

**Statutes Governing  
Water Allocation and Water Resource Planning  
in South Atlantic States**

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## INTRODUCTION

It is a new era for water planning and management in states in the South Atlantic region. An area that is blessed with a most generous supply of water is now experiencing population growth and urbanization of such magnitude that it is no longer possible in many parts of the region to continue the traditional hands-off approach to water allocation. According to current population estimates by the Bureau of the Census, four of seven states in the country with the largest population increases from 2000 to 2007 are part of the region. .

Severe drought conditions that have plagued the Southeast in 2007 and into 2008 have again raised the question: are these areas adequately prepared to allocate limited supplies of water? Interstate competition is also quite apparent as evidenced by a long-standing yet-to-be-resolved dispute between Alabama, Georgia and Florida, a 20-year conflict between Virginia and North Carolina over a diversion from the Roanoke River to the City of Virginia Beach, and a current conflict between North and South Carolina over an interbasin transfer (IBT) from the Catawba River. As part of its restructuring of the North Carolina IBT law in the 2007 legislative session, the General Assembly directed its legislative oversight committee on the environment to undertake a review and make recommendation regarding any appropriate changes to water planning and allocation statutes. It was with that review in mind that this study was undertaken.

Six states—Florida, Georgia, North and South Carolina, Tennessee, and Virginia—were selected for inclusion in this study. Several of these state share political boundaries with North Carolina; all of them share the same general humid climate with similar patterns of precipitation; they share many common features of administrative processes for allocating water resources. Yet, while they share many similar characteristics of the resource and how it is allocated, there is a broad range of approaches among them.

With support from the United States Environmental Protection Agency (EPA), Myszewski, Christy, and Kundell (2005) published two excellent compendia and comparison of water law and regulations for those states in EPA's Region IV, one for surface water and another for groundwater. Five of the states covered by their reports are covered here; Virginia is not covered by their report. Those reports, current through

2004, covered a broader range of topics including water quality, surface water, groundwater, and water resource planning at state, regional, and local levels. This report is focused more narrowly on laws and regulations governing permitting of withdrawals from surface and groundwater sources, allocation of the resource in areas where withdrawals exceed supply or otherwise threaten instream values, diversions of water from one basin to another, and state water resource planning.

States have many other powers to influence how its waters are used and protected, many of which are shared with the federal government. All states in the United States come under the authority of the federal Clean Water Act. Under that authority, each state is required to establish a use classification system and establish water quality criteria necessary to support those uses. What use classification a state chooses to assign to a particular stream segment can strongly influence how water in the upstream and downstream segments is used. Many streams in South Atlantic states are also regulated by either publicly owned reservoirs constructed and operated by the United States Army Corps of Engineers or by privately owned reservoirs operated under licenses granted by the Federal Energy Regulatory Commission. While these and other programs strongly influence water allocation by states, this report focuses on state statutes and regulations. In examining similarities and differences, answers to the following questions were explored for each state:

- Does the state require registration and reporting of water withdrawals?
- Does the state have a statewide permit program for water withdrawals?
- If the state has a statewide permit program, is it administered by a state agency or by a special purpose district created or authorized by the state?
- If not a statewide permit, does the state have a permit program that is applicable to certain designated areas of the state?
- For those states with permit programs,
  - Do they cover both groundwater and surface water?
  - Do they establish allowable uses?
  - Do they establish priorities among uses?
  - What is the threshold of use for which a permit is required?
  - What is the duration of permits?
- Are special permits required for water diversions, either within or between basins?
- If a state has both a withdrawal permit program and a planning requirement, is there a formal connection between the two?

Criteria for characterizing state water law implied by these questions are similar to those used by Sherk (1989) to characterize administrative allocation of water in Eastern states nearly 20 years ago. Myszewski, Christy, and Kundell (2005) also used several of these criteria.

## **CRITERIA**

### **Registration requirements**

Aside from establishment of general water law and judicial processes for resolving conflicts, possibly the least intrusion by a state in moving toward administrative allocation is a requirement that users register with the state and report amounts of water withdrawn. Such a requirement is necessary to obtain information necessary to manage potential emergency situations and can be helpful in assessing water needs as new users are added.

### **Permit systems**

Registration alone will not be useful if any form of control on water use is desired. A permitting system is a “mechanism to quantify existing water uses and to vest the right of the water user to continue those uses.” (Sherk, 1989). Riparian states that convert to a permitting system generally control the amount of water by a given user, in a given use, for a given period of time. When the right expires, the user must re-apply for resumption of the permit or the use is terminated. Most current riparian state permitting programs require that the permit be initiated within a specified period, typically one to two years after passage of the legislation.

### **Administrative organizations**

In most states, authority to issue permits is vested in a cabinet level agency of state government. In at least one state, authority to issue permits for water withdrawals is delegated to special purpose water management agencies.

### **Threshold amounts**

Small users are typically exempt from registration and permit programs. The most common threshold has been 100,000 gallons per day. Another approach to quantity limitations is to set a minimum size of the diameter of a well. Exemptions for agricultural and domestic household use are also common in many riparian states.

### **Allowable use definitions**

Sherk identified three approaches that have generally been used in eastern US states to define allowable uses. They are:

1. Specific definition in statute,
2. General policy statement, or
3. Series of factors to be considered is set forth.

### **Preferences and priorities**

Designating preference and priority issues is a key element that comes into play during times of shortage. Prior appropriation systems used in the western states implicitly are emphasizing the temporal aspect of the permit, not the use. This approach is better able to take advantage of free markets in times of shortage by making it easy for senior permit holders to sell their rights to uses that are willing to pay sufficiently. State administration of priorities or preferences in riparian states is much more problematic in times of shortage. The manager of such diverse demands for water is put in a position to have to consider equality, equity, efficiency, public health and safety, and employment. These constraints notwithstanding, riparian states have typically adopted a system of regulation based on use priorities. Most allow the governor to declare a water supply emergency that elicits a hierarchy of priority uses. In most cases, human needs are given first priority and agricultural is second. Existing uses are typically given precedence over new uses; in many states, a new use must show that it does not infringe upon an existing use.

### **Area of use or diversion restrictions**

The export of water across state lines cannot be totally restricted, but constitutional issues are often raised in determining how much interstate water is a “reasonable” amount. Aggregate use limits have been established in restricted areas and the recipient is required to have a plan that meets the water needs of the donor state. Intrastate trans-basin diversions can be restricted if diversions represent an excess of some maximum allowable level.

### **Minimum water levels**

Minimum flow or water levels are enacted to protect the environmental, aesthetics, recreation and wildlife habitat. Minimum flows have become a major

mechanism in the attempt to maintain water quality. Setting these minimums has been the authority of state departments of natural resources. Instream flow considerations can also be an aspect of approving interbasin diversions; that is, such requested diversions must show that a minimum instream flow will be maintained. In some cases diversions are actually approved that assist in maintaining minimum flows.

### **Water conservation**

Permit systems may require certain conservation practices to be undertaken. Conservation is often required during water emergencies. Some states have adopted a comprehensive water conservation plan.

## **FLORIDA**

### **Statutes**

Title XXVIII Chapter 373 of the Florida Statutes covers water resource management in Florida. As directed in 373.069, five water management districts were established to cover the entire state. Part I of that chapter (Subsections 373.012-373.200) sets forth the requirement for a state water plan. Part II (Subsections 373.203-373.250) establishes requirements for permitting of consumptive use of water, and Part IV (373.403-373.468) governs the management and storage of surface waters. Permits for managing stormwater runoff required by 373.413 are referred to as Environmental Resource Permits.

### **Organizational arrangements**

Because it created water management districts (WMD's) that cover the entire state and gave them strong powers, Florida is the most unique among all of the states reviewed for this report. The five districts, created in 1976, are shown in Figure 1. The Florida Department of Environmental Protection has oversight responsibility for the five districts, but most state programs to manage both quality and quantity are run through the WMD's of the state's waters. Districts develop water management plans and administer the state's program to regulate the consumptive use of water, aquifer recharge, well construction, and stormwater.



Figure 1. Florida's Water Management Districts

Each WMD is governed by a nine-member board (except the South Florida WMD which has 13 members). Members are appointed by the Governor and subject to Senate confirmation. Boards are given a broad range of powers to engage in normal business practices for public agencies (373.083), including hiring and firing decisions, contracting, implement and enforce any permitting decisions to which they have been delegated, conduct investigations and planning activities, exercise powers of eminent domain, and accept grants or other donations for construction of programs and projects.

Funding of district activities comes from several sources. WMD's have ad valorem tax authority. The board annually informs each county in the district the tax rate to be applied to property within the district (373.539). WMD's are also empowered to charge for water delivered to public and private utilities and industries (373.1961). WMD's and the state share a percentage of revenues from both public and private providers of water and wastewater services for the purpose of developing alternative water supplies. District boards are authorized to issue general obligation (373.563) and revenue bonds (373.584).

Areas within a district may be designated by the board of that district as subdistricts or basins [(373.0693(1)(a)]. A board whose members are appointed in the

same manner as the district board governs each basin. A basin board may petition the board of its WMD to levy ad valorem taxes within the basin up to the limit of 1 mill (373.0697).

Budgets of the districts for Fiscal Year 2007 ranged from \$85.2 million for Suwannee to \$1.366 billion for South Florida. The three Districts with the largest budgets derived a substantial portion of their revenues from ad valorem taxes, which they are empowered to levy. St. John's and South Florida budgeted just over 40 percent of total revenues from this source. Southwest Florida expected 65 percent of their revenues from ad valorem taxes. Patterns of expenditures are highly variable from one district to another. For example, Southwest Florida WMD and South Florida WMD spent approximately 60 percent of their budgeted funds for capital outlay. The other three districts varied from 16 to 30 percent for capital outlay.

<u>Management District</u>	<u>FY2007 Budget</u> <u>\$million</u>
Northwest Florida	134
Suwannee	85
St. John's	352
Southwest Florida	383
South Florida	1,365
Total	\$ 2,322

### **Withdrawal permits**

Spatial coverage. The governing board of each WMD is required to establish and maintain a permit program to authorize consumptive use of water in areas where the board judges to be necessary (373.216). The board or the Department of Environmental Protection (DEP) may require permits and attach reasonable conditions to assure uses are appropriate to the overall management of waters in the area. Individual domestic users are exempt (373.219). If a complaint is filed by any person that a diversion, withdrawal, impoundment or consumptive use is being made that is not expressly exempt or without a permit, the board or the DEP has the authority to investigate the complaint and, if appropriate, order such actions to cease.

Threshold. No threshold is specified in the statute.

Allowable uses and priorities. In addition to other specific requirements, applicants for a permit must demonstrate that the proposed use is a reasonable and beneficial use, that it will not interfere with an existing legal use, and that it is in the public interest.

Reasonable and beneficial in this context means that the quantity used must "...be necessary for economic and efficient utilization...consistent with the public interest." (373.223).

Duration of permits. The duration of permits is 20 years unless the applicant requests a shorter period of time (373.236).

### **Interbasin transfers**

A WMD or DEP may allow a permit holder to transfer water from point of extraction from ground or surface sources to other areas, including across watershed boundaries. Local governments are prohibited from adopting rules that would restrict such transfers [(373.223(2))].

The statute does provide that certain factors be considered in making that decision. They include:

- proximity of the proposed water source to the area of use or application;
- availability of all reasonable sources nearer the point of use;
- availability of all reasonable alternatives including conservation, reuse, desalination, etc;
- environmental effects;
- impacts on source area;
- consultation with local governments in affected areas; and
- capital investments by the applicant.

Provision is also made in 373.2295 for the transfer of groundwater across district boundaries. Additional procedural requirements are necessary in this case.

### **Minimum flows**

Section 373.042 mandates that each district establish minimum flows for all surface waterways, the minimum being the withdrawal rate below which water resources or ecology of the area would suffer significant harm. Establishment of minimum surface water and groundwater levels is also required to protect against harm to the resource.

### **Planning**

Part I of Chapter 373 contains directives for preparation of the State Water Resource Plan. Purposes specifically covered by the plan are water supply, water quality,

flood protection and floodplain management, and natural systems. An administrative rule, called The Water Resource Implementation Rule, is made part of the plan. It "... sets forth goals, objectives, and guidance for the development and review of programs, rules, and plans relating to water resources...".

District water plans are also to be included as part of the state plan. They are to cover at least a 20-year planning period, updated every five years. Among other items, district plans must include the basis for minimum flows and minimum water level determinations, a district-wide water supply assessment, existing and projected legal and reasonable uses, a determination of the capacity to meet future needs, and the plans for other water agencies within the district.

### **Conservation**

Conservation is frequently mentioned in Part I of Chapter 373 as an option to be considered in preparation of district water resource plans. No specific guidance is given as to what should be included in a conservation program or how a program should be evaluated.

## **GEORGIA**

### **Statutes**

Water Allocation in Georgia is governed by Chapter 5 of Title 12 of the Official Code of Georgia Annotated (O.C.G.A.). Title 12 is "Conservation and Natural Resources". Chapter 5 is "Water Resources". Article 1 includes a provision for setting rules for conservation. Article 2 - Control of Water Pollution and Surface-Water Use includes statutes requiring permits for withdrawals from surface sources, regulation of IBTs, and special provisions for allocation under drought conditions. Article 3 - Wells and Drinking Water includes groundwater permitting.

### **Organizational arrangements**

The Board of Natural Resources (BNR) is given the power in Article 2 § 12-5-23 to manage surface water use. Administration of the program is assigned to the Division of Environmental Protection (DEP) of the Department of Natural Resources.

### **Surface water permits**

§12-5-31 (a)(1) established a permit system for withdrawal, diversion, or impoundment of surface waters.

Allowable Uses. Special provisions apply to farm permits. Farm uses are listed in the section on definitions. Irrigation of recreational turf is singled out as not being a farm use.

Threshold. Permits are required for withdrawals that exceed a monthly average of 100,000 gallons per day.

Duration. Duration of permits is specified in §12-5-31 (h) to be not less than 10 years and not more than 50 years. Permits with more than a 25-year duration are subject to special scrutiny.

### **Situations involving competing uses**

In addition to this statewide permit program, BNR was authorized in §12-5-31 (e) to develop a classification system for areas of the state involving competing uses for a limited supply. Criteria to be considered in evaluating permit applications in those areas are stated, and powers of BNR to apportion available supply among competing users are prescribed.

### **Periods of water shortage**

§12-5-31 (l) establishes authority for the Director of DEP to temporarily modify withdrawal permits during droughts or other emergencies where there is insufficient flow to satisfy all uses of the resource. Priorities among uses during those periods are specified. First priority goes to human consumption, second priority to farm uses.

### **Groundwater permits**

Permits to withdraw from groundwater sources are required under the Groundwater Use Act of 1972 codified under §12-5-90.

Threshold. That law prohibits anyone from withdrawing or using more than 100,000 gallons per day for any purpose without a permit. If withdrawals are to be used nonconsumptively, no hearing is required. Otherwise, a hearing is required.

Duration. No duration is specified in the statute.

### **Interbasin transfers**

§12-5-31(n) establishes a process for the issuance of withdrawal permits that involve transfer of water across natural boundaries. Criteria to be used in evaluating permits involving transfers are the same as those in 12-5-31 (e) for situations involving competing uses.

## **Water conservation**

§ 12-5-4 directs BNR, with assistance from a task force, to adopt rules governing the content and process for submitting water conservation plans to accompany permit applications. Rule developed in response to that directive are posted to the BNR-DEP website, [http://www.conservewatergeorgia.net/Documents/index\\_p.html](http://www.conservewatergeorgia.net/Documents/index_p.html).

Conservation and other management actions during droughts are governed by the Georgia Drought Management Plan developed March 2003. The plan is posted on the DEP website, <http://www.gaepd.org>.

## **Comprehensive state-wide water management planning**

The most recent initiative in statewide water management is the preparation of the *Draft Statewide Comprehensive Water Management Plan* prepared by the Georgia Environmental Protection Division dated June 28, 2007, to meet the requirements of Article 8 of O.C.G.A. Title 12 Chapter 5. Although the cover page refers to the document as a “Blueprint for the Future,” disappointment will come to those who look to this document to see how each element of the water resource in Georgia is to be used over the next 25 to 50 years. This document recommends processes and criteria by which the State should plan for and manage the resource, but there are few details about how the water in specific river basins should be used.

The plan is a proposed new section (Chapter 760-1-1) to the Rules and Regulations of the State ([http://sos.georgia.gov/rules\\_regs.htm](http://sos.georgia.gov/rules_regs.htm)). Brief descriptions of the various sections are as follows:

Sections 1 and 2 describe the need for statewide water management planning;

Sections 3 to 5 explain the state’s proposed “integrated” water management policy. Section 3 states the principle of Integrated Water Policy that would bring together quantity and quality aspects and recognize interconnections between surface and groundwater;

Section 4 lists principles for Water Quantity Policy most of which are applicable to uses that involve withdrawals from lakes, streams, or groundwater aquifers;

Section 5 covers policies relating to water quality (most of which is covered by the Clean Water Act);

Section 6 establishes a framework for assessing the status of the State’s resource;

Sections 7-10 describe the range of practices for managing quantities of water, primarily focused on:

management of water demand (including conservation and reuse), wastewater return from septic systems, land disposal systems, and effluents from centralized treatment plants; and management of water supplies with special attention to water supply reservoirs, inter-basin transfers, and aquifer storage and recovery.

*Sections 11 to 13* establish a range of practices for protecting and restoring the quality of water bodies; and

*Section 14* lays out a process for development of a regional water development and conservation plan.

It is not clear how the new rule, if adopted, would change existing laws, regulations, organizational arrangements, and funding.

## **NORTH CAROLINA**

### **Statutes**

There are two primary statutes in North Carolina that govern water allocation. First is North Carolina General Statutes (NCGS) §143-215.11, known as the Water Use Act of 1967; it authorizes designation of Capacity Use Areas in which withdrawal permits are required. Second is the statute governing the transfer of water from one river basin to another. House Bill 820 Session 2007, Regulation of Surface Water Transfers, was a rewrite of NCGS §143-215.22I. Three other statutes and legislative directives are also relevant. They are:

- Registration of water withdrawals and transfers over a specified rate is required by NCGS §143-215.22H;
- §143-354(a)(11) establishes a process for the allocation of water supply storage in federal reservoirs that has been purchased by the State of North Carolina; and
- House Bill 1215 of Session 2002 directed that existing authority under §143-354(a) be used to develop statewide minimum conservation measures for publicly and privately owned water supplies, state agencies and businesses, and for agricultural users to be used during droughts.

### **Organizational arrangements**

Authority to designate Capacity Use Areas and issue permits pursuant to those designations is given to the Environmental Management Commission (EMC). Interbasin transfer decisions are also delegated to the EMC.

## **Registration of withdrawals**

Although mere registration and reporting of water withdrawals from surface and groundwater sources does not involve regulation of use, it is a significant first step toward identifying potential need for state intervention to allocate limited supplies. To that end, N.C.G.S. §143-215.22H (V2) requires registration of water withdrawals and transfers. The statute became effective March 1, 2000. A threshold of 100,000 gallons per day was set for withdrawals from either surface or groundwater sources or for transfers in excess of that amount from one river basin to another. Users must report the maximum daily rate of withdrawal, the average monthly withdrawal, location of withdrawal, and locations of discharge. Local governments that have completed a water supply plan that meets criteria for such a plan as required by N.C.G.S. §143-355 does not have to register.

## **Water withdrawal permits in capacity use areas**

The EMC is authorized under N.C.G.S. 143-215.13 to declare and delineate areas of the state as capacity use areas (CUA's) when it finds that either the aggregate use of water in that area requires coordination and regulation or that the use threatens to exceed or impair the capacity of the area to supply water. The statute covers both surface water and groundwater.

The Act specifies a two-stage procedure. In Stage 1, the EMC may direct the Department of Environment and Natural Resources (DENR) to investigate and issue a report on its findings as to whether a situation exists that may warrant a capacity use designation. Appropriate alternatives to solving problems must be addressed; including any that might preclude the need for regulation. If the EMC finds from its review of the report that regulation is necessary, it may proceed to Stage 2 by declaring the need for and delineating boundaries of the area.

§ 143-215.13 (d) enables the EMC to establish by rule a system of withdrawal permits. The act specifies thresholds and durations for permits.

Thresholds. Existing users who are taking more than 100,000 gallons per day (gpd) are required to get a permit if they want to increase rates of withdrawal. New users are required to obtain a permit if they intend to construct a well or other withdrawal facility that will take more than 10,000 gpd.

Duration. Permits are issued for duration of not less than 10 years. Longer periods are allowed if the capacity use area is likely to exist for more than 10 years or if a longer time is necessary to allow an applicant a reasonable amount of time to amortize needed capital improvements.

Scope. The nature of regulations covering CUA's is governed in part by NCGS 143-215.14. The act addresses:

- reporting of use and frequency of reporting;
- authority to govern the timing of withdrawals, protection and abatement of salt water intrusion, and protection of other users;
- authority to limit spacing of wells and pumping rates; and other actions that may be necessary.

The first and only Capacity Use designation prior to 2002 was the one by triggered passage of the act in 1967. It covered an areas affected by a large phosphate mine near Aurora, NC. A much larger one, the Central Coastal Plain Capacity Use Area shown in Figure 2, was designated in 2002. It was created to reduce over-pumping of groundwater aquifers that had the potential to permanently damage the aquifers and allow saltwater intrusion. The original CUA was repealed in 2002 and included in the newly designated area. All or parts of 15 counties were included in the 2002 designation.

### **Surface water transfers**

As demand for water by cities in North Carolina continued to grow beyond the capacity of local supplies, and as cities began to look toward supplies in neighboring basins, pressure mounted on the General Assembly to establish a clear policy that would govern such transfers. Changes made to the statute in 2007 included substantial additions to notification requirements to insure that a broader spectrum of interested parties was informed in a timely manner. Some changes were made to criteria to be considered in granting or denying a certificate of transfer, most notably a criterion that places greater weight on effects in a source basin. A few procedural changes were also made. Section (c) added the extensive new notification provisions by attaching several conditions to the requirement for publication of a notice of intent to file a petition for a transfer.



Figure 2. Central Coastal Plain Capacity Use Area in North Carolina

Three public meetings are required to inform the public of the intent, one upstream and one downstream in the source basin, and one in the receiving basin.

Among those who must be notified of the meetings are:

- all counties located in whole or part in the source and receiving basins, including those in adjacent states;
- the governor and all relevant state agencies in adjacent states in which a portion of the source basin is located;
- all public water suppliers who draw water from the source basin, all parties who have registered withdrawals or hold permits for withdrawals from the source basin, and all parties who hold wastewater discharge permits in the source basin.

One of the purposes to be served by the public meetings is to gather comment on the scope of an environmental impact assessment.

Another important change in procedure was added in two sections, (i) and (j). The first sets a timetable for the EMC to make a draft determination as to whether it intends to grant a certificate with appropriate conditions. The second requires the EMC to hold public hearings on the draft determination. Criteria for locations of public hearings are also specified.

Threshold. The statute provides in 215.22L(a) that anyone must obtain a certificate from the EMC if they:

- intend to transfer at least 2 million gallons a day (MGD);
- intend to increase a transfer that existed in the year prior to July 1, 1993, by at least 25 percent if the total, including the increase, exceeds 2 MGD; or
- intend to increase a transfer approved by the EMC after July 1, 1993.

Section (g) specifies minimum elements that must be included in the petition for a transfer. Once a petition is received, an environmental impact statement (EIS) is required [Section (d)], a hearing on the draft of the EIS is required [(e)], and a formal decision by the EMC as to the adequacy of the EIS, decision that is subject to review by a contested case hearing [(f)].

Factors to be considered. The EMC must give specific consideration to nine factors listed in Section (k) of the statute. They are:

- necessity and reasonableness of the amount and uses of the proposed transfer;
- present and reasonably foreseeable future detrimental effects on a specific list of uses in the source basin;
- cumulative effects on the source basin;
- present and reasonably foreseeable future beneficial and detrimental effects on a specific list of uses in the receiving basin;
- availability of alternatives to the transfer;
- potential use of storage to capture water during high flow periods for use during low flows;
- potential effects on federal multipurpose reservoirs;
- whether the service area of the applicant is located in both the source and receiving basins; and
- any other relevant facts and circumstances.

Section (l) lists the sources of information that are to be used in considering the above factors. Section (m) sets forth the burden of proof by which the EMC is to be guided in making a determination whether to issue a certificate. Possibly the most significant criteria are stated in Section (t) as follows:

It is the public policy of this State that...future water needs of a...system with its service area located primarily in the receiving...basin are subordinate to a...system with its service area located primarily in the source river basin. Further, ...the cumulative impact of transfers from a source river basin shall not result in a violation of the (federal) antidegradation policy...and the statewide antidegradation policy adopted pursuant thereto.

Section (n) addresses conditions that must be and may be attached to any certificate. Mandated conditions include a conservation program that must be at least as stringent as the most stringent in the source basin and a drought contingency plan.

### **Allocation of state-owned water supply storage in federal reservoirs**

One statute related to water allocation that has limited applicability but widespread interest is the power granted to the EMC under §143-354(a)(11) to allocate water supply storage in federal reservoirs where the state holds an interest. At the present time, that authority is limited to B. Everette Jordan Reservoir, the only reservoir in which the state holds an interest. Under that statute, the EMC is authorized to allocate the storage to local governments and to reallocate storage if need for change is justified.

### **Water resource planning**

As of 1989, §143-355(l) required each local government that runs a water system and each community water systems that serve at least 1,000 connections to prepare a Local Water Supply Plan (LWSP). Those plans are required to include present and projected water use, conservation and reuse programs, and steps that will be taken in response to droughts. §143-355(l) (m) requires DENR to prepare a state water supply plan, based largely on the LWSP's. In addition to information submitted in the LWSP's, DENR is required to show the extent to which the local plans are not compatible and to identify ways of resolving any conflicts.

### **Conservation**

Session Law 2002-167, also referred to as House Bill 1215, directs EMC to use its authority under N.C.G.S. 143-354(a) to development and implement rules governing water conservation and water reuse during drought and other water emergencies. Those rules can be found in Title 15A Chapter 2E Section .0600 of the North Carolina Administrative Code.

## **SOUTH CAROLINA**

### **Statutes**

Authority to manage these activities is granted under a variety of statutes codified in the South Carolina Code of Laws. Primarily three basic statutes govern water allocation.

They are:

- Surface Water Withdrawal and Reporting Act (SWWRA), Title 49 – Waters, Water Resources and Drainage, Chapter 4;
- Groundwater Use and Reporting Act (GURA), Title 49 – Waters, Water Resources and Drainage, Chapter 5; and
- Interbasin Transfer of Water Act (ITWA), Title 49 – Waters, Water Resources and Drainage, Chapter 21.

### **Organizational arrangements**

Two agencies have primary responsibility for water management in South Carolina, the Department of Natural Resources (SCDNR) and Department of Health and Environmental Control (SCDHEC). The Water Resources Planning and Coordination Act (WRPCA Title 49, Chapter 3) assigned planning and policy development for water resources to the Division of Water Resources in SCDNR. SCDNR is charged, among other duties, with:

- formulation of a comprehensive water resources policy;
- formulation of policies and strategies to meet and resolve specific water-related problems;
- recommending specific legislation; and
- reviewing and commenting on projects, plans, and programs by other state and federal agencies to determine consistency with state policies;
- reviewing and approving expenditures for any funds derived from the United States Army Corps of Engineers; and
- representing the state on interstate bodies.

SCDHEC administers an array of other water-related authorities covering, water allocation, quality of drinking water, quality of streams, lakes, and other bodies of water, stormwater and sediment control, and dam safety. The Groundwater Use and Reporting Act (Section 49-5-110) directs SCDHEC to negotiate groundwater-related agreements, accords, or compacts with other states or the federal government.

## **Registration and reporting of surface water withdrawals**

Current South Carolina law does not require a permit for surface water withdrawals. With certain exceptions, it does require registration of withdrawals over a certain amount. Dewatering, emergencies, environmental remediation, isolated private ponds, and wildlife habitat management operations are exempt.

Threshold for Reporting. Section 49-4-20 of SWWRA defines a surface water withdrawer as a public water system or any other person or entity that takes water from a surface source in excess of three million gallons during any one month. That definition applies to withdrawals from a single intake or multiple intakes under common ownership within a one-mile radius of other intakes. Section 49-4-40 required existing surface water withdrawers as defined by 49-4-20 to register its water use with SCDHEC no later than January 1, 2001, and it requires new surface water withdrawers to register with SCDHEC within 30 days after completing construction of its intake structure.

Withdrawers are required by Section 49-4-50 to report by January 30 of each year the quantity of water withdrawn during the preceding year. Methods for determining those quantities are also specified. SCDHEC is granted a variety of powers to administer, investigate, enforce, and enter property for legitimate purposes to implement provisions of the act. Willful violators are subject to a prosecution of a misdemeanor and subject to a fine of up to \$1000. Any violator is subject to a civil penalty of up to \$1000 per day. There is no explicit mention of allowable uses or priorities among uses in SWWRA. By mentioning some particular uses, they are implicitly included among allowable uses, but no uses are prohibited or given low priority.

## **Groundwater use and reporting act (GURA)**

Unlike its surface water law, South Carolina does require permits for withdrawal of groundwater in certain designated locations if the withdrawal exceeds a specified amount. The GURA has several important provisions including:

- registration and reporting of all withdrawals that exceed a certain quantity;
- capacity use designation, planning and permitting;
- notice of intent for new wells in the Coastal Plain outside capacity use areas.

Groundwater withdrawers are defined by the same criterion as surface water withdrawers as persons or entities withdrawing at least three million gallons in a single month from a

single well or multiple wells in common ownership within a one-mile radius. Existing withdrawers were required to register by January 1, 2000. New withdrawers are required to register prior to making withdrawals. Reporting requirements for all withdrawers are almost identical to those for surface withdrawers as are methods for measuring quantities withdrawn.

Section 49-5-60 establishes authority for designation of capacity use areas in those parts of the state where excessive withdrawals pose a threat to public health, safety, economic welfare, the long-term integrity of the source, or other natural resources. The Board of SCDHEC is empowered to designate those areas acting on initiatives from one or more government agencies or withdrawers. Scientific investigations are required to establish a factual basis for one or more threats before the Board makes its decision. Once an area is designated, a groundwater management plan must be developed, if possible, through a collaborative process involving withdrawers, otherwise by SCDHEC. Then, all withdrawers must apply for and obtain a permit for making withdrawals. SCDHEC is directed to issue permits in conformance with the management plan.

Appeal procedures and standards for judicial review are provided in the statute for affected parties that wish to challenge designation of an area. In addition to permit requirements for capacity use areas, a proposed withdrawer located in the Coastal Plain but outside a designated capacity use area is required to notify SCDHEC of its intent to construct a new well or increase the capacity of an existing well 30 days before start of construction.

A map of designated capacity use areas and areas requiring notices of intent is shown in Figure 3. The Waccamaw Capacity Use Area was repealed in June 2006 (SC Code of Regulations Chap. 121-1 and 121-2). Hampton County was recently approved for inclusion in the Low Country Capacity Use Area (Baize, 2008).

The GURA exempts a list of withdrawers that includes those exempted under the SWWRA. It also exempts nonconsumptive users, single-family residences, certain types of wells in the Coastal Plain, and aquifer storage and recovery wells that comply with applicable regulations.

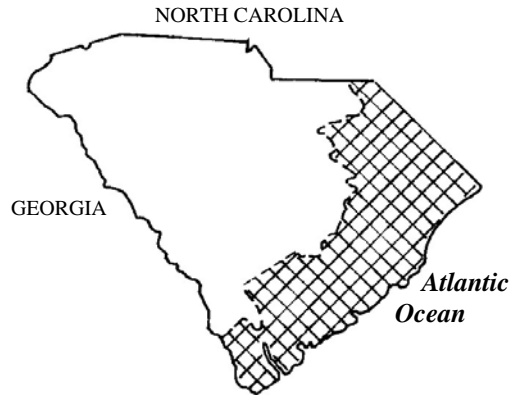


Figure 3. Designated Groundwater Management Areas in South Carolina

Like the SWWRA, there is no explicit mention of allowable uses or priorities among uses in GURA.

### **Interbasin transfers**

Interbasin transfer of water in South Carolina is governed by the Interbasin Transfer of Water Act (ITWA).

Threshold. Anyone who transfers water from one basin to another must obtain a permit from SCDHEC if the transfer exceeds either five percent of the seven-day ten-year low flow in the source basin or is greater than one million gallons per day. Fifteen basins to which the law initially applied are listed in Section 49-21-60. Other basins can be delineated by SCDHEC subject to approval by the legislature.

Duration. Permits are limited to a minimum of 20 years and a maximum of 40 years, unless an applicant requests a shorter time period.

Factors to Be Considered. Application procedures are specified in Section 49-21-30. That section also lists criteria to be considered by SCDHEC in making a decision to grant or deny a permit. Criteria include but are not limited to:

- protection of existing municipal, agricultural, industrial, and instream uses and wastewater assimilate requirements in the source basin;
- future needs of withdrawers in source basin, including emergencies, and future beneficial and reasonable needs of the applicant;
- beneficial effects on the State and its subdivisions;
- how the transfer will affect storage and conservation of water;

- feasibility of alternative sources of supply and their costs;
- effects on other state and federal agencies with interest in affected streams; and
- effects on other uses in both the source and receiving streams, including interstate impacts.

SCDHEC is prohibited from issuing a permit that would either lead to a violation of a water quality standard or a stream classification standard, or adversely affect the public health and welfare.

The act goes on to establish a procedure by which any party who feels that it has been adversely affected by the transfer may challenge the permit. A procedure is also established by which SCDHEC may revoke a permit.

### **Conservation**

Neither SWWRA nor GURA contain provisions relating to water conservation, but conservation is considered as a factor in permitting decisions. Permit applicants must provide assurances to SCDHEC that appropriate conservation measures are adopted (Baize, 2008). Section 49-21-30C of the ITWA requires that, among many other factors, SCDHEC consider conservation and efficiency of use of the applicant in projecting “foreseeable future water needs”. The act provides no guidance as to what conservation measures are appropriate or how efficiency is to be judged.

### **Legislation proposed in 2007**

Senate Bill (S 0428) was introduced in the South Carolina Legislature in February 2007 to substantially alter water management in the state. That bill and its House companion (H 3578), if passed and ratified, would have done several things, including:

- established some state regulation of riparian rights;
- provide that use of water on non-riparian lands is lawful and has equal standing with use on riparian lands;
- establish a system of statewide surface water withdrawal permits; and
- repeal and replace the Interbasin Transfer Act (Title 49, Chap. 21).

The Senate Bill was referred to the Committee on Agriculture and Natural Resources. It did not make it to the floor prior to adjournment in 2007.

## **Water resource planning and coordination**

There is no specific requirement in South Carolina statute for a state water plan. In formulating policies, SCDNR is directed to consult and coordinate with local governments and metropolitan organizations and to provide assistance in their planning activities. SCDNR is directed to consider needs for water of suitable quantity and quality for domestic, municipal, agricultural, and industrial uses. It is to consider needs for navigation, hydroelectric power, flood damage reduction, drainage, land stabilization, outdoor recreation, and fish and wildlife. SCDNR has, at its administrative discretion, developed a program for river corridor and watershed planning. It is a voluntary program, initiated by request, and subject to available funding. These plans are intended to cover various management of riparian areas, water quality, recreation, wildlife management, agricultural and forestry practices, and the economic development needs of the community. The Lower Saluda River study was completed in 1988; other plans include the Catawba River Corridor Plan (1994), the Edisto River plan (1994), and the Reedy River study in 2001 (<http://dnr.sc.gov/water/envaff/river/watershedplanning.html>).

## **TENNESSEE**

### **Statutes**

Tennessee statutes governing water management are found in Tennessee Code Annotated (T.C.A.) Title 69 under the heading “Waters, Waterways, Drains And Levees”. Chapter 7 of Title 69 may be the most direct statute relevant to water allocation, requiring registration under the Tennessee Water Information Act (TWIA) in Part 3 and permits for Inter-basin Water Transfers in Part 2. Title 69, Chapter 3, 102(b) is titled Water Pollution Control, and it states that “...the purpose of this part is to plan for the future use of the waters so that the water resources of Tennessee might be used and enjoyed to the fullest extent consistent with the maintenance of unpolluted waters.” Section 108(b) states any person who engages in “the alteration of the physical, chemical, radiological, biological, or bacteriological properties of any waters of the state” must have a permit. For the past 20 years that provision has been interpreted to mean that any withdrawal with the potential to have an impact on water quality must have a permit

(Davis, 2008). Those permits are issued under the Aquatic Resource Alteration Program (ARAP).

### **Organizational arrangements**

Authority under these laws is granted to the Commissioner of the Department of Environment and Conservation.

### **Registration of withdrawals**

Section 69-7-304 of TWIA requires registration of withdrawals from surface water or groundwater sources.

Threshold and Exemptions. Registration is required if the rate of withdrawal exceeds 10,000 gallons per day. Agricultural uses, including crop production and livestock operations, are exempt. Also exempt are nonrecurring emergency uses for human health and safety.

### **Interbasin transfers**

The Tennessee IBT law covers only those transfers from one of the ten basins listed in the statute to any other of those basins that are made by a person or entity that fall in one of two groups. One group is those that have been granted authority powers by the state to acquire water, water rights and associated property by eminent domain or condemnation. The other group consists of those entities providing public water supplies. Anyone included in those two groups must get a permit prior to making a transfer. Language of the statute implies that self-supplied industries, agricultural users, mining operations and other entities are not covered by the act so long as they don't acquire property by eminent domain or condemnation.

Threshold. There is no threshold for which an IBT permit is required.

Duration. A permit has a life of five years.

Factors to be considered. Granting of the permit is at the discretion of the Commissioner of the Department of Environment and Conservation (DEC). The statute provides very little guidance as to what factors must be considered in making that decision to grant or deny a permit. DEC's Rule 1200-4-13 does specify the information that must be provided by an applicant to the Commissioner. In addition to basic information about purpose and timing of the transfer, locations of withdrawals and returns, volume of transfer, and peak rates, the rule requires:

- engineering and economic justification for the capacity of each major component of the facilities;
- an assessment of the hydraulic and environmental impacts of the withdrawal on the donor basin;
- an evaluation of alternative sources of water in the receiving basin; and
- a listing of conservation programs or practices by the system that will benefit from the transfer.

### **Aquatic Resource Alteration Program**

Tennessee's Aquatic Resource Alteration Program (ARAP) is primarily tied to protection of instream uses as classified under state primacy statutes consistent with the Federal Clean Water Act (CWA). Activities such as forestry and agriculture are largely exempt as are activities that do not alter designated uses. DEC's Rule 1200-4-7 sets forth the program of general and individual permits, including conditions necessary to conform to either the Water Quality Certification requirements of Section 401 of the CWA or ARAP.

## **VIRGINIA**

### **Statutes**

Virginia allocates its water resources under several statutes codified in the Code of Virginia in Title 62.1, Waters of the State, Ports, and Harbors. They include:

- Chapter 3 – State Water Control Law,
- Chapter 24 – Surface Water Management Areas, and
- Chapter 25 – Ground Water Management Act of 1992 are the most relevant parts.

### **Organizational arrangements**

Administration of water management in Virginia is vested in the State Water Control Board (SWCB).

### **Registration and reporting**

Under § 62.1-44.38 C, the SWCB is authorized to require water to register and report withdrawal and water use information for those users above specified thresholds. The thresholds are one million gallons in any month for crop irrigation and an average of 10,000 gallons per day for all other users.

## **Withdrawal permits for surface water**

Virginia has two statutes that grant authority to administrative agencies to permits for surface water withdrawal. One is Section 62.1-246 which authorizes the SWCB to designate special areas of the state as Surface Water Management Areas (SWMA) where it finds that activities threaten values of streams for a specified set of uses. Withdrawal permits are required for major users but permit conditions would only be in effect during specified low flow conditions. Information required for applicants for such permits and conditions to be applied to them are spelled out in the statute and related regulations in the Chapter 210 of the Virginia Administrative Code (VAC). No SWMA's have been designated to date.

Thresholds. Major users are defined as those withdrawing at least 300,000 gallons a day or 90 million gallons per month.

The second statute is the one that is actively being used to regulate surface withdrawals. Much of Section § 62.1-44.15:20 is directed toward protection of wetland area, but it also states that no person can withdraw surface water without a Virginia Water Protection (VWP) Permit. Language in the statute requires that SWCB issue a VWP permit if it determines that the proposed activity is consistent with the Clean Water Act, the State Water Control Law, and the permitted activity will protect instream beneficial uses of water. Regulations governing implementation of the statute are given in Section 25-210 of Title 9 of the Virginia Administrative Code (9 VAC 25-210-10 et).

Thresholds and Exemptions. These regulations include a number of exemptions and thresholds. Among the exemptions are:

- For non-tidal waters, agricultural withdrawals less than one million gallons in a single month, and all other withdrawals less than 10,000 gallons per day;
- For tidal waters, all withdrawals from tidal waters for nonconsumptive uses, agricultural withdrawals less than 60 million gallons in a single month, and withdrawals for all other consumptive purposes less than two million gallons per day.

Duration. VWP permits are limited to not more than 15 years duration.

## **Withdrawal permits for groundwater**

Virginia regulates groundwater withdrawals through a permitting program under authority of the Ground Water Management Act of 1992 (§ 62.1-254 et seq.) and related

regulations (9 VAC 25-610-10 et seq.). The permitting program is limited to designated areas called Ground Water Management Areas (GWMA), two of which have been established, the Eastern Shore Ground Water Management Area and the Eastern Virginia Ground Water Management Area as shown in Figure 4.

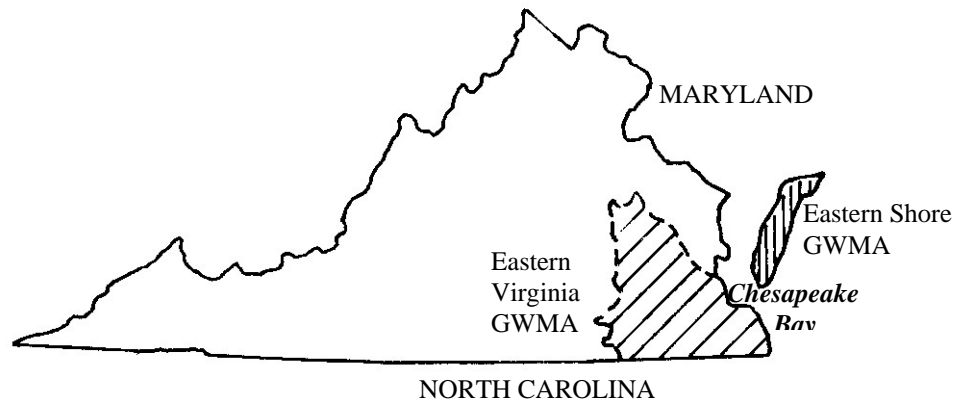


Figure 4. Groundwater Management Areas in Virginia

Threshold. The level that triggers the need for a permit in one of these designated areas is 300,000 gallons per month. Any person or entity wishing to withdraw 300,000 or more gallons of ground water per month in the Eastern Virginia Ground Water Management Area (9 VAC 25-600-20 et seq.) or the Eastern Shore Ground Water Management Area (9 VAC 25-620-10 et seq.) must apply to VA Department of Environmental Quality (DEQ) for a permit and pay associated fees (ranging from \$1,200 to \$6,000). Typical requirements for a permit application include demonstration of need, hydrogeologic information, plan to mitigate impacts on existing users (in GWMA), water conservation and management plan, and limit on annual (and often monthly) withdrawals. Technical DEQ staff determine whether proposed withdrawals will cause at least a one-foot decline in water level; if so, a mitigation plan is required. In addition, DEQ staff evaluate the magnitude of the projected impacts of proposed withdrawals to assure that they meet technical criteria contained in regulation, those that do not meet these criteria would be recommended for denial.

## **Conservation**

The conservation plan must include: use of water-saving plumbing and processes, water loss reduction program, water use education program, evaluation of potential water reuse options, and mandatory use reduction during water shortage emergencies.

## **State water resources plan**

The State is required to prepare a state water resources plan in accordance with § 62.1-44.38, which includes information from existing local and regional water supply plans. The State Water Resources Plan is currently (October 2007) under development.

The state water resources plan shall include:

- (i) estimates of current water withdrawals and use for significant categories of water users;
- (ii) projection of water withdrawals and use by significant categories of water users;
- (iii) estimates, for each major river and stream, of the minimum in-stream flows necessary during drought conditions to maintain water quality and avoid permanent damage to aquatic life in streams, bays, and estuaries;
- (iv) evaluation of the ability of existing subsurface and surface waters to meet current and future water uses;
- (v) evaluation, in cooperation with the Virginia Department of Health and local water supply managers, of the current and future capability of public water systems to provide adequate quantity and quality of water;
- (vi) identification of water management problems and alternative water management plans to address such problems; and
- (vii) evaluation of the hydrologic, environmental, economic, social, legal, jurisdictional, and other aspects of each alternative management strategy identified.

Local and Regional Water Supply Plans will be included in the State Water Resource Plan when determined to be in compliance with the State Plan. 9 VAC 25-780-140.G requires that "in conjunction with the compliance determination made by the board, the state will develop additional information and conduct additional evaluation of local or regional alternatives in order to facilitate continuous planning. This additional information shall be included in the State Water Resources Plan and used by localities in their program planning." This information shall include:

- (i) cumulative demand analysis, based upon information contained in the State Water Resources Plan and other sources;
- (ii) evaluation of alternatives prepared pursuant to 9 VAC 25-780-130.B and C;
- (iii) evaluation of potential use conflicts among projected water demand and estimates of requirements for in-stream flow; and
- (iv) evaluation of the relationship between the local plan and the State Water Resources Plan.

Drought response and contingency plans are required for all community water systems and self-supplied users who use more than an average of 300,000 gallons a month from either surface or ground sources. Requirements for these plans are stated in 9 VAC 25-780.

#### The Concept for the State Plan

(<http://www.deq.virginia.gov/watersupplyplanning/>) intends:

- (i) To put local and regional plans together with relevant state water resource information in one place;
- (ii) To provide a qualitative and quantitative description of water resources in Virginia based upon readily accessible data, and guidance on the use of that information in the decisions that face the Plan's users;
- (iii) To provide a statewide snapshot of what the water supply needs are, where they are met, and our best estimate of the resource's ability to meet additional needs;
- (iv) To manage water resources to ensure their continued availability, while also maximizing environmental and economic benefits;
- (v) To provide an on-going process that evolves in response to changing conditions over time;
- (vi) To identify areas of the state where multiple users want the same source for their water needs;
- (vii) To identify existing areas of the state where water availability may be insufficient now or in the near future based on these needs;
- (viii) To try and find resolutions to conflicts through regional solutions, alternative sources, or some other option;
- (ix) To identify a locality's needs and the constraints to meeting these needs;
- (x) To see where there may be willing partners for regional solutions and where these solutions may be most practical; and
- (xi) To provide a useful economic development tool by identifying areas with available water supplies, and areas where water needs for promoting tourism and recreation are identified.

## **Interbasin transfer**

Virginia does not have a special statute addressing IBT. The issue could be addressed under authority to designate Surface Water Management Areas in which withdrawal permits are required.

### **SUMMARY**

This review of laws and regulations affecting water allocation in the six South Atlantic states is primarily focused on three issues: IBT, surface and groundwater permitting, and water resource planning. A table briefly summarizing key elements of the statutes relating to these issues is attached as an appendix. It shows reveals many similarities but also a wide range of approaches to each issue.

One issue on which there is a very wide range of approaches is IBT. At one end of the range is Virginia with no special IBT statute. Tennessee has a very narrowly tailored law affecting a limited number of entities, and its statute contains very little guidance as to the process to be used and factors to be considered in making a permit decision. Statutes in North Carolina and South Carolina specify processes and factors to be considered in considerable detail. Georgia and Florida have relatively brief statutes on IBT's.

Withdrawal permitting varies considerably. Tennessee has a fairly narrowly tailored IBT permit system. Tennessee's ARAP is primarily an environmental protection program governing activities that would have significant impact on water quality, closely tied to the certification program required of all states under Section 401 of the CWA. South Carolina has a permit system for specially designated groundwater management areas. Virginia law enables the State Water Control Board to delineate both Groundwater Management Areas and Surface Water Management Areas (SWMA's). Withdrawal permits are required in both areas. No SWMA's have been established, but the states rely on Virginia Water Protection permits to regulate surface water withdrawals. The governing statute for these permits appears to be directed primarily at wetlands and instream uses, much like Tennessee's ARAP. North Carolina law is slightly different; a single statute covers both surface water and ground water. If the regulatory commission designates special areas in which permits are required, it may require permits for either

type of source. Georgia and Florida have statewide permit systems. Florida permits are administered by the Water Management Districts.

Where permits are required, duration of permits also cover a very wide range. IBT permits in Tennessee are for five years; NC permits for Capacity Use Areas are for a minimum of 10 years; FL withdrawals permits have a maximum of 20 years duration; SC IBT permits are for 10-40 years; GA surface water withdrawal permits are for 10-50 years with special consideration for permits greater than 25 years.

South Atlantic states have been reluctant to establish lists of allowable uses, even more reluctant to establish priorities among users. Some statutes, like the NC IBT statute, specify a number of uses to be considered in making a decision about a certificate. By inference, those are allowable uses. In no case have specific uses been prohibited. Georgia has clearly established priorities for allocation during droughts, first for human consumption and second for farm use. Even in that case, definitions of human consumption and farm use are rather broad.

Thresholds for which permits are required vary by type of source. For surface water withdrawals, there is general agreement on a value of 100,000 gallons per day (gpd) or its equivalent. There are a few exceptions. For instance, Virginia defines major uses to be those taking 300,000 gpd. Virginia and North Carolina have smaller thresholds, 10,000 gpd for groundwater. The IBT threshold in SC is 1.0 million gallons per day (MGD); in NC it is 2.0 MGD.

There is also considerable variation in statutory mandates for statewide water resource plans. South Carolina and Tennessee have no such mandate. Virginia and Georgia are under mandates to prepare statewide water resource plans. North Carolina statutory requirements for planning are limited to public water supplies. All local governments that run water systems and all community systems serving more than 1,000 connections are required to prepare Local Water Supply Plans every five years. Those plans are then rolled into a state water supply plan. Florida requires the management districts to prepare comprehensive water resource plans every five years. The state then combines those plans into a State Water Resources Plan.

## **SOME OPTIONS FOR NORTH CAROLINA**

North Carolina's General Assembly has many options as they consider changes to current policy. One option is to continue present practice, one that can be fairly characterized as responding to overuse of the resource through the Water Use Act of 1967 when problems are clearly identified. That practice has the advantage of minimizing state regulation and administrative allocation of the resource until the need has been clearly demonstrated. It avoids making very difficult allocation decisions in the face of uncertainties about future needs. When the resource has not been fully allocated, dividing the limited resource among competing users is not very difficult. Everybody can win in that situation. Deciding between winners and losers when the resource has been fully appropriated by prior development is much more difficult. The downside of waiting until the capacity of the resource has been reached or exceeded is the limited utility of that approach in planning for likely future conditions.

Another option would put the state in a more proactive position in managing the resource without major changes to present policies. It would involve regularly scheduled basinwide assessments followed by public hearings and a decision to designate or not to designate a basin or portion of a basin as a capacity use area. Assessments could be scheduled over cycles ranging from five to ten years and published concurrently with basinwide water quality plans. Assessments would include:

- current and likely future withdrawals for all significant purposes,
- estimates of available and developable supplies (including consideration of droughts),
- key water quality issues affecting supplies,
- related environmental values and natural resources, and
- other pertinent factors.

Assessments would not necessarily require detailed documents. More detailed investigations could follow if further action was deemed necessary. The North Carolina Environmental Management Commission (EMC) or another administrative agency could be charged to consider the findings of assessments and act on recommendations regarding capacity use areas.

The Water Use Act as it now stands requires the EMC to initiate the process by directing the Department of Environment and Natural Resources (DENR) to investigate and issue a report on its findings as to whether a situation exists that may warrant a capacity use designation. During the past 40 years since the act was passed, the EMC has designated only two areas, one a preventive action that triggered the need for the act in 1967 and the other only after a serious problem had occurred in coastal plain aquifers. The first designation was repealed by and incorporated in the second designation in 2002. Periodic water resource assessments would make the process much more future oriented, less reactive, and place less reliance on re-plumbing of areas where problems have arisen. More timely judgments would be made about the need for more detailed planning and the need for withdrawal permits.

A third option is to go where Georgia and Florida have gone with statewide withdrawal permits. It would require greater staff resources, and some permitting processes could become more highly contested. For those parts of the state where the resource has not been fully allocated, issuance of permits consumes staff resources but may not involve lengthy and costly decision processes. In those portions of the state where use of the resource is near or exceeds capacity, permitting processes will become increasingly difficult. In Florida there is a high level of competition for water among large urban populations, irrigation of agricultural areas, and environmental resources. In that setting, water allocation decisions have already become more difficult.

North Carolina statutes currently do not explicitly establish a list of allowable uses and priorities among them. The IBT statute does list several uses, and by implication, those are allowable uses. No specific uses have been determined to be not allowable. At present there does not appear to be a compelling need to establish such lists or priorities except during droughts. During those periods there is competition between offstream uses and environmental, but there are few cases where competition among industrial, agricultural and urban uses is intense. Priorities have been established within drought management plans prepared by local governments, but those priorities are within the broad category of public water use.

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Title XXVIII NATURAL RESOURCES; CONSERVATION, RECLAMATION,  
AND USE Ch.369-380

Chapter 373 Water Resources

Part I STATE WATER RESOURCE PLAN (ss. 373.012-373.200)

Part II PERMITTING OF CONSUMPTIVE USES OF WATER  
(ss. 373.203-373.250)

Part III REGULATION OF WELLS (ss. 373.302-373.342)

Part IV MANAGEMENT AND STORAGE OF SURFACE WATERS  
(ss. 373.403-373.468)

Part V FINANCE AND TAXATION (ss. 373.470-373.591)

Part VI MISCELLANEOUS PROVISIONS (ss. 373.603-373.71)

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<http://www.lexis-nexis.com/hottopics/gacode/default.asp>

TITLE 12. CONSERVATION AND NATURAL RESOURCES

CHAPTER 5. WATER RESOURCES

ARTICLE 1. GENERAL PROVISIONS

ARTICLE 2. CONTROL OF WATER POLLUTION AND SURFACE-WATER USE

ARTICLE 3. WELLS AND DRINKING WATER

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### Chapter 143: State Departments, Institutions, and Commissions

#### Article 21 – Water and Air Resources

- § 143-215.13. Declaration of capacity use areas.
- § 143-215.14. Rules within capacity use areas; scope and procedures.
- § 143-215.15. Permits for water use within capacity use areas – Procedures.
- § 143-215.16. Permits for water use within capacity use areas – duration, transfer, reporting, measurement, present use, fees and penalties.
- § 143-215.17. Enforcement procedures.
- § 143-215.18. Map or description of boundaries of capacity use areas.
- § 143-215.22H. Registration of water withdrawals and transfers required.
- § 143-215.22I. Regulation of surface water transfers.

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<http://www.scstatehouse.net/code/statmast.htm>

### Title 49 - Waters, Water Resources and Drainage

#### CHAPTER 1 - GENERAL PROVISIONS

#### CHAPTER 3 - WATER RESOURCES PLANNING AND COORDINATING ACT

#### CHAPTER 4 - SOUTH CAROLINA SURFACE WATER WITHDRAWAL AND REPORTING ACT

#### CHAPTER 5 - GROUNDWATER USE AND REPORTING ACT

#### CHAPTER 21 - INTERBASIN TRANSFER OF WATER

#### CHAPTER 23 - SOUTH CAROLINA DROUGHT RESPONSE ACT

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### Title 69 Waters, Waterways, Drains And Levees

#### Chapter 7 Water Management

##### Part 1 – Water Resources Division

##### Part 2 – Inter-basin Water Transfers

##### Part 3 – Tennessee Water Resources Information Act

## **Code of Virginia**

[http://www.virginia.gov/cmsportal2/government\\_4096/codes\\_and\\_laws.html](http://www.virginia.gov/cmsportal2/government_4096/codes_and_laws.html)

### Title 62.1 WATERS OF THE STATE, PORTS AND HARBORS.

Chapter 1 Watercourses Generally ([62.1-1](#) thru [62.1-9.1](#))

Chapter 2 State Policy as to Waters ([62.1-10](#) thru [62.1-13](#))

Chapter 3 State Water Control Law ([62.1-14](#))

Chapter 3.1	State Water Control Law ( <a href="#">62.1-44.2</a> thru <a href="#">62.1-44.34:28</a> )
Chapter 3.2	Conservation of Water Resources; State Water Control Board ( <a href="#">62.1-44.35</a> thru <a href="#">62.1-44.44</a> )
Chapter 3.3	State Water Resources Law ( <a href="#">62.1-44.45</a> )
Chapter 3.4	The Groundwater Act of 1973 ( <a href="#">62.1-44.83</a> thru <a href="#">62.1-44.107</a> )
Chapter 24	Surface Water Management Areas ( <a href="#">62.1-242</a> thru <a href="#">62.1-253</a> )
Chapter 25	Ground Water Management Act of 1992 ( <a href="#">62.1-254</a> thru <a href="#">62.1-270</a> )

**Appendix. Brief Summary of Characteristics of Registration, Permitting and Planning for Water Resources in Six States**

	<b>Florida</b>	<b>Georgia</b>	<b>North Carolina</b>	<b>South Carolina</b>	<b>Tennessee</b>	<b>Virginia</b>
<b>Organizational Arrangements</b>	WMD's and Dept. of Environmental Protection	BNR and Div. of Environmental Protection	EMC and DENR	DNR and DHEC	Dept. of Environment and Conservation	State Water Control Board
<b>Registration and Reporting</b>		Required if over 100,000 gpd (monthly average)	Required if over 100,000 gpd	Required if over 3 MGM	Required if over 10,000 gpd	1 MGM for irrigation or 10,000 gpd for others
<b>Permit Programs</b>	All consumptive uses	Separate surface and groundwater statutes	In designated Capacity Use Areas	-In designated Capacity Use Areas -NOI in other designated areas	ARAP permits required to protect instream uses	-Surface WMA -Ground WMA -Water Protection Permits
<b>Permit Thresholds</b>	None in statute	100,000 gpd	New: 100,000 gpd Existing: 100,000 gpd if increasing	3 MGM		SWMA: 300,000 gpd GWMA: 300,00 gpd VWP: over 10,000 gpd for non-tidal; 60 MGM for tidal
<b>Duration</b>	20 years or less	10–50 yrs; over 25 yrs. Subject to special review	10 or more years	20-40 years		VWP: 15 yrs or less
<b>Interbasin Transfer</b>	Permit required	Permit required	Permit required if over 2 MGD	Permit required if over 1 MGD or 5 % of 7Q10	Required of public water suppliers if using eminent domain	No special statute
<b>Planning</b>	Required under Chapter 373	Required	Required local gov. water supply plans—foundation of state plan	Not a statutory requirement; voluntary corridor and watershed plans		Required; currently in development process

WMD = Water Management Districts (FL)  
 BNR = Board of Natural Resources (GA)  
 EMC = Environmental Management Commission (NC)  
 DENR = Dept of Environmental and Natural Resources (NC)  
 DHEC = Dept. of Health and Environmental Control (SC)  
 DNR = Dept. of Natural Resources (SC)

ARAP = Aquatic Resource Alteration Program  
 WMA = Water Management Area  
 VWP = Virginia Water Protection  
 gpd = gallons per day  
 MGD = million gallons per day  
 MGM = million gallons per month