Environmental Law Centre

Appendix B: *In Water We Trust* – A Review of Water Market Impacts

Collateral damage: the difficulty in avoiding or offsetting "third party" impacts

The focus of a water market is on maximizing returns (and concurrent wealth maximization).[1] A "perfect" market would be inclusive of all harms to other water users, the environment and society as a whole.

The scope and scale of costs associated with a given transaction can vary widely. Typical transaction costs include the costs of gathering information, negotiating and formalizing contracts, and the cost of regulatory processes. Transaction costs can be expanded to include third party "harms" (although this often doesn't occur). Transaction costs, if too high, will inhibit trades and stifle the effectiveness of water trading regimes.[2]

Dellapenna cites transaction costs, specifically the "inability of markets to factor in adequately the external effects of market transactions" as one of the core problems with water markets. [3] The impact of transaction costs has been studied in water markets but there remains significant uncertainty about how these costs play into environmental outcomes on a broader scale.[4]

Garrick and Aylward analyzed transaction costs in the Columbia basin for water allocations for environmental purposes and found that temporal and spatial distribution of state run water restoration programs created a wide array of transaction costs, that efficiency in markets did not necessarily progress through time, and increased volumes did not always correlate with increased efficiency.[5] They postulate that several issues are important to

[1] See Bonnie Colby Saliba and David B. Bush, *Water Markets in Theory and Practice*: *Market transfers, Water values and public policy*, Studies in Water Policy and Management , No. 12 (Boulder: Westview Press, 1987).
[2] See Dustin Garrick and Bruce Aylward "Transaction Costs and Institutional Performance in Market-Based Environmental Water Allocation" (2012) 88(3) *Land Economics* 536.
[3] See Joseph Dellapenna "The myth of markets for water" in *Water Trading and Global Water Scarcity* (Josfina Maestu ed.) (New York: RFF press, 2013) at 203.
[4] See Garrick *supra* note 2. See also Robert D. Pilz "At the confluence: Oregon instream water rights in theory and practice." (2006) 36 *Environmental Law Journal* 4.
[5] *Ibid.* Garrick at 555-556.

maximize program efficiency including the existence of clear adjudicated rights, sufficient budgets to deal with transaction costs, long term institutional commitment and the need to ensure political/community buy-in at the regional scale to avoid push back.[6]

Most markets fail to fulfill a utopian vision of being able to value all costs to other market players let alone value and offset costs to the environment. Assessing who or what is harmed and the degree of harm is particularly difficult when considering social and environmental costs.

Water markets may cause real and/or perceived impairment on social, environmental and economic interests.

a) *Market impacts on rural economies*

Depending on how water transfers occur there are risks associated with water markets that they will adversely affect rural economies. This can be seen where rural licence allocations are transferred to municipal or urban industrial uses, with diminished opportunities to sustain rural economies and lifestyles.

Concerns about such transactions are increased where permanent entitlements to water are transferred.[7] These concerns include diminished labour and markets related to irrigated agriculture, decreases in land value and services, and augmentation of pricing and management of remaining infrastructure and users.[8] A review of social impacts in Australia from diminished farming indicates that many people felt that the quality of life for those "left behind" may be impacted by water markets; however, determining a cause and effect relationship is difficult.[9]

The Institute for Agriculture and Trade Policy identified third party impacts from water markets being a significant concern for the long term viability of agriculture, stating that "the combined suite of commons principles [as espoused by Elinor Ostrom] with public trust

[6] *Ibid.* at 558.
[7] See Henning Bjornlund, Sarah Wheeler and Peter Rossini, "Water markets and their environmental, social and economic impacts" in *Water Trading and Global Water Scarcity* (Josefina Maestu ed) (New York: RFF Press, 2013) at 74.
[8] *Ibid.* at 75-76.
[9] *Ibid.* at 87-88.

doctrine or its principles provide a way forward to resolve" some of the problems of over reliance on market mechanisms to allocate water.[10]

b) Market impacts on the environment

Do water markets further exacerbate environmental problems or provide opportunities to ameliorate the harm resulting from over-allocation? It appears markets can play both roles, depending on what water is "marketable" and what role regulations play in protecting EF.

In jurisdictions such as Australia, the creation of the market for water allocations creates a motivation to sell water that may have otherwise gone unused (i.e. remained in stream) resulting in increased pressure and risk for aquatic environments. This "sleeper" or "dozer" water right problem was recognized but did not stop the pursuit of market options in Australia.[11] Similarly, in the United States, the market in water may result in intensified water use where flows are transferred to more consumptive uses, notwithstanding the legal concepts of beneficial use, waste and forfeiture being applied in relation to appropriations in an effort to ensure only water that was needed was appropriated.[12]

The market may also serve to drive increased conservation efforts that may result in decreased return flows (with related environmental impacts), although in Australia this was

[10] See Shiney Varghese, *Water Governance in the 21st Century* : *lessons from Water Trading in the U.S. and Australia*, (2013) online: Institute for Agriculture and Trade Policy <http://www.iatp.org/files/2013_03_27_WaterTrading_SV_0.pdf>. Elinor Ostrom's work around management of the commons is cited as key to managing common resources among sectors through the application of various management principles. See Elinor Ostrom, *Governing the Commons*, (Cambridge: Cambridge University Press, 1990)

[11] See National Water Commission, *Water Markets in Australia: a short history*, 2011 at 43, online: National Water Commission <http://www.nwc.gov.au/__data/assets/pdf_file/0004/18958/Water-markets-in-Australia-a-short-history.pdf> *supra* note 112.

[12] See J. Neuman "Beneficial Use, Waste, and Forfeiture: The Inefficient search for efficiency in Western Water Use" (1998) 28 *Environmental Law* 919 for a discussion of how the beneficial use, waste and forfeiture have been treated by courts and legislatures in the United States. Neuman notes that while the courts have found partial forfeiture of water rights for failing to establish beneficial use, the notion of waste, or efficient use of water failed to gain significant application through the courts. Concepts of water use efficiency have therefore largely been limited to legislation dealing this issue.

found to have minimal environmental impact relative to the trading and beneficial impacts downstream as a whole.[13]

Then there are the potential impacts of a water transfer itself, as points of diversion and impacts on habitat will flow from the transfer of water allocations upstream or elsewhere.

On the positive side, engaging markets enables some flexibility and political palatability to allow for investments in environmental flows.

c) Market impacts on treaty and aboriginal rights

Any shifting of water through water markets may also impact on treaty rights and Aboriginal rights in the province.[14] This was noted by Justice LoVecchio in *Tsuu T'ina Nation v. Alberta (Environment)*[15] which involved the challenging the approval of the South Saskatchewan River Basin Water Management Plan. Justice LoVecchio observed:[16]

> To the extent this has moved a market in water one step closer to reality, the potential for adverse impacts in the future may have increased. As existing licence holders move to transfer un-utilized allocations, it would logically stand to reason that more water will be consumed, exacerbating the water shortage. That negative impact may only be partially offset by any holdbacks imposed. The Government by its own words suggests a crisis already exists.

While the scope and nature of the right to water have many unresolved questions it appears certain that diversions may impact First Nations people directly, through both quantity and quality issues. Diversions and transfers may also directly impact treaty related resources.

Lack of certainty in water rights

[13] See Bjornlund *et al*, *supra* note 219 at 89, citing the National Water Commission (2010) *The impacts of Water trading in the Southern Murray-Darling Basin: An Economic, Social, and Environmental Assessment*. June, Canberra, Australia: National Water Commission.

[14] See Monique M. Passelac-Ross and Christina Smith "Defining Aboriginal Rights to Water in Alberta: Do They Still "Exist"? How Extensive are They?" Canadian Institute of Resources Law, Occasional Paper #29 (April 2010) http://dspace.ucalgary.ca/bitstream/1880/47813/1/DefiningOP29w.pdf

[15] 2008 ABQB 547, online: <http://www.albertacourts.ab.ca/jdb_new/public/qb/2003-NewTemplate/qb/Civil/2008/2008abqb0547.pdf>

[16] *Ibid.* at para 138.

Markets are fond of certainty when it comes to the nature of the property right that is the subject of a trade.[17] This is certainly true for markets in water, a space where government typically play a significant role administering rights and enforcing rules. Without well-defined rights the likelihood of an effective and efficient market may be undermined.

Unlike some western U.S. prior appropriation jurisdictions, Crown licencing jurisdictions such as Alberta often maintain some power to amend, cancel or suspend licences with or without compensation. In Alberta this discretion is primarily limited to licences issued under the *Water Act*.[18] Older senior licences often have conditions or terms that retain government discretion to review and augment licences (although the exercise of this discretion has seen limited use) which similarly raises issues of uncertainty.[19]

The ability to sell a water allocation (by way of transfer) is similarly uncertain as the licence is not freely alienable i.e. the regulator maintains control over whether to allow you to sell a licence by way of transfer. The licence entitlement remains appurtenant to the land except where government discretion authorizes otherwise. Also, compensation is not payable where a transfer is refused.

Even after all these years of water management the legal nature of water rights is somewhat of an enigma, insofar as Crown ownership (claimed through statute) appears to not have a limited scope, unlike other Crown resource such as oil and gas, fisheries, and wildlife where the property of the resource is transferred pursuant to the statute, upon capturing or taking the resource. While some U.S. states have similar regulatory ownership of water there have been cases that have found that "equitable or beneficial property interests in a water right" may be acquired.[20] Judicial interpretation of the *Water Act* in this regard remains wanting. Uncertainty remains regarding whether a property or equitable interest is conveyed when water is allocated under a licence.

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[17] See Saliba, *supra* note 1.

[18] See *Water Act*, R.S.A. 2000, c. W-3, at s.55(2).

[19] See Eastern Irrigation District Licence No. 9409, Priority No. 1955-03-22-02, online: Alberta Environment and Sustainable Resource Development <https://avw.alberta.ca/pdf/00040332-00-00.pdf> which states "The rights and privileges hereby granted are subject to periodic review and to modification to ensure the most beneficial use of the water in the public interest and more particularly to ensure preservation the rights of other water users." Section 54 (1)(a)(ix) of the *Water Act* indicates that the Director may initiate amendments to a licence "if there is a term or condition of the licence allowing the amendment".

[20] See *Klamath Irrigation District v. U.S.*, No. 2007-5115, United States Court of Appeals, Federal Circuit,

If the legislature granted carte blanche authority to cancel licences without compensation, leaving the landowner with only the residual "household use" right, would a right to compensation be justified elsewhere in Canadian law? If not, it seems that water allocation transfers carry significant uncertainty and risk. Alistair Lucas reviewed the nature of the right and certainty of entitlement under the predecessor legislation, the *Water Resources Act*, and concluded that a property type right was not being conveyed but recognized that augmentation of the right may still lead to compensation in certain instances.[21] The scope and nature of rights embodied in a *Water Act* licence remains unclear.

The Alberta Court of Queen's Bench has treated an outfitters permit under the *Wildlife Act* as an "exigible asset" and therefore subject to civil claims procedures.[22] This is somewhat surprising decision insofar as there was discretion retained by the government to dictate whether a transfer of the permit may be made. This case relied on the notion of transferability of the permit (relying on *Saulnier v. Royal Bank of Canada* [2008] 3. S.C.R. 166,) to make the finding that a permit as property, as conveying a notion of "profit à prendre". The court cited in *obiter*, that the "capability of sold, pledged or leased would be sufficient in most of the United States".[23]

Water licences may be similarly treated as assets or property but they can also be distinguished. A legal interest in the nature of a *profit à prendre* exists for wildlife (and other Crown mineral resources) whereas the *Water Act* does not convey ownership in water. The Supreme Court of Canada, citing *Cherry v. Petch*, described the nature of a *profit à prendre,* observing that "[i]t is important to note that it is the right of severance which results in the holder of the *profit à prendre* acquiring title to the thing severed".[24] This notion of severance of property does not apply in the same way in relation to water, which, it may be argued, continues to be Crown property, during and after use.

Similarly, how a gift of a water licence would be treated under the federal *Income Tax Act* creates additional uncertainty about the nature of right. The transaction certainly entails aspects of rights relevant to property but the nature and extent of those rights will be difficult to discern in a given instance. Typical gifts of money, securities, ecological sensitive

[21] See Alistair Lucas, *Security of Title in Canadian Water Rights* (Calgary: Canadian Institute of Resources Law, 1990).

[22] *Stout & Company LLP v. Chez Outdoors Ltd*., 2009 ABQB 444, <http://www.albertacourts.ab.ca/jdb%5C2003-%5Cqb%5Ccivil%5C2009%5C2009abqb0444.pdf>.

[23] Ibid. at para 48.

[24] in *R. V. Tener* [1985] 1 SCR 533, 1985 CanLII 76 (SCC cited citing *Cherry v. Petch* [1948] O.W.N 378

land, capital property, person-use property, or inventory are eligible for a receipt. Any gift of a water allocation does not confer ownership of the resource itself, which resides with the Crown, but any money received resulting from a transfer is likely taxable and similarly maybe deductible.

If an instream transfer occurs the issue of how to value such an instream right becomes important. What is the value that would be attributed to such a gift? Further, can a purchaser of a water transfer claim some sort of deduction related to the investment if the government suspends the diversion due to a priority call? The ELC is not aware of instances where government permissions or authorization have been qualified as a gift.

Lack of sufficient knowledge

A core aspect of any market is the assumption of full knowledge of relevant facts as between the buyer and the seller. Joseph Dellapenna notes that "despite the theoretical advantages of water markets, even a "perfect" market has disadvantages, not least of which is that their proper functioning requires transactions by rational individuals, with perfect knowledge, and deliberately choosing to maximize utility".[25]

The uncertainty and knowledge challenges faced by both purchasers and sellers are based in:

- The variability of supply;
- The inability to know how other senior licences will be managed (including return flows);
- The inability to accurately know instream needs and the value related to those flows; and
- The uncertainty of how government discretion may be exercised to curtail diversions for ecological flows in a given instance.

[25] See Joseph Dellapenna "The myth of markets for water" in *Water Trading and Global Water Scarcity* (Josfina Maestu ed.) (New York: RFF press, 2013) at 202.

The information required to assess the ecological and financial value of a specific licence is significant. Participating in a water market with insufficient knowledge in turn may result in market distortions (through either overpaying or underpaying for the water). In the end, those who have funded the water purchase for EF gains may have fewer concerns about a pure economic "return on investment" but this may still result in concerns regarding the efficacy of the market in general.[26]

Fettering government discretion to manage for public resource outcomes

By engaging water markets are we fettering government discretion to protect the environment? Generally, the greater the certainty granted to private diverters of water the fewer options the government has to manage toward environmental and social outcomes. At its heart, this is the "public" versus "private" debate of water markets. If the private market gains sufficient traction and there is a high level of certainty in the rights that are conveyed there is the risk of further narrowing governments' ability to manage to environmental outcomes, particularly in stressed river basins. This may be a practical fettering of government discretion as opposed to a legal fettering (which brings the validity of a decision into question).

This deferral of decisions to the market is certainly a real risk of engaging the market and has been raised as a main reason to oppose some international trade agreements that may be seen to usurp environmental regulations in favour of trade.[27]

On a more local scale engaging a water market may have the practical effect of minimizing the exercise of discretion in favour of the environment. Admittedly government options for seeking senior allocations for EF purposes are quite limited (in the absence of Crown licence purchases). The pressure to avoid impacting a given investment in an allocation is likely to result in a chilling effect on the exercise of government discretion in favour of instream flow goals.

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[26] This may be a source of concern among other water users who feel that deep pocketed environmental interests would regularly outbid other users.

[27] For a review of the issues around this see Howard Mann and Konrad Von Moltke *NAFTA's Chapter 11 and the Environment: Addressing the Impact of the Investor-State Process on the Environment*, (Winnipeg: International Institute for Sustainable Development, 1999), online: IISD <http://www.iisd.org/pdf/nafta.pdf>. The report notes (at page 62) that the uncertainty and unpredictability of impacts of NAFTA on environmental policy is profound and that some outcomes related to NAFTA compensation claims will be contrary to polluter pays principal.

David Katz has observed "the provision of water for environmental objectives via markets is still largely determined by government regulation, and often results only in provision of minimum flows, which is rarely either ecologically or economically optimal".[28] As market players, water trusts are likely to be small relative to government funded or direct government acquisitions.[29]

Kimbrell, on the other hand, has noted that reliance on public initiatives for environmental flows is not all it is cracked up to be, noting: [30]

> …the addition of privately held instream flows are theoretically more persuasive than any rationalization of the public-only systems. A prior appropriation state with agency-held instream flow rights (or a mandated minimum flow reserved from appropriation) supplemented by the opportunity to appropriate and hold instream rights privately seems to offer the model system. Specifically the agency problems of funding, enforcement, and bureaucratic lethargy are mitigated by private market impetus while, private, market-based motives, which alone would be too unstable and subject to individual caprice, are supported by a layer of public control.

[28] David Katz "Cash Flows: Market for Environmental Flow Allocations" in *Water Trading and Global Water Scarcity* (Josefina Maestu ed.) (New York, RFF Press 2013) at 227. Katz notes that generating an accurate reading of the value of environmental flows is difficult. This in turn presents the interesting premise that water trusts are likely to participate in a market without full knowledge and indeed may willingly participate in non-economical valuation of supplies in a given instant. In this way one can see the inherent flaw in water markets exposed through the operation of water trusts itself. Interested donors to water trusts may not be overly concerned about whether their donations lead to a good return on investment, rather notionally they are supportive of restoring and maintaining flows on a broader level.

[29] *Ibid.*at 8. This in itself can distort the market as Katz notes noting that the government role as purchaser may create a "monopsony position limits the effectiveness of the market" at 5.

[30] George, A Kimbrell, "Private Instream Rights: Western Water Oasis or Mirage – An Examination of the Legal and Practical Impediments to Private Instream Rights in Alaska, (2004) 24 *Public Land & Resource Law Review* at 84.