GEORGIA WATER LAW: HOW TO GO FORWARD NOW?

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INTRODUCTION

We live in a world in which demand for fresh water is growing exponentially, while the overall supply of water is constant or declining. The truth of this statement was brought home forcefully to Georgia in its recent drought.[1] Potentially, climate change may even decrease the reliable supply of water available to meet demand.[2] Legal regimes are already stressed from the struggle to respond to the increasing and changing demands for water in a time of growing water scarcity.[3] In Georgia, these stresses, exacerbated by the disputes with neighboring states over transboundary water sources, resulted in a failed attempt to introduce certain reforms into the law whereby Georgia allocates water to particular users.[4]

The reform effort failed because of opposition to a proposal to introduce markets as a major water management tool for Georgia.[5] The failure, of course, did not eliminate pressure on the water resources of Georgia—or the pressure for the introduction of "tradable water permits."[6] This ongoing dispute leaves Georgians to ponder where they should go with water law from here. This question poses several questions: What is the current water law in Georgia? Would markets be such a bad thing? And if not markets, how else can Georgia move its water law forward? This paper briefly addresses these questions.

WATER LAW IN GEORGIA TODAY

Georgia has a rather elaborate system of law applicable to the allocation of water to particular uses today. The question is whether that system is up to meeting the needs of a state in which the demand for water at least approaches the available supply, and too often outstrips it. Careful analysis shows that changes are necessary, but there is considerable disagreement about what those changes should be.

Riparian Rights in Georgia

For surface waters, Georgia formally follows what Justice Harold Hill, jr., described as "a version of the natural flow theory of riparian rights doctrine as modified

[1] *See* Will Anderson, *Waking up—to Water: Residents Forced to Adapt to Routine in Response to the Relentless Drought Crippling the North Georgia Area*, ATLANTA CONST., June 15, 2000, at B1; Alan Judd, *Metro Water Restrictions: Crying a River Won't Lift Limits; Atlanta Area Needs Lots of Rain—and Time—to Make up Deficit of Two-Year Dry Spell*, ATLANTA J. & CONST., June 3, 2000, at E1; Charles Seabrook, *How Low? Georgia Rivers Flow at a Trickle as Drought Digs in for Summer: The Impact Could Be Dire*, ATLANTA J. & CONST., June 11, 2000, at F1. *See generally* Ashutosh Limaye *et al.*, *Macroscale Hydrologic Modeling for Regional Climate Assessment Studies in the Southeastern United States*, 37 J. AM. WATER RESOURCES ASS'N 709 (2001).

[2] Heejung Chang, Barry M. Evans, & Daniel R. Easterling, *The Effects of Climate Change on Stream Flow and Nutrient Loading*, 37 J. AM. WATER RESOURCES ASS'N 973 (2001); Limaye *et al.*, *supra* note 1; Harry F. Lins & Eugene Z. Stakhiv, *Managing the Nation's Water in a Changing Climate?*, 34 J. AM. WATER RESOURCES ASS'N 1255 (1998); Eugene Z. Stakhiv, *Policy Implications of Climate Change Impacts on Water Resources Management*, 1 WATER POL'Y 159 (1998).

[3] Joseph W. Dellapenna, *Adapting the Law of Water Management to Global Climate Change and Other Hydropolitical Stresses*, 35 J. AM. WATER RESOURCES ASS'N 1301 (1999).

[4] *See* FINAL REPORT OF JOINT COMPREHENSIVE WATER PLAN STUDY COMMITTEE (Aug. 29, 2002), *available at* www.cviog.uga.edu/water/finalreport/pdf; Jay Bookman, *Capitol Watch: Water Plan Dies a Fitting Death*, ATLANTA J.-CONST., Apr. 21, 2003, at A15; Stacy Shelton, *Legislature 2003: House Shoots Down Water Permit Sales*, ATLANTA J.-CONST., Apr. 26, 2003, G5.

[5] Jim Butler, *Let's Shut off "Waterbaggers": Sale of Water Permits Would Hurt Georgia*, ATLANTA J.-CONST., Aug. 15, 2003, at A19; Editorial, *Senate Wise to Maintain Water as Public Resource*, ATLANTA J.-CONST., Apr. 21, 2003, at A14.

[6] *See generally See* Georgia Public Policy Foundation, *Water Permit Transfers: Bridging the Misinformation Gap* (Dec. 19, 2003), available for ordering online at www.gppf.org. *But see* Joseph W. Dellapenna *Water Markets and Misinformation* (Georgia Conserv. Votes Educ. Fund Mar. 29, 2004) ["Dellapenna, *Misinformation*"]; Bryan Brasher, *Cities Reject Water Permit Trading*, COLUMBUS (GA) LEDGER-ENQUIRER, Jan. 23, 2004, *available at* 2004 WL 57206572 (reporting that more than 100 cities and counties in Georgia have adopted a resolution against markets for water).

by a reasonable use provision."[7] This self-contradictory description derives from two Georgia statutes that together adopt the reasonable use theory while also embracing the natural flow theory.[8] In fact, as in all states committed to riparian rights, Georgia courts apply the reasonable use theory rather than the natural flow theory whenever they must choose.[9] In doing so, Georgia courts generally follow a standard reasonable-use riparian theory.

Only those who own riparian land have the right to use water.[10] Such owners individually decide when, where, and how to use water, limited only by the requirement that the use must be reasonable relative to other users.[11] Georgia leaves the decision of what is "reasonable" under riparian rights to a jury with little or no instructions from the court.[12] Municipalities are treated just like private riparians—*i.e.*, a sale of water to users within the city who are not themselves riparian is considered to be a non-riparian use that is *per se* unreasonable if a riparian owner challenges the municipality's sales.[13] The reasonable use theory is also applied to disputes about the pollution of surface waters.[14] Georgia courts ignore temporal priorities in deciding the reasonableness of water usage.

Both dimensions of riparian rights in Georgia are illustrated by the leading case of *Pyle v. Gilbert.*[15] *Pyle* involved a dispute between the owners of a 140 year-old gristmill and five irrigating farmers, with one farmer having begun to divert water barely three years before the suit began. The Georgia Supreme Court posed the question as a choice "between the past and the present."[16] While the court ordered a new trial to determine whether the irrigation was unreasonable relative to plaintiff's uses,[17] the court not only saw nothing in the plaintiff's temporal priority worth commenting on, it even held that a statute barring the diversion of water did not apply to irrigation[18] and overruled a case in which the court had held non-riparian uses to be *per se* unreasonable.[19] Both rules would have resulted in an easy victory for the plaintiffs.

Barely two years later, Georgia's Supreme Court reaffirmed the irrelevancy of temporal priority in *Stewart v. Bridges.*[20] *Stewart* involved a dispute between a farmer drawing irrigation water from a lake and a group of homeowners using the lake for personal recreation. In both *Pyle* and *Stewart*, the Court refused to adopt a rule protecting some judicially prescribed minimum level for the stream or lake and remanded the cases for a full trial on whether one use was "more reasonable" than the others.[21] The Court found it inappropriate to grant a summary judgment based on suppositions about the economic utility of irrigation versus a mill or recreation.[22] Justice Hill, by then Presiding Justice, also wrote the opinion in *Stewart.* While the *Stewart* opinion was much shorter and said little about how to balance agriculture against recreation, Hill again emphasized the need to try the issue contextually on

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[7] *Stewart v. Bridges*, 292 S.E.2d 702, 704 (Ga. 1982); *Pyle v. Gilbert*, 265 S.E.2d 584, 587 (Ga. 1980).

[8] OCGA § 44-8-1:

> Running water belongs to the owner of the land on which it runs, but the owner has no right to divert the water from its usual channel nor may he so use or adulterate it as to interfere with the enjoyment by the next owner.

Id., § 51-9-7:

> The owner of the land through which nonnavigable watercourses flow 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. The diverting of the stream in whole or in part from its natural and usual flow, or the obstructing thereof so as to impede its course or cause it to overflow or injure the land through which it flows or any right appurtenant thereto, or the polluting thereof so as to lessen its value to the owner of such land shall constitute a trespass upon the property.

[9] *See generally* James L. Bross, *Georgia*, in 6 WATERS AND WATER RIGHTS 301, 301-04 (Robert E. Beck ed. 1994 replacement vol.).

[10] *Moulton v. Bunting McWilliams Post No. 658*, 102 S.E.2d 593 (Ga. 1958).

[11] Joseph W. Dellapenna, *The Right to Consume Water under "Pure" Riparian Rights*, in 1 WATERS AND WATER RIGHTS §§ 7.02 to 7.03(e) (Robert E. Beck ed. 2001 repl. vol.).

[12] *See, e.g., Stewart v. Bridges*, 292 S.E.2d 702, 703 (Ga. 1982).

[13] *City of Elberton v. Pearle Cotton Mills*, 50 S.E. 977 (Ga. 1905).

[14] *Superior Farm Mgt., LLC v. Montgomery*, 513 S.E. 2d 215 (Ga. 1999) (nuisance); *Cairo Pickle Co. v. Muggridge*, 55 S.E.2d 562 (Ga. 1949) (riparian rights).

[15] 265 S.E.2d 584 (Ga. 1980).

[16] *Id.*, at 585.

[17] *Id.*, at 588.

[18] *Id.*, at 586-87. Justice Hill indicated that the ban on diversion applied only to the diversion of water into another watershed, and not to the withdrawal of water for reasonable use within the watershed of origin.

[19] *Pyle*, 265 S.E.2d at 588-89, overruling *Hendrix v. Roberts*, 165 S.E. 223 (Ga. 1932).

[20] 292 S.E.2d 702 (Ga. 1982).

[21] *Id.*, at 704; *Pyle*, 265 S.E.2d at 587-89. This part of the *Pyle* opinion elicited a single dissent, the only point on which anyone dissented in either case. 265 S.E.2d at 589.

[22] *Pyle*, 265 S.E.2d at 588.

the basis of riparian theory, and not on some *a priori* property theory.[23] The irrelevance of temporal priority under riparian rights in Georgia is also underlined by the coolness of Georgia's courts to claims of prescriptive rights.[24]

In *Pyle*,[25] the Court made a small effort to accommodate markets to riparian rights in Georgia. Apparently a non-riparian buyer in *Pyle* acquired the right to claim a reasonable use of the common pool resource. *Pyle* left unsettled whether the transferred right is measured by the reasonable needs of the grantor (therefore avoiding possible prejudice to the other riparians)[26] or of the grantee (thus treating the grantee as a full, equal riparian).[27] These uncertainties are significant enough to make the purchase of a non-appurtenant riparian right little more than a hunting license that might or might not yield water. Unsurprisingly, water markets did not become a major activity in Georgia.

Riparian rights are a form of common property. In Georgia, as in other states, riparian owners have equal rights to the water from a common source and they are left to their individual judgment to decide whether, when, and how to use the resource. Each owner receives the full benefit of any added use, while the cost of the benefit is spread over all owners. Garrett Hardin explained 37 years ago that when a common property system approaches the carrying capacity of the resource, a "tragedy of the commons" ensues.[28] Acting purely rationally, each co-owner continues to place ever greater demands on the resource even as it is exhausted, if only because other co-owners are doing likewise. Adding demand is the only way to obtain a share of a resource being grabbed by all.[29] The resulting pressures on waters within the boundaries about half of the eastern states have already forced them to abandon or to modify radically the system of riparian rights evolved on the assumption of permanent surpluses. These states have not, however, simply imported appropriative rights to solve these problems. Western states have struggled to find legal devices for introducing flexibility into a system the major effect of which was to freeze uses in place.[30] Rather, eastern states have evolved a new system of law based on treating the water as public property, a system that is coming to be called "regulated riparianism."[31] Georgia has also gone down this road.

Groundwater in Georgia

Early on, Georgia's courts and the legislature indicated that they could not determine the facts relating to ground water and its usage and thus retreated into the proposition that the owner of land held "absolute dominion" of percolating water in the ground even when the pumping of groundwater affected a surface stream.[32] Georgia applies riparian rights in the rare case in which a

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[23] *Stewart*, 292 S.E.2d at 703.

[24] *See Brown v. Tomlinson*, 272 S.E.2d 258 (Ga. 1980) (*laches* prevents the enforcement of prescriptive rights to reservoir); *Kingsley Mill Corp. v. Edmonds*, 67 S.E.2d 111 (Ga. 1951) (the plaintiff failed to plead prescriptive rights adequately).

[25] *Pyle*, 265 S.E.2d at 588-89.

[26] *See, e.g., State v. Apfelbacher*, 167 N.W. 244 (Wis. 1918).

[27] *See* RESTATEMENT (SECOND) OF TORTS §§ 856(2), 857(2) (1977).

[28] Garret Hardin, *The Tragedy of the Commons*, 162 SCIENCE 1243 (1968).

[29] The many actual examples include the exhaustion of fisheries in the high seas, national park access, and even the Federal treasury. *See, e.g.*, FRANCIS T. CHRISTY, JR. & ANTHONY SCOTT, THE COMMON WEALTH IN OCEAN FISHERIES (1965); JOSEPH L. SAX, MOUNTAINS WITHOUT HANDRAILS (1980) (national parks); Rodney D. Fort & John Baden, *The Federal Treasury as a Common Pool Resource and the Development of a Federal Bureaucracy*, in BUREAUCRACY VS. ENVIRONMENT 9 (John Baden & Richard L. Stroup eds. 1981); Ronald D. Fischer & Leonard J. Mirman, *The Compleat Fish Wars: Biological and Dynamic Interactions*, 30 J. ENVT'L ECON. & MGMT. 34 (1996); Patrick A. Nickler, *A Tragedy of the Commons in Coastal Fisheries: Contending Prescriptions for Conservation, and the Case of the Atlantic Bluefin Tuna*, 26 B.C. ENVT'L AFF. L. REV. 549 (1999).

[30] *See, e.g.*, Thomas J. Graff & David Yardas, *Reforming Western Water Policy: Markets and Regulation*, 12 NAT. RESOURCES & ENVT., 165 (1998); Helen M. Ingram, *Lessons Learned and Recommendations for Coping with Future Scarcity*, 39 NAT. RESOURCES J. 179 (1999); Lawrence J. MacDonnell & Teresa A. Rice, *Moving Agricultural Water to the Cities: The Search for Smarter Approaches*, 2 HASTINGS W-NW. J. ENVTL. L. & POL'Y 27 (1994); Janet C. Neuman, *Adaptive Management: How the Water Law Needs to Change*, 31 ENVTL. L. RPTR. 11432 (2001); A. Dan Tarlock & Sarah B. Van de Wetering, *Growth Management and Western Water Law from Urban Oases to Archipelagos*, 5 HASTINGS W-NW. J. ENVTL. L. & POL'Y 163 (1999).

[31] *See* part II(C) of this paper. *See generally* Joseph W. Dellapenna, *Regulated Riparianism* ["Dellapenna, *Regulated Riparianism*"], in 1 WATERS AND WATER RIGHTS ch.9 (Robert E. Beck ed., repl. vol. 2001).

[32] *City of Atlanta v. Hodgins*, 19 S.E.2d 508 (Ga. 1942); *Saddler v. Lee*, 66 Ga. 45 (1879). *See generally* Bross, *supra* note 9, at 304-05; Joseph W. Dellapenna, *The Absolute Dominion Rule* ["Dellapenna, *Absolute Dominion*"], 3 WATERS AND WATER RIGHTS ch. 20 (Robert E. Beck ed. 2003 replacement vol.).

court finds an "underground stream."[33] Georgia courts also limited the theory of absolute dominion when they find the water to have been withdrawn maliciously—for the purpose of hurting another landowner.[34] Georgia courts also find landowners are liable for private nuisance through the pollution of groundwater.[35]

The absolute dominion rule is often interpreted as conferring ownership on the overlying landowner.[36] Actually, based as it was on the lack of relevant knowledge of what was happening beneath the surface, it should be seen as a simple refusal to make a decision between the competing uses.[37] The absolute dominion rule worked well when there was little demand for groundwater and the technology for extracting it remained primitive. As those conditions changed, the absolute dominion rule leads directly into the tragedy of the commons. Today, when a great deal of knowledge has been or could be acquired, the courts should no longer refrain from deciding such disputes. In fact, courts in many states have displaced the absolute dominion rule with the same reasonable use rule as applied to surface waters,[38] or with a variant form known as correlative rights.[39] Instead, consistently with other water rights in Georgia, the courts ought to follow the lead of courts in these other states and base the law of groundwater on the knowledge and understandings of the twenty-first century rather than of the nineteenth century.

[33] *Stoner v. Patten*, 63 S.E. 897 (Ga. 1909). *See also Robertson v. Arnold*, 186 S.E.2d 806 (Ga. 1936) (stopping a spring violates riparian rights).

[34] *St. Armand v. Lehman*, 47 S.E. 949 (Ga. 1904).

[35] *Tri-County Investment Group, Ltd. v. Southern States, Inc.*, 500 S.E.2d 22 (Ga. 1998); *Hoffman v. Atlanta Gas Light Co.*, 426 S.E.2d 387 (Ga. Ct. App. 1992).

[36] *See, e.g., Wiggins v. Brazil Coal Co.*, 452 N.E.2d 958 (Ind. 1983); *Maddocks v. Giles*, 728 A.2d 150, 153-54 (Me. 1999); *Sipriano v. Great Spring Waters of Am., Inc.*, 1 S.W.3d 75 (Tex. 1999).

[37] Dellapenna, *Absolute Dominion*, *supra* note 32, § 20.06.

[38] *See, e.g., Maerz v. United States Steel Corp.*, 323 N.W.2d 524 (Mich. Ct. App. 1982); *Higday v. Nickolaus*, 469 S.W.2d 859 (Mo. Ct. App. 1971); *Cline v. American Aggregates Corp.*, 474 N.E.2d 324 (Ohio 1984); *Wood v. Picillo*, 443 A.2d 1244 (R.I. 1982); *State v. Michels Pipeline Const., Inc.*, 217 N.W.2d 339 (Wis. 1974). *See generally* Joseph W. Dellapenna, *The Reasonable Use Rule*, in 3 WATERS AND WATER RIGHTS ch. 22 (Robert E. Beck ed. 2003 repl. vol.).

[39] *See Katz v. Walkinshaw*, 74 P. 766 (Cal. 1903); *Tehachapi-Cummings Cty. Water Dist. v. Armstrong*, 122 Cal. Rptr. 918 (Cal. Ct. App. 1975); *Prather v. Eisenmann*, 261 N.W.2d 766 (Neb. 1978). *See generally* Joseph W. Dellapenna, *The Correlative Rights Rule Today*, in 3 WATERS AND WATER RIGHTS ch. 21 (Robert E. Beck ed. 2003 repl. vol.).

Other legal problems relating to the management of groundwater in Georgia today is the failure of the law to recognize the interrelationships between groundwater and surface waters. This is a common failing in legal systems around the world.[40] This failing arose because the legal regimes largely crystallize in the nineteenth century with the same ignorance of how groundwater behaved as bedeviled the law of groundwater generally. Today we know better. Yet the continuing failure to recognize these relationships—the failure of the law to think in terms of conjunctive managements of waters—too often prevents proper planning and defeats well-intentioned plans and programs.

Consider, for example, the expensive failure of the *Flint River Protection Act*.[41] Under that statute, millions were paid to farmers in southwest Georgia in exchange for their agreeing not to pump water from the Flint River during the enduring drought. Farms increased their pumping from wells near the river to such an extent that there was no appreciable change in the rate of the shrinking of the river.[42]

The Georgia legislature actually turned to a regulated riparian approach to groundwater even sooner than it adopted such an approach for surface waters.[43] This statute did not solve the problems with Georgia groundwater law any more than Georgia's regulated riparian statute for surface water has resolved the problems with riparian rights. To understand why, it is time to turn to Georgia's take on regulated riparianism.

Regulated Riparianism in Georgia

Riparian rights and the absolute dominion theory, notwithstanding the several limitations propounded by Georgia's courts, has led to the "tragedy of the commons" with the attendant problems to be expected when water becomes scarce relative to demand.[44] Over the past 40 years, the Georgia General Assembly has enacted a broad range of statutes that regulate various aspects of water use in the state. Two of the statutes address directly the allocation of water to particular uses through permits for

[40] *See* Joseph W. Dellapenna, *Quantitative Groundwater Law*, in 3 WATERS AND WATER RIGHTS § 18.03(a) (Robert E. Beck ed. 2003 repl. vol.). *See also* INTERNATIONAL LAW ASS'N, THE BERLIN RULES ON WATER RESOURCES arts. 5, 37, in REPORT OF THE SEVENTY-FIRST CONFERENCE OF THE INTERNATIONAL LAW ASSOCIATION 334 (Berlin 2004).

[41] OCGA § 12-5-540.

[42] *See* Georgia Public Policy Foundation, *supra* note 6, at 3-4.

[43] *See* part II(C) of this paper. *See generally* Dellapenna, *Regulated Riparianism*, *supra* note 31.

[44] See the text *supra* at notes 29-30.

the use of water—the *Ground Water Use Act of 1972*[45] and a 1977 amendment to the *Georgia Water Quality Protection Act of 1964.*[46] These statutes are similar, with the first applying to users of groundwater and the second to users of surface water.

Both statutes are premised on the idea that the general welfare and public interest require the waters of the state be put to beneficial use to the fullest possible, subject to reasonable regulation in order to conserve the waters and to maintain conditions conducive to the development and use of water resources.[47] The core of both statutes is a requirement that users who withdraw or impound more than 100,000 gallons per day from a water source in the state must have a permit from the Environmental Protection Division of the Department of Natural Resources.[48] Applications for permits are to be evaluated according to the same criteria or reasonableness as under common law riparian rights.[49] Existing users are not guaranteed a permit under the *Ground Water Use Act*, although the Division is required to grant a permit for the "reasonable needs" of the water user as of July 1, 1973.[50] For surface waters, the Division is directed to give a preference to an existing use over an initial application to begin a use.[51] There is no comparable provision in the *Ground Water Use Act.*

The duration of permits is to be determined by the Director of the Division, generally within upper and lower limits of 10 to 50 years.[52] The *Ground Water Use Act* also authorizes temporary permits.[53] The Division has extensive planning responsibilities.[54] To support its planning responsibilities, the Division is authorized to require extensive reporting of data and, for surface waters, to maintain a data bank on the usage of in any area of the state.[55] Holders of water use permits are required to report periodically on the amounts withdrawn or used, identifying the particular source of the water, and specifying the nature of the use.[56] The Division is authorized to conduct investigations to verify this data, including a right to enter onto a water users land in order to conduct such investigations.[57]

The Director is authorized to revoke the permit for the use of surface water because of a violation of an applicable law, regulation, or permit, but only for one year.[58] The Director can also revoke, suspend, or modify a permit for the use of surface water "for other good cause consistent with … health and safety … and with this article."[59] For groundwater, the Director is authorized to conciliate with a violator, but if that fails the Director is to order any necessary corrective action.[60] Once such an order has become final (without or without an appeal), Georgia courts are to enforce the order without modifying it.[61] It is not clear whether such an order could include suspending or revoking the permit.

The Director is also authorized to seek an injunction without satisfying the usual requirement of showing the lack of an adequate remedy at law.[62] For groundwater violations, the Director is authorized to impose civil penalties of up to $1,000, with additional penalties of $500/day for continuing violations.[63] For surface water, the authorization for civil penalties is included in the civil penalty provisions for pollution, and thus the limits are much larger—up to $50,000 per day, and to $100,000 per day if a separate violation occurs within one year of the original violation.[64] Violations of the *Ground Water Use Act* also constitute a misdemeanor.[65] Violations regarding surface water permits are felonies potentially subject to harsher penalties.[66]

The two Georgia statutes make no express provision for the market transfer of a water use permit apart from the transfer of the title to the land on which the water is used. The two statutes create a possibility for such a transfer by their provisions authorizing the Division to approve a modification of a permit at the request of a permittee; apart from farm uses, this is limited to situations where a change of circumstances requires more water than has hitherto been used or where the modification will allow for a more efficient use of the water.[67] The provision on modifications thus seems to contemplate a change in the pattern of use,

[45] OGCA §§ 12-5-90 to 12-5-107. *See generally* Bross, *supra* note 9, at 306; Joseph W. Dellapenna, *The Regulated Riparian Approach to Groundwater* ["Dellapenna, *The Regulated Riparian Approach*"], 3 WATERS AND WATER RIGHTS §§ 23.02(c), 23.03(b) to 23.05(d) (Robert E. Beck ed. 2003 repl. vol.).

[46] OCGA § 12-5-31. *See generally* Bross, *supra* note 9, at 306-07.

[47] OCGA §§ 12-5-21(a), 12-5-91.

[48] *Id.*, § 12-5-31(a)(1), 12-5-96(a)(1).

[49] *Id.*, §§ 12-5-31(e), (g), 12-5-96(d), 12-5-97(a).

[50] *Id.*, § 12-5-97(f), (g).

[51] *Id.*, § 12-5-31(f), (j).

[52] *Id.*, §§ 12-5-31(h), 12-5-97(a).

[53] *Id.*, § 12-5-96(c)(2).

[54] *Id.*, §§ 12-5-92(5), 12-5-96(e) 12-5-584.

[55] *Id.*, §§ 12-5-31(m), 12-5-98(d).

[56] *Id.*, §§ 12-5-31(m), 12-5-97(d), (e).

[57] *Id.*, § 12-5-98.

[58] *Id.*, § 12-5-31(k)(3).

[59] *Id.*, § 12-5-31(k)(7).

[60] *Id.*, § 12-5-99.

[61] *Id.*, §§ 12-5-45, 12-5-100.

[62] *Id.*, §§ 12-5-48, 12-5-101.

[63] *Id.*, § 12-5-106.

[64] *Id.*, § 12-5-52.

[65] *Id.*, § 12-5-107.

[66] *Id.*, § 12-5-53.

[67] *Id.*, §§ 12-5-31(i), 12-5-97(a).

but not a change in the type of use. If so, any market for water permits will be extremely circumscribed. For surface water, the Division can revoke a permit because of non-use of the water authorized by the permit for two consecutive years without proper excuse.[68] This provision, however, is more likely to prompt a permit holder to continue to waste water rather than to risk forfeiture. Even this limited possibility of forfeiture does not exist in the *Ground Water Use Act.*

The Georgia statutes authorize emergency orders to deal with water shortages. The standards that justify the issuance of emergency orders are different in the two statutes. For groundwater, the Division can issue such an order in any "situation requiring immediate action to protect the public health or welfare" directing water users to take any action that division deems necessary to meet the emergency.[69] For surface water, the Director can issue such an order when the water shortage is such "as to place in jeopardy the health or safety of the citizens of such area or to threaten serious harm to the water resources of the area."[70] Such an order for surface water cannot be issued except after a certified mailing to give notice to affected permit holders along with five days after notice to contest the order.[71] For groundwater, there is no requirement of notice prior or a hearing except for farm uses.[72] Such an emergency order can restrict any water use permit.[73] Farm uses are given second priority in case of water emergencies—only behind water for direct human consumption.[74]

These complex statutes represent a good beginning towards an adequate regulated riparian system. They establish in law the public nature of water and provide a mechanism for managing water resources consistent with the public trust as well as with promotion of private welfare. Thus far, no one has challenged the constitutionality of the two statutes. Georgia courts rejected challenges to the land-use provisions of the *Metropolitan River Protection Act of 1981*[75] as violating due process or constituting a taking of property.[76] Other courts that have considered constitutional challenges to regulated riparian statutes have all found such challenges to be unfounded.[77]

Several major problems survive, however, under the statutes in their present state. First, the Georgia statutes do not attempt to manage surface and ground waters conjunctively. This problem is ameliorated because the two statutes are so similar, and they are both administered by the same agency. Yet the two statutes separately are not identical, and this precludes fully rationalizing water management in Georgia.

An even more important failing of the two statutes is their near complete exemption of "farm uses" from the operation of the permit system if the farm use was begun before July 1, 1988, and certain procedural steps were taken before July 1, 1991.[78] "Farm uses" are defined as including water used for the growing of any crop (including turf, trees, and ornamental plants), for aquaculture or animal husbandry, and for the processing of perishable agricultural products.[79] The Division is required to issue special permits for such privileged farm uses that cannot be revoked, have no term, and are automatically transferred with title to the land on which the water is used.[80] Permits for farm uses are to be measured by the operating capacity of the withdrawal system.[81] The permits cannot include a reporting requirement, but are subject to investigations by the Division and can be suspended if the Division determines that the use authorized by the permit unreasonably interferes with other users.[82]

Farm uses remain far and away the largest form of use of water in Georgia. The virtual exclusion of farm uses from the scope of the two regulated riparian statutes (which

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[68] *Id.*, § 12-5-31(k)(4).
[69] OCGA § 12-5-102.
[70] *Id.*, § 12-5-31(l)(1).
[71] *Id.*
[72] *Id.*, § 12-5-102(1).
[73] *Id.*, §§ 12-5-31(l)(1); 12-5-102.
[74] *Id.*, §§ 12-5-31(l)(3), 12-5-102(c), 12-5-105(b)(4). With a certain irony, the legislature followed this provision with another provision that stated that "[t]he importance and necessity of water for industrial purposes are in no way modified or diminished by this Code section." *Id.*, §§ 12-5-31(l)(4), 12-5-105(b)(5).
[75] OCGA §§ 12-5-440 to 12-457.
[76] *Threatt v. Fulton Cty.*, 467 S.E.2d 546 (Ga. 1996) (no taking of property). See also the protracted litigation over the proposal to build a tennis court in a riparian buffer zone: *Pope v. City of Atlanta*, 418 F. Supp. 665 (N.D. Ga. 1976) (no denial of due process and no taking under the U.S. Constitution); *Pope v. City of Atlanta*, 240 S.E.2d 241 (Ga. 1977) (finding authority for the act under the state constitution), 249 S.E.2d 16 (Ga. 1978) (rejecting due process and takings challenges), 255 S.E.2d 63 (Ga. 1979) (ordering the grant of a permit on the basis that there was no proof of impact on the river). *See also* Bross, *supra* note 9, at 307.
[77] *State v. Braun*, 378 A.2d 640 (Del. 1977); *Village of Tequesta v. Jupiter Inlet Corp.*, 371 So.2d 663 (Fla.), *cert. denied*, 444 U.S. 965 (1979); *Iowa Natural Res. Council v. Van Zee*, 158 N.W.2d 111 (Iowa 1968); *Crookston Cattle Co. v. Minnesota Dep't of Natural Res.*, 300 N.W.2d 769 (Minn. 1980); *Herschman v. State*, 225 N.W.2d 841 (Minn. 1975); *State v. Kuluvar*, 123 N.W.2d 699 (Minn. 1963); *Omernik v. State*, 218 N.W.2d 734 (Wis. 1974). *See generally* Dellapenna, *Regulated Riparianism*, *supra* note 31, §§ 9.04 to 9.04(c).
[78] OCGA §§ 12-5-31(a)(3), 12-5-105(a).
[79] *Id.*, §§ 12-5-31(b)(3), 12-5-92(5.1).
[80] *Id.*, §§ 12-5-31(a)(3), 12-5-105(b)(1), (2).
[81] *Id.*, §§ 12-5-31(a)(3), 12-5-105(b)(1).
[82] *Id.*, §§ 12-5-31(k)(7), 12-5-105(b)(1), (3).

go far beyond the exclusions of certain uses in other regulated riparian states[83]) prevents the rigorous implementation of the regulated riparian scheme. Disputes over water allocation involving farm uses—which means many or most disputes over water allocation—will continue to be governed by the common law principles of riparian rights and absolute dominion as developed in the Georgia cases.

The Georgia statutes do not even alter the common-law prohibitions on use on non-riparian or non-overlying lands. Indeed, the *Water Quality Protection Act* (which includes the regulated riparian provisions for surface water) provides that nothing in that Act preempts private rights of action under the common law or directed at suppressing a nuisance or at abating pollution.[84] While this provision is broad enough to preserve riparian rights in full force for surface water, it has no application to the *Ground Water Use Act*, leaving open the possibility of a court finding a partial or total repeal of the absolute ownership doctrine by implication. So far, no one seems to have raised this issue in a Georgia court.

The statutes also are silent regarding interstate transfers, while the provisions relating to interbasin transfers are extremely limited. The Director is required to give a preference to water usage within a water basin over proposed interbasin transfers.[85] There is no comparable provision in the *Ground Water Use Act.* There is no provision in either statute for public or local participation in decision-making apart from participating in public hearings when such hearings are required.[86] And, perhaps most remarkably of all, there is no direct provision requiring the protection of minimum flows.

WHERE TO GO FROM HERE

The foregoing brief summary of the present legal regime for the allocation of water in Georgia has identified a number of serious problems. Foremost among these is the inability of either the common law rules or the regulated riparian statutes in Georgia to address the impending tragedy of the commons for water resources in Georgia. So long as most water in Georgia continues to be treated as common property that individual users can decide whether and how to use the water, the tragedy of the commons is inevitable and is fast approaching. Georgia faces a choice between two possible responses to this problem: to shift to a more truly private property system or to shift to a public property system.[87] Those who favor a private property approach generally couch their arguments in terms of introducing markets for raw water—bulk water in its natural condition—or, as they currently put it, "tradable water permits."[88] Those who favor water as a public good, on the other hand, advocate real, effective state management of water resources in the public interest.[89] I support the latter view.[90]

Why Not Markets?

Markets allegedly are ideal institutions for managing water both nationally and internationally. Markets are presented as functioning automatically and nearly painlessly.[91] As a result, they are much in vogue among

[83] *See generally* Dellapenna, *Regulated Riparianism*, *supra* note 31, § 9.03(a)(1).

[84] OCGA § 12-5-46.

[85] *Id.*, § 12-5-31(n).

[86] *Id.*, §§ 12-5-31(n)(2) (public hearings regarding proposed interbasin transfers), 12-5-95(c) (public hearings for groundwater use regulations), 12-5-97(d) (same).

[87] *See generally* Joseph W. Dellapenna, *The Importance of Getting Names Right: The Myth of Markets for Water*, 25 WM. & MARY ENVTL. L. & POL'Y REV. 317 (2000) ["Dellapenna, *Mtyh*"].

[88] *See, e.g.*, Georgia Public Policy Foundation, *supra* note 6.

[89] *See, e.g.*, Dellapenna, *Misinformation*, *supra* note 6.

[90] *See id.*; Dellapenna, *Myth*, *supra* note 87; Dellapenna, *Regulated Riparianism*, *supra* note 31.

[91] *See, e.g.*, TERRY L. ANDERSON & PAMELA SNYDER, WATER MARKETS: PRIMING THE INVISIBLE PUMP (1997); CLAY LANDRY, SAVING OUR STREAMS THROUGH WATER MARKETS (1998); H. Stuart Burness & James Quirk, *Water Law, Water Transfers, and Economic Efficiency: The Colorado River*, 23 J. LAW & ECON. 111 (1980); Chan Chang & Ronald Griffin, *Water Marketing as a Reallocative Institution in Texas*, 28 NAT. RESOURCES J. 879 (1992); James Corbridge, jr., *Historical Water Use and the Protection of Vested Rights: A Challenge for Colorado Water Law*, 69 U. COLO. L. REV. 503 (1998); Ariel Dinar & J. Letey, *Agricultural Water Marketing, Allocative Efficiency, and Drainage Reduction*, 20 J. ENVTL. ECON. & MGT. 210 (1991); Brian Gray, *The Modern Era in California Water Law*, 45 HASTINGS L.J. 249 (1994); Ronald Griffin & Shin-Hsun Hsu, *The Potential for Water Market Efficiency when Instream Flows Have Value*, 75 AM. J. AGRIC. ECON. 292 (1993); Ray Huffaker, Norman Whittlesey, & Phillip Wandschneider, *Institutional Feasibility of Contingent Water Marketing to Increase Migratory Flows for Salmon on the Upper Snake River*, 33 NAT. RESOURCES J. 671 (1993); Gary Lynne & Phyllis Saarinen, *Melding Private and Public Interests in Water Rights Markets*, 25 J. AGRIC. & APPLIED ECON. 69 (1993); Ari Michelsen, *Administrative, Institutional, and Structural Characteristics of an Active Water Market*, 30 WATER RESOURCES BULL. 971 (1994); Jack Sterne, *Instream Rights and Invisible Hands: Prospects for Private Instream Flow Rights in the Northwest*, 27 ENVTL. L. 203 (1997); David Sunding, David Zilberman, & Neal MacDougall, *Water Markets and the Cost of Improving Water Quality in the San Francisco Bay/Delta Estuary*, 2 HASTINGS W.-NW. J. ENVTL. L. 159 (1995); Gregory Thomas, *Conserving Aquatic*

policy makers today.[92] True markets, however, have seldom existed for water rights and there are good reasons for believing that they seldom will.[93] Water is an ambient resource where the actions of any one user necessarily affect many other users. Thus, if true markets are to be relied on to allocate for particular uses and distribute water among users, the transaction costs of organizing contracts with all holders of water rights (let alone those holding less formal claims affected by a sale or lease) generally have been and will be prohibitive.[94] Water, in short, is the quintessential public good for which markets simply do not work.[95]

Recognition and protection of third-party rights precludes true market transactions.[96] A leading example of the third-party rule is the case of *City and County of Denver v. Fulton Irrigating Ditch Co.*,[97] a case that arose from a proposed swap by the City of Denver with a brewery: Denver would take Coors' "clear mountain stream" to augment its municipal supplies; Coors would have the right to use unlimited quantities of Denver sewage water for its brewery.[98] The transaction failed not because of possible outrage by beer drinkers, but because farmers downstream from Denver (organized as the Fulton Irrigating Ditch Co.) obtained an injunction against the trade because it would deprive them of the water on which

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Biodiversity: A Critical Comparison of Legal Tools for Augmenting Stream Flows in California, 15 STAN. EVNTL. L.J. 3 (1996); Barton Thompson, jr., *Institutional Perspectives on Water Policy and Markets*, 81 CAL. L. REV. 671 (1993).

[92] In addition to the sources collected in note 92, see, *e.g.*, HARALD FREDERIKSEN, JEREMY BERKOFF, & WILLIAM BARBER, WATER RESOURCES MANAGEMENT IN ASIA (World Bank Tech. Pap. no. 212, 1993); JOHN TEERINK & MASAHIRO NAKASHIMA, WATER ALLOCATION, RIGHTS, AND PRICING: EXAMPLES FROM JAPAN AND THE UNITED STATES (World Bank Pol'y Pap. no. 198, 1993); Nir Becker & Naomi Zeitouni, *A Market Solution for the Israeli-Palestinian Water Dispute*, 23 WATER INT'L 238 (1998); James Crammond, *Leasing Water Rights for Instream Flow Uses: A Survey of Water Transfer Policy, Practices, and Problems in the Pacific Northwest*, 26 ENVTL. L. 225 (1996); Ronald Griffin & Fred Boadu, *Water Marketing in Texas: Opportunities for Reform*, 32 NAT. RESOURCES J. 265 (1992); Morris Israel & Jay Lund, *Recent California Water Transfers: Implications for Water Management*, 35 NAT. RESOURCES J. 1, 21-29 (1995); Ronald Kaiser & Laura Phillips, *Dividing the Waters: Water Marketing as a Conflict Resolution Strategy in the Edwards Aquifer Region*, 38 NAT. RESOURCES J. 411 (1998); Mohammad Shatanawi & Odeh al-Jayousi, *Evaluating Market-Oriented Water Policies in Jordan: A Comparative Study*, 20 WATER INT'L 88 (1995); Hillel Shuval, *Approaches to Resolving the Water Conflicts between Israel and her Neighbors—A Regional Water-for-Peace Plan*, 17 WATER INT'L 133 (1992); Symposium, *The Model Water Transfer Act for California*, 4 HASTINGS W-NW. J. ENVTL. L. & POL'Y 1-104 (1996); Hisham Zarour & Jad Isaac, *Nature's Apportionment and the Open Market: A Promising Solution to the Arab-Israeli Water Conflict*, 18 WATER INT'L 40 (1993).

[93] Janis M. Carey & David L. Sunding, *Emerging Markets in Water: A Comparative Institutional Analysis of the Central Valley and Colorado-Big Thompson Projects*, 41 NAT. RESOURCES J. 283, 284 (2001); Dellapenna, *Myth*, *supra* note 87; George A. Gould, *A Westerner Looks at Eastern Water Law: Reconsideration of Prior Appropriation in the East*, 25 U. ARK. LITTLE ROCK L. REV. 89, 100 (2002); Zachary L. McCormick, *Institutional Barriers to Water Marketing in the West*, 30 WATER RESOURCES BULL. 953 (1994); Barton H. Thompson, jr., *Institutional Perspectives on Water Policy and Markets*, 81 CAL. L. REV. 671, 723-39 (1993).

[94] *See* Uijayant Chakrvorty, Eithan Hochman, & David Zilberman, *A Spatial Model of Water Conveyance*, 29 J. ENVTL. ECON. & MGT. 25 (1995); Bonnie G. Colby, *Transaction Costs and Efficiency in Western Water Allocation*, 72 AM. J. AGRIC. ECON. 1184 (1990); Charles W. Howe, Carolyn S. Boggs, & Peter Butler, *Transaction Costs as a Determinant of Water Transfers*, 61 U. COLO. L. REV. 393 (1990); Jay R. Lund, *Transaction Risk Versus Transaction Cost in Water Transfers*, 29 WATER RESOURCES RES. 3103 (1993). *See generally* NEIL K. KOMESAR, IMPERFECT ALTERNATIVES 19-26 (1994); RICHARD A. POSNER, ECONOMIC ANALYSIS OF LAW § 3.11, at 87-88 (5th ed. 1998).

[95] Dellapenna, *Myth*, *supra* note 87, at 350-56; John S. Harbison, *Waist Deep in the Big Muddy: Property Rights, Public Values, and Instream Waters*, 26 LAND & WATER L. REV. 535, 546-49 (1991); Douglas Williams, *Valuing Natural Environments: Compensation, Market Norms, and the Idea of Public Goods*, 27 CONN. L. REV. 365 (1995). *See generally* GLOBAL PUBLIC GOODS: INTERNATIONAL COOPERATION IN THE 21ST CENTURY (Inge Kaul, Isabelle Grunberg, & Marc Stern eds. 1999).

[96] *See, e.g., Santa Fe Trail Ranches Property Owners Ass'n v. Simpson*, 990 P.2d 46 (Colo. 1999); *In re* May, 756 P.2d 362 (Colo. 1988); *Orr v. Arapahoe Water & Sanitation Dist.*, 753 P.2d 1217 (Colo. 1988); In re *Sleeper*, 760 P.2d 787 (N.M. Ct. App. 1988). *See generally* DAVID L. MITCHELL, WATER MARKETING IN CALIFORNIA: RESOLVING THIRD-PARTY IMPACT ISSUES (1993); Colby, *supra* note 94; Corbridge, *supra* note 91, at 507-13; Dellapenna, *supra* note 87, at 350-56; Harbison, *supra* note 95, at 546-49; Howe, Boggs, & Butler, *supra* note 94; Lund, *supra* note 94; Kevin M. O'Brien & Robert R. Gunning, *Water Marketing in California Revisited: The Legacy of the 1987-92 Drought*, 25 PAC. L.J. 1053, 1062-74 (1994).

[97] 506 P.2d 144 (Colo. 1972).

[98] *Id.* at 151.

they were relying.[99] The farmers recognized the seniority of Denver's rights over their own in a contract settling an earlier dispute.[100] The decision in the case would not have depended on the contract if the water had not been water imported from another basin.[101]

Advocates of giving free play to markets for raw water do not denial the reality that third-party rule precludes widespread use of markets; instead, they insist such protection of third-party rights represents overly rigid laws.[102] They insist that if such restraints were removed, private property rights would have their due and markets would flourish. This is not correct. Area-of-origin statutes, prohibiting the export of water,[103] interfere with private property and prevent market transactions. Protections for third-party rights do not. Protections of third-party rights prevent market-generated externalities from destroying the property rights of persons who have not joined the transaction. Rather than representing government intervention that prevents or distorts markets, such protections are the minimum that is necessary to assure that property rights—everyone's property rights—are transferred only through markets.[104] Because of such concerns, small-scale transfers of water rights among farmers or ranchers—all of whom are making similar uses at more or less the same place, and thus are unlikely to affect third parties—are the only ones that regularly occurred under appropriative rights without state intervention.[105] The only large-scale transactions involving a significant change in the place or manner of use that can be achieved purely by market transactions are when the transferor is the last beneficial user of the water. Moreover, under markets wealth generally is transferred from the poorest users of water (who hold the smallest water rights or no water right at all, and in either case are unattractive to potential buyers) to the wealthier members of society.[106] Those who can afford to buy water rights need no longer worry about compensating small water users who loose their expected return flows. Even the highly touted California Water Bank turns out to have been administrative reallocation masquerading as a market.[107] This is equally true of the recent transfer of water from the Imperial Irrigation District to the city of San Diego.[108]

Finally, one should note that to the extent raw water in its natural condition is included within the market system, the ability of a state to regulate sales to out-of-state or international users becomes seriously curtailed. The regulation of water, to the extent that water is an "article of

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[99] *Id.* at 151-53.

[100] *Id.* at 151.

[101] *See Santa Fe Trail Ranches Prop. Owners Assoc. v. Simpson*, 990 P.2d 46 (Colo. 1999); *Orr v. Arapahoe Water & Sanitation Dist.*, 753 P.2d 1217 (Colo. 1988).

[102] *See, e.g.*, TERRY L. ANDERSON & PAMELA SNYDER, WATER MARKETS: PRIMING THE INVISIBLE PUMP 17-29, 114-16 (1997); NATIONAL RESEARCH COUNCIL, WATER TRANSFERS IN THE WEST: EFFICIENCY, EQUITY, AND THE ENVIRONMENT 70-84 (1992); RODNEY T. SMITH, TRADING WATER: AN ECONOMIC AND LEGAL FRAMEWORK FOR WATER MARKETING 10-15, 24-25 (1988); RICHARD W. WAHL, MARKETS FOR FEDERAL WATER: SUBSIDIES, PROPERTY RIGHTS, AND THE BUREAU OF RECLAMATION 147-91 (1989); Andrew P. Morriss, *Lessons from the Development of Western Water Law for Emerging Water Markets: Common Law vs. Central Planning*, 80 OR. L. REV. 861 (2001); Andrew P. Tauriainen, *California's Evolving Water Law: The Water Rights Protection and Expedited Short-Term Water Transfer Act of 1999*, 31 MCGEORGE L. REV. 411 (2000).

[103] *See, e.g.*, CAL. WATER CODE §§ 10505, 10505.5. *See generally* Owen L. Anderson, *Reallocations, Transfers and Changes*, in 2 WATERS AND WATER RIGHTS § 14.04(d)(2) (Robert E. Beck ed. 2001 repl. vol.).

[104] POSNER, *supra* note 94, § 3.11, at 87-88. *See also* Jeffrey L. Jordan, *Externalities, Water Prices, and Water Transfers*, 35 J. AM. WATER RESOURCES ASS'N 1007 (1999).

[105] See the authorities collected *supra* at note 93.

[106] CARL J. BAUER, AGAINST THE CURRENT: PRIVATIZATION, WATER MARKETS, AND THE STATE IN CHILE (1998); ROBERT R. HEARNE & K. WILLIAM EASTER, WATER ALLOCATION AND WATER MARKETS: AN ANALYSIS OF GAINS-FROM-TRADE IN CHILE 40 (World Bank Tech. Paper no. 315, 1995). *See also* Carl J. Bauer, *Slippery Property Rights: Multiple Water Uses and the Neoliberal Model in Chile, 1981-1995*, 38 NAT. RESOURCES J. 109 (1998); K. William Easter & Robert R. Hearne, *Water Markets and Decentralized Water Resources Management: International Problems and Opportunities*, 31 WATER RESOURCES BULL. 9 (1995); Steven E. Hendrix, *Myths of Property Rights*, 12 ARIZ. J. INT'L & COMP. L. 183 (1995).

[107] Joseph W. Dellapenna, *Introduction*, in 1 WATERS AND WATER RIGHTS, *supra* note 46, § 6.01(b)(2); Dellapenna, *Myth*, *supra* note 87, at 358-65; O'Brien & Gunning, *supra* note 96, at 1062-74.

[108] *See* Michael Gardner, *Water Pact a Tough Swallow for Imperial Valley Farmers*, SAN DIEGO UNION-TRIB., Sept. 30, 2003, at A1; Dean E. Murphy, *Thirsty U.S. Cities Win Larger Share of Colorado River*, N.Y. TIMES, Oct. 17, 2003, at A1; Tom Perry, *Imperial Farmers Should Get Less Water, U.S. Official Report Says*, L.A. TIMES, July 4, 2003, at B1; Tom Perry, *Officials Sign Deal to End Feud, Divide up Water*, L.A. TIMES, Oct. 17, 2003, at B1. *See generally* James S. Louchhead, *An Upper Basin Perspective on California's Claims to Water from the Colorado River Part II: The Development, Implementation and Collapse of California's Plan to Live within Its Basic Apportionment*, 6 U. DENV. WATER L. REV. 318, 362-410 (2003); Aaron Ralph, Comment, *Drain the Water and Pull the Plug on One Community So That Another Community Can Brim over with Economic Development: Is It Any of the State Water Resources Control Board's Business?*, 34 MCGEORGE L. REV. 903 (2003).

commerce," is subject to the mandates of the interstate commerce clause of the U.S. Constitution that prohibits discrimination against persons or uses in other states.[109] While the U.S. Constitution does not preclude discrimination against buyers or uses in foreign countries, the treaty creating the World Trade Organization does prohibit such discrimination.[110] While recourse to regulated riparianism does not directly allow discrimination along these lines, the active state management entailing the final say over where and how water is used under regulated riparianism allows much greater scope for the state to evaluate the relative worth of competing uses.

How Can Georgia Cope with the Pressures on Its Water Resources?

The proposal to introduce markets, or tradable water use permits, into Georgia really is a proposal to introduce appropriative rights into a state in which uses under claims of riparian rights already approach the entire available supply. The introduction of appropriative rights into an eastern state has already been tried and it didn't work. Mississippi adopted appropriative rights in 1956,[111] only to repeal them twenty-nine years later in 1985.[112] During the years Mississippi had an appropriative rights statute on the books, not one court in Mississippi in deciding a water rights dispute ever referred to the statute.[113]

I have written at some length about the Mississippi experience elsewhere, and need not repeat it in detail here.[114] Basically, appropriative rights failed in Mississippi because of the innumerable consumptive uses of water begun before 1956. Claiming an appropriative right would only concede priority to an opponent claiming a riparian right. Either the riparian right would prevail as the earliest appropriation,[115] or the appropriative right would be a permissive non-riparian use that must fail in competition with a riparian use.[116] The best that an appropriator could hope would be that the appropriative use would be balanced against the complaining riparian's use, which brings us full circle back to the reasonable use version of riparian rights.[117] If an acute general water shortage were to develop, an appropriator rather than having a more secure title than a riparian, would simply find no water for the appropriation. When Mississippi repealed its appropriative rights statute, it gave all persons claiming rights vested under the appropriation statute one year to file a document expressing the intent to preserve their appropriative right.[118] No such documents were filed.[119]

Instead of adopting appropriative rights, eastern states have enacted systems of regulated riparianism, usually

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[109] *See Sporhase v. Nebraska* ex rel. *Douglas*, 438 U.S. 941 (1982); *City of El Paso v. Reynolds*, 597 F. Supp. 694 (D.N.M. 1984); Dellapenna, *Regulated Riparianism*, *supra* note 31, §§ 9.06(b), (c); Douglas Grant, *State Regulation of Interstate Water Export*, in 4 WATERS AND WATER RIGHTS §§ 48.01 to 48.03 (Robert E. Beck ed. 2004 repl. vol.).

[110] *See, e.g.*, Gilbert M. Bankobeza *et al., Environmental Law*, 35 INT'L LAW. 659, 695–98, 700, 706–11 (2001); Cynthia Baumann, Note, *Water Wars: Canada's Upstream Battle to Ban Bulk Water Export*, 10 MINN. J. GLOBAL TRADE 109 (2001); Steve Charnovitz, *World Trade and the Environment: A Review of the New WTO Report*, 12 GEO. INT'L ENVTL. L. REV. 523 (2000); Anne C. Dowling, *"Un-Locke-ing" a "Just Right" Environmental Regime: Overcoming the Three Bears of International Environmentalism—Sovereignty, Locke, and Compensation*, 26 WM. & MARY ENVTL. L. & POL'Y REV. 891 (2002); Robert J. Girouard, Note, *Water Export Restrictions: A Case Study of WTO Dispute Settlement Strategies and Outcomes*, 15 GEO. INT'L ENVTL. L. REV. 247 (2003); Margrethe Krontoft & William Testa, *NAFTA and the Great Lakes: How Can We Achieve Both Economic and Environmental Sustainability?*, 4 TOL. J. GREAT LAKES L. SCI. & POL'Y 323 (2002).

[111] MISS. CODE ANN. §§ 51-3-3(g)(3) to 51-3-7 (1972). *See generally* William M. Champion, *Prior Appropriation in Mississippi—A Statutory Analysis*, 39 MISS. L.J. 1 (1967); Al Sage, *Mississippi*, in 6 WATERS AND WATER RIGHTS, *supra* note 9, at 445, 446-52.

[112] MISS. CODE ANN. §§ 51-3-1 to 51-3-15.

[113] *See* Anderson-Tully Co. v. Franklin, 307 F. Supp. 539 (N.D. Miss. 1969); Haisch v. Southhaven Land Co., 274 F. Supp. 392 (N.D. Miss. 1967); Phillips v. Davis Timber Co., 468 So. 2d 72 (Miss. 1985); Black v. Wiliams, 417 So. 2d 911 (Miss. 1982); Hinds-Rankin Metrop. Water Ass'n v. Reid, 256 So. 2d 373 (Miss. 1971); Downes v. Crosby Chem., Inc., 234 So. 2d 916 (Miss. 1970).

[114] *See* Joseph W. Dellapenna, *Adapting Riparian Rights to the Twenty-First Century*, 106 W. VA. L. REV. 539, 579-83 (2004); Joseph W. Dellapenna, *Dual Systems* ["Dellapenna, *Dual Systems*"], in 1 WATERS AND WATER RIGHTS §§ 8.05 to 8.05(b) (Robert E. Beck ed. 2001 repl. vol.); 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, 78-82 (2002) ["Dellapenna, *Southeastern States*"]. For a critique of an earlier version of my review of the Mississippi experience (answered in the writings just cited), see Gould, *supra* note 93, at 105-08.

[115] *See* Dellapenna, *Dual Systems*, *supra* note 114, § 8.04(a).

[116] *Id.* § 8.04(b).

[117] *See, e.g.*, Wasserburger v. Coffee, 141 N.W.2d 738 (Neb.), *modified on other grounds*, 144 N.W.2d 209 (Neb. 1966); Franco-Am. Charolaise, Ltd. v. Oklahoma Water Resources Bd., 855 P.2d 568 (Okla. 1990). *See* Dellapenna, *Dual Systems*, *supra* note 114, § 8.04(b), at nn. 441-47.

[118] MISS. CODE ANN. §§ 51-3-5(2), (3), 51-3-29(a), (b), (c).

[119] Dellapenna, *Southeastern States*, *supra* note 114, at 31.

extending it to groundwater as well as surface waters.[120] This represents a public property approach rather than a private property approach to water allocation and management.[121] Georgia, of course, has already moved rather far along this road already.[122] All that remains is for Georgia to refine and complete this transition by refining and perfecting its regulated riparian system.

To recapitulate the shortcomings of the Georgia regulated riparian system, the present Georgia regulated riparian system has several serious flaws that prevent it from dealing adequately with the future needs of the state. First, it does not allow for conjunctive management of the waters of the state.[123] Second, it effectively exempts from its mandates most or all agricultural users—who use by far a majority of the water extracted within the state.[124] Nor do the laws authorize mandatory record keeping by persons not required to obtain a permit.[125] Third, the Georgia laws do not address the rights of non-riparian or non-overlying users.[126] Fourth, Georgia barely addresses whether or under what circumstances to allow interbasin transfers and says nothing about interstate transfers.[127] Nor do Georgia's body of water laws adequately address the obligation to obey federal law relating to water quantity or quality issues.[128] Finally, the Georgia statutes make only very limited provision for public participation in the administration of the regulated riparian system.[129]

Rather than attempting to develop in detail possible responses to each of these points, I will only note that the American Society of Civil Engineers has approved as an official standard the *Regulated Riparian Model Water Code.*[130] The *Model Code* addresses each point of deficiency in the Georgia regulated riparian law and (perhaps more importantly) it exhaustively refers to comparable provisions in the relevant statutes of every state that has enacted a regulated riparian system. The *Model Code* and its references to other regulated riparian statutes also suggest possible refinements of those parts of the Georgia law that already are well developed. Two points deserve more elaborate development because they are frequently misunderstood. The first is whether such a more extensive application of the regulated riparian approach amounts to a taking of property. The second is whether a system other than a regulated riparian approach is necessary in light of the evolving relationships between Georgia and its neighboring states regarding their shared water resources.

Persons holding riparian rights or the "absolute dominion" over groundwater are likely to claim that an aggressive system of water use regulation amounts to a taking of their property. In fact, every court to consider this question has concluded that regulated riparianism is a lawful regulation of property rather than a taking of it.[131] This conclusion makes sense when one recalls that the law generally defines water as public property held in trust by the state for the benefit of the public, with water users have only a limited right to use the water.[132] A successful challenge is even less likely if Georgia adopts the approach of the *Model Code* whereby each existing user is guaranteed an initial permit as well as preference (but not a guarantee) for renewal when the initial permit expires.[133] Experience suggests that few, if any, water users will challenge the constitutionality of the new regime if it guarantees the continued use of water for a lengthy period with small likelihood of a total cutoff thereafter.[134]

Finally, in evaluating how Georgia should move refine or reform its regulated riparian laws, one should pay

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[120] *See generally* Dellapenna, *Regulated Riparianism*, *supra* note 31; Dellapenna, *The Regulated Riparian Approach*, *supra* note 45.

[121] *See* Dellapenna, *Myth*, *supra* note 87, at 334-36, 365-76.

[122] *See* Part II(c) of this paper.

[123] See the text *supra* at notes 40-74. *Cf.* AMERICAN SOC'Y OF CIVIL ENG'RS, THE REGULATED RIPARIAN MODEL WATER CODE § 3R-1-01 (ASCE Standard 40-03, Joseph W. Dellapenna ed. 2003) ["MODEL CODE"].

[124] See the text *supra* at notes 78-83. *Cf.* MODEL CODE, *supra* note 123, §§ 3R-1-03, 6R-1-02, 6R-1-03.

[125] *See* OCGA §§ 12-5-31(m), 12-5-97(d), (e). *Cf.* MODEL CODE, *supra* note 123, § 6R-1-06.

[126] *See* OCGA § 12-5-46. *Cf.* MODEL CODE, *supra* note 123, § 2R-1-02.

[127] *See* OCGA § 12-5-31(n). *Cf.* MODEL CODE, *supra* note 123, §§ 1R-1-13, 1R-1-14, 3R-1-02, 6R-3-06, 8R-1-01 to 8R-1-07.

[128] *Cf.* MODEL CODE, *supra* note 123, §§ 3R-1-02, 3R-2-02.

[129] *See* OCGA §§ 12-5-31(n)(2) (public hearings regarding proposed interbasin transfers), 12-5-95(c) (public hearings for groundwater use regulations), 12-5-97(d) (same).

[130] MODEL CODE, *supra* note 123.

[131] *State v. Braun*, 378 A.2d 640 (Del. 1977); *Village of Tequesta v. Jupiter Inlet Corp.*, 371 So.2d 663 (Fla.), *cert. denied*, 444 U.S. 965 (1979); *Iowa Natural Res. Council v. Van Zee*, 158 N.W.2d 111 (Iowa 1968); *Crookston Cattle Co. v. Minnesota Dep't of Natural Res.*, 300 N.W.2d 769 (Minn. 1980); *Herschman v. State*, 225 N.W.2d 841 (Minn. 1975); *State v. Kuluvar*, 123 N.W.2d 699 (Minn. 1963); *Omernik v. State*, 218 N.W.2d 734 (Wis. 1974). *See generally* Dellapenna, *Regulated Riparianism*, *supra* note 31, §§ 9.04 to 9.04(c).

[132] *See, e.g., National Audubon Soc'y v. Superior Ct.*, 658 P.2d 709 (Cal.), *cert. denied sub nom. City of Los Angeles v. National Audubon Soc'y*, 464 U.S. 977 (1983); *State v. Sorenson*, 436 N.W.2d 358 (Iowa 1989); *Mississippi State Hwy. Comm'n v. Gilich*, 609 So. 2d 367 (Miss. 1992).

[133] MODEL CODE, *supra* note 123, §§ 6R-1-03, 6R-3-04(4).

[134] *See generally* Dellapenna, *Regulated Riparianism*, *supra* note 31, §§ 9.03(a)(4), 9.04(a).

special attention to the situation of Georgia relative to its neighboring states. Georgia shares important water resources with each of its neighboring states. Of those neighbors, Florida has one of the most fully developed regulated riparian systems in the country.[135] Alabama has an incipient regulated riparian system in place.[136] South Carolina has such a system for groundwater and for large interbasin diversions,[137] and is considering developing one for surface waters.[138] Only Tennessee has no such system presently in view. For Georgia to opt for tradable water use permits or some similar market system will put Georgia at a serious disadvantage relative to its neighbors—each of which can more effectively control out-of-state uses than is possible under a market system.[139] Moreover, with an effective regulatory system in place, Georgia will likely find it impossible to fulfill its legal duties relative to transboundary water resources, whether those duties arise from an interstate compact or a judicial decree.

In this connection, it is worth noting that the state of Georgia must already comply with the mandates of federal law regarding the allocation of water as well as questions of water quality.[140] The supremacy of federal law is guaranteed in the US Constitution and is pretty much beyond question.[141] Already this power has been deployed in some western states to trump state-based appropriative rights.[142] Georgia has provisions to comply with the *Clean Water Act,*[143] but seems to have no law addressing minimum flows as such. Even without the specter of a federal override, this would be a serious omission.[144] In the face of the federal obligations, a more fully developed regulated riparian system is more likely to assure compliance with, as well as cooperative management with, the federal authorities than surrender to the private market place.[145]

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[135] *See* FLA. STAT. §§ 373.012-373.619.

[136] ALA. CODE §§ 9-10B-1 to 9-10B-30.

[137] S.C. CODE ANN. §§ 49-5-10 to 49-5-120 (groundwater); S.C. CODE ANN. §§ 49-21-10 to 49-21-80 (interbasin transfers).

[138] *See* SOUTH CAR. DEP'T NAT. RESOURCES, SOUTH CAROLINA WATER PLAN 80-84 (2nd ed. 2004).

[139] See the text *supra* at notes 109-110. *See also* MODEL CODE, *supra* note 124, §§ 8R-1-01 to 8R-1-07.

[140] *See, e.g., the Clean Water Act,* 33 U.S.C. §§ 1251-1387; *the Endangered Species Act,* 16 U.S.C. §§ 1531-1544.

[141] U.S. CONST., art. VI.

[142] *See, e.g., Department of the Interior v. Klamath Water Users Protective Ass'n,* 532 U.S. 1 (2001); *Rio Grande Silvery Minnow v. Keys,* 333 F.3d 1109 (10th Cir. 2003), v*acated as mooted by "climatological changes,"* 355 F.3d 1215 (10th Cir. 2004); *Middle Rio Grande Conserv. Dist. v. Norton,* 294 F.3d 1220 (10th Cir. 2002); *Klamath Water Users Protective Ass'n v. Patterson,* 204 F.3d 1206 (9th Cir. 1999), amended, 203 F.3d 1175 (9th Cir.), *cert. denied,* 531 U.S. 812 (2000); *Elephant Butte Irrig. Dist. v. Department of Interior,* 160 F.3d 602 (10th Cir. 1998), *aff'd,* 269 F.3d 1158 (10th Cir. 2001). *See generally* Jonathan H. Adler, *The Duck Stops Here? The Environmental Challenge to Federalism,* 9 SUP. CT. ECON. REV. 205 (2001); Robert W. Adler, *The Supreme Court and Ecosystems: Environmental Science in Environmental Law,* 27 VT. L. REV. 249, 252-65 (2003); Joan E. Drake, *Contractual Discretion and the Endangered Species Act: Can the Bureau of Reclamation Reallocate Federal Project Water for Endangered Species in the Middle Rio Grande?,* 41 NAT. RESOURCES J. 487 (2001); Frank A. Ward & James F. Booker, *Economic Costs and Benefits of Instream Flow Protection fpr Endangered Species in an International Basin,* 39 J. AM. WATER RESOURCES ASS'N 427 (2003).

[143] OCGA §§ 12-5-20 to 12-5-53.

[144] *See* Dellapenna, *Regulated Riparianism, supra* note 31, § 9.05(b).

[145] *See, e.g.,* MODEL CODE, *supra* note 123, §§ 2R-2-02, 2R-2-03, 2R-2-16, 3R-1-02, 4R-3-01 to 4R-4-08. *See also* Robert L. Fischman & Jaelith Hall-Rivera, *A Lesson for Conservation from Pollution Control Law: Cooperative Federalism for Recovery under the Endangered Species Act,* 27 COLUM. J. ENVTL. L. 45 (2002). *See also* Bettina Boxall, *U.S. Billed for Lost Water: Judge Rules That Irrigators Whose Supplies Were Decreased to Save Endangered Fish Are Owed $14 Million,* L.A. TIMES, Jan. 26, 2004, at B1.