



*Charlotte-Mecklenburg Utilities  
Annual Report on Interbasin Transfer  
Calendar Year 2005*

Charlotte Mecklenburg Utilities (Utilities) operates the water and wastewater systems that serve Charlotte, Cornelius, Davidson, Huntersville, Mint Hill, Matthews, Pineville, and much of the unincorporated areas of Mecklenburg County. This system is divided between two river basins designated by NC General Statutes for regulation of interbasin transfer (IBT) of water. The western portion of the system is within the Catawba River basin and the eastern portion is within the Rocky River basin. Water that is transferred from the Catawba River basin to the Rocky River basin that is not returned to the Catawba is regulated IBT.

Water for distribution to the Utilities' system is withdrawn from the Catawba River basin at two locations. An intake at Lake Norman sends water to the North Mecklenburg Water Treatment Plant. A second intake at Mountain Island Lake sends water to the Franklin Water Treatment Plant and the Vest Water Treatment Plant. Potable water from these three plants is delivered through an interconnected distribution system to customers throughout Mecklenburg County in the Catawba and Rocky River basins.

Utilities treats wastewater at five advanced wastewater treatment plants (WWTP's) which discharge into small streams in Mecklenburg County. Four of the streams are tributary to the Catawba River basin and one (Mallard Creek) is tributary to the Rocky River basin. Utilities also conveys wastewater from portions of Mecklenburg to the Rocky River Regional Wastewater Treatment Plant (RRRWWTP) operated by the Water and Sewer Authority of Cabarrus County (WSACC). The RRRWWTP discharges treated effluent to the Rocky River.

Utilities transfers treated potable water to the City of Concord through three metered connections to their water system. Water service is provided as an emergency back-up to Concord's routine supply which is Lake Howell and several smaller reservoirs. All of these reservoirs are within the Rocky River basin. Wastewater from Concord is treated at the RRRWWTP. Utilities' agreement with Concord is that water will be supplied to them subject to availability and subject to regulatory constraints including IBT and Federal Energy Regulatory Commission (FERC) limitations.

The North Carolina Environmental Management Commission (EMC) approved Charlotte Mecklenburg Utilities' petition to increase the amount of water transferred from the Catawba basin to the Rocky River basin and an IBT Certificate was issued on March 14, 2002. The Certificate authorizes Utilities to transfer up to 33 million gallons per day (mgd) from the Catawba River basin to the Rocky River basin.

The IBT Certificate requires Utilities to report maximum daily IBT amounts annually to the North Carolina Division of Water Resources until such time as the transfer amount exceeds 80% of the authorized amount. Once that amount is exceeded, Utilities is required to report



monthly. To date, Charlotte-Mecklenburg Utilities has not exceeded 80% of the authorized IBT amount.

Section 4.2 of Utilities' 2001 Petition for IBT Certificate states that Utilities will summarize the daily IBT calculations in an annual report to the Division of Water Resources. This section also provides that "the distribution of consumptive uses between the source and receiving basins will be reviewed and modified to reflect changes in the development of the service area." Condition 5 of the IBT Certificate also requires "the applicant to develop a compliance and monitoring plan for reporting maximum daily transfer amounts" and states that "The Division of Water Resources shall have the authority to approve modifications to the compliance and monitoring plan and drought management plan as necessary." Consistent with the petition and Condition 5 of the Certificate, Utilities developed an improved methodology for determining IBT amounts that more accurately accounts for the distribution of consumptive uses and more accurately measures actual water consumption. This new methodology is based on water billing records instead of wastewater treatment plant discharge measurements that were used until now. Utilities proposed the improved methodology to N. C. DWR in February 2006 and received approval on June 29, 2006. Data reported for calendar year 2005 is based on the new methodology.

Table 1 below summarizes IBT amounts for calendar years 2002 through 2005 (all calculated using the new methodology). The table considers the daily amounts of water transferred from the Catawba basin to customers within the Rocky River basin in Mecklenburg County based on customer billing data. The values shown in Table 1 include the amount of water transferred to the City of Concord through metered connections. The full amount transferred to Concord is IBT since none is returned from Concord to the Catawba basin. Detailed IBT calculations are shown in Attachment 1.

The data indicates that the maximum amount of IBT for year 2005 occurred in July, and was 13.79 mgd, or 42% of the authorized maximum day value of 33 mgd. The average IBT for 2005 was 8.66 mgd, which is about 26% of the authorized maximum day value. In addition to the amount of actual IBT reported in Table 1, Utilities has committed to provide additional IBT to development that has been proposed in the Rocky River basin. Determining the amount of this commitment requires a review of all permitted development to quantify which parts of each project have actually been constructed and are active. Work is underway to estimate this amount which is expected to be less than 3 mgd and will not cause exceedance of the authorized IBT amount.

***Table 1. IBT Summary***

<b>Calendar Year</b>	<b>Avg. Annual IBT (mgd)</b>	<b>Max. Day IBT (mgd)</b>
2002	6.74	11.97
2003	6.91	9.82
2004	7.79	12.56
2005	8.66	13.79



Condition 1 of Utilities' IBT certificate requires Mecklenburg County to summarize progress in implementation of watershed management approaches of the Surface Water Improvement and Management Program (S.W.I.M. program). This summary follows:

*During FY2006, Mecklenburg County's Surface Water Improvement & Management (S.W.I.M.) Program completed a prioritization of the 22 watersheds in the county resulting in the selection of two (2) watersheds as the focus of S.W.I.M. Phase II, which targets high priority areas for intense water quality restoration efforts. S.W.I.M. Phase I, which was completed in 2004, involved a countywide initiative to implement the basic steps necessary to improve general water quality conditions using proven techniques such as enhanced water quality monitoring and modeling. S.W.I.M. Phase III will build on the successes of Phases I and II in order to implement countywide maintenance and restoration initiatives beginning in 2008. The ultimate goal of the three (3) phased S.W.I.M. Program is to achieve "swimmable/fishable waters countywide.*

*The watersheds selected for restoration as part of S.W.I.M. Phase II are McDowell Creek in the north and Goose Creek in the south. McDowell Creek drains to Mountain Island Lake, which is the primary drinking water supply for Charlotte-Mecklenburg. Significant land development in this watershed has resulted in an increase in non-point source pollutant loads and a significant degradation of water quality conditions. This degradation threatens the county's drinking water supply; therefore, this watershed has been assigned a high priority for restoration. The U.S. EPA and N.C. Division of Water Quality have also declared McDowell Creek as a "Restoration Watershed" and are coordinating with Mecklenburg County on restoration efforts. Goose Creek is home to a federally listed endangered species of freshwater mussel called the Carolina heelsplitter. The primary threat to the survival of the Heelsplitter is storm water runoff from land development activities; therefore, this watershed has been given a high priority for restoration.*

*In McDowell Creek, a Watershed Management Plan has been developed and implemented to restore water quality conditions. In addition, a total of \$1,307,711 in State and federal grants have been awarded to Mecklenburg County for retrofitting best management practices (BMPs) into developed areas to reduce existing pollutant loads. This is matched with an equal amount of local dollars. In February 2003, the Town of Huntersville adopted a low impact development ordinance to reduce pollutant loads from new development. The use of low impact development in combination with retrofitting BMPs will ultimately lead to the reduction of pollutant loads in the watershed even as the watershed continues to develop. An extensive water quality monitoring program has been developed and implemented to measure the success of these efforts. Water quality modeling is being used to target restoration efforts so they will have the maximum effect on restoring water quality.*

*In Goose Creek, the S.W.I.M. Program is developing a water quality restoration plan in cooperation with the municipalities in the watershed for the purpose of reducing*



*bacteria levels in the watershed. In addition, a post-construction ordinance is under development that will reduce non-point source pollutant loads from development activities. The combination of these efforts will work to restore degraded water quality conditions. An enhanced water quality monitoring program will be implemented in this watershed to measure effectiveness.*

Condition 2 of Utilities' IBT certificate requires a report on the stakeholder process to investigate water quantity control from single-family development and water quality control for all development until that process is completed. The condition suggests that the feasibility of single-family detention should be considered along with any needed ordinance revisions. This report follows:

*From April 2004 through September 2005, the City of Charlotte and Mecklenburg County conducted a stakeholder process to develop Post Construction Ordinance regulations. The water quality elements of the draft ordinance include a requirement to remove 85% Total Suspended Solids from the first inch of runoff for commercial and residential projects, and an additional 70% Total Phosphorus removal from the first inch of runoff if the project is located in either the Yadkin or Upper Catawba USGS 8-digit hydrologic unit code watersheds. Water quantity elements include controlling the entire post development volume generated by the 1-year 24-hour storm and releasing between 48 and 120 hours, for both residential and commercial developments. In addition all projects must provide peak control for the 10-year 6-hour and 25-year 6-hour storm events, although peak control may be waived for certain projects if a downstream analysis shows no adverse impacts from the development.*

*Due to concerns about the cost implications of the draft post construction ordinance, the Charlotte City Council asked staff to perform a detailed cost analysis of the proposed regulations in October of 2005. The City is currently working with a consultant team to verify the costs by performing an analysis on 10 case studies. The results of the cost analysis will be completed by January 2007. At that time a presentation of the results will be given to the stakeholders and subsequently, elected officials. It is anticipated that the Charlotte City Council will vote on the Post Construction Ordinance in the spring of 2007. The current schedule is to have the ordinance become effective on July 1, 2007.*

Condition 3 of the IBT Certificate removes the Goose Creek subbasin from the area to be served by the IBT, and imposes a moratorium on the installation of new IBT water lines (water lines crossing the ridgeline) into Goose Creek subbasin until the impacts of additional growth on the endangered species are fully evaluated. In 2005, the Southern Environmental Law Center (SELC) requested a Declaratory Ruling from the N.C. Environmental Management Commission relative to Utilities' compliance with this condition. While the EMC declined to issue a Declaratory Ruling, it did direct DWR staff to develop recommendations about IBT measurement and interpretation of Condition 3. Staff's response (issued June 29, 2006) concluded that Utilities has complied with Condition 3, but directed Utilities to impose a



moratorium on new water services in the Goose Creek subbasin when total IBT allocations (actual plus committed) to the Rocky River basin reached the grandfathered amount. Utilities suspended acceptance of applications for new water services in the Goose Creek subbasin until the committed IBT amount can be determined.

Regarding resolution of the impacts of additional growth on the endangered species, several meetings have been held involving Mint Hill officials, NC DWR, and NC WRC. These meetings have not resulted in a consensus solution of this issue.

At the end of calendar year 2005, the moratorium on installation of new water mains into the Goose Creek subbasin remained in place.

Condition 4 of the IBT Certificate provides that the Environmental Management Commission may reopen the Certificate under certain circumstances. This did not occur in 2005.

Condition 5 of the IBT Certificate requires Utilities to develop a compliance and monitoring plan for reporting maximum daily transfer amounts, compliance with certificate conditions, progress on mitigation measures, and drought management activities. At the direction of NCDWR staff, Utilities developed a reporting format and spreadsheets that were submitted in draft form for calendar year 2003. Since Utilities did not receive any comments on the draft report, use of that format and methodology has continued until this year. (See page 2 of this report for description of changes.)

Weather conditions in 2005 did not require implementation of drought management activities. However, Utilities continued implementation of on-going water conservation programs and measures aimed at reduction of overall water consumption. Utilities also participated in a stakeholder process to develop a Settlement Agreement for Duke Power's Federal Energy Regulatory Commission (FERC) relicensing application. One of the outcomes of that process was a Low Inflow Protocol (LIP) document that establishes triggers and responsive actions for all water users who are party to the Settlement Agreement or who are required to comply with the LIP through other agreements (easement agreements, FERC orders, etc.).

In summary, Utilities is in full compliance with IBT authorizations and compliance conditions. The amount of water transferred from the Catawba River basin to the Rocky River basin in 2005 is significantly less than the authorized amount.