrative review of the proposed transfer. Reviews for changes of water rights are far more limited than for interbasin transfers, with most states concerned only with ensuring protection of other water rights. Approximately half of the prior appropriation states also have a public interest requirement that applies to changes of water rights. We found no examples in which a general public interest standard was used to consider local economic effects of a change. Even in the three states in which this consideration is statutorily included, we found no example in which consideration of local economic effects prompted any term or condition to be applied to approval of a change. California only requires consideration of such economic effects for temporary

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*No state absolutely prohibits transfers of water out of one part of the state for use in another part.*

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changes. In an example from California in which there was explicit consideration of potential local economic effects associated with a proposed temporary change of use, the State Water Resources Control Board stated:

.....

The SWRCB does not expect the proposed temporary change to have a significant impact on third parties. Each District will reduce consumptive use within its service area by no more than 20 percent of the total consumptive use in 2002. This reduction in consumptive use is within recent historic use amounts. The crop idling and crop shifting activities are within the normal range of agricultural activities and will be distributed throughout the 13 Districts. As the proposed change is only temporary, there will be no alterations in land use which could potentially affect third parties.

.....

(See Order 2003-10, page 7, accessed at <http://www.waterrights.ca.gov/hearings/WaterRightOrders.htm>.)

An example from Nevada involved a proposal by the Southern Nevada Water Authority to change the use of ground water that would involve moving the water into Clark County. In his decision:

.....

The State Engineer concludes that there is not substantial evidence to support the protest claim that the use of water under the applications could cause economic impacts in the areas of origin, such as precluding new agricultural development, damaging the existing agricultural economy, inhibiting or precluding opportunities for power generation, inhibiting or precluding mineral extraction, inhibiting or precluding manufacturing by space-requiring industries, damaging tourism, and concentrating population as opposed to dispersing it.

.....

Ruling 5621, In the Matter of Protested Applications ... Within the Three Lakes Valley, Southern Part Hydrographic Basin (211), Clark County, Nevada, Office of the State Engineer of the State of Nevada, June 15, 2006, accessed at <http://water.nv.gov/scans/rulings/5621r.pdf>.

In the two states that establish specific requirements, Colorado and Nevada, we found examples in which two of these provisions had been applied. The Colorado revegetation requirement was addressed in the decree for Case Number 02CW181 (Lower Arkansas Water Management Association). Lands to be removed from irrigation were identified, and detailed plans to either establish self-sustaining native grasses or institute dry land agriculture were set forth. Paragraph 30, Lower Arkansas Water Management Association, Case No. 02CW181. The Applicant was given 10 years to establish and maintain native ground cover.

Counties in Nevada have apparently imposed fees on out-of-county water transfers. While the statute authorizes a fee of \$10 per acre-foot per year, the fees to date have been \$6 per acre-foot. Personal Communication, Mike Randall, Nevada State Engineer's Office, October 6, 2008. Apparently no use has been made of the alternative provision authorizing a mitigation plan. These provisions were added to Nevada law because of plans by the Southern Nevada Water Authority and the City of Las Vegas to obtain water from other parts of Nevada.

## Recommendations

We recommend the following changes and additions to Washington law to address third party concerns associated with changes of irrigation water rights:

1. A statutory requirement for revegetation or restoration of other suitable land cover of formerly irrigated lands and weed management control of temporarily fallowed lands. Some appropriate land cover should be established when croplands are permanently removed from irrigation. Experience in Colorado demonstrates that reestablishment of native grasses is challenging but possible. Alternative

uses such as dryland agriculture or other kinds of development may be a reasonable option. Control of weeds is the primary objective.

2. A statutory requirement that property tax revenues lost because of the change, if any, be offset by annual payments to local governments for up to 20 years. Typically, lands in irrigation are assessed for property taxes at a considerably higher value than the same lands without irrigation. One example from Colorado noted the separation of water from the land reduced the land values from \$886/acre to \$112/acre. If the changed use would occur within the county or other taxing authority boundary and the use would generate tax revenues offsetting those lost, there would be no obligation for payments. Thus, in practice, such a requirement is only likely to result from changes moving water outside the county of original use. We would suggest such payments—if any—sunset at some point, perhaps after 20 years, as land uses and local economies change. We would also suggest waiving this requirement if the new water use is not a revenue-generating activity since there would be no revenues from which to pay the taxes.

Alternatively, we would encourage consideration of some specified fee per acre-foot of water transferred outside the original county of use, similar to that found in Nevada law. The funds could be used to offset losses in property tax revenues or for other purposes, as determined by the county commissioners. In our view, such a fee should only be required for a limited period while the local economy adjusts and should not be imposed on non-revenue-generating water uses. Payment of a per-acre-foot fee is straightforward and avoids more complicated analyses of lost tax revenue. Provision should be made for adjustment of the fee to account for changes in the consumer price index.

3. A statutory provision for general public interest review of proposed changes of water rights as exists for applications for new appropriations of water. Such a provision enables consideration of any special or unique matters that might be important in a given proposal. It allows concerned parties to raise issues, whether related to local economic impacts or otherwise, that the decision maker can at least consider.

## CONCLUSION

As with many parts of the American west, the State of Washington is experiencing increased interest in meeting new water demands by changing the use of existing water rights. This approach enables those who are no longer interested in continuing their use of water to benefit by transferring the right to another. The water is moved to a different use, likely one with a higher economic return. The need to divert and consume additional water is avoided.

Changes of use need to be managed, however, to ensure they do not harm others. Considerable effort is expended to avoid harm to other water rights. Far less attention has been paid to other potential adverse effects. Particularly when the change of use results in moving water out of one area for use in another, there is the potential for adverse local economic effects. Rural, agriculturally-based economies are especially vulnerable because there tend to be few economic alternatives.

Revegetation or other appropriate cover of lands taken out of irrigation should be required for all changes that permanently retire croplands, and weed management should be required for temporary land fallowing arrangements. Some provision should be made as well for payments to local government to offset losses in property tax revenues if water formerly used for irrigation is moved to a revenue-generating use outside the county.

We note that much can be done with the manner in which water transfers are structured to reduce their potential adverse effects on local communities. For example, as discussed in Appendix D, the Metropolitan Water District of Southern California has entered into an agreement with the Palo Verde Irrigation District for a long-term water supply based on temporarily fallowing no more than 20% of the lands within the district at any time. It is the water that would otherwise have been used to irrigate fallowed lands that is supplied to MWD. But lands are only temporarily taken out of irrigation. And the payments made to the irrigators to forego irrigation are largely used in the local economy. A similar arrangement now exists between a city and a ditch company in Colorado, based on making water available in periods of drought.

An even more ambitious approach is emerging in the lower Arkansas Valley of Colorado under which the shareholders in the many mutual ditch companies in the area are considering joining together to pool their rights and, using rotation arrangements, creating a supply of water that would be available for use elsewhere in the basin. Those temporarily foregoing use would be compensated, and additional funds would be used to make improvements in irrigation facilities, including on-field practices. These efforts are being orchestrated by a recently formed water conservancy district, a form of local government authorized under Colorado law with general taxing and bonding authority.

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*Much can be done with the manner in which water transfers are structured to reduce their potential adverse effects on local communities.*

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In our view, such proactive efforts are essential if local areas are to continue to derive benefits from the water that is now being applied to beneficial uses within the area. Water uses will inevitably change over time as new demands emerge and existing users decide to stop making their uses. Some of these uses will be within the same local area, but some will not. It is important for the state's economy that water be available to support emerging beneficial needs, wherever they exist.

Our recommendations will help to ensure that two real costs of water transfers that would otherwise be imposed on third parties are instead borne by the party that would benefit from the changed use of the water. We believe these costs should in fact be included in the decision to make such a change of use. Even so, irrigation water uses will continue to change, and water will move to locations where the value of its use warrants the costs of the change. Ultimately, if local areas want to retain the benefits of the water presently used they will have to develop ways to make some of this water available to others in return for revenues that can be reinvested in the local area.

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## APPENDIX A

# Trends in Population, Employment, Income, and Water Use<sup>1</sup>

### Population:

(Source – U.S. Census Bureau)

Washington state's population has grown 43% over the past twenty years. In the study region, Pend Oreille (46%) and Stevens (42%) have had growth rates similar to the state average, while Ferry (27%), Okanogan (22%), and Lincoln (16%) had growth rates lower than the state average. For most of these counties, much of the growth was during the 1988-1998 time period and has slowed in the last decade. This is especially true for Okanogan (1.71%) and Lincoln County (3.17%), that both grew substantially slower than the state's 14% growth rate for the last ten years. Of the group, Stevens is the only county to keep pace with the state, with Ferry (9%) and Pend Oreille (8%) lagging the state average.

### Population Change:

	20 Year Change	10 year Change	5 year Change	
County	% Change in Population: 1988-2008	% Change in Population: 1998-2008	% Change in Population: 2003-2008	2008 Population
Ferry	26.86%	9.34%	5.48%	7,700
Lincoln	16.15%	3.17%	2.97%	10,400
Okanogan	22.15%	1.71%	1.26%	40,100
Pend Oreille	45.86%	8.04%	8.47%	12,800
Stevens	42.23%	14.63%	7.64%	43,700
State	42.68%	14.57%	8.02%	6,587,600

1 Prepared by Mark Smith and Tyler McMahon

## County Employment Patterns:

Agricultural employment in Washington State decreased during the 1998-2006 time period by 23%. With the exception of Pend Oreille County, for which there is not sufficient agricultural employment data, all the counties in the study area experienced a decrease in agricultural employment. Lincoln County had the largest decrease of -57% followed by Ferry (-34%), Stevens (-15%), and Okanogan (-4%).

Statewide total employment grew by 13.43% during the same 8-year period. Three counties in the region, Pend Oreille (39%), Stevens (13%), and Okanogan (7%) grew as well. Two counties, Lincoln (-13%) and Ferry (-24.53%), suffered a decrease in total employment during the time period.

## Income:

(Source – Regional Economic Information Systems – U.S. Bureau of Economic Analysis)

For the period 1998-2006 the State of Washington experienced a 22.33% growth in personal income, outpacing growth in income in all the counties in the study area. Lincoln County is the laggard of the group – income declined by 10.21% over the period. While the other counties also lagged behind the state average, growth in these four counties was positive. Okanogan (15%) had the highest growth rate followed by Stevens (15%), Pend Oreille (11%), and Ferry (8%).

While personal income grew, farm income declined both for the state, overall, and in four of the five counties in this study. Washington State suffered a negative change in farm income of -32% and the counties, except for Okanogan (+37.%) followed this negative trend. All had significant decreases in farm income for the period with Lincoln (-231%) with the largest decrease followed by Pend Oreille (-116%), Stevens (-113%), and Ferry County (-645%).

### Forestry, Fishing, Hunting & Agricultural Support

### All Business Sectors

County	% Change in Income: 1998 -2006	% Change in Employment: 1998–2006	2006 Employment	2006 Income \$000	% Change in County Income: 1998 -2006	% Change Total County Employment: 1998–2006	2006 Employment	2006 Income \$000
Ferry	-64.68%	-34.40%	82	341.00	7.70%	-23.53%	822	153227
Lincoln	-231.09%	-57.14%	12*	-18395.00	-10.21%	-13.18%	1733	243402
Okanogan	37.22%	-3.90%	196*	101574.00	15.63%	7.08%	8785	1092243
Pend Oreille	-116.45%		20-99*	-190.00	11.49%	38.84%	2016	297856
Stevens	-113.14%	-15.36%	226	-1002.00	15.15%	13.26%	7822	985638
State	-32.50%	-22.92%	13415	1354082.00	22.33%	13.43%	2421269	243597024

\*Estimates – the Census Bureau reports only data ranges when the number of establishments in a category is too small to assure confidentiality.

## Water Use Characteristics:

### Water Use by Sector—

Irrigation dominates water use in the western states, and this is true for Washington State and most of the counties in the study area. The percentage of withdrawals by irrigation for Washington State is 70%, while industrial (14.8%) and domestic (15.6%) are responsible for a much smaller portion of water withdrawals. This percentage is similar for most of the counties in the study area: Lincoln County (95% / 0.1% / 4.8%)(irrigation/industrial/domestic) has the largest share of water in irrigation followed by Okanogan (86% / 4% / 9%), Ferry (77% / 5% / 18%), and Stevens (65% / 5% / 30%). Pend Oreille County, however, differs significantly from the state and the other counties in the study area with 39% of water in industrial use followed by irrigation (31%) and domestic (30%). However, Pend Oreille County's water use, overall, is low, with a total water use of 2,640 acre-feet as opposed to Okanogan County's 94,270 acre-feet that is the largest in the study area. With the exception of Ferry County (6,500 acre-feet) the other two counties, Lincoln (42,320 af) and Stevens (16,400 af), use significantly more water than Pend Oreille.

	Irrigation (‘000s acre- feet/year)	%	Industrial (‘000s acre- feet/year)	%	Domestic (‘000s acre-feet/year)	%	Total (‘000s acre-feet/ year)
Ferry	5.03	77.4%	0.32	5.0%	1.14	17.6%	6.50
Lincoln	40.26	95.1%	0.02	0.1%	2.04	4.8%	42.32
Okanogan	81.30	86.2%	4.23	4.5%	8.74	9.3%	94.27
Pend Oreille	0.83	31.4%	1.03	39.0%	0.78	29.5%	2.64
Stevens	10.67	65.0%	0.81	4.9%	4.93	30.0%	16.40
State	3364	69.6%	717.36	14.8%	754.88	15.6%	4836.24

## APPENDIX B

# Washington Change of Water Permit/Transfer Laws<sup>1</sup>

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## 1. Changes of Water Rights Generally:

### (a) Surface Water

A water right is a property right which is appurtenant to the land to which the water was applied to a beneficial use, except that the right may be severed from the land and transferred to another land or place of use without the loss of the priority of right if such change can be made without detriment or injury to existing rights. *See* R.C.W. § 90.03.380. Applications for changes and transfers of surface water rights generally are governed by RCW 90.03.380. *See Public Util. Dist. No. 1 v. Dep't of Ecology*, 146 Wn.2d 778, 791 (Wash. 2002); and *R.D. Merrill Co. v. Pollution Control Hearings Bd.*, 137 Wn.2d 118, 126 (Wash. 1999)(providing good analysis of Washington water transfer law). The State of Washington allows a change of place of use, point of diversion, or purpose of use for water rights which have been perfected (i.e., put to a beneficial use) and not lost due to relinquishment or abandonment. *See* R.C.W. 90.03.380. Thus, Washington generally does not allow a change of an inchoate surface water right—that is, one that has not been perfected. However, the Code does allow for a modification of the point of diversion in a water right permit, even if not yet put to a beneficial use, to a downstream intake structure when such modification will provide benefits to both the environment and water supply. *See* R.C.W. §§ 90.03.395, 397. These provisions were added in 1999, with the intent that allowing such modifications would provide environmental and water supply benefits. *Id.*; 1999 Wa. ALS 232. The Code does not otherwise provide authority for modifying an unperfected, or inchoate, right in surface water. *See PUD No. 1 of Pend Oreille County*, 146 Wn.2d at 791. The code provides that such a modification may only be approved where the proposed new diversion is an existing approved intake structure with the capacity to transport the additional diversion, and where the ownership, purpose of use, season of use and place of use of the permit remain the same. *See* R.C.W. § 90.03.397.

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<sup>1</sup> This material was research and written by Davis A. Whitfield-Cargile. Mr. Whitfield-Cargile is a member of the South Carolina Bar and a 2008 graduate of the University of Colorado School of Law.

If such change is sought to enable irrigation of additional acreage or to add new uses, the change can only be permitted if such change results in no increase in the annual consumptive quantity of water used under the water right. *Id.*; Dept. of Ecology, Pol. 1210, *Evaluation of Changes to Enable Irrigation of Additional Acreage or the Addition of New Purposes of Use to Existing Water Rights*, (Feb. 08, 2006). The statute also has a requirement that where a proposal would change the place of use from one irrigation district to another, each irrigation district must concur “that the transfer will not adversely affect the ability to deliver water to other landowners or impair the financial integrity of either of the districts.” R.C.W. § 90.03.380(2).

The development and use of a small irrigation impoundment, does not constitute a change or amendment of a water right. R.C.W. § 90.03.380(8). Also, section 90.03.380 does not prohibit water users from making seasonal or temporary changes in point of diversion or place of use with the permission of the water master in the district in which such proposed change is located, or of the department, if the temporary change can be accomplished without detriment to existing rights. *See* R.C.W. § 90.03.390. However, such changes may only be made with the permission of the water master of the district in which such proposed change is located, or with the permission of the Department. That same section of the code allows for construction of emergency interties under certain emergency situations without going through the 90.03.380 application process, subject to rules and guidelines developed by the Departments of Health and Ecology. *See id.*

## (b) Groundwater

Changes to ground water permits are accomplished under R.C.W. § 90.44.100. The statute allows the holder of a valid right to withdraw public groundwater to construct wells or other means of withdrawal at a new location in substitution for or in addition to those at the original location, or to change the manner or the place of use of the water without losing the priority date of the original application. *See* R.C.W. § 90.44.100(1). The groundwater change statute requires findings “as prescribed in the case of an original application,” which means that the public welfare criterion of R.C.W. § 90.03.290 is applicable and the public interest must be considered in acting on change applications to groundwater permits. *See* R.C.W. § 90.44.100(2); *Sparks v. Ecology*, PCHB No. 77-43, 1977 WA ENV LEXIS 169, \*3-4 (1977); *PUD No. 1 of Pend Oreille County*, 146 Wn.2d 778 (distinguishing change applications to surface water permits and that the public interest is required to be considered when attempting to change or transfer a groundwater right, but may not be considered under 90.03.380). Also, Washington does allow for a transfer of a groundwater right which has not yet been perfected. *See* RCW 90.44.100; *PUD No. 1 of Pend Oreille County*, 146 Wn.2d at 791 (noting that “unlike the surface water change statute, the ground water change statute does authorize a change in the place of withdrawal under an unperfected right”); *see also R.D. Merrill Co.*, 137 Wn.2d at 130 (discussing and distinguishing 90.03.380 from 90.33.100 and observing that “beneficial use is not a prerequisite to an amendment under R.C.W. § 90.44.100 where unperfected rights under a groundwater permit are concerned”). Additional or replacement wells may be constructed either at a location outside of the original wells, and the manner and place of use for which the water shall be used may be changed. *See* R.C.W. § 90.44.100(2),(3).

Such an application can only be approved upon the following conditions: that any additional or replacement wells tap the same body of public ground water as the original well(s)<sup>2</sup>; if the new well is a replacement well, the original well(s) must be decommissioned; if the new well is an additional well, the combined total withdrawal may not

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2 It is not entirely clear how “same body of public ground water” is interpreted. R.C.W. § 90.44.130, which authorizes Ecology to designate subareas or depth zones for management purposes, requires that “such area or zone shall ... be so designated as to enclose a single and distinct body of public groundwater.” The PCHB commented that a dividing line between the shallow and deep management units in the Quincy subarea, which was established to settle a dispute between the federal government and the State of Washington over artificially stored groundwater, was artificial and arbitrary, and that it did not represent a line between two separate and distinct physical water bearing stratas. *See Sparks*, 1977 WA ENV LEXIS 169, at \*3-4 (involving an application to build a new well that would have reached into the deep management unit, where the old well was authorized, but did not actually drill into the deep management unit). Despite disputes as to whether the shallow unit and the deep unit were the same body, the board found that the proposed new well would draw from the same body of public groundwater as the old well because bottom of the old well, if drilled to the depth authorized would have reached into the deep management unit. *Id.*; *See also Shinn v. Dept. of Ecology*,

enlarge the right originally conveyed, and other existing rights shall not be impaired. *See* R.C.W. § 90.44.100(2); *See Scuh v. State*, 100 Wn.2d 180 (1984)(affirming Ecology’s denial of a transfer application that would have transferred an undeveloped groundwater right to a location twenty five miles outside a federal water project area, result in enlargement of the groundwater right, and set a precedent detrimental to the public welfare). Finally, while the manner of use of a groundwater permit may be changed, the purpose of use may not. *See R.D. Merrill Co.*, 137 Wn.2d at 129 (discussing 90.44.100); *City of West Richland v. Ecology*, 124 Wn.App. 683, 692 (Wash. Ct. App. 2004).

Not all groundwater withdrawals are done pursuant to a permit and as such, some rights to withdraw groundwater may not be transferred. The legislature has statutorily exempted from the permit requirement withdrawals for stock-watering purposes, or for the watering of a lawn or of a noncommercial garden not exceeding one-half acre, or for single or group domestic uses in an amount not exceeding five thousand gallons a day, or for an industrial purpose in an amount not exceeding five thousand gallons a day. *See* R.C.W. § 90.44.050. Such a withdrawal, to the extent that it is used beneficially, is “entitled to a right equal to that established by a permit” issued under the R.C.W. Ch. 90.44 (the groundwater chapter). *Id.* Though not subject to the permit requirement, Ecology may require the entity making such a small withdrawal to provide information regarding the means for and the quantity of the withdrawal. *Id.* Furthermore, though not required to obtain a permit, parties making such withdrawals may file an application for a permit and obtain a certificate in the same manner and under the same requirements for withdrawals in excess of five thousand gallons per day. *Id.* There is an Attorney General’s opinion which concludes that there is no statutory authority for transferring a right to an exempt groundwater withdrawal to a different place of use or for a different purpose of use pursuant to R.C.W. §§ 90.44.100, 90.03.380 and related laws, unless (1) the owner of the right applies for and receives a permit or (2) the exempt right is first consolidated with a right covered by a permit or certificate. *See* 1997 Op. Atty. Gen. Wash. No. 6, 1997 Wash. AG LEXIS 30, \*2, 16-18 (Oct. 10, 1997).

## 2. Family Farm Water Act (FFWA) Water Rights

FFWA was enacted to “conserve and use wisely” public waters, both ground and surface, and to maximize the “benefit” to our citizens when using public water. R.C.W. § 90.66.030. In “the irrigation of agricultural lands” the “maximum benefits” envisioned will “result from providing for the use of such water on family farms.” *City of West Richland*, 124 Wn. App. at 690. Water rights established as family farm permits under the Family Farm Water Act, R.C.W. § 90.66.010 et seq., may be transferred in accordance with R.C.W. 90.03.380, 90.03.390, and 90.44.100 as appropriate but only if the new place of use is within the same WRIA or urban growth area (UGA). *See* R.C.W. 90.66.065 (2),(5); *High Dunes Vineyard v. Ecology*, PCHB No. 01-189 (2002). Three subsections of R.C.W. § 90.66.065 ((2)(a), (b), and (c)) detail family farm permit transfer circumstances. Each subsection contains a proviso related to transfer of family farm water permits for use “for agricultural irrigation purposes” and each is limited by RCW 90.66.060(1) and (2). *City of West Richland*, 124 Wn.App. at 690(discussing RCW 90.66.065 and 90.44.100 and rejecting an application which sought to change a family farm permit to municipal purpose at a location which was not in an UGA). The act allows a family farm permit to be transferred for use for agricultural irrigation purposes under the limitations of 90.66.060(1) and (2), that relate to gifts, devises, bequests, or debt satisfactions so long as the transferee remains within the definition of family farm. *City of West Richland*, 124 Wn. App. at 691; R.C.W. § 90.66.065(2)(a). The second transfer method allows a family farm permit to be transferred to any purpose that is a beneficial use of water if the transfer is made exclusively under a lease agreement, except that transfers for the purpose of agricultural irrigation are limited by 90.66.060(1) and (2). *Id.* The third transfer method authorizes a family farm permit to be transferred to any purpose of use that is a beneficial use of water if the water right is for the use of water at a location that is, at the time the transfer is approved, within the boundaries of an urban growth area, with the same limitations that transfers for the use of water for agricultural irrigation shall be limited by 90.66.060(1) and (2). *Id.*

2 cont. PCHB Nos. 1117-A and 1117-B, 1977 WA ENV LEXIS 152, \*9 (PCHB 1977)(using the same statutory provisions to affirm Ecology’s designation of three distinct bodies of public groundwater in the Odessa Ground Water Subarea).

### 3. Trust Water Rights

The water transfer provisions of R.C.W. § 90.03.380 do not apply to trust water rights acquired through the funding of water conservation projects under chapter 90.38 R.C.W. or R.C.W. §§ 90.42.10 through 90.42.070. R.C.W. §§ 90.03.380(4); 9042.080 (“provisions of 90.03.380 and 90.03.390 do not apply to donations for instream flows but do apply to other transfers of water rights under this section”). There are two chapters in the code which create trust water rights.

One program is found in Chapter 90.42 of the code. The other is the trust water rights program set forth under Chapter 90.38, “Yakima River Basin Water Rights,” specifically at provision R.C.W. § 90.38.040. The two programs are similar so this summary will focus primarily on the program set forth in Chapter 90.42 of the code. The statute specifically authorizes the Department to use the trust water rights program in the Yakima River basin for water banking purposes. *See* R.C.W. § 90.42.100(1). Water banking is authorized to be used for several purpose, such as to authorize the use of trust water rights to mitigate for water resource impacts, future water supply needs, or beneficial use consistent with any terms and conditions established by the transferor (except that return flows from such rights shall remain available as part of the Yakima basin’s total water supply to satisfy existing rights or other downstream users); and also to document transfers of water rights to and from the trust water program, and to provide a source of water that the Department can make available to third parties on a temporary or permanent basis. R.C.W. § 90.42.100.

This program authorizes a water right, or a portion of a water right, to be transferred into the trust water rights program for either instream flow purposes or for water banking purposes. *See* R.C.W. § 90.42.100. This program authorizes the state to fund water conservations projects and acquire from the holder of a water right portions of resulting net water savings for deposit in the trust water rights program. R.C.W. § 90.42.030. Once acquired, by purchase, gift, lease, or other means other than condemnation, such rights, or the portion of the right acquired, become trust water rights and must be administered as a trust water right to assist in providing in stream flows. *See* R.C.W. § 90.42.080(1)(a). Such rights, or a portion of such rights, can be acquired by the state on either a temporary or permanent basis. Transfer of a right or portion of a right to the state for deposit in the trust program may not be accomplished if doing so would impair other existing rights. *See id.*; R.C.W. § 90.42.070. A trust water right retains the same priority date as the water right from which it originated, but as between them the trust right shall be deemed to be inferior in priority unless otherwise specified by an agreement between the state and the party holding the original right. R.C.W. § 90.42.040(3). Further, trust water rights can only be exercised if the Department first determines that existing water rights and the public interest will not be impaired. R.C.W. § 90.42.040(4).

There are three ways or purposes for which a right or a portion of a right can come into the trust water right program. The first way is as a result of state financing of water conservation projects, in which case the state may, but is not required to, require evidence of the existence of a water right before the resulting net water savings from the conserved right, or a portion thereof, can be transferred into the program. *See* R.C.W. § 90.42.030(2). The second way is where a water right, or portion thereof, is transferred into the trust water program and will assist in achieving established instream flows, in which case the Department is required to process the change or amendment of existing right without conducting a review of the extent and validity of the portion of the water right that will remain with the water right holder. *See* R.C.W. § 90.42.040(9). The third way is where a water right is transferred into the trust water right program for water banking purposes, in which case the application is subject to R.C.W. § 90.03.380. *See* R.C.W. § 90.42.110(2). The application for transfer must indicate the reach or reaches of the stream where the trust water right will be established before the transfer of the water right or portion thereof from the trust water rights program, and identify reasonably foreseeable future beneficial uses for which the water right or portion thereof may be used by a third party upon transfer from the trust water rights program. *Id.* If conditions of the water right such as future place of use, period of use, or other elements of the water right are not specifically identified at the time of the transfer into the trust water rights program, another review under R.C.W. § 90.03.380 must also be performed at the time of a proposed transfer from the trust water rights program. *Id.* For a third-party to obtain a water right from the trust water rights banking program, the person must file a request with the Department, the

request must be consistent with any previous review under R.C.W. § 90.03.380, the request must be consistent with any condition, limitation or other agreement affecting the right at the time it was transferred to the trust water rights program, and the request must be accompanied by and consistent with an assignment of interest from a person or entity retaining an interest in the trust water right to the party requesting the transfer of the water right. See R.C.W. § 90.42.120. The Code also gives authority to Conservancy Boards to facilitate transfers of rights into and out of the trust water rights program.

## 4. The Process

Before a transfer of a water right can occur, any person having an interest in the transfer or change shall file a written application therefore with the department, and notice of the application must be published as provided in R.C.W. § 90.03.280. See R.C.W. 90.03.380(1). The Department can only grant the application if it appears that such transfer or change can be made without injury or detriment to all existing rights. *Id.* The Department's has promulgated policy for evaluating applications for changes to water rights. See POL 1200, Policy for the Evaluation of Changes or Transfers to Water Rights, Dept. of Ecology (Jan. 8, 1999). The policy relates to the evaluation of applications for change or transfer of water right by the Department of Ecology or by county conservancy boards.

### (a) Tentative determination of the water right to be changed.

The policy provides that the Department must first evaluate the water right proposed to be changed or transferred. After investigation, the Department makes a tentative determination of the extent to which a water right actually exists and is valid for change. See *Id.* at section 3(a) (citing *Rettkowski v. Dept. of Ecology*, 122 Wn.2d 219 (1993)).<sup>3</sup> While the Department of Ecology and the Board lack the authority to adjudicate water, "Ecology [or the County Conservancy Board] is required to tentatively determine the existence of a water right before it can approve a change in point of diversion of water under that right." *PUD No. 1 of Pend Oreille County*, 146 Wn.2d at 794. In making this tentative determination, the department (or the conservancy board) must consider legal authority to have perfected a right, the means by which the right was originally established, the historical development and use of water, and the practices employed to divert convey and use water. The tentative determination shall not recognize an amount in excess of the amount historically put to beneficial use in compliance with state water law and applicable rules, and it shall not recognize any quantity beyond that amount necessary to accomplish the beneficial use employing reasonably efficient practices. *Id.* at section 3(b),(d) (observing that reasonably efficient practice is a determination to be made on a case by case basis which should consider local practices, adequacy of system maintenance, or diverting in a manner that compensates for inefficiencies). The investigation and tentative determination should also address and tentatively determine whether any amount of the water right has been abandoned or relinquished.

The measure of the amount that may be transferred is the amount of the original permit that has been perfected (put to beneficial use) and not lost to relinquishment or abandonment. See *R.D. Merrill Co.*, 137 Wn.2d at 126 ("historic perfected use is not the measure a water right subject to change under the statute" and "immediate prior use is not the measure of the right which may be transferred or changed"); see *Okanogon Wilderness League, Inc. v. Town of Twisp*, 133 Wn.2d at 777-781 (providing a good discussion of how the quantity of the right that may be transferred is measured); *R.D. Merrill Co.*, 137 Wn.2d 118. The regulations provide that neither the annual quantity nor the instantaneous quantity of water tentatively determined to be associated with a water right may be increased, and that uses may not be added or irrigated acreage expanded, except as provided in R.C.W. § 90.03.380, in which the annual consumptive use

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<sup>3</sup> The Washington Supreme Court has held that the Department of Ecology lacks the authority to determine or adjudicate water rights.

under the water right is not increased. *See* W.A.C. § 173-153-060(5); 173-153-030 (defining consumptive use as a use of water whereby there is a diminishment of the water source).

### Impacts and other considerations

#### (i) Impairments of other rights

After tentatively determining the extent, if any, a right exists which may be transferred, the policy provides that Department takes into account a number of considerations when evaluating the change proposal. *See* POL 1200 at section 4. The Department’s primary considerations are whether the proposed change would impair existing rights or previously filed applications. The impairments analysis requires a tentative determination of the existence of other rights, in the same manner as the Department tentatively determines the water right that is the subject for the application for change. *See* POL 1200 at 4(a).

#### (ii) Public interest consideration.

The policy also provides that the application cannot be approved if approval would conflict with any statute or would be a detriment to the public interest, but the policy does not define the public interest. *Id.* However, except for changes of water rights in groundwater, the Department is not authorized to consider the public interest in processing change applications. *PUD No. 1 of Pend Oreille County*, 146 Wn.2d at 796-97. The Court reasoned that the provision authorizing changes, 90.03.380, does not include a requirement that the change be in the public interest, and other sections (namely, the provision authorizing the initial allocation of the water and provision authorizing changes in groundwater rights) do specifically require that the decision be in the public interest.<sup>4</sup> *Id.* The court further reasoned, without much analysis or justification, that because the public interest is considered with the initial allocation of the right, there is no need to later consider it when the right is being changed. *Id.* Finally, the court pointed to the mandatory language of the statute, which provides that the department “shall issue the certificate” if the change may be made without injury or detriment to existing rights. *Id.* The court, in rejecting a public interest review as part of the change application process, recognized that “one could essentially avoid public interest review by applying for a permit to appropriate water, undergoing public interest review, obtaining a water right, and then seeking to change it without further public interest review.” However, the court harkened that “the answer lies in persuading the Legislature to amend the change statute,” and recognized that several western states have change statutes which expressly require consideration of the public interest when action is taken on an application for a change or transfer of rights.” *Id.* at 797-798. Thus, according to the most recent Supreme Court decision on the matter, the only relevant considerations are whether a right exists which can be transferred and whether such a transfer would result in injury or detriment to existing rights.

#### (iii) Other Considerations

The Department also considers historic use, as a water right or portion thereof that has not been previously put to beneficial use may not be changed. This consideration seems duplicative of the tentative determination as to the amount of the right that exists and may be transferred. The

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4 Note, as the Court’s opinion points out, the statute makes the public interest considerations applicable when dealing with changes of groundwater rights. *See* R.C.W. 90.44.100(requiring “findings as prescribed in the case of an original application,” which include a finding that a water right is in the public interest, before a groundwater transfer can be approved). The Court further held that the public interest requirements of R.C.W. §§ 90.03.005 (policy of the state to promote the use of the public waters to obtain maximum net benefits) and 90.54.020 (in allocation of waters among potential uses and users, the securing of maximum net benefits is directed; expressions of the public interest will be sought at all stages of water planning and allocation) are satisfied at the initial allocation stage. *Id.* The court seemed to disregard the phrase “all stages of water planning and allocation.”

policy does state that exceptions to the general rule can be considered with regard to changing the point of withdrawal or place of use authorized by a groundwater permit, but otherwise this seems a duplicative analysis. *See* POL 1200 at (4)(c)(citing *Okanogan Wilderness League v. Town of Twisp*, 133 Wn. 2d 769. The review of the impacts also includes special considerations for exempt groundwater withdrawals (groundwater rights based on beneficial use pursuant to the exemption from permit requirements under 90.44.050 may not be authorized for change unless authority is specifically granted by statute), enlargement (the amount of water appropriated cannot be increased through a water right change and may only be increased in accordance with R.C.W. § 90.03.380, POL 1210 and POL 1000), and season and period of use (providing that season/period of use can be changed subject to mitigation requirements if, in addition to applicable public interest and impairment considerations, the change is related to and necessary to effect another proposed change in the right, and the net effect on stream flows and instream values is neutral or positive). *See* POL 1200(4)(d)-(f). The Department also places limitations on the reduction of return flows. *See* POL 1200(4)(g).

## 5. County Conservancy Boards

### (i) Creation of county boards

The Code authorizes the legislative authority of a county to “create a water conservancy board, subject to approval by the director, for the purpose of expediting voluntary water transfers within the county.” R.C.W. § 90.80.020(1). These boards were authorized by the legislature because it found that voluntary transfers of water right can result in a reallocation of water rights that will result in more efficient use of water resources and that the state should expedite the administrative process for water right transfers by authorizing the establishment of water conservancy boards. *See* R.C.W. § 90.80.005. There are a number of ways by which creation of a board may be initiated, but it is generally created by resolution or petition which must be deemed sufficient by the county legislative authority, and then, after notice and a hearing, it may only be adopted if the legislative authority finds that the board’s creation is in the public interest. R.C.W. § 90.80.020(2),(3). Once the legislative authority of the county approves a resolution for the board’s creation, it must forward a petition for the creation of the board, along with the resolution and a summary of the public testimony presented at the public hearing to the director and the director, after determining whether creation of the board would further the purposes of the chapter and be in the public interest, must approve or deny the creation of the board within forty five days after the creation. R.C.W. § 90.80.030. If approved by the director, the director must include necessary training requirements for commissioners of the county board. *Id.*

Pursuant to R.C.W. § 90.80.040, the Director of the Department is authorized to, and has adopted to carry out the chapter, including minimum requirements for training and continuing education for commissioners. *See* W.A.C. § 173-153-010 *et. seq.*

### (ii) Powers of the Board

Once created, the board may act upon applications for the same kinds of transfers that the department itself is authorized to act upon, except that the jurisdiction of the board does not apply within the boundaries of a federal Indian reservation or to lands held in trust for an Indian band, tribe, or nation by the Federal Government. *See* R.C.W. § 90.80.055. Like determinations by the Department itself, decisions of a board regarding a water right are not adjudications but are tentative determinations. *See id.* The Board is also authorized to establish a water right transfer information exchange through which all or part of a water right may be listed for sale or lease and it may accept and post notices in the exchange from persons interested in acquiring or leasing water rights from willing sellers. *See id.* at (c).

If an application is filed with a Board and it decides to process the application, then the applicant must provide the board with information sufficient establish to the board's satisfaction that a right to the quantity of water being transferred exists, and a description of any applicable limitations on the right to use the water, including the point of diversion or withdrawal, place of use, source of supply, purpose of use, quantity of use permitted, time of use, period fo use, and the place of storage. R.C.W. § 90.80.070(1).

### **(iii) Review by Conservancy Board**

A person proposing a transfer may elect to file an application with a water conservancy board if one has been established for the geographical area where the water is or would be diverted, withdrawn or used. *See* R.C.W. § 90.80.070(1),(2). However, the proponent of the transfer need not file with the board and may elect to file with the Department. *Id.* If an application has been filed with the Department, the proponent may request that it be forwarded to the Conservancy Board. *Id.* Also, a board is not required to process an application filed with the board, and if it chooses not to, it must inform the applicant that the application may be filed with the Department. *Id.* The board is required to publish notice of the application and sent notice to state agencies in accordance with the requirements of R.C.W. § 90.03.280, and to any Indian tribe that has requested notice or that has reservation land that would be within the area in which the board has jurisdiction. R.C.W. § 90.80.070(3). Any person may submit comments with regard to the application and the board is required to consider the comments in making its record of decision. *Id.*

If the proposed water right transfer involves water which is currently diverted or withdrawn or would be diverted or withdrawn outside the geographic boundaries of the county or the water resource inventory area where the use is proposed to be made, the board is required to hold a public hearing in the county of the diversion or withdrawal or proposed diversion or withdrawal. *See* R.C.W. § 90.80.070(2). If the application is for a transfer of water out of the water resource inventory area that is the source of the water, then the board is required to consult with the Department regarding the application. *Id.*

The Conservancy Board is not wholly independent body. Its creation must be approved by the Director and it must comply with training and continuing education requirements adopted by the Department. Furthermore, in processing applications, the Board relies on the Department for information and the Board's decision is subject to review by the Department. When acting on an application, the Board is required to promptly request from the Department a copy of the water right file related to the application. W.A.C. § 173-153-060(2)(a). The board is also required to determine whether a watershed planning unit is involved in planning related to the source of the water that would be affected by the application, and if so, it must notify the planning unit of the application and consider comments from the planning unit prior to issuing its record of decision. W.A.C. § 173-153-060(2)(b).

If a majority of the board determines that the application is complete and in accordance with R.C.W. §§ 90.03.380, 90.03.390, or 90.44.100, then the board is required to issue a record of decision approving the transfer, subject to review by the Director of the Department. *See* R.C.W. § 90.80.070(4). In accordance with the transfer provisions, the board "must consider among other things whether the proposed transfer can be made without detriment or injury to existing water rights, including rights established for instream flows." *Id.* The Board may include conditions for approval of the transfer. Finally, the Board's approval is not sufficient for the proponent of the transfer to proceed to affect the transfer until a final decision is made by the Director. *Id.* If the majority of the board finds that the transfer cannot be approved consistent with the water transfer laws of the state, the board must make a record of decision denying the application together with a report of examination documenting the record of decision. The Board's decision is subject to review by the Director under R.C.W. 90.80.080. *Id.* Along with the record of decision, the Board is required to submit its report of examination summarizing the factual findings upon which it relied in reaching its decision and upon which the decision is based. *See* R.C.W. § 90.80.080(1). Any party to a transfer or a third party who alleges his or her water right will be impaired by the proposed transfer, or other person may file a letter of concern or support with the Department and the Department may consider such letters in reviewing the Board's record of decision. R.C.W. § 90.80.080(3). The Director is required to review the decision and must either affirm, reverse or modify the decision within forty five days, unless extended, and if no action is taken within forty

five days, the Board's decision becomes the decision of the Department, subject to appeal as provided in R.C.W. § 90.80.090. *See* R.C.W. § 90.80.080(4).

Though the Conservancy Board process was implemented to provide a quicker and more efficient transfer review process, the Department is still involved and still has the final administrative say as to whether a transfer application will be approved or denied.

## 6. State Environmental Policy Act

During this study, the question arose whether Washington's State Environmental Policy Act (SEPA), R.C.W. §§ 43.21C.010 et seq., is a viable basis to take into account third party impacts of a proposed transfer during the permitting process. Washington's SEPA is very similar to the National Environmental Policy Act (NEPA). *See* R.C.W. 43.21C.030 (requiring environmental impact statement, including environmental impacts, adverse environmental effects which cannot be avoided, alternatives, relationship between local short-term uses of man's environment and the maintenance and enhancement of long-term productivity, and any irreversible commitments of resources which would be involved in the proposed action if implemented). The Act statutorily exempts from the requirements of R.C.W. § 43.21C.030 "decisions pertaining to applications for appropriation of fifty cubic feet of water per second or less for irrigation projects without resort to subsidy by either state or federal government to be used for agricultural irrigation." *See* R.C.W. § 43.21C.035.

In addition to the statutory exemption mentioned above, the statute authorizes the Department of Ecology (Ecology) to develop categorical exemptions, categorically excluding certain actions from the EIS process, and it specifically authorizes Ecology to promulgate rules creating exempt categories pertaining to applications for water right permits pursuant to Chapters 90.03 and 90.44 RCW. *See* R.C.W. § 43.21C.110(1)(a). Pursuant to this authority, Ecology has promulgated rules categorically exempting appropriations of one cubic foot per second or less of surface water, or of 2,250 gallons per minute or less of ground water, for any purpose, including permits required for a normal diversion or intake structure, well and pump house reasonably necessary to accomplish the exempted appropriation, and including any activities relating to construction of a distribution system solely for any exempted appropriation. *See* W.A.C. § 197-11-800 (4)(available at <http://www.ecy.wa.gov/pubs/wac19711.pdf>). Ecology has also categorically exempted the installation of impervious underground tanks, having a capacity of 10,000 gallons or less. *See* W.A.C. § 197-11-800(2)(g)(available at the same website). Unless exempted, actions meeting the threshold determination are subject to a SEPA review, potentially providing another means for Ecology to consider other impacts of a water transfer. However, SEPA's utility in providing a means of analyzing third party impacts of a proposed transfer is constrained by statutory and categorical exemptions.

## APPENDIX C

# Summary of Out-of-WRIA Transfer Applications, 2000-2008

## Pend Oreille, Stevens, Lincoln, Okanogan, and Ferry Counties, Washington<sup>1</sup>

This report provides a summary of applications that have been submitted to move water between Water Resource Inventory Areas (WRIAs) in the following five counties: Pend Oreille, Stevens, Lincoln, Okanogan, and Ferry. The Department of Ecology (Ecology) and other state resource agencies use a system of 62 WRIAs to refer to the state's major watershed basins. This report looks at movement of water—or applications to move water—between WRIAs within the five county study area. The list is compiled from a spreadsheet provided by Ecology (Dan Haller, Columbia River Program) after a request for a summary of cross-WRIA transfers involving the five counties over the last five years. Though the initial inquiry was into cross-WRIA transfers in the last five years, the list includes applications that were filed as early as 1991.

Included in the list are applications which were rejected, accepted and for which no final decision has been made. Also, where the list indicates that an ROE exists for an application it refers to a decision that originated in Ecology. Where the list indicates that an Ecy dec-ROD exists for an application, this refers to a decision that originated in a conservancy board and which Ecology subsequently affirmed, modified, or reversed. In such cases, unless the list indicates that the application was rejected or withdrawn, it was approved (either outright or modified, but still approved).

The list is broken down initially by the county from which the cross-WRIA transfer was proposed and is subsequently broken down by the receiving county. In each section (From County X to County Y), the applications are listed in chronological order, from earliest to latest. Applications for which no date information was provided are listed at the end of a section.

Of the five counties that were the subject of this inquiry, the spreadsheet provided by Ecology only produced data showing Lincoln, Stevens and Okanogan Counties as parent counties from which a cross-WRIA transfer has been proposed. The information provided indicates that a large percentage of cross-WRIA transfer applications occur within one county. For example, six of the twelve applications that propose moving water from a WRIA in Lincoln County propose to move the water to another WRIA within Lincoln County. Eleven out of thirteen total cross-WRIA transfer applications that propose moving water from a WRIA in Stevens County propose to move the water to another WRIA within Stevens County. Okanogan County is the exception in this trend, where only nine of the thirty-three proposed cross-WRIA transfers propose to move the water to another WRIA within Okanogan County. In Okanogan County, fifteen of the thirty three applications filed propose moving water to a WRIA in Douglas County.

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<sup>1</sup> Prepared by Davis Whitfield-Cargile from information provided by the Washington Department of Ecology.

**From Chelan County:**

## From Chelan County to Okanogan County

- (1) An application to move an unspecified quantity of water from the Chelan WRIA in Chelan County to the Methow WRIA in Okanogan County was rejected. The application, which involved changing the place of use, was filed May 15, 2001. No other information was provided for this application.

**From Lincoln County:**

## From Lincoln County to Adams County

- (1) An application to move 50 acre feet at a rate of 62.5 gpm from the Upper Crab-Wilson WRIA in Lincoln County to the Lower Crab WRIA in Adams County was accepted. No date information was provided for this application.
- (2) An application to move 255 acre feet at a rate of 312.5 gpm from the Upper Crab-Wilson WRIA in Lincoln County to the Lower Crab WRIA in Adams County was accepted. No other information was provided for this application.

## From Lincoln County to Douglas County

- (1),(2) No decision has been reached on applications to move 183.05 acre feet at a rate of 2.85 cfs from the Lower Spokane WRIA in Lincoln County to either the Foster WRIA in Douglas County or the Moses Coulee WRIA in Douglas County. The applications, which involve changing the place of use and adding a purpose and point(s) of diversion, were filed October 30, 2007.

## From Lincoln County to Franklin County

- (1) No decision has been reached on an application to move 1830 acre feet at a rate of 1700 gpm from the Lower Crab WRIA in Lincoln County to the Esquatzel Coulee WRIA in Franklin County. The application, which involves changing the purpose and place of use and changing and adding point(s) of withdrawal, was filed January 10, 2008.
- (2) No decision has been reached on an application to move 1000 acre feet at a rate of 1800 gpm from the Upper Crab-Wilson WRIA in Lincoln County to the Esquatzel Coulee WRIA in Franklin County. The application, which involves changing the purpose and place of use and changing and adding point(s) of withdrawal, was filed January 10, 2008.

## Within Lincoln County

- (1) No decision has been reached on an application to move 936 acre feet at a rate of 1800 gpm from the Upper Crab-Wilson WRIA in Lincoln County to the Lower Crab WRIA in Lincoln County. The application, which involves changing the place of use and adding point(s) of withdrawal, was filed January 15, 2003.
- (2) An application to move 109.1 acre feet at a rate of 382 gpm from the Lower Lake Roosevelt WRIA in Lincoln County to the Lower Spokane WRIA in Lincoln County was approved and an Ecy Dec-ROD exists for this application. The application, which involved changing the point of withdrawal and place of use, was filed January 12, 2007.
- (3) No decision has been reached for an application to move 1802 acre feet at a rate of 2000 gpm from the Upper Crab-Wilson WRIA in Lincoln County to the Lower Crab WRIA in Lincoln County. The application, which involves changing the point of withdrawal and the place of use, was filed July 14, 2008.
- (4) No decision has been reached on an application to move 1200 acre feet at a rate of 1400 gpm from the Upper Crab-Wilson WRIA in Lincoln County to the Lower Crab WRIA in Lincoln County. The application, which involves changing the place of use and adding point(s) of withdrawal, was filed July 14, 2008.

- (5) No decision has been reached on an application to move 1050 acre feet at a rate of 2000 gpm from the Lower Crab WRIA in Lincoln County to the Upper Crab-Wilson WRIA in Lincoln County. The application, which involves changing the place of use and adding point(s) of withdrawal, was filed July 14, 2008.
- (6) No decision has been reached on an application to move 1200 acre feet at a rate of 1400 gpm from the Upper Crab-Wilson WRIA in Lincoln County to the Lower Crab WRIA in Lincoln County. No other information was provided for this application.

**From Okanogan County:**

From Okanogan County to Douglas County

- (1) An application to move an unspecified quantity of water from the Methow WRIA in Okanogan County to the Foster WRIA in Douglas County was rejected. The application, which involved changing the place of use, was filed May 3, 2001.
- (2) An application to move an unspecified quantity of water from the Okanogan WRIA in Okanogan County to the Moses Coulee WRIA in Douglas County was rejected. The application, which involved changing the place of use, was filed May 21, 2001.
- (3) An application to move an unspecified quantity of water from the Okanogan WRIA in Okanogan County to the Moses Coulee WRIA in Douglas County was rejected. The application, which involved changing the place of use, was filed May 22, 2001.
- (4) An application to move 87.5 acre feet at a rate of 313 gpm from the Okanogan WRIA in Okanogan County to the Moses Coulee WRIA in Douglas County was accepted and an Ecy dec-ROD exists for this application. The application, which involved changing the place of use and purpose, was filed August 10, 2001.
- (5) An application to move 249 acre feet at a rate of .97 cfs from the Okanogan WRIA in Okanogan County to the Foster WRIA in Douglas County was accepted and an Ecy dec-ROD exists for this application. The application, which involved changing the place of use, was filed August 22, 2002.
- (6) An application to move 486 acre feet at a rate of 2.11 cfs from the Okanogan WRIA in Okanogan County to the Foster WRIA in Douglas County was accepted and an Ecy dec-ROD exists for the application. The application, which involved changing the place of use and adding point(s) of diversion, was filed August 23, 2002.
- (7) An application to move 252.5 acre feet at a rate of 4.2 cfs from the Okanogan WRIA in Okanogan County to the Moses Coulee WRIA in Douglas County was accepted and an Ecy Dec-ROD exists for this application. The application, which involved changing the place of use and changing and adding point(s) of diversion, was filed May 21, 2003.
- (8) An application to move an unspecified quantity at a rate of 1.7 cfs from the Okanogan WRIA in Okanogan County to the Moses Coulee WRIA in Douglas County was withdrawn. The application, which involved changing the place of use and changing and adding point(s) of diversion, was filed May 21, 2003.
- (9) An application to move 432 acre feet at a rate of 900 gpm from the Okanogan WRIA in Okanogan County to the Moses Coulee WRIA in Douglas County was withdrawn. The application, which involved changing the place of use and changing and adding point(s) of diversion, was filed May 21, 2003.
- (10) An amended application to move 289.7 acre feet at a rate of 1.42 cfs from the Okanogan WRIA in Okanogan County to the Foster WRIA in Douglas County was accepted and an ROE exists for this application. The application, which involved changing the place of use and changing and adding point(s) of diversion, was filed October 27, 2003.

- (11) An application to move 50.2 acre feet at a rate of 226 gpm from the Okanogan WRIA in Okanogan County to the Moses Coulee WRIA in Douglas County was partially accepted and an ROE exists for this application. The application, which involved changing the place of use, changing and adding a purpose, and adding point(s) of withdrawal, was filed May 18, 2004.
- (12) No decision has been reached on an application to move 280 acre feet at a rate of 725 gpm from the Okanogan WRIA in Okanogan County to the Moses Coulee WRIA in Douglas County. The application, which involved changing the purpose, point of withdrawal and place of use, was filed July 5, 2005.
- (13) An application to move 160 acre feet at a rate of 440 gpm from the Okanogan WRIA in Okanogan County to the Lower Crab WRIA in Douglas County was withdrawn and an ROD exists for this application. The application, which involved changing the purpose, place of use and point of withdrawal, was filed June 11, 2007.
- (14) An application to move 50.2 acre feet at a rate of 226 gpm from the Okanogan WRIA in Okanogan County to the Moses Coulee WRIA in Douglas County was accepted. No date information was provided for the application, which involved a split.
- (15) It is unclear if a decision has been reached on an application to move 87.5 acre feet at a rate of 313 gpm from the Okanogan WRIA in Okanogan County to the Moses Coulee WRIA in Douglas County. No date information was provided for this transfer, which appears to be a “split to AB.”

#### From Okanogan County to Chelan County

- (1) No decision has been reached on an application to move 48 acre feet at a rate of 140 gpm from the Okanogan WRIA in Okanogan County to the Chelan WRIA in Chelan County. The application, which involves changing the purpose, place of use, and point of withdrawal, was filed July 5, 2005.
- (2) No decision has been reached on an application to move 12 acre feet at a rate of 50 gpm from the Okanogan WRIA in Okanogan County to the Chelan WRIA in Chelan County. The application, which involves changing the point of withdrawal, purpose and place of use, was filed July 5, 2005.

#### From Okanogan County to Grant County

- (1) No decision has been reached on an application to move 160 acre feet at a rate of 411.72 gpm from the Okanogan WRIA in Okanogan County to the Lower Crab WRIA in Grant County. The application, which involves changing the purpose, point of withdrawal and place of use, was filed July 5, 2005.
- (2) No decision has been reached on an application to move 36 acre feet at a rate of 93.28 gpm from the Okanogan WRIA in Okanogan County to the Lower Crab WRIA in Grant County. The application, which involves changing the purpose, point of withdrawal and place of use, was filed July 5, 2005.
- (3) An application to move 64.2 acre feet at a rate of 141.1 gpm from the Okanogan WRIA in Okanogan County to the Lower Crab WRIA in Grant County was rejected. The application, which involved changing the place of use and adding point(s) of withdrawal, was filed October 28, 2005.
- (4) An application to move 64.2 acre feet at a rate of 141.1 gpm from the Okanogan WRIA in Okanogan County to the Lower Crab WRIA in Grant County was “app accepted only.” The application, which involved changing the point of withdrawal and place of use, was filed March 28, 2006.

#### From Okanogan County to Benton County

- (1) An application to move 60 acre feet at a rate of .31 cfs from the Okanogan WRIA in Okanogan County to the Rock-Glade WRIA in Benton County was approved and an Ecy dec-ROD exists for the application. The application, which involved changing the place of use and changing and adding point(s) of diversion, was filed June 6, 2007.

- (2) An application to move 114 acre feet at a rate of .67 cfs from the Okanogan WRIA in Okanogan County to the Rock-Glade WRIA in Benton County was approved and an Ecy dec-ROD exists for this application. The application, which involved changing the place of use and changing and adding point(s) of diversion, was filed June 6, 2007.

#### From Okanogan County to Kittitas County

- (1) A preliminary permit was issued to move 95.6 acre feet at a rate of 258 gpm from the Okanogan WRIA in Okanogan County to the Alkali-Squilchuck WRIA in Kittitas County. The application, which involved changing the purpose, point of diversion, and place of use, was filed August 21, 2006.

#### Within Okanogan County

- (1) It is unclear if a decision has been reached on an application to move 212.5 acre feet at a rate of .833 cfs from the Foster WRIA in Okanogan County to the Okanogan WRIA in Okanogan County. The application, which involved changing the point of diversion, was filed March 22, 1996.
- (2) A super permit was issued for an application to move 301.75 acre feet at a rate of 1.183 cfs from the Foster WRIA in Okanogan County to the Okanogan WRIA in Okanogan County and an ROE exists for the decision. The application, which involved changing the place of use, was filed March 22, 1996.
- (3) An application to move 12.07 acre feet at a rate of .31 cfs from the Okanogan WRIA in Okanogan County to the Methow WRIA in Okanogan County was accepted and an Ecy dec-ROD exists for this application. The application, which involved changing the purpose, point of diversion and place of use, was filed October 16, 2007.

#### From Stevens County:

##### From Stevens County to Lincoln County

- (1) An application to move 99.66 acre feet at a rate of 233 gpm from the Middle Lake Roosevelt WRIA in Stevens County to the Lower Lake Roosevelt WRIA in Lincoln County was accepted and an Ecy dec-ROD exists for this application. The application, which involved changing the purpose and place of use and changing and adding point(s) of diversion, was filed October 16, 2007.

##### From Stevens County to Douglas County

- (1) An application to move 66.7 acre feet at a rate of .337 cfs from the Colville WRIA in Stevens County to the Foster WRIA in Douglas County was accepted and an Ecy dec-ROD exists for this application. The application, which involved changing the point of diversion and place of use, was filed October 21, 2004.

##### Within Stevens County

- (1) An application to move 192 acre feet at a rate of 120 gpm from the Colville WRIA in Stevens County to the Lower Spokane WRIA in Stevens County was accepted and an ROE exists for the application. The application, which involved changing the purpose and place of use and changing and adding point(s) of withdrawal, was filed April 23, 2003.
- (2) An application to move 30 acre feet at a rate of 100 gpm from the Colville WRIA in Stevens County to the Lower Spokane WRIA in Stevens County was accepted and an ROE exists for this application. The application, which involved changing the purpose and place of use and adding point(s) of withdrawal, was filed April 26, 2003.

- (3) An application to move 32 acre feet at a rate of 20 gpm from the Colville WRIA in Stevens County to the Lower Spokane WRIA in Stevens County was accepted and an ROE exists for the application. The application, which involved changing the purpose and place of use and changing and adding point(s) of withdrawal, was filed April 26, 2003.
- (4) An application to move 137 acre feet at a rate of 1.5 cfs from the Colville WRIA in Stevens County to the Middle Lake Roosevelt WRIA in Stevens County was accepted and an Ecy dec-ROD exists for this application. The application, which involved changing the point of diversion, place of use and period of use, was filed June 16, 2003.
- (5) An application to move 258 acre feet at a rate of 330 gpm from the Colville WRIA in Stevens County to the Lower Spokane WRIA in Stevens County was accepted and an ROE exists for this application. The application, which involved changing the purpose and changing and adding point(s) of withdrawal, was filed April 26, 2006.
- (6) An application to move 112 acre feet at a rate of 300 gpm from the Colville WRIA in Stevens County to the Lower Spokane WRIA in Stevens County was accepted and an ROE exists for this application. The application, which involved changing the purpose and place of use and changing and adding point(s) of withdrawal, was filed April 26, 2006.
- (7) No decision has been reached on an application to move 48.2 acre feet at a rate of 233 gpm from the Middle Lake Roosevelt WRIA in Stevens County to the Lower Lake Roosevelt WRIA in Stevens County. The application, which involved changing the season and place of use and adding a purpose and point(s) of diversion, was filed September 14, 2007.
- (8) No decision has been reached on an application to move 109.33 acre feet at a rate of 155.7 gpm from the Colville WRIA in Stevens County to the Lower Lake Roosevelt WRIA in Stevens County. The application, which involves changing the purpose, season, place of use, and point of diversion, was filed January 24, 2008.
- (9) It is unclear if a decision has been reached on an application to move an unspecified quantity from the Middle Lake Roosevelt WRIA in Stevens County to the Colville WRIA in Stevens County. There is no date information available for the application, which involved changing the point of diversion. The spreadsheet notes that both the child and parent water rights were made inactive by adjudication.
- (10) An application to move 1 acre feet at a rate of .02 cfs from the Upper Lake Roosevelt in Stevens County to the Kettle WRIA in Stevens County was accepted. No date information is available for the application, which involved changing the point of diversion.
- (11) An application to move an unspecified quantity from the Middle Lake Roosevelt WRIA in Stevens County to the Little Spokane WRIA in Stevens County was accepted. No date information is available for this application, which involved changing the point of diversion.

	Parent WRIA	Child WRIA	QI	QA (ac ft)	Changes	Original Use	Change Use (if changed)	Date App. Filed	Status and notes	
From Lincoln County	To Adams County	Upper Crab-Wilson	Lower Crab	62.5 gpm	50	n/a	400 ac IR	n/a	accepted	
		Upper Crab-Wilson	Lower Crab	312.5 gpm	255	n/a	400 ac IR	n/a	accepted	
	To Douglas County	Lower Spokane	Foster	2.85 cfs	183.05	POU, POD, add POD	350 ac IR	IR	10/30/2007	pending
		Lower Spokane	Moses Coulee	2.85 cfs	183.05	POU, POD, add POD	350 ac IR	IR	10/30/2007	pending
	To Franklin County	Lower Crab	Esquatzel Coulee	1700 gpm	1830	Purpose, POU, POW, add POW	1920 ac IR	IR and MU	1/10/2008	pending
		Upper Crab-Wilson	Esquatzel Coulee	1800 gpm	1000	Purpose, POU, POW, add POW	500 ac IR	IR and MU	1/10/2008	pending
	In-County	Upper Crab-Wilson	Lower Crab	1800 gpm	936	POU, POW	468 ac Supp IR		1/15/2003	pending
		Lower Lake Roosevelt	Lower Spokane	382 gpm	109.1	POW,POU	80 ac IR		7/14/2008	pending
		Upper Crab-Wilson	Lower Crab	2000 gpm	1802	POW, POU	720 IR, DS		7/14/2008	pending
		Upper Crab-Wilson	Lower Crab	1400 gpm	1200	POU, add POW	800 ac IR		7/14/2008	pending
		Lower Crab	Upper Crab- Wilson	2000 gpm	1050	POU, add POW	800 ac IR		7/14/2008	pending
		Upper Crab-Wilson	Lower Crab	1400 gpm	1200	n/a	800 ac IR		n/a	pending

	Parent WRIA	Child WRIA	QI	QA (ac ft)	Changes	Original Use	Change Use (if changed)	Date App. Filed	Status and notes
From Okanogan County To Douglas County	Methow	Foster	n/a	n/a	POU	40 ac IR		5/3/2001	rejected
	Okanogan	Moses Coulee	n/a	n/a	POU	9887.3 ac IR, DM, ST		5/21/2001	rejected
	Okanogan	Moses Coulee	n/a	n/a	POU	9887.3 ac IR, DM, ST		5/22/2001	rejected
	Okanogan	Moses Coulee	313 gpm	87.5	POU and Purpose	150.95 ac IR, DM	DM	8/10/2001	accepted (Ecy Dec-ROD)
	Okanogan	Foster	.97 cfs	249	POU	82 ac IR		8/22/2002	accepted (Ecy Dec-ROD)
	Okanogan	Foster	2.11 cfs	486	POU, add POD	122 ac IR		8/23/2002	accepted (Ecy Dec-ROD)
	Okanogan	Moses Coulee	4.2 cfs	252.5	POU, POD, add POD	90 ac IR		5/21/2003	accepted (Ecy Dec-ROD)
	Okanogan	Moses Coulee	1.7 cfs	n/a	POU, POD, add POD	85 ac IR		5/21/2003	withdrawn
	Okanogan	Moses Coulee	900 gpm	432	POU, POD, add POD	81 ac Supp IR		5/21/2003	withdrawn
	Okanogan	Foster	1.42 cfs	289.7	POU, POD, add POD	120 ac IR		10/27/2003	Amended ROE
	Okanogan	Moses Coulee	226 gpm	50.2	POU, Purp, Add Purp, Add POW	80 ac IR and DS	80 ac IR, DS, IF	5/18/2004	Partial ROE
	Okanogan	Moses Coulee	725 gpm	280	Purp, POW, POU	141 ac IR	MU	7/5/2005	pending
	Okanogan	Lower Crab	440 gpm	160	Purp, POW, POU	63 ac IR	MU	6/11/2007	ROD Withdrawn
	Okanogan	Moses Coulee	226 gpm	50.2	Split	80 ac IR, DS		n/a	accepted
Okanogan	Moses Coulee	313 gpm	87.5	Split to AB	150.95 IR and DM	DM	n/a	n/a	

	Parent WRIA	Child WRIA	QI	QA (ac ft)	Changes	Original Use	Change Use (if changed)	Date App. Filed	Status and notes		
From Okanogan County	To Chelan County	Okanogan	Chelan	140 gpm	48	Purp, POW, POU	141 ac IR	17.79 ac IR and DS	7/5/2005	pending	
		Okanogan	Chelan	50 gpm	12	Purp, POW, POU	141 ac IR	6.72 ac IR and DS	7/5/2005	pending	
	To Grant County	Okanogan	Lower Crab	411.72 gpm	160	Purp, POW, POU	141 ac IR	40 ac IR	7/5/2005	pending	
		Okanogan	Lower Crab	93.28 gpm	36	Purp, POW, POU	141 ac IR	MU	7/5/2005	pending	
		Okanogan	Lower Crab	141.1 gpm	64.2	POU, add POW	47.44 ac IR, DS		10/28/2005	rejected	
		Okanogan	Lower Crab	141.1 gpm	64.2	POU, POW	47.44 ac IR, DS		3/28/2006	app accepted only	
	To Benton County	Okanogan	Rock-Glade	.31 cfs	60	POU, POD, add POD	20 ac IR		6/6/2007	accepted (Ecy Dec- ROD)	
		Okanogan	Rock-Glade	.67 cfs	114	POU, POD, add POD	38 ac IR		6/6/2007	accepted (Ecy Dec- ROD)	
	In-County	To Kittitas County	Okanogan	Alkali- Squilchuck	258 gpm	95.6	purp, POD, POU	25 ac IR	MU	8/21/2006	Prelim permit issued
		Okanogan	Methow	.31 cfs	12.07	purp, POD, POU	7 ac IR	DC	10/16/2001	accepted (Ecy Dec- ROD)	
From Stevens County	To Lincoln County	Middle Lake Roosevelt	Lower Lake Roosevelt	233 gpm	99.66	Purp, POU, add POD	DM	40 ac IR	10/16/2007	accepted (Ecy Dec- ROD)	
	To Douglas County	Colville	Foster	.337 cfs	66.7	POD, POU	100 ac IR		10/21/2004	accepted (Ecy Dec- ROD)	

	Parent WRIA	Child WRIA	QI	QA (ac ft)	Changes	Original Use	Change Use (if changed)	Date App. Filed	Status and notes
From Stevens County In-County	Colville	Lower Spokane	120 gpm	192	Purp, POW, POU, add POW	DM	MU	4/23/2003	ROE
	Colville	Lower Spokane	100 gpm	30	Purp, POU, add POW	DM	MU	4/26/2003	ROE
	Colville	Lower Spokane	20 gpm	32	Purp, POW, POU, add POW	DM	MU	4/26/2003	ROE
	Colville	Middle Lake Roosevelt	1.5 cfs	137	Period, POD, POU	80 ac IR		6/16/2003	accepted (Ecy Dec-ROD)
	Colville	Lower Spokane	330 gpm	258	Purp, POW, add POW	MU	MU	4/26/2006	ROE
	Colville	Lower Spokane	300 gpm	112	Purp, POW, POU, add POW	DM	MU	4/26/2006	ROE
	Middle Lake Roosevelt	Lower Lake Roosevelt	233 gpm	48.2	Season, POU, add Purp, add POD	40 ac IR	40 ac IR and DM	9/14/2007	pending
	Colville	Lower Lake Roosevelt	155.7 gpm	109.33	Purp, Season, POU, POD	40 ac IR		1/24/2008	pending
	Middle Lake Roosevelt	Colville	n/a	n/a	POD	35 ac IR		n/a	n/a
	Upper Lake Roosevelt	Kettle	.02 cfs	1	POD	DS		n/a	accepted
	Middle Lake Roosevelt	Little Spokane	n/a	n/a	POD	95 ac IR, ST		n/a	accepted

## APPENDIX D

# Third-Party Impacts of Water Transfers in the Western United States: A Review

Mark Griffin Smith and Tyler McMahon<sup>1</sup>

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## I. Introduction

Water rights have been bought and sold in the American West for over a century. Recent market activity is usually driven by either the over-appropriation of direct flow rights or the difficulty and expense of developing new storage. Water rights, as property in the West, can be bought and transferred to a higher-valued use. Despite the willingness of buyer and seller to make a deal and their gains from such transactions, others may lose as a result.

**Context for a Water Transfer.** Two conditions must be in place for a water transfer to take place. The first is that the benefits of the transaction for the purchaser and associated parties must exceed the cost to the seller and other involved parties. The second is that the cost of the transfer of water must be less than that of the best alternative such as, for example, constructing new storage.<sup>2</sup> With many rivers fully-appropriated, existing rights can exceed availability of water for new appropriations. These conditions make other alternatives such as the purchase and transfer of water rights a more economic and feasible alternative. While both buyer and seller gain from a water transfer, there are can be impacts on the area of use from which the water is sold.

**Impacts of Water Transfers.** The transfer of water has several impacts some that are compensated for, others that are not. The economic impacts are typically divided into four categories:

**direct:** the loss in income from farming. This loss to the seller is more than compensate for by the payment received for the water or the seller would not sell.

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1 Professor Smith teaches economics at Colorado College; Mr. McMahon is a 2008 graduate of Colorado College.

2 Charles W. Howe and K. William Easter, *Interbasin Transfers of Water* (Baltimore, John Hopkins Press, (1971) 21, and Robert A. Young, "Why Are There So Few Transactions among Water Users" *American Journal of Agricultural Economics* 68, (1986): 1143-1151.

**indirect:** losses to those who provide labor, inputs and services for farming.

**induced:** income lost to the local community when farmers, workers and farm service/input providers no longer spend money for consumer goods in the community.

**property tax:** loss of tax revenue to the county government when farm land is reassessed at a lower value after its water is sold and removed from the land.

Direct effects are compensated for and typically protected against during a water transfer by law. The first direct effect is the impact of the use of water being changed and transferred. Changes in the point of diversion and type of use can affect flows in the stream or irrigation ditch and thus other water users' water rights. Hanak states the risk of direct impacts of water transfers that could occur: "If the legal system governing transfers does not adequately protect the rights of other water users, transacting parties would have the incentive to sell more than the optimal amount of water, with adverse physical impacts on other users."<sup>3</sup> However, water rights holders are protected and their rights must be kept whole by the no-injury or non-impairment rule in western water law. Essentially the no-injury rule protects downstream users' rights to the timing and amount of return flows from upstream senior users. The water rights holders have a right to the stream conditions as they were during their respective appropriations.<sup>4</sup>

The second direct effect caused by a water right transfer is the loss of income from the sale of the crop that would have been produced by the selling farmer had he stayed in production. However the seller must expect to be more than compensated for this loss from the sale of the water right. So both direct effects from a water transfer are protected by law or compensated for with the proceeds of the water sale.

Indirect effects of water transfers are changes in local expenditure by farmers for farm inputs and services resulting from the reduction in agricultural production. These are often the most controversial effects accompanying a water transfer. Indirect effects include the changes in farmers' purchases of inputs, such as seed, fertilizer, machinery, labor, etc., resulting from less farming activity. Indirect effects are commonly referred to as 'secondary economic impacts'.

Should these 'secondary' impacts be counted as a loss to the basin-of-origin. Some argue yes, others argue, no. In other cases of economic dislocation, such as a factory closing down, these impacts are usually ignored as it is assumed that these resources can be employed elsewhere, if not in the local area, then someplace else in the economy. Others argue that water transfers are different, that secondary impacts can significantly harm farm communities and thus they should be counted in the sum of local economic losses. The distinguished water resources economist, Charles Howe, argues that water is unique and third-party impacts should be accounted for:

.....  
 "...[normal cost-benefit analysis] ignores the uniqueness of water as a social and environmental value, especially in rural areas. It also ignores the following: (1) that the secondary losses are felt in one location, while the secondary gains are generally felt elsewhere; (2) that the transfers of human and other resources away from the point of sale often take many months at the cost of job search, moving expenses, and social disturbance; and (3) that the timing of the gains and losses differ since the losses occur either prior to or during the water transfer while offsetting gains are typically in the future since cities and industry typically buy water in anticipation of future needs."<sup>5</sup>  
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.....  
 3 Ellen Hanak, 2005 "Stopping the Drain: Third-Party Responses to California's Water Market" *Contemporary Economic Policy* (23):1, 59.

4 R. B. Naeser and M. G. Smith, "Water as Property in the American West" in *A History of Water: The Political Economy of Water: Volume II*, ed. Terje Tvedt and Richard Coopey (New York, I. B. Tauris, 2006) 503

5 Charles W. Howe, 2000 "Protecting Public Values in a Water Market Setting: Improving Water Markets to Increase Economic Efficiency and Equity", *University of Denver Water law Review*, 3:(2)

However, the eminent economist, Robert Young, whose career of studying western water markets extends as long as Howe's, disagrees. He sees the farming sector as dynamic with farming activity expanding and contracting over time with labor and other resources moving in and out of farming. Attempts to compensate for secondary impacts will encourage both people and resources to stay where they are and engage in activities that are less productive to the economy as a whole.<sup>6</sup>

Many studies on secondary effects agree that the suddenness of the transfer and the associated unemployment and job-search costs can have significant effects on the exporting basin, especially if the basin is heavily reliant on agriculture.<sup>7</sup>

The third impact from a water transfer is the induced effect. This is the change in local spending patterns that result from the change or reduction in agricultural production after a water transfer. Induced effects stem from the change or reduction in spending on agricultural inputs and farm labor as well as changes in farmers' spending after their sale of water rights. For example, farm workers may no longer spend buy food and clothing or rent accommodations in the local economy. Farmers may spend more money on retail goods and less money on farm inputs and labor. They may even spend money earned from their water sales outside the local community. This change in spending patterns results in additional effects on output and employment in the area of the transfer.

The final economic impacts of water transfers result from the changes in land value and the associated property tax revenues. Property tax revenues are used to fund schools and public infrastructure projects, among other things. Separating water rights from the land, then permanently transferring these water rights, significantly reduces land values. For example, in Otero County, in Colorado's Arkansas Valley, the separation of water from the land reduced the land values from \$886/acre to \$112/acre.<sup>8</sup> This resulted in a 87% reduction in property taxes received on these lands.

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6 Robert Young. *Determining the Economic Value of Water: Concepts and Methods*. Washington, D.C.: Resources for the Future, 2005.

7 See, for example, Howe 2000.

8 Data provided by Otero County Assessor's Office in February 2007.

## II. Water Market Activity in the Western States

Water transfers in the State of Washington arise in a context of a rapid increase in water market activity over the last 25 years. Water is transferred in all 17 western states. The most recent comprehensive studies of water market activity, Brewer et al.<sup>9</sup> and Brown<sup>10</sup> show over 2000 transfers between 1990 and 2003. 48% of these transfers were sales and 52% were leases. Sales all involved the permanent transfer of water rights to a new owner, usually at a new location, often for a different use. Leases may be short-term leases for a single growing season or long-term contracts to assure the continuity of the leasing agreement—in one case, up to fifteen years. The vast majority of market activity is confined to three states: Colorado, California and Texas and to specific areas within these states. (See Table 1).

**Table 1. Western Water Market Activity by State, 1990-2003<sup>a</sup>**

State	Leases			Sales			Occurrence Ratio (Leases/Sales)
	Number of Cases	Total Volume, Thousands of Acre-Feet	Median Volume, Acre-Feet	Number of Cases	Total Volume, Thousands of Acre-Feet	Median Volume, Acre – Feet	
Arizona	48	7761	19982	38	142	482	1.26
California	250	7807	14607	44	290	1913	5.68
Colorado	58	351	1831	369	90	59	0.16
Idaho	49	2769	17668	15	31	160	3.27
Kansas	11	9	261	5	2	399	2.20
Montana	5	15	3611	0	0	-	-
New Mexico	29	505	12508	30	19	101	0.97
Nevada	4	1228	14262	65	69	228	0.06
Oklahoma	2	1	375	1	80	79928	2.00
Oregon	34	213	2287	9	47	421	3.78
Texas	159	1106	2978	48	268	825	3.31
Utah	11	90	9691	32	32	166	0.34
Washington	21	480	1413	4	83	1771	5.25
Wyoming	37	209	571	2	10	5024	18.50
All	718	22544	5919	662	1164	110	1.08

The type of seller and type or purpose of buyer can classify water transfers. These include:

- ag. to ag. transfers
- ag. to urban transfers
- ag. to environment transfers

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9 Jedidiah Brewer, Robert Glennon, Alan Ker and Gary D. Liecap, 2007. “Transferring Water in the American West: 1987-2005.” *University of Michigan Journal of Law Reform*, 40.

10 Thomas C. Brown, 2006. “Trends in Water Market Activity and Price in the Western United States, *Water Resources Research*, 42 (9).

There also were a small number of sales from urban to environmental uses, urban to urban and environment-to-environment.

During the 1990 to 2003 period, 23% of transfers were ag. to ag.; 54% were ag. to urban; 11% were ag. to environment, and 12% were transfers for all other purposes.

Water is a heavy, low priced commodity. The cost of storing, conveying and, where necessary, lifting are significant components of the cost of water to the end user. Both buyers and sellers seek to take advantage of topography, natural stream channels and existing storage and conveyance structures. Thus water markets are generally isolated from each other with the possible exception of southern California. This isolation affects prices that range from \$6./acre-foot for ag. to ag. leases in Wyoming to \$50/acre-foot for the same lease in California.<sup>11</sup> Sales involving the permanent transfers of water rights involve significantly higher prices but also a wide range. The lowest prices are seen in Idaho where water sells for \$70/acre-foot and the highest prices have been paid in Nevada, \$2,670/acre-foot. (See Table 2). The last column in Table 2, the ICR %, is the implicit capitalization ratio that is the median lease price divided by the sale price. The higher the ICR %, the higher the relative value of leasing versus selling water rights.

Prices are higher where the buyer intends to use the water for M&I purposes. Median lease prices in the West for the 1985 -2007 period were \$34/acre-foot. Median sale prices were \$1772/acre-foot. (See Table 3).

**Table 2. Western Water Market Prices by State, 1990-2003\***

State	Median Price		
	Leases	Sales	ICR, %
Arizona	43	979	4.35
California	50	898	5.59
Colorado	13	2064	0.66
Idaho	6	70	7.75
Kansas	36		
New Mexico	40	1863	2.18
Nevada		2670	
Oregon	7		
Texas	21	866	3.63
Utah	6	436	1.23
Washington	27		
Wyoming	6		
All	35	1772	1.94

\*Prices are in 2008 dollars per Acre-Foot. Median prices are listed only if at least 10 cases are available. Lease price in dollars/year.

**Table 3. Western Water Market Prices by Purpose of Purchase, 1990-2003†**

Purpose	Median Price		
	Leases	Sales	ICR, %
Municipal uses	51	1921	2.64
Irrigation	11	1737	0.65
Environment	34	640	5.37
Other	48	1377	3.47
Severall	39	1508	2.57
All	34	1772	1.94

†Prices in 2008 dollars per Acre-Foot. Lease price in dollars/years

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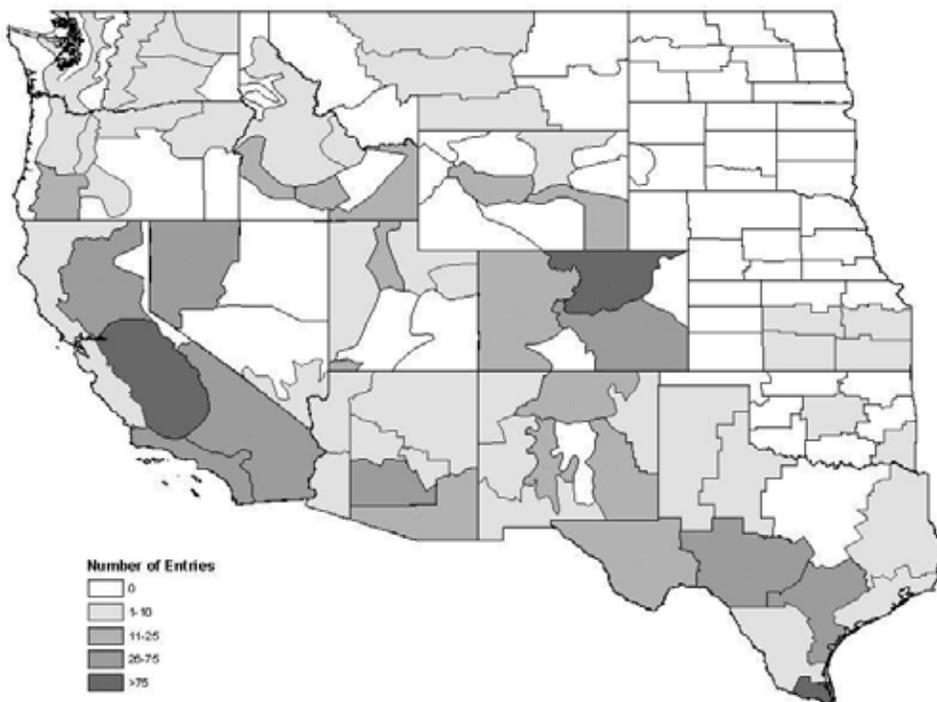
<sup>11</sup> All prices are given in current, 2008, dollars.

**Location.** Figure 1 shows the distribution of water transfers, both leases and sales, across the western United States. The most active markets in the West are the South Platte River Basin in Colorado, the San Joaquin River Basin in California and the lower Rio Grande River Basin in Texas. While the South Platte and Rio Grande River Basins are two of the most active water markets in the West, they are not reviewed in this report because transfers in these river basins are largely leases or sales or small quantities of water between agriculture users within the same irrigation district and thus do not involve third-party effects.

Instead, this analysis focused on transfers of water in the Central Valley, Palo Verde, and the Imperial Valley of California and the Lower Arkansas Valley of Colorado. There has been considerable transfer activity in each of these areas. In addition, each has been studied to evaluate the local economic effects associated with these transfers.

The following sections look at these impacts of water transfers in depth, through case studies and a review of the history of water transfers in the Western U.S. The case studies include academic reviews of the secondary economic impacts, transfer information, and mitigation efforts within the study area including alternatives to permanent water sales such as leasing or banking.

**Figure 1. Water sales by state water management division, 1990-2003 from Brown.<sup>‡</sup>**



<sup>‡</sup> Thomas C. Brown, 2006. "Trends in Water Market Activity and Price in the Western United States," *Water Resources Research*, 42 (9).

### III. Third-Party Impacts: Case Studies

#### California

There are three areas of California that have been affected by water transfers – the Central Valley extending from northern to central California, and the Imperial Valley, and Palo Verde Irrigation District in southern California.

**The Central Valley: Background.** There are two distinct periods in the development of water markets in the Central Valley.<sup>12</sup> From 1988 through 1993 California experienced a severe drought. During this period the Bureau of Reclamation and California’s Department of Water Resources purchased dry-year leases to facilitate both water marketing and water banking. Cities bought much of the water during the drought but, by the end, water purchased by local agencies to maintain the Valley’s wildlife refuges accounted for more than 40% of the market.<sup>13</sup>

The drought essentially established an active and continuing water market in the region. After the drought, water transfers actually remained high – at and sometimes above the drought years, although municipalities stopped participating in the market in 1995 as a series of wet years in the late 1990’s provided sufficient supplies within their own systems.

The second period in this market has been driven by growing water market activity to provide water, either directly or indirectly, for environmental purposes. Both state and federal agencies lease water annually to maintain instream flows for endangered fisheries in the Sacramento River and Bay-Delta System. Moreover, farmers in the San Joaquin Valley, the southern portion of the Central Valley, have for the past 10 years begun leasing water to replace federal and state project deliveries cut back as the result of new environmental regulations.<sup>14</sup>

**Impacts.** As California’s largest and most productive agricultural regions as well as home to its major agricultural university, the University of California at Davis, water markets in the Central Valley have been studied extensively, with analysis performed both during and after the major drought. (See table 4)<sup>15</sup> Farmers who chose to offer up their water to the market through annual leases during the drought had two choices – they could either fallow their land or replace their surface water deliveries with groundwater. These studies examine the counties in which fallowing was the only option. Nevertheless, it should be noted that most of the water transacted in the Central Valley is through annual leasing, thus allowing farmers to retain the option to return their fields to production. Municipal participation in the market ended with the end of the drought. While cities were willing to lease water to cover their supply shortfalls during the drought, they did not see short-term leases as a water supply solution in normal years.<sup>16</sup>

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12 Ellen Hanak, “Stopping the Drain: Third-Party Responses to California’s Water Market,” *Contemporary Economic Policy*, 3(1), January 2005, pp. 59-77.

13 *Ibid.*

14 *Ibid.*

15 Ellen Hanak, “Who Should Be Allowed to Sell Water In California? Third-Party Issues and the Water Market.” Public Policy Institute of California. San Francisco, CA, 2003.

16 Hanak, 2005.

**Table 4: Study Estimates of the Overall Economic Effect of Land Fallowing**

Study Area and Subject	Authors	Acres and % of County Farmland Fallowed	Country Job Losses	Regional or Sectoral Income Losses	Overall County Income Losses
1991 drought water bank (11 counties)	Dixon et al. (1993)			2-3% of agricultural income	<1%
1991 drought water bank (Yolo and Solano)	Howitt (1994)	Solano: 23,500 acres (13%) Yolo: 45,700 acres (13%)	4.7% (model) 1.5% (survey) (farm job loss, both counties)	Solano: 3.2% gross agricultural income Yolo: 5% gross agricultural income	<1% <sup>a</sup>
Irrigation water cuts in Sacramento Valley (8 counties) <sup>b</sup>	Lee et al. (1999)	25% surface supply cut, no replacement with groundwater (4.5% to 6.2% fall in acreage)	305 jobs (8 counties)		Colusa: 5% Glenn: 2.5% 5 other counties: 0.5% Sacramento: negligible
Proposed Westlands land retirement	Illingworth et al. (2002)	100,000 acres (6%)	<1% (Fresno and Kings)		<1% (Fresno and Kings)

<sup>a</sup> Value was estimated by author, using Bureau of Economic Analysis data on agriculture's share in total county income.

<sup>b</sup> This study assumed no payments for water transferred, only a cut in supply.

Fallowing as the result of market transactions ranges from 6 to 25 percent of the county farmland in the Central Valley, and from 20,000 to 100,000 acres.<sup>17</sup> The impact of fallowing is measured in terms of county job losses, reduction in agricultural income and loss of county income.

County job losses range from less than one percent where six percent of land is fallowed to 4.7% where 13% of the land was fallowed. Thus each 1% increase in land fallowing (decrease in irrigated acreage) leads to between a 0.17 and a 0.36 loss of jobs within the county. The extent of job lost depends on the relative importance of agriculture within the county. Colusa County, the most dependent on agriculture of the eleven counties studied those studied, experienced the highest rate job loss.

Agricultural income is broken out in only two of the four studies.<sup>18</sup> Loss of agricultural income ranges from 2-3% to 5%. However, as a percentage of county income, these losses to the agricultural sector amount to less than one percent. County income was most affected in Colusa County where county income dropped by 5%. The same study

17 Noting that the fallowing of the 100,000 acres is but 6% of the extensive Westlands Irrigation District on the west side of the San Joaquin Valley.

18 See L. S. Dixon, N. Y. Moore and S. W. Schechter, *California's 1991 Drought Water Bank: Economic Impacts in the Selling Regions*, RAND, MR-3001-CDWR/RC, Santa Monica, CA, 1993 and Richard Howitt, "Effects of Water Marketing on the Farm Economy," in H. O. Carter, H. J. Vaux, Jr., and A. F. Scheuring, eds., *Sharing Scarcity: Gainers and Losers in Water Marketing*, Agricultural Issues Center, University of California, Davis, 1994.

found negligible impacts in Sacramento County where the economy is more diversified.<sup>19</sup> Thus, in the worst-case scenario (Colusa County), a one percent increase in fallowed land resulted in a 0.2% decrease in overall county income.

In summarizing the Central Valley's experience with water markets, Mitchell notes:

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"Employment and production disruptions caused by water marketing will be small by comparison to historically observed fluctuations within agriculture: Federal price support programs and technology adoption have had and will continue to have a greater effect on land and labor utilization than will water marketing."<sup>20</sup>  
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### Imperial Irrigation District

**Background.** The fallowing program in the Imperial Irrigation District (IID) is a result of the Quantification Settlement Agreement (QSA) of 2002 in which the Secretary of the Interior required the State of California to reduce its consumption to 4.4 maf annual entitlement from the Colorado River that it had exceeded for many years.<sup>21</sup>

The San Diego County Water Authority (SDCWA) had originally entered into negotiations with IID in which the SDCWA would make on-farm investments in water conservation within the district. SDCWA would in turn be allowed to transfer the conserved water for M&I use in San Diego County. However, unconsumed return flows from IID have also feed the Salton Sea, an important stopover for migratory birds on the Pacific flyway. The sea's importance to the flyway has increased with the conversion of wetlands in the California's Central Valley to agriculture. With interstate negotiations collapsing in 2003, Secretary Norton took action to require IID to immediately reduce its use. Since the on-farm conservation investments, which were supposed to be financed over time by water sales, had not been made, IID was forced into fallowing.

The QSA allows for a 15-year transition period in which California will be allowed to continue to exceed its 4.4 maf basic entitlement while it gradually reduces its use of the Colorado River. During this transition period the amount of land fallowed in the district will gradually increase until the district is transferring 150,000 acre-feet of water off of approximately 25,000 acres of fallowed land. After this 15 year transition period it is expected that improvements in on-farm efficiency will allow IID to meet its obligations to the SDCWA without fallowing.

The IID fallowing program is not a true market. IID establishes a price at which it will purchase water from farmers in the district, most recently \$75/af. Farmers who desire to participate in the program submit applications to IID. Fields must have defined boundaries of at least 10 acres. Water must have been used on these fields during the previous three years and per acre water yield (per acre amount possible to transfer) is capped at 6 acre-feet. Participating farmers are responsible for weed and dust control.<sup>22</sup>

IID has historically delivered 3.3 maf of water to over 450,000 acres of farmland in the Imperial Valley. Thus, at the maximum, IID's program will fallow approximately 6% of the district's cropland and remove 5% of its water.

**Impacts.** Two things stand out about Imperial Valley water transfers. First, it is the only case identified in which there was an *ex ante* attempt to identify the impacts of water transfers on farm workers. This was done at the

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19 Hyunok Lee, Daniel Sumner, and Richard Howitt, *Economic Impacts of Irrigation Water Cuts in the Sacramento Valley*, Agricultural Issues Center, University of California, Davis, 1999.

20 David L. Mitchell, "Water Marketing in California: Resolving Third-Party Impact Issues," Foster Economics, San Francisco, CA, 1993.

21 U.S. Bureau of Reclamation Lower Colorado District Region. "Law of the River." [www.usbr.gov/lc/region/g1000/lawofrvr.html](http://www.usbr.gov/lc/region/g1000/lawofrvr.html), accessed October 31, 2008.

22 Imperial Irrigation District. "Fallowing Programs." [www.iid.com/Water/FallowingPrograms](http://www.iid.com/Water/FallowingPrograms), accessed October 4, 2008.

request of the Latino Legislative Caucus of the California State Senate.<sup>23</sup> The second is creating the Imperial Valley Socioeconomic Improvement Committee before water transfers even began. Known officially as “The Local Entity”, the IVSIC is a community based group in Imperial County that will develop a mitigation plan and allocate a total of \$20 million dollars received from the San Diego County Water Authority to offset negative impacts of the land fallowing necessitated by the water transfers.

Impacts on farm workers depend on three factors:

- how do farmers respond to having less water (e.g., do they fallow land, use water more efficiently or change their crop mix?)
- how do these changes affect farm labor?
- how quickly do displaced farm workers find alternative employment and income?<sup>24</sup>

During the initial 15-year transition period in which fallowing is necessary to meet the transfer commitments, no more than 10% of Imperial Valley land will be fallowed. Martin contrasts this with 25% reduction in irrigated acreage in Colusa County, California (see above case) during the drought of the early 1990’s. As a worst-case scenario, he estimates a 0.05% reduction in annual county employment for each 1% reduction in water and a 0.016% reduction in farm employment.<sup>25</sup> In Imperial County, this implies the loss of 258 of 51,600 total jobs and 202 of 12,600 on-farm jobs.

However, the extent of this impact depends upon how farmers respond to having less water. Some of the most water-intensive crops grown in the valley are field crops such as alfalfa, grasses, wheat and cotton that can require from 6-9 acre-feet per acre in applied irrigation. Production of these crops is also highly mechanized. Switching to less water-intensive, but more labor-intensive crops, such as vegetables and melons, could result in the need for more labor.<sup>26</sup>

The purpose of the Imperial Valley Socioeconomic Improvement Committee or Local Entity “is to work through the complex task of deciding how best to develop a socioeconomic mitigation plan that equitably and fairly mitigates those negatively impacted by the land fallowing program.”<sup>27</sup> At this time the Local Entity has distributed \$3.5 million for claims resulting from fallowing in the first two years of the plan, 2003-2004 and 2004-2005. The four year delay in distributing these funds resulted from a dispute between the Local Entity and the SDCWA over disbursements that nearly went to court before resolution. The first disbursements were made spring 2008. The Local Entity received nearly \$12 million in claims, but had only \$3.5 million to distribute. Of these funds, \$2.3 million was paid to farm service providers for losses related to the reduction in farm production and \$1.2 for non-ag. job training to assist displaced farm workers.<sup>28</sup>

Finally, water is being sold to the SDCWA at between \$250 and \$400 per acre-foot. A tax to offset local impacts of between 5 to 10 percent could generate between \$1.8 and \$12 million dollars per year beyond the initial \$20 million received from the SDCWA.

### **Palo Verde Land Fallowing Agreements with Metropolitan Water District**

Palo Verde Irrigation District and Metropolitan Water District (MWD) entered into their first land fallowing agreement in 1992. This two-year agreement came on the heels of a seven-year drought and depressed agricultural

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23 Philip Martin, “Impact on Farm workers of Proposed Water Transfer from Imperial County,” A Memorandum to the Latino Legislative Caucus of the California State Senate, Department of Agricultural and Resource Economics, University of California, Davis, 2003.

24 *Ibid.*

25 *Ibid.*

26 *Ibid.*

27 Imperial Irrigation District website: [www.iid.com](http://www.iid.com), accessed 9/1/08.

28 Kevin Kelley, Community Information Officer, personal communication, October 27, 2008.

markets.<sup>29</sup> Both parties viewed the agreement as relatively successful. This resulted in discussions about a longer-term agreement and led to a thirty-five year agreement being implemented in 2005.

**Background — The 1992 Agreement:**

Palo Verde and MWD are both water supply organizations with water rights to the Colorado River. The goal of MWD when it sought the agreement with Palo Verde was to increase its water supply allocation from the river.<sup>30</sup> The idea of the program was to store the saved water in Colorado River storage facilities for use before the year 2000.

During the two-year agreement 20,215 acres were fallowed each year, or about 25% of the 63 participants' total acreage; the agreement did not allow for more than 25% to be fallowed.<sup>31</sup> The goal of this was to deliver about 200,000 acre-feet (186,000 was made available)<sup>32</sup> of water for use by MWD. For their water, participants received \$135 per acre-foot, about \$1240 per acre fallowed (for about 9 acre-feet per acre).<sup>33</sup> Palo Verde also received \$500,000 for administrative costs, and MWD was in charge of making sure program participants complied with the agreement.<sup>34</sup>

**The 2005 Agreement:**

The 2005 agreement was signed between the two parties in August 2004 and will last until 2040. The goal of this agreement as part of the "California 4.4 Plan" is to reduce California's use of Colorado River water to its entitlement level.<sup>35</sup> Below are the agreement specifics:

- Supply—29,500–118,000 acre-feet/year (1.8–3.9 million acre-feet over 35 years)
- Maximum Yearly Fallowed Acreage—28% or 25,947 acres
- One time sign-up payment for farmers—\$3170 per acre
- Fallowed acre maintenance payments—\$602 per acre, adjusted for inflation
- \$6 million community improvement programs investment by MWD
- Annual payment to Palo Verde for administration (varies annually)<sup>36</sup>

While there are some drawbacks associated with fallowed land, the agreement is viewed by both parties to be mutually beneficial. The farmers get paid to fallow land, likely making it healthier and more productive (something hard to do without compensation), and MWD gets a reliable long-term water supply to meet a growing demand and reduce California's Colorado River consumption.

**Impacts of Water Transfer Agreements.** Despite the benefits of additional payments to farmers that will allow them to stay in production over the longer term, unlike a permanent transfer, there are still negative effects of yearly fallowing of farmland. Many are 'third-party impacts' such as changes in farm labor, reduced purchase of farm inputs and farm services. However the reduction of farm input purchases is likely to be less as farmers spend money

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29 Jim Kuhn. "Palo Verde Land Fallowing Program"

30 Teresa A. Rice and Lawrence J. MacDonnell. "Agricultural to Urban Water Transfers in Colorado: An Assessment of the Issues and Options" (Completion Report, No. 177 Colorado Water Resources Research Institute 1993), 71.

31 Kuhn.

32 Metropolitan Water District of Southern California, "Palo Verde Land Management, Crop Rotation, and Water Supply Program ... at a glance," 2002 <http://mwdh2o.com/mwdh2o/pages/yourwater/supply/paloverde01.html>

33 *Ibid.*

34 Rice and MacDonnell. 72.

35 Mindy Berman. 2006 "A Tale of Two Transfers Palo Verde and Imperial Valley Farmers Take Different Roads", *Aqueduct* (72):3 [http://www.mwdh2o.com/Aqueduct/summer\\_06/article\\_05.html](http://www.mwdh2o.com/Aqueduct/summer_06/article_05.html).

36 Metropolitan Water District of Southern California

on weed control and farmland improvement.<sup>37</sup> In the case of Palo Verde it was estimated that during the 92-93 agreement 93% of the payments were spent locally.<sup>38</sup> Employment reduction and other associated impacts exist as farm input suppliers did see a reduction in sales and employment; an estimated 60 full-time farm jobs were lost as well as several temporary jobs—around 1.3% of the area's employment.<sup>39</sup>

Cubed assessed the socioeconomic impact of the proposed 2005 program. Expected impacts included both a reduction in acres irrigated and in local spending of program payments (initial and bi-annual), both of which would affect the income of non-program participants, employment, and tax receipts. Using minimum, average, and maximum following scenarios the impact distribution, potential effects on rail operation, and potential changes in school funding were evaluated. The study estimated that the income of non-program participants would decrease by a maximum of one-percent, while regional employment would increase the first five years because of initial program payments but decrease after that a maximum of 2%. Property taxes and school funding are expected to be relatively unaffected. While the distribution of the impacts would not be uniform, negative impacts would typically concentrate in farm labor, farm services, and farm supply while there may be a positive impact on the construction industry.<sup>40</sup>

**Discussion.** While there were some negative employment and purchase impacts of the 92-93 agreement that were also predicted to occur during the current 35 year agreement, both sides benefited from the agreement. While farmers typically would prefer to have their water yearly, many were struggling and the agreement offered them a way to improve their economic situation, pay off debts, and improve the land they farmed. MWD serves the Los Angeles area, an ever-growing region. The agreement provided them with a significant amount of water without having to incur the cost of developing a new water source, assuming there were even one to feasibly develop. With the economic pressure on farmers and the increasing urban supply shortage, some view the MWD-Palo Verde agreement as a potential model for future transfers, even the proposed Arkansas Valley “Super-Ditch” discussed below.

## Colorado

### Arkansas River Basin – Water Transfers and Responses

The Arkansas River Basin in Colorado has a long history of water transfers and continues to be explored by water supply seekers as a possible source. Because of the history of transfers and the potential for several more transfers, the Arkansas Basin is one of the most widely debated and studied basins in Colorado and the western U.S. This section follows the causes and history of water transfers and the various mitigation and alternative supply efforts in the basin to date.

**Background – Why Water Was Sold in the Arkansas Basin.** The Arkansas Basin's water supply for irrigation was fully appropriated by the mid-1880's.<sup>41</sup> Developing new water rights in the basin was difficult and canals with junior rights would not receive adequate water for their crops every year. The Ft. Lyon Canal and the Colorado Cana

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37 Kuhn 2.

38 Metropolitan Water District of Southern California

39 Berman 2.

40 M. Cubed. “Socioeconomic Assessment of the Proposed Palo Verde Irrigation District Land Management, Crop Rotation, and Water Supply Program” prepared for the Palo Verde Irrigation District, 2002.

41 P.O. Abbott., “Descriptions of Water-Systems Operations in the Arkansas River Basin, Colorado” (Circular, United States Geological Survey, 1985), 8.

reliably received only 2.33 acre-feet per acre<sup>42</sup> and 1.69 acre-feet per acre due to their junior status.<sup>43</sup> The minimum requirement for a crop to grow successfully is typically two acre-feet per acre.<sup>44</sup> This unreliable water supply made it hard for farmers to yearly produce an economically successful crop. The problem facing farmers in the basin, regardless of seniority, is the problem facing most farmers—the ‘cruel economics of agriculture’: declining crop prices and the shut-down of agricultural processing facilities. The basin was home to a thriving sugar beet industry during the late 19th and early 20th centuries, but the last two major factories, the Sugar City Factory in Crowley County and the American Crystal Sugar Company in Rocky Ford closed in 1967<sup>45</sup> and 1979<sup>46</sup>, respectively. Both had been major employers and purchasers in the basin and their closure, coupled with other economic factors, led the farmers to begin to listen to enticing offers for their water rights from cities.

### Water Transfers in the Arkansas Basin

Below is a table listing the major transfers of water in the Arkansas Basin:

**Table 5: Water Transfers in the Arkansas Basin<sup>a</sup>**

Year	Transfer	Acres Lost	Acre-Feet <sup>b</sup>
1955	Otero Ditch–Clear Creek Reservoir	5,500	9,000
1971	Las Animas Town Ditch to Highline Canal	1,900	5,800
1971	Highline Canal (Busk Ivanhoe) to City of Pueblo	1,200	???
1972	Booth-Orchard to City of Pueblo	1,432	2,894
1973	Hobson Ditch to City of Pueblo	275	1,488
1984	Las Animas Consolidated Extension to Public Service	5,826	13,200 <sup>c</sup>
1985	Colorado Canal (incl. Twin Lakes Shares) to Pueblo, Springs, Aurora	47,373	100,180 <sup>d</sup>
1986	Rocky Ford (majority) to Aurora	4,100	11,890
1986	Highline (Busk Ivanhoe) to Aurora	1,000	???
2002	Rocky Ford (minority) to Aurora	2,539	4,150 <sup>e</sup>
<b>Totals</b>		<b>64,445</b>	<b>148,602</b>

<sup>a</sup> Source: Division 2 State Engineer’s Office (Unless Otherwise Indicated)

<sup>b</sup> Charles W. Howe, Jeffrey K. Lazo, and Kenneth R. Weber, “The Economic Impacts of Agriculture-to-Urban Water Transfers on the Area of Origin: A Case Study of the Arkansas River Valley in Colorado,” *American Journal of Agricultural Economics* 72 (1990): 1202.

<sup>c</sup> This water has not been transferred yet.

<sup>d</sup> Charles W. Howe and Christopher Goemans, “Water Transfers and Their Impacts: Lessons from Three Colorado Water Markets,” *Journal of the American Water Resources Association* 39 (2003): 1060-1061.

<sup>e</sup> Calculation: ( 1.78 acre-feet/acre × 1800 acres ) + ( 1.28acre-feet/acre × 739 acres )

42 James Earl Sherow. 1990 *Watering the Valley: Development Along the High Plains Arkansas River 1870-1950* (Kansas, University of Kansas Press, 1990) 37.

43 Kenneth R. Weber, “What Becomes of Farmers Who Sell Their Irrigation Water?: The Case of Water Sales in Crowley County, Colorado,” Unpublished Paper (1989), 4.

44 *Ibid.*

45 Weber 7.

46 Todd Hartman, “Dividing the Waters,” *The Rocky Mountain News* 10 July 2003, Special Section, Part 4.

Also in the works within the basin are proposals for the purchase of 20% of the Ft. Lyon Canal by the company Pure Cycle, nearly 40,000 acre-feet of transferable water<sup>47</sup>, and the Rocky Ford-Highline Canal Lease of 12,600 acre-feet to Aurora, which will be discussed later in this section. The Colorado Statewide Water Supply Initiative (SWSI 2004) estimated that by 2030 the Arkansas Basin could see an additional 72,000 irrigated acres lost to meet municipal demand.<sup>48</sup>

**Impacts of Water Transfers.** Since so much water has been transferred from the Arkansas many academics have studied the impacts of such transfers on the basin. Weber analyzed the cause of recent transfers in Crowley County (Colorado Canal) and the impacts. He determined that because most of the money was still in the economy, Crowley County would benefit in the short-term from reduced debt and increased income and spending, but would experience negative effects in the long run because of the indirect and induced impacts from transfers.<sup>49</sup>

Howe, Lazo, and Weber used input-output modeling to show that the impact of the transfers (\$53 per acre-foot of income lost) was much less statewide than the benefits of avoiding the development of new water sources (\$2000 per acre-foot). They then used a forecasting model to predict the impact of future transfers. While they showed the impacts would not be catastrophic, especially statewide, they recommend assistance to the Arkansas Basin for third-party impacts, which would be significant in the area.<sup>50</sup>

Howe and Goemans use a localized input-output model to estimate and compare the impacts of water transfers on two different Colorado basins, the Arkansas and South Platte. They estimate that the impacts will be much larger in the less economically diverse basin, the Arkansas, than the more robust South Platte—\$187 of income and tax losses per acre-foot compared to \$83. This is a cumulative effect, the present value of their estimation of the total impact over their estimated recovery and transition periods for the basin. They also recommend assistance to the transfer basin such as a transfer fee per acre-foot.<sup>51</sup>

Thorvaldson and Pritchett use the same input-output model to estimate the impact of SWSI's predicted of lost irrigated acreage on three basins in Colorado including the Arkansas Basin. While they predict that, percentage-wise, the effects will not destroy the economy, they note that income loss per person is much larger in less-diverse basins such as the Arkansas. They also discuss the possibility of tipping-points in the agricultural economies and recommend basin specific compensation and mitigation programs for the third-party effects of transfers.<sup>52</sup>

The above studies show that the basin of origin, the Arkansas Basin, experience third-party impacts from water transfers. However, they all note that transfers will continue because of the poor farm economy and increasing urban water demand. Thus they recommend assistance to deal with future third-party impacts.

**Mitigation for Third-Party Impacts of Transfers.** The history, impacts, and outcry over water transfers have prompted many mitigation efforts in the Arkansas Basin. Efforts have included compensation for lost property tax revenues, re-seeding of fallowed land with native grasses, and also the attempted development of alternatives to permanent, large-scale sales including water banks, interruptible supply agreement leases, and rotational crop management (rotational fallowing) based water markets.

After seeing the impacts of the fallowed land from water sales Colorado water law made it mandatory that the purchaser reseeds the fallowed land to prevent weeds, dust, and erosion. Aurora and Colorado Springs after

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47 Chris Woodka, "Water Developer Takes it Slowly" *The Pueblo Chieftain Online* 4 December 2006, <http://www.chieftain.com/>.

48 Colorado Water Conservation Board, "The Statewide Water Supply Initiative (SWSI)" (Report, Colorado Water Conservation Board, 2004), Section 6, p. 10.

49 Weber 1-32.

50 Howe, Lazo, and Weber 1200-1204.

51 Howe and Goemans 1055-1065.

52 Jennifer Thorvaldson and James Pritchett. "Economic Impact Analysis of Reduced Irrigated Acreage in Four River Basins in Colorado" (Completion Report, Colorado Water Resources Research Institute, 2006), 1-49.

their purchases of water in the area have spent much effort reseeding the land; Aurora developed the Arkansas Valley Range Project to deal with this problem. Aurora also created a trust fund for the schools and other affected institutions to deal with the lost property tax revenues created by the designation of irrigated land to dry land.

In an attempt to avoid the permanent dry-up of agricultural land, help the farm economy, and provide water for the municipality during the drought, Aurora entered into a 3-year interruptible supply based leasing agreement with the Rocky Ford-Highline Canal in 2003, the largest leasing arrangement in Colorado history.<sup>53</sup> It provided 12,600 acre-feet of water to Aurora in exchange for administrative payments, ditch repair necessary for the transfer, and \$528 per acre to the participating farmers.<sup>54</sup> Aurora and Highline recently entered into a long-term agreement to continue this lease citing the benefits to both parties however, under the current agreement, Aurora is allowed to lease water only three out of every ten years.

Farmers under the Rocky Ford-High Line feel that the leasing agreement went well. The first year of the program, Aurora was unable to get the required substitute supply plan in place in time to start the program. In the second and third year of the program, nearly all participants leased water to Aurora, reporting better returns to leasing than farming in those years.<sup>55</sup>

The Arkansas Valley Water Bank Pilot Program was voted into law to help facilitate more efficient transfers and to avoid the effects of the permanent separation of irrigation water from the land by the sale of water.<sup>56</sup> Despite its motivation the first pilot of the bank met with little success—only four deposits were made into the bank and no withdrawals.<sup>57</sup> There are several explanations for the bank’s lack of success – it was initiated in a drought year so few farmers had water to deposit. Offers made by buyers were below farmer’s reservation price to make a sale. Moreover, no one offered enough water to the bank to justify the necessary engineering work—it would likely take a sale of at least 1000 acre-feet to make the associated transactions costs reasonable on a per acre-foot basis.<sup>58</sup> Finally, only surface storage rights were allowed, precluding participation by the majority of farmers who have direct-flow rights.

Currently a new mitigation alternative is being explored by the Lower Arkansas Valley Water Conservancy District (LAVWCD), which was established in 2002 and whose mission is “to insure that all water will remain in the valley for the socio-economic benefit of the District citizens.”<sup>59</sup> The plan is to consolidate as many of the irrigation ditch companies into a “Super Ditch” company so that their water will remain in their ownership and they will receive the best price and benefits with a year-by-year lease market that will be created by this arrangement. While the Palo Verde Agreement was used as a model, the key difference is that the “Super Ditch” creates a seller’s market. Palo Verde was a two-party agreement, whereas the “Super Ditch” plans to lease water to anyone who needs it within the Arkansas Basin, thus creating an open market for water.<sup>60</sup> While Palo Verde farmers receive a negotiated, guaranteed price, farmers selling through the “Super Ditch” will get a higher price in dry years when demand is high. LAVWCD recently completed a study estimating the economic and engineering feasibility of the proposal, formally created the ditch company, and chose a president.<sup>61</sup> Other studies have estimated that the “Super-Ditch”, with its perpetual lease revenues helping farmers stay on their land will result in a long-term net economic benefit to the region, especially

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53 Dan MacArthur, “Reallocation: Leases Help Farms and Suburbs Weather Drought” *Headwaters*, (2004): 12-13.

54 Dan Hendrichs, Personal Communication to Author, Rocky Ford, CO 20 November 2006 and MacArthur 12.\

55 H. Bart Mendenhall, Board Member, Lower Arkansas Valley Conservancy District, personal communication, November 3, 2008.

56 Troy Lepper. “Banking on a better day: Water banking in the Arkansas Valley” *The Social Science Journal* (2006): 365-374.

57 Peggy Clifford, Clay Landry, and A. Larsen-Hayden. 2004 *Analysis of water banks in the western states*. Olympia, WA: Washington State Dept. of Ecology, 58.

58 H. Bart Mendenhall, Board Member, Lower Arkansas Valley Conservancy District, personal communication, November 3, 2008.

59 Lower Arkansas Valley Water Conservancy District. “What We Do” <http://www.lavwcd.org/what.htm> accessed on 14 December 2006.

60 Chris Woodka, “Super Ditch working to keep water in the Valley” *The Pueblo Chieftain Online*, 21 August 2008, <http://www.chieftain.com/articles/2008/08/21/news/region/doc48ad1ad8ecd82829369310.txt>.

61 *Ibid.*

when compared to a permanent water sale.<sup>62</sup> It is recognized, however, that several of the benefits will affect different sectors of the economy than the ones negatively impacted by the yearly fallowing for the lease.<sup>63</sup>

The “Super Ditch” is the Valley’s latest response to a fifty-year legacy of water transfers, their concomitant impacts, and the continuing prospect of future transfers. The aim is to maintain the Valley’s agricultural economy while allowing farmers to earn profits from leasing water to its higher value use in rapidly growing Colorado cities.

## IV. Conclusions

There is an adage that goes, an economist is someone who has never had to close down a plant. Moreover, there are few people who are persuaded by a purely statistical argument. A good story is often more convincing than disembodied tables of statistics from unfamiliar places.

These case studies clearly show that economic activity declines in the area-of-origin when water is transferred. And jobs are lost. While these effects are relatively small as a percentage of overall activity in the local economy, this decline and these jobs are not abstract statistics. They are real people with friends and families. The businesses that close may have been a part of these communities for years and years.

We have spent many years doing field research and have seen the empty playgrounds, the boarded up shops and visited with those who remember the days when two school buses were needed to do the work that a large van can accomplish today. In discussions with farmers, two things become clear. First, water is never the single factor affecting the viability of the agricultural economy. Price fluctuations, changes in government programs, food scares, international competition and climatic variation, among other things impact farm profits. Water, while necessary for growing crops, is not sufficient to maintain the vitality of farming. Second, most farmers, whether sellers or non-sellers, strongly oppose any restrictions on their water rights that fundamentally reduce the value of those rights.

The lesson from the success of leasing in the Palo Verde Irrigation District (now being translated in Colorado into the “Super Ditch” concept) is that making transactions easier and more flexible, may protect the area of origin better than making water transfers difficult. If each transfer is difficult and costly, a buyer will seek to spread the cost of a transfer over as much water as it is possible to buy at one time. Buyers will seek to acquire a majority position in a single ditch company, aggregate these shares into a single large transaction, that ends up having a large impact on a small area.

However, if the buyer can obtain the same level of supply and reliability from an arrangement allowing a series of short-term leases, entities within the area-of-origin retain ownership of the water as well as the stream of payments associated with these leases. The opportunity to lease can serve as insurance for farmers who will know, in any given year, that leasing is available and may provide returns equal or better than farming. Providing farmers with a viable leasing option may thus lead to more profitable farming operations and more sustainable agricultural communities.

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 62 Tyler McMahon, “The Arkansas Valley Super-Ditch – An Economic Impact Study” Thesis submitted in partial fulfillment of a Bachelor’s of Arts in Economics, Colorado College

63 *Ibid.*

# APPENDIX E

## Summary of Water Transfer Statutes in the U.S. and Canada<sup>1</sup>

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1 This summary was researched and written by Davis A. Whitfield-Cargile. Mr. Whitfield-Cargile is a member of the South Carolina Bar and a 2008 graduate of the University of Colorado School of Law.

## INTRODUCTION

This appendix provides an analysis of the water transfer laws of the following focus states: Alaska, California, Colorado, Connecticut, Florida, Idaho, Kansas, Massachusetts, Minnesota, Nebraska, Nevada, North Carolina, Oklahoma, Oregon, South Carolina, Tennessee, Texas, Wisconsin, Wyoming, and the Canadian province of Alberta. These states were selected as focus states after a survey of the water transfer laws of each of the fifty states in the United States and the Canadian Provinces. The purpose of the survey was to identify statutes which facilitate consideration of third-party impacts, other than injuries to other water users, when processing an application for a water transfer. The survey looked at statutes addressing changes of place of use, purpose and point of diversion of existing water rights, as well as statutes addressing interbasin transfers of water rights. Following the survey, most of the states which facilitated consideration of third party impacts were identified as focus states and follow up interviews were attempted to be conducted with the appropriate office in each state. The purpose of the follow up was to identify examples of transfers where third party impacts were taken into consideration and assess the effectiveness of each state's program with regard to consideration of third party impacts. For each state, an analysis of the state law is provided, along with relevant text of statutory provisions and excerpts from decisions which were provided during the follow up interviews.

Also, at the end of this document, under the heading "Other States and Provinces with Relevant Provisions," excerpts and short summaries are provided of statutes from eleven other states which facilitate consideration of third party impacts in some capacity. No follow up analysis was performed with respect to these states, which include Alberta, Arkansas, Arizona, Hawaii, Iowa, Kentucky, Montana, New Mexico, North Dakota, Puerto Rico, and South Dakota.

## ALASKA

### I. Analysis

Alaska's statute for issuance of a permit requires, among other things, that the proposed appropriation be in the public interest. The statute provides eight factors which must be considered in determining the public interest. These factors include the effect of the economic activity resulting from the proposed appropriation, as well as the effect of loss of alternate uses of water that might be made within a reasonable time if not precluded or hindered by the proposed appropriation. Other factors include the effect on public health and the effect on fish and game resources and on public recreational opportunities. It is unclear from the statutes whether these requirements apply when a water right is being changed or transferred.

As for interbasin transfers, which Alaska defines as transfers from one hydrologic unit to another hydrologic unit, Alaska only allows interbasin transfers if the commissioner finds that certain conditions are met. First, the water to be removed or appropriated for removal must be found to be surplus to the needs of the hydrologic unit from which it is to be removed, including needs for fish, mining, timber, oil and gas, agriculture, and domestic water supply. Also, the statute requires that the application meet the requirements of Alaska Stat. § 46.15.080, there by incorporating public interest requirements. Finally, the statute requires the commissioner to assess a water conservation fee on an interbasin transfer. In addition, if the hydrologic unit from which the water is to be removed is from a lake, river or stream that is used by, or significantly impacts a lake, river, or stream that is used by fish for spawning, incubation, rearing, or migration, the statute requires that the commissioner first reserve a volume of water in the lake or an instream flow in the river or stream for the use of fish and to maintain habitat for fish. Such a reservation is withdrawn from appropriation and has a statutorily prescribed priority date. The reservation requirement does not apply to appropriations of groundwater of 5,000 gallons or less per day unless the commissioner determines that the appropriation may adversely affect habitat in a lake, river or stream.

## II. Statutory Provisions

### **Alaska Stat. § 46.15.080. Criteria for issuance of permit**

(a) The commissioner shall issue a permit if the commissioner finds that [ ... ] and

(4) the proposed appropriation is in the public interest.

(b) In determining the public interest, the commissioner shall consider

(1) the benefit to the applicant resulting from the proposed appropriation;

(2) the effect of the economic activity resulting from the proposed appropriation;

(3) the effect on fish and game resources and on public recreational opportunities;

(4) the effect on public health;

(5) the effect of loss of alternate uses of water that might be made within a reasonable time if not precluded or hindered by the proposed appropriation;

(6) harm to other persons resulting from the proposed appropriation;

(7) the intent and ability of the applicant to complete the appropriation; and

(8) the effect upon access to navigable or public water.

### **Alaska Stat. § 46.15.035. Appropriation or removal of water out of hydrologic units to other hydrologic units; water conservation fee; reservation of water for fish**

(a) Water may not be removed from the hydrologic unit from which it was appropriated to another hydrologic unit, inside or outside the state, without being returned to the hydrologic unit from which it was appropriated nor may water be appropriated for removal from the hydrologic unit from which the appropriation is sought to another hydrologic unit, inside or outside the state, without the water being returned to the hydrologic unit from which it is to be appropriated, unless the commissioner

(1) finds that the water to be removed or appropriated for removal is surplus to needs within the hydrologic unit from which the water is to be removed or appropriated for removal, including fishing, mining, timber, oil and gas, agriculture, domestic water supply, and other needs as determined by the commissioner;

(2) finds that the application for removal or appropriation for removal meets the requirements of AS 46.15.080; and

(3) assesses a water conservation fee under (b) of this section.

(b) The commissioner shall establish, by regulation, a water conservation fee for a use of water in which the water is removed from the hydrologic unit from which it was appropriated to another hydrologic unit inside or outside the state, without the water being returned to the hydrologic unit from which it was appropriated. The fee established under this subsection shall be graduated to encourage the conservation of water.

(c) Except as provided in AS 46.15.090, and in addition to the requirements of (a) of this section, the commissioner may approve an application for removal or permit an appropriation for removal under (a) of this section of water from a lake, river, or stream that is used by fish for spawning, incubation, rearing, or migration, or ground water that significantly influences the volume of water in a lake, river, or stream that is used by fish for spawning, incubation, rearing, or migration, only if the commissioner reserves a volume of water in the lake or an instream flow in the river or stream for the use of fish and to maintain habitat for fish. The commissioner may adjust the volume of water reserved under this subsection if the commissioner, after public notice and opportunity to comment and with the concurrence of the commissioner of fish and game, finds that the best interests of the state are served by the adjustment. A reservation under this subsection

(1) of a volume of water or an instream flow for the use of fish and to maintain habitat for fish that is reserved under this section is withdrawn from appropriation;

(2) for fish from a lake, river, or stream, identified under AS 16.05.870 or identified in a Department of Fish and Game regional guide as being used by fish for spawning, incubation, rearing, or migration on or before July 1, 1992, has a priority date as of July 1, 1992;

(3) of water does not apply to an application for removal or appropriation for removal under AS 46.15.040 for nonconsumptive uses of water or for single family domestic use;

[ ... ]

(5) of water does not apply to appropriations of ground water of 5,000 gallons or less a day unless the commissioner, in consultation with the Department of Fish and Game, determines that the appropriation may adversely affect fish habitat in a lake, river, or stream; the commissioner shall consider multiple appropriations of water for a single related use as a single appropriation for the purposes of this subsection.  
[ ... ]

(e) In this section,  
[ ... ]

(2) “hydrologic unit” means a hydrologic subregion established by the United States Department of the Interior, Geological Survey, on the “Hydrologic Unit Map-1987, State of Alaska”; “hydrologic unit” includes the water of an ocean that is adjacent to a hydrologic subregion of the state.

## CALIFORNIA

### I. Analysis

California law requires consideration of third party impacts in several contexts during the water transfer process. First, generally all transfers must not injure other legal users of water or unreasonably affect fish and wildlife and other instream beneficial uses. Short term transfers are subject to a preponderance of the evidence standard. Also, some transfers are subject to CEQA’s “no significant impact” test, but the statute exempts short term (one year or less) transfers from CEQA in order to facilitate and expedite voluntary transfers. In addition, evaluation of economic impacts of a transfer is required in two very limited contexts. Water Code section 382 provides alternative authority to local and regional agencies to transfer surplus water by local or regional agencies (some of these agencies have authority to transfer surplus water in their enabling legislation). Where these agencies utilize the code section and petition the SWRCB for a water right change, the SWRCB may only approve the change if, among other things, the transfer does not unreasonably affect the overall economy of the area from which the water is being transferred. This is the only type of transfer where the SWRCB is required to specifically make findings regarding the economic effects of water transfers. The only other instance where the Water Code requires findings with regard to economic effect of a water transfer is section 1810, which allows a person or public agency to use excess conveyance capacity to facilitate the transfer, provided, among other things, that the use of the conveyance facility does not unreasonably affect the overall economy or the environment in the county from which the water is being transferred. This finding is required to be made by the agency with control of the water conveyance facility. This most often comes up in the context of using excess capacity of the Central Valley Project (CVP) and the State Water Project (SWP), controlled by the Department of Water Resources (DWR), to facilitate short term transfers.

Also, Water Code 1745.04 allows water suppliers to contract with a state drought water bank or other supplier of water or user inside or outside the service area of water supplier to transfer, or to store as part of a transfer, water if the water supplier has allocated to the water users within its service area the water available for the water year and no other user will receive less than the amount provided or be otherwise unreasonably adversely affected. However, the statute limits sources of transferrable water under this provision to water made available from conservation or alternate water supply measures taken by individual water users or taken by the supplier, or water developed pursuant to a contract by a water user to reduce water below the user’s allocation or to eliminate the user of water during the water year, such as a contract to grow crops without the use of water from the water supplier, or to fallow land or take other action to reduce or eliminate water use.

Finally, the Water Code provides area of origin protections for source basins when water is moved outside a basin, given users in the basin of origin a right to obtain a water right with priority over the exporter. The statute also gives users within the basin of origin the right to purchase from an exporter, requiring that the exporter, at the request of a user in the area of origin, in good faith meet and negotiate with users in the area of origin. The contact with

the SWRCB was not open to discussing these provisions, indicating that there is much legal wrangling over these provisions and that they are really used more for leverage in negotiations.

Most water transfers occur in the context of the moving water across the Delta. The contact in the SWCRB indicated that short term transfers of post 1914 water rights and long term transfers of pre-1914 water rights (transfers which occur outside the SWRCB) are the most common transfers. Water Rights orders can be found online at <http://www.waterrights.ca.gov/hearings/WaterRightOrders.htm>. SWRCB contact suggested looking at order 2003-10, where the Counties of Yolo and Tuolumne commented that they were concerned with third party impacts. On page 7 of the order, SWRCB responded to third party impact concerns, discussing reductions in consumptive use and crop idling and shifting activities that it expected would result in no alterations in land use which could potentially affect third parties.

California has also set up a 2009 drought water bank to help California water suppliers supplement local and imported supplies with water transfers from willing sellers. Under the program, DWR will purchase water from willing sellers from water suppliers upstream of the Sacramento-San Joaquin Delta. The water will be transferred using capacity of the SWP and the CVP facilities to water suppliers requiring supplemental water supplies to meet anticipated demands during a forecasted critical drought year for 2009. Under the program, local water needs will be given priority before water is transferred out of a region, and transfers will be made without injuring other legal users, without unreasonably affecting fish, wildlife and other instream beneficial uses, without unreasonably affecting the overall economy or the environment of the county from which the water is transferred, no more than 20% of the cropland in any county may be idled due to the 2009 Drought Water bank (unless additional evaluations are conducted to evaluate economic and environmental impacts), and transfer recipients will be expected to have and implement an adopted water management plan including conservation measures designed to result in a minimum of 20% overall savings. Though the 2009 Drought Water Bank was not statutorily created, it adopts the requirements of the various statutes cited in protecting third party interests. More information about California 2009 drought water bank is available on the DWR website at [http://www.water.ca.gov/drought/docs/2009water\\_bank.pdf](http://www.water.ca.gov/drought/docs/2009water_bank.pdf).

## II. Statutory Provisions

### **Cal Wat Code § 1702. Change not to injure any legal user**

Before permission to make such a change is granted the petitioner shall establish, to the satisfaction of the board, and it shall find, that the change will not operate to the injury of any legal user of the water involved.

### **Cal Wat Code § 1725. When temporary change permitted; “Consumptively used”**

A permittee or licensee may temporarily change the point of diversion, place of use, or purpose of use due to a transfer or exchange of water or water rights if the transfer would only involve the amount of water that would have been consumptively used or stored by the permittee or licensee in the absence of the proposed temporary change, *would not injure any legal user of the water, and would not unreasonably affect fish, wildlife, or other instream beneficial uses*. For purposes of this article, “consumptively used” means the amount of water which has been consumed through use by evapotranspiration, has percolated underground, or has been otherwise removed from use in the downstream water supply as a result of direct diversion.

### **Cal Wat Code § 1727. Review of petition for temporary change of water rights (one year or less-see 1728)**

[ ... ]

(b) The board shall approve a temporary change if it determines that a preponderance of the evidence shows both of the following:

(1) The proposed temporary change would not injure any legal user of the water, during any potential hydrologic condition that the board determines is likely to occur during the proposed change, through significant changes in water quantity, water quality, timing of diversion or use, consumptive use of the water, or reduction in return flows.

(2) The proposed temporary change would not unreasonably affect fish, wildlife, or other instream beneficial uses.

[ ... ]

**Cal Wat Code § 1736. Approval of long-term transfer**

The board, after providing notice and opportunity for a hearing, including, but not limited to, written notice to, and an opportunity for review and recommendation by, the Department of Fish and Game, may approve such a petition for a long-term transfer where the change would not result in substantial injury to any legal user of water and would not unreasonably affect fish, wildlife, or other instream beneficial uses.

**Cal Wat Code § 1745.04. Contract to transfer water**

A water supplier may contract with a state drought water bank or with any other state or local water supplier or user inside or outside the service area of the water supplier to transfer, or store as part of a transfer, water if the water supplier has allocated to the water users within its service area the water available for the water year, and no other user will receive less than the amount provided by that allocation or be otherwise unreasonably adversely affected without that user's consent.

**Cal Wat Code § 1745.05. Sources of transferable water**

(a) Water stored by the water supplier and water made available from either of the following sources may be transferred by the water supplier pursuant to Section 1745.04:

- (1) Conservation or alternate water supply measures taken by individual water users or by the water supplier.
  - (2) Water developed pursuant to a contract by a water user to reduce water use below the user's allocation or to eliminate the use of water during the water year, including a contract to grow crops without the use of water from the water supplier, to fallow land, or to undertake other action to reduce or eliminate water use.
- (b) The amount of water made available by land fallowing may not exceed 20 percent of the water that would have been applied or stored by the water supplier in the absence of any contract entered into pursuant to this article in any given hydrological year, unless the agency approves, following reasonable notice and a public hearing, a larger percentage.

**Cal Wat Code § 1810. Use of facility by bona fide transferor**

Notwithstanding any other provision of law, neither the state, nor any regional or local public agency may deny a bona fide transferor of water the use of a water conveyance facility which has unused capacity, for the period of time for which that capacity is available, if fair compensation is paid for that use, subject to the following:

[ ... ]

(b) The commingling of transferred water does not result in a diminution of the beneficial uses or quality of the water in the facility, except that the transferor may, at the transferor's own expense, provide for treatment to prevent the diminution, and the transferred water is of substantially the same quality as the water in the facility.

[ ... ]

(d) This use of a water conveyance facility is to be made without injuring any legal user of water and without unreasonably affecting fish, wildlife, or other instream beneficial uses and without unreasonably affecting the overall economy or the environment of the county from which the water is being transferred.

**Cal Wat Code § 1243.5. Board's consideration of amounts of water needed in source for protection of beneficial uses**

In determining the amount of water available for appropriation, the board shall take into account, whenever it is in the public interest, the amounts of water needed to remain in the source for protection of beneficial uses, including any uses specified to be protected in any relevant water quality control plan established pursuant to Division 7 (commencing with Section 13000) of this code.

This section shall not be construed to affect riparian rights.

**Cal Wat Code § 386. Water transfer changes**

The board may approve any change associated with a transfer pursuant to this chapter only if it finds that the change may be made without injuring any legal user of the water and without unreasonably affecting fish, wildlife, or other instream beneficial uses and does not unreasonably affect the overall economy of the area from which the water is being transferred.

A petitioner requesting a change which is subject to this section shall pay to the board a fee which shall be in an amount determined by the board to cover the reasonable costs of the board in evaluating and processing the petition.

**Cal Wat Code § 1216. Prior water rights of protected areas**

A protected area shall not be deprived directly or indirectly of the prior right to all the water reasonably required to adequately supply the beneficial needs of the protected area, or any of the inhabitants or property owners therein, by a water supplier exporting or intending to export water for use outside a protected area pursuant to applications to appropriate surface water filed, or groundwater appropriations initiated, after January 1, 1985, that are not subject to Section 11460.

**Cal Wat Code § 1217. Right of users in protected area to purchase water from exporter; Meet-and-negotiate requirement; Compliance actions**

(a) In addition to the right to obtain a water right which would have priority over the rights of an exporter, water users in a protected area shall have the right to purchase, for adequate compensation, water made available by the construction of any works by a water supplier exporting or intending to export water for use outside the protected area. Nothing in this section shall be construed to authorize export of water from a protected area to which users within the protected area are otherwise entitled, nor to require users within a protected area to pay for water to which they are otherwise entitled.

(b) At the request of a water user or users within a protected area, a water supplier exporting or intending to export water for use outside the protected area who is subject to Section 1216 shall meet and negotiate in good faith for the purpose of entering into contracts for the purchase of water as provided in subdivision (a).

[ ... ]

(e) Nothing in this section shall be construed as a limitation on the authority of the board to establish water quality standards or to subject water right entitlements to terms and conditions for the protection of reasonable and beneficial uses consistent with the provisions of Section 2 of Article X of the California Constitution.

## COLORADO

### I. Analysis

The statute requires that a change not injuriously affect the owner of or persons entitled to use water under a vested water right or a decreed conditional water right, except that if it appears that such change will cause injurious effect, the Water Judge or referee can impose terms and conditions to prevent such injury. One of the possible terms and conditions that the Water Judge may impose to prevent injury include a term or condition that addresses decreases in water quality caused by a change in the type of use and permanent removal from irrigation of more than one thousand acre-feet of consumptive use per year that includes a change in the point of diversion if the change would cause an exceedance or contribute to an existing exceedance of water quality standards.

In addition to terms and conditions to prevent injury, subsection 4.5 of the statute sets forth ways for the water courts to address impacts on non-water right holders—specifically addressing economic impacts of water transfers on the area from which the water was taken. First, where the use of a water right is changed from agricultural irrigation purposes to other beneficial uses, the statute provides that terms and conditions of such change shall include reasonable provisions designed to accomplish the revegetation and noxious weed management of lands from which irrigation water is removed. In addition to required revegetation and noxious weed management conditions, this section of the statute also authorizes the water court to order transition mitigation payments or bonded indebtedness payments to mitigate certain potential economic effects of a significant water development activity. The transition mitigation payment provision is designed to equal the amount of the reduction property tax revenues that is attributable to a significant water development activity and any moneys collected pursuant to this program are required to be distributed by the board of county commissioners of the county from which water

is removed among entities in the county in proportion to the percentage of their share of the total property taxes for nonbonded indebtedness purposes. Also, the bonded indebtedness payment program can require payment equal to the reduction in bonded repayment revenues attributable to the removal of water as part of a significant water development activity. Whenever such mitigation payment is required under this program, the board of county commissioners of the county from which water is removed is required to distribute any moneys collected among entities in the county having bonded indebtedness in proportion to the percentage of their share of the total indebtedness. It should be noted that unlike the revegetation conditions, which are mandatory in certain circumstances, the court has discretion to order transition mitigation payments or bonded indebtedness payments, as the statute provides that the water court *may* utilize these methods to mitigate certain potential effects of significant water activities.

According to Steve Witte, the engineer for Division 2, counties typically have noxious weed control ordinances that the water courts tend to use as a kind of baseline or threshold for the revegetation process. Excerpts from two decrees are attached to provide examples of how revegetation and noxious weed management conditions have been utilized and incorporated into decrees. In the first example, the Rocky Ford II purchase by the City of Aurora, the revegetation conditions can be found from paragraphs 28-32 (pages 19-22). These conditions can be found in the other example, a decree involving several recent transfers by the Lower Arkansas Water Management District (Case No. 02CW181), on pages 55 through 69 at paragraphs 30 through 32. Mr. Witte indicated that the trend is for the parties to negotiate and stipulate to the terms of revegetation/noxious weed management conditions and for the Water Court to incorporate them into the decree. Mr. Witte was unable to recall any instances where the courts imposed these payments, indicating that these payments are usually negotiated between the parties and not incorporated into the final decree. Tom Simpson, in the Aurora Water Department, indicated that payments were made to school districts as part of the transfer.

In addition to the above provisions with regard to actual transfers, the statute also has a requirement that when the board of a water conservancy district uses funds to construct works or facilities for the exportation of water from the natural basin of the Colorado River and its tributaries, such works or facilities must be designed, constructed and operated in a manner that present appropriations of water and prospective uses of water for irrigation and other beneficial consumptive use purposes within the natural basin will not be impaired nor increased in cost at the expense of the users within the natural basin. The response has been to build storage reservoirs for use on the west slope—what is known as compensatory storage. Examples are Green Mountain Reservoir, built as part of the Colorado-Big Thompson Project, and Ruedi Reservoir, built as part of the Arkansas-Fryingpan project, both built by the Bureau of Reclamation.

## II. Statutory Provisions:

### **C.R.S. 37-92-305. Standards with respect to rulings of the referee and decisions of the water judge**

[ ... ]

- (4) (a) Terms and conditions to prevent injury as specified in subsection (3) of this section may include:
- (I) A limitation on the use of the water that is subject to the change, taking into consideration the historical use and the flexibility required by annual climatic differences;
  - (II) The relinquishment of part of the decree for which the change is sought or the relinquishment of other decrees owned by the applicant that are used by the applicant in conjunction with the decree for which the change has been requested, if necessary to prevent an enlargement upon the historical use or diminution of return flow to the detriment of other appropriators;
  - (III) A time limitation on the diversion of water for which the change is sought in terms of months per year;
  - (IV) If the application is for the implementation of a rotational crop management contract, separate annual historical consumptive use limits for the parcels to be rotated according to the historical consumptive use of such lands. To the extent that some or all of the water that is the subject of the contract is not utilized at a new place of use in a given year, such water may be utilized on the originally irrigated lands if so provided in the decree and contract and if the election to irrigate is made prior to the beginning of the irrigation season and applies to the entire irrigation season. A failure of a party to a rotational crop management contract who is not the owner of the

irrigation water rights that are subject to the contract to put to beneficial use the full amount of water that was decreed pursuant to the application for approval of the contract shall not be deemed to reduce the amount of historical consumptive use that the owner of the water rights has made of the rights.

(V) A term or condition that addresses decreases in water quality caused by a change in the type of use and permanent removal from irrigation of more than one thousand acre-feet of consumptive use per year that includes a change in the point of diversion, if the change would cause an exceedance or contribute to an existing exceedance of water quality standards established by the water quality control commission pursuant to section 25-8-204, C.R.S., in effect at the time of the application, or, if ordered by the court, subsequently adopted by the commission prior to the entry of the decree, for the stream segment at the original point of diversion. Under any such term or condition, the applicant shall be responsible for only that portion of the exceedance attributable to the proposed change. Any such term or condition and any activity to be taken in fulfillment thereof shall not be inconsistent with the “Colorado Water Quality Control Act”, article 8 of title 25, C.R.S., and rules promulgated pursuant to said act, and implementation of section 303 (d) of the federal “Water Pollution Control Act” by the water quality control division. This subparagraph (V) shall not be interpreted to confer standing on any person to assert injury who would not otherwise have such standing.

(VI) Such other conditions as may be necessary to protect the vested rights of others.

[ ... ]

(4.5) (a) The terms and conditions applicable to changes of use of water rights from agricultural irrigation purposes to other beneficial uses shall include reasonable provisions designed to accomplish the revegetation and noxious weed management of lands from which irrigation water is removed. The applicant may, at any time, request a final determination under the court’s retained jurisdiction that no further application of water will be necessary in order to satisfy the revegetation provisions. Dry land agriculture may not be subject to revegetation order of the court.

(b) (I) If article 65.1 of title 24, C.R.S., is not applicable to a significant water development activity, the court may utilize the methods specified in this section to mitigate certain potential effects of such activity. Subject to the provisions of this article, a court may impose the following mitigation payments upon any person who files an application for removal of water as part of a significant water development activity:

(A) Transition mitigation payment. A transition mitigation payment shall equal the amount of the reduction in property tax revenues for property that is subject to taxation by an entity listed in section 37-92-302 (3.5) that is attributable to a significant water development activity. Such payment shall be made on an annual basis in accordance with the repayment schedule established by the court unless the applicant and the taxing entities mutually agree on an alternate payment schedule. The county shall certify, as appropriate, to the change applicant each year the amount of mitigation payment due under this subparagraph (I). Any moneys collected pursuant to this sub-subparagraph (A) shall be distributed by the board of county commissioners of the county from which water is removed among the entities in the county in proportion to the percentage of their share of the total of property taxes for nonbonded indebtedness purposes.

(B) Bonded indebtedness payment. A bonded indebtedness payment shall be made on an annual basis in the same manner as mitigation payments and shall be based on the bonded indebtedness on the property that is to be removed from irrigation at the time the decree is entered. The bonded indebtedness payment shall be equal to the reduction in bond repayment revenues that is attributable to the removal of water as part of a significant water development activity. The court may identify such mitigation payment as part of the decree. Whenever an application for determination with respect to a change of water rights requires a payment pursuant to this sub-subparagraph (B), the board of county commissioners of the county from which water is removed shall distribute any moneys collected among the entities in the county having bonded indebtedness in proportion to the percentage of their share of the total of such indebtedness.

(II) Unless the court determines that a greater or lesser period of time would be appropriate based upon the evidence of record, the amount of the transition mitigation and bonded indebtedness payments shall be equal to the total reduction in revenues for a period of thirty years commencing upon the date of initial reductions in such revenues as a consequence of the removal of water associated with the significant water development activity.

(III) To the extent that there is an increase in the property tax or bonded indebtedness revenues after the date of the commencement of the payment obligations identified under sub-subparagraphs (A) and (B) of subparagraph (I) of this paragraph (b) as a consequence of a change in land use and accompanying modification of the assessed valuation of the land, such payment obligations shall be correspondingly reduced.

(IV) When determining the amount to be paid pursuant to this paragraph (b), if any, the court shall take into consideration any evidence of a beneficial impact to the county from which the water is to be diverted and shall adjust the amount of the payment accordingly.

(c) Paragraph (b) of this subsection (4.5) shall not apply to:

[ ... ]

(II) Any removal of water when:

(A) Such change is undertaken by a water conservancy district, water conservation district, special district, ditch company, other ditch organization, or municipality;

(B) The water was beneficially used within the boundaries or service area of such entity before the removal; and

(C) The water will continue to be beneficially used within such entity's boundaries or service area after the removal;

or

(III) Any removal of water where the new place of use is within a twenty-mile radius of the historic place of use, even though such new place is located within a different county. For purposes of this subparagraph (III), the distance between the historic place of use and the proposed new place of use shall be measured between the most proximate points in the respective areas.

[ ... ]

#### **C.R.S. 37-45-118. General Powers.**

(1) The board has power on behalf of said district:

[...]

(b) [...]

(II) Any works or facilities planned and designed for the exportation of water from the natural basin of the Colorado river and its tributaries in Colorado, by any district created under this article, shall be subject to the provisions of the Colorado river compact and the "Boulder Canyon Project Act." *Any such works or facilities shall be designed, constructed, and operated in such manner that the present appropriations of water and, in addition thereto, prospective uses of water for irrigation and other beneficial consumptive use purposes, including consumptive uses for domestic, mining, and industrial purposes, within the natural basin of the Colorado river in the state of Colorado from which water is exported will not be impaired nor increased in cost at the expense of the water users within the natural basin.* The facilities and other means for the accomplishment of said purpose shall be incorporated in and made a part of any project plans for the exportation of water from said natural basin in Colorado.

## CONNECTICUT

### I. Analysis

Connecticut enacted a statute in the early 1980's requiring all withdrawals and diversions existing prior to July 1982 to be registered or subject to a permit requirement. The statute lists ten considerations which the Commissioner may require the applicant to address in the application, one of which is the effect on public water supplies, water quality, wastewater treatment needs, flood management, water-based recreation, wetland habitats, waste assimilation, agriculture, fish and wildlife, and low flow requirements. The commissioner can also require the applicant to address alternatives, including a study of cost factors, feasibility and environmental effects of such alternatives, and conservation measures instituted by the applicant prior to the application and the applicant's long-range water conservation plan to be implemented or continued after issuance of the permit. For interbasin transfers, the Commissioner may require the applicant to provide an economic impact report which considers the effect of the transfer on present and future water uses in the donor basin and includes a plan for meeting water supply needs and demands in the donor basin for a minimum of twenty-five years. In addition to the factors which the commissioner may require the applicant to address in the application, the statute requires that the commissioner consider ten listed factors, including the relationship of the proposed diversion to economic development and job creation, and the effect of the transfer on water conditions, fish and wildlife, and navigation, and the interests of all municipalities

which would be affected by the proposed diversion. Conn. Gen. Stat. § 22a-377 provides a list of withdrawals that are exempt from the permit requirement. In addition, to the director's discretion in requesting information from an applicant, Conn. Gen. Stat. § 22a-377 also gives the director the authority to exempt certain withdrawals.

Bob Gilmore indicated that with the discretion provided in the statute, the department typically only makes withdrawals and interbasin transfers of 2 million gallons per day or more subject to the review process. He indicated that initially everything was subject to the review, which was unnecessary for planning purposes. According to Mr. Gilmore, the statutory factors are generally considered informally in staff reports. If a decision is contested, it goes to a full hearing and findings of fact and conclusions of law are set forth in a record. He indicated that no economic analysis has really been done and that comments related to these issues are generally quite broad and generic. The Department focuses more on environmental issues when acting on an application. According to Mr. Gilmore, the process can become quite time consuming and expensive. He indicated that for IBT's, applicants can expect to spend a minimum of \$75,000 and up to ten times that amount if they are dealing with new sources of supply. If no hearing is required, then the process usually takes from nine months to a year, increasing to from one to two years if a hearing is required. He indicated that about one quarter of IBT's go to a full hearing. Though the process is time consuming and expensive, it is quite thorough and gives the Department needed leverage. It allows for social, economic and environmental considerations to be taken into account. Environmental reviews are quite a burden, both financially and information-wise.

## II. Statutory Provisions

### **Conn. Gen. Stat. § 22a-369. Application for permit. Information required.**

The applicant shall submit an application on such form as the commissioner may prescribe and with such information as the commissioner deems necessary [ ... ], including but not limited to:  
[ ... ]

- (7) The effect of the proposed diversion on public water supplies, water quality, wastewater treatment needs, flood management, water-based recreation, wetland habitats, waste assimilation, agriculture, fish and wildlife and low flow requirements;
- (8) The alternatives, if any, to the proposed diversion including a study of cost factors, feasibility and environmental effects of such alternatives;
- (9) Conservation measures instituted by the applicant prior to the application and the applicant's long-range water conservation plan to be implemented or continued after the issuance of a permit pursuant to sections 22a-365 to 22a-378, inclusive. The plan shall [ ... ] provide for: (A) The identification of and cost effectiveness of distribution system rehabilitation to correct sources of lost water; (B) measures which encourage proper maintenance and water conservation; (C) a public information program to promote water conservation, including industrial and commercial recycling and reuse and (D) contingency measures for limiting water use during seasonal or drought shortages;
- (10) In the case of a proposed interbasin transfer the commissioner may request the applicant to file an environmental impact report on the transfer which (A) considers the effect of the transfer on present and future water uses in the proposed donor basin; (B) includes a plan for meeting water supply needs and demands in the donor basin for a minimum of twenty-five years; and (C) analyzes the alternative solutions to the water supply or wastewater problem including comparative cost analysis of the proposed transfer relative to alternative measures. In making such request, the commissioner shall indicate which aspect of such report enumerated in subparagraphs (A), (B) and (C) of this subdivision requires the submission of the environmental impact report with the application.

### **Conn. Gen. Stat. § 22a-373. Decision.**

[ ... ]

- (b) In making his decision, the commissioner shall consider all relevant facts and circumstances including but not limited to:
  - (1) The effect of the proposed diversion on related needs for public water supply including existing and projected uses, safe yield of reservoir systems and reservoir and groundwater development;

- (2) The effect of the proposed diversion on existing and planned water uses in the area affected such as public water supplies, relative density of private wells, hydropower, flood management, water-based recreation, wetland habitats, waste assimilation and agriculture;
- (3) Compatibility of the proposed diversion with the policies and programs of the state of Connecticut, as adopted or amended, dealing with long-range planning, management, allocation and use of the water resources of the state;
- (4) The relationship of the proposed diversion to economic development and the creation of jobs;
- (5) The effect of the proposed diversion on the existing water conditions, with due regard to watershed characterization, groundwater availability potential, evapotranspiration conditions and water quality;
- (6) The effect, including thermal effect, on fish and wildlife as a result of flow reduction, alteration or augmentation caused by the proposed diversion;
- (7) The effect of the proposed diversion on navigation;
- (8) Whether the water to be diverted is necessary and to the extent that it is, whether such water can be derived from other alternatives including but not limited to conservation;
- (9) Consistency of the proposed diversion with action taken by the Attorney General, pursuant to sections 3-126 and 3-127; and
- (10) The interests of all municipalities which would be affected by the proposed diversion.

**Conn. Gen. Stat. § 22a-377. Exemptions. Regulations.**

(a) The following diversions are exempt from the provisions of sections 22a-365 to 22a-378a, inclusive: (1) One or more wells joined in one system whose combined maximum withdrawal will not exceed fifty thousand gallons of water during any twenty-four-hour period; (2) the maximum withdrawal of fifty thousand gallons of surface water during any twenty-four-hour period; (3) discharges permitted under the provisions of section 22a-430; (4) a storm drainage system which collects the surface water runoff of an area of less than one hundred acres; (5) water for fire emergency purposes; (6) diversions within, extensions and relocation of water supply system distribution mains; (7) roadway crossings or culverts which allow for continuous flow or passage of an existing watercourse; (8) diversions directly related to routine maintenance and emergency repairs of dams; and (9) diversions by a water company, as defined in section 25-32a, that are necessary to protect the security of public water supplies, including: (A) A diversion from a back-up well where a primary well is out of service, provided (i) the back-up well is located within two hundred fifty feet of such primary well, (ii) the total quantity of water withdrawn does not result in an increase in the rate or quantity of a diversion registered or permitted by the commissioner pursuant to section 22a-368 or 22a-378a, and (iii) not later than January thirtieth of each year, the commissioner is supplied a written annual report, for the prior year, that identifies the location of each back-up well, the construction type of each back-up well, the date of installation and the daily water use from each primary well and each back-up well for those days on which the back-up well operated; or (B) a transfer of water from one distribution system to another during a water supply emergency declared pursuant to section 22a-378 or 25-32b or otherwise declared according to law, provided the transfer (i) is limited to the period during which the emergency exists, (ii) does not result in an increase in the rate or quantity of a diversion registered or permitted by the commissioner pursuant to section 22a-368 or 22a-378a, (iii) is accomplished through existing, authorized, installed capacity to transfer or through temporary equipment that is removed within thirty days after the last day of the water supply emergency, and (iv) the commissioner is notified, in writing, of any such transfer and its location within three days of the transfer and the commissioner is provided a written report of the daily transfer of water that occurred during the emergency and any other related information the commissioner may request.

(b) The commissioner may, by regulations adopted in accordance with the provisions of chapter 54, define and establish additional exempt categories or classes of diversions which would not by themselves or in combination with each other have a substantial effect on the long-range planning for and allocation of the water resources of the state.

# FLORIDA

## I. SUMMARY

Florida is broken down into five water management districts. Florida Statute 373.223 authorizes transfers of water within the district across county boundaries, beyond overlying land, or outside watershed from which it is taken but only if the governing board or department determines that such transport and use is consistent with the public interest. This is required for new water rights which move water across county lines or outside of a watershed within the district. The statute sets forth seven factors that must be considered when determining whether the transport and use is consistent with the public interest. Some of these factors include: the proximity of the proposed water source to the area of use or application; all water sources or water courses that are geographically closer to the area of use or application than the source and are technically and economically feasible; alternatives that are economically and technically feasible, including desalination, conservation, reuse of nonpotable water, and aquifer storage and recovery; environmental impacts; whether existing and reasonably anticipated sources of water and conservation efforts are adequate supply existing legal uses and anticipated future needs of the water supply planning region where the water sources is located; consultations with local governments affected by the proposed transport and use; and value of existing capital investment in water related infrastructure made by the applicant.

In addition to transfers across county watersheds or counties within a water management district, Florida also has a statute imposing additional requirements for transfer between water management districts (but not within the same county). According to Kathleen Greenwood, with the Florida DEP's Office of Water Policy, there have not been any permits issued for transfer across districts. As for transfers within a district, most activity has occurred in the Northwest Florida Water Management District. Each district has their own set of rules for implementing the permitting program, with each district setting forth different criteria for evaluating the statutory factors and determining impacts. Attempts to find an example of a transfer within the NW Water Management District were unsuccessful.

## II. Statutory Provisions

### Fla. Stat. § 373.223. Conditions for a permit

(1) To obtain a permit pursuant to the provisions of this chapter, the applicant must establish that the proposed use of water:

- (a) Is a reasonable-beneficial use as defined in s. 373.019;
- (b) Will not interfere with any presently existing legal use of water; and
- (c) Is consistent with the public interest.

(2) The governing board or the department may authorize the holder of a use permit to transport and use ground or surface water beyond overlying land, across county boundaries, or outside the watershed from which it is taken if the governing board or department determines that such transport and use is consistent with the public interest, and no local government shall adopt or enforce any law, ordinance, rule, regulation, or order to the contrary.

(3) [ ... ] when evaluating whether a potential transport and use of ground or surface water across county boundaries is consistent with the public interest, pursuant to paragraph (1)(c), the governing board or department shall consider:

- (a) The proximity of the proposed water source to the area of use or application.
- (b) All impoundments, streams, groundwater sources, or watercourses that are geographically closer to the area of use or application than the proposed source, and that are technically and economically feasible for the proposed transport and use.
- (c) All economically and technically feasible alternatives to the proposed source, including, but not limited to, desalination, conservation, reuse of nonpotable reclaimed water and stormwater, and aquifer storage and recovery.
- (d) The potential environmental impacts that may result from the transport and use of water from the proposed

source, and the potential environmental impacts that may result from use of the other water sources identified in paragraphs (b) and (c).

(e) Whether existing and reasonably anticipated sources of water and conservation efforts are adequate to supply water for existing legal uses and reasonably anticipated future needs of the water supply planning region in which the proposed water source is located.

(f) Consultations with local governments affected by the proposed transport and use.

(g) The value of the existing capital investment in water-related infrastructure made by the applicant.

Where districtwide water supply assessments and regional water supply plans have been prepared pursuant to ss. 373.036 and 373.0361, the governing board or the department shall use the applicable plans and assessments as the basis for its consideration of the applicable factors in this subsection.

[ ... ]

#### **Fla. Stat. § 373.2295. Interdistrict transfers of groundwater**

(1) As used in this section, the term “interdistrict transfer and use” means a consumptive water use that involves the withdrawal of groundwater from a point within one water management district for use outside the boundaries of that district, but does not include a withdrawal and use within the same county. [ ... ]

[ ... ]

(4) In determining if an application is consistent with the public interest as required by s. 373.223, the projected populations, as contained in the future land use elements of the comprehensive plans adopted pursuant to chapter 163 by the local governments within which the withdrawal areas and the proposed use areas are located, will be considered together with other evidence presented on future needs of those areas. If the proposed interdistrict transfer of groundwater meets the requirements of this chapter, and if the needs of the area where the use will occur and the specific area from which the groundwater will be withdrawn can be satisfied, the permit for the interdistrict transfer and use shall be issued.

[ ... ]

## IDAHO

### I. Analysis

Idaho has several provisions which take into account third party impacts of a change of a water right. First, in addition to the standard no injury to other water rights rule, the change must be consistent with conservation of water resources within the state of Idaho, must be in the local public interest, and must not adversely affect the local economy of the watershed or local area within which the source of water for the proposed use originates. The statute also provides that the Director shall not approve a change in the nature of use from agricultural use where such change would significantly affect the agricultural base of the area. The local public interest definition was recently changed, narrowing it to the interests of the local people in the water itself (rather than the interest in the project overall). This was because under the previous broader definition, protestants raised the local public interest criterion in manners that required the Department to address air quality and other issues beyond its expertise.

According to Shelley Keen, with the Dept. of Water Resources, the Department generally does not, on their own initiative, look at economic, local public interests, consistency with conservation of water resources in the state, or agricultural base considerations. These issues are only addressed when raised in a protest. He indicated that the Department does not really have a methodology for addressing local public interest and economic issues and that, often times, change applications are denied for injury reasons, so that the other criteria need not be addressed. He indicated that economic issues are rarely raised because there are few proposals that are large enough to have an impact on local economic communities. Mr. Keen could only come up with one case where local economic effects were a large factor. In that case, a proposal for a new water right for a gas fired power plant in northern Idaho, the

Department determined that the project was not in the local public interest because there were alternative kinds of plants that would be less water consumptive and there was a need for water in other parts of the state. He indicated that the provision prohibiting a change of use from agricultural use where such change would significantly affect the agricultural base has really not been tested. Mr. Keen also indicated that there is invariably some form of mitigation imposed on transfer permits. The state is in the process of streamlining the application process, giving regional managers in regional offices authority to sign transfer approvals. Previously, all applications were processed in the main office in Boise.

## II. Statutory Provisions

### **Idaho Code § 42-222. Change in point of diversion, place of use, period of use, or nature of use of water under established rights – Forfeiture and extension – Appeals**

[ ... ]

The director of the department of water resources shall examine all the evidence and available information and shall approve the change in whole, or in part, or upon conditions, *provided no other water rights are injured thereby*, the change does not constitute an enlargement in use of the original right, *the change is consistent with the conservation of water resources within the state of Idaho* and *is in the local public interest as defined in section 42-202B, Idaho Code*, the change will not adversely affect the local economy of the watershed or local area within which the source of water for the proposed use originates, in the case where the place of use is outside of the watershed or local area where the source of water originates, and the new use is a beneficial use, which in the case of a municipal provider shall be satisfied if the water right is necessary to serve reasonably anticipated future needs as provided in this chapter. The director may consider consumptive use, as defined in section 42-202B, Idaho Code, as a factor in determining whether a proposed change would constitute an enlargement in use of the original water right. The director *shall not approve a change in the nature of use from agricultural use where such change would significantly affect the agricultural base of the local area*. The transfer of the right to the use of stored water for irrigation purposes shall not constitute an enlargement in use of the original right even though more acres may be irrigated, if no other water rights are injured thereby. [ ... ]

### **Idaho Code § 42-202B. Definitions**

(3) “Local public interest” is defined as the interests that the people in the area directly affected by a proposed water use have in the effects of such use on the public water resource.

# KANSAS

## I. Analysis

For general changes in use, place of use, and point of diversion of a water right, the statute requires, among other things, that the proposed change relate to the same local source of supply as that to which the water right relates. The statute also makes change applications subject to the same provisions and procedures for processing original applications to appropriate water.

The statute prohibits water transfers, which are defined as moving more than 2000 acre feet per year outside a 35 mile radius from the point of diversion, that would reduce the amount of required water to meet present or reasonably foreseeable future beneficial uses in the area from which the water is being taken, unless the benefits to the state of approving the transfer outweigh the benefits of not approving the transfer, or unless an emergency exists. The statute lists nine (9) factors for determining if the benefits of approving the transfer outweigh the benefits of not approving the transfer. One of these factors is the economic, environmental, public health and welfare and other impacts of approving or denying the transfer. Some other relevant factors include foreseeable future beneficial uses of the water and presence and effectiveness of conservation plans and practices. The statute requires the applicant to

have adopted and implemented conservation plans that meet certain criteria and that have been in effect for not less than 12 consecutive months immediately prior to the filing of the application.

According to Earl Lewis, this statute has never been tested in its current form. Initially, the state had more of a complete prohibition on interbasin transfers, subject to a public interest analysis. In the early nineties, the statute was changed to accommodate a transfer from the lower end of a water shed approximately fifteen miles from the Missouri River. The statute was amended to look at quantity of water and distance transferred rather than using one basin to another as the trigger for the statute. According to Mr. Lewis, the compelling argument for the new program was that many water districts served individuals on both sides of a hill, which could potentially trigger a lengthy review process.

## II. Statutory Provisions

### **K.S.A. § 82a-708b. Application for change in place of use, point of diversion or use; fee; review of action on application.**

(a) Any owner of a water right may change the place of use, the point of diversion or the use made of the water, without losing priority of right, provided such owner shall: [ ... ] (3) demonstrate to the chief engineer that any proposed change relates to the same local source of supply as that to which the water right relates [ ... ] The chief engineer shall approve or reject the application for change in accordance with the provisions and procedures prescribed for processing original applications for permission to appropriate water.

### **K.S.A. § 82a-1501. Water transfer act; definitions.**

As used in the water transfer act:

(a) (1) “Water transfer” means the diversion and transportation of water in a quantity of 2,000 acre feet or more per year for beneficial use at a point of use outside a 35-mile radius from the point of diversion of such water. In determining the amount of water transferred in the case of a water transfer supplying water to multiple public water supply systems or other water users, the amount of water transferred shall be considered to be the aggregate amount of water which will be supplied by the transfer to all public water supply systems and other water users whose points of use are located outside a 35-mile radius from the point of diversion of such water.

(2) Water transfer does not include a release of water from a reservoir to the water’s natural watercourse for use within the natural watercourse or watershed, made under the authority of the state water plan storage act (K.S.A. 82a-1301 et seq. and amendments thereto) or the water assurance program act (K.S.A. 82a-1330 et seq. and amendments thereto).

[ ... ]

### **K.S.A. § 82a-1502. Approval of transfers, conditions.**

(a) No person shall make a water transfer in this state unless and until the transfer is approved pursuant to the provisions of this act. No water transfer shall be approved which would reduce the amount of water required to meet the present or any reasonably foreseeable future beneficial use of water by present or future users in the area from which the water is to be taken for transfer unless: (1) The panel determines that the benefits to the state for approving the transfer outweigh the benefits to the state for not approving the transfer; (2) the chief engineer recommends to the panel and the panel concurs that an emergency exists which affects the public health, safety or welfare; or (3) the governor has declared that an emergency exists which affects the public health, safety or welfare. Whenever an emergency exists, a water transfer may be approved by the panel on a temporary basis for a period of time not to exceed one year under rules and regulations adopted by the chief engineer. The emergency approval shall be subject to the terms, conditions and limitations specified by the panel.

(b) No water transfer shall be approved under the provisions of this act: (1) If such transfer would impair water reservation rights, vested rights, appropriation rights or prior applications for permits to appropriate water; and (2) unless the presiding officer determines that the applicant has adopted and implemented conservation plans and practices that (A) are consistent with the guidelines developed and maintained by the Kansas water office pursuant to K.S.A. 74-2608 and amendments thereto, (B) have been in effect for not less than 12 consecutive months immediately prior to the filing of the application on which the hearing is being held and (C) if the transfer is for use

by a public water supply system, include the implementation of a rate structure which encourages the efficient use of water that is determined by the presiding officer to be effective and if designed, implemented and maintained properly, will result in wise use and responsible conservation and management of water used by the system.

- (c) To determine whether the benefits to the state for approving the transfer outweigh the benefits to the state for not approving the transfer, the presiding officer shall consider all matters pertaining thereto, including specifically:
- (1) Any current beneficial use being made of the water proposed to be diverted, including minimum desirable streamflow requirements;
  - (2) any reasonably foreseeable future beneficial use of the water;
  - (3) the economic, environmental, public health and welfare and other impacts of approving or denying the transfer of the water;
  - (4) alternative sources of water available to the applicant and present or future users for any beneficial use;
  - (5) whether the applicant has taken all appropriate measures to preserve the quality and remediate any contamination of water currently available for use by the applicant;
  - (6) the proposed plan of design, construction and operation of any works or facilities used in conjunction with carrying the water from the point of diversion, which plan shall be in sufficient detail to enable all parties to understand the impacts of the proposed water transfer;
  - (7) the effectiveness of conservation plans and practices adopted and implemented by the applicant and any other entities to be supplied water by the applicant;
  - (8) the conservation plans and practices adopted and implemented by any persons protesting or potentially affected by the proposed transfer, which plans and practices shall be consistent with the guidelines for conservation plans and practices developed and maintained by the Kansas water office pursuant to K.S.A. 74-2608 and amendments thereto; and
  - (9) any applicable management program, standards, policies and rules and regulations of a groundwater management district.

## MASSACHUSETTS

### I. Analysis

Under the Massachusetts' Interbasin Transfer Statute, the Commission is required to establish procedures and criteria for approving or disapproving interbasin transfers of water. The statute sets forth five criteria that must be included. First, the statute requires that all reasonable efforts be taken to identify and develop all viable sources of water, and it sets forth five conservation measures that must have been taken in the receiving area before an interbasin transfer can be approved. The other factors include an environmental review, a comprehensive forestry management plan, and a requirement that reasonable instream flow in the source river be maintained. Also, the statute dealing with permits for new withdrawals of water lists ten factors that must be considered, one of which is the impact of the withdrawal on other hydrologically interconnected water sources. The statute also requires the reasonable protection of water uses, land values, investments and enterprises that are dependent on previously allowable withdrawals. The statute also requires consideration of reasonable economic development and the creation of jobs in the commonwealth when issuing permits for a new withdrawal. Thus, economic impacts and other additional third party considerations can be required when a new permit for withdrawal is needed to facilitate an interbasin transfer.

According to Kathleen Baskin, Director of Water Policy and a member of the Water Resources Commission, the IBT permitting process is a two step process, first looking at the source basin to determine water availability and impacts of the transfer on the source basin and next looking at the receiving basin and the project to determine if the project is worthy of the water—looking specifically to see if water conservation is taking place to the extent that it can and if water is otherwise already available in the receiving basin. She estimated that about a dozen projects have been

approved over the last couple of decades and that only a couple of projects have been denied for not meeting the criteria. Massachusetts has strict conservation standards, requiring that all practical measures to conserve water be taken before the commission can approve the transfer. The state has a use standard of 65 gallons per person per day and a 10% unaccounted for water requirement. They also have an offset policy for waste water. However, the statute does not have an economic analysis component. According to Duane Levangie, with the DEP Water Management Program (which issues permits for new withdrawals), there is no set formula for evaluating economic impacts. He described it as “more art than science.” He indicated that conservation conditions in the permit are in place to reasonably protect land uses, land values, investments and enterprises dependent on previously allowable withdrawals. Sometimes conditions imposed will so stringent that they prevent a project from going forward. He suggested looking at the permits for Salem & Beverly and the Town of Wilmington as good examples.

## II. Statutory Provisions

### **ALM GL ch. 21, § 8D. Promulgation of Rules and Regulations Defining and Delineating River Basins of Commonwealth; Application Procedures and Criteria; Public Hearings.**

The commission shall [ ... ] establish application procedures and criteria upon which the commission shall base its approval or disapproval of any proposed interbasin transfer of waters. Said criteria shall include but not be limited to the following:—

- (1) that all reasonable efforts have been made to identify and develop all viable sources in the receiving area of the proposed interbasin transfer,
- (2) that all practical measures to conserve water have been taken in the receiving area, including but not limited to the following:
  - (a) the identification of distribution system sources of lost water, and where cost effective, the implementation of a program of leak detection and repair;
  - (b) metering of all water users in the receiving area and a program of meter maintenance;
  - (c) implementation of rate structures which reflect the costs of operation, proper maintenance and water conservation and encourage the same;
  - (d) Public information programs to promote water conservation, including industrial and commercial recycling and reuse; and
  - (e) contingency plans for limiting use of water during seasonal or drought shortages;
- (3) that an environmental review pursuant to section sixty-one and sections sixty-two to sixty-two H, inclusive, of chapter thirty has been complied with for the proposed interbasin transfer,
- (4) that a comprehensive forestry management program which balances water yields, wildlife habitat and natural beauty on watershed lands presently serving the receiving area has been implemented,
- (5) that reasonable instream flow in the river from which the water is diverted is maintained, said reasonable instream flow shall be determined by the commission in making its determination of applicability of the proposed interbasin transfer of water.

The decision of the commission to approve or deny a proposed interbasin transfer shall be determined after at least two public hearings, one of which shall be held in the proposed donor community and one of which shall be held in the receiving community [ ... ].

### **ALM GL ch. 21G, § 8. Form and Required Contents of Permit Application; Easement as a Factor in Application; Transfers of Permits.**

The regulations adopted by the department shall specify the form and required contents of a permit application. At a minimum, such regulations shall specify that the application must contain:—

[ ... ]

- (7) The effect of the proposed withdrawal on public drinking water supplies, water quality, wastewater treatment, waste assimilation, groundwater recharge areas, navigation, hydropower resources, water-based recreation, wetland habitats, fish and wildlife, agriculture, and flood plains;
- (8) The alternatives, if any, to the proposed withdrawal including a study of cost factors, feasibility and environmental effects of such alternatives; and

(9) Conservation measures instituted, or to be instituted, by the applicant.  
[ ... ]

**ALM GL ch. 21G, § 7. Criteria, Standards and Procedures for Permits; Effective Date.**  
[ ... ]

In adopting regulations establishing criteria and standards for obtaining permits, the department shall assure, at a minimum, that the following factors are considered:—

- (1) The impact of the proposed withdrawal on other water sources which are hydrologically interconnected with the water source from which the withdrawal is to be made;
- (2) The anticipated times of year when withdrawals will be made;
- (3) The water available within the safe yield of the water source from which the withdrawal is to be made;
- (4) Reasonable protection of water uses, land values, investments and enterprises that are dependent on previously allowable withdrawals;
- (5) The use to be made of the water proposed to be withdrawn and other existing, presently permitted or projected uses of the water source from which the withdrawal is to be made;
- (6) Any water resources management plan for any city or town in which the affected water source is located;
- (7) Any state water resources management plan adopted by the commission;
- (8) Reasonable conservation practices and measures, consistent with efficient utilization of the water;
- (9) Reasonable protection of public drinking water supplies, water quality, wastewater treatment capacity, waste assimilation capacity, groundwater recharge areas, navigation, hydropower resources, water-based recreation, wetland habitat, fish and wildlife, agriculture, and flood plains; and
- (10) Reasonable economic development and the creation of jobs in the commonwealth.

## MINNESOTA

### I. Analysis

The statute requires that all permits issued be consistent with state, regional, and local water management plans. Diversions greater than 2 million gallons per day average over a 30-day period from the basin of origin within the state may not be approved until the Commissioner determines that the basin of origin will have enough water remaining to meet the basin's water resource needs during the specified life of the project and the legislature approves the diversion.

### II. Statutory Provisions

**Minn. Stat. § 103G.271. APPROPRIATION AND USE OF WATERS**  
[ ... ]

Subd. 2. Permits must be consistent with state and local plans.

A water use permit may not be issued under this section unless it is consistent with state, regional, and local water and related land resources management plans if the regional and local plans are consistent with statewide plans.

[ ... ]

**Minn. Stat. § 103G.301. GENERAL PERMIT APPLICATION PROCEDURES**  
Subdivision 1. Application documentation.

[ ... ]

(b) The commissioner may require a statement of the effect the actions proposed in the permit application will have on the environment, including:

- (1) anticipated changes in water and related land resources;

- (2) unavoidable but anticipated detrimental effects; and
  - (3) alternatives to the actions proposed in the permit application, including conservation measures to improve water use efficiencies and reduce water demand.
- [ ... ]

Subd. 7. Recommendation of local units of government.

(a) If the proposed activity for which the permit is requested is within a municipality, or is within or affects a watershed district or a soil and water conservation district, the commissioner may obtain a written recommendation of the managers of the district and the board of supervisors of the soil and water conservation district or the mayor of the municipality before issuing or denying the permit.

**Minn. Stat. § 103G.265. WATER SUPPLY MANAGEMENT**

Subd. 2. Diversion greater than 2,000,000 gallons per day.

A water use permit or a plan that requires a permit or the commissioner's approval, involving a diversion of waters of the state of more than 2,000,000 gallons per day average in a 30-day period, to a place outside of this state *or from the basin of origin within this state* may not be granted or approved until:

- (1) a determination is made by the commissioner that the water remaining in the basin of origin will be adequate to meet the basin's water resources needs during the specified life of the diversion project; and
  - (2) approval of the diversion is given by the legislature.
- [ ... ]

## NEBRASKA

### I. Analysis

For interbasin transfers, the statute lists seven factors which must be considered to determine whether denial of an application is demanded by the public interest. The factors are aimed at helping determine whether the benefits to the state and the applicant's basin are greater than or equal to the adverse impacts to the state and the basin of origin. The factors includes economic, environmental and other benefits of leaving the water in the basin of origin and the economic, environmental and other benefits of the proposed interbasin transfer and use. The factors also include foreseeable future beneficial uses of the water in the basin of origin, as well as alternative supplies of water in the receiving basin and in the basin of origin.

For general changes of rights in surface water (i.e., change of use, place of use, or point of diversion), the director may request that the applicant provide, among other things, economic, social or environmental impact analyses of the proposed transfer or change. There are twelve requirements which must be satisfied before a change in surface water right can be granted. One of these requirements is that where there is a change of place of use, the new use must be within the same basin as the original place of use, or if not, then it must be within a basin that is tributary to the basin of the original place of use. Also, if there is a permanent (longer than thirty years) change in use, then the original use must be in the same preference category as the new use, or both the original use and the new use must be uses for which no preference has been established. According to Dept. of Natural Resources (DNR) staff, the preferences categories are as follows: domestic over agricultural over municipal and industrial (there has been no preference category established for instream beneficial uses). Finally, the change must not interfere with the state's ability to comply with any interstate water compact, and it must be in the public interest. The statute sets forth considerations to be taken into account in determining the public interest, including environmental, social and economic impacts of the proposed transfer or change and whether and under what conditions other sources of water are available for the change. The statute allows the director to impose any reasonable condition to protect

the public interest. The statute also provides for an expedited review process when a change is from irrigation to irrigation.

For groundwater, the statute allows groundwater withdrawn from an aquifer and transferred off the overlying land for use within the State of Nebraska for agricultural purposes or for a purpose pursuant to a groundwater remediation plan under the state's Environmental Protection Act if such withdrawal and transfer, in addition to other requirements, is in the public interest. The code also has provisions for transfer of groundwater off overlying lands for domestic purposes and for environmental purposes under certain circumstances.

According to Jean Angel, legal counsel in the DNR and Susan France, special assistant to the director of DNR, there has been very little interbasin transfer activity. Jean Angel was not aware of any interbasin transfers, but Susan France indicated that there is currently one IBT approved for an Irrigation District near a basin divide. No information was provided for that interbasin transfer. Also, for general changes of water right, they were not able to provide any examples of when the statutory factors and requirements have been considered and applied..

## II. Statutory Provisions

### **R.R.S. Neb. § 46-289. Legislative findings; interbasin transfers; application for water; factors considered; order issued**

The Legislature finds, recognizes, and declares that the transfer of water to outside the boundaries of a river basin may have impacts on the water and other resources in the basin and that such impacts differ from those caused by uses of water within the same basin in part because any unused water will not be returned to the stream from which it is taken for further use in that river basin. The Legislature therefore recognizes the need to delineate factors for consideration by the Director of Natural Resources when evaluating an application made pursuant to section 46-233 which involves an interbasin transfer of water in order to determine whether denial of such application is demanded by the public interest. Those considerations shall include, but not be limited to, the following factors:

- (1) The economic, environmental, and other benefits of the proposed interbasin transfer and use;
- (2) Any adverse impacts of the proposed interbasin transfer and use;
- (3) Any current beneficial uses being made of the unappropriated water in the basin of origin;
- (4) Any reasonably foreseeable future beneficial uses of the water in the basin of origin;
- (5) The economic, environmental, and other benefits of leaving the water in the basin of origin for current or future beneficial uses;
- (6) Alternative sources of water supply available to the applicant; and
- (7) Alternative sources of water available to the basin of origin for future beneficial uses.

The application shall be deemed in the public interest if the overall benefits to the state and the applicant's basin are greater than or equal to the adverse impacts to the state and the basin of origin. The director's order granting or denying an application shall specify the reasons for such action, including a discussion of the required factors for consideration, and shall document such decision by reference to the hearing record, if any, and to any other sources used by the director in making the decision.

### **R.R.S. Neb. § 46-293. Application; review; Director of Natural Resources; powers**

[ ... ]

(2) Either on his or her own motion or in response to objections or comments received pursuant to subsection (4) or (5) of section 46-291, the director may require the applicant to provide additional information before a hearing will be scheduled or, if no hearing is to be held, before the application will receive further consideration. The information requested may include economic, social, or environmental impact analyses of the proposed transfer or change, information about the amount of water historically consumed under the appropriation, copies of any plans for mitigation of any anticipated adverse impacts that would result from the proposed transfer or change, and such other information as the director deems necessary in order to determine whether the proposed transfer or change is consistent with section 46-294.

**R.R.S. Neb. § 46-294. Applications; approval; requirements; conditions; burden of proof** (1) Except for applications approved in accordance with subsection (1) of section 46-291, the Director of Natural Resources shall approve an application filed pursuant to section 46-290 only if the application and the proposed transfer or change meet the following requirements:

[ ... ]

(c) (i) Any requested transfer in the location of use is within the same river basin as defined in section 46-288 or

(ii) the river basin from which the appropriation is to be transferred is tributary to the river basin to which the appropriation is to be transferred;

[ ... ]

(i) If the proposed transfer or change is to be permanent, either (i) the purpose for which the water is to be used before the transfer or change is in the same preference category established by section 46-204 as the purpose for which the water is to be used after the transfer or change or (ii) the purpose for which the water is to be used

before the transfer or change and the purpose for which the water is to be used after the transfer or change are both

purposes for which no preferences are established by section 46-204;

[ ... ]

(k) The transfer or change will not be inconsistent with any applicable state or federal law and will not jeopardize the state's compliance with any applicable interstate water compact or decree or cause difficulty in fulfilling the provisions of any other formal state contract or agreement; and

(l) The proposed transfer or change is in the public interest. The director's considerations relative to the public interest shall include, but not be limited to, (i) the economic, social, and environmental impacts of the proposed transfer or change and (ii) whether and under what conditions other sources of water are available for the uses to be made of the appropriation after the proposed transfer or change. The Department of Natural Resources shall adopt and promulgate rules and regulations to govern the director's determination of whether a proposed transfer or change is in the public interest.

(2) The applicant has the burden of proving that the proposed transfer or change will comply with subdivisions (1)

(a) through (l) of this section, except that (a) the burden is on a riparian user to demonstrate his or her riparian

status and to demonstrate a significant adverse effect on his or her use in order to prevent approval of an application

and (b) if both the current use and the proposed use after a transfer are for irrigation, the number of acres to be

irrigated will not increase after the transfer, and the location of the diversion from the stream will not change, there

is a rebuttable presumption that the transfer will be consistent with subdivision (1)(d) of this section.

(3) In approving an application, the director may impose any reasonable conditions deemed necessary to protect the public interest, to ensure consistency with any of the other criteria in subsection (1) of this section, or to provide the department with information needed to properly and efficiently administer the appropriation while the transfer or change remains in effect. [ ... ]

**R.R.S. Neb. § 46-691. Transfer off overlying land; when allowed; objection; procedure; natural resources district; powers and duties; Director of Natural Resources; duties**

(1) Any person who withdraws ground water for agricultural purposes, or for any purpose pursuant to a ground water remediation plan as required under the Environmental Protection Act, including the providing of water for domestic purposes, from aquifers located within the State of Nebraska may transfer the use of the ground water off the overlying land if the ground water is put to a reasonable and beneficial use within the State of Nebraska and is used for an agricultural purpose, or for any purpose pursuant to a ground water remediation plan as required under the Environmental Protection Act, including the providing of water for domestic purposes, after transfer, and if such withdrawal, transfer, and use (a) will not significantly adversely affect any other water user, (b) is consistent with all applicable statutes and rules and regulations, and (c) is in the public interest.

[ ... ]

**R.R.S. Neb. § 46-691.03. Transfer off overlying land for environmental or recreational benefits; when allowed; application; fee; natural resources district; powers and duties**

(1) Any person intending to withdraw ground water from any water well located in the State of Nebraska, transport that water off the overlying land, and use it to augment water supplies in any Nebraska wetland or natural stream for the purpose of benefiting fish or wildlife or producing other environmental or recreational benefits may do so

only if the natural resources district in which the water well is or would be located allows withdrawals and transport for such purposes and only after applying for and obtaining a permit from such natural resources district. An application for any such permit shall be accompanied by a nonrefundable fee of fifty dollars payable to such district. Such permit shall be in addition to any permit required pursuant to section 46-252 or 46-735 or subdivision (1)(k) of section 46-739.

(3) In determining whether to grant a permit under this section, the board of directors for the natural resources district shall consider:

[ ... ]

(c) Any negative effect of the proposed withdrawal, transport, and use on ground water supplies needed to meet present or reasonable future demands for water in the area of the proposed withdrawal, transport, and use, to comply with any interstate compact or decree, or to fulfill the provisions of any other formal state contract or agreement;

(d) Any negative effect of the proposed withdrawal, transport, and use on surface water supplies needed to meet present or reasonable future demands for water within the state, to comply with any interstate compact or decree, or to fulfill the provisions of any other formal state contract or agreement;

(e) Any adverse environmental effect of the proposed withdrawal, transport, and use of the ground water;

(f) The cumulative effects of the proposed withdrawal, transport, and use relative to the matters listed in subdivisions (3)(c) through (e) of this section when considered in conjunction with all other withdrawals, transports, and uses subject to this section;

(g) Whether the proposed withdrawal, transport, and use is consistent with the district's ground water quantity and quality management plan and with any integrated management plan previously adopted or being considered for adoption in accordance with sections 46-713 to 46-719; and

(h) Any other factors consistent with the purposes of this section which the board of directors deems relevant to protect the interests of the state and its citizens.

[ ... ]

## NEVADA

### I. Analysis

Nevada allows changes in place of diversion, manner of use, or place of use so long as the change does not impair the water rights held by other persons and is in the public interest. If the Engineer finds the change not to be in the public interest or that it may impair water rights held by other persons, he is required to give notice of the application and hold a hearing and render a decision as provided in the statute. The statutes require the Engineer to notify the board of commissioners of the county where the water is currently being diverted or used and the board of commissioners in the county in which the water will be diverted or used. Also, if the Engineer determines that a hydrological study, environmental study, or other study is necessary before he makes a final determination on an application, he is required to advise the applicant of the need for the study and he is also required to consult with the applicant and the governing body of the county or counties in which the point of diversion and the place of use is located concerning the scope and progress of the study. The statute has a number of additional considerations depending on the type of change proposed. For example, if the change is within an irrigation district, it may not adversely affect the cost of water for other holders of water rights in the district or lessen the efficiency of the district in the delivery or use of water. For interbasin transfers, the Engineer is required to reject the application if the applicant has not justified the need to import the water from another basin, considering such factors as whether a plan for conservation of water is advisable for the basin into which the water is to be imported and, if so, whether the applicant has demonstrated that such a plan has been adopted and is being carried out, whether the proposed transfer is environmentally sound, and whether the proposed action is an appropriate long-term use which will not

unduly limit the future growth and development in the basin from which the water is being exported, and any other factors the engineer deems relevant.

The statute allows the county of origin to impose a fee of up to \$10 per acre foot per year on an appropriation of groundwater which results in the transfer to and beneficial use of water in a county other than the county in which the water is appropriated. The fee was designed to offset the difference in tax revenues between irrigated land and non-irrigated land resulting from a transfer. The statute requires the Engineer's approval before the county of origin may impose the fee, and the engineer should determine whether the appropriation of groundwater results in transfer to and beneficial use of water in a county other than the county of origin and the amount of water subject to the fee. The fee cannot be charged if the water is diverted and beneficially used in the county of origin but later migrates into another county or state. According to Mike Randall, with the State Engineers Office, a fee of \$6 per acre foot has been assessed where there has been a transfer from one county to another. Where no fee is assessed, the statute allows the governing body of the county of origin to execute a plan to mitigate the adverse economic effects caused by the transfer from the county of origin to another county. Such a plan is binding on the county of origin and the applicant or his successor. Such a plan may include, but is not limited to, provisions concerning reservation of designated water rights to the county of origin and compensation for the foreseeable effects of the transfer. The plan is subject to modification by the state engineer if the plan violates a specific statute or becomes impossible or impracticable to put into effect. Mr. Randall indicated that counties typically impose a fee, and he was not able to provide an example of one choosing to execute a plan to mitigate the adverse economic effects in lieu of imposing the fee.

Mr. Randall indicated that most transfer activity has been initiated by the Southern Nevada Water Authority and the Las Vegas Valley Water District to provide water to the Las Vegas area. Rulings are available under the Water Rights Database link on the Nevada Division of Water Resource's website at [water.nv.gov](http://water.nv.gov). Ruling 5465 involved several applications to appropriate underground waters from basins outside of the Las Vegas area for use municipal and domestic purposes within the Las Vegas area. Several protests were filed and each was addressed in the ruling. The ruling addresses third party impacts in several areas. On page 22 of the Ruling, in response to protests that the transfer would cause impacts to area residents, agricultural operations and cause socioeconomic and environmental impacts, the Engineer notes that the applicant withdrew applications in the Alamo area under the belief that the water was needed by the community for its future development. The state engineer dismissed many protests alleging various third party impacts as being outside the scope of his authority. In the portion of the ruling addressing whether the applicant justified the need for the interbasin transfer, the Engineer addressed issues such as conservation efforts, anticipated growth rates in the receiving area, whether the transfer would unduly limit future growth in the source basin, and environmental impacts of the transfer. (Ruling 5645 at 53-56). He concluded that the statutory requirement for prohibiting an interbasin transfer had not been satisfied. *Id.* The engineer concluded that by providing safeguards, such as the reduction in the amount requested for appropriation and a monitoring plan ordered by the Engineer, there were some assurances that any impacts could be quantified and, if necessary, mitigated and that the use of water proposed under the application would not threaten to prove detrimental to the public interest.

## II. Statutory Provisions

**Nev. Rev. Stat. Ann. § 533.345. Application for permit to change place of diversion, manner of use or place of use: Contents; approval of or hearing on temporary change; period of temporary change.**

[ ... ]

2. If an applicant is seeking a temporary change of place of diversion, manner of use or place of use of water already appropriated, the State Engineer shall approve the application if:

[ ... ]

(b) The temporary change is in the public interest; and

[ ... ]

**Nev. Rev. Stat. Ann. § 533.363. State engineer to notify county commissioners of application to use water in county other than that in which it is appropriated or currently diverted or used.**

1. Except as otherwise provided in subsection 2, if water for which a permit is requested is to be used in a county other than that county in which it is to be appropriated, or is to be diverted from or used in a different county than that in which it is currently being diverted or used, then the State Engineer shall give notice of the receipt of the request for the permit to:

(a) The board of county commissioners of the county in which the water for which the permit is requested will be appropriated or is currently being diverted or used; and

(b) The board of county commissioners of the county in which the water will be diverted or used.

[ ... ]

**Nev. Rev. Stat. Ann. § 533.368. Hydrological, environmental or other study: State engineer to determine need for study; cost of study paid by applicant; regulations.**

1. If the State Engineer determines that a hydrological study, an environmental study or any other study is necessary before he makes a final determination on an application pursuant to NRS 533.370 and the applicant, a governmental agency or other person has not conducted such a study or the required study is not available, the State Engineer shall advise the applicant of the need for the study and the type of study required.

[ ... ]

4. The State Engineer shall:

(a) Consult with the applicant and the governing body of the county or counties in which the point of diversion and the place of use is located concerning the scope and progress of the study.

[ ... ]

**Nev. Rev. Stat. Ann. § 533.370. Approval or rejection of application by State Engineer: Conditions; exceptions; considerations; procedure.**

1. Except as otherwise provided in this section and NRS 533.345; , 533.371; , 533.372; and 533.503, the State Engineer shall approve an application submitted in proper form which contemplates the application of water to beneficial use if:

[ ... ]

(b) The proposed use or change, if within an irrigation district, does not adversely affect the cost of water for other holders of water rights in the district or lessen the efficiency of the district in its delivery or use of water; and

[ ... ]

6. In determining whether an application for an interbasin transfer of ground water must be rejected pursuant to this section, the State Engineer shall consider:

(a) Whether the applicant has justified the need to import the water from another basin;

(b) If the State Engineer determines that a plan for conservation of water is advisable for the basin into which the water is to be imported, whether the applicant has demonstrated that such a plan has been adopted and is being effectively carried out;

(c) Whether the proposed action is environmentally sound as it relates to the basin from which the water is exported;

(d) Whether the proposed action is an appropriate long-term use which will not unduly limit the future growth and development in the basin from which the water is exported; and

(e) Any other factor the State Engineer determines to be relevant.

[ ... ]

13. As used in this section:

(a) "County of origin" means the county from which groundwater is transferred or proposed to be transferred.

[ ... ]

(c) "Interbasin transfer of groundwater" means a transfer of groundwater for which the proposed point of diversion is in a different basin than the proposed place of beneficial use.

**Nev. Rev. Stat. Ann. § 533.371. Rejection of application for permit for specified period.**

The State Engineer shall reject the application and refuse to issue a permit to appropriate water for a specified period if he determines that:

[ ... ]

6. The proposed use threatens to prove detrimental to the public interest.

**Nev. Rev. Stat. Ann. § 533.438. Imposition of fee on certain transfers of water by county of origin; review by State Engineer; limitation on use of money collected from fee.**

1. Except as otherwise provided in subsection 4, if an appropriation of ground water pursuant to a permit to appropriate ground water results in the transfer to and beneficial use of water in a county in this state other than the county in which the water is appropriated or in another state, the county of origin may impose a fee of \$10 per acre-foot per year on the transfer.

2. A county of origin shall not impose a fee pursuant to subsection 1 without the prior approval of the State Engineer. The county of origin shall notify the State Engineer in writing of its intent to impose the fee. The State Engineer shall review the notice of intent to impose the fee to determine:

(a) Whether the appropriation of ground water pursuant to the permit specified in subsection 1 results in a transfer to and beneficial use of water in a county in this State other than the county of origin or in another state; and

(b) The amount of water, if any, that is:

- (1) Subject to the proposed fee because of that transfer and beneficial use; or
- (2) Not subject to the proposed fee pursuant to subsection 4.

[ ... ]

4. A fee may not be imposed pursuant to this section on water that is appropriated and beneficially used pursuant to a permit to appropriate ground water which is issued for a point of diversion and a place of beneficial use in the county of origin and which, after the water is diverted and beneficially used, is discharged or migrates into a county in this state other than the county of origin or into another state.

[ ... ]

6. For the purposes of this section, if a basin includes land lying in more than one county, each county any part of whose land is included is a county of origin to the extent of the proportionate amount of water transferred from it. The State Engineer shall determine the respective proportions.

7. As used in this section:

- (a) A "basin" is one designated by the State Engineer for the purposes of chapter 534 of NRS.
- (b) "Origin" means the place where water is taken from underground.

**Nev. Rev. Stat. Ann. § 533.4385. Plan to mitigate adverse economic effects caused by transfer of water; contents of plan; modification of plan by State Engineer.**

1. If a county of origin has not imposed a fee on the transfer of water pursuant to NRS 533.438, an applicant and the governing body of the county of origin may execute a plan to mitigate the adverse economic effects caused by the transfer of water from the county of origin to another county. If such a plan is executed, the plan is binding on the county of origin and the applicant or his successor.

2. A plan to mitigate the adverse economic effects caused by the transfer of water from the county of origin to another county may include, but is not limited to, provisions concerning:

- (a) The reservation of designated water rights to the county of origin; and
- (b) Compensation for the foreseeable effects of the transfer.

3. If a plan is executed pursuant to subsection 1, the applicant shall submit the plan to the State Engineer. The State Engineer may modify a plan executed pursuant to subsection 1 if a provision of the plan:

- (a) Violates a specific statute; or
- (b) Becomes impossible or impracticable to put into effect.

## NORTH CAROLINA

### I. Analysis

Since 1993, North Carolina has required a certificate before an individual can divert 2 million gallons per day (MGD) or more from one water basin to another. The amount of a transfer is determined as the amount of water moved from the source basin to the receiving basin, less the amount of water returned to the source basin. Therefore, any water consumption or loss that occurs in the receiving basin would be considered a transfer, even if the remaining wastewater is discharged back to the source basin. If out-of-basin losses are 2 MGD or greater, then certification would be required. Before a certificate can be issued by the Environmental Management Commission (EMC) for an interbasin transfer involving 2 million gallons or more per day, the commission is required to specifically consider and state in writing findings of fact and conclusions of law with regard to nine factors. Some of these factors include the present and reasonably foreseeable future detrimental effects, and cumulative effects, on the source basin, as well as alternatives and the detrimental effects on the receiving basin. Interbasin transfers are also subject to North Carolina's State Environmental Policy Act (SEPA) which usually requires development of an Environmental Impact Statement before the EMC hearing. A certificate can only be granted for an interbasin transfer if the applicant establishes and the EMC concludes by a preponderance of the evidence that (i) the benefits of the proposed transfer outweigh the detriments of the transfer, and, (ii) the detriments have been or will be mitigated to a reasonable degree. The EMC may grant the petition in whole or in part, or deny it, and may require mitigation measures to minimize detrimental effects.

Unlike some states, which need only formally address statutory factors after a protest on those grounds, North Carolina requires written findings of fact and conclusions of law regardless of whether someone objects on those grounds. Section (n) of the statute sets forth conditions and limitations which the Commission shall impose if it grants the certificate. The statute provides that the conditions and limitations shall include any mitigation measures proposed by the applicant to minimize any detrimental effects within the source and receiving basins and the statute also requires the certificate to include a water conservation plan, a drought management plan, and monitoring and reporting requirements. The statute also requires a provision in the certificate that the Commission may amend the certificate if it appears that an alternative source of water is available within the receiving basin and that the commission shall amend the certificate if it finds that the applicant's current projected needs become significantly less than the projected needs at the time the certificate was granted.

There are currently three certificates approving IBT's in North Carolina, and the certificates are available online. In each of the certificates, the commission makes the required findings of fact and conclusions of law and imposes conditions to mitigate detrimental effects, such as requiring a drought mitigation plan to protect the source basin during drought conditions and to mitigate the future need for allocations of limited resources in the source basin. The commission also provided for modification of the terms and conditions of the certificate should future developments prove projections and predictions in the EIS incorrect and show that substantial environmental impacts are associated with the transfer. *See* CMUD Certificate at II-6. In the Concord and Kannapolis Certificate, the Commission analyzed at length the benefits of the proposed transfer and the impacts of the transfer on the source basin, including looking at impacts on inflows, water quality, and water supply, but ultimately found that the detrimental effects on the source basin would be insignificant. The commission identified secondary and cumulative impacts on the receiving basin, but determined that such impacts would be mitigated by the implementation of growth management measures as part of the Unified Development Ordinance. The Commission also required a drought management plan as part of the this transfer, requiring the plan to include Low Inflow Protocols for the source basins and to set forth actions that the recipients of the transfer must take to protect the source basins during drought conditions. The Commission reserved the right to modify the certificate if conditions warrant modification. The Commission imposed similar drought mitigation plan requirements and reserved the right to modify the Towns of Cary, Apex and Mooresville Certificate.

Tom Francin, with the North Carolina Division of Water Resources, has worked extensively with the Interbasin Transfer program and identified some pitfalls with the North Carolina program. These include the cost and time associated with an IBT, especially because each transfer requires a hearing before the Commission, followed by findings of fact and conclusions of law with respect to each factor. He suggested that the process can take up to five years and one million dollars to complete, as they often end up in litigation. Other burdens are the intricacies of the review, including the EIS, consideration of secondary and cumulative impacts of growth in the receiving basin, and the limited opportunity for presentation before the EMC. He noted that none of the three permitted IBTs have been for the full quantity requested and that the EMC has included rigorous conditions on the permits, including a requirement that water be returned to the source basin by 2010. Also making the process difficult is the fact that IBTs are the only form of withdrawals subject to regulation, making the comprehensive regulation of and the IBT review process quite challenging.

## II. Statutory Provisions

### N.C. Gen. Stat. § 143-215.22L. Regulation of surface water transfers

(a) Certificate Required. — No person, without first obtaining a certificate from the Commission, may:

- (1) Initiate a transfer of 2,000,000 gallons of water or more per day from one river basin to another.
- (2) Increase the amount of an existing transfer of water from one river basin to another by twenty-five percent (25%) or more above the average daily amount transferred during the year ending 1 July 1993 if the total transfer including the increase is 2,000,000 gallons or more per day.
- (3) Increase an existing transfer of water from one river basin to another above the amount approved by the Commission in a certificate issued under G.S. 162A-7 prior to 1 July 1993.

[ ... ]

(k) Final Determination: Factors to be Considered. — In determining whether a certificate may be issued for the transfer, the Commission shall specifically consider each of the following items and state in writing its findings of fact and conclusions of law with regard to each item:

- (1) The necessity and reasonableness of the amount of surface water proposed to be transferred and its proposed uses.
- (2) The present and reasonably foreseeable future detrimental effects on the source river basin, including present and future effects on public, industrial, economic, recreational, and agricultural water supply needs, wastewater assimilation, water quality, fish and wildlife habitat, electric power generation, navigation, and recreation. Local water supply plans for public water systems with service area located within the source river basin prepared pursuant to G.S. 143-355(l) shall be used to evaluate the projected future water needs in the source river basin that will be met by public water systems. Information on projected future water needs for public water systems with service area located within the source river basin that is more recent than the local water supply plans may be used if the Commission finds the information to be reliable. The determination shall include a specific finding as to measures that are necessary or advisable to mitigate or avoid detrimental impacts on the source river basin.
- (3) The cumulative effect on the source major river basin of any water transfer or consumptive water use that, at the time the Commission considers the petition for a certificate is occurring, is authorized under this section, or is projected in any local water supply plan for public water systems with service area located within the source river basin that has been submitted to the Department in accordance with G.S. 143-355(l).
- (4) The present and reasonably foreseeable future beneficial and detrimental effects on the receiving river basin, including present and future effects on public, industrial, economic, recreational, and agricultural water supply needs, wastewater assimilation, water quality, fish and wildlife habitat, electric power generation, navigation, and recreation. Local water supply plans prepared pursuant to G.S. 143-355(l) that affect the receiving river basin shall be used to evaluate the projected future water needs in the receiving river basin that will be met by public water systems. Information on projected future water needs that is more recent than the local water supply plans may be used if the Commission finds the information to be reliable. The determination shall include a specific finding as to measures that are necessary or advisable to mitigate or avoid detrimental impacts on the receiving river basin.

(5) The availability of reasonable alternatives to the proposed transfer, including the potential capacity of alternative sources of water, the potential of each alternative to reduce the amount of or avoid the proposed transfer, probable costs, and environmental impacts. In considering alternatives, the Commission is not limited to consideration of alternatives that have been proposed, studied, or considered by the applicant. The determination shall include a specific finding as to why the applicant's need for water cannot be satisfied by alternatives within the receiving basin, including unused capacity under a transfer for which a certificate is in effect or that is otherwise authorized by law at the time the applicant submits the petition. The determination shall consider the extent to which access to potential sources of surface water or groundwater within the receiving river basin is no longer available due to depletion, contamination, or the declaration of a capacity use area under Part 2 of Article 21 of Chapter 143 of the General Statutes. The determination shall consider the feasibility of the applicant's purchase of water from other water suppliers within the receiving basin and of the transfer of water from another sub-basin within the receiving major river basin. Except in circumstances of technical or economic infeasibility or adverse environmental impact, the Commission's determination as to reasonable alternatives shall give preference to alternatives that would involve a transfer from one sub-basin to another within the major receiving river basin over alternatives that would involve a transfer from one major river basin to another major river basin.

(6) If applicable to the proposed project, the applicant's present and proposed use of impoundment storage capacity to store water during high-flow periods for use during low-flow periods and the applicant's right of withdrawal under G.S. 143-215.44 through G.S. 143-215.50.

(7) If the water to be withdrawn or transferred is stored in a multipurpose reservoir constructed by the United States Army Corps of Engineers, the purposes and water storage allocations established for the reservoir at the time the reservoir was authorized by the Congress of the United States.

(8) Whether the service area of the applicant is located in both the source river basin and the receiving river basin.

(9) Any other facts and circumstances that are reasonably necessary to carry out the purposes of this Part.

[ ... ]

(m) Final Determination: Burden and Standard of Proof; Specific Findings. — The Commission shall grant a certificate for a water transfer if the Commission finds that the applicant has established by a preponderance of the evidence all of the following:

(1) The benefits of the proposed transfer outweigh the detriments of the proposed transfer. In making this determination, the Commission shall be guided by the approved environmental document and the policy set out in subsection (t) of this section.

(2) The detriments have been or will be mitigated to the maximum degree practicable.

(3) The amount of the transfer does not exceed the amount of the projected shortfall under the applicant's water supply plan after first taking into account all other sources of water that are available to the applicant.

(4) There are no reasonable alternatives to the proposed transfer.

(n) Final Determination: Certificate Conditions and Limitations. — The Commission may grant the certificate in whole or in part, or deny the certificate. The Commission may impose any conditions or limitations on a certificate that the Commission finds necessary to achieve the purposes of this Part including a limit on the period for which the certificate is valid. The conditions and limitations shall include any mitigation measures proposed by the applicant to minimize any detrimental effects within the source and receiving river basins. In addition, the certificate shall require all of the following conditions and limitations:

(1) A water conservation plan that specifies the water conservation measures that will be implemented by the applicant in the receiving river basin to ensure the efficient use of the transferred water. Except in circumstances of technical or economic infeasibility or adverse environmental impact, the water conservation plan shall provide for the mandatory implementation of water conservation measures by the applicant that equal or exceed the most stringent water conservation plan implemented by a community water system, as defined in G.S. 143-355(l), that withdraws water from the source river basin.

(2) A drought management plan that specifies how the transfer shall be managed to protect the source river basin during drought conditions or other emergencies that occur within the source river basin. Except in circumstances of technical or economic infeasibility or adverse environmental impact, this drought management plan shall include mandatory reductions in the permitted amount of the transfer based on the severity and duration of a drought occurring within the source river basin and shall provide for the mandatory implementation of a drought

management plan by the applicant that equals or exceeds the most stringent water conservation plan implemented by a community water system, as defined in G.S. 143-355(1), that withdraws water from the source river basin.

[ ... ]

(4) A provision that the Commission may amend a certificate to reduce the maximum amount of water authorized to be transferred whenever it appears that an alternative source of water is available to the certificate holder from within the receiving river basin, including, but not limited to, the purchase of water from another water supplier within the receiving basin or to the transfer of water from another sub-basin within the receiving major river basin.

(5) A provision that the Commission shall amend the certificate to reduce the maximum amount of water authorized to be transferred if the Commission finds that the applicant's current projected water needs are significantly less than the applicant's projected water needs at the time the certificate was granted.

(6) A requirement that the certificate holder report the quantity of water transferred during each calendar quarter. The report required by this subdivision shall be submitted to the Commission no later than 30 days after the end of the quarter.

(7) Except as provided in this subdivision, a provision that the applicant will not resell the water that would be transferred pursuant to the certificate to another public water supply system. This limitation shall not apply in the case of a proposed resale or transfer among public water supply systems within the receiving river basin as part of an interlocal agreement or other regional water supply arrangement, provided that each participant in the interlocal agreement or regional water supply arrangement is a co-applicant for the certificate and will be subject to all the terms, conditions, and limitations made applicable to any lead or primary applicant.

[ ... ]

(s) Planning Requirements. — When any transfer for which a certificate was issued under this section equals or exceeds eighty percent (80%) of the maximum amount authorized in the certificate, the applicant shall submit to the Department a detailed plan that specifies how the applicant intends to address future foreseeable water needs. If the applicant is required to have a local water supply plan, then this plan shall be an amendment to the local water supply plan required by G.S.143-355(1). When the transfer equals or exceeds ninety percent (90%) of the maximum amount authorized in the certificate, the applicant shall begin implementation of the plan submitted to the Department.

(t) Statement of Policy. — It is the public policy of the State to maintain, protect, and enhance water quality within North Carolina. It is the public policy of this State that the reasonably foreseeable future water needs of a public water system with its service area located primarily in the receiving river basin are subordinate to the reasonably foreseeable future water needs of a public water system with its service area located primarily in the source river basin. Further, it is the public policy of the State that the cumulative impact of transfers from a source river basin shall not result in a violation of the antidegradation policy set out in 40 Code of Federal Regulations § 131.12 (1 July 2006 Edition) and the statewide antidegradation policy adopted pursuant thereto.

## OKLAHOMA

### I. Analysis

Though most water transfers and changes of water rights in Oklahoma are only subject to a no injury rule, the Oklahoma statutes do have a couple of provisions which allow the state to take more third party impacts into account. For example, when acting on an application for transport of water for use outside the stream system wherein the water originates, the state gives pending applications for use of water within such stream system first priority for consideration. Also, the statute requires the Board to review the needs of the area of origin every five years to determine whether the water supply therein is adequate for municipal, industrial, domestic and other beneficial uses. Finally, there is a provision which states that only excess and surplus water should be utilized outside the areas of origin and citizens within the areas of origin have a prior right to water originating therein to the extent that it may be used for a beneficial use therein.

According to Bob Sandbo, with the Oklahoma Department of Water Resources, most of the out-of-basin transfers that have been approved have been for the Oklahoma City area. Though the statute provides that only excess surplus water may be used outside the area of origin and gives citizens within the area of origin a prior right to water originating therein, Mr. Sandbo indicated that this is a non-issue because there is plenty of water in Oklahoma. They use fifty year projections, but so far there has been little controversy. Though the statute has a public interest requirement with initial applications, Mr. Sandbo indicated that the public interest review is limited to whether the water is being put to a beneficial use without injury to other users.

## II. Statutory Provisions

### **82 Okl. St. § 105.12. Approval of application—Appeal by protestants**

[ ... ]

B. In the granting of water rights for the transportation of water for use outside the stream system wherein water originates, pending applications to use water within such stream system shall first be considered in order to assure that applicants within such stream system shall have all of the water required to adequately supply their beneficial uses.

The Board shall review the needs within such area of origin every five (5) years to determine whether the water supply is adequate for municipal, industrial, domestic, and other beneficial uses.

### **82 Okl. St. § 1085.31. Public Policy**

[ ... ]

4. The conservation of soil and water in Oklahoma requires the continuation of watershed protection and flood prevention programs on an accelerated priority basis with consideration given to future water needs of the area of origin.

### **82 Okl. St. § 1086.1. Policy of state as to use of surplus and excess water—State water plan**

A. [ ... ] The people residing within areas where waters originate benefit from the optimum development and utilization of water within the area of origin. The people in water deficient areas benefit by being able to use excess and surplus waters. The policy of the State of Oklahoma is to encourage the use of surplus and excess water to the extent that the use thereof is not required by people residing within the area where such water originates. In order to maximize the alternatives available for the use and benefit of the public and water-user entities and for the use and benefit of the public and for the general welfare and future economic growth of the state, it is therefore the purpose of this act to provide means for the expeditious and coordinated preparation of a comprehensive state water plan and decennial updates thereof for submission to the Legislature providing for the management, protection, conservation, structural and nonstructural development and utilization of water resources of this state, in accordance with the following principles:

[ ... ]

2. Water should be stored during periods of surplus supply for use during periods of short supply; such storage should be in the area of usage. In such cases where storage in the area of origin may be permitted, the purchasing entities shall pay to the county of origin, in lieu of ad valorem taxes and as part of the total cost of the purchase of the water, an amount computed by averaging the tax on land similar to the land taken off the tax rolls as a result of the construction of such storage facilities within the county of origin;

[ ... ]

4. Only excess or surplus water should be utilized outside of the areas of origin and citizens within the areas of origin have a prior right to water originating therein to the extent that it may be required for beneficial use therein.

# OREGON

## I. Analysis

Whenever an application for a new water right or for a change in the place of use of an existing water right proposes use of water outside the basin of origin, involving a transfer of 0.5 cubic feet per second or more of water, the applicant is required to provide an analysis of eight (8) issues addressing various third party impacts. These include the amount in the basin of origin for future appropriation and the projected future needs of the basin of origin. It also requires an analysis of benefits presently and prospectively derived from the return flow of water in the basin of origin that will be eliminated by the transfer. Another factor is the correlation between surface and groundwater in the basin of origin and whether the transfer will be harmful to the supply of either. In addition to injury to existing water right, it also requires analysis of the interference with planned uses or developments within the basin of origin, as well as effect on quantity and quality of water available for municipal or domestic use and effect on statutorily defined public uses, as well as an alternatives analysis. Legislative approval is required for such transfers of 50 cfs or more (except in two listed basins, and where municipality has historically made such transfers). Finally, before the Water Resources Commission can approve or recommend approval of an interbasin transfer, the statute requires the Commission to reserve an amount of water adequate for future needs in the basin of origin and subordinate the out-of-basin use to that reservation.

Also, the statute allows a surface water point of diversion to be transferred to groundwater where the groundwater aquifer is hydrologically connected to the authorized surface water source and new point of diversion will affect the surface water source hydraulically connected to the authorized point of diversion specified in the water use subject to transfer. Though the statute allows the new point of diversion in groundwater to keep the same priority date, it provides that if within five years after approving the transfer, the department finds that the transfer results in substantial groundwater rights that would not have occurred in the absence of the transfer, the new point of diversion will be subordinated to any existing right injured by the transferred water right. The statute also requires the Department to require mitigation measures to prevent depletion from any surface water source not specified in the permit or water right, except that no mitigation may be required if certain criteria are met.

Debbie Colbert, with the Oregon Water Resources Department (WRD), was not able to recall any instances where the department had acted on an application to move water outside of a basin of origin or where water reservations have been done for future needs of the basin of origin. Because she was unaware of any examples, she was not able to comment on the effectiveness of the program in Oregon. The department has promulgated rules implementing the out-of-basin diversion of water program. OAR 690-012-0040 sets forth standards and information requirements for out-of-basin diversion applications and sets forth how to assess future needs of the basin of origin. The rules provide that the application shall set forth growth projections of at least 20 years after consulting with the Center for Population Research and Census at Portland State University and require that projections address major use categories (municipal, industrial, agricultural and instream water demands) and that the projections reflect facilities plans within an urban growth boundary, economic strategies of the Economic Development Department, and inventories and projections for irrigated agriculture by the Department of Agriculture and the Oregon State University Extension Service, and any listed agency's pertinent management plans for fish, wildlife, habitat, water quality, and recreation. The rules also require an evaluation of economic factors affecting the basin of origin. She did indicate that water reservations are commonly done pursuant to ORS § 537.356, which authorizes reservation of unappropriated water for multipurpose storage for future economic development.

## II. Statutory Provisions

### **ORS § 537.803. Application proposing use of water outside of basin of origin; contents.**

(1) When an application for appropriation of water submitted under ORS 537.211, 537.400, 537.620, 543.210, 543.290 or for a change in the place of use of an existing water right submitted under ORS 540.520 proposes use of water outside the basin of origin, the application shall include, in addition to any other information required, an

analysis of the following:

- (a) The amount of water in the basin of origin available for future appropriation.
  - (b) Projected future needs for water in the basin of origin.
  - (c) Benefits presently and prospectively derived from the return flow of water used within the basin of origin that will be eliminated by the proposed out-of-basin use.
  - (d) The correlation between surface water and ground water in the basin of origin, and whether the proposed use will be harmful to the supply of either.
  - (e) Injury to existing water rights of other appropriators or interference with planned uses or developments within the basin of origin for which a permit has been issued or for which an application is pending.
  - (f) Whether the proposed use will adversely affect the quantity or quality of water available for domestic or municipal use within the basin of origin.
  - (g) Whether the proposed use will adversely affect public uses, as defined in ORS 537.332, in the basin of origin.
  - (h) Alternative sources of water for the proposed use that would not rely on transfer of water out of its basin of origin.
- [ ... ]

(4) This section shall not apply to an application for the transfer of less than 0.5 cubic feet per second of water.

(5) Subsection (1) of this section shall not apply to an appropriation or diversion by a city to facilitate regional municipal water service if the city has historically transported water between the basin of origin and proposed receiving basins identified in the application.

**ORS § 537.810. Diversion or appropriation of waters from basin of origin without legislative consent prohibited; terms of consent; exceptions.**

(1) No waters located or arising within a basin shall be diverted, impounded or in any manner appropriated for diversion or use beyond the boundaries of that basin except upon the express consent of the Legislative Assembly. In the event the Legislative Assembly shall give its consent to any such request it may attach thereto such terms, conditions, exceptions, reservations, restrictions and provisions as it may care to make in the protection of the natural resources of the basin and the health and welfare of the present and future inhabitants of the basin within which the water arises or is located.

(2) Subsection (1) of this section shall not apply to appropriations or diversions of less than 50 cubic feet per second out of the basin of origin.

**ORS § 537.809. Reservation of water in basin of origin.**

Before approving or recommending approval of an application subject to ORS 537.803, the Water Resources Commission shall reserve an amount of water adequate for future needs in the basin of origin, including an amount sufficient to protect public uses, and subordinate the out-of-basin use to that reservation.

**ORS § 540.531. Transfer of surface water point of diversion to ground water; requirements; priority; mitigation measures; return to surface water diversion; rules.**

(1) Notwithstanding ORS 537.515 and 537.535, an owner of a surface water use subject to transfer may apply for a transfer of the point of diversion to allow the appropriation of ground water if the proposed transfer complies with the requirements of subsection (2) or (3) of this section and with the requirements for a transfer in point of diversion specified in ORS 540.520 and 540.530.

(2) The Water Resources Department may allow a transfer of the point of diversion under subsection (1) of this section if:

- (a)(A) The new point of diversion appropriates ground water from an aquifer that is hydraulically connected to the authorized surface water source;
- (B) The proposed change in point of diversion will not result in enlargement of the original water right or in injury to other water right holders;
- (C) The use of the new point of diversion will affect the surface water source similarly to the authorized point of

diversion specified in the water use subject to transfer; and

(D) The withdrawal of ground water at the new point of diversion is located within 500 feet of the surface water source and, when the surface water source is a stream, is also located within 1,000 feet upstream or downstream of the original point of diversion as specified in the water use subject to transfer; or

(b) The new point of diversion is not located within the distance requirements set forth in paragraph (a)(D) of this subsection, the holder of the water use subject to transfer submits to the department evidence prepared by a licensed geologist that demonstrates that the use of the ground water at the new point of diversion will meet the criteria set forth in paragraph (a)(A) to (C) of this subsection.

(3) Notwithstanding subsection (2) of this section, the department shall allow a transfer of the point of diversion under subsection (1) of this section in the Deschutes basin ground water study area if:

(a) The new point of diversion appropriates ground water from an aquifer that is hydraulically connected to the authorized surface water source;

(b) The proposed change in the point of diversion will not result in enlargement of the original water right or in injury to other water right holders; and

(c) The use of the new point of diversion will affect the surface water source hydraulically connected to the authorized point of diversion specified in the water use subject to transfer. The department may not require that the use of the new point of diversion affect the surface water source similarly to the authorized point of diversion specified in the water use subject to transfer under this subsection.

[ ... ]

(5) The new point of diversion shall retain the original date of priority. However, if within five years after approving the transfer, the department finds that the transfer results in substantial interference with existing ground water rights that would not have occurred in the absence of the transfer, the new point of diversion shall be subordinate to any existing right injured by the transferred water right or permit.

[ ... ]

(7) For transfers allowed under this section, the department shall require mitigation measures to prevent depletion from any surface water source not specified in the permit or certificated or decreed water right, except that the department may not require mitigation measures if the transfer complies with subsection (3) of this section.

[ ... ]

**ORS § 537.356. Request for reservation of unappropriated water for future economic development; priority date of reservation.**

(1) Any local government, local watershed council or state agency or any other individual cooperating jointly with a local government, local watershed council or state agency may request the Water Resources Commission to reserve unappropriated water for multipurpose storage for future economic development.

(2) A request under subsection (1) of this section shall be in writing on a form provided by the Water Resources Department. Before deciding whether to approve the request and initiate a rulemaking process, the commission shall request comments from any local government or watershed council within the geographic area or basin affected by the request. The comment period shall be closed not later than 120 days after the request is submitted.

(3) The priority date for any reservation established under this section shall be the date on which the commission takes action to initiate the rulemaking process.

## SOUTH CAROLINA

### I. Analysis

In 1984, South Carolina began regulating interbasin transfers of water, requiring a permit to divert the lesser of five percent of the seven-day ten year low flow, or one million gallons or more on any day from one river basin and use or discharge all or any part of the water in a different river basin. Section (C) of the statute sets forth 13 things which the Department must do when determining whether a transfer may be permitted. First, the Department is required to protect present and consider projected stream uses of the losing river basin, including present agricultural, municipal, industrial and instream uses, and assimilative needs. The department is required to protect water quality in the losing river basin and consider reasonably foreseeable future needs of the losing river basin. It is also required to consider the beneficial impact on the state and its local subdivisions of the transfer, and whether the proposed project will promote and increase storage and conservation of water. Among other things, it is also required to consider any beneficial or detrimental impacts on navigation, hydropower generation, fish and wildlife habitat, aesthetics, or recreation. In addition to the protections and considerations set forth in section (C) of the statute, before a permit can be issued, section (D) of the statute requires a certification that the transfer will not violate the water classification standard system or stream classification regulation nor adversely affect the public health and welfare. Finally, the statute requires that the permit contain a provision that the interbasin transfer shall cease or decrease when the actual flow of the losing basin is less than a specified minimum required to protect against adverse effects to the basin.

According to Shawne Clarke and Larry Turner, with the South Carolina Department of Health and Environmental Control (DHEC), there are no formal findings made addressing the thirteen protections and considerations listed in section (C) of the statute. The office that issues the certification required under section (D) of the statute (that the transfer will not violate the water classification standard or adversely affect the public health and welfare) looks at it from a discharge standpoint rather than from a water quality standpoint. In practice, they say that “if the law is met (the flow does not drop below 7 Q 10), from a discharge standpoint, the interbasin transfer will not violate the water classification system (because the discharge permits are based on at least that flow). Mr. Turner envisioned that if flow drops below 7 Q 10, and DHEC informs permittees that they must cease or decrease the transfer, this could become very problematic because many municipalities depend on IBTs to provide water supply. He indicated that the individual that wrote the law envisioned that there would have been a separate division that would have looked at every individual factor in subsection (c) of the statute. However, with the resources available to the agency, it was decided that individual findings on the factors were not necessary or possible.

### II. Statutory Provisions

#### **S.C. Code Ann. § 49-21-20. Permit required for certain transfers.**

Following the effective date of this chapter, no person shall withdraw, divert, pump, or cause directly the transfer of either five percent of the seven-day, ten-year low flow, or one million gallons or more of water a day on any day, whichever is less, from one river basin and use or discharge all or any part of the water in a different river basin unless the person shall first obtain a permit from the department.

#### **S.C. Code Ann. § 49-21-30. Application procedure; criteria; permit specifications; actions for loss of water rights.**

A. The department may grant, deny, or issue with conditions as to quantity or qualities of water, a permit to any person for any interbasin transfer of water upon application for a permit, opportunity for public comment, and a hearing before the department, if the department finds the criteria in subsections B, C, D, and E are met.

[ ... ]

C. In making its determination whether transfer may be permitted, the department shall:

- (1) Protect present, and consider projected stream uses of the losing river basin generally and of the losing river specifically including, but not limited to, present agricultural, municipal, industrial and instream uses, and assimilative needs.
- (2) Protect water quality of the losing river basin.
- (3) Consider reasonably foreseeable future water needs of the losing river basin.
- (4) Consider the reasonably foreseeable future water needs of the applicant for the water to be transferred, including methods of water use, conservation, and efficiency of use.
- (5) Consider beneficial impact on the State and its local subdivisions of any proposed transfer, and the capability of the applicant to implement effectively its responsibilities under the requested permit.
- (6) Consider the nature of the permittee's use of the water, to determine whether the use is reasonable and beneficial.
- (7) Consider whether the proposed project shall promote and increase the storage and conservation of water.
- (8) Consider the feasibility of alternative sources of supply and their comparative costs.
- (9) Consider impact on interstate water use.
- (10) Consider requirements of other state or federal agencies with authority relating to water resources.
- (11) Consider availability of water in the losing river basin to respond to emergencies, including drought.
- (12) Consider whether the project shall have any beneficial or detrimental impact on navigation, hydropower generation, fish and wildlife habitat, aesthetics, or recreation.
- (13) Consider such other facts and circumstances as are reasonably necessary to carry out the purposes of this chapter.

D. (a) In addition to the requirements in subsection C. of this section, the department shall not issue a transfer permit except upon certification by the department that the proposed interbasin transfer of water shall neither:

- (1) Violate the water classification standard system regulation or the stream classification regulation, nor
- (2) Adversely affect the public health and welfare. Through its certification DHEC shall insure the protection of the water quality and health of the losing river basin and shall insure the protection of the present and permitted assimilative needs of the losing river basin. DHEC shall use data from stream modeling and instream sampling in making its certification. DHEC may issue a certification with conditions which must be made part of any permit issued pursuant to this chapter.

(b) The department may not deny an interbasin transfer permit on the basis of water quality when it has certified that the water quality of the losing basin or the receiving basin is not adversely affected.

E. In order to protect the water uses of the losing river basin, the department, in determining the amount of water to be approved, may conduct or have conducted instream sampling and stream modeling to predict the volumes of water which may be transferred. Transferable amounts may vary to accommodate seasonal water conditions in the losing river basin. No transfer of water may be permitted at any time which shall cause the remaining flow in the losing river basin to be less than the statistical low flow that occurs for seven consecutive days, once every ten years as established prior to the interbasin transfer.

F. [ ... ] The permit shall require that the interbasin transfer shall cease or decrease when the actual flow of the losing basin is less than a specified minimum required to protect against adverse effects to the basin. The permit shall further require that the permittee comply with other requirements as may be advisable to promote an adequate water supply for the State and to mitigate any adverse conditions or effects which the department finds exist, but are not sufficient to require denial of the permit.

## TENNESSEE

### I. Analysis

The Tennessee Code requires a permit in order to withdraw surface water or groundwater (but the requirement only applies to groundwater where such withdrawal has a significant potential to adversely affect the flow of a Tennessee surface water) for the purpose of transferring or diverting, or both, some or all of it out of a river basin. A permit is also required to increase the amount of water withdrawn where some or all will be transferred to a different river basin. The statute requires the commissioner to promulgate rules setting criteria for permit issuance and denial, and the statute specifies that such criteria should include existing uses downstream of a proposed withdrawal, low flow conditions, classified uses of the stream under the Water Quality Control Act, climatic conditions, alternatives to the proposed withdrawal, the number of downstream river miles from which water will be diverted as a result of the transfer, quantity of a proposed withdrawal, and quantity and location of water returned. The statute allows the Commissioner to revoke, suspend, or modify a permit for any of three listed reasons, including requiring a temporary or permanent reduction or elimination of the transfer because of reasonably likely adverse impacts to downstream users or the environment. Finally, the code allows for designation of basins or portions of basins as protected areas when the demands upon supply made by water users have developed or threaten to develop to such a degree as to create a water shortage.

Jim McAdoo, in the Division of Water Pollution Control, indicated that there have not been any interbasin transfers considered in years and that permits are renewed without incident every five years. He indicated that when initial permits were issued, “no one ever flew up a red flag asking for a public hearing,” so economic impacts and other impacts were not considered directly. However, public notice was given to give those impacted a chance to be heard.

### II. Statutory Provisions

#### **Tenn. Code Ann. § 69-7-204. Acquisition of permit — Determination of amount of existing inter-basin transfer.**

(a) All persons or entities:

(1) That have been granted powers by the state to acquire water, water rights and associated property by eminent domain or condemnation; or

(2) That acquire or supply water for the use or benefit of public water supply systems as defined in § 68-221-703, shall, when proposing a new or increased withdrawal of surface water or ground water for the purpose of transferring or diverting, or both, some or all of it out of a river basin either directly or through one (1) or more intermediaries, first apply for and obtain a permit from the commissioner of environment and conservation, or the commissioner’s designee, prior to such diversion or transfer; provided, that in the case of ground water withdrawal, this section shall only apply if the loss of the ground water has a significant potential to adversely affect the flow of a Tennessee surface water. For purposes of determining the amount of an existing inter-basin transfer under this section, it is the average daily amount calculated for the highest continuous 90-day period between January 1, 1997, and December 31, 1999; provided, that nothing whatsoever in this section shall apply to existing withdrawals by entities described above except that such persons or entities shall be subject to this section when proposing to:

(A) Increase the amount of water withdrawn, when some or all of the water will be transferred to a different river basin; or

(B) Locate a new intake for withdrawal, when some or all of the water will be transferred to a different river basin.

(b) All persons or entities that are issued a permit under subsection (a) shall operate the withdrawal activity in accordance with all terms and conditions of the permit.

#### **Tenn. Code Ann. § 69-7-206. Issuance and denial of permit.**

[ ... ] Such permits shall be issued for a renewal term of five (5) years and contain necessary and appropriate conditions to accomplish the purposes of the same part and rules.

[ ... ]

(c) The commissioner may revoke, suspend, or modify any permit for the following reasons:

- (1) A violation of any terms or conditions of the permit or of any provision of this part;
- (2) Obtaining the permit by misrepresentation or failing to disclose fully all relevant facts; or
- (3) A change in any condition that requires either a temporary or permanent reduction or elimination of the permitted inter-basin transfer because of reasonably likely adverse impacts to downstream users or the environment.

**Tenn. Code Ann. § 69-7-207. Duties and powers of water quality control board.**

In addition to powers under all other statutes, including, but not limited to, the Water Quality Control Act, compiled in chapter 3, part 1 of this title, and the Safe Drinking Water Act, compiled in title 68, chapter 221, part 7, the water quality control board, created by § 69-3-104, has the following powers and duties under this part:

(1) To promulgate rules to be effective by October 1, 2000, to effectuate the purposes of this part including, but not limited to:

[ ... ]

(B) Setting criteria for permit issuance and denial as well as for permit conditions, taking into account all appropriate factors including, but not limited to, existing uses downstream of a proposed withdrawal, low flow conditions, classified uses of the stream under the Water Quality Control Act, compiled in chapter 3, part 1 of this title, climatic conditions, alternatives to the proposed withdrawal, the number of downstream river miles from which water will be diverted as a result of the transfer, quantity of a proposed withdrawal, and quantity and location of water returned;

[ ... ]

**Tenn. Code Ann. § 69-7-210. Designation of protected areas.**

The water quality control board may, from time to time after giving due notice and conducting a public hearing, determine and delineate such basins or portions of basins where the demands upon supply made by water users have developed or threaten to develop to such a degree as to create a water shortage and any such areas may be designated as “protected areas.” The water quality control board, whenever it determines that such shortage no longer exists, shall terminate the protected status of such area and shall give public notice of such termination.

## TEXAS

### I. Analysis

For general changes of water rights (i.e., changes of use, place of use, or point of diversion), such changes are allowed so long as the requested change will not cause adverse impacts to other water right holders or to the environment on the stream of greater magnitude than under circumstances in which the right was fully exercised before the requested amendment. In addition, amendments are also subject to meeting all other applicable requirements for approval of an application, including a requirement that the proposed application is not detrimental to the public welfare, that it considers any applicable environmental flow standards, and that it addresses a water supply need in a manner that is consistent with the state water plan and any relevant regional water plan.

For interbasin transfers of 3000 acre feet or more per year, in addition to the factors listed above and other requirements for action on an application for new water right or amended permit, the statute requires the commission to request review and comment on the application from each county judge of a county located in whole or in part in the basin of origin, and give consideration to such comments. The commission must also weigh effects of proposed transfer by considering five listed factors. One of these factors is the need for the water in the basin of origin based on the period for which the water supply is requested, not to exceed fifty years. The commission should

also consider factors identified in applicable regional water plans addressing alternatives, efforts to avoid waste and implement water conservation and drought contingency measures, efforts made in the receiving basin, and the projected economic impact that is expected to occur in each basin as a result of the transfer, as well as impacts on instream uses, water quality, aquatic and riparian habitat and bays and estuaries in each basin. The statute requires that detriments to basin of origin be less than benefits to receiving basin, and there must be a drought contingency plan and a water conservation plan in place.

## II. Statutory Provisions

### Tex. Water Code § 11.122. Amendments to Water Rights Required

[ ... ]

(b) Subject to meeting all other applicable requirements of this chapter for the approval of an application, an amendment, except an amendment to a water right that increases the amount of water authorized to be diverted or the authorized rate of diversion, shall be authorized if the requested change will not cause adverse impact on other water right holders or the environment on the stream of greater magnitude than under circumstances in which the permit, certified filing, or certificate of adjudication that is sought to be amended was fully exercised according to its terms and conditions as they existed before the requested amendment.

[ ... ]

### Tex. Water Code § 11.134. Action on Application

[ ... ]

(b) The commission shall grant the application only if:

[ ... ]

(3) the proposed appropriation:

[ ... ]

(C) is not detrimental to the public welfare;

(D) considers any applicable environmental flow standards established under Section 11.1471 and, if applicable, the assessments performed under Sections 11.147(d) and (e) and Sections 11.150, 11.151, and 11.152; and

(E) addresses a water supply need in a manner that is consistent with the state water plan and the relevant approved regional water plan for any area in which the proposed appropriation is located, unless the commission determines that conditions warrant waiver of this requirement; and

### Tex. Water Code § 11.085. Interbasin Transfers

(a) No person may take or divert any state water from a river basin in this state and transfer such water to any other river basin without first applying for and receiving a water right or an amendment to a permit, certified filing, or certificate of adjudication from the commission authorizing the transfer.

[ ... ]

(j) In addition to other requirements of this code relating to the review of and action on an application for a new water right or amended permit, certified filing, or certificate of adjudication, the commission shall:

(1) request review and comment on an application for an interbasin transfer from each county judge of a county located in whole or in part in the basin of origin. A county judge should make comment only after seeking advice from the county commissioners court; and

(2) give consideration to the comments of each county judge of a county located in whole or in part in the basin of origin prior to taking action on an application for an interbasin transfer.

(k) In addition to other requirements of this code relating to the review of and action on an application for a new water right or amended permit, certified filing, or certificate of adjudication, the commission shall weigh the effects of the proposed transfer by considering:

(1) the need for the water in the basin of origin and in the proposed receiving basin based on the period for which the water supply is requested, but not to exceed 50 years;

(2) factors identified in the applicable approved regional water plans which address the following:

(A) the availability of feasible and practicable alternative supplies in the receiving basin to the water proposed for

transfer;

- (B) the amount and purposes of use in the receiving basin for which water is needed;
- (C) proposed methods and efforts by the receiving basin to avoid waste and implement water conservation and drought contingency measures;
- (D) proposed methods and efforts by the receiving basin to put the water proposed for transfer to beneficial use;
- (E) the projected economic impact that is reasonably expected to occur in each basin as a result of the transfer; and
- (F) the projected impacts of the proposed transfer that are reasonably expected to occur on existing water rights, instream uses, water quality, aquatic and riparian habitat, and bays and estuaries that must be assessed under Sections 11.147, 11.150, and 11.152 of this code in each basin. If the water sought to be transferred is currently authorized to be used under an existing permit, certified filing, or certificate of adjudication, such impacts shall only be considered in relation to that portion of the permit, certified filing, or certificate of adjudication proposed for transfer and shall be based on historical uses of the permit, certified filing, or certificate of adjudication for which amendment is sought;
- (3) proposed mitigation or compensation, if any, to the basin of origin by the applicant;
- (4) the continued need to use the water for the purposes authorized under the existing permit, certified filing, or certificate of adjudication, if an amendment to an existing water right is sought; and
- (5) the information required to be submitted by the applicant.

(1) The commission may grant, in whole or in part, an application for an interbasin transfer only to the extent that:

- (1) the detriments to the basin of origin during the proposed transfer period are less than the benefits to the receiving basin during the proposed transfer period; and
- (2) the applicant for the interbasin transfer has prepared a drought contingency plan and has developed and implemented a water conservation plan that will result in the highest practicable levels of water conservation and efficiency achievable within the jurisdiction of the applicant.

[ ... ]

(o) The parties to a contract for an interbasin transfer may include provisions for compensation and mitigation. If the party from the basin of origin is a government entity, each county judge of a county located in whole or in part in the basin of origin may provide input on the appropriate compensation and mitigation for the interbasin transfer.

[ ... ]

(v) The provisions of this section, except Subsection (a), do not apply to:

- (1) a proposed transfer which in combination with any existing transfers totals less than 3,000 acre-feet of water per annum from the same permit, certified filing, or certificate of adjudication;
- (2) a request for an emergency transfer of water;
- (3) a proposed transfer from a basin to its adjoining coastal basin; or
- (4) a proposed transfer from a basin to a county or municipality or the municipality's retail service area that is partially within the basin for use in that part of the county or municipality and the municipality's retail service area not within the basin.

## WISCONSIN

### I. Analysis

Wisconsin's water loss approval statute requires a permit to divert water for a use that would result in a loss averaging 2,000,000 gallons per day of water over a 30 day period. The statute sets forth six grounds for approval of a water loss permit, and four additional requirements that must be met in order to approve such a withdrawal that would result in an interbasin diversion. For all water loss approvals, some of the requirements include that the applicant's plan incorporate reasonable conservation practices, that there be no significant detrimental effect on the quantity and quality of the waters of the state, and that the diversion be consistent with the protection of public

health, safety and welfare and not be detrimental to the public interest. Where such diversion would result in an interbasin diversion, the four additional requirements include a requirement that each state or province to which the water will be diverted have a plan to manage and conserve its own water resources and that further development of that state's water resources will not have a substantial adverse economic, social, or environmental impact.

According to Jeff Brauer, with the Wisconsin Department of Natural Resources, a water loss approval is a joint project between the DNR's industrial wastewater staff and the central office and regional staff that are familiar with the local basin that contains the water intake structure. The central office staff expertise is in reviewing the industrial process that generates the water loss and commenting on potential ways that water loss can be minimized using technology/conservation in the plant. The regional watershed basin staff uses their knowledge of the hydrology, biology and fishery of the receiving water to develop conditions that will minimize the impact of the water loss approval. The Department's review is focused on the local impacts of the water loss, but downstream impacts (such as water levels in downstream impoundments) are also considered. As more downstream tributaries feed into the receiving water, usually the impact (and the need to further evaluate) of the water loss decreases. Two examples of water loss approvals were provided. Mr. Brauer and others in the Wisconsin DNR indicated that there have not been interbasin transfers in Wisconsin, but they did provide two examples of water loss approvals that have been granted for power plants. The permits briefly address the requirements of Wis. Stat. § 281.35(5)(D)(1)-(6), looking at impacts of the water loss on agricultural uses, industrial, commercial and municipal uses, power production, fish and wildlife, and recreation, tourism and scenic beauty.

## II. Statutory Provisions

### Wis. Stat. § 281.35. Water resources conservation and management.

#### (1) DEFINITIONS.

In this section:

(a) "Approval" means a permit issued under s. 30.18 or an approval under s. 281.17 (1), 2001 stats., or s. 281.34 or 281.41

[ ... ]

(c) "Consumptive use" means a use of waters of the state, other than an interbasin diversion, that results in a failure to return any or all of the water to the basin from which it is withdrawn. "Consumptive uses" include, but are not limited to, evaporation and incorporation of water into a product or agricultural crop.

[ ... ]

(g) "Interbasin diversion" means a transfer of the waters of the state from either the Great Lakes basin or the upper Mississippi River basin to any other basin.

[ ... ]

(L)[sic] "Water loss" means a loss of water from the basin from which it is withdrawn as a result of interbasin diversion or consumptive use or both.

[ ... ]

#### (4) WATER LOSS APPROVAL REQUIRED.

(a) This subsection applies to all of the following:

1. A person to whom a permit has been issued under s. 30.18 or who is required to obtain a permit under that section before beginning or increasing a withdrawal.

[ ... ]

(b) Before any person specified in part (a) may begin a new withdrawal or increase the amount of an existing withdrawal, the person shall apply to the department under s. 30.18, 281.34, or 281.41 for a new approval or a modification of its existing approval if either of the following conditions applies:

1. The person proposes to begin a new withdrawal that will result in a water loss averaging more than 2,000,000 gallons per day in any 30-day period.

2. The person proposes to increase an existing withdrawal that will result in a water loss averaging more than

2,000,000 gallons per day in any 30-day period above the persons authorized base level of water loss.

(5) APPLICATION; APPROVAL; DENIAL.

[ ... ]

(d) Grounds for approval. Before approving an application, the department shall determine all of the following:

1. That no public water rights in navigable waters will be adversely affected.
2. That the proposed withdrawal does not conflict with any applicable plan for future uses of the waters of the state, including plans developed under ss. 281.12 (1) and 283.83 and any water quantity resources plan prepared under sub. (8)
3. That both the applicants current water use, if any, and the applicants proposed plans for withdrawal, transportation, development and use of water resources incorporate reasonable conservation practices.
4. That the proposed withdrawal and uses will not have a significant adverse impact on the environment and ecosystem of the Great Lakes basin or the upper Mississippi River basin.
5. That the proposed withdrawal and uses are consistent with the protection of public health, safety and welfare and will not be detrimental to the public interest.
6. That the proposed withdrawal will not have a significant detrimental effect on the quantity and quality of the waters of the state.
7. If the proposed withdrawal will result in an interbasin diversion, all of the following:
  - a. That each state or province to which the water will be diverted has developed and is implementing a plan to manage and conserve its own water quantity resources, and that further development of its water resources is impracticable or would have a substantial adverse economic, social or environmental impact.
  - b. That granting the application will not impair the ability of the Great Lakes basin or upper Mississippi River basin to meet its own water needs.
  - c. That the interbasin diversion alone, or in combination with other water losses, will not have a significant adverse impact on lake levels, water use, the environment or the ecosystem of the Great Lakes basin or upper Mississippi River basin.
  - d. That the proposed withdrawal is consistent with all applicable federal, regional and interstate water resources plans.

[ ... ]

(6) APPROVAL.

[ ... ]

(e) Request for modification. A person to whom an approval has been issued or any person adversely affected by a condition, limitation or restriction of an approval may request that the department modify a condition, limitation or restriction of an approval.

[ ... ]

## WYOMING

### I. Analysis

An owner of a water right who wishes to change a right from its present use to another use, or to a new place of use may do so provided that the board of control is satisfied that there is no increase in the amount historically diverted, the historic rate of diversion, or the amount historically consumptively used, nor decrease the historic amount of return flow and that the change will not injure existing appropriators. The statute provides that the board of control shall consider all pertinent facts, including economic loss to the community and the state if the previous use is discontinued, the extent to which such economic loss will be offset by the new use, and whether other sources of water are available for the new use. Also, the statute allows for changes in point of diversion or means of conveyance,

even if water has not yet been applied to beneficial use, but any change in point of diversion must be in the vicinity of the original diversion, must not alter original project concept, and the water must be diverted from the same source of supply described in the original permit.

According to John Barnes, local economic impacts are only considered when someone is changing the type of use. A mere change in place of use, if for the same purpose, does not trigger the economic analysis. He indicated that the only transfer hearing that he sat in on kept water within the same county but changed it from agricultural to industrial. He said it was clear that the project improved the economy of the area and the project was approved. Mr. Barnes indicated that he would try to provide some examples of a transfer where a record was established addressing economic impacts. No such example has been provided at this time.

## II. Statutory Provisions

### **Wyo. Stat. § 41-3-104. Procedure to change use or place of use.**

(a) When an owner of a water right wishes to change a water right from its present use to another use, or from the place of use under the existing right to a new place of use, he shall file a petition requesting permission to make such a change. [ ... ] The change in use, or change in place of use, may be allowed, provided that the quantity of water transferred by the granting of the petition shall not exceed the amount of water historically diverted under the existing use, nor exceed the historic rate of diversion under the existing use, nor increase the historic amount consumptively used under the existing use, nor decrease the historic amount of return flow, nor in any manner injure other existing lawful appropriators. The board of control shall consider all facts it believes pertinent to the transfer which may include the following:

- (i) The economic loss to the community and the state if the use from which the right is transferred is discontinued;
- (ii) The extent to which such economic loss will be offset by the new use;
- (iii) Whether other sources of water are available for the new use.

(b) In all cases where the matter of compensation is in dispute, the question of compensation shall be submitted to the proper district court for determination.

### **Wyo. Stat. § 41-3-114. Petition to change point of diversion or means of conveyance.**

(a) Any person entitled to the beneficial use of water, whether under a permit issued by the state engineer or a certificate of appropriation issued by the board of control pursuant to W.S. 41-4-511, who desires to change the point of diversion or means of conveyance, or both, shall file a petition with:

- (i) The board of control if the use of the water has been adjudicated under a certificate of appropriation;
- (ii) The state engineer in all other cases. The state engineer may consider a petition even if water has not been applied to beneficial use however, any change in point of diversion granted by the state engineer shall be in the vicinity of the original diversion, and provided:

- (A) The change shall not alter the original project concept; and
- (B) The water shall be diverted from the same source of supply described in the original permit.

[ ... ]

# ALBERTA

## I. Analysis

Alberta law authorizes the temporary or permanent transfer all or part of an allocation of water under a license under certain circumstances. In order for an application to be considered, three conditions must be met, one of which is that there must be authorization in either an approved water management plan or by an order of the Lieutenant Governor in Council to transfer an allocation in the area of the province referred to in the application.

The application may only be approved if, in addition to other standard requirements, the transfer does not impair the exercise of rights of any household user, agriculture user, or other licensee other than such a user who has agreed in writing that the transfer may take place, and the transfer will not cause a significant adverse effect on the aquatic environment. The statute requires the director to consider all matters and factors that an approved water management plan requires to be considered when approving a transfer of an allocation of water under a license. In addition, the statute lists six other factors which the director may consider. First, the director may consider existing, potential or cumulative effects on the aquatic environment and any applicable water conservation objective, as well as hydraulic, hydrological and hydrogeological effects. The director may also consider effects on public safety, suitability of land for irrigated agriculture, and any other matters that the director considers relevant. The statute also requires that, if applicable, the Environmental Protection and Enhancement Act must be complied with before the transfer can be approved.

In addition to the standards for approval of a transfer application, Alberta has a water conservation holdback program. Under this program, if the director is of the opinion that withholding water is in the public interest to protect the aquatic environment or to implement a water conservation objective, he may withhold up to 10% of an allocation of water under a license that is being transferred if an approved water management plan or an order of the Lieutenant Governor in Council authorizes the ability to withhold water. Where there is a withholding, the water withheld may remain in the natural water body for purposes of maintaining a flow rate or water level requirements without issuance of a new license for that water, or the water may be added to an existing reservation. Finally, if the transfer of an allocation of water under a license will revert back to the original license, the statute provides that the withheld portion does not revert back to the original license but instead remains with the government.

Also, Alberta prohibits interbasin transfers without specific authorization by special act of the legislature. It appears that the legislature has authorized three such transfers. See County of Westlock Water Authorization Act, S.A. 2007, c. C-29.5, available at <http://www.canlii.org/ab/laws/sta/c-29.5/20080818/whole.html>; North Red Deer Water Authorization Act, S.A. 2002, c. N-3.5, available at <http://www.canlii.org/ab/laws/sta/n-3.5/200818/whole.html>; and East Central Regional Water Authorization Act, S.A. 2007, c. E-0.2, available at <http://www.canlii.org/ab/laws/sta/e-0.2/20080818/whole.html>.

## II. Statutory Provisions

### 1996 cW-3.5 s81. Transfer application

[ ... ]

(6) The Director must conduct a public review of a proposed transfer of an allocation of water under a licence, in a form and manner that the Director considers appropriate.

(7) An application for a transfer of an allocation of water under a licence may be considered only if

(a) the ability to transfer an allocation in the area of the Province referred to in the application has been authorized

(i) in an applicable approved water management plan, or

(ii) if there is no applicable approved water management plan, by an order of the Lieutenant Governor in Council,

(b) the proposed transfer of an allocation is not from a licence that was issued as a result of a previous transfer where the transferred allocation is to revert back to the original licence, and

(c) the allocation of water to be transferred is held under a licence in good standing.

### 1996 cW-3.5 s82. Transfer approved, licence issues

[ ... ]

(2) A transfer of an allocation of water under a licence may be made

(a) with respect to all or part of an allocation of water from a licence, and

(b) either permanently or for a specified period of time.

- (3) The Director may approve a transfer of an allocation of water under a licence only if
- (a) the volume of water to be transferred does not exceed the volume of water under the licence from which the transfer of the allocation is to be made,
  - (b) the transfer of the allocation, in the opinion of the Director, does not impair the exercise of rights of any household user, traditional agriculture user or other licensee other than the household user, traditional agriculture user or other licensee who has agreed in writing that the transfer of the allocation may take place, and
  - (c) the transfer, in the opinion of the Director, will not cause a significant adverse effect on the aquatic environment.

[ ... ]

(5) In making a decision under subsection (1), the Director

- (a) must consider, with respect to the applicable area of the Province, the matters and factors that must be considered in approving a transfer of an allocation of water under a licence, as specified in an applicable approved water management plan,
- (b) may consider any existing, potential or cumulative
  - (i) effects on the aquatic environment and any applicable water conservation objective,
  - (ii) hydraulic, hydrological and hydrogeological effects, and
  - (iii) effects on household users, traditional agriculture users and other licensees, that result or may result from the transfer of the allocation, and
- (c) may consider
  - (i) effects on public safety,
  - (ii) with respect to irrigation, the suitability of the land to which the allocation of water is to be transferred for irrigated agriculture,
  - (iii) the allocation of water that the licensee has historically diverted under the licence, and
  - (iv) any other matters applicable to the transfer of the allocation that the Director considers relevant.

[ ... ]

### **1996 cW-3.5 s83. Water conservation holdback**

- (1) If the Director is of the opinion that withholding water is in the public interest to protect the aquatic environment or to implement a water conservation objective, and the ability to withhold water has been authorized in an applicable approved water management plan or order of the Lieutenant Governor in Council, the Director may withhold up to 10% of an allocation of water under a licence that is being transferred.
- (2) A withholding of an allocation of water under subsection (1) may be made only at the time a new licence is issued with respect to a transfer of an allocation of water.
- (3) If there has been a withholding of an allocation of water under subsection (1),
  - (a) the water may remain in the natural water body, for the purposes of providing or maintaining a rate of flow of water or water level requirements, without issuing a licence for that water,
  - (b) the water may be reserved or added to an existing reservation under section 35, or
  - (c) the Director may not issue a licence with respect to the withheld water except to the Government under section 51(2) for an allocation of that water in accordance with the priority number and terms and conditions of the licence from which the water was withheld.
- (4) If a withholding of an allocation of water under subsection (1) has been made with respect to a transfer of an allocation of water under a licence that is to revert back to the original licence, the withheld allocation does not revert back to the original licence and remains with the Government.

### **1996 cW-3.5 s16. Environmental assessment requirements**

- (1) Unless the regulations provide otherwise, the Director may not issue or amend an approval, preliminary certificate or licence or approve a transfer of an allocation of water under a licence if the Director is of the opinion that Part 2, Division 1 of the Environmental Protection and Enhancement Act, if applicable, has not been complied with.

(2) Notwithstanding subsection (1), the Director may issue an approval, preliminary certificate or licence to enable a proponent to comply with Part 2, Division 1 of the Environmental Protection and Enhancement Act.

#### **1996 cW-3.5 s47. No transfer between basins**

A licence shall not be issued that authorizes the transfer of water between major river basins in the Province unless the licence is specifically authorized by a special Act of the Legislature.

## **GREAT LAKES BASIN COMPACT**

### **I. Analysis**

The Great Lakes Basin Compact, available at [http://www.cglg.org/projects/water/docs/12-13-05/Great\\_Lakes-St\\_Lawrence\\_River\\_Basin\\_Water\\_Resources\\_Compact.pdf](http://www.cglg.org/projects/water/docs/12-13-05/Great_Lakes-St_Lawrence_River_Basin_Water_Resources_Compact.pdf), is an agreement between Illinois, Indiana, Michigan, Minnesota, New York, Ohio, Pennsylvania, and Wisconsin and the Canadian provinces of Quebec and Ontario to protect one of the world's largest bodies of fresh water—the Great Lakes and St. Lawrence River. Section 4.3 of the Compact requires each party to manage and regulate new and increased withdrawals, consumptive uses and diversions within its jurisdiction in accordance with the compact.

Section 4.8 of the compact prohibits all new or increased diversions, except as provided for in the compact. Section 4.9 of the compact lists exceptions to the prohibition of diversions. The first exception to the prohibition is for straddling communities which are outside the basin or outside the source Great Lake Watershed, provided that all water so transferred be used solely for public water supply purposes within the straddling community and all water withdrawn is returned to the basin less an allowance for consumptive use. If a proposal for transfer results in new or increased withdrawal of 100,000 gallons per day or greater over any 90-day period, the proposal will be required to meet the exception standard, and if it results in new or increased consumptive use of five million gallons per day over any 90-day period, the proposal will be required to undergo regional review. The exception standard has seven listed criteria. One of the requirements is that the need for the water cannot be reasonably avoided through the efficient use and conservation of existing water supplies. The exception standard also requires that all water withdrawn be returned—either naturally or after use—to the source watershed, less an allowance for consumptive use. It also requires that no significant individual or cumulative adverse impacts to the quantity or quality of the waters and water dependent natural resources of the basin results, also giving consideration to any potential cumulative impacts of any precedent-setting consequences associated with the proposal. It also requires, among other things, incorporation of environmentally sound and economically feasible water conservation measures to minimize water withdrawals or consumptive use.

Finally, Section 4.10 of the compact require each party to create a program for the management and regulation of new and increased withdrawals and consumptive uses by adopting and implementing measures consistent with the decision making standard set forth in section 4.11 of the compact. The decision making standard set forth in section 4.11 set forth five criteria that should be encompassed in each state's program. Some of these criteria include requirements to incorporate environmentally sound and economically feasible water conservation measures and a requirement that withdrawals and consumptive uses result in no significant individual or cumulative impact to the quantity or quality of the waters and water dependent resources and the applicable source watershed. Finally, the standards require that the proposed use be reasonable, based up consideration of six factors, including the balance between economic development, social development and environmental protection of the proposed withdrawal and use and other existing or planned withdrawals and water uses sharing the water source.

The current system for approving withdrawals prohibits any diversion or export of Great Lakes water outside the basin unless all 8 governors consent. Each of the party states regulates withdrawals from the Great Lakes Basin in

several ways. According to the Northeast Midwest Institute, at [http://www.nemw.org/glwater\\_divert.htm](http://www.nemw.org/glwater_divert.htm), Indiana does not require a permit for any water withdrawals, and only allows water to be diverted from within the Great Lakes basin for use outside the basin if approved by the governors of each of the Great Lakes states. However, because the state does not require permits, it has difficulty identifying withdrawals that might be diverted out of the basin. Illinois has developed a permitting process to allocate its share of Lake Michigan water, giving first priority to maintaining minimum flows in the sanitary and ship canal and to certain residential, commercial or industrial users. Illinois considers the conservation practices of applicants when issuing permits. Michigan does not regulate water withdrawals, but requires community public water supply systems and certain large water users to submit water withdrawal reports. Minnesota requires a water use permit from all users withdrawing 10,000 gallons per day or one million gallons per year. For interbasin diversions of more than 2 million gallons per day, Minnesota requires permission of the legislature and an environmental assessment. For diversions of more than 5 million gallons per day from the Great Lakes basin, Minnesota requires additional approval from state agencies and the other Great Lakes states and provinces. New York requires registration of all withdrawals of more than 100,000 gallons per day over a 30-day period from the Great Lakes Basin. For interbasin diversions, the state requires approval of the governor and the legislature and consults with other Great Lakes States on any new withdrawal that will result in a 5 million gallons per day loss to the basin. Ohio requires registration of withdrawals of more than 100,000 gallons per day. Wisconsin requires reporting of withdrawals over 100,000 gallons per day and requires a permit if the total water lost from the basin is greater than 2 million gallons per day, and requires consultation with the other Great Lakes States if a diversion or consumptive use results in 5 million gallons per day or greater. Wisconsin's statutes are addressed separately in this appendix. Although the Northwest Midwest Institute indicates that Pennsylvania has no system for permitting or notification of withdrawals, on July 8, 2008, Pennsylvania signed into law legislation implementing the compact and requiring review by the Pennsylvania Department of Environmental Protection for new or increased water withdrawals that equal or exceed 100,000 gallons per day, consumptive uses that equal or exceed 5 million gallons per day, and any diversion of water from the basin consistent with the standards set forth in the compact. See Governor Rendell Signs Historic Great Lakes Compact to Protect Region's Fresh Water, at <http://www.reuters.com/article/pressRelease/idUS210226+08-Jul-2008+PRN20080708>.

## II. Compact Provisions

### Section 4.9. Exceptions to the Prohibition of Diversions.

**1. Straddling Communities.** A Proposal to transfer Water to an area within a Straddling Community but outside the Basin or outside the source Great Lake Watershed shall be excepted from the prohibition against Diversions and be managed and regulated by the Originating Party provided that, regardless of the volume of Water transferred, all the Water so transferred shall be used solely for Public Water Supply Purposes within the Straddling Community, and:

- a. All Water Withdrawn from the Basin shall be returned, either naturally or after use, to the Source Watershed less an allowance for Consumptive Use. No surface water or groundwater from outside the Basin may be used to satisfy any portion of this criterion except if it:
  - i. Is part of a water supply or wastewater treatment system that combines water from inside and outside of the Basin;
  - ii. Is treated to meet applicable water quality discharge standards and to prevent the introduction of invasive species into the Basin;
  - iii. Maximizes the portion of water returned to the Source Watershed as Basin Water and minimizes the surface water or groundwater from outside the Basin;
- b. If the Proposal results from a New or Increased Withdrawal of 100,000 gallons per day or greater average over any 90-day period, the Proposal shall also meet the Exception Standard; and,
- c. If the Proposal results in a New or Increased Consumptive Use of 5 million gallons per day or greater average over any 90-day period, the Proposal shall also undergo Regional Review.

**2. Intra-Basin Transfer.** A Proposal for an Intra-Basin Transfer that would be considered a Diversion under this Compact, and not already excepted pursuant to paragraph 1 of this Section, shall be excepted from the prohibition against Diversions, provided that:

- a. If the Proposal results from a New or Increased Withdrawal less than 100,000 gallons per day average over any 90-day period, the Proposal shall be subject to management and regulation at the discretion of the Originating Party.
- b. If the Proposal results from a New or Increased Withdrawal 100,000 gallons per day or greater average over any 90-day period and if the Consumptive Use resulting from the Withdrawal is less than 5 million gallons per day average over any 90-day period:
  - i. The Proposal shall meet the Exception Standard and be subject to management and regulation by the Originating Party, except that the Water may be returned to another Great Lake watershed rather than the Source Watershed;
  - ii. The Applicant shall demonstrate that there is no feasible, cost effective, and environmentally sound water supply alternative within the Great Lake watershed to which the Water will be transferred, including conservation of existing water supplies; and,
  - iii. The Originating Party shall provide notice to the other Parties prior to making any decision with respect to the Proposal.
- c. If the Proposal results in a New or Increased Consumptive Use of 5 million gallons per day or greater average over any 90-day period:
  - i. The Proposal shall be subject to management and regulation by the Originating Party and shall meet the Exception Standard, ensuring that Water Withdrawn shall be returned to the Source Watershed;
  - ii. The Applicant shall demonstrate that there is no feasible, cost effective, and environmentally sound water supply alternative within the Great Lake watershed to which the Water will be transferred, including conservation of existing water supplies;
  - iii. The Proposal undergoes Regional Review; and,
  - iv. The Proposal is approved by the Council. Council approval shall be given unless one or more Council Members vote to disapprove.

**3. Straddling Counties.** A Proposal to transfer Water to a Community within a Straddling County that would be considered a Diversion under this Compact shall be excepted from the prohibition against Diversions, provided that it satisfies all of the following conditions:

- a. The Water shall be used solely for the Public Water Supply Purposes of the Community within a Straddling County that is without adequate supplies of potable water;
- b. The Proposal meets the Exception Standard, maximizing the portion of water returned to the Source Watershed as Basin Water and minimizing the surface water or groundwater from outside the Basin;
- c. The Proposal shall be subject to management and regulation by the Originating Party, regardless of its size;
- d. There is no reasonable water supply alternative within the basin in which the community is located, including conservation of existing water supplies;
- e. Caution shall be used in determining whether or not the Proposal meets the conditions for this Exception. This Exception should not be authorized unless it can be shown that it will not endanger the integrity of the Basin Ecosystem;
- f. The Proposal undergoes Regional Review; and,

g. The Proposal is approved by the Council. Council approval shall be given unless one or more Council Members vote to disapprove. A Proposal must satisfy all of the conditions listed above. Further, substantive consideration will also be given to whether or not the Proposal can provide sufficient scientifically based evidence that the existing water supply is derived from groundwater that is hydrologically interconnected to Waters of the Basin.

**4. Exception Standard.** Proposals subject to management and regulation in this Section shall be declared to meet this Exception Standard and may be approved as appropriate only when the following criteria are met:

- a. The need for all or part of the proposed Exception cannot be reasonably avoided through the efficient use and conservation of existing water supplies;
- b. The Exception will be limited to quantities that are considered reasonable for the purposes for which it is proposed;
- c. All Water Withdrawn shall be returned, either naturally or after use, to the Source Watershed less an allowance for Consumptive Use. No surface water or groundwater from the outside the Basin may be used to satisfy any portion of this criterion except if it:
  - i. Is part of a water supply or wastewater treatment system that combines water from inside and outside of the Basin;
  - ii. Is treated to meet applicable water quality discharge standards and to prevent the introduction of invasive species into the Basin;
- d. The Exception will be implemented so as to ensure that it will result in no significant individual or cumulative adverse impacts to the quantity or quality of the Waters and Water Dependent Natural Resources of the Basin with consideration given to the potential Cumulative Impacts of any precedent-setting consequences associated with the Proposal;
- e. The Exception will be implemented so as to incorporate Environmentally Sound and Economically Feasible Water Conservation Measures to minimize Water Withdrawals or Consumptive Use;
- f. The Exception will be implemented so as to ensure that it is in compliance with all applicable municipal, State and federal laws as well as regional interstate and international agreements, including the Boundary Waters Treaty of 1909; and,
- g. All other applicable criteria in Section 4.9 have also been met.

**Section 4.10. Management and Regulation of New or Increased Withdrawals and Consumptive Uses.**

1. Within five years of the effective date of this Compact, each Party shall create a program for the management and regulation of New or Increased Withdrawals and Consumptive Uses by adopting and implementing Measures consistent with the Decision-Making Standard. Each Party, through a considered process, shall set and may modify threshold levels for the regulation of New or Increased Withdrawals in order to assure an effective and efficient Water management program that will ensure that uses overall are reasonable, that Withdrawals overall will not result in significant impacts to the Waters and Water Dependent Natural Resources of the Basin, determined on the basis of significant impacts to the physical, chemical, and biological integrity of Source Watersheds, and that all other objectives of the Compact are achieved. Each Party may determine the scope and thresholds of its program, including which New or Increased Withdrawals and Consumptive Uses will be subject to the program.

2. Any Party that fails to set threshold levels that comply with Section 4.10.1 any time before 10 years after the effective date of this Compact shall apply a threshold level for management and regulation of all New or Increased Withdrawals of 100,000 gallons per day or greater average in any 90 day period.

3. The Parties intend programs for New or Increased Withdrawals and Consumptive Uses to evolve as may be necessary to protect Basin Waters. Pursuant to Section 3.4, the Council, in cooperation with the Provinces, shall periodically assess the Water management programs of the Parties. Such assessments may produce recommendations for the strengthening of the programs, including without limitation, establishing lower thresholds for management and regulation in accordance with the Decision-Making Standard.

#### **Section 4.11. Decision-Making Standard.**

Proposals subject to management and regulation in Section 4.10 shall be declared to meet this Decision-Making Standard and may be approved as appropriate only when the following criteria are met:

1. All Water Withdrawn shall be returned, either naturally or after use, to the Source Watershed less an allowance for Consumptive Use;
2. The Withdrawal or Consumptive Use will be implemented so as to ensure that the Proposal will result in no significant individual or cumulative adverse impacts to the quantity or quality of the Waters and Water Dependent Natural Resources and the applicable Source Watershed;
3. The Withdrawal or Consumptive Use will be implemented so as to incorporate Environmentally Sound and Economically Feasible Water Conservation Measures;
4. The Withdrawal or Consumptive Use will be implemented so as to ensure that it is in compliance with all applicable municipal, State and federal laws as well as regional interstate and international agreements, including the Boundary Waters Treaty of 1909;
5. The proposed use is reasonable, based upon a consideration of the following factors:
  - a. Whether the proposed Withdrawal or Consumptive Use is planned in a fashion that provides for efficient use of the water, and will avoid or minimize the waste of Water;
  - b. If the Proposal is for an increased Withdrawal or Consumptive use, whether efficient use is made of existing water supplies;
  - c. The balance between economic development, social development and environmental protection of the proposed Withdrawal and use and other existing or planned withdrawals and water uses sharing the water source;
  - d. The supply potential of the water source, considering quantity, quality, and reliability and safe yield of hydrologically interconnected water sources;
  - e. The probable degree and duration of any adverse impacts caused or expected to be caused by the proposed Withdrawal and use under foreseeable conditions, to other lawful consumptive or non-consumptive uses of water or to the quantity or quality of the Waters and Water Dependent Natural Resources of the Basin, and the proposed plans and arrangements for avoidance or mitigation of such impacts; and,
  - f. If a Proposal includes restoration of hydrologic conditions and functions of the Source Watershed, the Party may consider that.

## OTHER STATES WITH RELEVANT PROVISIONS

### I. ARIZONA

These provisions relate to transfer of surface water. The statute for issuance of a permit requires, among other things, that the appropriation not be a menace to public safety or be against the interests and welfare of the public. It is unclear if these standards apply when acting on a transfer application. The transfer statute contains several consent requirements, depending on the type of transfer and where it is being transferred from.

#### **A.R.S. § 45-153. Criteria for approval or rejection of applications; restrictions on approval**

A. The director shall approve applications made in proper form for the appropriation of water for a beneficial use, but when the application or the proposed use conflicts with vested rights, is a menace to public safety, or is against the interests and welfare of the public, the application shall be rejected. An administrative hearing may be held before the director's decision on the application if the director deems a hearing necessary.

[ ... ]

#### **A.R.S. § 45-172. Transfer of water rights; application; limitations; required consent**

A. A water right may be severed from the land to which it is appurtenant or from the site of its use if for other than irrigation purposes and with the consent and approval of the owner of such right may be transferred for use for irrigation of agricultural lands or for municipal, stock watering, power and mining purposes and to the state or its political subdivisions for use for recreation and wildlife purposes, including fish, without losing priority theretofore established, subject to the following limitations and conditions:

[ ... ]

4. No such severance or transfer of water rights shall be permitted or allowed from lands within the exterior boundaries of any irrigation district, agricultural improvement district or water users' association without first having obtained the written consent and approval of such irrigation district, agricultural improvement district or water users' association.

5. No right to the use of water on or from any watershed or drainage area which supplies or contributes water for the irrigation of lands within an irrigation district, agricultural improvement district or water users' association shall be severed or transferred without the consent of the governing body of such irrigation district, agricultural improvement district or water users' association.[ ... ]

6. A severance and transfer of an irrigation water right appurtenant to lands within the boundaries of an irrigation district to other lands within the boundaries of the same irrigation district for agricultural use may be accomplished by the exclusion of lands to which a water right is appurtenant from within the boundaries of an irrigation district, and the inclusion in lieu of other lands within the boundaries of such irrigation district. Such severance and transfer of a water right shall require the consent of only the irrigation district within which the affected lands are situated and of the owners of the lands affected by the severance and transfer. [ ... ]

### II. ARKANSAS

Arkansas is a riparian state. However, it allows the Soil and Water Conservation Commission to authorize the transportation of excess surface water to nonriparians for their use. The commission shall evaluate an application

for such a transfer in terms of the reasonableness of the proposed nonriparian use, including the environmental impact of the proposed transfer, alternatives sources, and impact on other uses.

**A.C.A. § 15-22-304. Transfer of excess surface water to nonriparians.**

(a) The Arkansas Soil and Water Conservation Commission may authorize the transportation of excess surface water to nonriparians of such surface water for their use.

(b) “Excess surface water” means twenty-five percent (25%) of that amount of water available on an average annual basis from any watershed above that amount, as determined by the commission, required to satisfy all of the following:

- (1) Existing riparian rights as of June 28, 1985;
- (2) The water needs of federal water projects existing on June 28, 1985;
- (3) The firm yield of all reservoirs in existence on June 28, 1985;
- (4) Maintenance of instream flows for fish and wildlife, water quality, aquifer recharge requirements, and navigation; and
- (5) Future water needs of the basin of origin as projected in the state water plan developed pursuant to §§ 15-20-207 and 15-22-501 et seq.

(c) All applications for transfer of water to nonriparians shall be evaluated by the commission in terms of the reasonableness of the proposed nonriparian use, including, but not limited to:

- (1) The availability at reasonable cost of alternative sources of water for the proposed use;
  - (2) The environmental impact of the proposed transfer; and
  - (3) The nature and extent of the impact of the transfer on other water uses.
- (d) (1) As a condition of granting the transfer authority, the commission may require the applicants to contract for the transportation of a specific quantity of water, for a specific period, at a reasonable price to users within the immediate vicinity of the proposed route of transportation.
- (2) The term “reasonable price” means only the cost of transportation of the water, not the water itself.

### III. HAWAII

Hawaii explicitly subjects change applications to the same standards and requirements as an initial application for a water right, thus subjecting change applications to requirements that the proposed use be consistent with the public interest, and be consistent with state and county general plans and land use plans. It should be noted that permits are only required in a designated water management area.

**HRS § 174C-57. Modification of permit terms.**

(a) A permittee may seek modification of any term of a permit. A permittee who seeks to change the use of water subject to the permit, whether or not such change in use is of a material nature, or to change the place of use of the water or to use a greater quantity of water than allowed under the permit or to make any change in respect to the water which may have a material effect upon any person or upon the water resource, shall make application [ ... ].

(b) All permit modification applications shall be treated as initial permit applications and be subject to sections 174C-51 to 174C-56; [ ... ].

**HRS § 174C-49. Conditions for a permit.**

- (a) To obtain a permit pursuant to this part, the applicant shall establish that the proposed use of water:
- (1) Can be accommodated with the available water source;
  - (2) Is a reasonable-beneficial use as defined in section 174C-3;
  - (3) Will not interfere with any existing legal use of water;
  - (4) Is consistent with the public interest;
  - (5) Is consistent with state and county general plans and land use designations;
  - (6) Is consistent with county land use plans and policies; and

(7) Will not interfere with the rights of the department of Hawaiian home lands as provided in Section 221 of the Hawaiian Homes Commission Act. [ ... ]

## IV. IOWA

No statutes were found in the Iowa code regarding water transfers or changes of water rights. However, the Code does have a statute providing that where a permit for diversion, storage, or withdrawal has been issued such permit may be cancelled or modified under one of four circumstances. One of these circumstances is where the department finds that modification or cancellation is necessary to protect the public interests in lands or waters, to require conservation measures or to prevent substantial injury to persons or property in any manner.

### **Iowa Code § 455B.271. Modification or cancellation of permits.**

Each permit issued under section 455B.265 is irrevocable for its term and for any extension of its term except as follows:

1. A permit may be modified or canceled by the department with the consent of the permittee.
2. Subject to appeal to the department of inspections and appeals, a permit may be modified or canceled by the director if any of the following occur:
  - a. There is a breach of the terms of the permit.
  - b. There is a violation of the law pertaining to the permit by the permittee or the permittee's agents.
  - c. There is a circumstance of nonuse as provided in section 455B.272.
  - d. The department finds that modification or cancellation is necessary to protect the public health or safety, to protect the public interests in lands or waters, to require conservation measures or to prevent substantial injury to persons or property in any manner. [ ... ]

## V. KENTUCKY

The statute allows for the cabinet to issue a permit for the transfer or diversion of public water from one stream or watershed to another where such transfer is consistent with the wise use of the public water and is in the best interests of the public.

### **KRS § 151.200. Temporary allocation of water supply among users — Permit for transfer or diversion of water between streams or watersheds.**

[ ... ]

(2) The cabinet, with the approval of the secretary, may issue a permit for the transfer or diversion of public water from one (1) stream or watershed area to another, where such transfer is consistent with the wise use of the public water of the Commonwealth and is in the best interests of the public. Prior to issuance of the permit the applicant shall publish a public notice soliciting written comments on the proposed permit in the newspaper or newspapers having greatest circulation in the area of the stream reach from which the withdrawal is taken. The applicant shall also send written notice to water withdrawal permit holders that might be affected by the permit. Thirty (30) days shall be allowed for public comments on the proposed permit.

## VI. MONTANA

The Montana Code has a few requirements protecting third party interests, in addition to standard no injury type requirements, which must be met before a change of water right can be granted. For all changes, there is a requirement that water quality of an appropriator not be adversely affected and that the ability of a discharge permit holder to satisfy effluent limitations not be adversely affected. These two requirements are only required to be established if a valid objection is filed. In addition, for a change in purpose or place of use for appropriations of 4,000 acre feet per year or more and 5.5 or more cubic feet per second, the applicant must prove by a preponderance of the evidence that the change is a reasonable use. This requires taking into account such factors as the effects on quantity and quality for existing uses in the source of supply, availability and feasibility of using low-quality water, effects on private property rights by any creation of or contribution to saline seep, and adverse environmental impacts. The code also has a statute authorizing a reservation of waters for future beneficial uses.

### **Mont. Code Anno., § 85-2-402. Changes in appropriation rights — definition.**

(1) (a) The right to make a change in appropriation right subject to the provisions of this section in an existing water right, a permit, or a state water reservation is recognized and confirmed [ ... ].

(2)

[ ... ]

(f) The water quality of an appropriator will not be adversely affected.

(g) The ability of a discharge permit holder to satisfy effluent limitations of a permit issued in accordance with Title 75, chapter 5, part 4, will not be adversely affected

(3) The applicant is required to prove that the criteria in subsections (2)(f) and (2)(g) have been met only if a valid objection is filed. [ ... ]

(4) The department may not approve a change in purpose of use or place of use of an appropriation of 4,000 or more acre-feet of water a year and 5.5 or more cubic feet per second of water unless the appropriator proves by a preponderance of evidence that:

(a) the criteria in subsection (2) are met; and

(b) the proposed change in appropriation right is a reasonable use. A finding of reasonable use must be based on a consideration of:

(i) the existing demands on the state water supply, as well as projected demands for water for future beneficial purposes, including municipal water supplies, irrigation systems, and minimum streamflows for the protection of existing water rights and aquatic life;

(ii) the benefits to the applicant and the state;

(iii) the effects on the quantity and quality of water for existing uses in the source of supply;

(iv) the availability and feasibility of using low-quality water for the purpose for which application has been made;

(v) the effects on private property rights by any creation of or contribution to saline seep; and

(vi) the probable significant adverse environmental impacts of the proposed use of water as determined by the department pursuant to Title 75, chapter 1, or Title 75, chapter 20.

### **Mont. Code Anno., § 85-2-316. State reservation of waters.**

(1) The state, any political subdivision or agency of the state, or the United States or any agency of the United States may apply to the department to acquire a state water reservation for existing or future beneficial uses or to maintain a minimum flow, level, or quality of water throughout the year or at periods or for a length of time that the department designates.

(2) (a) Water may be reserved for existing or future beneficial uses in the basin where it is reserved, as described by the following basins:

[ ... ]

(b) A state water reservation may be made for an existing or future beneficial use outside the basin where the diversion occurs only if stored water is not reasonably available for water leasing under 85-2-141 and the proposed use would occur in a basin designated in subsection (2)(a).

## VII. NEW MEXICO

New Mexico authorizes a change in point of diversion, purpose, or place of use if such changes, in addition to the no injury rule, are not contrary to conservation of water within the state and are not detrimental to the public welfare of the state. Also, the statute recognizes a natural right of residents in the upper valleys of stream systems to impound and utilize a reasonable share of the waters which are precipitated upon and have their source in such valleys and superadjacent mountains.

### **N.M. Stat. Ann. § 72-5-23. Water appurtenant to land; change of place of use**

All water used in this state for irrigation purposes, except as otherwise provided in this article, shall be considered appurtenant to the land upon which it is used, and the right to use it upon the land shall never be severed from the land without the consent of the owner of the land, but, by and with the consent of the owner of the land, all or any part of the right may be severed from the land, simultaneously transferred and become appurtenant to other land, or may be transferred for other purposes, without losing priority of right theretofore established, if such changes can be made without detriment to existing water rights and are not contrary to conservation of water within the state and not detrimental to the public welfare of the state, on the approval of an application of the owner by the state engineer.

### **N.M. Stat. Ann. § 72-5-24. Change of purpose; change of point of diversion**

An appropriator of water may, with the approval of the state engineer, use the same for other than the purpose for which it was appropriated or may change the place of diversion, storage or use in the manner and under the conditions prescribed in Sections 72-5-3 and 72-5-23 NMSA 1978.

### **N.M. Stat. Ann. § 72-5-29. [Rights of residents of upper valleys of stream systems.]**

To the end that the waters of the several stream systems of the state may be conserved and utilized so as to prevent erosion, waste and damage caused by torrential floods, and in order that the benefits of the use of such waters may be distributed among the inhabitants and landowners of the country along said streams as equitably as possible without interfering with vested rights, the natural right of the people living in the upper valleys of the several stream systems to impound and utilize a reasonable share of the waters which are precipitated upon and have their source in such valleys and superadjacent mountains, is hereby recognized, the exercise of such right, however, to be subject to the provisions of this article.

## VIII. NORTH DAKOTA

North Dakota makes applications for change in point of diversion or purpose of use subject to the same evaluation as an application for a water permit, thereby requiring that the change be in the public interest. The statute sets forth six factors which must be considered in determining the public interest. Some of these factors include the effect of the economic activity resulting from the proposed appropriation and the effect of loss of alternate uses of water that might be made within a reasonable time if not precluded or hindered by the proposed appropriation, as well as the effect on fish and game resources and public recreational opportunities.

**N.D. Cent. Code, § 61-04-15.1. Change in point of diversion or use.**

1. A permit holder may change the point of diversion or purpose of use without affecting the priority date if approved by the state engineer.
2. The state engineer may approve the proposed change if the state engineer determines that the proposed change will not adversely affect the rights of other appropriators. Applications for a change in the point of diversion or any purpose of use shall be processed and evaluated in the same manner as an application for a water permit.

**N.D. Cent. Code, § 61-04-06. Criteria for issuance of permit.**

The state engineer shall issue a permit if the state engineer finds all of the following:

[ ... ]

4. The proposed appropriation is in the public interest. In determining the public interest, the state engineer shall consider all of the following:

- a. The benefit to the applicant resulting from the proposed appropriation.
- b. The effect of the economic activity resulting from the proposed appropriation.
- c. The effect on fish and game resources and public recreational opportunities.
- d. The effect of loss of alternate uses of water that might be made within a reasonable time if not precluded or hindered by the proposed appropriation.
- e. Harm to other persons resulting from the proposed appropriation.
- f. The intent and ability of the applicant to complete the appropriation.

[ ... ]

## IX. PUERTO RICO

Puerto Rico authorizes permits and franchises for the use or superficial or “surfaced” waters to be transferred only when the public interest warrants it and the Secretary approves it. The statute sets forth ten factors that should be considered in determining whether the transfer is warranted by the public interest. These include the impact on the economy of the island, the effect on potential uses or utilizations which could become effective within a reasonable time if the waters were not committed under the permit or franchise sought, and impacts on other resources and effect on public health and safety, as well as its impact on the integrity of the natural systems and, in general, on the ecosystem.

**12 L.P.R.A. § 1115h**

[ ... ]

(f) In the evaluation of the public interest attached to a use or utilization, the Secretary shall bear in mind, among others, the following factors:

- (1) Its compatibility with the plan of use, conservation and development of the waters of Puerto Rico.
- (2) Its impact on the economy of the Island.
- (3) The use to which the water would be devoted.
- (4) The volume of water that would be used.
- (5) Its effect on potential uses or utilizations which could become effective within a reasonable limit of time if the waters were not committed under the permit or franchise sought.
- (6) Its impact on other resources.
- (7) Potential damages to persons and to the community.
- (8) Its effect on the public health and safety.
- (9) Possible impairment of existing rights, including the right of ownership over the tract where the waters are.
- (10) Its impact on the integrity of the natural systems and, in general, on the ecosystem.

(g) Permits and franchises may be transferred by their holders only when the public interest warrants the transfer and the Secretary approves it. [ ... ]

## X. SOUTH DAKOTA

South Dakota authorizes a change in use, point of diversion or other change only if the change, among other standard requirements, is in the public interest. However, the statute does not define the public interest.

### **S.D. Codified Laws § 46-2A-12**

An amendment of an existing permit or license may be granted for a change in use, a change in point of diversion or other change only if the change does not unlawfully impair existing rights and is for a beneficial use and in the public interest.



**Graphic Design:**

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**Photos, front cover, from top:**

Rolling Farmland in the Palouse Region.  
Photo: Vicki Mullet/iStock.

Flax for linseed oil and irrigation wheel.  
Photo: Phil Augustavo/iStock.

Eastern Washington vineyard and orchard  
on the banks of the Columbia river.  
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**Photos, back cover:**

Washington Scenery.  
Photo: Rick Frye

Water spills from a dam creating electricity.  
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