

Integrating Water Efficiency and Conservation into the Local Water Supply Plan

A local water supply plan (LWSP) is an assessment of a water system's current and future water needs and its ability to meet those needs. By understanding current and future needs, communities will be better equipped to manage water supplies and plan for water supply system improvements. As the population in North Carolina continues to increase, communities should make it a high priority to ensure that their customers are conservation minded and that their water system is operating at peak efficiency. Although used interchangeably, water efficiency and conservation can have different contextual meanings. Simply put, water efficiency should be thought of as the practice of optimizing the use of available water supply, and water conservation as behavioral practices that result in consumption reduction. The LWSP can be a very useful tool in measuring how well a water system and its customers are managing available water supply.

As a result of Session Law 2011-374, water systems must now include a plan to reduce long-term per capita water demand within their jurisdiction as part of their LWSP submittal. As a matter of practicality, the per capita water demand can be calculated by using a water system's annual residential demand and year-round population (annual demand in gallons per day divided by year-round population). The N.C. Division of Water Resources has modified the LWSP to help water systems better track their long-term per capita water demand (see statement below). A chart in Section 5 of the LWSP will track long-term per capita water demand based on year-round population and water demand projections entered by the user. The chart will also be equipped to show a history of per capita water demand. By integrating this feature into the LWSP, systems can see how well their efficiency and conservation plans are working. Although there is no requirement to implement a specific BMP, water systems should consider implementing one or more of the BMPs in this manual, or devise their own BMPs. It should be noted that water savings from the implementation of a particular BMP will not be the same for all systems. Factors such as implementation choice(s), condition of assets, maintenance programs, and customer behaviors will affect the level of water savings realized by each system.

There are several BMPs considered fundamental to an effective water efficiency and conservation plan; however, conducting regular water audits is foundational to an effective plan. Conducting an initial water audit allows a water system to determine baseline efficiencies and set realistic goals for improvement. Subsequent water audits enable a water system to measure milestone achievements and performance of BMPs implemented. Once a water system begins conducting water audits, evaluations can be performed to determine which BMPs are most effective at minimizing losses and reducing long-term per capita water demand.

Regardless of which BMPs a water system implements, there must be a reduction in the long-term per capita water demand. By implementing water efficiency and conservation practices, communities will be better positioned to meet the future water supply needs of their customers.

The statement associated with the tracking chart in the LWSP reads as follows:
Your long-term water demand is xx gallons per capita per day. What demand management practices do you plan to implement to reduce the per capita water demand (i.e. conduct regular water audits, implement a plumbing retrofit program, employ practices such as rainwater harvesting or reclaimed water)? If these practices are covered elsewhere in your plan, or there are no changes from a previous submittal, indicate where the practices are discussed or "No Changes" here.

For comments or questions regarding Integrating Water Efficiency and Conservation into the Local Water Supply Plan, please contact the water efficiency specialist of the Water Supply Planning Branch at 919-707-9002.