

# County of Davie

## WATER SHORTAGE RESPONSE PLAN (WSRP)

### Introduction

This Water Shortage Response Plan (WSRP) is implemented to meet the requirements of General Statute 143-355 and 15A NCAC 02E. 060. The plan can be utilized to meet water needs during a drought, water supply disruption, water distribution problems, or water quality problems. It can also serve as a useful tool for responding to man-made or natural disasters. This plan applies to all users connected directly or indirectly to the public treated water supply.

### A. Objectives

1. To establish clear criteria for evaluating water shortage levels.
2. To authorize the selected authority to implement defined voluntary, mandatory, and emergency water conservation measures.
3. To determine enforcement protocols and variance approval procedure and criteria.
4. To evaluate the effectiveness of this plan and revise the plan if needed.

### B. Authority for WSRP Implementation

Whenever a potential water shortage is encountered by activation of the "triggers" set forth in this plan, the County Board of Commissioners authorizes and directs the County Manager or his designee, to declare a water shortage and implement the necessary water conservation measures. A water shortage could be due to a shortage of treated water, the water supply not being adequate to meet normal needs, or system conditions such as equipment or facility failure.

#### John Eller, County Manager (336)-753-6001

The County Manager or his designee, Johnny Lambert, Public Utilities Director (336)-753-6090 shall implement, maintain, modify, and rescind any one or more of the conservation measures and make them applicable during various times of the month, week, or day as is appropriate to protect the public health, safety, and welfare or until the conditions requiring their imposition no longer exist.

### C. Notification of WSRP Activation and Conservation Measures

All water users and system employees shall be notified when the WSRP has been implemented via the following strategies. Any change in the water shortage situation will be announced through the same strategies used initially.

- Local daily newspaper for 2 consecutive issues or weekly as long as condition persists;
- Reverse 911 notice to all customers;
- Signs posted in the County Administration Building and Water Department Offices;
- County Website;
- Water Bills.

### D. Levels of Severity

Levels of water shortage severity have been determined along with specific measurement criteria of available supply, demand, system conditions, or water quality indicators.

#### Water Shortage Levels:

##### Level 1: Voluntary Conservation

Conditions indicate potential for water supply shortages; voluntary conservation is encouraged.

##### Level 2: Mandatory Restriction

Water supplies are measurably lower than the seasonal norm and are diminishing. Mandatory restriction measures are imposed.

##### Level 3: Emergency Response

The system is experiencing a water shortage; drinking water supply is clearly inadequate and more stringent restriction measures must be imposed

### E. Water Use Priorities

Water use prioritization is a key element to the success of this plan. By grouping water users by category, service can be maintained consistent with community needs, values, and priorities. All water users are affected with implementation of this plan, but in a logical and progressive manner.

Class 1 -Essential Drinking Water Uses

In the event of a water shortage, the following drinking water uses have been determined to be essential uses of potable water:

- Domestic
- Patient Care / Rehabilitative Services
- Public Use (e.g. Firefighting, health and safety purposes; water needed to sustain human and animal life; and water necessary to satisfy federal, state and local public health, safety or environmental protection requirements)

Class 2 -Socially/Economically Important Drinking Water Uses

In the event of a water shortage, the following drinking water uses have been determined to be socially or economically important uses of potable water:

- Industrial, Commercial, Institutional
- Outdoor (minimal levels for plant and animal survival)
- Agricultural
- Maintaining community pools
- Commercial car washing

Class 3 -Non-Essential Drinking Water Uses

In the event of a water shortage, the following drinking water uses have been determined to be non-essential uses of potable water:

- Turf irrigation
- Ornamental (without aquatic habitats)
- Outdoor Watering and Impervious Surface Washing (public/private)  
Water to fill or refill pools or hot tubs
- Non-commercial vehicle washing

**F. Triggers**

Specific triggers for moving to more and less restrictive water use conservation measures at each level have been developed and are described in the table below.

**Water Shortage Measurement Criteria**

<b>SYSTEM SUPPLY TYPE</b>	<b>VOLUNTARY LEVEL</b> US Drought Monitor indicates abnormally dry or moderate drought in our area and	<b>MANDATORY LEVEL</b> US Drought Monitor indicates moderate or severe drought in our area and	<b>EMERGENCY LEVEL</b> US Drought Monitor indicates severe or extreme drought in our area and
<b>RUN-OF-RIVER ON YADKIN AND SOUTH YADKIN RIVERS</b>  (Measure stream flow daily whenever flows are below 30 cfs in the South Yadkin River and 500 cfs in the Yadkin River and inventory each watershed for upstream water users during each water shortage situation.)	Water demand exceeds 25% of flow accessible to either intake for 7 consecutive days.	Water demand exceeds 50% of flow accessible to either intake for 7 consecutive days.	Water demand exceeds 75% of flow accessible to either intake for 7 consecutive days
<b>SYSTEM ISSUES</b>  Contamination /change in raw water quality, Equipment or facility failure, Line breaks, etc			Regardless of drought level, extreme measures will be enacted if the system's supply is contaminated or the system is otherwise unable to provide an adequate supply of safe potable water.

## Notes:

1. Flow for the Yadkin River will be recorded from USGS reports of flow at the gauging station, USGS 02116500 YADKIN RIVER AT YADKIN COLLEGE, NC.
2. Flow for the South Yadkin River will be recorded from USGS reports of flow at the gauging station, USGS 02118000 SOUTH YADKIN RIVER NEAR MOCKSVILLE, NC.
3. Each conservation level for drought response will remain in effect until 7 consecutive days of flow measurements indicate use percentages in a more relaxed category.

**G. Levels of Response**

Listed below are the measures to be taken at each level in response to a water shortage to reduce demand, extend the life of supplies in the event of a water shortage, and to avoid the need for more extreme measures if conditions worsen. Specific triggers are required for movement between each level. A plan for incrementally returning to normal water use based on a reversal of triggers will also be implemented.

Voluntary Conservation: Water Use Reduction

Issue a water shortage advisory.

- Increase conservation educational campaign.
- Increase the price of metered irrigation water by 50% of the normal price.
- 5% potable water use reduction goal (system-wide as well as individual users).
- Request voluntary conservation from all water users.
- Limit the following uses when possible
  - Outdoor water use for landscape irrigation except historic heritage vegetation
  - Washing of vehicles or mobile equipment
  - Filling of water into any pond, ornamental fountain, pool, or hot tub except to maintain structural integrity or filtration systems
  - Use of treated water for dust control or compaction
  - Use of water from fire hydrants for purposes other than fire suppression, public emergency, or flushing of system.

Mandatory Restrictions: Water Use Restrictions (in addition to voluntary measures)

- Issue a water shortage alert.
- Increase the price of metered irrigation water by 100% of the normal price.
- 10% potable water use reduction goal (system-wide as well as individual users).
- Monitor compliance with water use bans and enforce when necessary
- Maintaining existing landscape plantings, at the minimum rate necessary, between the hours of 8:00 pm and 8:00 am, using a hand held container or household hose (either handheld or with an automatic shutoff) or using drip irrigation with an automatic shut off.
- Ban the following uses for all users
  - Outdoor water use for landscape irrigation except historic heritage vegetation
  - Washing of vehicles or mobile equipment
  - Filling of water into any pond, ornamental fountain, pool, or hot tub except to maintain structural integrity or filtration systems
  - Use of treated water for dust control or compaction
  - Use of water from fire hydrants for purposes other than fire suppression or public emergency
  - Restaurants and food servers shall serve water only upon customer's request and use single serving utensils, plates, and cups
  - Water to wash down outside areas such as streets, driveways, parking lots sidewalks, patio, or exteriors of any building

Emergency Level: Water Use Restrictions/Bans (and/or Rationing)

- Issue a notice of water shortage emergency.
- Lock out all irrigation meters except those serving livestock or historic heritage vegetation.
- Maximum 15% potable water use reduction goal (system-wide as well as individual users).
- Residential water users shall reduce water consumption to level necessary to sustain life and lives of pets or to maintain minimum standards of hygiene and sanitation

- Aggressive compliance monitoring and enforcement.
- Ban the following uses for all users
  - Outdoor water use for landscape irrigation except historic heritage vegetation
  - Washing of vehicles or mobile equipment
  - Filling of water into any pond, ornamental fountain, pool, or hot tub except to maintain structural integrity or filtration systems
  - Use of treated water for dust control or compaction
  - Use of water from fire hydrants for purposes other than fire suppression or public emergency
  - Restaurants and food servers shall serve water only upon customer's request and use single serving utensils, plates, and cups
  - Water to wash down outside areas such as streets, driveways, parking lots, sidewalks, patio, or exteriors of any building

#### **H. Enforcement**

Any person who violates the provision of this plan, who fails to carry out the responsibilities imposed by this plan, or who impedes or interferes with any action undertaken or orders by this plan shall be subject to enforcement actions.

##### First Offense - Notice of Violation

A written notice stating the nature of the violation shall be mailed, certified with return receipt requested, or hand delivered to the person responsible for the violation or the person in charge of the premise where the violation occurred. The Notice of Violation shall inform the person of their responsibility to halt the activity within 24 hours.

##### Second Offense - Penalty of \$100

In the event that a second violation occurs, a penalty in the amount of \$100 will be issued to the person responsible for the violation or the person in charge of the premise where the violation occurred.

##### Third Offense - Suspension of Water Service plus \$100 penalty.

#### **I. Public Review**

Public comments related to the WSRP can be received via the website or letters addressed to the County Manager. The plan will be discussed and voted upon in a properly advertised meeting of the Board of County Commissioners. Affected system users are encouraged to comment upon the plan at the adoption meeting and anytime thereafter. Copies of the plan are available through the County Manager's office.

#### **J. Evaluation**

The effectiveness of the water shortage response plan will be measured by the desired reductions in water supply demand during times of water conservation. Other factors that will assist in determining the effectiveness could be the frequency of activation, historical use patterns, and number of violation citations issued. A working group will review the effectiveness of the WSRP within 30 days following each activation and then approximately every 30 days during the period of activation. The working group could consist of the County Manager, a member of the Board of Commissioners, the County Engineer, and the Water System Director. This working group will review and make needed revisions or improvements to the Water Shortage Response Plan.

#### **K. Revision**

The Water Shortage Response Plans will be updated as needed in response to changing conditions, new development or changes in number or types of available water supplies, and revised regulations. All plans must be submitted to the Division of Water Resources for review.

#### **L. Submission and Approval**

The initial WSRP was submitted to the Division of Water Resources in August 2008 and the WSRP will be submitted every 5 (five) years with the Local Water Supply Plan.

Any revisions to the WSRP will be submitted for review by the Division of Water Resources.

#### **M. Variance**

Applications for water use variance requests are available from Davie County Public Utilities office. All applications must be submitted to Davie County Public Utilities for review by the Public Utilities Director or his designee. A decision to approve or deny individual variance requests will be determined within two weeks of submittal after careful consideration of the following criteria: impact on water demand, expected duration, alternative source options, social and economic importance, purpose (i.e. necessary use of drinking water) and the prevention of structural damage.

**N. Definitions:**

The following words, terms, and phrases used in this plan shall have the meanings ascribed to them in this section, except where the context clearly indicates a different meaning:

**Contamination** means the addition to any watershed area, reservoir, storage tank, or distribution system of any material that appears in an above-normal concentration or has high nuisance or harmful *effect* on the consumer or the system.

**Emergency** means, when referring to water shortage, that conditions exist such that treated water supplies cannot meet customer demands and that serious shortages in treated water exist

**Essential Use** means:

- (1) Use of water to sustain normal life and the lives of domestic pets, and to maintain minimum standards of hygiene and sanitation;
- (2) Use of water for patient care and rehabilitation;
- (3) Firefighting, including certain testing and drills by the fire department if conducted in the interest of public safety;
- (4) Health and public protection purposes, if specifically approved by health officials and the, including flushing of water lines and hydrants.

**Non-Essential Use** means categories of water use, other than essential use that shall be curtailed during droughts and water shortage emergencies.

**Mandatory Conservation** means that conservation measures are not voluntary, and that if users fail to comply, they are subject to the penalties outlined in this plan.

**Treated Water** means water that has been withdrawn from an approved source and has been processed in a water treatment plant.

**User** means any person using water for any purpose from the water distribution system, either directly or indirectly, and for which either a regular charge is made or, in the case of bulk sales, a cash charge is made at the site of delivery.

**Water Shortage** means that conditions exist when the demands and requirements of water customers cannot be satisfied without depleting the available supply of treated water or the available water supply to or below a critical level, i.e., the level at which the continued availability of water for human consumption, sanitation, and fire protection is jeopardized. Conditions contributing to a water shortage shall include but are not limited to the following:

- (1) Water supplies are below the level necessary to meet needs;
- (2) Water quality has been threatened due to a contamination situation;
- (3) Power outages or equipment malfunction;
- (4) Peak customer demands on the water system;
- (5) Inability to maintain adequate pressure and/or water supply throughout every portion of the water distribution system;
- (6) Natural disasters.

**Water Supply** means any body of water from which the County obtains water for treatment and subsequent distribution into the treated water supply system.

Adopted

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Signature of Davie County Manager, John Eller