North Carolina Department of Environment and Natural Resources

Pat McCrory Governor | John E. Skvarla, III Secretary

MEMORANDUM

TO: Environmental Review Commission
Attn: The Honorable Brent Jackson, Chair
The Honorable Ruth Samuelson, Co-Chair
Mariah Matheson, Committee Assistant
Jeff Hudson, Commission Counsel
Jennifer McGinnis, Commission Counsel

FROM: J. Carr McLamb, Jr.
Deputy Director of Legislative Affairs

SUBJECT: Water Supply Planning Report

DATE: September 3, 2013

Pursuant to G.S. G.S. 143-355(n), "The Department of Environment and Natural Resources shall report to the Environmental Review Commission on the implementation of this section and the development of the State water supply plan on or before 1 September of each year." The attached report is submitted to fulfill this requirement.

If you have any questions or need additional information, please contact me by phone at 919.707.8310 or via e-mail at carr.mclamb@ncdenr.gov.

CC: Mitch Gillespie, Assistant Secretary for the Environment
Tom Reeder, Director, Division of Water Resources
Neal Robbins, Director of Legislative and Intergovernmental Affairs

North Carolina Department of Environment and Natural Resources

Division of Water Resources

STATUS REPORT TO THE GENERAL ASSEMBLY
ON
WATER SUPPLY PLANNING
AUG. 1, 2012 THROUGH JULY 31, 2013

Executive Summary

The primary mission of the N.C. Division of Water Resources (DWR) is to assure a sustainable water supply for the residents of North Carolina. To carry out this responsibility, the division administers several monitoring, planning and regulatory programs focusing on water availability.

In partnership with the U.S. Geological Survey (USGS), the division monitors the availability of water across the state through a network of monitoring wells and stream gages. DWR monitors water withdrawals using data reported under mandatory registration and reporting programs. Additional information is compiled from annual water use reports submitted by those entities required to register their water withdrawals and water systems required to submit a local water supply plan. This information is supplemented by special data requests during drought conditions. Beginning in 2009, DWR also began receiving summaries of an annual survey of agricultural water users conducted by the N.C. Department of Agriculture and Consumer Services (DACS).

The division administers the local water supply planning program, which was established after serious droughts in the 1980s disrupted local water supplies. DWR provides assistance to community water systems with the preparation of their local water supply plans. The information contained in these local plans, combined with data from other sources, provides the water use information that is critical for the development of computer-based hydrologic models. Basin-specific hydrologic models simulate surface water volumes as water moves downstream. The models support the development of river basin water resource plans. The division is preparing long-term water resource plans for each of the state's 17 major river basins in partnership with local governments, water users and other stakeholders. The long-term water resources plans will provide valuable information for local and state decision makers for the preparation of drought response plans and the management of dependable water supplies to support economic development, while maintaining environmental quality.

The division also monitors and regulates water withdrawals associated with the transfer of surface water between designated river basins and water use in designated capacity use areas. As staff to the Environmental Management Commission, DWR processes applications from water users that wish to transfer more than 2 million gallons per day of surface water between designated river basins and makes recommendations to the commission. DWR conducts evaluations of resource conditions, oversees rule development and issues water withdrawal permits in designated capacity use areas. In addition, DWR chairs the N.C. Drought Management Advisory Council, manages drought response activities and is the lead agency for the N.C. Department of Environment and Natural Resources for the relicensing of hydroelectric projects. All of these programs impact and are affected by water supply planning activities.

Overview

The N.C. Division of Water Resources is required by G.S. 143-355(n) to report by Sept. 1 of each year to the Environmental Review Commission and the Joint Legislative Commission on Governmental Operations on the development of the state water supply plan. The state water supply plan compiles the information and water use projections contained in the local water

supply plans submitted under G.S. 143-355(l) together with data on water usage available from other sources. It identifies potential problems meeting expected water demands in order to assure the availability of adequate supplies of water to protect the public health and support economic growth. These issues are addressed from a river basin perspective with potential conflicts and shortages identified using computer-based hydrologic models that simulate surface water availability within each basin. This report provides a summary of division activities that support water resources planning and the maintenance of dependable water supplies for the citizens of North Carolina.

Highlights

During the period covered by this report, DWR:

- Added six wells and two stations to the groundwater monitoring network;
- Managed 284 active groundwater withdrawal permits and registrations of 64 other water withdrawers in the Central Coastal Plain Capacity Use Area;
- Assessed and reported on regional groundwater conditions and the effectiveness of the CCPCUA rules in stabilizing groundwater levels and salinity;
- Coordinated the Ecological Flow Science Advisory Board, which held eight meetings;
- Received approval from the Environmental Management Commission to move forward with the Broad River Basin hydrologic model;
- Revised the preliminary update of the combined Cape Fear and Neuse River Basin hydrologic model to support a fourth round of requests for water supply allocations from B. Everett Jordan Lake;
- Initiated a revision to the Roanoke River Basin hydrologic model;
- Collected annual water use data for calendar year 2012 from 514 water systems required to prepare a local water supply plan and from 1,159 other registered water withdrawals;
- Continued to assist local water systems in preparing and revising their water shortage response plans to meet the minimum criteria set by legislation;
- Published water efficiency best management practices (BMP) guidelines for community water systems as required by Section 3.4 of Session Law 2011-374;
- Provided workshops to local government officials explaining the BMP guidelines and conducted additional workshops, at participants requests, detailing the implementation of the recommended water audit BMP;
- Worked with four public water systems to evaluate water supply needs and alternatives as authorized by G.S. 143-355.7; and
- Supported the Mining and Energy Commission in developing rules for water acquisition and management for oil and gas development projects.

Monitoring Water Resources

The division maintains groundwater and surface water monitoring networks directly, and in partnership, with federal agencies. The data from these networks provide essential information on the conditions of water resources throughout the state. North Carolina cooperates with the USGS to maintain stream gage sites with near-real time data collection capabilities. The division also maintains an extensive network of groundwater monitoring wells. More than two-thirds of these wells have data recorders that collect daily water level

information that is collected and processed at least quarterly. Data from the drought monitoring wells are collected monthly and the division is conducting a pilot study to provide remote reporting of groundwater levels using cellphone-based technology. Much of the groundwater monitoring and data collection focuses on improving the understanding of the complex aquifer structures in the Coastal Plain.

The ongoing support of the N.C. General Assembly has allowed the division to continue improving the data on aquifer conditions in the Coastal Plain by expanding the monitoring well network. Since 1998, DWR has added 177 wells at 53 monitoring stations in the Coastal Plain. To date, there are 319 active wells at 85 monitoring stations in the 15-county Central Coastal Plain Capacity Use Area (CCPCUA). The monitoring well network provides vital data for evaluating aquifer conditions and the success of the Central Coastal Plain Capacity Use Area rules. The division will continue to expand the monitoring well network statewide, as funds permit, to improve data for groundwater management. Data on groundwater conditions are available on the division's website.

The division joined with the State Climate Office at N.C. State University, the U.S. Army Corps of Engineers, the U.S. Geological Survey and other data collection agencies to develop a uniform database to store and disseminate water resources data. Water resource data are available on the division's website.

Monitoring Water Use

For two decades, North Carolina has required registration of large surface water and groundwater withdrawals. The division administers three programs that provide water use data: the water withdrawal registration program, the local water supply planning program and implementation of the CCPCUA rules. Outside of the CCPCUA, owners of agricultural operations must register their water use if the sum of withdrawals for their facilities is 1 million gallons, or more, on any day. During 2012, 28 owners of agricultural operations reported water use for 43 operations outside of the CCPCUA. Owners of non-agricultural operations must register their water use if the sum of withdrawals is 100,000 gallons, or more, on any day. During 2012, 264 owners of registered non-agricultural operations reported water use for 1,170 facilities and community water systems. Registrations must be updated at least every five years. The 563 local government water systems and community water systems that regularly serve 1,000 or more service connections, or 3,000 or more individuals, meet the registration requirement by submitting a local water supply plan. The division received 2012 water use data from 514 of these water systems.

Rules governing water use during droughts, which became effective in 2007, require anyone who must register a water withdrawal to annually report water use data. Of the registered users not required to prepare a local water supply plan, DWR collected data on water usage in 2012 for 1,213 facilities and water systems. Water use data submitted directly to DWR are supplemented by survey data submitted to the DACS, which summarizes data by county and river basin for unregistered agricultural operations that withdraw 10,000 gallons of water, or more, per day. DACS's 2012 water use summary reported water usage for 1,346 unique agricultural operations that do not report directly to DENR. Throughout 2012, these

operations used an average of 66 million gallons per day almost evenly split between groundwater and surface water.

Local Water Supply Planning

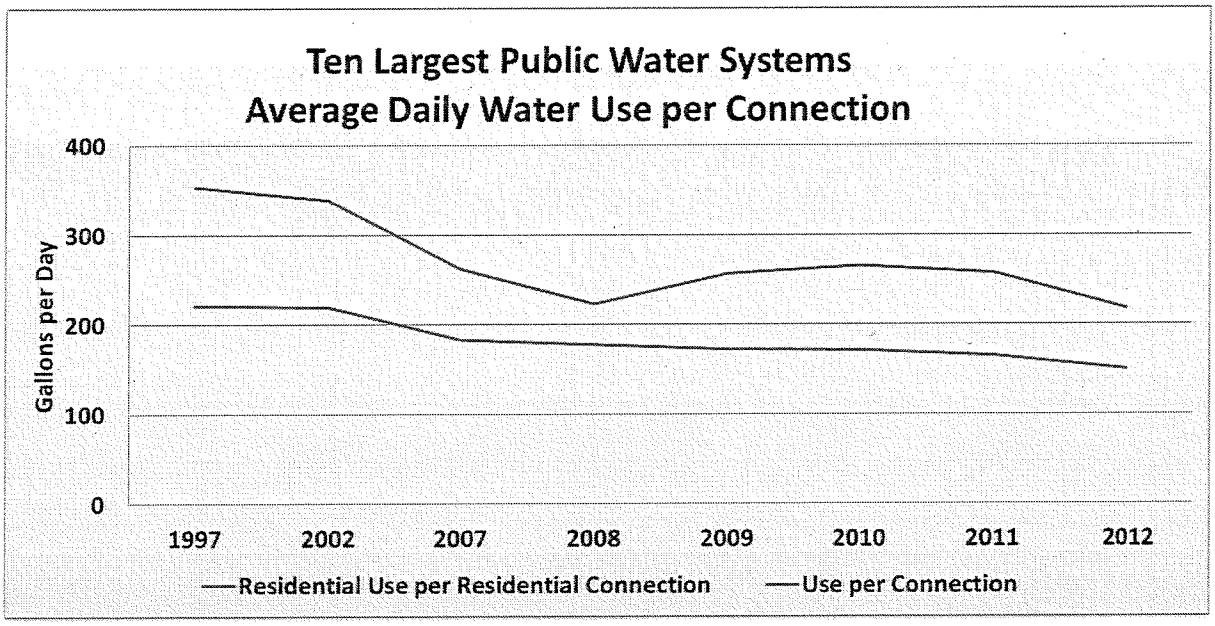
After the serious droughts in the 1980s, the General Assembly enacted legislation to require water supply planning at the state and local levels. The intent of the action was to assure the availability of adequate supplies of good quality water to protect public health and to support economic growth. Units of local government that supply, or plan to supply, water to the public and other large community water systems are required by G.S. 143-355(l) to develop local water supply plans. These local plans describe current water use and future water needs and identify the water system's expected future sources of water. The plans provide valuable information about how much water communities are using and how much they anticipate needing in the future. Information contained in the local plans supports local, regional and statewide water supply planning and is available on the division's website.

The number of water systems that are required to prepare a local plan varies as existing water systems merge and new ones are formed. Since the first round of local plans in 1992, DWR has received submissions from more than 660 planned and operating water systems. In 2012, 563 water systems met the criteria requiring them to develop a local water supply plan. Local water supply plans are reviewed for internal consistency and consistency between interdependent water systems. Completed plans are to be adopted by the water system's local governing board and must be updated at least every five years. Passage of Session Law 2008-143 expanded DWR's plan review responsibility to include plan approval based on criteria included in the legislation.

Of the 563 water systems expected to submit a 2012 local water supply plan, 514 systems submitted updated plans for 2012 as of July [1]. To date, 51 of the 514 plans submitted have been approved by DWR with 20 of the approved plans adopted by the local governing boards. As of July 1, there were 29 water systems that have not started updating their local plans.

As shown in the graph below, water use per connection continues to decline in the 10[1] largest water systems submitting a local water supply plan. For all water systems, water use fluctuates from year-to-year due to weather conditions and the number of connections being served. As water utilities accommodate more customers, overall system water usage will go up. However, looking at water use per connection can indicate if, in general, customers are using less water to accomplish the desired tasks. The graph below shows a general decline in the average water use per connection for the 10 largest public water systems based on population served. This trend is also evident in some of the projections of future water needs being submitted in recent local plans compared to the projections presented in the 1997 and 2002 local water supply plans. In 2012, these 10 water systems served almost 3 million persons or about 31 percent of the state's residents.

[1] Base on the 2012 service populations reported in the local water supply plans the 10 largest utilities are: Charlotte-Mecklenburg Utilities, City of Raleigh, City of Winston-Salem, City of Greensboro, City of Durham, Fayetteville PWC, Cape Fear Public Utility Authority-Wilmington, Town of Cary, Davidson Water Inc., and Onslow Water and Sewer Authority.



North Carolina Drinking Water Protection Program

Monitoring and planning for residents' water quantity needs addresses the General Assembly's intent to assure the availability of adequate supplies of good quality water to protect public health and to support economic growth. However, efforts to prepare for the state's drinking water needs can be significantly impacted by the quality of water that is available. Concerns are often intensified at the local level, where drinking water quality is subject to unique and localized conditions. Ensuring safe and sustainable drinking water not only requires access to dependable sources, but it also involves proactive measures to protect those sources. Protective measures may be especially pertinent for systems that exceed 80 percent of their available supply, as documented within the local water supply plans submitted to the division.

DWR continues to administer non-regulatory programs designed to assist communities and establish strategies for proactive drinking water protection. The N.C. Drinking Water Protection Program provides technical assistance to local governments and stakeholder groups. The program emphasizes establishing drinking water protection as a priority within other agencies and programs and it maintains web-based data and geographical information to identify threats and to support decision-making. The N.C. Drinking Water Protection Program maintains technical assessment reports for all the states sources of public drinking water. This information is available online and serves as a tool to manage and prioritize local protection efforts. Information on the source water assessment program is available on DWR's Public Water Supply Section's website. In addition to the assessments, a variety of tools and outreach mechanisms are in place, including guidelines for local source water protection planning, a low-interest loan program for land conservation, and the creation of a statewide collaborative to identify viable solutions to drinking water protection issues.

North Carolina Water Supply Planning

The N.C. General Assembly mandated the development of a North Carolina Water Supply Plan, or state plan, at the same time that it acted to require preparation of local water supply plans. The local water supply plans were intended, in part, to provide information necessary for an evaluation of potential water supply conflicts in the state plan. As mandated by law, the state plan summarizes information contained in the local water supply plans. The first version of the state plan was based on information from local plans submitted in the 1992, 1997 and 1999 water withdrawal registrations. It summarized water use by major river basin and identified areas of concern where water availability, or conflicts between users, could limit the ability to meet water demands. The analysis of potential limitations on the ability of water systems to satisfy expected demand was based primarily on the staff's understanding of expected population growth and general water availability. The N.C. Water Supply Plan is available on the division's website.

In the process of developing the state plan, the division's staff identified a need for more specific water availability information to inform the analysis. The division began work on computer-based hydrologic models that could simulate historical water resource conditions and characterize natural variations in water availability. The ability to identify when and where water demand may exceed available water resources provides valuable information to characterize the reliability of drinking water sources. Understanding the inherent dependability of water supplies gives local officials valuable information to build effective drought response plans. Currently, the division uses computer models that simulate surface water availability in combination with water withdrawal data to provide a more reliable analysis of potential water supply conflicts in modeled river basins. The information presented in the N.C. Water Supply Plan will be updated as the river basin models and water resources plans are completed.

The current models still lack a major component that must be included in any comprehensive river basin modeling program. To date, insufficient data and analysis exists to identify the volumes and patterns of water flows needed to maintain the ecological integrity of aquatic resources. General Statute 143-355(o), created in July 2010, supports the division's approach by mandating development of river basin hydrologic models. The legislation also recognized the importance of addressing ecological flow needs in the water supply planning program and established a science advisory board to recommend methodologies to characterize ecological flow needs. A summary of the board's work and information related to identification of ecological flows is available on the division's website. The board has met 21 times since its creation in 2010. Recommendations from the board are expected in late 2013. DWR will begin evaluating the implementation of those recommendations in 2014.

Planning for Future Water Needs

The N.C. Division of Water Resources is developing a river basin water resources plan for each of the major river basins in the state to help assure the availability of adequate supplies of water in the future. These plans will support water management in the state's river basins and provide reliable, quantitative tools to plan for sustainable water use and support objective management and regulatory decisions.

Data submitted to the division through the water supply planning program, the water withdrawal registration program, capacity use area reporting requirements and annual water use reporting provide critical information for the river basin planning program.

River basin water resources plans provide a basin analysis of estimated future water supply withdrawals using a computer-based hydrologic model that simulates surface water flow in a basin. A hydrologic model provides a tool to analyze the effects on water flows of future water withdrawals and wastewater discharges over the range of river flow variability that occurred in the historical record. By analyzing the water needs expected in 2050, and evaluating these future demands with respect to known flow variability, DWR is able to identify areas where supplies may not be adequate to meet projected demands, as well as when and where water use conflicts may develop. The river basin water resources plans and associated hydrologic models provide the division, local governments and other water users a reliable, quantitative framework within which to plan for reliable and cost-effective water sources to meet future needs.

The first of these plans was the Cape Fear River Basin Water Supply Plan, developed in 2002 as a tool for the analysis of allocations of water supply storage in B. Everett Jordan Reservoir. The prototype hydrologic model was updated with the technical and financial support of water users in the basin that recognized the value of the model as a water supply planning tool. The division developed a draft of an updated Cape Fear River Basin Water Supply Plan based on the updated model and water demand projections. A summary of the modeling results is available on the division's website. Before the updated plan was finalized, the division received a request to initiate a new review of allocations and options for utilizing the water supply storage in Jordan Lake reservoir from a group of Triangle communities. In June, DWR released the application material that applicants for a water supply allocation will submit to support their requests. To support the planning, evaluation and decision-making for water supply allocation, the Cape Fear and Neuse River hydrologic models are being updated and merged. Many of the water utilities that supply drinking water to Triangle residents share water withdrawn from both basins. Having a combined model for the Cape Fear and Neuse river basins will expedite the analysis of regional water supply management options. A meeting for interested parties to review the details of the revised model will be held in September. Information on the allocation requirements and the allocation process is available on the division's website.

The hydrologic model for the Broad River Basin was presented to and approved by the Environmental Management Commission at the November 8, 2012 meeting. The Tar River Basin model is being revised to expand modeling capabilities in response to a request from the Greenville Utility Commissions under provisions of SL 2011-374. A draft of the Broad River Basin water resources plan will be available this summer. The Tar-Pamlico River Basin water resources plan will be drafted after the hydrologic model is finalized and approved by the EMC.

As noted in previous reports, models were constructed for the Catawba and Yadkin River basins in conjunction with the relicensing of the hydropower projects on these rivers. The division worked closely with the electric utility companies and other interested parties in these

basins to estimate long-term water supply needs that were then included in the modeling of proposed management options for the future. These analyses formed the basis of settlement agreements included with the hydropower license applications submitted to the Federal Energy Regulatory Commission (FERC).

DWR developed an initial Catawba River Basin Water Supply Plan based on the relicensing work with the expectation that the water supply components would be reviewed when FERC issued a new license. To date, a new license has not been issued. As part of the settlement agreement to the suit brought by South Carolina against North Carolina in the Supreme Court, the parties agreed to periodic, cooperative updating of the Catawba-Wateree River Basin Water Supply Study done for the FERC license application. A copy of the settlement agreement is available on the division's website. The Catawba-Wateree Water Management Group (CW-WMG) has undertaken the task of developing a Water Supply Master Plan for the users of the Duke Energy reservoirs in the basin. DWR has been working with Duke Energy and the CW-WMG and other stakeholders to update the hydrologic model of the basin to meet the requirements of SL 2010-143 so it can be used to support the development of a revised Catawba River Basin Water Resources Plan. The updated model and water demand estimates will be presented to a broader group of stakeholders at a meeting on August 1, 2013.

The water use data submitted to DWR, combined with estimations of general water availability in the Triassic Geologic Basins, provided the foundation for the evaluation of the feasibility of meeting the water needs of proposed shale gas development in North Carolina. DWR staff assisted the Mining and Energy Commission's Water and Waste Management Committee to develop draft rules for Water Acquisition and Management for oil and gas development. The draft rules specify the details of the Water Management Plans which were stipulated by SL 2012-143 to be required for oil and gas development projects.

The Division of Water Resources and the Division of Water Quality (DWQ) have been working to coordinate basin planning efforts. DWQ has been developing basinwide water quality plans since the early 1990s. These plans provide valuable information on current water quality conditions and the areas that require additional management efforts to protect the water quality of the state's surface water resources. DWR's river basin water resources plans evaluate quantity-related aspects of surface water resources. They identify potential changes to stream flows as the population grows and water withdrawals increase. Staff members of both divisions have been exploring ways to combine the information from both sets of plans to improve overall water resource management. The recent reorganization of these two divisions into one will expedite this process.

Planning for Water Shortages

After the 1998-2002 drought, the General Assembly enacted new requirements for water shortage response planning. Session Law 2002-167 added requirements for water systems to describe in their local water supply plan how the water system will respond to drought and other water shortage emergencies and continue to meet essential public water supply needs during the emergency. In 2007, the Environmental Management Commission adopted rules providing guidance on what information should be included in these water shortage response plans. Portions of Session Law 2008-143, codified in G.S. 143-355.2, strengthened the

requirement for water shortage response plans and gave the department responsibility to approve or disapprove the plans. If a plan fails to include the required elements and is disapproved, the water system is required to implement the default water conservation measures set out in 15A NCAC 02E .0600 during extreme and exceptional drought conditions.

The division developed protocols for the review of water shortage response plans in consultation with representatives of local governments and water utilities. To date, the division has notified 537 water utilities that their plans meet the minimum criteria established. The division staff continues to work with the remaining systems to develop plans that will satisfy the minimum criteria.

Water resources in the state are evaluated weekly by the N.C. Drought Management Advisory Council. The technical committee of the council regularly monitors water resource conditions and consults weekly with the authors of the U.S. Drought Monitor to ensure that the weekly U.S. Drought Monitor accurately portrays conditions in North Carolina. The results of these evaluations can be found on the N.C. Drought Management Advisory Council's website. The June 11, 2013 drought map was the first week since April 20, 2010 when no areas of North Carolina had a drought or abnormally dry designation.

Hydropower Relicensing

The Federal Energy Regulatory Commission (FERC) licenses non-federal hydroelectric generation projects on navigable waterways. Several existing hydroelectric projects in North Carolina have license applications pending before the commission: Duke Energy's Catawba-Wateree Hydro Project; Alcoa Power Generating Inc.'s Yadkin Project; and Progress Energy Carolinas Inc.'s Yadkin-Pee Dee River Project. The FERC has not issued new licenses for these projects and the applications remain under review. In some cases, the final decision on relicensing has been affected by legal challenges. Since the old licenses have expired, these projects are operating under annual licenses that extend the operating rules in the old licenses on a year-to-year basis. When new licenses are issued, updated management regimes will be implemented which are expected to include the ecological flows and recreational opportunities contained in the negotiated settlement agreements.

Regulation

Central Coastal Plain Capacity Use Area (CCPCUA)

The Water Use Act of 1967 (NCGS 143-215.11et seq.) provides a mechanism for regulating water withdrawals in areas where water use must be coordinated to protect its availability. The law authorizes the Environmental Management Commission to designate a capacity use area if water use has increased to the extent that competing uses must be managed, or if the ability of the water resource to replenish itself is threatened.

The CCPCUA, the only designated capacity use area in the state, encompasses 15 counties in the central Coastal Plain. After four years of development, rules governing water management in the CCPCUA became effective on Aug. 1, 2002. Deep, confined aquifers provide high-quality water to many of the municipal and industrial water users in this area. The reliability

and quality of these water sources was being threatened by the pumping of water faster than it could be replenished. The rules established a program to reduce groundwater withdrawals from the endangered Black Creek and Upper Cape Fear aquifers in three stages during a 16-year period. The rules encourage development of alternative sources of water and regulate groundwater withdrawals through a permitting system. Anyone withdrawing more than 100,000 gallons a day of groundwater in the designated counties must get a permit from DWR. Currently, there are 288 active permits for groundwater withdrawals in the CCPCUA. In addition, water use data are received from 64 registered water withdrawers that do not need a permit but meet the reporting criteria because they withdraw between 10,000 and 100,000 gallons in a day. The division receives water use data from permit holders monthly and continually monitors conditions in the affected aquifers. Division staff regularly updates the Environmental Management Commission on the groundwater conditions in CCPCUA. Public water supply systems in the central Coastal Plain have made significant progress toward meeting reduction goals through development of regional water authorities and other water-sharing arrangements. Steps taken to reduce withdrawals from the depleted aquifers are showing measurable improvements.

In September 2008, the Neuse Regional Water and Sewer Authority began providing water to member communities from a new surface water treatment plant on the Neuse River. The new facility made it possible for several communities that had previously relied on groundwater to switch to a surface water source. Start-up of the new facility has produced demonstrable improvements in regional groundwater levels. The division's monitoring indicates that groundwater levels have risen by 35 feet in some areas since the withdrawal reductions began. These improvements reinforce the premise of the capacity use area rules that by reducing groundwater withdrawals, aquifers will recover. Water level recoveries are also occurring near the cities of Jacksonville and New Bern, where well fields in the Castle Hayne aquifer and treatment plants came on-line in 2010. Additional information on the CCPCUA and the associated rules are available on the division's website.

The CCPCUA rules require DWR to conduct three periodic regional assessments of aquifer conditions during the initial 16-year implementation period. The information compiled from the assessments may be used by the EMC to make adjustments to the aquifer zones and reduction percentages in the rules, if warranted. A draft of the second of these evaluations is currently available for review and comment on the division's website. Based on the data compiled during this assessment, DWR recommends that the EMC retain the current aquifer zone boundaries and associated reduction requirements. While water levels have improved in some areas, the potential for salt water encroachment into freshwater portions of the aquifers continues. Also, many wells used on a regular basis still have pumps located below the tops of their source aquifer. This arrangement allows water levels to be drawn down below the top of an aquifer and threatens the reliability of the aquifer as a source of high quality water.

Interbasin Transfer of Surface Water

Many communities in North Carolina are located on or near the high ground that creates the boundaries between river basins. Other communities are located in the headwaters of river basins where the water supply has proven to be inadequate as the economy and population of the state have grown. In these situations, municipal water systems may need to move water

between river basins. Carefully regulated transfers of water between river basins can be the most practical, economical and environmentally sound way to provide water and sewer service to the residents of some communities and to support economic growth.

In 2007, the General Assembly made significant changes to the laws regulating surface water transfers. Session Law 2007-518 expanded public notice requirements for proposed interbasin transfers and specified additional criteria to be considered by the Environmental Management Commission in deciding whether to grant an interbasin transfer certificate. The changes became effective on Aug. 31, 2007.

Session Law 2010-155 changed the effective date of the 2007 requirements for some applicants. For proposed interbasin transfers intended to supplement groundwater supplies in the CCPCUA, the effective date was moved to Jan. 1, 2013. The 2010 legislation also created a new classification of an isolated river basin and made the 2007 requirements effective on July 1, 2020, for proposed transfers of surface water into those basins. Session Law 2011-298 provided an exemption to the requirement to obtain permission from the Environmental Management Commission for up to 8 million gallons per day of surface water transferred to supplement groundwater sources in the CCPCUA.

For purposes of implementing the surface water transfer laws, the 38 river basin boundaries are defined in G.S. 143-215.22G and delineated on an associated map. Session Law 2008-198 extended the basin lines for interstate river basins into neighboring states for the purposes of implementing the notice requirements set out in G.S. 143-215.22L. Details of the Interbasin Transfer Program and the statutory requirements are available on the division's website.

While many communities move water between river basins, most do not exceed the 2 million gallons per day threshold, or the transfers were grandfathered in the legislation. Only five interbasin transfer certificates have been issued under G.S. 143-215.22I and the precursor legislation. Charlotte-Mecklenburg Utilities has a certificate to transfer up to 33 million gallons per day from the Catawba River to the Rocky River basin. Cary, Apex, Morrisville and Wake County jointly hold a certificate to transfer up to 24 million gallons per day from the Haw River basin to the Neuse River basin. The Piedmont Triad Regional Water Authority has permission to transfer up to 30.5 million gallons per day from the Deep River to the Haw River and Yadkin River basins. The cities of Concord and Kannapolis received permission to transfer up to 10 million gallons per day from the Catawba River basin and 10 million gallons per day from the Yadkin River basin into the Rocky River basin. In November 2010, the Environmental Management Commission granted a certificate allowing transfers for Greenville, Farmville, Winterville and Greene County. That certificate, granted with conditions, allows transfers of up to 8.3 million gallons per day from the Tar River to the Contentnea Creek basin and 4 million gallons a day from the Tar River to the Neuse River basin. Details about the permitted transfers are available on the division's website.

The completion of the Neuse Regional Water and Sewer Authority's surface water treatment facilities on the Neuse River allowed member communities to reduce groundwater pumping within the CCPCUA. This change in water supplies would have required the authority to obtain an interbasin transfer certificate if they had not been granted relief by the General

Assembly. As noted above, Session Law 2011-298 declared that an interbasin transfer certificate is not required for a transfer of surface water from one river basin to another river basin to supplement groundwater supplies in the 15 counties designated as the Central Coastal Plain Capacity Use Area. The exemption is valid until the cumulative amount of surface water transferred for this purpose exceeds 8 million gallons per day. After that threshold has been met, additional transfers will be required to get an interbasin transfer certificate.

Pending Interbasin Transfer Requests

The Kerr Lake Regional Water System has indicated that it intends to submit a petition requesting an increase in its grandfathered 10 million gallons per day interbasin transfer. The regional water system is expected to request an increase to 24 million gallons per day. The system proposes to transfer water withdrawn from Kerr Lake on the Roanoke River to public water systems in the Tar, Neuse and Fishing Creek river basins. Preliminary work to support an Environmental Impact Study was reviewed by DWR and is currently being updated.

Brunswick County has submitted a petition for an increase of its grandfathered interbasin transfer capacity of 10.44 million gallons per day. The petition requests an increase of 7.86 million gallons per day, bringing the total allowable transfer to 18.3 million gallons per day. Brunswick County Public Utilities currently uses a combination of groundwater and surface water from the Cape Fear River supplied by the Lower Cape Fear Water and Sewer Authority. The system provides treated water to customers in the Cape Fear, Waccamaw and Shallotte river basins. The increased transfer of water from the Cape Fear River would be used to supply water to residents in the Shallotte River Basin. Increases in water demands for customers in the Waccamaw River Basin will be supplied by purchasing water from the Little River Water and Sewerage Company in South Carolina. On July 11, 2013 the EMC granted permission to DWR to hold a public hearing on the county's petition. Upon completion of the hearing officer's report the petition will be brought before the EMC for a final decision, potentially in early 2014.

Implementation of Session Law 2011-374

Session Law 2011-374 assigned the department the task of developing a set of best management practices to assist communities in their efforts to improve water use efficiency and water conservation. DWR developed a manual describing the recommended practices. Staff conducted eight workshops during November and December 2012 for local officials to familiarize them with the application of the recommended procedures. The Water Efficiency BMP Manual and the presentations used for the workshops are available on the DWR website. DWR staff members conducted an additional six workshops on implementing the recommended water audit BMP in response to interest expressed by attendees of the initial set of workshops.

Session Law 2011-374 also expanded the responsibilities of the department with regards to identifying water supply needs of local governments and evaluation of options for projects and sources to meet those needs. It mandates that the department cooperate with units of local government on these evaluations contingent upon the execution of a formal agreement between the parties. In addition, the legislation allows the department to become the primary

state agency to cooperate with other state and federal agencies in the planning and development of water supply sources and water storage projects in the state.

Local governments may request departmental assistance and enter into a negotiated agreement with the department. The department would then coordinate the work necessary to identify the preferred water supply alternatives adequate to meet the long-term needs documented in the local government's local water supply plan. The selected alternative sources must meet criteria specified in the legislation, as well as requirements specified in the North Carolina Environmental Policy Act (NCEPA). If the suite of options from which a preferred alternative will be chosen includes projects that will require federal approvals, then the alternatives analysis will have to satisfy the appropriate federal review and decision-making criteria.

A preferred alternative selected by the department will be binding on all state agencies and will be recognized by the Department of Administration as satisfying the requirements of the NCEPA and any other state permits requiring assessments of alternatives. The department may also assist the local government in the pursuit of the federal permits necessary to implement the preferred alternative. If the local government entity is a regional water system it will also have the option to request that the department become a co-applicant for all required federal approvals necessary to implement the department's preferred alternative.

During the last year, DWR worked with the members of the Lower Cape Fear Water and Sewer Authority to develop an estimate of future water needs. DWR continues to work with Cleveland County Water and the Greenville Utility Commission and recently began discussions with the town of Louisburg.