

NORTH CAROLINA WATER MANAGEMENT LAW

By

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## INTRODUCTION<sup>1</sup>

Continuing development pressures have combined with the stress of a second extended drought of the young 21<sup>st</sup> century to impose heavy pressures on the water resources of North Carolina and other southeastern states. These pressures have prompted proposals for changes in water management laws and other legal strategies.

This paper examines some of the principal alternatives under consideration in North Carolina. As background for this analysis, it surveys existing North Carolina water management law -- common law decisions, legislation, administrative rules, and constitutional concepts. The paper is part of a long-term study of North Carolina and other eastern water management law begun in 2003. Four chapters of a projected 15-chapter book scheduled for publication in 2008 have been completed. (See Appendix A for Table of Contents.)<sup>2</sup>

## COMMON LAW

At common law North Carolina is a classic eastern water rights state.<sup>3</sup> We begin by classifying water as either water in surface streams, groundwater or diffused surface water.

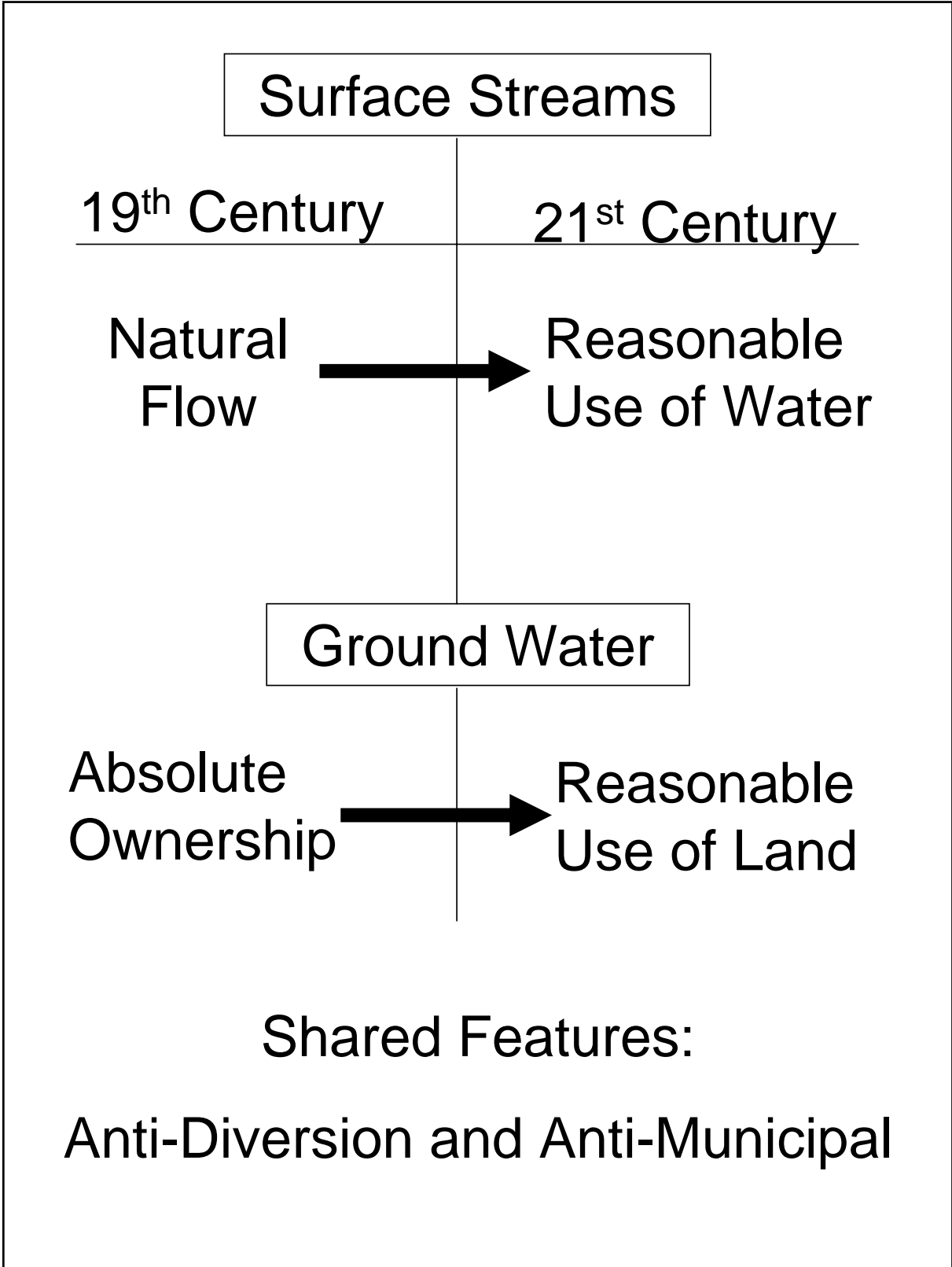
Our riparian rights doctrine for surface streams has evolved from the original 19<sup>th</sup> century natural flow rule to a 20<sup>th</sup>-21<sup>st</sup> century reasonable use rule. (In the 19<sup>th</sup> century each riparian owner was obligated to preserve the natural flow of the stream. Today, each riparian owner has a right to make reasonable use of the stream, subject to the reasonable uses of the other riparians.)

Our percolating ground water rights doctrine has evolved from a 19<sup>th</sup> century absolute ownership rule to a 20<sup>th</sup>-21<sup>st</sup> century reasonable-use-of-land rule under which the owner of overlying land has the right to make reasonable use of the ground water consistent with a reasonable use of the overlying land. Under the earlier absolute ownership rule, a landowner owned everything from heaven to hell, including the associated ground water. Both the riparian rights and ground water rights doctrines have anti-diversion and anti-municipal elements.

An outgrowth of the percolating ground water reasonable-use-of-land rule -- followed in California and a few other states -- is known as “correlative rights”. Like the riparian rights reasonable use rule, it is a sharing doctrine that gives all owners of land that overlies a common source of percolating water co-equal or correlative rights to reasonable use of this water in connection with the overlying land.

Our diffused surface water doctrine governing damage suits arising concerning drainage or flooding has evolved from the early “civil law rule” (that gives an easement to higher land for natural drainage over lower land), to a “reasonable use” rule that balances the benefits to developers of land use changes against the harm to the landowners who are adversely affected by such drainage. This doctrinal change resulted from a 1977 North Carolina Supreme Court

decision in the case of Pendergrast v. Aiken.<sup>4</sup> If North Carolina has a common law rule concerning the beneficial use of diffused surface water, it is probably the generally assumed absolute ownership rule.<sup>5</sup> The court's Pendergrast opinion hints at the possibility, however, of a single reasonable use rule for all waters that would be consistent with the riparian rights reasonable use rule for surface streams and the California correlative rights rule for ground water.



Diffused Surface Water

Damage Suits

Pre-1977

Civil Law  
Rule

Post-1977

Reasonable  
Use Balancing  
Rule

Beneficial - Use

Probably an absolute ownership rule

## LEGISLATION AND REGULATION

### State Programs

North Carolina and its neighboring states share a common starting point in water allocation legislation: the drought of the early 1950's that was ended by Hurricane Hazel. Before the drought and Hazel, the southeast collectively had hardly scratched the surface of water allocation legislation. North Carolina's state water resources programs were buried in an assortment of ground water and surface water information gathering units within the Department of Conservation and Development, and water quality programs within the state Board of Health.

The drought triggered that age-old political instinct: "let's pass a law". Drastic legislative change was proposed throughout the southeast region, along the lines of a North Carolina bill that would have substituted a western-style prior appropriation system for our riparian rights system.<sup>6</sup> Of the southeastern states, only Mississippi enacted such legislation<sup>7</sup>, which it repented and repealed after two decades of unsatisfactory administration. The nearest thing to such legislation in North Carolina during the 1950's was a 1951 irrigation permit law<sup>8</sup> that was repealed in 1961 after a decade of inability to resolve confusion and delays in administration.

The more enduring product of the 1950's drought was stimulation of long-term study of North Carolina water management institutions. Initially this produced stronger management agencies, such as the North Carolina Department of Water Resources created in 1959 at Governor Hodges' initiative<sup>9</sup>, and North Carolina's enabling legislation for small watershed projects that implement a federal aid program under United States Public Law 566.<sup>10</sup>

Continuing studies finally produced a flurry of state regulatory legislation in 1967: our capacity use law, dam safety law (that included stream flow management to protect water quality), well construction standards law, and the beginnings of flood plain management

legislation.<sup>11</sup> Over a period of years beginning in 1961 North Carolina has also evolved an interbasin transfer law that authorizes limited interbasin transfers with the approval of the Environmental Management Commission under increasingly restrictive standards -- fair game for frequent legislative changes.<sup>12</sup> The environmental assessment and environmental impact statement processes of the National Environmental Policy Act (NEPA) and The North Carolina Environmental Policy Act (SEPA) are a significant feature in the evaluation of our water resources projects.

The past decade has brought a number of developments.<sup>13</sup> These include:

- A stronger set of well regulation laws enacted in 2006, including a requirement for all counties to develop local programs -- in the wake of a series of *Raleigh News and Observer* exposés.
- Administrative expansion of the capacity use areas program -- territorially, to include 15 counties and substantively, to protect declining ground water aquifers by requiring users to reduce permitted withdrawals over a period of time by 30 to 75%.
- Amendments to the Interbasin Transfer (IBT) Law in 2007 that clouded the prospects of future IBT permit requests by a combination of extensive notice and information requirements with more stringent standards and procedures.
- Continued strengthening of the local and state water resources planning programs administered by the DENR Division of Water Resources.
- Creation of a Clean Water Management Trust Fund in 1996 that channels substantial revenues to local water quality improvement projects and to building a network of riparian buffers and greenways.
- Water law projects undertaken by the Duke University Environmental Policy Institute coordinated by Bill Holman.

- Enactment of legislation in 2007 requiring a comprehensive study of water allocation laws by the General Assembly's Environmental Review Commission and requiring recommendation of legislation in 2008 or 2009 establishing a comprehensive statewide system of surface water withdrawal regulation.

### **Federally Based Programs**

Like our neighboring states, North Carolina is subject to federal legislation and requirements that leave a significant imprint on the state's water allocation law. These include Section 26a of the Tennessee Valley Authority (TVA) Act, the hydro-electric dam re-licensing provisions of the Federal Power Act, a mixture of federal and state laws and regulations concerning the U.S. Army Corps of Engineers impoundments on a number of the state's major river basins, and the judiciary Article of the United States Constitution that authorizes suits between two or more states to be brought in the United States Supreme Court.<sup>14</sup>

Section 26a of the TVA Act. - The original TVA Act required (and the Act still requires) permits from TVA for any "structures" placed in any of the tributaries of the Tennessee River. In western North Carolina this affects four Tennessee River tributaries located in twelve North Carolina counties (see map at page 14). TVA by regulation has interpreted "structures" to include not only major facilities such as dams and bridges but also water supply intakes and waste discharge pipes. Declining water levels during the current drought have recently prompted TVA officials to opine that TVA will apply water allocation standards to requests for Section 26a permits for water lines and withdrawals.

FERC Dam Re-Licensing. - The Federal Power Act requires that non-federal water power dams on the waters of the United States be licensed by FERC, typically for 50-year license terms. A number of these dams in North Carolina have come up for re-licensing in recent

years or will be up for re-licensing in 2008 -- dams located on the Catawba, Yadkin, Roanoke, Little Tennessee and Hiwasee rivers.

The re-licensings have generated lengthy and much debated negotiations between the renewal license applicants and large groups of stakeholders. The negotiations have addressed such issues as improved public recreation and park facilities and access for recreation; removal of a dam (in at least one instance); fish-ways, and wildlife habitat improvements; and improved streamflows for water quality enhancement, water supply and waste assimilation. Local governments have negotiated for contributions to local development.

The usual end-product of these negotiations has been a settlement signed by all or most of the negotiating parties, which goes forward to FERC with the re-licensing application. There is no guarantee of FERC approval of this package. Indeed, in one instance on the Roanoke River, the application was returned to the parties for further negotiations. The settlement documents for the latest studies (involving the Catawba and Yadkin basins) have been transmitted to FERC.

The FERC licenses and settlements obviously may affect water rights and water resource management on these rivers, along with more traditional court decisions, legislation and agency rules.

Allocation of Impounded Water. - There is a mixture of federal and state legislation and administrative rules concerning U.S. Army Corps of Engineers impoundments on four of our major rivers -- Jordan Dam on the Cape Fear; Kerr Dam (Buggs Island) on the Roanoke; Falls Dam on the Neuse; and Kerr Scott Dam on the Yadkin. In each case the legislation or agency rules impose significant requirements and limitations on water allocation and use that constitute another important component of North Carolina water allocation law.

The federal law element includes the authorizing legislation for the impoundments and contracts for storage with the State and with municipal suppliers. The State law element includes a 1959 Corps of Engineers-local participation act and a 1967 act authorizing the State to transfer State interests to local governments, as well as administrative rules applying to allocation of water supply storage at Jordan Reservoir.

In 1971 the General Assembly enacted legislation creating a right of withdrawal of stored water for those who create or help finance any reservoirs, not exclusively on Corps of Engineers reservoirs. The right of withdrawal applies to withdrawal directly from storage or from a stream below a reservoir. Among other things this Stored Water Act strengthens the legal position of municipal or other local public water supply agencies by making it clear that they are entitled to exercise rights of withdrawal, notwithstanding the weakness of their common law riparian standing.

Suits Between Two or More States in the U.S. Supreme Court. - Under Article III, Section 2 of the U.S. Constitution, the U.S. Supreme Court is the only court where a suit between two or more states may be brought, as an “original action”. The Supreme Court has developed a special set of rules to resolve such interstate controversies, known as the doctrine of “equitable apportionment”.

The Court first applied equitable apportionment to resolve a dispute between one riparian rights state and one prior appropriation state. In later cases the court has applied equitable apportionment to resolve disputes between two or more riparian rights states or two or more prior appropriation states.

The State of South Carolina has recently filed suit in the Supreme Court against the State of North Carolina about South Carolina’s concerns over North Carolina’s management of shared interstate waters. This litigation obviously has the potential to generate a significant element of

water allocation law affecting North Carolina. (Or, like a majority of these interstate suits it may not be accepted for review by the U.S. Supreme Court.) It could also spur interest in an interstate compact, which would draw on another element of the U.S. Constitution governing such agreements, the Compact Clause (Article I, Section 10). The Compact Clause requires the consent of Congress as well as agreement between the affected states, proceedings that often take years to negotiate and complete.

### STATE LEGISLATION

1967: Capacity use areas, well construction; dam safety, flood plain management laws

Since

1967: C.U.A.: Expanded to 15 counties plus mandated reductions. Well construction law reaches all counties, plus inspections. Emergency response laws strengthened. Interbasin transfers restrained. Stored Water Law

### FEDERAL ELEMENTS

TVA § 26A permits. FERC re-licensings nearly completed. Major Corps reservoir allocation regimes. S.C. v. N.C. on the Catawba.

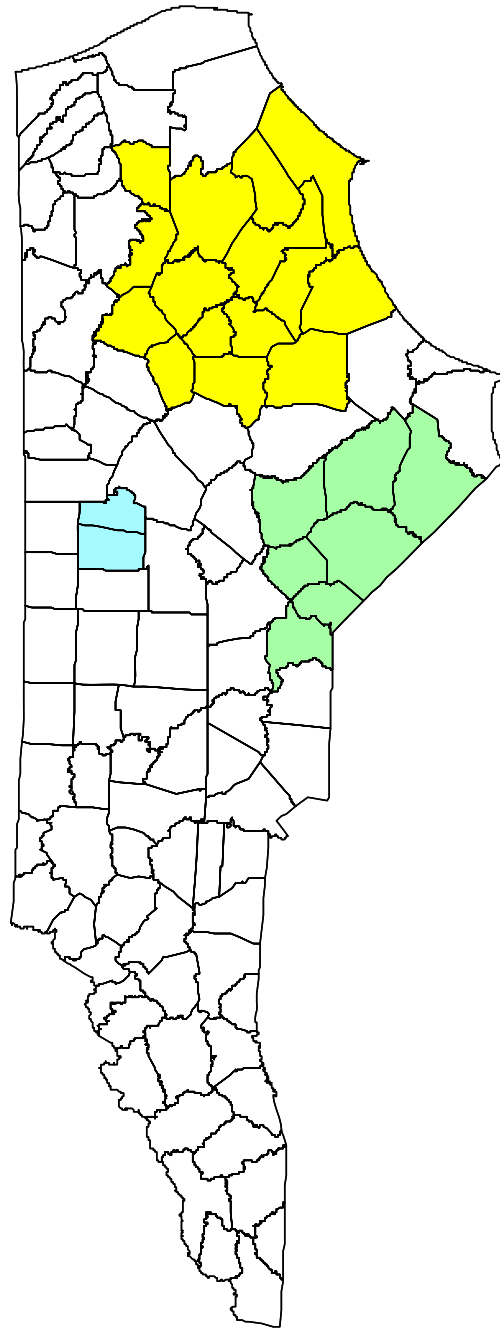
## THE “LAW OF PLACE”

The net result of recent water law developments is that North Carolina now has not only its classic common law water rights beginnings and its statewide regulatory programs, but also is governed by a combination of state and federal laws that overlay the statewide elements with a substantial collection of laws that apply only to parts of the state -- laws that might be termed “the law of place”. As the maps show, these place-limited laws include:

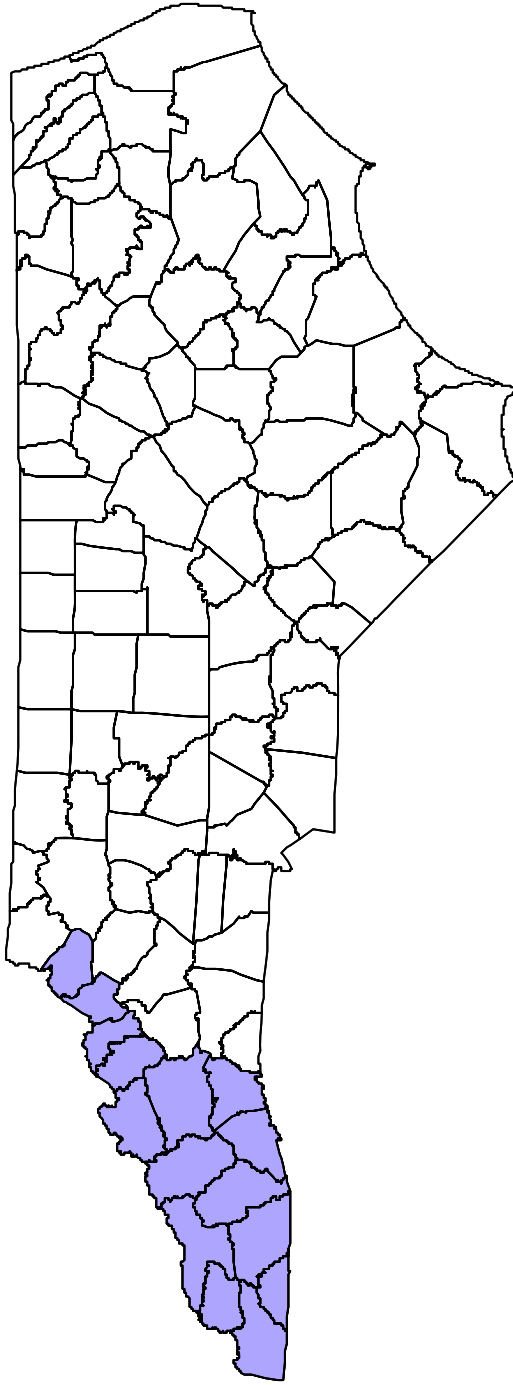
- The Capacity Use Areas Law, applicable to 15 southeastern counties. Two additional areas have local programs, Orange County and Lower Cape Fear.
- Section 26a of the TVA Act that requires TVA approval to place any structure (including water supply intakes and wastewater discharge pipes) in the Tennessee River tributaries of western North Carolina -- the Hiwassee, Little Tennessee, French Broad and Watauga Rivers. A total of 12 western counties are affected.
- The FERC re-licensing process that affects hydro-electric dams in five river basins (the Roanoke, Yadkin, Catawba, Little Tennessee and Hiwassee basins). These basins lie in 40 or more counties.
- The U.S. Army Corps of Engineers dams and impoundments on the Yadkin, Cape Fear, Neuse and Roanoke Rivers whose basins involve 19 or more counties.
- Water Quality River Basin Programs. One could expand this collection to include the ongoing water quality river basin programs.

Adding up the totals of these categories, 85 or more of North Carolina’s 100 counties are affected by these place-limited laws. Altogether, then, almost nine-tenths of the state’s counties are covered by one or another (or more than one) of these significant water allocation regulatory programs.

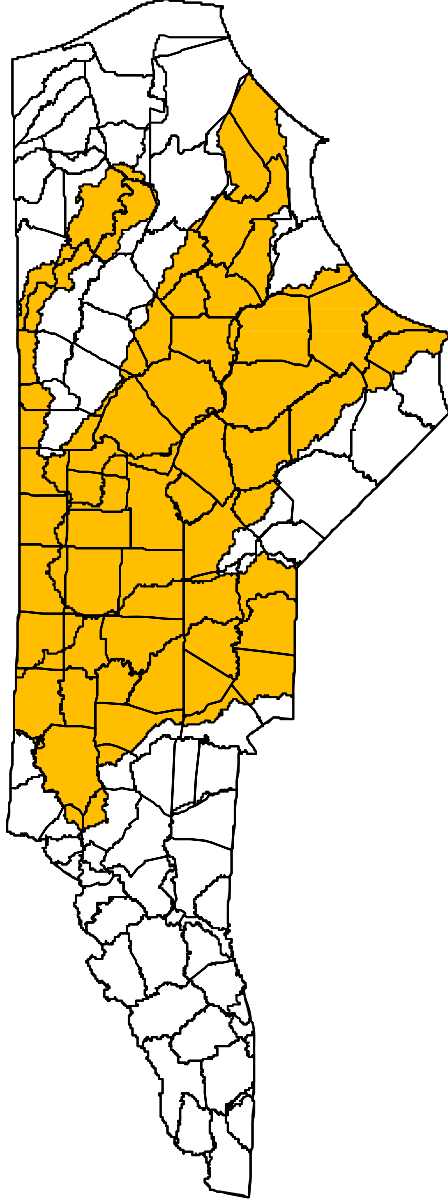
# Capacity Use Areas - Central Coastal Plain, Eno River Voluntary & Southern Coastal Plain Study Area



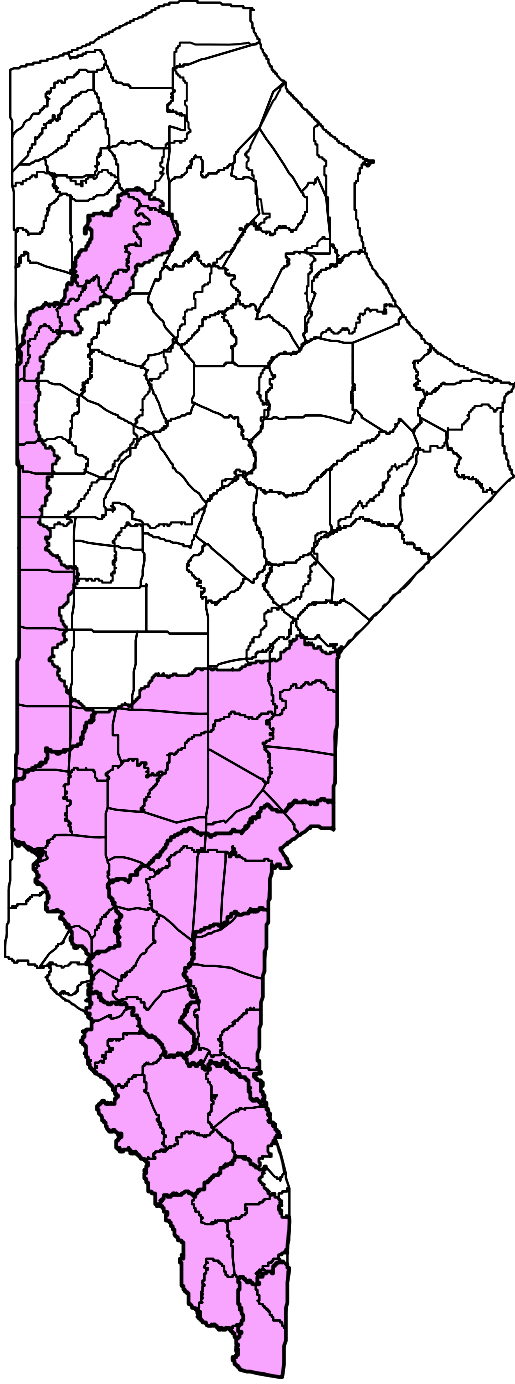
# Tennessee Valley Authority Regulated Area



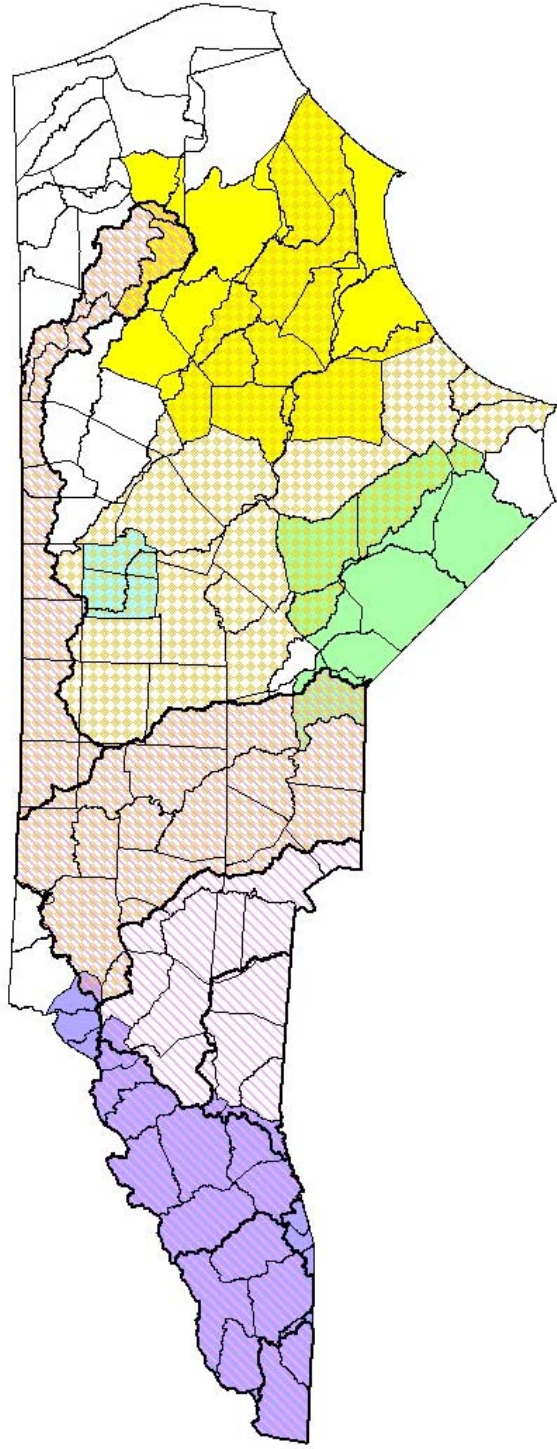
# USACE Regulated Basins



# FERC Regulated Basins



# LAW OF PLACE: Composite



CONCLUSION: SOME  
ALTERNATIVES FOR THE FUTURE

The North Carolina General Assembly recently enacted legislation requiring its Environmental Review Commission to conduct a comprehensive study of water allocation laws and to recommend legislation by 2008 or 2009 providing for a comprehensive system for regulating surface water withdrawals. This is a strong direction for study and development of new laws, but the range of potential change in the state's water laws is fairly broad. Without attempting to select preferences or to rank alternatives, here is a trial run of a set of alternatives, which can be considered separately or in combination.

(1) Planning for Economic Development and Growth Management

An approach that directly addresses planning for economic development and growth management could combine elements such as:

- a) Using water rate incentives, such as increasing block rates, to discourage large users (such as lawn irrigators) from requiring extra system capacity to meet their large water demands.
- b) Generating additional system capacity by reclaimed water systems that recycle treated non-potable wastewater. The Orange Water and Sewer Authority in the Chapel Hill-Carrboro area has recently applied both water rate incentives and a reclaimed water system in cooperation with the University of North Carolina.
- c) Applying capacity use area regulations to require cutback in ground water withdrawals to protect declining aquifers. The North Carolina Environmental Management Commission has recently taken this action in a 15-county area of southeastern North Carolina. Similar measures could be devised for surface waters.<sup>15</sup>

These are only three examples of the larger objective of strengthening growth management for the benefit of water conservation.

(2) The Regulated Riparian Model Water Code: Statewide Withdrawal Permits

An obvious alternative would be to take advantage of the Regulated Riparian Model Water Code sponsored by the American Society of Civil Engineers.<sup>16</sup> The Code was published in 1997 after years of preparation by a large group of leading water engineers, attorneys and scientists. It is accompanied by a 300-page water law commentary. The principal Code proposal not now covered by North Carolina law is a statewide water withdrawal permit system with elaborate definitions, standards and procedures, which could directly respond to the legislative directive to develop a comprehensive system of regulating surface water withdrawals.

(3) A Water Use Registration Law

A useful starting point for water law reform might be to require all water users to register with the state and provide information that would better prepare the General Assembly to consider a permanent regulatory system. Similar measures have been adopted in the past, such as the Mining Registration Law that preceded the State Surface Mining Law. Any such registration law should be coordinated with existing state and local water plans administered by the NC Division of Water Resources.

(4) An Omnibus Water Rights Bill of Incremental Changes

One approach to a comprehensive new water law would be to develop an omnibus bill containing incremental changes that would modify existing common law and legislation. The Omnibus Bill might include some or all of the following elements<sup>17</sup> --

- a) Ground Water Law: Modify the common law to accept a correlative rights version of the “reasonable use” rule.

- b) Ground Water Law: Address disputes and problems of the Piedmont and Mountain areas concerning fractured rock formations. (See alternative 7 below.)
  - c) Diffused Surface Water: Chose between the common law rules of absolute ownership and reasonable use with respect to consumptive use of diffused surface water -- an important choice especially for agricultural farm ponds.
  - d) Growth Management: Include any legislation needed to implement growth management objectives. (See alternative #1, above.)
  - e) Capacity Use Law Amendments: Include any amendments needed in the Capacity Use Areas Law to encourage broader application of the law.
  - f) Tennessee River Tributaries: Include any legislation needed to provide for coordination with TVA § 26a approvals.
  - g) FERC Re-licensing: Include any legislation needed arising from the FERC water power licensing process.
  - h) River Basins With Corps of Engineers Impoundments: Include any needed amendments to the state legislation relating to these projects.
  - i) Water Quality and Water Use: Include any legislation needed to improve the coordination of water quality and water use programs.
  - j) Water Use Registration: See alternative 3 above.
- (5) Regional Water Law Studies

Stronger funding is needed to stimulate continuing regional study of water laws and institutions under the auspices of the state water resources research institutes and centers. Such studies produced a variety of useful inputs to water legislation in the late 1950's, 1960's and 1970's.

(6) A Counsel of Caution

The author and his senior TVA colleagues concluded their 1955 water rights law review article with the following observations:

To suggest that lawyers can sit down today to write the most desirable water law for the southeastern states seems to us to put last things first. Before the drafting process begins, some thought needs to be devoted to the real hard questions which must be answered by others. Is the particular state prepared to decide at this time the needs of its future economy? . . . Does that economy . . . require primarily increased irrigation, increased industrialization, or both? . . . What seems most needed at present is more facts.<sup>18</sup>

Although the particular issues raised in 1955 (mainly involving a choice between irrigation and industrialization) may not be as pressing today, one of the alternatives that should be included in this list is to raise a counsel of caution about early enactment of comprehensive regulatory legislation. Are the framers of such legislation prepared to address some of the hard issues that inevitably will arise, such as:

- The application of regulation to existing as well as future users?
- Regulation of agriculture, of elected local governments, of electric power companies already heavily regulated by federal law, and the like -- or exemption of some of these users?
- Expanding the state's existing water resources staff sufficiently to administer a comprehensive statewide law without jeopardizing current programs?
- Satisfactorily addressing the state's interstate water issues?

These are but a few of the issues, and not necessarily the most important ones, in a counsel of caution.

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(7) Ground Water Proposals

Since the September 2007 AWWA Symposium, greater attention has been focused on well drilling issues, as a result of reported drilling of numbers of wells (especially irrigation wells) in the latest phase of the current drought. Ordinances proposing restrictions on well drilling have been proposed or adopted by some North Carolina counties and cities. This, in turn, has raised questions about the legal authority of counties and cities to adopt such ordinances. (The ordinances probably would have to rely on general police power authority, since there is no statewide legislation that specifically authorizes such ordinances. Without specific statutory authority, such ordinances might be pre-empted by state law. Craig v. Chatham County)<sup>19</sup>

Public discussion of well ordinances has since called attention to significant regional geologic differences affecting ground water occurrence and movement -- i.e., the “fractured rock” formations that are typical of many Piedmont and mountain areas of the state, by contrast with the sandy or sandy loam soils of the coastal plain. These geologic differences may mean that deep wells can be installed in fractured rock areas without adversely affecting neighboring wells so long as modest siting restrictions are adopted. (Thus, one per acre or two acre limits on well drilling might be sufficient to avoid such adverse effects.) Similar results may not prevail in sandy or sandy loam soils.<sup>20</sup>

Geologic studies have been conducted in some fractured rock areas that would provide an adequate foundation for well drilling ordinances in those areas. (For example, Orange County

has funded three such studies that were published as USGS papers. The Orange County studies would be a good model for other counties and cities to consider.)

Proposals: (a) Basic geologic studies of ground water occurrence and movement along the lines of the Orange County model should be conducted by other local governments.

(b) Legislation specifically authorizing cities and counties to adopt well drilling ordinances should be considered for cities and counties covered by adequate geologic studies of ground water. Any such ordinances should be coordinated with other related regulatory laws, such as the Capacity Use Areas Law and the 2006 well legislation.

(8) Organizational Implications

At some point legislators will need to consider the potential organizational implications of water law change for state government. The range of possibilities might include:

(a) Modest or little organizational change for modest changes in water law. If water law reform were limited, for example, to some of the changes included in the “omnibus bill” described above (alternative 4), the needed organizational change might also be modest, if any.

(b) Major organizational change for major change in water law. If major water law reform is enacted, this might well require major state-level organizational change. Members of the Environmental Management Commission (EMC) have already complained of the time and effort required of them to master their entire workload in water and air quality, solid and hazardous waste, water resources management, and other responsibilities. The addition of another layer of responsibility in the form of a statewide surface water permit law, for example, might be the straw that breaks the camel’s back. This might suggest consideration of:

- (i) A change within DENR of the existing system of boards and commissions to a “ministerial” system, lodging all powers and duties in the Secretary of DENR, as with U.S. EPA’s Administrator.
- (ii) Lesser administrative changes that would shift some responsibility from boards and commissions to the Secretary of DENR.
- (iii) A shift of some EMC responsibilities to another state commission -- for example, leaving EMC with all water quality and water quantity responsibilities and giving another state commission responsibility for other existing EMC programs (such as air quality, solid and hazardous waste, etc.)
- (iv) A total reform of environmental program administration to the “Utilities Commission” model of a full-time, paid commission with substantial quasi-judicial responsibilities -- a proposal made but not adopted some years ago.

Since organizational change probably should be associated with substantive water law change, it would make sense to postpone organizational decisions until substantive proposals have been finalized.

Note: The first six alternatives were submitted to a straw vote of the professionals from the Carolina’s, Georgia and Florida who attended the AWWA Symposium in Wilmington on September 20, 2007. More than 50% of those voting favored the growth management alternative (#1) as the most important option at that time. Some support was indicated also for options 2, 3 and 4.

I would like to conclude these remarks with a straw vote for the audience. If you had but a single vote, which of these six alternatives would you pick as the most important one today?

(Note: The straw vote taken at this meeting of more than 100 water management experts from Florida, Georgia, and South Carolina, as well as North Carolina showed that more than 50% of those voting favored the growth management option as the most important one at this time.)

## Some Alternatives for the Future:

- (1) Planning for Economic Development and Growth  
Management
- (2) The Regulated Riparian Model Water Code:  
Statewide Withdrawal Permits
- (3) A Water Use Registration Law
- (4) An Omnibus Water Rights Bill of Incremental  
Changes
- (5) Regional Water Law Studies
- (6) A Counsel of Caution
- (7) Ground Water Proposals
- (8) Organizational Implications for State Government

## APPENDIX A

### **ORGANIZATION OF HEATH WATER LAW STUDY - 6/29/07**

(√ - A check means: bulletin completed)

#### I. INTRODUCTION - BACKGROUND

- √ 1. Primer on Water Law
- √ 2. Model Riparian Code & NC Law
- 3. Introduction to NC Law
- 4. Geography, etc.: How does NC Law Vary Place to Place
- 7. Interstate/National Issues

#### II. STAKEHOLDERS

- √ 5. Water Use Law/Local Water Supply
- √ 6. Impact of Drinking Water Law on Water Supply Reservoirs
- [X Not listed: Agricultural Use
- Y Not listed: Industrial Use]
- 8. Relicensing of FERC-licensed Dams

#### III. USES OF SURFACE, SHORELINES, SUBMERGED LANDS

- 10. Rights to Use Surface of Rivers, Lakes, etc.
- 11. Uses of Shorelines, Submerged Lands, etc.
- 12. Rights to Use Artificial Watercourses
- 13. Navigable Waters, Public Trust, etc.

#### IV. MISCELLANEOUS

- 14. Current Issues
- 15. Issues of Water Law Without Regard to Use: Quiet Enjoyment, Conservation, "Rights of Water"
- [9. Water Quality Law: Richard Whisnant]

## ENDNOTES

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- <sup>1</sup> This bulletin is a revised version of a paper on Water Management Law in North Carolina that was presented in Wilmington, N.C., on September 20, 2007, at an AWWA conference on Watershed Management.
- <sup>2</sup> A more detailed analysis of this background will be published as Chapter 3 of the 15-chapter book.
- <sup>3</sup> Former UNC Chancellor William Aycock wrote a law review article in 1967 that is the most quoted text on North Carolina's common law of water rights. Aycock, Introduction to Water Use Law in North Carolina. 46 N.C. L. Rev. 1 (1967-1968).
- <sup>4</sup> Pendergrast v. Aiken, 293 N.C. 201 (1977).
- <sup>5</sup> Aycock, Note 3 above at page 21.
- <sup>6</sup> S. 153 (Iden. H. 298), 1955 North Carolina Gen. Assem. Institute of Government, Final Disposition of 1955 Bills and Resolutions pp. 4, 18 (1955).
- <sup>7</sup> Heath, A Primer on Water Law. Institute of Government Water Resources Law Bulletin #1, p. 8 (2007). Bloomenthal, Geraud and Trelease, Cases on Natural Resources, 2-3 (West Publishing Co., 1965).
- <sup>8</sup> N.C. Gen. Stat. § 113-8.1 (1952). Repealed 1961 N.C. Sess. Laws, Ch. 315.
- <sup>9</sup> N.C. Sess. L. 1959, Ch. 779.
- <sup>10</sup> N.C. Sess. L. 1959, Ch. 781.
- <sup>11</sup> See Heath and Hess, The Governors' Leadership Role . . . (N.C. L. Rev.), Note 2 at 2036, 2041-3.
- <sup>12</sup> See Heath and Hess, The Evolution of Modern . . . (Campbell L. Rev.), Note 2 at 565-573.
- <sup>13</sup> See generally Heath, The Regulated Riparian Model Water Code. Institute of Government Water Resources Law Bulletin #2, pp. 8-14 (2007).
- <sup>14</sup> See generally Heath, A Primer . . ., Note 7 at 17-18 and The regulated Riparian Model Water Code, Note 13 at 15-16 (2007).
- <sup>15</sup> Heath, The Regulated Riparian Model Water Code, Note 13 at 10 (2007).
- <sup>16</sup> American Society of Civil Engineers, Water Law Committee, Joseph W. Dellapenna, Editor. The Regulated Riparian Model Water Code (1997).
- <sup>17</sup> Items (a) - (c) see generally Heath, A Primer . . ., Note 7 at 10-15 (2007).
- <sup>18</sup> Marquis, Freeman and Heath, The Movement . . ., Note 1 at 836.
- <sup>19</sup> Craig v. County of Chatham, 356 H.C. 40 (2002) 20.
- <sup>20</sup> Raleigh News and Observer, "The Latest Luxury: a Deep Private Well", Dec. 4, 2007, page 1.