

**American Bar Association  
Section of Environment, Energy, and Resources**

**Water Issues in the Deep South**

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**2008 Eastern Water Resources Conference  
Charlotte, NC  
May 1-2, 2008**

**I. Introduction**

Traditionally, there has been plentiful water in the Deep South region of the United States.<sup>1</sup> Although there have always been a variety of water uses in this region – municipal, agricultural, and industrial – conflicts historically tended to be of a small scale and between neighboring water users.<sup>2</sup> Accordingly, the law of water rights and uses developed under the traditional eastern United States common-law theories of reasonable use and riparian rights for surface water, and absolute ownership (or some modification thereof) for groundwater.<sup>3</sup> Until recently, regulation by the state was minimal, and most conflicts were settled in court, typically after a water use or interference with a use already had occurred.<sup>4</sup>

More recently, however, the Deep South – and more specifically Georgia and Alabama – has begun to experience stresses on its water supply via increasing population growth and drought. Between 1960 and 2000, the population of southern United States nearly doubled, increasing from 55 million people to slightly over 100 million.<sup>5</sup> During that same period, Georgia's population increased from 3.9 million to 8.2 million, and Alabama's population

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<sup>1</sup> See, e.g., Shaila Dewan & Brenda Goodman, *New to Being Dry, the South Struggles to Adapt*, N.Y. TIMES, Oct. 23, 2007, available at <http://www.nytimes.com/2007/10/23/us/23drought.html> (last visited Apr. 3, 2008); Wilson G. Barmeyer, Note, *The Problem of Reallocation in a Regulated Riparian System: Examining the Law in Georgia*, 40 GA. L. REV. 207, 210 (2005).

<sup>2</sup> See, e.g., *Price v. High Shoals Mfg. Co.*, 132 Ga. 246 (1909) (concerning conflict between neighbors over upstream construction of reservoir on shared surface water); *St. Amand v. Lehman*, 120 Ga. 253 (1904) (concerning conflict over digging of wells on adjacent property affecting shared underground stream).

<sup>3</sup> See Part II.A. – B., *infra*.

<sup>4</sup> See, e.g., *City of Atlanta v. Hudgins*, 193 Ga. 618 (1942) (concerning drainage of petitioner's wells allegedly by city's installation of sewers); *Sloss-Sheffield Steel & Iron Co. v. Wilkes*, 231 Ala. 511, 518, 165 So. 764, 770 (1936) (concerning drainage of plaintiff's groundwater allegedly due to neighboring defendant's mining activity).

<sup>5</sup> FRANK HOBBS & NICOLE STOOPS, U.S. CENSUS BUREAU, DEMOGRAPHIC TRENDS IN THE 20TH CENTURY A-1, Tbl. 1 (2002), available at <http://www.census.gov/prod/2002pubs/censr-4.pdf> (last visited Apr. 3, 2008).

increased from 3.3 million to 4.5 million.<sup>6</sup> Projected into 2030, Georgia and Alabama are expected to gain 4.5 million new residents.<sup>7</sup> Concurrent with this population growth, water use has also increased. Between 1990 and 2000, for example, Georgia's water use increased by 30 percent.<sup>8</sup>

Increasingly severe and more frequent droughts have been another recent stress on the Deep South's water supply. In the late 1990s and early 2000s, Georgia and Alabama experienced a severe drought that had profound effects on the Flint River Basin, ultimately resulting in a moratorium on water withdrawal permits in southwest Georgia.<sup>9</sup> Most recently, beginning in the summer of 2006, Georgia and Alabama have been in the midst of "the worst drought on record in the Southeast."<sup>10</sup> The drought has had widespread effects on the water supplies of both states, and it only recently has been downgraded from "exceptional" – the highest ranking the U.S. Drought Monitor assigns to a drought – to "extreme."<sup>11</sup>

In addition to – and, indeed, because of – these pressures, Georgia and Alabama also have faced large-scale interstate and intrastate conflicts over water allocation. In terms of interstate conflicts, an ongoing tri-state "water war" has existed since 1990 between Georgia, Alabama, and Florida over water allocation in the Apalachicola-Chattahoochee-Flint River Basin, and between Georgia and Alabama over water allocation in the Alabama-Coosa-Tallapoosa Basin.<sup>12</sup> The "war" has taken place via court cases, federally assisted negotiations, and strong rhetoric; and it most recently has heated up due to failed negotiations between the three states and the rejection of a settlement by the U.S. Court of Appeals for the District of Columbia Circuit.<sup>13</sup> Additionally, in what that has been seen as both troubling and "almost a joke," the Georgia legislature has made a variety of recent attempts – including challenges to the border between Georgia and Tennessee – to gain water rights in the Tennessee River.<sup>14</sup>

Intrastate, both Georgia and Alabama face their own problems of shortage and conflicting demand. Georgia has attempted to handle such intrastate problems via limits on permitting in

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<sup>6</sup> *Id.*

<sup>7</sup> U.S. Census Bureau, State Interim Population Projections by Age and Sex: 2004 – 2030, Tbl. 6, <http://www.census.gov/population/projections/PressTab6.xls> (last visited Apr. 4, 2008).

<sup>8</sup> Dewan & Goodman, *supra* note 1.

<sup>9</sup> Barmeyer, *supra* note 1, at 209; ENVTL. PROT. DIV., GEORGIA DEP'T NATURAL RES., GEORGIA'S ENVIRONMENT 8-9 (2003), *available at* [http://www.gaepd.org/Files\\_PDF/gaenviron/annualreport/gaenv02\\_03.pdf](http://www.gaepd.org/Files_PDF/gaenviron/annualreport/gaenv02_03.pdf) (last visited Apr. 3, 2008).

<sup>10</sup> Dewan & Goodman, *supra* note 1.

<sup>11</sup> *Id.*; Harris Blackwood, *Georgia moves from exceptional to extreme drought*, GAINESVILLE TIMES (Georgia), Mar. 26, 2008, *available at* <http://www.gainesvilletimes.com/news/article/4444/> (last visited Apr. 3, 2008); *see also* U.S. Drought Monitor, <http://www.drought.unl.edu/DM/monitor.html> (last visited Apr. 3, 2008).

<sup>12</sup> *See* C. Hansell Watt IV, Comment, *Who Gets the Hooch?: Georgia, Florida, and Alabama Battle for Water From the Apalachicola-Chattahoochee-Flint River Basin*, 55 MERCER L. REV. 1453, 1460 (2004).

<sup>13</sup> Ben Evans, *Tri-state water war to heat up with feds*, ATLANTA J.-CONST., Mar. 9, 2008, *available at* [http://www.ajc.com/metro/content/metro/stories/2008/03/08/apdrought\\_0309.html](http://www.ajc.com/metro/content/metro/stories/2008/03/08/apdrought_0309.html) (last visited Apr. 3, 2008); *Southeastern Fed. Power Customers, Inc. v. Geren*, 514 F.3d 1316 (D.C. Cir. 2008) (reversing district court's approval of settlement between power utility and Georgia water supply providers.); Harris Blackwood, *Federal court tosses out Lanier water agreement*, Gainesville Times (Georgia), Feb. 5, 2008, *available at* <http://www.gainesvilletimes.com/news/archive/3202/> (last visited Apr. 4, 2008).

<sup>14</sup> Dave Flessner et al., *High hurdles with latest water bid*, CHATTANOOGA TIMES FREE PRESS, Mar. 28, 2008, *available at* <http://www.timesfreepress.com/news/2008/mar/28/high-hurdles-latest-water-bid/> (last visited Apr. 3, 2008).

certain areas of the state,<sup>15</sup> limited statutory restrictions on interbasin transfers,<sup>16</sup> and recent moves toward comprehensive water planning.<sup>17</sup> Alabama has handled its intrastate problems very limitedly, with some recent action in the state legislature to prevent interbasin transfers from the counties on the Tennessee River.<sup>18</sup>

Overall, Georgia and Alabama are not terribly well equipped to handle such stresses, physical or political, interstate or intrastate. Although both states have enacted some version of a regulated riparian framework – Georgia in 1972 and 1977, and Alabama in 1993 – gaps in regulation and permitting of water use still remain. At the same time, another school of thought has come about in both states, proposing to institute western-style water markets that would allow the transfer and sale of water use permits.<sup>19</sup> The water market proposals necessarily would involve removing some state control and management of the water resources and giving it over to market forces and quasi-private ownership.<sup>20</sup>

In 2003, the Georgia General Assembly considered legislation altering Georgia's regulated riparian system to allow for such water markets.<sup>21</sup> Due to large-scale opposition on a number of fronts – including overburdening the state's waters, abdication of the government's authority to manage the waters, and philosophical and moral concerns – the bill died on the last day of the legislative session.<sup>22</sup> Five years later, support for such markets continues to exist in both Georgia and Alabama.<sup>23</sup>

Accordingly, it is now more important than ever to state that the answers to Georgia's and Alabama's water supply problems do not lie in the implementation of water markets. Indeed, markets will serve only to worsen these water problems by failing to meet – or, in some cases, confounding – the central goals of water management: accommodating multiple uses and users, long-term planning for and response to shortages, and protecting the public interest.

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<sup>15</sup> See Flint River Drought Protection Act, §§ 12-5-540 – 12-5-550 (2007); ENVTL. PROT. DIV., *supra* note 9, at 8-9; Barmeyer, *supra* note 1, at 209.

<sup>16</sup> See GA. CODE ANN. §§ 12-5-31(n) (2007).

<sup>17</sup> See GEORGIA WATER COUNCIL, GEORGIA COMPREHENSIVE STATE-WIDE WATER MANAGEMENT PLAN (2008) (publication of water plan as approved by Georgia Water Council), *available at* [http://www.georgiawatercouncil.org/Files\\_PDF/water\\_plan\\_20080109.pdf](http://www.georgiawatercouncil.org/Files_PDF/water_plan_20080109.pdf) (last visited Apr. 4, 2008); *see also* Barmeyer, *supra* note 1, at 217-18.

<sup>18</sup> See, e.g., H.B. 709, 2005 Reg. Sess. (Ala. 2005) (prohibiting the transfer of water from the Tennessee River Basin within Marshall County under certain conditions), *available at* <http://www.legislature.state.al.us/searchableinstruments/2005RS/Bills/HB709.htm> (last visited Apr. 4, 2008). The legislation, which applied solely to Marshall County, passed in 2005; “nearly identical bills” passed for Jackson, Madison, Morgan, Lawrence, Limestone, Colbert, and Lauderdale in the following years, thereby banning interbasin transfers “in all 8 counties that the Tennessee [River] flows through in Alabama.” Life on the Water Magazine, News on the Water, <http://lifeonthewatermagazine.com/dnn/home/NewsOntheWater/tabid/709/Default.aspx> (last visited Apr. 4, 2008).

<sup>19</sup> See Barmeyer, *supra* note 1, at 209-11, 229; JOSEPH W. DELLAPENNA, WATER MARKETS AND MISINFORMATION: AN ANALYSIS OF A GEORGIA PUBLIC POLICY FOUNDATION PAPER, “WATER PERMIT TRANSFERS: BRIDGING THE MISINFORMATION GAP” 1-2 (2004) [hereinafter DELLAPENNA, WATER MARKETS].

<sup>20</sup> See Barmeyer, *supra* note 1, at 230-32.

<sup>21</sup> *Id.* at 229.

<sup>22</sup> *Id.* at 209, 229.

<sup>23</sup> See, e.g., DELLAPENNA, WATER MARKETS, *supra* note 19, at 1-2 (discussing Georgia Public Policy Foundation's continuing advocacy for water markets).

Rather, the best way to address Georgia's and Alabama's water supply problems is to continue with the current regulated riparian regime, but with the addition of certain essential elements such as more comprehensive permitting, increased information-gathering, improved response to shortages, and guaranteeing conservation and protection of public interest values. It is only under such an improved regulated riparian regime that Georgia and Alabama finally can begin effective management of water use and supply in their rivers and aquifers.

## II. Traditional and Current Law in Georgia and Alabama.

In managing both surface and groundwater, Georgia and Alabama are both "regulated riparian" states. Both states began with traditional applications of common-law theories of surface and groundwater rights of water use, which were later legislatively modified to include more regulation and management by the state governments. While both states may be classified as using forms of regulated riparian systems, it should be noted that Georgia – with its actual permitting of surface and groundwater withdrawals over 100,000 gallons per day – is much further down the spectrum toward regulation than Alabama, which has the barest of permitting regimes.

### A. Georgia

#### 1. Surface Water and Groundwater Laws

As a state with a "regulated riparian" system of water rights, Georgia's body of water law began with the common-law application of the "reasonable use" theory of riparian rights for surface water, which was later legislatively modified to the current system. Traditionally, Georgia's courts approached surface water – and some limited groundwater – rights under a "standard reasonable use riparian theory."<sup>24</sup> In one of the seminal cases on the topic, *Price v. High Shoals*, the Georgia Supreme Court laid out the "reasonable use" theory as meaning that "[e]very riparian owner is entitled to a reasonable use of the water," and is "also entitled to have the stream pass over his land according to the natural flow, subject to such disturbances, interruptions, and diminutions as may be necessary and unavoidable on account of the reasonable and proper use of it by other riparian proprietors."<sup>25</sup> A riparian owner's right to the waters of the stream is a "common right," entitling each riparian owner "to a reasonable use of the water with respect to the rights of the others."<sup>26</sup>

Under this reasonable use theory, the primary question – which traditionally is left to the jury "with little or no instruction from the court" – is whether a particular water use is "reasonable relative to a competing user."<sup>27</sup> The *Price* Court explained:

What is a reasonable use is a question for the jury in view of all the facts in the case, taking into consideration the nature and use of the machinery, the quantity of water used in its operation, the use to which the stream can be applied, the

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<sup>24</sup> Joseph W. Dellapenna, *The Law of Water Allocation in the Southeastern States at the Opening of the Twenty-First Century*, 25 U. ARK. LITTLE ROCK L. REV. 9, 65 (2002) [hereinafter Dellapenna, *Water Allocation*].

<sup>25</sup> 132 Ga. 248-49 (1909).

<sup>26</sup> *Id.* at 249.

<sup>27</sup> Dellapenna, *Water Allocation*, *supra* note 24, at 65.

velocity of its current, the character and size of the watercourse, and the varying circumstances of each case.<sup>28</sup>

Aside from this reasonableness test and the consideration that non-riparian uses of water – that is, use by those who do not own riparian land – are per se unreasonable, Georgia courts traditionally have not imposed any other restrictions on the use of surface water.<sup>29</sup>

Georgia law and courts have treated the issue of groundwater rights differently than surface water rights. This distinction is codified in sections of the Georgia code dealing with trespass law, which state that, while a riparian owner “is entitled to have the water in such streams come to his land in its natural and usual flow, subject only to such detention or diminution as may be caused by a reasonable use of it by other riparian proprietors,” such is not the case for underground streams, which “are so difficult of ascertainment that trespass may not be brought for any supposed interference with the rights of a proprietor.”<sup>30</sup> Accordingly, the Georgia code and courts originally treated surface water under the reasonable use theory and ground water under what has traditionally been called the “absolute ownership” or “absolute dominion” rule.

In its first case in a line of jurisprudence establishing the current understanding of groundwater law in Georgia, the Georgia Supreme Court made a further distinction, separating groundwater into two categories: percolating groundwater, “which without any distinct channel percolates in veins, oozes and filters,” and groundwater that runs in well-defined subterranean streams.<sup>31</sup> The Court held percolating groundwater subject to the absolute ownership rule, while subterranean streams fell under the theory of reasonable use.<sup>32</sup>

Under the “absolute ownership” rule, a property owner, under whose property percolating groundwater resided, could use any and all of the groundwater, even if the groundwater percolated to the land of another and even if the property owner’s use of the water interfered with the use of another property owner.<sup>33</sup> As the Georgia Supreme Court explained, “the owner has the same exclusive proprietorship in the water which seeps through his soil and collects in the substrata, as in that water which falls from the clouds upon the roof of his house and is collected into a cistern, until the percolating water becomes a part of a well-defined stream.”<sup>34</sup> The main exception to this absolute ownership rule was, if the property owner acted “in malice by wasting or diverting water, the plaintiffs are...entitled to equitable relief” for trespass.<sup>35</sup>

On the other hand, Georgia courts applied the reasonable use theory where a plaintiff could meet the strict burden of showing that the groundwater “is a stream of water flowing in a marked or well-defined channel in contradistinction to subsurface percolating water.”<sup>36</sup>

In 1972, the Georgia legislature enacted the Ground-water Use Act, under which it made the state’s groundwater resources subject to a framework of permitting and regulation

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<sup>28</sup> *Price*, 132 Ga. at 249.

<sup>29</sup> Dellapenna, *Water Allocation*, *supra* note 24, at 65.

<sup>30</sup> GA. CODE ANN. §§ 51-9-7, 51-9-8 (2007).

<sup>31</sup> *See Saddle v. Lee*, 66 Ga. 45, 48-49 (1880).

<sup>32</sup> *Id.*

<sup>33</sup> *Id.* at 48.

<sup>34</sup> *Stoner v. Patton*, 132 Ga. 178, 180 (1909).

<sup>35</sup> *St. Amand v. Lehman*, 120 Ga. 253, 256 (1904).

<sup>36</sup> *Stoner*, 132 Ga. at 180; *see also City of Atlanta v. Hudgins*, 193 Ga. 618 (1942) (rejecting petitioner’s claim because she failed to prove wells were fed by an underground stream).

administered by the state.<sup>37</sup> Under the permitting requirement of the act, any person withdrawing, obtaining, or utilizing more than 100,000 gallons per day of groundwater must obtain a permit from the Environmental Protection Division (“EPD”).<sup>38</sup> Furthermore, any person applying for a permit or a permit modification seeking an increase in water usage must also submit with the application a water conservation plan.<sup>39</sup> A permit need not be obtained if it can be shown that the water will not be used consumptively.<sup>40</sup>

In EPD’s decision whether to issue a permit, “reasonable use” of the water is still a consideration, but that determination is now made by EPD rather than the courts, based on certain considerations codified in the Ground-water Use Act. These include: the nature and size of the aquifer in question; “the physical and chemical nature of any impairment of the aquifer” affecting its fitness for use; any injury to public health, safety, or welfare which would result from the impairment; the businesses or activities to which the water uses are related; any injury or detriment expected to be caused to other water uses; and any reduction in flows in other watercourses or aquifers.<sup>41</sup> Furthermore, the act specifically notes that EPD may deny any permit where it is found that the application or effect of the use is contrary to the public interest.<sup>42</sup>

Except for permits issued for farm uses – which are exempt from such requirements, as will be discussed *infra* – any permit issued will be of a term of ten to fifty years; must not be transferred without approval of EPD; and must comply with reporting requirements.<sup>43</sup> With respect to all permits, EPD has the power to grant a permit with conditions, to modify or revoke any permit, and to require the installation of water meters where the permittee is not submitting accurate reporting information.<sup>44</sup> Furthermore, EPD has the power, without prior notice or hearing, to issue emergency orders placing conditions on all permits.<sup>45</sup> EPD may issue such orders where it finds that “an emergency exists requiring immediate action to protect the public health or welfare.”<sup>46</sup> With the exception of farm users, who need not comply with the order during their appeal of any emergency order, all permittees must comply with any such emergency orders immediately.<sup>47</sup> During such emergencies, EPD must “give first priority to providing water for human consumption and second priority to farm use.”<sup>48</sup>

Five years later, in 1977, Georgia amended its water quality statute to institute a very similar permitting and regulation framework for surface water.<sup>49</sup> Under the legislation, any user withdrawing or diverting more than 100,000 gallons of surface water per day must obtain a permit from EPD.<sup>50</sup> As with the groundwater permitting, surface water permitting involves a reasonable use determination by EPD, which evaluates certain codified considerations, such as “unreasonably adverse effects upon other water uses in the area,” the importance of the use, and

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<sup>37</sup> GA. CODE ANN. §§ 12-5-90 – 12-5-107 (2007).

<sup>38</sup> GA. CODE ANN. § 12-5-96(a)(1).

<sup>39</sup> GA. CODE ANN. § 12-5-96(a)(2).

<sup>40</sup> GA. CODE ANN. § 12-5-96(a)(3).

<sup>41</sup> GA. CODE ANN. § 12-5-96(d).

<sup>42</sup> GA. CODE ANN. § 12-5-96(c)(4).

<sup>43</sup> GA. CODE ANN. § 12-5-97(a), (c), (d) (2007).

<sup>44</sup> GA. CODE ANN. §§ 12-5-96(1), 12-5-96(3), 12-5-97(e).

<sup>45</sup> GA. CODE ANN. § 12-5-102(a) (2007).

<sup>46</sup> *Id.*

<sup>47</sup> GA. CODE ANN. § 12-5-102(a), (b).

<sup>48</sup> GA. CODE ANN. § 12-5-102(c).

<sup>49</sup> GA. CODE ANN. § 12-5-31 (2007).

<sup>50</sup> Dellapenna, *Water Allocation*, *supra* note 24, at 68-69; Barmeyer, *supra* note 1, at 215; GA. CODE ANN. § 12-5-31(a)(1).

the use's injury to public health, safety, or welfare.<sup>51</sup> The act also requires EPD to give preference to existing uses over new applications.<sup>52</sup>

Additionally, the act makes certain provisions for permits which would allow interbasin transfers of surface water.<sup>53</sup> With respect to such transfers, EPD must give "due consideration" to competing uses and existing uses that would *not* involve such interbasin transfers; and, pursuant to its power in granting permits, EPD must "endeavor to allocate a reasonable supply of surface waters to such [non-interbasin] users and applicants."<sup>54</sup> Furthermore, if EPD does issue a permit allowing an interbasin transfer, it must issue press releases to newspapers in areas affected by such transfer.<sup>55</sup>

As with groundwater permitting, EPD has certain powers to revoke, modify, and suspend surface-water permits.<sup>56</sup> These powers include revocation for false statements, violation of permit conditions, or violation of the act; revocation for nonuse of the water supply (though this power does not apply to farm use permits); suspension or modification if the water quantity permitted is greater than the water quantity needed (also not applicable to farm use permits); revocation of farm use permits if EPD discovers that the quantity of water permitted would prevent reasonable use by other farm use permittees; and revocation "for any other good cause consistent with the health and safety of the citizens of [Georgia]."<sup>57</sup>

EPD's emergency powers for surface water permitting are essentially identical to those for groundwater permitting, with the two exceptions. First, the standard for issuing such an order is where a shortage exists "so as to place in jeopardy the health or safety of the citizens of such area or to threaten serious harm to the water resources."<sup>58</sup> Second, before issuing such an order, EPD must make effort to give written notice of the proposed action to all permittees affected.<sup>59</sup> During such emergency orders, EPD must give first priority to providing water for human consumption and second priority to farm use.<sup>60</sup>

## 2. Shortcomings

The two major gaps to Georgia's permitting scheme are that (a) uses less than 100,000 gallons per day need not obtain permits, and (b) farm uses enjoy a "near complete exemption" from EPD's regulatory oversight of the permit system.<sup>61</sup> The latter is a more major weakness in the permitting system, given that farm uses account for "the vast majority of total withdrawal permits," the largest consumptive use of water in the state, and the largest use of groundwater in

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<sup>51</sup> GA. CODE ANN. § 12-5-31(e), (g).

<sup>52</sup> GA. CODE ANN. § 12-5-31(f).

<sup>53</sup> GA. CODE ANN. § 12-5-31(n).

<sup>54</sup> GA. CODE ANN. § 12-5-31(n)(1).

<sup>55</sup> GA. CODE ANN. § 12-5-31(n)(2).

<sup>56</sup> GA. CODE ANN. § 12-5-31(k).

<sup>57</sup> GA. CODE ANN. § 12-5-31(k)(1)-(4), (6), (7), (8).

<sup>58</sup> GA. CODE ANN. § 12-5-31(l)(1) (2007).

<sup>59</sup> *Id.*

<sup>60</sup> GA. CODE ANN. §§ 12-5-31(l)(3).

<sup>61</sup> Dellapenna, *Water Allocation*, *supra* note 24, at 72; Barmeyer, *supra* note 1, at 216.

the state.<sup>62</sup> As of 2001, there are 21,400 irrigation permits in Georgia, each accounting for at least 100,000 gallons of water use per day..<sup>63</sup>

Under the exemption, farm use permits are for an unlimited term; may not be revoked or suspended for nonuse; may not be modified to reduce the amount of water use permitted; and may be transferred automatically with the title to the land on which the water is used.<sup>64</sup> Furthermore, for surface water permits, the quantity of water allotted under farm use permits is based on the historic operating capacity of the withdrawal system – as of July 1, 1988 – rather than any amount determined by reasonable use.<sup>65</sup> On the other hand, recent legislation now requires that water meters be installed and monitored – by the State Soil and Water Conservation Commission – for all new farm uses, and that all existing farm uses have such meters by July 1, 2009.<sup>66</sup>

## **B. Alabama**

### **1. Surface Water and Groundwater Laws**

Like Georgia, Alabama’s courts traditionally have approached surface waters under the “reasonable use” theory.<sup>67</sup> However, unlike Georgia, Alabama courts have approached groundwater law with a disjunctive mixture of the “absolute ownership” theory, reasonable use, and nuisance law.<sup>68</sup>

A further twist to the Alabama Supreme Court’s mixed theory of groundwater law is that the court often has claimed to apply one theory while actually using another.<sup>69</sup> For example, in *Adams v. Lang*, the Alabama Supreme Court claimed to have formally adopted the reasonable use theory for groundwater.<sup>70</sup> However, the court actually applied the reasonable use theory in name only, finding that, since the water in question was applied for a beneficial use on the land (as

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<sup>62</sup> Barmeyer, *supra* note 1, at 216-17; Georgia Water Science Ctr., U.S. Geological Survey, Water Use in Georgia, 2000; and Trends, 1950–2000, <http://ga.water.usgs.gov/projects/projectwateruse.html> (last visited Apr. 3, 2008).

<sup>63</sup> See DELLAPENNA, WATER MARKETS, *supra* note 19, at 3.

<sup>64</sup> Dellapenna, *Water Allocation*, *supra* note 24, at 72; Barmeyer, *supra* note 1, at 216; GA. CODE ANN. §§ 12-5-31(a)(3), (h), (k)(4), (k)(6), 12-5-97(a), (c).

<sup>65</sup> GA. CODE ANN. § 12-5-31 (a)(3).

<sup>66</sup> GA. CODE ANN. §§ 12-5-31 (m.1), 12-5-105(b.1).

<sup>67</sup> Dellapenna, *Water Allocation*, *supra* note 24, at 47; North Alabama C.I. & Ry. Co. v. Jones, 156 Ala. 360, 366-67, 47 So. 144, 146 (1908) (“The law is well settled...that every riparian proprietor has an equal right to have the stream flow through his lands in its natural state, without material diminution in quantity or alteration in quality. But this rule is qualified by the limitation...that each of said proprietors are entitled to a reasonable use of the water for domestic, agricultural, and manufacturing purposes.”); Ulbricht v. Eufaula Water Co., 86 Ala. 587, 590, 6 So. 78, 79 (1888) (“There is no principle of law better recognized, than that every riparian owner of lands, through which streams of water flow, has a right to the reasonable use of the running water, which is a private right of property.”);

<sup>68</sup> See, e.g., Williams v. Gibson, 84 Ala. 228, 234-35, 4 So. 350, 354 (1887) (applying reasonable use to actions of mine owner); Sloss-Sheffield Steel & Iron Co. v. Wilkes, 231 Ala. 511, 518, 165 So. 764, 770 (1936) (allowing for draining of groundwater, no matter the effects on neighboring property owners, so long as there is a “reasonable need to do so” and waters are not “willfully or negligently wasted”); Henderson v. Wade Sand & Gravel Co., 388 So. 2d 900, 903 (Ala. 1980) (overruling *Sloss* and applying nuisance law in cases where “plaintiff’s use of groundwater ... is interfered with by defendant’s diversion of that water.”).

<sup>69</sup> Dellapenna, *Water Allocation*, *supra* note 24, at 48.

<sup>70</sup> 553 So. 2d 89, 91 (Ala. 1989).

opposed to a use incidental to the land), the use was per se reasonable, and the user was not liable.<sup>71</sup> Notably, the court did not perform any balancing of uses as traditionally required under the reasonable use theory, thereby making the actual theory applied by the court more akin to the absolute ownership rule.<sup>72</sup> Indeed, the only balancing the court proposed to undertake was in cases where the use was only incidental to the land, in which the Court returned to the theory set out by *Sloss*, applying a nuisance law test to the water use.<sup>73</sup>

In one of its most recent cases on the topic, the Alabama Supreme Court left its nominal reasonable use theory largely in place, but added the corollary that the withdrawal of water for use on land not overlying the aquifer is unreasonable per se.<sup>74</sup> The court maintained the *Adams* rule that beneficial use on the overlying land is essentially reasonable per se.<sup>75</sup>

In 1993, Alabama took the step toward state regulation of water withdrawals with the enactment of the Alabama Water Resources Act (“AWRA”).<sup>76</sup> As noted *supra*, the regulation scheme under AWRA is much less stringent than Georgia’s permitting system, imposing little more than administrative requirements on water users. Indeed, AWRA expressly states that it is not intended to “change or modify existing common or statutory law with respect to the rights of existing or future riparian owners concerning the use of the waters of the state.”<sup>77</sup> The three major components of AWRA are the establishment of the Office of Water Resources (“Office”) and the Water Resources Commission (“Commission”); the requirement of the submission of a Declaration of Beneficial Use; and the ability of the Office to establish “capacity stress areas.”<sup>78</sup>

Under the terms of AWRA, the Office’s functions and powers include “develop[ing] long-term strategic plans for the use of the waters of the state;” adopting and promulgating (through the Commission) rules, regulations, and standards; developing policy for the state regarding the waters of the state; “implement[ing] quantitative water resource programs and projects for the coordination, conservation, development, management, use, and understanding of the waters of the state;” reviewing Declarations of Beneficial Use; and bringing civil actions against those who fail to submit or make false statements within Declarations of Beneficial Use.<sup>79</sup> However, the Office’s powers are limited by the proviso that “[n]o person’s beneficial use of the quantitative waters of the state shall be restricted by the Office of Water Resources or the Water Resources Commission” except in the case of capacity stress areas.<sup>80</sup>

Alabama’s means of “permitting” water use in the state is via the requirement that any public water system; any person diverting, withdrawing, or consuming more than 100,000 gallons of water per day; or any person with the capacity to use 100,000 gallons per day or more for irrigation submit a Declaration of Beneficial Use (“Declaration”).<sup>81</sup> The Declaration must contain certain information with regard to each withdrawal facility, including:

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<sup>71</sup> *Id.* at 92.

<sup>72</sup> *Id.*; Dellapenna, *Water Allocation*, *supra* note 24, at 48.

<sup>73</sup> Dellapenna, *Water Allocation*, *supra* note 24, at 48; *Adams*, 553 So. 2d at 91-92.

<sup>74</sup> *Martin v. City of Linden*, 667 So. 2d 732, 734 (Ala. 1995); Dellapenna, *Water Allocation*, *supra* note 24, at 48.

<sup>75</sup> *Martin*, 667 So. 2d at 738.

<sup>76</sup> ALA. CODE § 9-10B-1 - -30 (2007).

<sup>77</sup> ALA. CODE § 9-10B-27 (2007).

<sup>78</sup> ALA. CODE §§ 9-10B-2(5) (establishing governmental bodies), 9-10B-20(a), (b) (requiring Declaration of Beneficial Use), 9-10B-6, 9-10B-22 (setting out Office’s powers with regard to capacity stress areas).

<sup>79</sup> ALA. CODE §§ 9-10B-5, -20.

<sup>80</sup> ALA. CODE § 9-10B-2(6).

<sup>81</sup> ALA. CODE § 9-10B-20(a), (b), (d).

- (a) water source;
- (b) primary uses of the water;
- (c) geographic location of the points of diversion and points of return of water;
- (d) estimated or actual quantity of water, in gallons, diverted and estimated or actual quantity of water, in gallons, to be returned;
- (e) estimated maximum potential quantity of water, in gallons, which could be diverted and estimated potential quantity of water, in gallons, which would be returned;
- (f) method or means of measuring, estimating, or controlling the water diverted.
- (g) statement regarding the navigability of the water source; and
- (h) basis of legal right to use the water to be diverted.<sup>82</sup>

Additionally, the Declaration must certify that the water diversion is “consistent with the objectives of the Act,” which the regulations define as meaning that the use of water is:

1. a lawful, reasonable and beneficial use of water;
2. consistent with the public interest;
3. does not interfere with any legal use of water existing at the time of the application; and
4. complies with the provisions of the Act and these Rules.<sup>83</sup>

Upon receiving a Declaration, the Office “shall issue a certificate of use” to the applicant in question.<sup>84</sup> That is, the Office has no discretion *not* to issue the Certificate unless the Office finds that the water use interferes with “any presently known legal use.”<sup>85</sup> The Certificate will note the estimated amount of water used on an average daily basis; the estimated maximum amount of water that the Certificate holder potentially could withdraw or divert on a single day; the duration of the Certificate; and the frequency with which the Certificate holder must report water use.<sup>86</sup> Additionally, the Certificate specifically must state: “THIS CERTIFICATE OF USE SHALL NOT CONFER OR MODIFY ANY PERMANENT INTERESTS OR RIGHTS IN THE HOLDER THEREOF TO THE CONTINUED USE OF THE WATERS OF THE STATE OF ALABAMA.”<sup>87</sup>

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<sup>82</sup> ALA. ADMIN. CODE r. 305-7-10-.02(1) (2007).

<sup>83</sup> ALA. ADMIN. CODE r. 305-7-10-.02(2)(b).

<sup>84</sup> ALA. CODE § 9-10B-20(e); ALA. ADMIN. CODE 305-7-10-.05 (2007).

<sup>85</sup> ALA. CODE § 9-10B-20(e); Dellapenna, *Water Allocation*, *supra* note 27, at 50.

<sup>86</sup> ALA. ADMIN. CODE r. 305-7-11-.01 (2007).

<sup>87</sup> *Id.*

The Certificate lasts a minimum of five years and a maximum of ten.<sup>88</sup> During the term of the Certificate, AWRA requires that the Certificate holder submit annual reports to the Office, “indicating the amount of water, in gallons, diverted, withdrawn, or consumed on a monthly basis by such person and such other information required under regulations promulgated by the commission.”<sup>89</sup> If the Office notices discrepancies between the Certificate and an annual report, the Office may order a modification to the Declaration.<sup>90</sup>

The third major component of AWRA is that the Office may conduct a “critical use study” to determine whether certain areas should be designated as “capacity stress areas.”<sup>91</sup> Upon the designation of such an area, the Water Resources Commission immediately will “initiate rule-making procedures to consider appropriate conditions or limitations applicable to all certificates of use within such area.”<sup>92</sup> To date, no such capacity stress area exists or has existed in Alabama.

## 2. Shortcomings

Overall, though Alabama technically manages water rights in a regulated riparian regime, it does so only in the barest sense of the term. As noted *supra*, AWRA expressly notes at the outset that it is not intended to “change or modify existing common or statutory law with respect to the rights of existing or future riparian owners concerning the use of the waters of the state.”<sup>93</sup> Furthermore, the only instance in which the Office may restrict any person’s “beneficial use of the quantitative waters of the state” is where a capacity stress area has been designated – an action which has yet to occur in AWRA’s fifteen-year history. As one commentator notably has remarked, “the statute is a very incomplete form of a regulated riparian statute that places very few restrictions on common law rights and leaves far more questions unresolved than resolved.”<sup>94</sup>

Accordingly, in evaluating the effectiveness Alabama’s regulated riparian regime, it is easier to say what Alabama has than what it needs. What Alabama has is a scant certification requirement with no balancing of reasonable use, an annual reporting requirement, and the yet-to-be-used ability of the Office to establish capacity stress areas. Thus, in the discussion *infra*, of what elements Georgia and Alabama must add to perfect their water use management programs, the general assumption should be that Alabama will have to take more steps than Georgia in order to add such elements.

### III. Analyzing Systems of Water Management for Georgia and Alabama

State systems of water management generally address three broad goals: (1) the ability to accommodate diverse uses and users; (2) long-term planning and response to water shortages; and (3) protection of public interest values, such as adequate drinking water or ecological functions. With respect to all of these goals, a regulated riparianism approach does a far better job than a market-based system.

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<sup>88</sup> ALA. ADMIN. CODE r. 305-7-11-.02 (2007).

<sup>89</sup> ALA. CODE § 9-10B-20(f).

<sup>90</sup> ALA. ADMIN. CODE r. 305-7-10-.03(2) (2007).

<sup>91</sup> ALA. CODE § 9-10B-21 (2007).

<sup>92</sup> ALA. CODE § 9-10B-22 (2007).

<sup>93</sup> ALA. CODE § 9-10B-27 (2007).

<sup>94</sup> Dellapenna, *Water Allocation*, *supra* note 27, at 52.

## A. Accommodating Diverse Uses and Users

As to the first goal, the ability to accommodate diverse uses and users, regulated riparianism is a fitting system. The regulated riparian approach is built on the principle of reasonable use. That is, in issuing permits, the regulated riparian system approaches water uses on a case-by-case basis, weighing the use against multiple other uses of the water in question and performing a reasonable use balancing test. In Georgia, for example, EPD considers a variety of factors, including unreasonably adverse effects upon other water uses in the area; the importance of the use; and the use's injury to public health, safety, or welfare.<sup>95</sup> Even in Alabama, which possesses a minimal regulated riparian regime, a Declaration of Beneficial Use must make a showing that the use in question is:

1. a lawful, reasonable and beneficial use of water;
2. consistent with the public interest;
3. does not interfere with any legal use of water existing at the time of the application; and
4. complies with the provisions of the Act and these Rules.<sup>96</sup>

Relatedly, the consideration of “public interest” in Alabama and Georgia law ostensibly allows the water management agencies to consider non-human uses of water (ecological, in-stream flow, etc.) alongside typical human uses in their reasonable use analyses.

As a further matter, the accommodation of multiple and diverse uses and users inevitably will run into uncertainties, externalities, and outright unknowns, and the water management system in question will need to address those less-than-certain factors in some way. A case-by-case permitting system employing the reasonable use analysis is also a good approach for taking such factors into account, particularly if the system also has mechanisms for continual information gathering and the ability to modify the conditions of permits based on new information. In this way, by granting a permit based on what is known and projected, continually gathering information, and modifying the permit depending on the development of information, such a regulated riparian permitting system is able to account for less-than-certain factors.

Under a market-based system of water management, there is no guarantee that multiple uses will be properly accommodated, even in times of shortage. Market-based systems do not make judgments based on other uses, reasonable use, or any similar calculations. Rather, unless the state has a heavy hand in the market, water-use decisions are made on the basis of first-come-first-served and money.<sup>97</sup> Basically, whoever is able to pay the highest price for the water in question will get it, and other uses, no matter how important or vital to the public interest, must play by these same rules, which apply in times of plenty and times of shortage.<sup>98</sup> To take this point to the logical extreme, it is not unthinkable that a market system will foster the transfer of large amounts of water usage to the wealthiest users in Alabama and Georgia – Alabama Power and Georgia Power – without any thought to the needs of other users in the states.

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<sup>95</sup> GA. CODE ANN. § 12-5-31(e), (g) (2007).

<sup>96</sup> ALA. ADMIN. CODE r. 305-7-10-.02(2)(b) (2007).

<sup>97</sup> Barmeyer, *supra* note 1, at 210, 225-27.

<sup>98</sup> *Id.* at 228.

With respect to the less-than-certain factors in water management, market-based systems generally do not do a good job of assessing those factors to which financial valuations are difficult to assign.<sup>99</sup> And unlike regulated riparian regimes, there is no permit modification in a market-based system. Accordingly, once a permit has been transferred, even if under assumptions based on bad information or unknown factors, the permit will remain in the hands of the transferee.

Accordingly, in accommodating multiple uses and users, the regulated riparian system is much more suitable than a market-based system. While the market-based system may be attractive in its simplicity, it is the wrong system for accommodating the multiple uses and users of a limited public resource.

## **B. Long-Term Planning for and Response to Water Shortages**

In light of past and recent water shortages in Georgia and Alabama, it is vital that any system for managing water uses in the states be able to perform effective long-term planning for and adequate response to any such shortages in the future. Again, regulated riparian management of water is far better equipped than a market-based system for such planning and response.

As a basic matter, planning and rapid response are much easier under a regulated riparian regime given that water is held as a public resources managed by the state.<sup>100</sup> From this starting point, regulatory mechanisms and abilities can be put in place to allow the state regulatory agencies to perform the tasks necessary for both long-term planning and emergency response.<sup>101</sup> Such tasks include gathering necessary water resource information, reviewing and modifying permits, and limiting water consumption in times of shortage. While neither Georgia nor Alabama has all the right mechanisms or abilities to perform these tasks adequately, both states are in a good position to add such tools to their existing regimes.

Markets, on the other hand, are ill-equipped to make decisions for long-term planning and response to shortages. Once a market-based system is introduced, the inevitable first step is the transfer of water rights away from full public management and into private hands.<sup>102</sup> At that point, the resource is decentralized, making cohesive management difficult, with water managed, if at all, for financial gain rather than societal benefits.<sup>103</sup> In a market-based system, water also becomes subject to a “Tragedy of the Commons”-type situation where private users will be encouraged to withdraw and consume as much as they can, especially in times of shortage when water use should be limited. Furthermore, markets are often subject to vague financial forces, which can be difficult to predict, and which certainly will not always link up with the most prudent decisions for planning and response based on the natural system.

Markets also lack any mechanism for centralized information gathering. This may pose a problem particularly for Georgia, given the issue of unquantified water rights and “sleeper

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<sup>99</sup> See DELLAPENNA, WATER MARKETS, *supra* note 19, at 12-13; see also Part IV.A.3., *infra*.

<sup>100</sup> See Joseph W. Dellapenna, *Practical Challenges in Water Withdrawal Permit Transfers: A Rejoinder*, STATE BAR OF GEORGIA ENVTL. L. SECTION, Spring 2006, at 6 [hereinafter Dellapenna, *Practical Challenges*].

<sup>101</sup> *Id.* (discussing the ability to plan for the long term as “[o]ne of the major purposes of regulated riparian statutes,” and the broad discretion of administering agencies to plan for and deal with extreme shortages).

<sup>102</sup> See DELLAPENNA, WATER MARKETS, *supra* note 19, at 14.

<sup>103</sup> See Barmeyer, *supra* note 1, at 226-28.

permits.”<sup>104</sup> In Georgia, all farm permits issued prior to July 1, 1991, have had their permitted amounts set at the pump capacity as of July 1, 1988, rather than any reasonable use calculation.<sup>105</sup> As noted *supra*, the current regime is slowly introducing metering requirements to gather more information as to the amount of water actually used by these agricultural permittees.<sup>106</sup> While such metering eventually will give the state a better idea of the actual demand placed on the state’s water supply, in order that the state may plan accordingly, this is precisely the sort of information that a market-based system would exploit. That is, markets would introduce monetary incentives for the agricultural holders of these “sleeper permits” to sell their unused capacity, thereby resulting in potentially dramatic increases on water withdrawal, diversion, and consumption without the actual issuance of more permits.<sup>107</sup> As a side note, the potential for “sleeper permits” also exists in the current Georgia framework, though on a smaller scale: since farm use permittees may transfer their permits via land sales, there remains the possibility that the buyer of the land will use more water under the permit (which, as noted *supra* is based on pump capacity rather than actual use) than the seller previously used.<sup>108</sup>.]

In this way, markets not only will not adequately plan for or respond to future water shortages, but they most likely will do much to thwart – whether intentionally or not – such planning and response efforts on the part of the state.

### C. Protecting the Public Interest

Regulated riparianism is far more adept at taking public-interest factors of water management into consideration. As a foundational matter, regulated riparianism is based on the public ownership of waters of the state, thereby making consideration of the public interest a natural requirement of the system.<sup>109</sup> For example, under Georgia’s reasonable use analysis, EPD must consider factors relevant to the public interest such as: the necessity of the various other uses on the water source in question; any physical or chemical impairment the permitted use will have on the water source; any injury to public health, safety, or welfare resulting from such impairment; any injury or detriment caused or expected to be caused to other water uses; and any reduction in flows in other watercourses.<sup>110</sup>

Furthermore, both Georgia and Alabama recognize that certain uses, even if not of the highest financial value, are particularly important to the public interest, and elevate such uses accordingly.<sup>111</sup>

Two central features of regulated riparian systems are vital to achieving this level of protection of the public interest. First, regulated riparian systems operate on the basis that the

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<sup>104</sup> *Id.* at 232-33.

<sup>105</sup> *Id.*

<sup>106</sup> See GA. CODE ANN. §§ 12-5-31(m.1), 12-5-105(b.1) (2007).

<sup>107</sup> Barmeyer, *supra* note 1, at 232-33; DELLAPENNA, WATER MARKETS, *supra* note 19, at 15.

<sup>108</sup> See GA. CODE ANN. § 12-5-31(a)(3) (allowing for transfer of permit with transfer of land).

<sup>109</sup> Dellapenna, *Practical Challenges*, *supra* note 100, at 3, 6.

<sup>110</sup> GA. CODE ANN. § 12-5-31(e)(1), (3), (5), (7), (8).

<sup>111</sup> See GA. CODE ANN. §§ 12-5-31(l)(3), 12-5-102(c) (prioritizing in times of emergency, first, water for human consumption and, second, water for farm use); DELLAPENNA, WATER MARKETS, *supra* note 19, at 22 (discussing Georgia’s prioritizations in emergency); Ala. Code § 9-10B-2(2) (recognizing human consumption as “a priority use of the state”); Dellapenna, *Water Allocation*, *supra* note 27, at 51 (discussing Alabama’s prioritizations).

waters of the state are a public resource managed by the state.<sup>112</sup> By managing water as a public resource, the state is able to implement the second central feature: the requirement that no withdrawal occur, with certain exceptions – examples of which were described in Georgia and Alabama *supra* – without first obtaining a permit from the state.<sup>113</sup> It is by operating such a permitting system that the state is able to exact certain protections and requirements for the waters – for example, that permitted uses are contingent upon the interests of other entitled persons and consistent with public interest values, such as minimum instream flow.<sup>114</sup>

Markets, on the other hand, are necessarily structured on a certain degree of private ownership of water rights, and accordingly are unable – or unwilling – to provide such protections of the public interest. On this basis, one of the core benefits of markets is their efficiency, as markets are “flexible, voluntary, and free from politics.”<sup>115</sup> However, in operating with such transactional efficiency, markets often result in externalities and negative consequences with respect to the public interest.<sup>116</sup>

An “efficient” transfer for transacting parties may result in negative impacts for downstream users, whose input is not taken into account and whose detriments are not factored into the transfer price.<sup>117</sup> Simply, unchecked market-based “efficiency” increases the benefits to the transacting parties at the expense of other users and the public.<sup>118</sup> The main way to head off such negative consequences would be for the state to impose proper limitations protecting other users and the public interest. These limitations, however, necessarily “detract from the efficient benefits that a market purports to bring to the system.”<sup>119</sup>

Another reason that markets do a poor job of protecting the public interest is that markets do not – and likely cannot – do a good job of valuing anything other than the financial benefits of the water resources in question.<sup>120</sup> But the “value” of a scarce public resource such as water is clearly much broader than the monetary benefits it will bring to the transacting parties. While the transacting parties’ financial valuation can take account of such benefits as agricultural uses, industrial uses, and municipal uses, other important benefits – environmental, ecological, and aesthetic benefits, for example – are much less tangible and are accordingly difficult to value.<sup>121</sup>

A counterpoint that has been raised by market proponents in Georgia is that the market system would equally allow those who value public interest benefits such as instream flows, for example, to buy the necessary water supply from other users.<sup>122</sup> However, as one commentator notes, the proposition that public-interest environmental groups would be able to generate the level of funds necessary to outbid large water users such as industry, agriculture, and power companies is simply laughable.<sup>123</sup> As a further matter, the proponents’ scheme also raises the simple question: why should public interest groups even have to raise such funds? That is, why

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<sup>112</sup> See JOSEPH W. DELLAPENNA & STEPHEN E. DRAPER, WATER ISSUES WHITE PAPER: PROPERTY IN WATER IN GEORGIA 1 (2002); Dellapenna, *Practical Challenges*, *supra* note 101, at 3, 6.

<sup>113</sup> Dellapenna, *Practical Challenges*, *supra* note 101, at 6.

<sup>114</sup> *Id.*

<sup>115</sup> Barmeyer, *supra* note 1, at 225-26.

<sup>116</sup> *Id.* at 225.

<sup>117</sup> *Id.* at 227-28.

<sup>118</sup> *Id.* at 228.

<sup>119</sup> *Id.* at 226.

<sup>120</sup> DELLAPENNA, WATER MARKETS, *supra* note 19, at 12-13.

<sup>121</sup> *Id.*

<sup>122</sup> Dellapenna, *Practical Challenges*, *supra* note 101, at 6.

<sup>123</sup> *Id.*

should public interest groups – and the broader public – pay for what they already have and what they already are guaranteed under the current system?

Essentially, without using so many words, the point market proponents are making is that, under a market-based system, not only will there be no guarantees for the protection of the public interest, but, if the public does desire such guarantees, it would have to pay for them on a piece-by-piece basis, one transaction at a time. Another way of looking at the market proponents' scheme is that it is a tangible representation of the externalities that come with it; and the public will pay the cost of these externalities either in diminished protection of the public interest or, simply, in money.

#### **D. What Georgia and Alabama Need to Meet Water Management Goals**

While Georgia's and Alabama's regulated riparian systems are much better equipped than market-based systems to address the goals above, they are far from perfect. In order to manage their water uses and supplies effectively in the future, especially against further droughts, increasing demand, and interstate water conflicts, there are several steps Georgia and Alabama must take to improve their current systems of management.

##### **1. Implement a Comprehensive Permitting Program**

First and foremost, Georgia and Alabama must ensure that their permitting programs are comprehensive. A truly comprehensive program must include periodic review of a permittee's water use, nonuse, and impacts on ecological functions, instream flow, and surrounding users; judicious employment of the power, in appropriate situations, to modify, revoke, and decline renewal of permits; and full application of the system to all users.

In Georgia, the primary step to achieve this goal is to remove the "near complete exemption of farm uses from the regulatory oversight of EPD."<sup>124</sup> As discussed in some detail *supra*, the main exemptions with respect to farm uses is that their permits are for an unlimited term (as opposed to ten to fifty years for all other permits); their permits may not be revoked or suspended for nonuse of water; and, for permits issued prior to July 1, 1991, their permitted quantity of water is based on pump capacity rather than any reasonable use calculation.<sup>125</sup> In order to employ a comprehensive water management system, Georgia must do away with all of these exemptions. Indeed, failing to close this gap effectively abdicates EPD's management responsibility for the vast majority of withdrawal permits and the largest consumptive use of water in the state.<sup>126</sup>

In Alabama, the road to a comprehensive permitting regime is much longer, as Alabama currently has a threadbare water management system. For the time being, Alabama must establish certain foundational requirements of an adequate regulated riparian system. First, Alabama must institute a proper permitting system, complete with a full reasonable use analysis, and giving discretion to the Office to issue a certification to those submitting a complete declaration. Furthermore, Alabama must amend AWRA to allow the Office to limit or modify uses where necessary to prevent unreasonable impacts on surrounding users and the public interest. References within AWRA to the continuing applicability and primacy of the common law are confusing and should be clarified or removed.

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<sup>124</sup> Barmeyer, *supra* note 1, at 216.

<sup>125</sup> See GA. CODE ANN. §§ 12-5-31(a)(3), (h), (k)(4), (k)(6), 12-5-97(a), (c) (2007).

<sup>126</sup> Barmeyer, *supra* note 1, at 216-17.

## 2. Improve Information-Gathering Mechanisms

A second component of an adequate regulated riparian system is the implementation of information-gathering mechanisms. Specifically, the state should keep track of the water a user withdraws, diverts, or consumes versus the amount of water the permit allows. This will allow the state to make accurate long-term decisions both with respect to planning for the future and modifying, revoking, and reallocating permits where necessary. As a further matter, the state should concurrently monitor streams and other waters for background data, thereby allowing the state to adjust its judgments based on stream flows and ecological needs.

In Georgia, one of the primary gaps in information-gathering system is with respect to agricultural uses, though this should be changing in the next few years. As discussed *supra*, recent legislation requires the installation of meters for all new farm uses upon the issuance of a permit, and for all existing farm uses by July 1, 2009.<sup>127</sup> Directly related to agricultural uses is the question of whether a use is consumptive or non-consumptive. While metering is a positive development, the gathering of more detailed information with respect to water consumption and the development of scientific techniques to do so will allow the state to get a better measurement of the impact of different water uses on downstream users and the environment.<sup>128</sup> One final area for improvement for Georgia's information-gathering mechanisms is with respect to those users that consume less than 100,000 gallons of water per day. Even if Georgia chooses not to require permitting for such users, information with respect to the cumulative impact of such uses is vital to long-term planning for the future.

The situation in Alabama is less clear. AWRA does require that all users possessing certificates of beneficial use submit annual water use reports detailing the estimated amount of water withdrawn, diverted, or consumed in gallons, tabulated for average daily use per month.<sup>129</sup> Other than for those using less than 100,000 gallons of water per day (and who are thus not required to submit a Declaration of Beneficial Use), there do not appear to be any exemptions to this requirement. Neither the regulations nor the statute provide any elaboration as to what the Office is to do or actually does with this information in terms of long-term planning or otherwise. As noted *supra*, the information cannot be used to modify permits, given AWRA's prohibition that "[n]o person's beneficial use of the quantitative waters of the state shall be restricted by the Office."<sup>130</sup> Presumably, the information may play a role in the Office's designation of a capacity stress area, but, as noted *supra*, the Office has yet to designate such an area.

## 3. Improve Mechanisms for Managing Crises

Another important component of an adequate water management system is the state's ability to respond to water crises. Given the recent history of droughts, water conflicts, and increasing demands, this component will be of great importance for the future of water management in Georgia and Alabama.

Georgia's mechanism for managing crises appears to be more or less adequate.<sup>131</sup> EPD has emergency modification powers, under which it may issue an emergency order for shortages

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<sup>127</sup> GA. CODE ANN. §§ 12-5-31 (m.1), 12-5-105(b.1) (2007).

<sup>128</sup> Barmeyer, *supra* note 1, at 213.

<sup>129</sup> ALA. ADMIN. CODE r. 305-7-12-.02 (2007).

<sup>130</sup> ALA. CODE § 9-10B-2(6).

<sup>131</sup> Dellapenna, *Water Allocation*, *supra* note 27, at 71.

of surface water or groundwater. For surface water, EPD may issue such an order where shortages “place in jeopardy the health or safety of the citizens of such area or...threaten serious harm to the water resources.”<sup>132</sup> For groundwater, the relevant standard for an emergency order is in a “situation requiring immediate action to protect the public health or welfare.”<sup>133</sup> No use is exempt from such orders, although for surface water emergency orders, the EPD director may not issue an order until five days following the date of mailing the relevant notice.<sup>134</sup> If a farm user appeals the order, the user need not comply with the order during the appeal process.<sup>135</sup> During such emergencies, the statutes provide that EPD “give first priority to providing water for human consumption and second priority to farm use.”<sup>136</sup>

In Alabama, AWRA provides the Office with the ability to handle crises via the designation of “capacity stress areas,” which may be designated where existing or foreseeable uses of the waters of the state in such area exceed or will exceed the availability of such waters.<sup>137</sup> As noted *supra*, the Office has yet to designate a single such area since AWRA’s enactment in 1993.<sup>138</sup> Once a capacity stress area has been designated, the Water Resources Commission (“Commission”) has a great deal of latitude in “the implementation of a use restriction alternative,” although it may only do so through rulemaking procedures, rather than via orders, as in Georgia.<sup>139</sup> Furthermore, any limitations designated by the Commission “shall be confined to matters necessary for the protection of the beneficial use of the waters of the state,” rather than, for example, the protection of in-stream flow or environmental values.<sup>140</sup> Like Georgia’s statutes, AWRA declares that human consumption of water is a priority of the state, and that no limitation shall be placed on such consumption except in times of emergency.<sup>141</sup> Unlike Georgia, however, AWRA does not contain any preference for agricultural uses.<sup>142</sup>

#### 4. Guaranteed Conservation Measures and Protection of Public Interest Values

Finally, a good water management system should attempt to guarantee certain conservation measures for its waters – particularly instream flow. Georgia’s current statutory regime does a better job than Alabama’s in this regard. As noted *supra*, Georgia’s reasonable use analysis takes into consideration a variety of factors, including physical or chemical impairment the permitted use will have on the water source and any reduction in flows in other watercourses.<sup>143</sup> Furthermore, EPD may issue an emergency order for surface water where a shortage “threaten[s] serious harm to the water resources.”<sup>144</sup>

Alabama law, on the other hand, seems almost hostile to the protection of values other than human welfare and beneficial uses. While the Declaration of Beneficial Use must

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<sup>132</sup> GA. CODE ANN. § 12-5-31(1)(1).

<sup>133</sup> GA. CODE ANN. § 12-5-102 (2007).

<sup>134</sup> GA. CODE ANN. § 12-5-31(1)(1).

<sup>135</sup> GA. CODE ANN. § 12-5-31(1)(2).

<sup>136</sup> GA. CODE ANN. §§ 12-5-31(1)(3), 12-5-102(c).

<sup>137</sup> ALA. CODE §§ 9-10B-2(2), -21 (2007).

<sup>138</sup> ALA. CODE § 9-10B-2(2); Dellapenna, *Water Allocation*, *supra* note 27, at 51.

<sup>139</sup> ALA. CODE § 9-10B-22(a) (2007).

<sup>140</sup> *Id.*; ALA. CODE §§ 9-10B-3(3) (2007) (defining “beneficial use” as “[t]he diversion, withdrawal, or consumption of the waters of the state in such quantity as is necessary for economic and efficient utilization consistent with the interests of this state.”).

<sup>141</sup> ALA. CODE § 9-10B-2(2).

<sup>142</sup> Dellapenna, *Water Allocation*, *supra* note 27, at 51.

<sup>143</sup> GA. CODE ANN. § 12-5-31(e)(1), (8).

<sup>144</sup> GA. CODE ANN. § 12-5-31(1)(1).

demonstrate that the use will be consistent with the public interest, it is difficult to say how this requirement squares with AWRA's requirement that "[n]o person's beneficial use of the quantitative waters of the state shall be restricted by the Office except via the designation of a capacity stress area."<sup>145</sup> As noted *supra*, the designation of capacity stress areas hinges solely on the question of availability of water for uses.<sup>146</sup> And furthermore, any limitations imposed by the Commission in such areas must pertain only to "matters necessary for the protection of the beneficial use of the waters of the state."<sup>147</sup> Accordingly, in the application of conservation measures, Alabama has much room for improvement.

#### **IV. Conclusion**

Over the past decade, Georgia and Alabama have faced a variety of physical and political pressures affecting water use and supply in the region. From the perspective of 2008, it is unlikely that such pressures will subside any time soon. Accordingly, Georgia and Alabama must begin working now to address current and inevitable future challenges with respect to water use and supply. The solution to these challenges, however, is not the implementation of water markets in Georgia and Alabama. Such markets not only will fail to manage limited water supplies for increasing uses, but they likely will serve to exacerbate the problems.

The proper answer to Georgia's and Alabama's challenges with respect to water use and supply is to continue with the states' current regulated riparian regimes, with added elements that will improve and strengthen water management. Although the states are likely to face significant pressure in maintaining and strengthening their regimes of regulated riparianism, it is only under such improved regulated riparian regimes that Georgia and Alabama will be able to achieve effective management of water use and supply for the future of their citizens and waters.

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<sup>145</sup> ALA. ADMIN. CODE r. 305-7-10-.02(2)(b) (2007); ALA. CODE § 9-10B-2(6).

<sup>146</sup> ALA. CODE § 9-10B-21 (2007).

<sup>147</sup> ALA. CODE § 9-10B-22(a).