

## **SECTION 2. WATER SUPPLY PLANNING IN NORTH CAROLINA**

### **Section 2.1 Background**

Historically, the State of North Carolina has supported water supply planning through data collection and studies, as well as through legislation to resolve issues that were beyond the capabilities of local governments, especially to protect the public health. For instance, at the end of the 1800s, concern over protecting waters used as public supplies led to the passage of several state laws that prohibited disposal of animal carcasses and untreated sewage in streams used as public water supplies. The state supported extensive surveys of our rivers and streams during the early decades of the 20<sup>th</sup> century to determine water availability and identify sites for hydroelectric power facilities. Some of these reservoirs developed for hydropower generation also provide water to surrounding communities, especially in the Catawba and Yadkin basins.

The state has also supported the development of regional water supply projects. Passage by Congress of the 1936 Omnibus Flood Control Act allowed development of multi-purpose reservoir projects that could be adapted to provide storage for public water supply if non-federal entities assumed responsibility for the associated costs. Two prominent examples of this arrangement in North Carolina are Falls Lake in the Neuse basin, with costs assumed by the City of Raleigh, and B. Everett Jordan Lake in the Cape Fear basin, where the State of North Carolina assumed the costs associated with developing regional water supply storage.

After World War II, protecting public water supplies by protecting water quality increased in priority as some communities began to have trouble securing adequate supplies of drinking water due to pollution concerns. In the early 1950s the State Stream Sanitation Committee surveyed the major river basins and classified streams according to their “best use.” Water quality standards were established for each classification and pollution abatement plans were developed for basins across the state. A prolonged drought from 1953-1955 raised the level of concern over water quantity issues and led to the formation of the State Board of Water Commissioners in 1955 to study state water policy. By 1960, in an effort to coordinate water resource activities, various water-related agencies were merged under the umbrella of the Department of Water Resources. Water resource planning, which had been an adjunct to other agency responsibilities, got a boost with the passage of the federal Water Resources Planning Act in 1965. This act provided grant money to encourage states to plan for activities affecting water and related land resources.

During the 1970s, with federal support, North Carolina conducted another inventory of water resources to facilitate wise planning and use of water and related land resources. The resulting North Carolina Water Resources Framework Study was intended to bring water resource development, including water supplies, into a common framework that would guide state actions to meet the needs over the remainder of the century. The document outlined resource development options for eleven major river basins and was envisioned as the initial phase in the development of a detailed North

Carolina Water Plan. The study provided valuable information for communities and regional development efforts but a comprehensive state water plan was not developed.

State authority over water use increased when the North Carolina General Assembly passed the Water Use Act of 1967. The act was passed in response to concerns over potential ground water problems in the vicinity of a proposed phosphate mine in Beaufort County. There was concern that heavy pumping of ground water, necessary to conduct the mining operation, would reduce the water levels in neighboring wells. Under this act, if the Environmental Management Commission (EMC) finds that the use of water resources in an area requires coordination and regulation to protect the interests and rights of residents and property owners or to protect the water resources, the EMC can declare the area a Capacity Use Area (CUA). In a CUA water withdrawals above 100,000 gallons per day require a permit from the EMC and limitations on the quantity and timing of water withdrawals can be imposed. As of December 2000, there is one designated Capacity Use Area, which surrounds the phosphate mine that prompted the legislation. However, in December 2000, the EMC approved a set of rules to declare a 15-county area in the Central Coastal Plain a Capacity Use Area due to over-pumping of ground water. The rules must be approved by the Rules Review Commission and are subject to review and revision by the General Assembly through the 2002 legislative session. The rules could become effective August 1, 2002.

## **Section 2.2 State and Local Water Supply Planning**

The need to look at how communities meet their water supply needs resurfaced in the mid-1980s due to a multi-year drought. In 1989, the General Assembly passed House Bill 157 to provide for the development of a State Water Supply Plan “in order to assure the availability of adequate supplies of good quality water to protect the public health and to support desirable economic growth.” The bill added sections (l) and (m) to General Statute 143-355. The Division of Water Resources (DWR) in the Department of Environment and Natural Resources is responsible for implementation of these provisions of the statute.

Section (l) requires units of local government that provide or plan to provide public water service to develop a Local Water Supply Plan (LWSP). The bill stipulated that the local plans shall include: present and projected population, present and projected water use in the service area, present and future water supplies, an estimate of technical assistance needed at the local level to address projected water needs, and other related information. Local plans are adopted by the governing boards of the units of local government after they are submitted to DWR for review. They must be revised at least every five years to reflect changes in relevant data, unless a more frequent revision is requested by DWR. Section (m) requires development of a State Water Supply Plan based on the information included in the LWSPs and other appropriate information sources.

The North Carolina General Assembly has created a “bottom up” approach to water supply planning, starting with local government water supply plans. North Carolina allowed a period of time

for local governments to become familiar with water supply planning, starting with a voluntary approach with state technical assistance before establishing mandatory deadlines for preparing local water supply plans.

Water supply planning has been generally well accepted by local governments. In addition, the Local Water Supply Plans have become an essential data source for local and regional water supply planning in North Carolina. The water supply policies established by the General Assembly have been well suited to the diversity of water supply arrangements in North Carolina and to the lead role of local governments in developing and managing water systems. In the future the state will likely have an active role in water supply planning as regional solutions are developed to address the growing regional demands for water across the state.

### **2.2.1 1989 Water System Surveys**

DWR began implementing the provisions of House Bill 157 shortly after passage on July 11, 1989. A Water Supply System Report questionnaire was developed for an initial survey of water systems and to identify technical assistance needs and availability of data at the local level. These questionnaires were mailed in October 1990 to over 640 public water systems serving at least 500 persons to collect water use and system information for calendar year 1989. By August 1992, 550 questionnaires had been returned to DWR. Review of these questionnaires and discussions with local officials indicated that over 90% of local governments did not have readily available water use and water need information for preparing Local Water Supply Plans. A quarter of respondents requested assistance with developing a local plan.

During this period local governments faced considerable work to implement provisions of the Water Supply Watershed Protection Act that was also passed in 1989. This act required many local governments to amend or establish zoning ordinances to protect water supply sources and, unlike House Bill 157, included severe consequences for non-compliance. By necessity, communities had to give priority to compliance with the Water Supply Watershed Protection Act.

### **2.2.2 1992 Local Water Supply Plans**

Based on the responses to the initial surveys and discussions with local officials, the questionnaire used in 1989 was revised and a handbook entitled "Guidelines for Minimum Requirements of a Local Water Supply Plan" was developed to assist local governments with collecting data and preparing their local plans. DWR conducted a pilot study of the Local Water Supply Plan development process with water systems in Moore County throughout 1992. During the pilot study the guidelines and instructions were further revised, the process used to review plans was developed, and additional technical material was added regarding safe yield determinations for water sources.

After the pilot study, the guidelines, instructions, and questionnaire were reviewed by numerous organizations having an interest in the implementation of House Bill 157, including the North Carolina Rural Water Association, the North Carolina Association of County Commissioners, the North Carolina

League of Municipalities, the North Carolina Water Resources Research Institute, several regional Councils of Government, and several municipalities. Reviews and comments were also provided by the Division of Environmental Health and the Division of Water Quality. Changes were made in the written documents in response to comments and a series of workshops were planned to explain the process and to provide direct assistance to water systems. Water use and system information for calendar year 1992 was used as the basis for the first round of local plans.

In early 1993, presentations explaining the local water supply planning requirements and procedures were made to more than thirteen organizations across the state. The needed forms, guidelines, and instructions were mailed out over a six-month period beginning in March 1993 to distribute the workload associated with assisting local governments with plan preparation and internal plan review. During the first round of local water supply plans, it was expected that about 525 local government water systems would prepare plans.

The 1993 General Assembly provided an additional appropriation to support the water supply planning legislation enacted in 1989. That appropriation allowed DWR to strengthen its ability to assist local governments, to review local water supply plans, and to create a state water use database.

As of September 1996, DWR had received draft LWSPs from 500 water systems for review. These plans were reviewed for internal consistency, and DWR provided assistance to ensure plans met the minimum requirements of the law. Over 80 percent of plans required at least two drafts before they were determined to be ready to adopt by local authorities as their Local Water Supply Plan. Almost 40 percent of plans submitted required three drafts and 12 percent needed four drafts before meeting minimum requirements. By September 1, 1996 there were 416 LWSPs on file with DWR that met the minimum requirements of the law and had been adopted by the local governing board as required by the law.

### **2.2.3 1997 Local Water Supply Plan Updates**

The law requires that Local Water Supply Plans be revised to reflect changes in relevant data and projections at least once every five years. Therefore, the second round of local plans needed to be prepared using 1997 water supply and demand information. Based on experiences with the 1992 plans, the questionnaires and instructions were revised during 1997 in preparation for the local plan updates. Water systems were notified in early 1997 of the pending update and were provided a checklist of data to collect to simplify the process. During 1998, after mailing copies of the revised information packet to systems across the state, six workshops were conducted to explain the process and provide direct assistance to system representatives.

There were 412 systems that had submitted a draft of their 1997 LWSP by the January 1, 1999 deadline. As of December 2000, only 16 of the 553 water systems expected to submit plans had not submitted a draft 1997 LWSP. Of the LWSPs received, 209 of the plans are either complete or are ready to be adopted by the local governing board. DWR will be working diligently with the remaining local governments to get their updated plans completed by mid-2001.