ALABAMA'S WATER CRISIS

Heather Elliott[*]

ABSTRACT

Alabama faces a major and expanding water crisis. Population growth and economic development are putting more pressure on water resources already strained by recent droughts, and such droughts are likely to become more frequent and more severe in the future. Disputes with neighboring states over shared water resources threaten Alabama's use of interstate waters to meet future needs. And Alabama's current legal regime is wholly inadequate to meet these challenges.

The failures of Alabama's state water law could be corrected with one statute. The State Legislature should act swiftly to adopt a comprehensive water management statute based on the Regulated Riparian Model Water Code; the resulting statute should regulate the state's surface and groundwater as one unified resource and should coordinate water quality regulation with water quantity regulation. Adopting such a statute will prepare the state for future water shortages, as well as putting it on a better footing for future negotiations with neighboring states.

ABSTRACT....383
INTRODUCTION....384
I. ALABAMA'S WATER RESOURCES....386
  A. *The Historic Norm*....386
  B. *Recent Droughts – A New Normal?*....388
II. ALABAMA'S WATER LAW....390
  A. *Surface Water*....390
  B. *Groundwater*....392
  C. *Lack of Meaningful Statutory or Regulatory Restraints*....393
III. THE ALABAMA–GEORGIA–(FLORIDA) DISPUTES....394
  A. *Apalachicola–Chattahoochee–Flint*....395
  B. *Alabama–Coosa–Tallapoosa*....397

---

[*] Associate Professor, the University of Alabama School of Law. Many thanks to Joe Sax, who introduced me to the fascinating world of water law, and to Bo Abrams and Christine Klein, who have continued my education. In writing this Essay, I benefitted from the technical advice of a number of experts both inside and outside the Law School, as well as from the research assistance of Stephen Smith. Any mistakes are mine alone.

C. *Failures in Negotiation and Litigation* 398
1. *Negotiation* 398
2. *Litigation*...399
D. *Better Legislation in Georgia and Florida* 400
IV. A CALL FOR REFORM..401
A. *Hydrologic Reality, Quantity, and Quality* 402
B. *What Regime to Adopt?* 403
CONCLUSION..406

INTRODUCTION

Alabama faces a major water crisis. Its current water resources law is inadequate to deal with recent droughts, much less the increasing demands that population growth and development have placed on Alabama's water supply.[1] Even if we Alabamians lived on an isolated island, whose waters were entirely our own, we would struggle to meet our water needs.

But Alabama is not an island. Georgia, Florida, Tennessee, and Mississippi lay claim to shared water resources—the Apalachicola, Chattahoochee, Tennessee, Tombigbee, and Tallapoosa Rivers, among others.[2] We are in competition with Georgia and Florida in negotiation and in litigation that will ultimately allocate water between the three states. But Florida has expansive water resource management laws, and Georgia has laws that provide at least some water resource management. Alabama has comparatively little. A neutral decision maker hearing the so-called Tri-State Water War might well find Alabama undeserving of much water.[3]

Alabama must change its water resources law to address these failings.[4] Optimally, the State Legislature would adopt the Model Riparian Code, recognizing the hydrological reality that surface water (water in streams, rivers, and lakes) is connected to groundwater (water underground), rather than treating the two under separate legal regimes, and recognizing that water quality and quantity should be coordinated.[5] The recent

1. *See infra* Parts I, II.
2. *See infra* Part III.
3. *See infra* Part III.D.
4. *See infra* Part IV.
5. Critics have focused attention on the water resources dispute between Alabama, Georgia, and Florida for almost 20 years. *See, e.g.*, Stephen E. O'Day et al., *Wars Between the States in the 21st Century: Water Law in an Era of Scarcity*, 10 VT. J. ENVTL. L. 229 (2009); Robert Haskell Abrams, *Broadening Narrow Perspectives and Nuisance Law: Protecting Ecosystem Services in the ACF Basin*, 22 J. LAND USE & ENVTL. L. 243 (2007); Natasha Meruelo, *Considering a Cooperative Water Management Approach in Resolving the Apalachicola–Chattahoochee–Flint River Basin Water War*, 18 FORDHAM ENVTL. L. REV. 335 (2007); Joseph W. Dellapenna, *Interstate Struggles over Rivers: The*

reestablishment of the Permanent Joint Legislative Committee on Water Policy and Management gives hope that the Legislature is starting to consider real water law reform.[6]

If Alabama does not move swiftly to alter its water resources law, it faces a grim future. Water is essential to all human activities. As the media gloat over successive water emergencies, potential new citizens will seek other homes. Corporations will turn away from Alabama for lack of secure water rights. Crops will fail for lack of water, and Alabama's agricultural economy will fade. Lakes, rivers, streams, and aquifers will decline, as will their surrounding ecosystems. Without action by the Legislature, Alabama the Beautiful may well become Alabama the Withered.[7]

Southeastern States and the Struggles over the 'Hooch, 12 N.Y.U. ENVTL. L.J. 828, 828 (2005); Benjamin L. Snowden, *Bargaining in the Shadow of Uncertainty: Understanding the Failure of the ACF and ACT Compacts*, 13 N.Y.U. ENVTL. L.J. 134, 146 (2005); Andrew Thornley, *A Tale of Two River Basins: The Southeast Finds Itself in a Rare Interstate Water Struggle*, 9 U. DENV. WATER L. REV. 97, 102 & n.31 (2005); Christine A. Klein, *On Integrity: Some Considerations for Water Law*, 56 ALA. L. REV. 1009 (2004); Douglas L. Grant, *Interstate Allocation of Rivers Before the United States Supreme Court: The Apalachicola–Chattahoochee–Flint River System*, 21 GA. ST. U. L. REV. 401, 401 (2004); Joseph Dellapenna, *Law of Water Allocation in the Southeastern States at the Opening of the Twenty-First Century*, 25 U. ARK. LITTLE ROCK L. REV. 9 (2002); Mary R. Hawk, Comment, *Interstate Compacts: Allocate Surface Water Resources from the Alabama–Coosa–Tallapoosa River Basin Between Georgia and Alabama; Allocate Surface Water Resources from the Apalachicola–Chattahoochee–Flint River Basin Among Alabama, Florida, and Georgia*, 14 GA. ST. U. L. REV. 47, 54–55 (1997); Carl Erhardt, *The Battle over "The Hooch": The Federal-Interstate Water Compact and the Resolution of Rights in the Chattahoochee River*, 11 STAN. ENVTL. L.J. 200 (1992). But little legal scholarship has been written in the recent past on Alabama's water law and its failings. *See* W. Barron A. Avery, *Disenfranchising the Non-Riparian: Alabama's Water Resource Management Program,* 39 CUMB. L. REV. 437, 441–42 (2009); William L. Andreen, *Alabama*, *in* ALABAMA WATER LAWS 1–2 (Ala. Law. Inst. 2007), *reprinted from* 6 JOSEPH DELLAPENNA, WATERS & WATER RIGHTS 325 (Robert Beck ed., 2005); Larry O'Neil Putt, *Water Resource Protection in Alabama: The Need for a Paradigm Change*, 7 JONES L. REV. 1 (2003). The best scholar of Alabama's water law wrote more than three decades ago. *See* Harry Cohen, *Water Legislation Perspectives for Alabama*, 26 ALA. L. REV. 177 (1973); Harry Cohen, *Water Law in Alabama—A Comparative Survey*, 24 ALA. L. REV. 453 (1972).

6. M.J. Ellington, *Lawmaker: Atlanta Still Threat to State Water*, DECATUR DAILY, Sept. 1, 2011, http://www.decaturdaily.com/stories/Lawmaker-Atlanta-still-threat-to-state-water,84420.

7. I am far from alone in calling for swift action by the Alabama Legislature on this issue. *See, e.g.*, Editorial, *Plan B Needed on Water*, GADSDEN TIMES, Sept. 20, 2011, www.gadsentimes.com/article/20110920/NEWS/110929983?tc=ar; Editorial, *Protecting Our Water: Alabama Must Ensure That It Doesn't Waste This Natural Resource*, ANNISTON STAR, July 28, 2011, http://www.annistonstar.com/ view/ full_story/ 14860855/ article -Protecting -our -water --Alabama -must -ensure –that -it-doesnt-waste-this-natural-resource?instance=home_opinion; Editorial, *State Needs Strong Water Resource Plan*, OPELIKA-AUBURN NEWS, July 25, 2011, http://www2.oanow.com/news/2011/jul/25/editorial-state-needs-strong-water-resource-plan-ar-2186078/; Press Release, Gil Rogers, Senior Attorney, S. Envtl. Law Ctr., Water Wars Ruling Exposes Lack of Water Resource Planning in Alabama (June 29, 2011), *available at* http://www.southernenvironment.org/newsroom/press_releases/2011_06_29_ water_ wars_ruling1/ (reiterating the need for a comprehensive water management plan in the wake of recent court decisions adverse to Alabama's interests); ALABAMA WATER AGENDA, ALA. RIVERS ALLIANCE & S. ENVTL. LAW CTR. (July 2011), *available at* http://www.alabamarivers.org/ alabama-water-agenda-1/alabama-water-agenda-2011-for-web (calling for a comprehensive water permitting regime).

* * *

This Essay proceeds in four parts. In Part I, I describe Alabama's surface and groundwater resources and the effect on both of recent droughts. I turn in Part II to Alabama's inadequate water resources law, outlining both the dominant common-law riparian doctrine and the meager statutes governing water use within the state. Part III brings in the Tri-State Water Dispute, recounting the history of the dispute up through Alabama's recent loss in the United States Court of Appeals for the Eleventh Circuit. In Part IV, I call on the Legislature of the State of Alabama to adopt the Regulated Riparian Model Water Code as Alabama law.

I. ALABAMA'S WATER RESOURCES

As a state east of the 100th Meridian, Alabama is one of America's "humid" states.[8] Historically, Alabama has had plentiful water: its enormous rivers and regular rainfall, as well as natural underground stores, were more than adequate to meet demand.[9] But changes in climate, as well as new demands for water, have made that plentiful resource a greatly challenged one.[10]

A. The Historic Norm

Alabama is a state of great natural beauty—a "unique and marvelous creation"[11]—and one source of that beauty is the state's mighty rivers.[12] Alabama is "among the best-watered regions of the continent."[13] The Great Seal of Alabama[14] showcases the state's major rivers: the Tombigbee, the Black Warrior, the Cahaba, the Pea, the Conecuh, the Tallapoosa, the Alabama, and the Tennessee. The Chattahoochee River forms our border with Georgia. Some of those rivers, due to hydroelectric navigation and flood-control dams, exist as lakes along large portions of their flow.[15] By one estimate, one-sixth of the surface area of Alabama is comprised of

8. JOSEPH SAX ET AL., LEGAL CONTROL OF WATER RESOURCES 6 (4th ed. 2006).
9. *See infra* Part I.A.
10. *See infra* Part I.B.
11. Rick Middleton, *Foreword* to BETH MAYNOR YOUNG & JOHN C. HALL, HEADWATERS: A JOURNEY ON ALABAMA RIVERS, at ix (2008) [hereinafter HEADWATERS].
12. *See, e.g.*, *id.* at xii.
13. *Id.*
14. *Id.*
15. *See, e.g.*, HARVEY H. JACKSON III, PUTTING "LOAFING STREAMS" TO WORK: THE BUILDING OF LAY, MITCHELL, MARTIN, AND JORDAN DAMS, 1910–1929 (Univ. of Ala. Press 1997).

lakes, reservoirs, ponds, wetlands, estuaries, and flowing rivers and streams.[16]

Alabama's agricultural and commercial success was built on its rivers, which took Alabama cotton, steel, and coal to the great port of Mobile.[17] Indeed, in the early years of the state, "[s]o difficult were Alabama roads, [that] it was worthwhile to maintain the navigability of even small rivers."[18] While railroads eventually superseded the rivers, Alabama still sees a good deal of commercial navigation.[19]

Alabama's rivers and streams transport enormous volumes of water. According to the Geological Survey of Alabama, almost twenty percent of all surface water in the contiguous United States ultimately flows through Alabama,[20] though the United States Geological Survey puts that number at closer to ten percent.[21] Regardless, approximately 33.4 trillion gallons of water flow into and out of Alabama's streams and rivers annually.[22]

Alabama also has extensive groundwater resources. The Alabama Department of Environmental Management (ADEM) stated in 2003 that Alabama's estimated ground water reserves of 533 trillion gallons would be enough to last for over three millennia at current rates of consumption.[23]

The plenty of Alabama's rivers and aquifers has historically been complemented by ample rainfall. Alabama's historic average annual rainfall is fifty-five inches.[24]

Alabama also has enormous biodiversity. The Union of Concerned Scientists ranks Alabama fifth in the country for biodiversity and states that "Alabama exhibits extraordinary biodiversity in coastal and inland

16. James E. Hairston et al., *Water Resources in Alabama*, ENCYCLOPEDIA OF ALA. (July 11, 2011), http://encyclopediaofalabama.org/face/Article.jsp?id=h-1645.

17. Alabama's Great Seal was first created in 1817 by territorial governor William Wyatt Bibb, who "believed the best seal would be a map of the territory showing its rivers"; a different seal was used from 1869 to 1939, at which point the Legislature voted to return to using the 1817 seal. *See Alabama Great Seal,* ALA. DEP'T OF ARCHIVES & HIST. (Jan. 12, 2010), http://www.archives.state.al.us/emblems/great_sl.html.

18. HEADWATERS, *supra* note 11, at 114.

19. HANSON PROF'L SERVS., COAL. OF ALA. WATERWAY ASS'NS, BUSINESS PERSPECTIVES ON THE FEASIBILITY OF CONTAINER-ON-BARGE SERVICE: ALABAMA FREIGHT MOBILITY STUDY PHASE I 43–47 (2007), *available at* http://www.caria.org/documents/PhaseIReportAFMS.pdf.

20. *Alabama Water Facts*, GEOLOGICAL SURVEY OF ALA., http://www.gsa.state.al.us/gsa/hydrogeology/justfacts.html (last visited Jan. 3, 2012) [hereinafter *Alabama Survey*].

21. Hairston et al., *supra* note 16.

22. Maurice F. Mettee, *Fishes of Alabama*, ENCYCLOPEDIA OF ALA., http://www.encyclopediaofalabama.org/face/Article.jsp?id=h-1586 (last updated Apr. 22, 2011).

23. ALA. DEP'T OF ENVTL. MGMT. & GEOLOGICAL SURVEY OF ALA., WATER DOWN UNDER: ALABAMA'S GROUND WATER RESOURCES 7, *available at* http://adem.alabama.gov/newsEvents/pubs/GWpart1.pdf. The accuracy of that estimate has been challenged. *See, e.g.*, Editorial, *Protecting Our Water: Alabama Must Ensure That It Doesn't Waste This Natural Resource*, *supra* note 7.

24. *Alabama Survey*, *supra* note 20.

ecosystems."[25] The Alabama Rivers Alliance states that "Alabama's rivers are amongst the most biologically diverse waterways in the world" and that "[t]here are more species of fish in the Cahaba River alone than in the entire state of California."[26] The Mobile River basin ranks third in the United States in freshwater fish biodiversity.[27]

B. Recent Droughts – A New Normal?

Alabama's historic plenty is at some risk. While Alabama has had periodic droughts for at least a thousand years (some of which, according to tree-ring data, were quite severe),[28] recent droughts have been the most severe in the last century.[29] In 2011, for example, Birmingham experienced its second-driest summer since 1900; the first-driest summer was in 1989.[30] Alabama's top weather expert predicted dry conditions through 2012.[31] In 2008, Alabama came out of a two-year drought, "the worst in more than a century."[32] Less than ten years before, Alabama had experienced a "searing drought."[33]

Alabama has also been drawing down its aquifers. While groundwater use in the past was sustainable—water withdrawn from aquifers was replaced by rain seepage or other recharge—groundwater use recently has been in excess of recharge rates.[34] Moreover, saltwater intrusion along the

25. UNION OF CONCERNED SCIENTISTS, *Alabama*, http://www.ucsusa.org/gulf/gcstateala_bio.html (last visited January 3, 2012).

26. *River Facts*, ALABAMA RIVERS ALLIANCE, *available at* http://www.alabamarivers.org/River%20Resources/river-facts-1.

27. Andreen, *supra* note 5, at 16.

28. *See* Edward C. Cook et al., *Megadroughts in North America: Placing IPCC Projections of Hydroclimate Change in a Long-Term Palaeoclimate Context*, 25 J. QUARTERNARY SCI. 48, 53 fig.5(b) (2009).

29. U.S. GLOBAL CHANGE RESEARCH PROGRAM, GLOBAL CLIMATE CHANGE IMPACTS IN THE UNITED STATES 112 (2009), *available at* http://www.globalchange.gov/images/cir/pdf/southeast.pdf [hereinafter GLOBAL IMPACTS] ("[T]he frequency, duration, and intensity of droughts are likely to continue to increase.").

30. Jeff Hansen, *Arid August Widens Drought*, BIRMINGHAM NEWS, Sept. 2, 2011, at 1A.

31. Markeshia Ricks, *Dry Condition May Linger for 2 Years*, MONTGOMERY ADVERTISER, Nov. 11, 2010, at 1C (quoting State Climatologist John Christy).

32. William Thornton, *We're Out of the Drought: Metro-Area Rainfall Above Normal in 2008*, BIRMINGHAM NEWS, Dec. 19, 2008, at 1A. Some have argued that the drought never really ended for large swathes of Alabama; drought was present in much of Alabama in 2011. *See Drought Monitor: East Alabama Still in Extreme Drought*, OPELIKA-AUBURN NEWS, Nov. 23, 2011, http://www2.oanow.com/news/2011/nov/23/drough-monitor-east-Alabama-still-exreme-drought-ar-2745704/.

33. Dave Bryan, *Recent Rains Helping, but Farmers Wary of Coming Months*, MOBILE REGISTER, June 6, 2001, at B12.

34. Hairston et al., *supra* note 16.

coast of Alabama will increasingly make groundwater reserves nonpotable.[35]

Global climate change will also play a role. Recent droughts have most likely had such severe effects on Alabama, not because of climate change, but because of population growth and poor planning.[36] Nevertheless, climate models predict that the Southeast will have less total rain, and more seasonally variable rain.[37] By 2050, one study projects, portions of Alabama will suffer moderate water sustainability problems with *no* climate change effect, and much greater portions of Alabama will suffer moderate *and high* water sustainability problems given the forecasted effects of global climate change.[38]

At a time when Alabama's water resources are less and less secure, Alabama is also growing at a rate faster than the national average.[39] The state also seeks economic growth—through manufacturing facilities, corporate headquarters, and other job-creating institutions,[40] as well as recent proposals to dramatically expand irrigated agriculture in Alabama.[41] Thus the demand for water is growing just as its availability is declining.

Drought has a number of effects, including the familiar limitations on watering one's lawn.[42] Other, less well-known effects include constraints on power generation.[43] Recent droughts in Texas even caused the land to buckle, destroying the very water mains carrying water to towns.[44]

35. COMM. ON ENVTL. & NATURAL RES., NAT'L SCI & TECH. COUNCIL, SCIENTIFIC ASSESSMENT OF THE EFFECTS OF GLOBAL CLIMATE CHANGE ON THE U.S. 12 (2008), *available at* http://www.climatescience.gov/Library/scientific-assessment/Scientific-AssessmentFINAL.pdf.

36. Richard Seager et al., *Drought in the Southeastern United States: Causes, Variability over the Last Millennium, and the Potential for Future Hydroclimate Change*, 22 J. CLIMATE 5021, 5022–23 (2009).

37. GLOBAL IMPACTS, *supra* note 27, at 113–14. Seasonal variation is a problem, even if the same total quantity of water is received on an annual basis: rain may come at the wrong time for crops and other uses, and large seasonal quantities of water may lead to flooding.

38. SUJOY B. ROY ET AL., EVALUATING SUSTAINABILITY OF PROJECTED WATER DEMANDS UNDER FUTURE CLIMATE CHANGE SCENARIOS (2010).

39. Carolyn Trent, *Alabama Population Trends*, 76 ALA. BUS., no. 2, 2007 at 10–11, *available at* http://cber.cba.ua.edu/rbriefs/ab2007q2_poptrends.pdf.

40. George Talbot, *Riley Urges Continued Solicitation of Industry*, BIRMINGHAM NEWS, July 18, 2010, at 13A.

41. Richard T. McNider & John R. Christy, *Let the East Bloom Again*, N.Y. TIMES, Sept. 22, 2007, http://www.nytimes.com/2007/09/22/opinion/22mcnider.html.

42. Ari Auber, *Drought Effects Extend Far Beyond Water Restrictions*, N.Y. TIMES, Aug. 5, 2011, at A19A.

43. UNION OF CONCERNED SCIENTISTS, THE ENERGY-WATER COLLISION: POWER AND WATER AT RISK (2011), *available at* http://www.ucsusa.org/assets/documents/clean_energy/ew3/power-and-water-at-risk-no-endnotes.pdf.

44. Auber, *supra* note 42.

II. ALABAMA'S WATER LAW

Almost all American states treat surface water (the water in lakes, streams, and creeks) separately from groundwater (the water in underground lakes, streams, and aquifers), despite the hydrogeologic interconnection of most of these resources.[45] As is generally true among the humid states,[46] Alabama adopted and modified the "riparian" common-law doctrine of England to regulate surface waters, discussed in Part II.A below. Similarly, like many other American states, Alabama abandoned the English law governing groundwater and adopted the "American reasonable use rule," discussed in Part II.B.

Unlike many of the humid states, Alabama has never adopted a modern statute to regulate water use comprehensively.[47] The primary water-rights statute, the Alabama Water Resources Act (AWRA),[48] disavows any intent to change existing water rights, which are conferred by common law.[49] Alabama's meager statutory regime is discussed in Part II.C. below.

A. Surface Water

Alabama follows traditional common-law riparian doctrine to determine legal rights in surface waters.[50] That common law derives originally from England in the 1700s, although it has evolved in the United States to reflect our unique water situation and to address changes wrought by the Industrial Revolution and subsequent developments.

Common-law riparian doctrine associates the right to use water with the ownership of land abutting the water.[51] Technically, "riparian" refers to rivers and streams, while "littoral" refers to lakes, but the term "riparian rights" embraces lakes, streams, and rivers.[52] Thus, generally, the only way to obtain riparian rights is to purchase riparian property,[53] as a non-riparian

45. SAX ET AL., *supra* note 8, at 393 ("A primary historical reason for the duality was lack of knowledge about, or the inability to predict, the movement of water beneath the earth's surface.").

46. SAX ET AL., *supra* note 8, at 27.

47. *See infra* Part III.C.

48. ALA. CODE §§ 9-10B-1 to -30 (2001).

49. ALA. CODE § 9-10B-27 ("Nothing contained in this chapter shall 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.").

50. Andreen, *supra* note 5, at 1–2 (citing Elmore v. Ingalls, 17 So. 2d 674 (Ala. 1944); Ulbricht v. Eufala Water Co., 6 So. 78 (Ala. 1889); Harry Cohen, *Water Law in Alabama—A Comparative Survey*, 24 ALA. L. REV. 453 (1972)).

51. SAX ET AL., *supra* note 8, at 27–28.

52. *Id.* at 28.

53. Andreen, *supra* note 5, at 3.

has no right to divert surface water for consumptive use.[54] "The whole notion of the doctrine of riparian rights is that the benefits of water in a stream or lake should be limited to those along the bank or shore."[55]

The English common law imposed a "natural flow" rule, under which each riparian owner was "entitled to have the water flow across the land in it[s] natural condition, without alternation by others of the rate of flow, or the quantity or quality of the water."[56] Thus, the doctrine forbade the diversion or damming of any stream, making the operation of mills and the irrigation of fields with the stream's water unlawful.[57] The natural flow doctrine was thus highly incompatible with the nineteenth century's demand for economic development and productive use of resources, and the doctrine evolved to meet that demand.

The evolved common-law riparian doctrine allows a riparian owner to use water from the riparian water body on her land, but she may not engage in uses that unreasonably injure other riparian owners.[58] Those who have riparian rights share those rights equally: their rights are *correlative*.[59] Rights are identical for everyone with riparian property, no matter the size of the riparian parcel, and no matter how much frontage the property has on the body of water.[60] In times of shortage, the general common-law approach is for courts to require across-the-board cuts, under which riparian owners "share the shortage."[61] If uses are not scalable (in other words, if they are all-or-nothing), some uses may be stopped in favor of others.[62] Responses to shortage, in the absence of a statute prioritizing uses, will, thus, be unpredictable.

Conflicts between riparian users are resolved by litigation; a court evaluates the competing uses and determines whether the uses are reasonable.[63] What's worse, any judgment is inherently unstable, because other riparians may change their uses, or new riparians may enter the

---

54. *Id.* ("[T]he [Alabama] cases assume that water can be used only on riparian lands and generally cannot be conveyed off the premises for use on non-riparian lands."). Alabama law recognizes that nonriparians can obtain water rights if the use continues long enough without objection. *See, e.g.*, Ala. Consol. Coal & Iron Co. v. Turner, 145 Ala. 639 (1905) (prescriptive acquisition of right to divert water).

55. A. DAN TARLOCK, LAW OF WATER RIGHTS & RESOURCES § 3:87 (2010).

56. Heather Elliott & Christine Klein, Water Law 101, at 3 (May 20, 2010) (unpublished manuscript) (on file with author). One expert suggests that Alabama still follows the natural flow doctrine, although that view is almost certainly incorrect. TARLOCK, *supra* note 55, § 3:56 (citing Harold I. Apolinsky, *The Development of Riparian Law in Alabama*, 12 ALA. L. REV. 155 (1959)).

57. SAX ET AL., *supra* note 8, at 38.

58. *Id.* at 32–33.

59. *Id.* at 33.

60. *Id.* at 31.

61. *Id.* at 33–34.

62. *Id.*

63. Elliott & Klein, *supra* note 56, at 4.

equation (as when a property is subdivided); those new circumstances require a rebalancing of the uses so that all riparians may exercise their equal and correlative rights in the same limited water supply.[64]

Even the most casual reading of the foregoing should make clear two things. First, riparian doctrine has some supremely silly features. And second, for riparian doctrine to function at all, water must be plentifully available.

Why "silly"? To begin with, there is no necessary connection between a parcel's riparian boundary and that parcel's suitability for use; while property bordering on a river or stream *may be* fecund farmland, it may also be hilly or rocky and completely unsuitable for productive use. Moreover, if water is abundant, restricting use to only riparian parcels is inefficient: it would be far better to allow a broader category of users and, thus, to put more water to productive use. Finally, the common-law approach, which requires courts ultimately to adjudicate disputes between rival water users, is cumbersome, reactive, and unpredictable.

Why, then, is the riparian doctrine at all tolerable? Because in Alabama and the other humid states, water has almost always been plentiful. The lakes, rivers, and streams are capacious, reducing disputes between riparian owners. And water is plentiful in other forms as well: rain, springs, and underground aquifers have been more than ample for non-riparian users.

If riparian doctrine succeeds only in conditions of plenty, however, can it survive the pressures that are being placed upon it by drought, growth, and climate change?

B. Groundwater

Alabama follows the so-called "American reasonable use rule" to govern the extraction of groundwater.[65] To the extent that the word "reasonable" suggests reasoned regulation of the resource, the name is a misnomer.[66] The primary limitation imposed by the American reasonable use rule is that only overlying owners have rights to use the water, and only on the overlying tract.[67] The doctrine would also prevent pumping

64. *See* Joseph W. Dellapenna, *Regulated Riparianism*, *in* 1 WATERS AND WATER RIGHTS § 9.01 (Robert E. Beck & Amy K. Kelly eds., 1991 ed.) (2007 repl. vol.).

65. Martin v. City of Linden, 667 So. 2d 732 (Ala. 1995).

66. *See* SAX ET AL., *supra* note 8, at 428–29; *see also* TARLOCK, *supra* note 55, at § 4:8 ("The American or reasonable use rule remains a modified law of capture. Historically, reasonable use of groundwater has not included the sharing rules incorporated into the reasonable use rule of riparian rights . . . .").

67. SAX ET AL., *supra* note 8, at 415; *see also* TARLOCK, *supra* note 55, at § 4:9.

groundwater for purely malicious purposes (for example, to spite a neighbor by drying up his well).[68]

Apart from these slight limitations, the rule is really a "rule of capture": groundwater can be extracted and used by whatever overlying owner extracts and uses it.[69] One overlying landowner cannot enjoin another's use.[70]

The central problem with Alabama's groundwater law, then, is that it does not promote sustainable use. This may not matter—as noted above, ADEM has alleged that Alabama has more than enough groundwater for three further millennia of use.[71] But if usage patterns change, or if changing climate prevents normal recharge of the state's aquifers, the American reasonable use rule provides no basis for rationing groundwater for sustained use.

C. Lack of Meaningful Statutory or Regulatory Restraints

Alabama enacted the AWRA in 1993.[72] The statute created an Office of Water Resources (OWR) within the Alabama Department of Economic and Community Affairs.[73] OWR monitors water usage and issues Certificates of Use (COUs) to three categories of water users: public water systems and those non-public and irrigation users who have the capacity to withdraw more than 100,000 gallons of water per day.[74]

AWRA provides relatively little guidance for the issuance of COUs, stating only that the certificates must issue when the user "establish[es] that the proposed diversion, withdrawal, or consumption of such water shall not interfere with any presently known existing legal use of such water and is consistent with the objectives of this chapter."[75] By regulation, OWR has said it will issue COUs only when the applicant has shown the "basis of legal right to use the water to be diverted"[76] and OWR has found that "the use of water is . . . a lawful, reasonable and beneficial use of water."[77]

---

68. SAX ET AL., *supra* note 8, at 429; *see also* TARLOCK, *supra* note 55, at § 4:8.

69. *See* SAX ET AL., *supra* note 8, at 415; *see also* TARLOCK, *supra* note 55, at §§ 4:6–4:9.

70. *Martin*, 667 So. 2d at 738 ("[A]ny non-wasteful use of water that caused harm was nevertheless reasonable if it was made on or in connection with the overlying land . . . ."); *see also* Adams v. Lang, 553 So. 2d 89 (Ala. 1989).

71. *See supra* note 23 and accompanying text.

72. 1993 Ala. Acts p. 78, § 5.

73. ALA. CODE § 9-10B-4 (1975). Note that the OWR was *not* created within the Alabama Department of Environmental Management.

74. *Id.* § 9-10B-20(a).

75. *Id.* § 9-10B-20(e).

76. ALA. ADMIN. CODE r. 305-7-10.-02(1)(h) (2002).

77. *Id.* at r. 305-7-10-.02(2)(b)(1); *see also id.* at r. 305-7-10-.04 (renewal of COU subject to same rules as original issuance of COU).

Despite a long list of powers in AWRA, OWR's role is largely an advisory one. The State Legislature has given no entity the power to comprehensively manage water resources.[78] OWR can take action in some limited circumstances,[79] but in receiving applications and issuing COUs, OWR serves largely a ministerial function and does not manage Alabama's water resources for sustainable yield. Indeed, in 1995, after the passage of AWRA, the Alabama Supreme Court stated that "Alabama does not have an agency devoted to the conservation and management of its water resources."[80]

This absence of regulatory authority is in sharp contrast to many other humid states which, though historically following common-law riparian doctrine, have adopted statutes governing water law.[81] Those states have recognized that the common law functions reasonably well in times of abundance, but that abundance is an increasingly uncommon situation. Population growth, economic development, and less dependable water supplies (through pollution, climate change, or the like) have revealed systemic weaknesses in the common law; those weaknesses can be addressed piecemeal or wholesale, a topic I will return to in Part IV.

III. THE ALABAMA–GEORGIA–(FLORIDA) DISPUTES

As shown in Parts I and II, Alabama faces a water crisis within its own borders: recent droughts highlight the failures of the common law and the incapacity of current Alabama statutes. That in itself would be enough to justify legislative action. Yet Alabama is also beset with water problems involving its neighbors to the East and South.[82]

Alabama, Georgia, and Florida have been fighting over the Apalachicola–Chattahoochee–Flint (ACF) river system since the late 1980s, discussed in Part III.A; Alabama and Georgia also have a continuing dispute over the Alabama–Coosa–Tallapoosa (ACT) river system,

78. As one newspaper summary put it, "Alabama has no comprehensive water use plan. Unlike many states, Alabama does not give the governor authority to order water conservation measures, even in extreme drought." M.J. Ellington, *State's Need for Water Planning Continues Even as Drought Eases*, DECATUR DAILY, Dec. 23, 2008, http://www.decaturdaily.com/stories/States-need-for-water-planning-continues-even-as-drought-eases,24879?; *see also, e.g.*, Ellington, *supra* note 7 (noting that "[l]ack of regulatory authority [over water resources] was a problem in the severe 2007 drought").

79. *E.g.*, ALA. CODE § 9-10B-21 (1975) (giving OWR a role in determining water emergencies); *id.* § 9-10B-5 (making OWR the party who negotiates on behalf of the state in water disputes).

80. Martin v. City of Linden, 667 So. 2d 732, 739 (Ala. 1995).

81. Elliott & Klein, *supra* note 56, at 8.

82. Future disputes may arise with Alabama's northern neighbor, Tennessee, and its western neighbor, Mississippi, over their shared rivers, including the Tennessee and the Tombigbee. Indeed, at least one dispute with Mississippi over the Escatawpa River was described by this state's great water law expert, Harry Cohen, in 1984. *See* Harry Cohen, *An Interstate Water Problem Between Mississippi and Alabama—The Escatawpa River*, 35 ALA. L. REV. 291 (1984)

discussed in Part III.B. Efforts to resolve these disputes have met with utter failure; indeed, three years ago one commentator described the effort as "Sisyphean,"[83] and progress is still stymied. Worse for Alabama, our neighbors have taken action to look like wise stewards of water resources while our state has comparatively little regulation. The more time that passes without meaningful action by Alabama to regulate its water resources, the worse its bargaining position becomes.[84]

A. Apalachicola–Chattahoochee–Flint

The Chattahoochee River rises in the mountains of northern Georgia and flows south toward Atlanta; before reaching Atlanta, the Buford Dam delays the waters of the Chattahoochee, forming Lake Lanier.[85] Atlanta draws extensively on the river (its primary outtake is just below the Buford Dam) to provide drinking water to the metropolitan area;[86] the river also receives massive quantities of treated wastewater from Atlanta and its surrounding suburbs.[87] The Chattahoochee then flows southwest from Atlanta, becoming the boundary between Georgia and Alabama.[88]

The Flint River rises just south of Atlanta, flowing southward through Georgia's most productive agricultural lands.[89] The Chattahoochee and the Flint meet at the Georgia–Florida border, where together they form the Apalachicola River.[90] That short river ultimately empties into the Gulf of Mexico at Apalachicola Bay, the location of Florida's most productive oyster fishery.[91] The Apalachicola River and lower Chattahoochee are also used for navigation, and the Army Corps of Engineers (the "Corps") has

83. Robert Haskell Abrams, *Settlement of the ACF Controversy: Sisyphus at the Dawn of the 21st Century*, 31 HAMLINE L. REV. 679 (2008).

84. It is also worth noting that at least some of Alabama's groundwater resources are shared with other Southeastern states; disputes that arise over *those* shared waters may raise issues similar to those discussed here. *Cf.* Rex A. Mann, Note, *A Horizontal Federalism Solution to the Management of Interstate Aquifers: Considering an Interstate Compact for the High Plains Aquifer*, 88 TEX. L. REV. 391 (2009).

85. *In re* MDL-1824 Tri-State Water Rights Litigation, 644 F.3d 1160, 1167–69 (11th Cir. 2011).

86. *See* Erhardt, *supra* note 5, at 201.

87. *See In re* Tri-State Water Rights Litigation, 639 F. Supp. 2d 1308, 1348 n.22 (M.D. Fla. 2009), *rev'd sub nom. In re* MDL-1824 Tri-State Water Rights Litigation, 644 F.3d 1160 (11th Cir. 2011).

88. *In re MDL-1824*, 644 F.3d at 1169.

89. *See* BRIGID A. DOHERTY & JOHN C. MCKISSICK, CTR. FOR AGRIGIBUS. & ECON. DEV., AN ANALYSIS OF HISTORICAL TRENDS IN THE FARMGATE REPORT (2000) (showing the largest amount of farmgate value in Georgia in Southwest Georgia near the Flint River).

90. *In re MDL-1824*, 644 F.3d at 1167.

91. Autumn J. Oczkowski et al., *Fresh Water Inflow and Oyster Productivity in Apalachicola Bay, FL (USA)*, 34 ESTUARIES & COASTS 993, 993 (2011).

built and currently maintains a number of dams along both the Chattahoochee and the Flint to control flooding and maintain navigability.[92]

The dispute over the ACF has its origins in the 1970s, when the Corps first contracted to provide drinking water to Atlanta from the Chattahoochee near the Buford Dam.[93] The population in the metropolitan area around Atlanta expanded enormously from 1970 (1,390,164) to 1996 (3,351,203).[94] Because Atlanta drew most of its drinking water from the Chattahoochee (in 1981, it was obtaining ninety percent of that water from the river and Lake Lanier),[95] increasing population meant increasing withdrawals.[96] In 1990, Alabama began litigation against the Corps in federal court over Atlanta's use of the Chattahoochee for drinking water, and Florida and Georgia intervened.[97] That litigation was suspended shortly thereafter for the state parties to attempt to arrive at a mutually agreeable allocation of their shared water resources.[98]

Those negotiations ultimately failed,[99] and several other lawsuits were filed against the Corps and related parties. Those lawsuits were consolidated with a portion of Alabama's long-stayed action. The United States District Court for the Middle District of Florida finally issued an opinion in 2009.[100]

Alabama argued that Congress, when authorizing appropriations for the construction of the Buford Dam, limited the Corps's powers in operating the dam.[101] The Corps was to provide flood control and navigability but

---

92. *In re Tri-State*, 639 F. Supp. 2d at 1312; *The Apalachicola–Chattahoochee-Flint (ACF) River Basin*, U.S. ARMY CORPS OF ENGINEERS: MOBILE DISTRICT, http://www.sam.usace.army.mil/pa/acf-wcm/bg1.htm (last visited Jan. 17, 2012).

93. *See In re MDL-1824*, 644 F.3d at 1171–74 (showing that the Corps entered into contracts where it would give direct appropriations from Lake Lanier, more than the indirect benefit of river flow from Buford Dam management).

94. Todd K. Gardner & Michael R. Haines, *Table Aa1034–1178 Metropolitan Areas–Population: 1800–1990 (Part I)*, *in* HISTORICAL STATISTICS OF THE U.S., 1-122 (Susan B. Carter et al. eds., 2006); Michael R. Haines, *Table Aa1884–1895 Metropolitan Areas–Population, Density, Land Area, International Migration, and Natural Increase: 1980–1997*, *in* HISTORICAL STATISTICS OF THE U.S., 1-157 (Susan B. Carter et al. eds., 2006). That population growth has, of course, continued; the Atlanta-Sandy Springs-Marietta Metropolitan Statistical Area had a population of 4.2 million by 2000, U.S. CENSUS BUREAU, RANKING TABLES FOR POPULATION OF METRO. STATISTICAL AREAS, Table 1a (2003), *available at* http://www.census.gov/population/www/cen2000/briefs/phc-t29/tables/tab01a.pdf, and nearly 5.5 million by July1, 2009, U.S. CENSUS BUREAU, *Metropolitan and Micropolitan Statistical Areas*, http://www.census.gov/popest/data/metro/totals/2009/index.html (last revised Dec. 8, 2011).

95. *In re Tri-State*, 639 F. Supp. 2d at 1325–26.

96. *See id.* at 1322, 1325.

97. *In re MDL-1824*, 644 F.3d at 1174. A number of other parties, including municipalities and private companies, are parties to the litigation. *See id.* at 1165 & nn.1–3.

98. *Id.*

99. *See infra* Part III.C.1.

100. *In re Tri-State*, 639 F. Supp. 2d at 1308. The litigation also raises important Endangered Species Act issues, which were heard in separate proceedings. *See id.* at 1309–10.

101. *In re MDL-1824*, 644 F.3d at 1191.

was not authorized to allocate drinking water in Lake Lanier to Atlanta.[102] The district court agreed with Alabama and held that Congress would have to enact additional legislation to authorize the Corps to provide water to Atlanta.[103]

The district court stayed its order, however, giving the states three years to come to a settlement of the dispute.[104] Two years later, however, the Eleventh Circuit overturned the district court, holding that Congress had contemplated using the Buford Dam to supply water to Atlanta.[105] Alabama and Florida sought rehearing en banc of the Eleventh Circuit's ruling.[106] That request was denied in September 2011.[107]

B. Alabama–Coosa–Tallapoosa

Alabama also confronts Georgia in a dispute over the ACT basin. The Coosa River starts in Rome, Georgia, and is produced by the confluence of the Oostanaula and Etowah Rivers. The Tallapoosa River rises in the mountains of northern Georgia. Both then flow southwest through Alabama, merging with the Alabama River just north of Montgomery. The Alabama River then joins the Mobile River, which empties into the Gulf of Mexico. The river system is used largely for navigation, irrigation, and hydropower, though Atlanta now views it as a source of drinking water.[108]

Alabama's 1990 suit against the Corps included allegations of mismanagement of the ACT system.[109] As discussed above, that litigation was stayed while the states attempted to negotiate an interstate compact.[110] The litigation came alive again after the collapse of those negotiations, but the Eleventh Circuit refused a request for an en banc rehearing.[111] Other

102. *In re Tri-State*, 639 F. Supp. 2d at 1344–54.

103. *Id.* at 1354–56.

104. *In re MDL-1824*, 644 F.3d at 1165.

105. *Id.* at 1192.

106. In an opinion piece, Alabama Attorney General Luther Strange states, "The result is unfair to Alabama and is also inconsistent with federal law, which is why we have asked the federal appeals court to reverse it." Luther Strange, Op-Ed., *Feeding Atlanta at Alabama's Expense*, BIRMINGHAM NEWS, Aug. 28, 2011, at 1F.

107. *In re* MDL-1824 Tri-State Water Rights Litigation, No. 09-14657 (11th Cir. Sept. 16, 2011) (order denying petition for rehearing en banc).

108. *See* Stacy Shelton, *Georgia's Water Crisis*, ATL. J.-CONST., May 1, 2008, at A1.

109. Alabama v. U.S. Army Corps of Eng'rs, 382 F. Supp. 2d 1301, 1304 (N.D. Ala. 2005).

110. *See supra* Part III.A; *infra* Part III.C.1.

111. Chris Joyner & Patrick Fox, *New Details Tri-State Wars: Court Won't Revisit Lake Lanier Ruling*, ATLANTA. J. & CONST., Sept. 20, 2011, at B1.

litigation regarding the ACT system is pending in the Northern District of Alabama.[112]

C. Failures in Negotiation and Litigation

Because States are sovereign entities, most water disputes in the United States have been resolved using either interstate compacts or litigation.[113] Alabama and its neighbors have engaged in both for decades, with virtually no progress.

1. Negotiation

States may reach agreement through an interstate compact.[114] Under the Constitution, Congress must ratify any compact (a requirement that reflects the Founders' fear of cabals among the states at the expense of other states or the national government).[115] Once the compact is ratified by Congress, its terms are federal law,[116] supreme under the Constitution; the compacting states cannot vary the terms of the compact, nor can they pass laws or take action inconsistent with it.[117] Compacts are ultimately implemented by state legislation.[118]

An important aspect of interstate water resources compacts is the structure they adopt. Some have failed because of cumbersome dispute resolution processes: the Pecos River Compact between Texas and New Mexico authorized action only upon unanimous decision by the two states; deadlock therefore doomed the compact.[119] Compacts may also provide for adaptive management as in the Delaware River Basin Compact—signed by Delaware, Pennsylvania, New Jersey, and New York—which establishes a commission that has successfully managed Delaware River basin waters for decades.[120]

---

112. Editorial, *There's No Doubt Georgia Now Has Upper Hand in Water Wars with Alabama, Florida*, BIRMINGHAM NEWS, July 2, 2011, http://blog.al.com/birmingham-news-commentary/2011/07/our_view_theres_no_doubt_georg .html.

113. Congress would undoubtedly have the power to resolve disputes over interstate waters under the Commerce Clause, U.S. CONST. art. I, § 8, but has almost never exercised that power. *See* SAX ET AL., *supra* note 8, at 835 ("Legislators from non-participant states do not relish voting to impose an unpopular allocation on a disputant state, for fear their own states could suffer the same fate at some point in the future.").

114. *See* Elliott & Klein, *supra* note 56, app. C (describing several interstate water compacts).

115. U.S. CONST. art. I, § 10, cl. 3; *see also* SAX ET AL., *supra* note 8, at 842.

116. Cuyler v. Adams, 449 U.S. 433, 440 (1981);

117. U.S. CONST. art. VI, cl. 2; Hinderlider v. La Plata River & Cherry Creek Ditch Co., 304 U.S. 92 (1938).

118. *See* ALA. CODE § 33-18-1 (1975).

119. *See* Texas v. New Mexico, 462 U.S. 554, 564–65 (1983).

120. For details of the Delaware River Basin Compact, see Elliott & Klein, *supra* note 56, app. C.

Alabama, Georgia, and Florida have attempted for decades to negotiate a compact allocating their shared waters. They did enter compacts in 1996, but those compacts—one for each river basin—were only agreements to negotiate water allocations.[121] Both expired in the early 2000s without producing allocations of the states' shared water resources.[122] Negotiations appear to be ongoing, but to little effect so far.[123]

This lack of progress has led some to suggest that the states have prioritized the ongoing litigation over negotiation.[124] Information about the negotiations is limited because the negotiations are conducted confidentially.[125] The governors of Alabama and Georgia last met in June of 2011;[126] the governors of all three states last met in December of 2009, and before that in December of 2007.[127]

2. Litigation

As discussed above, most of the litigation between Alabama, Georgia, and Florida has been via litigation against the Corps; since that litigation is against a federal agency under federal law, it falls within the jurisdiction of the United States District Courts.[128] If the states ultimately sue each other, however, they will resort to the original jurisdiction of the Supreme Court to resolve their water disputes.[129] Congress has never made the jurisdiction over state versus state disputes concurrent with the lower courts; as a result, it remains exclusively within the original jurisdiction of the Supreme

---

121. Alabama–Coosa–Tallapoosa River Basin Compact, Pub. L. No. 105-105, 111 Stat. 2233 (1997) [hereinafter ACT Compact]; Apalachicola–Chattahoochee–Flint River Basin Compact, Pub. L. No. 105-104, 111 Stat. 2219 (1997) [hereinafter ACF Compact].

122. The ACF Compact expired in 2003 when the commission created by the Compact did not vote to extend its expiration; the ACT expired in 2004 for the same reason. *See* ACT Compact art. VIII, § (a)(3) 111 Stat. 2233, 2238; ACF Compact art. VIII, § (a)(3), 111 Stat. 2219, 2224; Stacy Shelton, *Water Talks a Washout*, ATL. J.-CONST., Sept. 6, 2003, at G1; *Water Wars Background*, ALABAMA RIVERS ALLIANCE, http://www.alabamarivers.org/current-work/water-wars (last visited Jan. 17, 2012).

123. Chris Joyner, *Alabama Governor Ready to Negotiate*, ATL. J.-CONST., Feb. 4, 2011, at B1.

124. Editorial, *A War That Won't End: Alabama, Georgia and Florida Sharing Fault for Water Tussle*, ANNISTON STAR, Aug. 17, 2011, http://www.annistonstar.com/view/full_story/15113549/article-A-war-that-won%E2%80%99t-end--Alabama--Georgia-and-Florida-sharing-fault-for-water-tussle; *see also, e.g.*, Editorial, *There's No Doubt Georgia Now Has Upper Hand in Water Wars with Alabama, Florida*, *supra* note 112.

125. Jeremy Redmon, *Judge: States' Water Talks Can Be Secret,* ATL. J.-CONST., Jan. 8, 2010, http://www.ajc.com/news/judge-states-water-talks-270323.html.

126. *Alabama, Georgia Governors Meet Over Regional Water Dispute*, BIRMINGHAM NEWS, June 28, 2011, http://blog.al.com/wire/2011/06/alabama_georgia_governors_meet.html.

127. *Water Wars Summit Today with Alabama, Georgia, Florida Governors*, ASSOCIATED PRESS, Dec. 15, 2009, *available at* http://blog.al.com/live/2009/12/water_wars_summit_today_with_a.html.

128. 28 U.S.C. § 1331 (2006).

129. U.S. CONST. art III, § 2, cl. 2.

Court.[130] As Justice Holmes pointed out over one century ago, the states renounced the ability to go to war with one another when they joined the Union; suit in the Supreme Court provides the alternative.[131]

Litigation in the Supreme Court is extremely inefficient, however. The Court has developed a variety of doctrines concerning both jurisdiction[132] and the merits[133] that limit the effect of the Court's decisions in water allocation. Cases in the Supreme Court can take decades to resolve and, because they are resolved based on equitable principles, can lead to repeat litigation.[134] Any litigation between Alabama, Georgia, and Florida in the Supreme Court is thus likely to take years to resolve.

D. Better Legislation in Georgia and Florida

As I have discussed in Part II, Alabama's water resources law is inadequate to meet current problems. Georgia passed a water conservation law in 2004; Florida has regulated water resources comprehensively since 1972. Our neighbors—especially Florida—look like far better stewards of water resources. That fact may weigh against Alabama in future litigation and negotiation.

Florida enacted its Water Resources Act (FWRA) in 1972.[135] That statute "generally superseded the common law"[136] and was modeled on a Model Water Code written by Florida academics around the same time.[137] The FWRA took many steps that would be considered advanced even today: "state water institutions [are organized] in conformity with hydrological basins; . . . surface and groundwater supplies[are integrated, as are considerations of] environmental protection[, and] water quality and water quantity issues; and [the statute relies heavily on] planning for the future."[138] The FWRA has been amended several times,[139] but it retains its

130. *See, e.g.*, 28 U.S.C. § 1251(a) (2006); JOSEPH F. ZIMMERMAN, INTERSTATE DISPUTES: THE SUPREME COURT'S ORIGINAL JURISDICTION 14–17 (2006).

131. *See* Missouri v. Illinois, 200 U.S. 496, 518 (1906).

132. *See, e.g.*, Texas v. New Mexico, 352 U.S. 991 (1957); New York v. New Jersey, 256 U.S. 296 (1921); Kansas v. Colorado, 206 U.S. 46 (1907).

133. *See, e.g.*, Colorado v. New Mexico, 459 U.S. 176, 187–88 (1982); Nebraska v. Wyoming, 325 U.S. 589 (1945).

134. *See* SAX ET AL., *supra* note 8, at 859 & n.14 (noting eighty-year series of cases between Kansas and Colorado).

135. FLA. STAT. ANN. § 373 (West 2006 & Supp. 2011).

136. Christine A. Klein et al., *Modernizing Water Law: The Example of Florida*, 61 FLA. L. REV. 403, 416 (2009).

137. *Id.* at 416–19.

138. *Id.* at 421–22.

139. *Id.* at 425–28.

fundamental characteristics as a comprehensive and forward-looking water statute.[140]

Georgia has had a permitting system for groundwater withdrawals since 1972[141] and a separate regulatory regime for high-volume surface water withdrawals since the late 1970s.[142] The state in 2004 provided for a state-wide water planning effort.[143] In 2010, Georgia passed the Georgia Water Stewardship Act, which provides for certain water conservation measures.[144] While Georgia's system is not as advanced as Florida's, it is a far sight better than Alabama's.

Why do these statutes matter? If Alabama does end up litigating in the Supreme Court against Georgia or Florida, or both, the Court's equitable apportionment doctrine will take into account the relative equities of the states' approaches to water resource management.[145] If Alabama has no adequate regime of water resources regulation, why should the Court take its pleas for allocation seriously? Similarly, in negotiations with Georgia and Florida over an interstate compact, Alabama stands in a poor negotiating position if it cannot say it has done enough on its own account to manage its water properly.

IV. A CALL FOR REFORM

To respond to the new normal of droughts and extreme seasonable variability in precipitation, the failures of existing law, and ongoing disputes with its neighbors, Alabama must change its water resources law. The state legislature should recognize the hydrological reality that surface water is connected to groundwater, making one unified water resource, and that water quality and quantity need to be addressed together. Both goals can be accomplished by adopting the Regulated Riparian Model Water Code[146] to regulate that unified resource.

140. *Id.* at 425. Professor Klein and her co-authors identify several steps that Florida could take to make the FWRA even more effective. *See id.* at 429–74 (recommending that lawmakers clarify the FWRA's "public interest" test, provide for the creation of minimum environmental flows and water levels, expand the statute's planning provisions (including linking water planning with land-use planning), establish protections for basins of origin when water transfers are permitted, and determine the role of market principles in water allocation).

141. GA. CODE ANN. §§ 12-5-90 to -107 (2006 & Supp. 2011).

142. *Id.* § 12-5-31.

143. *Id.* § 12-5-522.

144. Georgia Water Stewardship Act, 2010 Ga. Laws 732 (codified as amended in GA. CODE ANN. §§ 12-5, 8-2).

145. *E.g.*, Evans v. Oregon, 462 U.S. 1017, 1025 (1983); Colorado v. New Mexico, 459 U.S. 176, 183–84 (1982); Kansas v. Colorado, 206 U.S. 46, 104–05 (1907).

146. REGULATED RIPARIAN MODEL WATER CODE (Am. Soc'y of Civil Eng'rs 2004).

A. Hydrologic Reality, Quantity, and Quality

The common law evolved two separate doctrines for surface water and groundwater because early lawmakers did not understand the hydrologic connections between the two. Yet we now know that there is considerable interplay between surface and groundwater. Withdrawing groundwater can diminish the flow of springs or nearby streams; withdrawing surface water may reduce recharge of groundwater aquifers, even allowing "infiltration of saltwater into a groundwater system."[147] Although the science makes clear that the two resources are often interrelated, sometimes wholly,[148] little progress has been made in reconciling rules that evolved to treat the two separately (and sometimes totally inconsistently).[149] Some courts have thrown their hands up, maintaining the law's fiction that the two are separate.[150] Other states, primarily in the West, have long recognized the connection.[151]

In adopting a new water resources statute, Alabama has the opportunity to recognize the hydrologic interconnection that exists between much surface and groundwater. Such a recognition would "bring its water law into line with contemporary knowledge, and with scientific reality."[152]

Similarly, water quantity regulation is often also about water quality regulation, and water quality regulation is inextricably related to water quantity. The amount of water available in a stream is a function of water quantity regulation, and it is also crucial to water *quality* in that pollution permits depend on stream flows to dilute pollutants. A water resources statute that does not provide for coordination between quality and quantity is thus problematic.

---

147. This has happened with portions of the Potomac–Raritan–Magothy Aquifer in southern New Jersey. *See* Elliott & Klein, *supra* note 56, Part III.B.

148. Some aquifers are hydrologically unconnected to surface water; treating such aquifers as separate resources is, of course, uncontroversial. *See, e.g.*, SAX ET AL., *supra* note 8, at 455.

149. *See, e.g.*, Mich. Citizens for Water Conservation v. Nestlé Waters N. Am. Inc., 709 N.W.2d 174, 201–02 & n.43 (Mich. Ct. App. 2005), *aff'd in part and rev'd on other grounds*, 737 N.W.2d 447 (Mich. 2007); Portage Cnty. Bd. of Comm'rs v. Akron, 846 N.E.2d 478 (Ohio 2006); Collens v. New Canaan Water Co., 234 A.2d 825 (Conn. 1967); Stevens v. Spring Valley Water Works & Supply Co., 247 N.Y.S.2d 503 (N.Y. App. Div. 1964); Pence v. Carney, 52 S.E. 702 (W. Va. 1905).

150. Postema v. Pollution Control Hearings Bd., 11 P.3d 726, 731 (Wash. 2000) (stating that hydraulic connection between surface and groundwater could not, in itself, prevent a groundwater appropriation, even when connected stream was fully appropriated).

151. *E.g.*, City of Albuquerque v. Reynolds, 379 P.2d 73, 80–81 (N.M. 1962) (confirming state engineer's decision to condition permits for groundwater appropriation on retirement of surface water rights, when the extraction of groundwater would affect already-established surface water appropriations on the Rio Grande).

152. Joseph L. Sax, *We Don't Do Groundwater: A Morsel of California Legal History*, 6 U. DENV. WATER L. REV. 269, 270 (2003).

B. What Regime to Adopt?

Alabama is one of the minority of eastern states that still relies almost exclusively on the common law as a source for water rights. Many other humid states have adopted at least some measure of statutory regulation of water resources,[153] a process that began in the 1950s.[154] The collection of state laws is called "regulated riparianism."[155]

Regulated riparianism tries to overcome the weaknesses of common-law riparianism—in particular, its uncertainty.[156] Details vary, but most of the permitting systems allocate water using an administrative agency in charge of water resources; that agency is instructed to evaluate applications for permits based on the reasonableness of the proposed use.[157] The statutes usually lift the traditional riparian restrictions on place of use (though limitations on inter-basin transfers may remain) and impose some kind of time limit on the duration of permits.[158]

Although regulated riparianism invokes the common law's "reasonableness" requirement, this condition applies *before* a permit issues, rather than only in *post hoc* litigation.[159] Permits therefore offer a great deal more certainty than the common law. In addition, statutory definitions of reasonableness ask the agency to consider efficiency, waste, and public welfare, as well as the impact on other riparians.[160] A permitting agency will thus consider, for example, the environmental consequences of a proposed use, the compatibility of that use with state water plans, and "historic preservation values" among many other factors.[161]

Regulated riparianism provides several clear advantages to the common law. The administrative permit system considers and authorizes proposed uses before they begin, thus removing the uncertainty inherent in

153. TARLOCK, *supra* note 55, § 3.90 (listing Arkansas, Connecticut, Delaware, Florida, Georgia, Iowa, Kentucky, Maryland, Minnesota, New Jersey, New Hampshire, North Carolina, Virginia, and Wisconsin as having permit systems); *see also* Robert E. Beck, *The Regulated Riparian Model Water Code: Blueprint for Twenty First Century Water Management*, 25 WM. & MARY ENVTL. L. & POL'Y REV. 113, 113 (2000) (noting that seventeen of the thirty-one eastern states have regulated riparian statutes, three more than Tarlock lists).

154. A. Dan Tarlock, *Water Law Reform in West Virginia: The Broader Context,* 106 W. VA. L. REV. 495, 517 (2004).

155. *Id.*

156. *Id.* at 518.

157. *See generally* Dellapenna, *supra* note 64, § 9.03 (describing various methods of statutory modification of riparian rights).

158. *Id.* § 9.03(a).

159. Joseph W. Dellapenna, *Developing a Suitable Water Allocation Law for Pennsylvania,* 17 VILL. ENVTL. L.J. 1, 49–50 (2006).

160. Dellapenna, *supra* note 64, § 9.03(b)(1).

161. *Id.*

common-law riparianism.[162] Permits specify where, when, and how water may be diverted, how *much* may be diverted, and what the water may be used for.[163] Permits also require monitoring and reporting of water use, protect minimum instream flows, and impose other conservation measures.[164] The agency also, through the permitting system, collects information on existing uses and can make plans for future needs.[165] That information also enables the agency to respond swiftly and effectively in times of shortage, something that common-law riparianism fails at. Riparian permits expire, and that also gives the state the opportunity for periodic review.[166] Rather than *reacting* to water problems, as the courts do under the common law, a regulated riparian statute permits a *proactive* approach to water resources management.

Regulated riparianism also bests common-law riparianism by abandoning the common law's requirement of riparian land ownership and on-tract use.[167] Some states permit transfers from one watershed to another[168]—a practice forbidden under traditional common-law riparianism. All these aspects of regulated riparianism mean that water can be shifted to places where it is needed, rather than being limited to land abutting the water resource. At the same time, regulated riparianism usually builds in social and environmental considerations, so that if transfers away from abutting land would harm the local economy or ecosystem, the transfer can be limited or forbidden.

Finally, the permitting system gives some security of right, thus protecting investments. As noted above,[169] the common-law approach is inherently unstable—a new riparian owner, or a new use by an existing owner, can always disrupt existing patterns of water use. But permitting systems usually give priority to older uses over new ones under an application of the "reasonableness" standard.[170] States may also protect

162. Tarlock, *supra* note 154, at 495, 517–18. Often, no permit is required for small uses that do not cross a specified threshold, or certain types of uses. Dellapenna, *supra* note 64, § 9.03(a)(3).

163. Dellapenna, *supra* note 64, § 9.03(a)(5)(A).

164. *Id.* § 9.02(a).

165. Tarlock, *supra* note 154, at 518.

166. Dellapenna, *supra* note 64, § 9.03(a)(4). Authors of the Regulated Riparian Model Water Code selected twenty years as a reasonable permit length sufficient to allow for the amortization of infrastructural investments. *Id.* § 9.03(a)(4).

167. Dellapenna, *supra* note 159, at 50.

168. Dellapenna, *supra* note 64, § 9.03(a)(2), n.362 (indicating that interbasin transfers are permitted in states including Connecticut, Georgia, Florida, Kentucky, and probably New York).

169. *See supra* notes 50–64 and accompanying text.

170. FLA. STAT. ANN. § 373.223(1)(b) (West 2006) (requiring consumptive use permit applicants to demonstrate, *inter alia*, that "the proposed use of water . . . [w]ill not interfere with any presently existing legal use of water").

existing (pre-permit) riparian water uses in the transition to the new system, so that claims of unconstitutional takings are pretermitted.[171]

What, specifically, should Alabama adopt as its statute? The American Society of Civil Engineers published the Regulated Riparian Model Water Code (the "Code"), which provides a comprehensive statutory system "for allocating water rights among competing interests and for resolving other quantitative conflicts over water."[172] I recommend that Alabama take that statute as its starting point. As one critic has put it, the Code "offers a model for the twenty-first century."[173]

The Code imposes a comprehensive permitting system[174] that consolidates regulation of surface and groundwater.[175] Uses of water must be "reasonable,"[176] and water uses are given a rank-order preference, with human subsistence given the highest priority.[177] There are provisions for the coordination of water quantity and water quality permitting.[178] The Code specifically protects instream flows necessary for protecting "the biological, chemical, and physical integrity of the water source"[179] and imposes special procedures for determining whether to allow interbasin transfers.[180]

Ideally, such legislation would be coupled with productive negotiations with our neighboring states, so that our shared rivers can be managed collaboratively.[181] The states have thus far failed to find a negotiated solution, presumably because each state hopes for a litigation victory that would make negotiation unnecessary.[182] But any litigation victory will be a hollow one, as ongoing changes in climate, demographics, and development change the conditions under which we live.[183] Only

171. *See, e.g.*, *In re* Waters of Long Valley Creek Stream Sys., 599 P.2d 656, 669 (Cal. 1979) (interpreting state water code "as not authorizing the [state water board] to extinguish altogether a future riparian right, [but permitting] the [b]oard [to] make determinations as to the scope, nature and priority of the right").

172. REGULATED RIPARIAN MODEL WATER CODE iii (Am. Soc'y of Civil Eng'rs 2004).

173. *See* Beck, *supra* note 153, at 115.

174. REGULATED RIPARIAN MODEL WATER CODE § 6R-1-01 (unless exempted within the Code, all withdrawals must be authorized by a permit); *see also* Chapters 4 and 5 of the Code, establishing administrative and enforcement procedures.

175. § 6R-3-02(b) (requiring consideration of "all hydrologically connected water sources" in evaluating the reasonableness of a water use).

176. § 6R-3-01(a).

177. § 6R-3-04(1)(a).

178. § 6R-3-02(e) (decision regarding reasonableness of water use must take into account "waste assimilation capacity" and "other aspects of water quality").

179. § 3R-2-01 and -02.

180. § 6R-3-06.

181. *E.g.*, John Kominoski, *Entire Southeast Needs a New Strategy for Conserving Water*, ATL. J.-CONST., Dec. 21, 2010, http://www.ajc.com/opinion/entire-southeast-needs-a-784977.html.

182. *See* Part III.C.

183. *See* Part I.B.

comprehensive, forward-looking management has any hope of meeting our future needs.

CONCLUSION

Alabama is already far behind its neighbors in the regulation of water resources. Some signs are promising, however. The Permanent Joint Legislative Committee on Water Policy and Management has recently met,[184] and many voices are joining the call for real water resources reform.[185] Alabama should seize the moment and bring its water resources law into the twenty-first century.

184. Ellington, *supra* note 6.
185. *See supra* note 7.