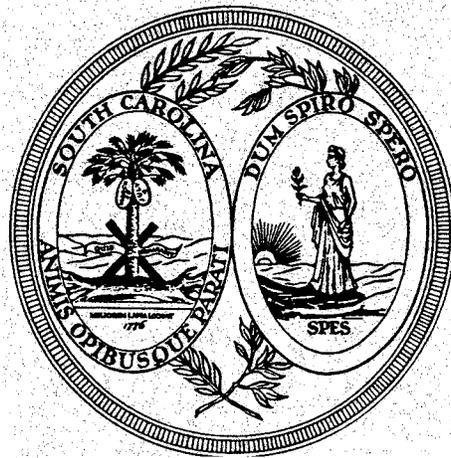


REPORT OF THE

**GOVERNOR'S COUNCIL ON
NATURAL RESOURCES AND THE ENVIRONMENT**



DECEMBER 10, 1984

WATER RESOURCES

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INTRODUCTION

The Council examined a number of water-related issues, but for the most part did not address issues considered by the 1982 Governor's Water Law Review Committee, which are listed in the Appendix of this report. In general, South Carolinians have enjoyed adequate supplies of good quality ground and surface water although specific problems do exist. The State doubled its gross water use between 1970 and 1980, and the trend appears to be continuing. The Council believes that if we are to continue to enjoy the many benefits of an adequate supply of high-quality water, management of the resource must be improved.

A. WATER POLICY: MANAGEMENT AND CONFLICT RESOLUTION

Problem Statement

South Carolina has no comprehensive state water policy. Many aspects of water use are currently regulated, but some important needs are not being addressed to the degree necessary. The goal of a state water policy should be to protect the present public interest as well as the rights of future generations; provide reasonable security of private property rights; provide assurance that water is put to beneficial use; to assure the availability of water to the greatest degree possible; and to recognize the relationship between ground and surface water and the relationship between water quantity and water quality. Property owners must be assured of the stability of current water supplies (excluding the instability brought about by drought or other natural conditions). Lack of such assurance may depress investment and may, in some cases, result in economic loss.

Background

Approximately 5.8 billion gallons of water were withdrawn daily in South Carolina in 1980. Thermoelectric plants used 76 percent of this total for the production of electricity. More than 17 percent went to industry, with .public suppliers using 5 percent and 2 percent being withdrawn for rural uses. Surface water sources provided 96 percent of the total demand, and ground water the remainder. Sixty-four percent of the total withdrawal was made at four facilities. The Oconee, Robinson and Wateree thermoelectric plants, and the Savannah River Plant. Approximately 370 million gallons per day, or 6 percent of the total withdrawal, was consumed, or not returned to the source of withdrawal.

Most of South Carolina's rivers originate outside the state. There are already several South Carolina rivers whose flow is controlled by dams in other states. With increasing industrialization, this may become more and more common. It is possible that many South Carolina users will turn to groundwater, believing it to be a more reliable source.

Effects of Population and Economic Growth

The State of South Carolina has already seen a substantial increase in growth, both in industry and population, during the last decade. This growth is beginning to affect the state's limited natural resources. It has seriously impacted certain areas of the state, resulting in depletion of groundwater, potential conflicts over surface water rights and limitations to growth due to the inability of some streams to assimilate additional wastewater. Continued growth will increase competition for water thus increasing the costs to companies facing the problem of acquiring water. Growth and competition for water may eventually force the state into assuming the responsibility for allocation of water resources in critical areas and may result in either the denial of water use permits or moratoriums on new construction. Either of these results could create a negative environment for industries, businesses and developers interested in locating in South Carolina. This scenario could also result in an inability to compete with other states in attracting desirable types of new ventures, resulting in a possible stagnation of the state's economy.

Since 1955, withdrawals of water in South Carolina have increased by more than 500 percent, while the total population grew by a modest 40 percent (South Carolina Division of Research and Statistical Services, 1982). For the period 1955 to 1970, the rate of growth of demand for water in South Carolina was nearly five times the national average and second only to Florida among the states. The rapid increase in demand during the past 25 years can be largely attributed to a 775 percent increase in withdrawals by thermoelectric plants. Withdrawals for public supply, rural and industrial use increased by 190, 85, and 240 percent, respectively. Surface-water use increased by 570 percent, and groundwater use by 75 .percent.

In the future, based on projections for the southeastern states (U.S. Water Resources Council, 1978), withdrawal is expected to increase less rapidly. By the year 2000, approximately 6.3 billion gallons a day will be withdrawn, an increase of less than ten percent. This anticipated decline in growth rate will be the result of conservation and reuse rather than a decline in demand. Consumptive use, which has increased by more than 200 percent since 1960, is expected to increase 50 percent by the year 2000. (S.C. Water Resources Commission). At the same time, South Carolina's population is projected to increase by 729 between 1980 and the year 2000.

Current State Policy

The first step in determining how to best protect property owners' rights to water is to delineate those rights. Generally, South Carolina is a riparian rights state with respect to surface water. The riparian doctrine, which was adopted and is enforced by the judicial system in South Carolina can be stated as follows:

Every proprietor of lands on the banks of a river has naturally an equal right to the use of the water which flows in the stream adjacent to his lands, as it was wont to flow... without diminution or alteration. No proprietor has a right to use the water to the prejudice of other proprietors above or below him, unless he has a prior right to divert it, or a title to some exclusive enjoyment. He has no property in the water itself, but a simple use of it while it passes along... Without the consent of the adjoining proprietors, he cannot divert or diminish the quantity of water which would otherwise descend to the proprietors below, nor throw back the water upon the proprietors above, without a grant, or an uninterrupted possession of twenty years, which is evidence of it. (Omelvany v. Jagers, 2 Hill 634 §9S.C. 1935).

But as between different proprietors on the same stream, the right of each qualifies that of the other, and the question always is not merely whether the lower proprietor suffers damage by the use of the water above him, nor whether the quantity flowing on is diminished by the use, but whether, under all the circumstances of the case, the use of the water by one is reasonable and consistent with a correspondent enjoyment by the others. (White v Whitney Mfg. Co., 60 S.C. 254, 38 S.E. 456 (1901)).

These statements of the riparian or "reasonable use" doctrine remain the basic law governing surface water today. The law governing property owners' rights to use groundwater are much less clear. Remarkably, South Carolina does not have even a single reported decision from its Supreme Court defining the law applicable to groundwater. Several theories have been developed in various states addressing groundwater use. These theories are generally identified as the absolute ownership doctrine, the reasonable use rule, and the correlative rights doctrine. Even though each theory provides some protection to a property owner using groundwater, none of the three theories provides a guaranteed amount of water to any property owner.

The South Carolina General Assembly has partially addressed groundwater rights through the Groundwater Use Act of 1969 (§49-5-10, et seq., Code of Laws of South Carolina, 1976). The Act authorizes designation of "capacity use areas" in any region of the State where "...the aggregate uses of ground water in or affecting such area (i) have developed or threaten to develop to a degree which requires coordination and regulation, or (ii) exceed or threaten to exceed, or otherwise threaten or impair, the renewal or replenishment of such water or any part of them." In a capacity use area, no person may use in excess of 100,000 gallons of groundwater per day without first obtaining a permit from the South Carolina Water Resources Commission. (See Groundwater Use Act for specifics)

In South Carolina two "capacity use areas" have been designated. They are: (1) the Waccamaw Capacity Use Area, including the counties of Georgetown and Horry and the Britton's Neck area of Marion County, and (2) the Low Country Capacity Use Area, including the counties of Beaufort, Colleton, and Jasper and Edisto Island in Charleston County.

The discussion above addresses some of the legal doctrines governing use of surface and ground water; however, these are not the only considerations in determining property owners' rights to water. Other matters, not ordinarily considered within the context of the riparian doctrine, may well bear upon the determination of an individual property owner's right to use water from a particular water course. The following are but four of any number of such considerations:

First, the General Assembly has purported to convey rights to both public and private parties to a portion of the flow of various water courses through the passage of special legislation. For example, see §49-1-80, Code of Laws of South Carolina, 1976, granting permission to the International Paper Company to use 100 cubic feet per second per day of the flow of the Great Pee Dee River. No accurate inventory exists as to the total number of such special acts of the General Assembly. Some speculation exists that such acts may be unconstitutional, violating the prohibition against special legislation; however, as in the case of purpose originally deemed beneficial, then the appropriator may continue to use with no limitation in time. Should the amount of water used decline, then that amount would be subject to reappropriation. The system encourages waste as an alternative to losing a part of the water appropriated. This shortcoming is compounded due to the lack of review as to the beneficial nature of the water use; a use once deemed beneficial does not lose that designation regardless of changed circumstances. Second, since the 1950's, many Eastern states, including South Carolina, have developed permitting systems governing various aspects of water use. These permitting systems have been developed as needed and, for the most part, the permitting systems attempt to build in the flexibility and security missing in both the riparian doctrine and the system of prior appropriation.

In a situation in which all reasonable demands to make beneficial uses of water exceed the supply in a water source, no system of water law can provide for the demands of all uses. For this reason, choices must be made. The riparian doctrine does this, but choices are not made in a timely fashion or with consistency.

§49-1-80, the paper company might now claim a right to the water through prescription. In any event, this consideration may place a cloud over the definite determination of property owner's rights.

Second, pursuant to federal and state law, numerous municipalities and industries are granted permits to discharge waste water into various watercourses. Such permits are granted, in part, based upon the assimilative capacity of the watercourse at the point of discharge. Diminution of the flow of a watercourse can reduce its assimilative capacity and thus affect the ability of the municipality or industry to discharge waste water. The relationship between the rights of waste water dischargers and the rights of property owners to withdraw water is uncertain.

Third, uses of waters from interstate watercourses cannot be controlled entirely by the policy of one state. Therefore, the rights of property owners along interstate watercourses will depend upon the ability of the states involved to resolve conflicts.

Fourth, a recognized public right, such as navigational servitude, qualifies the rights of property owners along the State's navigable waters. The South Carolina Constitution, Article 14, Section 4, guarantees to every citizen of this State and of the United States that, " ..all navigable waters shall forever remain public highways free to the citizens...". The impact of this provision, and its statutory counterpart (§49-1-10), on the riparian doctrine has not been addressed by South Carolina courts. Ironically, at the present time, most water use conflicts must be resolved in court. Because these conflicts generally involve an immediate need (such as water for irrigation) litigation is not a satisfactory solution. The judicial process, including appeal, can take several years, by which time the plaintiff's need for water may be moot.

There are two other significant drawbacks to resolution of water conflicts in the courts. One of these is the lack of consistency in factual determinations. One jury may decide a case one way in the morning and a second jury may decide an identical case a different way in the afternoon. This provides no predictability and is unfair to water users. The second major drawback is the lack of technical expertise available in the Judicial process. In general, neither judges nor jurors are well versed in the technical disciplines which are most relevant to water law disputes.

One point should be stressed here, and that is that the system of prior appropriation is not looked upon with favor for adoption in the eastern United States by property owners, legislatures, or academicians. (Ausness, "Water Rights Legislation in the East: A Program for Reform," 24 William and Mary Law Review 547 (1983)). South Carolina, in fact, repeatedly rejected proposed legislation to adopt a system of prior appropriation during the 1950's. Today, even if the mood of the General Assembly has changed, other reasons suggest that South Carolina should no longer consider prior appropriation as a means of securing water rights. First, prior appropriation is a system at odds with the idea and practice of conservation. Under the prior appropriation system, no incentive exists to promote conservation, in that so long as the amount of water appropriated continues to be used for the

Probably the single most obvious conclusion to be drawn from this discussion is that the right of the property owners to use water flowing or occurring on, beside or below their property is at best uncertain. Much has been written about the shortcomings of the riparian system, as well as the system of prior appropriation and various water use permitting systems. There is no correct answer to the question of which system is best, for all have shortcomings.

RECOMMENDATIONS

- 1) THE GENERAL ASSEMBLY SHOULD ESTABLISH A COMPREHENSIVE STATE WATER POLICY INCLUDING CRITERIA AND GUIDELINES FOR ALL SIGNIFICANT WITHDRAWALS OF AND ALTERATIONS IN THE WATERS OF THE STATE. THESE WOULD BE USED TO GUIDE ALL AGENCY PROGRAMS. PERTAINING TO SURFACE AND GROUNDWATER. SUCH CRITERIA AND GUIDELINES WOULD ADDRESS THE FOLLOWING:
 - a) THE PURPOSE OF THE WATER USE, INCLUDING ITS ECONOMIC AND SOCIAL VALUE.
 - b) THE IMPACTS OF THE WATER USE ON PUBLIC HEALTH AND SAFETY.
 - c) THE IMPACT ON PUBLIC RESOURCES, INCLUDING WILDLIFE AND FISHERIES, AS WELL AS THE IMPACT ON WATER QUALITY.
 - d) THE EXTENT AND AMOUNT OF HARM CAUSED TO ONE HAVING A PRIOR RIGHT TO USE THE WATER.
 - e) THE POTENTIAL FOR AND PRACTICALITY OF AVOIDING HARM.
 - f) THE PRACTICALITY OF ADJUSTING THE ALTERATION OR QUANTITY OF WATER USED.
 - g) THE PROTECTION OF EXISTING WATER USES AND VALUES AS WELL AS THE PROTECTION OF THE RIGHTS OF FUTURE GENERATIONS.
- 2) APART OF THIS COMPREHENSIVE WATER POLICY SHOULD BE PERMITTING PROGRAMS TO REGULATE ALL SIGNIFICANT WITHDRAWALS, DIVERSIONS AND FLOW MODIFICATIONS IN THE SURFACE AND GROUND WATER OF THE STATE.
- 3) RECOGNIZING THAT A UNIFORM SYSTEM OF RESOLVING THE FOREGOING CONFLICTS MAY TAKE SEVERAL YEARS TO DEVELOP, THE STATE SHOULD CONSIDER ESTABLISHING A PROGRAM OF MEDIATION, ARBITRATION, OR ADMINISTRATIVE ADJUDICATION (OR A COMBINATION OF THE THREE) IN ORDER TO AID CITIZENS IN RESOLVING WATER USE CONFLICTS. SUCH A PROGRAM SHOULD BE DEVELOPED WITHIN THE EXISTING FRAMEWORK OF STATE GOVERNMENT AND NOT INVOLVE THE CREATION OF A NEW AGENCY.
- 4) THE SOUTH CAROLINA LEGISLATURE SHOULD DELEGATE THE PRESENT PERMITTING AUTHORITY OF THE BUDGET AND CONTROL BOARD FOR ACTIVITIES IN THE STATE'S NAVIGABLE WATER WAYS TO THE WATER RESOURCES COMMISSION.

B. WATER QUALITY

There are a number of existing laws and programs which are designed (directly or indirectly) to protect ground and surface water. These include the South Carolina Drinking Water Act, Hazardous Waste Management Act, Safe Drinking Water Act, Coastal Zone Management Act, Capacity Use Program, National Pollutant Discharge Elimination System Permit Program, 401 water quality certification, shellfish and recreational waters program, environmental systems operator and well driller certification, and soil and water conservation programs administered at the federal, state and local level. In spite of these programs, there are several areas of water quality protection which need to be improved. These include provision of reliable supplies of safe drinking water, groundwater quality protection and non-point source pollution control.

ISSUE:

PRIVATE DRINKING WATER WELLS

Problem Statement

Safe drinking water is essential to the health and well-being of the state's citizens and is also an essential component of economic development. Not only do we need safe water, we also need adequate supplies of water. Unfortunately, our water quality, especially in rural areas, is often below acceptable standards. In addition, adequate supplies of drinking water may not be consistently available, particularly in the coastal area of the state.

Background

In South Carolina, approximately 2 million residents and 30 million annual tourists drink water from about 2,700 public water systems, which are monitored regularly. However, about 35% of South Carolina's population depends on private wells for their domestic water supply. These wells are not permitted and are not monitored regularly. Approximately one-third of the samples analyzed by DHEC from individual water systems are

bacteriologically unsafe for human consumption. These figures may understate the problem, however, as samples are analyzed on an as-requested basis. In the past, drinking water has been implicated in outbreaks of diseases such as hepatitis, typhoid, cholera, dysentery and others. More recently, new hazards to the public's health have been linked to drinking water containing carcinogenic and toxic substances. Studies of the U.S. Environmental Protection Agency indicate that the incidence of waterborne disease is 16 times greater in rural areas than in urban areas, which is an implication of both water supply and wastewater disposal practices. This figure is particularly important in South Carolina, which has a large rural population.

In coastal areas, the problem is primarily one of quantity, rather than safety, of drinking water. Growth on the coast, particularly on the barrier islands, is occurring so quickly that aquifers, which are the least expensive source of drinking water, could be depleted in certain places within a few years. The underground water supply is especially important along the coast because of the relative scarcity of surfacewater resources. Many of the "rivers" in the Lowcountry are either tidal bodies or are such that they cannot tolerate large-scale pumping without causing saltwater to migrate upstream, causing detrimental changes in the environment.

Saltwater intrusion into freshwater aquifers is also a serious threat to coastal water supplies. Contamination from sewage effluent and/or hazardous waste is also a possible problem. Continuing drawdown of the aquifer by industries, golf courses, landscape irrigation, and thirsty tourists decreases the pressure of freshwater in the limestone layer that holds drinking water. Hydrologists expect that as that pressure continues to decrease, more saltwater from the ocean will move in.

In January 1984, the U.S. Interior Department released its National Water Summary 1983, which pointed out that coastal areas of South Carolina are increasingly prone to saltwater intrusion into their freshwater aquifers. Other existing water supply problems hint at the scope of future problems:

-In northern Beaufort County, which depends on treated Savannah River water, the South Carolina Water Resources Commission recently initiated a \$2.3 million study of the hydrology that affects Hilton Head Island, a research project the director says is essential in order to predict if and when the island will have to find another water supply.

-The U.S. Army Corps of Engineers, Savannah District, recently completed a regional aquifer study, which concluded that Hilton Head Island will eventually have to draw drinking water from wells on the mainland. It recommends that Hilton Head golf courses convert entirely to sewage effluent and says that future industrial demands in the Savannah area should be met by Savannah River water, rather than from the aquifer. (It stops short of calling for present Georgia industries to convert to river water.)

-In Georgetown, officials have considered building a 10-mile pipeline to transport millions of gallons of water to an area where they hope to attract new industry. The water is needed to supplement the relatively meager flow of the Sampit River.

-Heavy municipal withdrawals in the Grand Strand area have lowered water levels in the Black Creek aquifer to more than 100 feet below sea level; officials there also are eyeing inland water supplies and a costly pipeline.

Inland areas, some of which also use aquifers for drinking-water and farming, are not at the same risk from saltwater intrusion as the immediate coastal regions. Mainland wells can, therefore, be used to provide fresh water for the islands. However, financing such ventures will be a very difficult problem, politically as well as economically. Political units will have to be organized, and opposition from inland property owners will probably have to be overcome. It is likely that landowners who currently rely on wells will resent having the aquifer beneath their land drawn down to accommodate needs elsewhere in the state.

Effects of Population and Economic Growth

Each new resident of the state brings with him or her the demand for approximately 100 gallons of water per day. Population growth will cause a direct growth in the need for potable water. Although increased conservation efforts can mitigate the demand for water somewhat, it is still the case that far more drinking water will be needed in the coming decades than has been needed in the past.

Current State Policy

The coast is being rapidly developed and heavily promoted by the state as a tourist destination. There is little constraint on this coastal development despite the fact that much of the coastal zone areas, including the Lowcountry counties, are designated as official "capacity use" regions, in which wells capable of pumping more than 100,000 gallons per day must be permitted by the Water Resources Commission.

The Safe Drinking Water Act (Pi-93-523) enacted on December 16, 1974, gave the U.S. Environmental Protection Agency the responsibility to establish standards to ensure the safety of drinking water. In South Carolina, DHEC is the agency responsible for ensuring compliance by public water systems. (Section 44-55-20 et. seq of the State Safe Drinking Water Act, and State Primary Drinking Water Regulations.)

The State has recently instituted a program requiring the certification of well-drillers and adherence to construction standards when drilling a well. This program should help to reduce the contamination found in private drinking water wells. However, this is the only opportunity the state has to control the quality of private wells; the state has no direct permitting authority over such wells unless they are drilled in a capacity use area, and even then, the thrust of permitting is on quantity of water.

RECOMMENDATIONS

5) THE GENERAL ASSEMBLY SHOULD REQUIRE AND PROVIDE FUNDS FOR MORE EXTENSIVE SAMPLING (AND MONITORING WHERE APPROPRIATE) OF PRIVATE WELLS.

6) WELL CONSTRUCTION GUIDELINES SHOULD BE STRICTLY ENFORCED TO ENSURE THAT WELL DRILLERS CONSTRUCT PRIVATE WELLS THAT MEET MINIMUM REQUIREMENTS.

ISSUE:

GROUNDWATER

Problem Statement

Groundwater is a vast natural resource of incomparable economic importance to agriculture, industry and everyday life. Because groundwater lacks visibility, it is difficult to understand and easy to forget. Ignorance has led to its abuse and this abuse to the endangering of critical supplies. Groundwater contamination problems already exist and the pressures on the resource from population growth and economic expansion are increasing.

Background

The massive national pollution clean-up efforts associated with landmark environmental legislation of the early 1970's focused mainly on those natural resources and pollution sources we could see or smell. Surface water and air quality, specific types of contaminants such as pesticides, or obvious sources of pollution such as hazardous waste dumps were of principal concern. The environmental legislation of the 1970's largely ignored groundwater and, in fact, probably increased groundwater contamination by encouraging diversion of pollutants from the air and surface waters to the land.

Protecting groundwater and preventing its pollution is essential, in that once groundwater becomes contaminated, the problem is permanent.

In 1983, approximately 60 percent of South Carolina's population utilized groundwater as a source of drinking water. Of the approximately 2,700 public water systems in South Carolina, 2,400 (96 percent) use groundwater.

The current status of groundwater in South Carolina is that the quality is predominantly excellent, except that there are numerous local contamination incidents which vary greatly in scale and severity. Since 1975, 218 such occurrences of groundwater contamination have been documented. Slightly more than ninety water-supply wells are known to have been abandoned as sources of drinking water because of contamination.

Effects of Population and Economic Growth

South Carolina has experienced tremendous growth and change in the past several decades and the trend is expected to continue into the next century. The growth of population, expansion and diversification of the industrial and commercial community, and the need for a change toward more intensive agricultural methods all will result in greater demands for, and adverse impacts on, groundwater quality.

Current State Policy

Comprehensive strategies to protect groundwater quality have been proposed but not made into law in South Carolina. Management approaches which combine research, technical expertise, and administrative capacity are receiving more attention but are hampered by a lack of public awareness and funds. Lack of technical support, funding, and a coordinated approach continues to constrain efforts to implement a comprehensive groundwater protection program.

Current state policies, although somewhat piecemeal, are rapidly evolving as a result of the recent awareness of the long-term implications of groundwater contamination. The Department of Health and Environmental Control acts to protect groundwater quality through its various regulatory programs. Water-quality management plans have been developed primarily through the Section 208 planning process. The 208 Planning Process is a requirement of the federal Clean Water Act for statewide waste treatment management plans to control pollution from all sources, including those for which no point-source can be identified. (Harris and Ferguson, 1978; SC DHEC, 1980; Ferguson, Shirley, and Workman, 1983). In the evolution of these policies, it has become apparent that prevention is the key, based on the technical and administrative difficulties of correcting groundwater contamination. Therefore, emphasis is placed on permitting as a means of avoiding potential groundwater contamination.

Where contamination of groundwater exists, DHEC's policy is to require documentation of the problem and to notify groundwater users in order to protect public health. This must be done regardless of subsequent actions. Depending on the severity of the contamination and the hydrogeologic setting, corrective action may be required on a case-by-case basis.

Existing laws (and regulations), although not specifically written as groundwater protection statutes, are relied upon. These include the S.C. Pollution Control Act, the S.C. Hazardous Waste Management Act and the State Safe Drinking Water Act. The need for additional laws and regulations is periodically reviewed and new regulations are proposed if necessary. For example, regulations to control leaking underground storage tanks and to govern the construction of wells will be submitted to the General Assembly for approval in January, 1985, for implementation in July, 1985.

The Water Resources Commission also plays a role in protecting groundwater quality through its capacity use program in areas where groundwater has become depleted and through the preparation of various groundwater studies and reports.

RECOMMENDATION

7) THE STATE SHOULD DEVELOP A COMPREHENSIVE GROUNDWATER MANAGEMENT STRATEGY WHICH ADDRESSES ISSUES RELATED TO WATER QUALITY AND WATER AVAILABILITY. THE STRATEGY SHOULD ADDRESS EQUITABLE DIVISION OF RESOURCES AMONG USERS, PROTECTION OF EXISTING USERS AND ADEQUATE RECHARGE OF AQUIFERS. PRESERVATION OF HIGH QUALITY AQUIFERS, MAINTENANCE OF DRINKING WATER STANDARDS AND REGULATION OF LAND USES TO PREVENT POLLUTION OF CRITICAL RECHARGE ZONES SHOULD ALSO BE ESSENTIAL ELEMENTS OF THE STRATEGY.

ISSUE: NON-POINT SOURCE POLLUTION AND STORMWATER MANAGEMENT

Problem Statement

Non-point source pollution (NPS) is diffuse in nature and is not usually traceable to an isolated source. Therefore, the problem varies in intensity and complexity. The most serious source of NPS pollutants in South Carolina is sediment run-off (erosion), containing nutrients, fertilizers, pesticides and bacteria. The greatest producer of statewide NPS pollution is agricultural activities, followed by silviculture and construction (both urban and industrial).

In coastal areas, stormwater runoff is more often the cause of non-point source pollution. Barrier islands with low topography, sandy soils and ill-defined drainage courses and inland wetlands and adjacent saltmarshes, all of which absorb, filter and store stormwater, naturally have high groundwater tables. Unless carefully planned and carried out, paving and construction will lead to the rapid removal and displacement of large volumes of water containing pollutants such as sediment, bacteria and lead. These contaminants can pollute tidelands and lead to the closing of shellfish beds. Approximately 30 percent of the state's tidelands are considered polluted, with much of the pollution coming from non-point sources. The first marine organisms to show signs of contamination are shellfish, a diminishing resource that is still generally harvestable in South Carolina, unlike some more highly developed states. One-third of South Carolina oyster beds were found to be polluted in a recent study conducted by the Coastal Council and planned for publication in the fall of 1985. It is feared that this rate will go even higher if action is not taken soon to stop the pollution. State officials have not yet determined the amount of revenue being lost as a result of the oyster bed pollution, but it is assumed that the study will show that the pollution causes adverse impacts on the state's economy.

NPS pollution can also affect the groundwater of the state as a result of fertilizers and pesticides filtering into the watertable over long periods of time. This is perhaps the most troublesome NPS pollution yet encountered.

Background

The total impact of NPS pollution is estimated to approach that of pointsource pollution. Point sources such as municipal and industrial dis-

charges have, in the past, received the greatest amount of attention and are, therefore, subject to significant regulation. As a result, point source pollution is largely under control, whereas NPS is generally uncontrolled.

Effects of Population and Economic Growth

Economic growth is generally accompanied by an increase in construction activity. Such increased activity will foster additional runoff and thus additional NPS pollution. This is expected to be a particular problem in the fast-growing coastal area. Water uses impacted by this additional sedimentation include recreation, public water supplies, agricultural water use, commercial navigation, hydropower generation, industrial supplies, shellfishing and fisheries. Excess sediment caused by this additional activity pollutes the state's waters by filling channels, streams and reservoirs.

Current State Policy

Under Section 208 of the Clean Water Act, the South Carolina Department of Health and Environmental Control (DHEC) in conjunction with several other state agencies and entities has developed an NPS Pollution Water Management Plan which addresses the following activities: agriculture, construction, groundwater, hydrologic modification, mining, residual waste and silvaculture. The Plan recommends the use of various NPS control measures known as Best Management Practices (BMP's) which will tend to prevent or reduce the amount of pollution generated by non-point sources.

The Land Resources Conservation Commission and the 46 Soil and Water Conservation Districts carry primary responsibility for erosion and sediment control. While conservation practices that reduce or prevent soil erosion and sediment pollution have proven to be effective, their use is strictly voluntary. Working through local districts, the Soil Conservation Service has provided technical assistance to farmers and landowners in the application of BMP's. Five counties have adopted ordinances pursuant to current legislation which establish county sediment control programs. These ordinances appear to be effective.

The Erosion and Sediment Reduction Act of 1983 designates the Land Resources Conservation Commission as the agency for coordinating efforts to control sediment and erosion. It calls for local and state advisory councils to be formed to study all sources of erosion and report their findings to the General Assembly in 1986. The Act also requires that certain erosion control measures be used on State owned land.

The South Carolina Department of Highways and Public Transportation as well as many local governments, particularly those in the coastal zone, have policies designed to prevent standing stormwater. This poses a dilemma, because standing water may be a hazard in and of itself, and is certainly an annoyance. However, rapid, improperly designed drainage may seriously degrade water quality, particularly in the coastal zone, and may exacerbate flooding elsewhere.

Through its power of certification of all coastal development projects requiring state permits, the Coastal Council exerts considerable authority over a single site plan that comes into its office for review. Its recently published "Stormwater Management Guidelines" are designed to make that review process simpler by providing developers at the outset with information on what they can expect to be required to do. The Coastal Council deals with only one developer at a time at this point and is not planning regional stormwater treatment systems that would address development already in place or the cumulative impact of several projects in a given locale.

RECOMMENDATIONS

8) CONSISTENT EROSION AND SEDIMENT CONTROL REQUIREMENTS SHOULD BE INCORPORATED INTO ALL STATE PERMITTING PROCEDURES WHERE APPLICABLE.

9) THE CURRENT STANDARD FOR CROPLAND EROSION SHOULD BE REEVALUATED AND STRENGTHENED. THE CURRENT STANDARD ALLOWS A MAXIMUM EROSION RATE THAT DOES NOT REDUCE THE LAND'S PRODUCTIVITY. ANEW METHOD, NOT LINKED TO PRODUCTIVITY, BUT RATHER TO THE EFFECT OF EROSION ON THE ENTIRE WATERSHED AS WELL AS THE LAND, MUST BE DEVELOPED. FURTHERMORE, STANDARDS SHOULD BE ESTABLISHED FOR EACH SOIL TYPE TO INDICATE THE MAXIMUM DEGREE OF SLOPE BEYOND WHICH EROSION CONTROL MEASURES MUST BE TAKEN.

10) STATE PROGRAMS SHOULD CONSIDER GROUNDWATER QUALITY WHEN IDENTIFYING NON-POINT SOURCE WATER QUALITY PROBLEMS.

11) CLEMSON UNIVERSITY SHOULD ALLOCATE PART OF ANY AVAILABLE RESEARCH FUNDS TO THE STUDY OF ALTERNATIVE AGRICULTURAL PRACTICES TO CUT DOWN ON THE USE OF CHEMICAL FERTILIZERS, INSECTICIDES, AND EROSION-PRONE CULTURAL PRACTICES.

ISSUE:

SURFACE WATER

Problem Statement

Although the State's surface waters are generally well-monitored and of good quality, it is possible that their ability to assimilate waste will be taxed by future growth. In addition, there are some streams in the state with no classification (other than that of the water body into which they feed), and some with a classification lower than the present quality of the water.

Current State Policy

Surface water quality is protected by permits issued. under the National Pollutant Discharge Elimination System (NPDES) administered by DHEC and by rules and regulations adopted pursuant to Section 48-1-60 et sea. of the 1976 S.C. Code of Laws.

RECOMMENDATIONS

12) THE GOVERNOR SHOULD REQUEST THAT DHEC IDENTIFY ALL THOSE STREAM SEGMENTS WHICH ARE ELIGIBLE FOR A HIGHER CLASSIFICATION. DHEC SHOULD BE GIVEN THE EXPRESS AUTHORITY TO INITIATE THE RECLASSIFICATION OF STREAM SEGMENTS IF THEY MEET HIGHER QUALITY STANDARDS RATHER THAN WAITING FOR A PUBLIC REQUEST TO DO SO. IN ADDITION, THE GOVERNOR SHOULD ASK DHEC TO REVIEW, IN APPROPRIATE CIRCUMSTANCES, THE CLASSIFICATIONS OF THOSE STREAM SEGMENTS WHICH ARE CURRENTLY CLASSIFIED ONLY BY VIRTUE OF THEIR RECEIVING STREAM CLASSIFICATION.

13) THE DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL SHOULD DEVELOP A POLICY REGARDING THE DISCHARGE OF POLLUTANTS INTO LAKES.

14) THE GOVERNOR SHOULD ESTABLISH A COMMITTEE TO DETERMINE WHO CONTROLS THE ASSIMILATIVE CAPACITY OF THE STATE'S RIVERS, WHETHER THE EXISTING DISTRIBUTION OF DISCHARGE RIGHTS SHOULD BE REAPPORTIONED TO ACCOMMODATE THE NEEDS OF A NEW USER AND, IF SO, HOW SUCH DECISIONS SHOULD BE MADE:

15) THE EXECUTIVE, LEGISLATIVE, AND JUDICIAL BRANCHES OF STATE GOVERNMENT SHOULD WORK TOGETHER TO MORE VIGOROUSLY PUNISH REPEAT WATER QUALITY PERMIT VIOLATORS:

C. WATER DEVELOPMENT AND FUTURE GROWTH

Problem Statement

It has often been said that water does not always occur in the time, place or amount required. Thus, shortages and conflicts can arise. Future growth must be based on assumptions of limitations in water supply. Development, particularly the location of large water consuming activities, should be directed to areas of relative abundance and not to areas of possible scarcity during shortages.

Conservation must include both judicious and nonwasteful usage and development of available supplies. Efforts should be made to store or otherwise capture water during times of abundance for use during periods of shortage, as has been done in arid areas. Water storage can be in the form of either impounded run-off (from small scale ponds to moderate sized reservoirs) or storage of good quality water in underground aquifers.

South Carolina's total average daily stream flow is about 33 billion gallons per day. An abundance of groundwater also exists in the State's five primary aquatic systems, although no estimates have been made of their potential yield. However, this seemingly plentiful supply of surface water is misleading, because availability varies dramatically with season and location. The total average usable daily flow is generally only 26 billion gallons per day. Today, South Carolina's average daily use is approximately 6 billion gallons per day, with peak usage approximately 107 greater.

Current State Policy

At the present time, the State has no formal means of guiding development into the most suitable areas. The State does offer a tax credit for the construction and installation or restoration of water impoundments.

RECOMMENDATIONS

16) THE STATE SHOULD DEVELOP A COMPREHENSIVE LONG-TERM WATER SUPPLY PLAN, INCLUDING PROJECTIONS OF ALL USES BY HYDROLOGIC UNIT, AVAILABLE SUPPLIES, POTENTIAL FOR STORAGE, AND A PLAN FOR PROJECT FINANCING. SUCH A PLAN WOULD DEFINE THE ULTIMATE CARRYING CAPACITY OF A RIVER SYSTEM, IN HARMONY WITH PUBLIC NEEDS AND DESIRES. IT WOULD ALSO ENCOURAGE THE CONJUNCTIVE USE OF AVAILABLE SURFACE AND GROUNDWATER RESOURCES TO THE BEST ADVANTAGE OF EACH.

17) THE STATE SHOULD PROVIDE INCENTIVES (FINANCIAL ASSISTANCE, ADDITIONAL TAX CREDITS, ETC.) TO ENCOURAGE BOTH DEVELOPMENT AND CONSERVATION OF WATER RESOURCES. CAPTURING OF SEASONAL RUNOFF SHOULD BE ENCOURAGED AS A CONSERVATION PRACTICE. SUCH RUNOFF MAY BE STORED IN SURFACE IMPOUNDMENTS OR USED TO REPLENISH AQUIFERS.

18) STATE FINANCIAL ASSISTANCE SHOULD BE PROVIDED FOR PUBLIC INVESTMENT IN EXISTING, AS WELL AS NEW, WATER RESOURCE INFRASTRUCTURE AS A MEANS OF IMPROVING THE WELFARE AND STANDARD OF LIVING FOR ALL CITIZENS, ASSURING ADEQUATE WATER SUPPLIES, MEETING ENVIRONMENTAL STANDARDS, AND USING THE STATE'S RESOURCE BASE TO THE MAXIMUM EXTENT POSSIBLE. FINANCING COULD BE PROVIDED THROUGH A REVOLVING LOAN FUND ESTABLISHED THROUGH STATE REVENUE ISSUE AND/OR STATE CONSOLIDATION AND MARKETING OF LOCAL BOND ISSUES.

D. WATER CONSERVATION

Problem Statement

South Carolina has no statewide and very few locally enacted programs for water conservation. Few significant attempts are being made to address the wasteful uses of water, the increasing cost of water provision, emergency water shortages, or education of the public as to conservation benefits and methods. As a result, the benefits of, and need for, conservation have not been popularized, nor has the public gained a realistic perception of the vulnerability of our water resources and the costs of shortages.

Background

It is clear that conservation must be practiced if our finite water supplies are to continue to meet increasing demands. Many of our current practices are wasteful. To choose only one example, we have come to expect a glass of icewater each time we sit down in a restaurant, whether we drink it or not. In addition to the water which fills the glass, water and energy must be used to wash it, whether it is used or not, and water and energy must be used to make ice cubes. Energy is also required to pump water, purify it, and dispose of it once used. 1

The lack of effective programs to encourage or require water conservation has led to costly expansion programs by public suppliers to keep up with increasing domestic and industrial needs. Examples of such projects include the \$25 million proposal to relocate well fields inland from Hilton Head and the \$65 million project to bring water from the Savannah River Basin to Greenville, twenty seven miles away.

Public supply systems serving rapidly increasing populations often lack any reserve capacity during peak demand periods, resulting in reduced water pressures. Not only does this become a household nuisance, but inadequate water pressure endangers the community by decreasing the ability of firefighters to effectively combat fires. System expansions to stay abreast of increasing demands compete with funds for other needed public services and can result in significant environmental impacts (e.g. by impacting upon low flows in source streams.) Effective water conservation programs, with programs for leak detection and repair, could significantly extend the usefulness of existing investments.

There are several aspects to water conservation, as it affects drinking water systems and wastewater facilities, that may not be immediately apparent. Because wasteful use of water significantly increases the load on sewage treatment facilities, the effects of water conservation must be carefully considered. Abnormal reductions in the water/waste ratio are likely to necessitate changes in treatment processes and design. On the other hand, very large reductions in the liquid portion of a septic tank system would only result in a better operated system with less chance of malfunction.

The effects of water conservation on the water supply system must also be considered carefully. A large reduction over a short period of time may necessitate an increase in rates to recover lost income to the water purveyor. The majority of water systems are growing and will not only recover from several moderate decreases in per capita use, but will thereby be more efficient and will notice an increased return on each unit of water produced. The message seems to be that water conservation practices should be established gradually, with a careful examination of their effect on the complete water treatment/disposal system.

Agricultural water conservation is a special case. Agriculture uses over 148 million gallons of water daily, or 2.5 percent of the state's total use, for irrigating crops and for animal husbandry. Irrigation has become a widespread means of maximizing crop yields. Irrigation is not practiced solely as a safeguard against drought; the use of high water consuming crops such as corn has made irrigation a competitive necessity.

Agricultural irrigation is considered to be a totally consumptive water use with little, if any, water returning directly to its source (Water Resources Commission). For this reason, irrigation can lead to problems. Large-scale irrigation can result in very heavy withdrawals of groundwater and surface water sources within a short period of time. Irrigation is seasonal, with the greatest withdrawal demands occurring when precipitation and stream flow are at a minimum.

Simultaneous operation of many systems within a region can place heavy pressure on surface streams and groundwater. Over 70 percent of all irrigation water comes from surface water. Thus, stream flow, particularly in tributary streams, can be rapidly depleted. Regional groundwater level declines can occur where irrigation wells are clustered.

However, water demands for irrigation can be reduced and water conserved. Impoundments to store runoff are a common means of water conservation, making irrigation feasible on smaller streams, while minimizing the impacts of the lost streamflow upon the stream. However, such impoundments should not be constructed without an adequate continuous release to protect fish and wildlife habitat downstream. Practices to reduce the volume of irrigational water use are also very important, but underutilized. These include careful selection of planting dates to fully utilize available rainfall; selection of low-water demanding crop varieties; narrow row spacing and application of mulch and no-till planting; and use of low-water irrigation systems such as "drip/trickle" systems, also called "low pressure/low volume" irrigation. Research is needed on all of the above.

The financial benefits of water conservation to consumer, suppliers and commercial users such as hotels are well documented.

Effects of Population and Economic Growth

Increased demand for water is a natural and unavoidable by-product of growth. Consequently, conservation becomes even more important. Planning for conservation now will help us meet the demands of the future.

Current State Policy

Existing state policy, other than often expressed encouragement for water conservation, is not specific. DHEC requires that public water supply systems have an emergency plan for use in the event of supply disruption. This is helpful, but does not address the intent of water conservation. In the past several years, DHEC has been more aggressive in its encouragement of conservation, utilizing both seminars and enforcement procedures.

Voluntary conservation efforts have been encouraged by both the Wastewater Division and Water Supply Division of DHEC. Most of these efforts have been in areas already experiencing water problems, such as the Waccamaw District and Hilton Head. Municipalities, hotel and motel associations and entities such as the Public Service Authority (Santee-Cooper) have all coordinated their efforts with DHEC.

The Water Resources Commission has proposed a Drought Plan Enabling Statute which would require local planning for drought management and would allow the state to implement drought response measures when necessary. (See Appendix). In addition, the Water Resources Commission works with local jurisdictions to encourage the implementation of water conservation measures.

The Land Resources Conservation Commission and the 46 Soil and Water Conservation Districts have worked closely with the agricultural community to encourage water conservation. In particular, the agency has promoted "drip-trickle" irrigation through conferences, seminars and demonstration projects. The Clemson University Extension Service also encourages agricultural water conservation.

The Water Resources Commission, DHEC and the Coastal Council are considering water conservation as a necessary practice in coastal development proposals. When applied to future development in the rapidly growing coastal islands and resort areas, this policy would recognize the limits to growth which water availability may dictate.

Reuse of treated effluents for golf-course irrigation at Hilton Head (where potable water is not used for nondrinking domestic purposes) is a step in this direction.

Finally, local governments are beginning to develop water conservation ordinances. In addition to a number in the Grand Strand area, Georgetown, Sullivans Island, Mt. Pleasant, Edisto Island and Hilton Head Island all have such ordinances.

RECOMMENDATIONS

- 19) THE STATE, THROUGH THE BUDGET AND CONTROL BOARD, SHOULD ASSUME A LEADERSHIP ROLE IN WATER CONSERVATION BY:
 - a) REQUIRING WATER CONSERVATION MEASURES FOR ALL NEW STATE BUILDINGS OR STATE FUNDED PROJECTS.
 - b) REQUIRING RETROFITTING OF EXISTING STATE BUILDINGS WHERE FEASIBLE.
- 20) THE GENERAL ASSEMBLY SHOULD ENACT A LAW REQUIRING WATER CONSERVATION MEASURES FOR NEW CONSTRUCTION STATEWIDE.
- 21) THE GOVERNOR SHOULD ESTABLISH WATER CONSERVATION AS A MAJOR PRIORITY FOR THE STATE, WITH EDUCATION BEING THE CORNERSTONE OF THAT EFFORT. A TASK FORCE SHOULD BE APPOINTED CONSISTING OF BUSINESS, AGRICULTURAL, MUNICIPAL, INDUSTRIAL, STATE, EDUCATIONAL AND CIVIC LEADERS TO DEVELOP AND IMPLEMENT A STATEWIDE WATER CONSERVATION EFFORT.
- 22) WHERE APPROPRIATE, THE PUBLIC SERVICE COMMISSION SHOULD REQUIRE UTILITIES TO PROVIDE INCENTIVES FOR CONSERVATION.
- 23) THE GOVERNOR AND THE GENERAL ASSEMBLY SHOULD CONSIDER FINANCIAL INCENTIVES (INCLUDING GRANTS) AND TAX INCENTIVES TO REWARD THE USE OF WATER CONSERVATION MEASURES. WATER CONSERVATION MEASURES SHOULD BE A REQUIRED PART OF WATER PROJECTS FUNDED UNDER EXISTING GRANT PROGRAMS SUCH AS COMMUNITY DEVELOPMENT BLOCK GRANTS.
- 24) DHEC, THE WATER RESOURCES COMMISSION, AND THE COASTAL COUNCIL, WHERE APPLICABLE, SHOULD FORMALLY ADOPT A JOINT POLICY REGARDING WATER CONSERVATION REQUIREMENTS FOR FUTURE DEVELOPMENT. THIS COULD BE A PROVISION OF CAPACITY USE, WATER SUPPLY AND WASTEWATER SYSTEM PERMIT APPROVAL, AND COASTAL COUNCIL CERTIFICATION OF SUCH PROJECTS WHERE APPLICABLE.

E. INTERSTATE COOPERATION

Problem Statement

South Carolina shares three out of four of its major river basin areas with neighboring states. The Yadkin-Pee Dee System and the Santee Cooper System are shared with North Carolina, while the Savannah System is shared with both North Carolina and Georgia. Of the State's five major groundwater aquifer systems, all are shared with one or more states. Similarly, coastal estuarine areas are closely related to and influenced by neighboring states' activities. Water quality management, water use concerns, groundwater management, air quality management and other water and natural resources concerns require interstate cooperation and coordination with adjoining states and, in some instances, with the entire Southeast region.

The preceding issues are jointly addressed with adjoining states with varying degrees of formality and effectiveness. Water use and development and groundwater management, as well as investigative, monitoring and data collection programs in general, will require more extensive interstate cooperation and coordination if conflicts are to be avoided and future needs are to be met.

Background

State agencies in South Carolina with water resources interests and responsibilities have the authority to discuss and review matters of common interest with neighboring states, and often do so. Federal legislation for coastal management, air and water quality management, hazardous waste management and drinking water protection also provides for interstate review and management of common resources and, in some cases, for formal conflict resolution. The Commission on Interstate Cooperation, a joint legislative committee of the South Carolina General Assembly, also has interests in interstate matters.

Problems and divergent management policies regarding surface water and groundwater with adjoining states have occurred and will no doubt continue to occur. As examples, North Carolina and Georgia have the authority to allocate surface waters (although in North Carolina this authority has not been exercised), whereas South Carolina does not have this authority. Water quality standards and classifications differ with adjoining states on common waters in some situations. Recent issues and conflicts of note have included coastal water quality conflicts with North Carolina, groundwater depletion problems around Savannah, hydropower development on the Savannah River, and major interbasin transfers on interstate waters (Savannah River to Greenville). Potential future issues of considerable importance could ultimately be allocation between states of both the assimilative capacity and available water supply of the Savannah River. Similar issues can also arise with North Carolina, particularly due to the amount of flow regulation on the Catawba River and Yadkin River, which dictate conditions in South Carolina: Groundwater management might become a major issue of concern across the entire coastal plain of Georgia and South Carolina due to expectations by both states of dramatic increases in groundwater usage for irrigation and other uses.

Effects of Population and Economic Growth

The three-state region of South Carolina, North Carolina and Georgia will jointly experience, and compete for, significant immigration of population and economic activity during the next two to three decades. This influx will place considerable pressure on the total resource base of the region, and upon water resources in particular, due to the attractiveness of the region's water availability. Growth in North Carolina may adversely affect "downstream" areas in South Carolina. Sharing a common river boundary, South Carolina and Georgia may more equally determine a common future water management position, with the mutual benefits from doing so being of significant value.

Current State Policy

State agencies welcome the opportunity for interstate cooperation, and they have had some success on matters of limited purpose and in cases where cooperation can be handled informally. One stumbling block to effective cooperation with adjoining states is the absence of a permitting system for major water withdrawals. Both North Carolina and Georgia have programs of this type.

The Savannah Metropolitan Water Resources Study, headed by the Savannah District of the Army Corps of Engineers, has proved ineffective as a means of problem solution and disappointing as an attempt at interstate water supply planning. The Yadkin Pee Dee River Basin Level B Study (completed in 1981) was a fairly successful attempt at two-state, long-term planning and negotiation and has produced a significant amount of good-will and understanding which will allow talks to continue in a constructive manner.

Beyond day-to-day coordination of specific regulatory programs, a void remains unfilled due to little effort by South Carolina or adjoining states to establish a comprehensive planning and policy effort for interstate conflicts and needs. Indeed, it is questionable if both adjoining states share this concern and/or have the interest to respond until such time as the problems become serious.

RECOMMENDATIONS

- 25) THE STATE SUPPORTS THE PASSAGE OF NATIONAL WATER, POLICY LEGISLATION WHICH PROVIDES SUPPORT FOR STATE PLANNING AND INTERSTATE COORDINATION AND MANDATES FEDERAL AGENCY CONSISTENCY WITH STATE PLANS AND POLICIES. AN IMPORTANT PART OF SUCH LEGISLATION IS A PROVISION ALLOWING STATES TO REQUEST FEDERAL INTERVENTION IN WATER DISPUTES CONCERNING EITHER WATER QUANTITY OR QUALITY FOR GROUND OR SURFACE WATER WHEN AGREEMENT CANNOT OTHERWISE BE REACHED. (HOWEVER, FEDERAL INTERVENTION SHOULD BE SOUGHT AS A LAST RESORT ONLY AFTER ALL EFFORTS TO REACH AN INTERSTATE AGREEMENT PROVE FUTILE.)
- 26) AGENCY LEVEL COOPERATION CAN AND SHOULD BE ENHANCED THROUGH INTERAGENCY AGREEMENTS BETWEEN STATES CONCERNING REGULATORY MANAGEMENT AND POLICY CONCERNS, FOR SURFACE WATER FLOW, QUALITY, AND DEVELOPMENT, AND FOR GROUNDWATER MANAGEMENT AND PROTECTION.
- 27) TO RESOLVE THE GROUNDWATER PROBLEMS IN THE HILTON HEAD ISLAND SAVANNAH REGION, SOUTH CAROLINA SHOULD PROPOSE TO THE STATE OF GEORGIA THAT A BINDING AGREEMENT BE ENTERED INTO REGARDING GROUNDWATER WITHDRAWALS AND MANAGEMENT IN THE AFFECTED AREAS.
- 28) A COOPERATIVE PROGRAM SHOULD BE ESTABLISHED WITH ADJOINING STATES FOR GROUND AND SURFACE WATER MONITORING AND DATA EXCHANGE, WITH MAINTENANCE OF A TECHNICAL DATA BASE SUFFICIENT FOR FUTURE MANAGEMENT DECISIONS.

APPENDIX

Additional Issues Addressed by Governor's State Water Law Review Committee:

1. Interbasin Transfer Protection

In its December 31, 1982, "Report and Recommendations," the Governor's State Water Law Review Committee provided a thoughtful consideration of the potential problems of significant withdrawals of surface water, generally, and interbasin transfers of water, specifically. (See Report for details.)

Governor Riley asked the Water Resources Commission to form a committee with other affected agencies and interested groups to study the issue. Recommendations were presented to the Governor in November, 1984.

The Council endorses state regulation of interbasin transfers of water.

2. Instream Flow Protection

In its final report, the Governor's State Water Review Committee recommended that the state adopt a policy recognizing the need to maintain minimum stream flows. The General Assembly, through a joint resolution, requested that the Water Resources Commission take the lead in determining which streams are most in need of protection.

This Council endorses establishment of minimum in-stream flows in order to protect all in-stream uses.

3. Drought Response

The Committee recommended that the Water Resources Commission serve as the coordinating agency for drought planning, and that it develop a detailed drought response plan. A draft Drought Response Plan was presented to Governor Riley, and legislation to implement the Plan was introduced in the General Assembly in January, 1985. The legislation acknowledges that the state's water resources must be carefully and closely monitored; conserved, and managed during a drought or water shortage in the best interests of all citizens, and that responding to a drought is an appropriate activity for state government. A single state agency would promote the necessary coordination between local and state agencies and would have the authority to develop, coordinate, administer and enforce a comprehensive drought response plan. As a public policy, the legislation declares that the State's water resources should be conserved where practicable, used efficiently, and not unduly impaired in quality at all times, but especially during periods of droughts. Protection of citizen health and well-being would be the foremost objective of drought response. With guidance from a standing drought response committee, the State may designate drought management areas, declare drought alerts, provide for public information as an integral part of all drought response measures, determine essential and non-essential uses, and recommend to the Governor that conditions may dictate an emergency proclamation whereby water allocation may become necessary. Local governments and water purveyors would be required to prepare acceptable drought and water shortage response plans consistent with the State Water Plan.

This Council endorses passage of drought response legislation.

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