

Regulation, Infrastructure, and Water Scarcity in North Carolina: 2011-2012 Water Law Put into Perspective

J. Sawyer Lucy

I. Introduction

North Carolina faces an increased demand for water as population increases. The regulation and distribution of water is central to every citizen's life, and public policy and private interests will continue to play a role in the regulation and distribution of water as demand increases.¹ Approximately 82% of Americans live in urbanized areas, and 86% receive their water from a public utility partially as a result of this urban concentration.² Despite the large percentage of Americans using waters from public utilities, agricultural and industrial uses outpace public utilities in water withdrawal significantly.³ Due to increased periods of drought and climate change uncertainty, states and municipalities must plan for problems of water scarcity while keeping user needs in mind.⁴

Water regulation is a unique task. Water is essential and thus a public trust.⁵ Although water has the characteristics of other regulated commodities, policy must additionally take into account the basic human right to this special commodity.⁶ Because water is a public trust, the government holds title to water for the public and should use its authority to manage water according to changing conditions.⁷ There are numerous approaches to regulating water usage, and government's role varies with each approach.

¹ See Matthew Brodahl & William A. Shutkin, *Exactly the Right Amount: Municipal Water Efficiency, Population Growth, and Climate Change*, 14 U. DENV. WATER L. REV. 337, 338 (2011).

² See *id.* at 338.

³ See *id.* at 338.

⁴ See *id.* at 339.

⁵ See Barton H. Thompson, Jr., *Changing Conceptions of Water in the Law: Water as a Public Commodity*, 95 MARQ. L. REV. 17, 17 (2011).

⁶ See *id.* at 19.

⁷ See *id.* at 20.

II. Approaches to Infrastructure and Regulation

Historically, the act of pricing water was unlike the act of pricing of other commodities.⁸ Many countries did not charge for the right to extract water from the environment, and the government subsidized infrastructure for treatment and delivery of water.⁹ As the United States began treating water like a commodity, the approach changed, and many areas throughout the country now focus on full-cost pricing for water delivery.¹⁰

Regulators debate the best method for setting the price of water. Balancing the right to have reasonably priced access to water with the cost of delivery as well as expansions and upkeep of municipal facilities can be difficult.¹¹ In areas of population growth, facilities facing constraints often try to stretch water supplies across more users, expand the facility's processing ability, or attempt both in order to fight increasing demand.¹² The approaches discussed will address the quantity of the water available and creating markets for water as a major tool to deal with water related constraints.¹³

There are two sides to approaching water regulation in terms of available quantity: a municipality may either increase the amount provided (supply) or decrease the amount used (demand).¹⁴ Encouraging "demand-management" helps to spread the same water supply across more users.¹⁵ This method calls for water users to decrease their usage, an approach often

⁸ See *id.* at 23.

⁹ See *id.* at 24.

¹⁰ See *id.* at 25.

¹¹ See Brodahl, *supra* note 1, at 340.

¹² See Brodahl, *supra* note 1, at 340.

¹³ See generally Gumbo and van der Zaag, *Water Losses and the Political Constraints to Demand Management: The Case of the City of Mutare, Zimbabwe*, 27 PHYSICS AND CHEMISTRY OF THE EARTH 805, 805-813 (2002) (addressing quantity); See generally Brodahl, *supra* note 1, at 340 (addressing quantity); See generally Janet C. Neuman, *Have We Got a Deal for You: Can the East Borrow from the Western Water Marketing Experience?*, 21 GA. ST. U.L. REV. 449 (2004) (addressing water markets).

¹⁴ See generally RALPH T. BYRNS & GERALD W. STONE, ECONOMICS 58-80 (BRUCE KAPLAN ET AL. EDS., 6TH ED. 1995) (for background detailing supply and demand).

¹⁵ Brodahl, *supra* note 1, at 340.

associated with conservationists, municipalities, and environmentalists.¹⁶ But demand management alone does not address the need for facility upkeep or expansion.¹⁷ Increased rates and specialized rate structures help facilitate coverage of the full price of water delivery.¹⁸ Some facilities find a rate balance with “conservation rate structures.”¹⁹ These rate structures include tiered rates based on quantity of water, encouraging conservation. Tiered rates place the financial burden of greater water usage on the people using the greatest amounts.²⁰ In North Carolina, the State Water Infrastructure Commission and the University of North Carolina’s Environmental Finance Center suggest pricing strategies as a method for demand management as well as a method for covering the costs of delivery and infrastructure development and maintenance.²¹

Supply management aims to increase the total quantity of water available. In developing countries that lack infrastructure, there are common methods for increasing water supply, and those methods also apply to developed countries like the United States.²² For example, in the 1990s the City of Mutare, Zimbabwe, considered three supply management methods to solve their water quantity problems: building a dam, piping water from another recently completed

¹⁶ See Brodahl, *supra* note 1, at 340.

¹⁷ See Brodahl, *supra* note 1, at 340-341.

¹⁸ See *id.*

¹⁹ Brodahl, *supra* note 1, at 341.

²⁰ See *id.*

²¹ See Environmental Finance Center, *Recommended Guidance for North Carolina Utilities Attempting to Support Water Conservation in the Long-Term through Rate Structure Design and Billing Practices*, THE ENVTL. FIN. CENTER AT THE U. N.C. SCHOOL OF GOV’T (Nov. 2010), <http://www.efc.unc.edu/publications/2010/SWICGuidelinesForConservationRatesAndBilling.pdf>; Shadi Eskaf and Jeff Hughes, *Designing Rate Structures that Support your Objectives: Guidelines for NC Water Systems*, THE ENVTL. FIN. CENTER AT THE U. N.C. SCHOOL OF GOV’T (June 2009), <http://www.efc.unc.edu/publications/2009/GuidelinesDesigningRateStructures.pdf>.

²² Gumbo, *supra* note 13, at 805-813.

dam, or building a forty-six kilometer pipeline to access a river.²³ All three options posed serious cost and ecological concerns.²⁴

The supply management options available in developing countries like Zimbabwe are the same kinds of options available in North Carolina. The State can build dams and create reservoirs or move water from one area to another through interbasin transfers. As explained in the Report of the Water Allocation Study of the NC Environmental Review Commission (“2008 Water Report”), the less expensive locations for reservoirs are not available anymore, and political and legal obstacles may act as a barrier to reservoir creation.²⁵ On the other hand, interbasin transfers are capped at two million gallons per day without special certification and the certificate process is extensive and expensive, making it more difficult for small water systems to cooperate.²⁶ Besides costs, interbasin transfers can be ecologically harsh; the Southern Environmental Law Center opposed a ten million gallon per day interbasin transfer in North Carolina on grounds that “massive transfers of water between distinct river basins can wreak ecological havoc in the river systems, including flooding, water shortages, deterioration of water quality and aquatic habitat, and threats to public drinking water supplies.”²⁷

Parts of the western United States authorize water marketing, promote market transfers, and create water markets through water banks.²⁸ The term water marketing means “the transfer

²³ *Id.* at 810.

²⁴ *Id.*

²⁵ WATER ALLOCATION STUDY TEAM, 2008 REPORT OF THE WATER ALLOCATION STUDY OF THE N.C. ENVIRONMENTAL REVIEW COMMISSION 7 (2008), *available at* <http://nicholasinstitute.duke.edu/water/allocation/2008-report-of-the-water-allocation-study-of-the-nc-environmental-review-commission>.

²⁶ *Id.* at 15.

²⁷ Southern Environmental Law Center, *SELC Files Petition to Stop Massive Water Transfer*, S. ENVTL. L. CTR. (Jan. 20, 2010), http://www.southernenvironment.org/cases/catawba_yadkin_interbasin_transfer/.

²⁸ *See* Thompson, *supra* note 5, at 26.

of water rights from existing uses to new uses at market value.”²⁹ Market transfers involve transferring water from existing users and owners of water, often cheaper than developing new water supplies.³⁰ Water banks facilitate water transactions between individuals that own water rights and others that need more water, holding water rights (and storing water) for allocation.³¹

There is often opposition to these kinds of transactions, along with hurdles in the regulatory review process.³² Institutional roadblocks can discourage transfers through lengthy and expensive review procedures, and community disapproval may be an obstacle as well.³³ This opposition results in increased use of small transactions, typically among farmers in the same watershed rather than interbasin transfers or transfers from farmers to urban consumers.³⁴

Most water markets are in the western United States.³⁵ Compared to the West, the East has more naturally abundant water supplies.³⁶ Many states east of the Mississippi River, like North Carolina, have few water market transactions.³⁷ For the most part, regulations prevent water allocation transactions in North Carolina, except in the Central Coastal Plain Capacity Use Area (CCPCUA).³⁸

Overall, different approaches may be implemented on the local instead of state level; however, the state is ultimately responsible for passing legislation that can have the broadest impacts. Session Laws from the legislature in 2011-2012 illustrate this impact.

²⁹ Ronald A. Kaiser, *Texas Water Marketing in the Next Millennium: A Conceptual and Legal Analysis*, 27 TEX. TECH L. REV. 181, 195; *See generally*, Neuman, *supra* note 13 (defining water marketing generally).

³⁰ *See* Neuman, *supra* note 13, at 463.

³¹ *See* Loretta Singletary, *Water Banking: What Is It And How Does It Work?*, UNIV. OF NEV. AT RENO, <http://www.unce.unr.edu/publications/files/ho/other/fs9809.pdf> (last visited Oct. 31, 2012).

³² Thompson, *supra* note 5, at 27.

³³ *Id.*

³⁴ *Id.*

³⁵ WATER ALLOCATION STUDY TEAM, *supra* note 25, at 57.

³⁶ *See* Neuman, *supra* note 13, at 449.

³⁷ WATER ALLOCATION STUDY TEAM, *supra* note 25, at 57.

³⁸ *Id.* at 57.

III. North Carolina Session Laws 2011-2012 and How They Fit with Water Scarcity Ideology

The following descriptions of the laws passed in the 2011-2012 session provide an overview of what water regulation looked like in North Carolina over the last two years. Demand and supply management, along with cost of delivery issues, are evident in the new laws.

Supply Side

Session Law 2011-298 and Session Law 2011-374 contain direct supply side ideologies, easing regulation on interbasin transfers in the CCPCUA³⁹ and promoting the use of reservoirs.⁴⁰

Session Law 2011-298 exempts some transfers from interbasin transfer certification requirements in the CCPCUA.⁴¹ It eliminates the requirement for certification of interbasin transfers in the CCPCUA.⁴² Anyone that does not have a permit for an interbasin transfer on the day this bill was put into law is not exempt if the transfer exceeds 8,000,000 gallons per day.⁴³ It also calls for the Environmental Review Commissions to “consider whether the policies underlying the interbasin transfer and capacity use area laws are consistent.”⁴⁴

The most regulation-specific legislation is Session Law 2011-374 and it contains demand and supply management ideology.⁴⁵ As for supply management, it calls for the promotion of water supply reservoirs and other water supply resources based on the recommendations of the 2008 Water Report.⁴⁶ It outlines the needed requirements, including economic feasibility,

³⁹ 2011 N.C. Sess. Laws 1168.

⁴⁰ 2011 N.C. Sess. Laws 1519-25. Though receiving a unanimous passage, this session law may be the most politically divisive. WATER ALLOCATION STUDY TEAM, *supra* note 25. Relying heavily on recommendations from the 2008 water report, it requires DENR to provide outreach on many of the recommendations from the 2008 Water Report, like water audits, efficient supply plans, using better landscaping practices, and pricing. *Id.* at 33–49.

⁴¹ 2011 N.C. Sess. Laws 1168.

⁴² *Id.*

⁴³ 2011 N.C. Sess. Laws 1169.

⁴⁴ 2011 N.C. Sess. Laws 1168.

⁴⁵ 2011 N.C. Sess. Laws 1519.

⁴⁶ *Id.*

impact on endangered species, downstream flows, water standards, and maximizing use of reclaimed wastewater and stormwater.⁴⁷ It allows for funds from the Clean Water Management Trust to be used to preserve lands for the development of reservoirs.⁴⁸

Demand Side

Session Laws 2011-48, 2011-374, and 2011-394 emphasize using types of recycled water (reclaimed⁴⁹ and gray⁵⁰), installing proper equipment for irrigation performed in public projects,⁵¹ and encourage water use efficiency for those projects.⁵² These all affect amount of water used, lowering water demand.⁵³

Session Law 2011-48 allows reclaimed water to be added to the uses regulated for irrigation of ornamental crops by field nurseries without a permit under law.⁵⁴ It also exempts artificial lakes or ponds that are used for storage and irrigation of reclaimed water as part of a conjunctive use reclaimed water system from setback requirements and design criteria.⁵⁵

The other part of Session Law 2011-374 addresses conservation issues in demand management⁵⁶ terms in Section 3.⁵⁷ It includes to plan for reduction of long-term per capita demand of potable water in local water supply plans,⁵⁸ and a requirement of consumer education about residential water conservation in order to obtain water infrastructure funds from the state.⁵⁹ It also requires the Department of Environment and Natural Resources (“DENR”) to provide

⁴⁷ 2011 N.C. Sess. Laws 1520 (codified as amended at N.C. GEN. STAT.143-355.7(a)).

⁴⁸ 2011 N.C. Sess. Laws 1522 (codified as amended at N.C. GEN. STAT. 113A-253).

⁴⁹ 2011 N.C. Sess. Laws 62-63; 2011 N.C. Sess. Laws 1520 (codified as amended at N.C. GEN. STAT.143-355.7(a)(2)).

⁵⁰ 2011 N.C. Sess. Laws 1635 (codified as amended at N.C. GEN. STAT. 143-355.5).

⁵¹ 2011 N.C. Sess. Laws 1629 (codified as amended at N.C. GEN. STAT. 143-135.37 (c1)).

⁵² *Id.*

⁵³ *See generally* Brodahl, *supra* note 1, at 337(for background information on demand management).

⁵⁴ 2011 N.C. Sess. Laws 62-63.

⁵⁵ 2011 N.C. Sess. Laws 63.

⁵⁶ *See generally* Brodahl, *supra* note 1, at 337(for background information on demand management).

⁵⁷ 2011 N.C. Sess. Laws 1524-25.

⁵⁸ 2011 N.C. Sess. Laws 1524 (codified as amended at N.C. GEN. STAT.143-355(1)).

⁵⁹ 2011 N.C. Sess. Laws 1524-25 (codified as amended at N.C. GEN. STAT.143-355.4(b)).

statewide outreach and technical assistance to help improve water efficiency.⁶⁰ This includes development of best management practices.⁶¹ These best practices include: “(1) Integrating water efficiency and conservation into water supply plans, (2) conducting regular water audits to identify revenue and nonrevenue water and water losses, (3) adopting water loss abatement programs, (4) metering and submetering of existing multiunit residential, commercial, and industrial complexes, (5) retrofitting fixtures, equipment, and irrigation systems to make them more water efficient, (6) landscaping in a manner that conserves water use and is regionally appropriate, (7) employing water reuse practices that include harvesting rainwater and using grey water, and (8) pricing water to achieve comprehensive conservation and adopting full-cost accounting in line with the recommendation approved by the State Water Infrastructure Commission in November 2010.”⁶² All of the recommendations in this paragraph fall under Section 3, and Section 3.5 states: “Nothing in Sections 3.1 through 3.4 of this act shall be construed to authorize the adoption of rules to implement those sections. Nothing in Sections 3.1 through 3.4 of this act shall be construed or implemented in a way so as to negatively impact economic development.”⁶³ Thus the legislation expressly provides that the recommendations are simply recommendations and do not provide additional power to any agency to require such or put in place those recommendations.⁶⁴ Additionally, any of the recommendations of the legislation may be prevented if those efforts are construed to negatively impact economic development.⁶⁵

⁶⁰ 2011 N.C. Sess. Laws 1525.

⁶¹ *Id.*

⁶² *Id.*

⁶³ 2011 N.C. Sess. Laws 1525.

⁶⁴ 2011 N.C. Sess. Laws 1525.

⁶⁵ *See id.*

N.C. Session Law 2011-394 encompasses many environmental issues.⁶⁶ It has twenty-three provisions in its description, of which two are related to water scarcity issues. One provision requires weather-based irrigation controllers to be installed for public major facility construction and renovation projects.⁶⁷ The other promotes the use of gray water, which is defined as water that is discharged as waste from bathtubs, showers, wash basins, and clothes washers.⁶⁸ It does not include water from toilets or sinks.⁶⁹

IV. Conclusion

Besides the easing of requirements for interbasin transfers in the CCPCUA,⁷⁰ there is no new law affecting water scarcity in the State on a large scale; even reservoir development is only considered promotional.⁷¹ Also, none of the new laws require water use restrictions to decrease demand, require new adjustments to pricing, or consider expanding the marketing of water. In terms of supply and demand approaches, the last two years of Session Laws in North Carolina took only a few steps towards addressing water scarcity. Change, however, is not always about *requirement*. If entities reach out to DENR for guidance,⁷² take recommendations on pricing from the Environmental Finance Center,⁷³ or heed the advice of the Water Report,⁷⁴ scarcity can be addressed.

⁶⁶ 2011 N.C. Sess. Laws 1621-41.

⁶⁷ 2011 N.C. Sess. Laws 1635 (codified as amended at N.C. GEN. STAT. 143-135.37 (c1)).

⁶⁸ 2011 N.C. Sess. Laws 1634-35 (codified as amended at N.C. GEN. STAT. 143-350 (3a)).

⁶⁹ *Id.* Other relevant session laws do not fall directly into either demand or supply ideology but directly relate to the revenue of water facilities. Session Law 2011-109 and Session Law 2012-55 allow for delinquent stormwater fees to be collected like property taxes. 2011 N.C. Sess. Laws 203 (codified as amended at 2005 N.C. Sess. Laws 441, sec. 4); 2012 N.C. Sess. Laws 72-73 (codified as amended at N.C. GEN. STAT.153A-277(a1), N.C. GEN. STAT.153A-277(c), and 2005 N.C. Sess. Laws 1767).

⁷⁰ 2011 N.C. Sess. Laws 1168-69.

⁷¹ 2011 N.C. Sess. Laws 1519-25.

⁷² See 2011 N.C. Session Law 1525.

⁷³ See Eskaf, *supra* note 21.

⁷⁴ WATER ALLOCATION STUDY TEAM, *supra* note 25.