

**Water Shortage Response Plan
City of Wilson, North Carolina
May 2023**



The procedures herein are written to reduce potable water demand and supplement existing drinking water supplies whenever they are in danger of being inadequate to meet customer needs.

BACKGROUND: The City of Wilson manages four raw water reservoirs: Lake Wilson, Toisnot Lake, Buckhorn Lake, and Wiggins Mill Reservoir. Buckhorn Lake is the largest of the four with a capacity of almost 7 billion gallons (94% of the available supply) and therefore will be the only one considered for drought evaluation. This lake supplies Wiggins Mill Reservoir through Contentnea Creek. The City of Wilson has the capability of supplying both Toisnot and Wiggins Mill Water Treatment Plants with raw water from Wiggins Mill Reservoir when Toisnot and Lake Wilson do not have sufficient water. The estimated safe yield of Buckhorn Lake and Wiggins Mill are a combined 27.7 MGD. The Water Shortage Response Plan is based on the level of Buckhorn Lake, but the City does maintain the right to implement the plan before the lake drops to the stated levels if deemed necessary.

I. Authorization

The City of Wilson City Manager is authorized to enact water shortage response provisions whenever the trigger conditions outlined in Section IV are met. In his or her absence, the Director of Public Works, Assistant Director of Public Works/City Engineer, or the Water Treatment Division Manager are authorized to designate.

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II. Notification

The following notification methods will be used to inform water system employees and customers of a water shortage declaration: employee e-mail announcements, notices at municipal buildings, notices in water bills, notice on social media sites, and on the City of Wilson website homepage. Required water shortage response measures will be communicated through *The Wilson Times*, PSA announcements on local radio and cable stations (Channel 8), social media sites, and on the City of Wilson website as appropriate. Declaration of emergency water restrictions or water rationing will be communicated to all customers by telephone through use of the City of Wilson's Emergency Notification System (CodeRED) and by local radio and television stations.

III. Levels of Response

Five levels of water shortage response are outlined in the table below. The five levels of water shortage response are: voluntary reductions, mandatory reductions I and II, emergency reductions and water rationing. A detailed description of each response level and corresponding water reduction measures follow below.

Stage	Response	Description
1	Voluntary Reductions	Water users are encouraged to reduce their water use and improve water use efficiency; however, no penalties apply for noncompliance. Water supply conditions indicate a potential for shortage.
2	Mandatory Reductions I	Water users must abide by required water use reduction and efficiency measures; penalties apply for noncompliance. Water supply conditions are significantly lower than the seasonal norm and water shortage conditions are expected to persist.
3	Mandatory Reductions II	Same as in Stage 2
4	Emergency Reductions	Water supply conditions are substantially diminished and pose an imminent threat to human health or environmental integrity.
5	Water Rationing	Water supply conditions are substantially diminished and remaining supplies must be allocated to preserve human health and environmental integrity.

STAGE I

VOLUNTARY REDUCTIONS

The Goal for Stage I will be a 5% reduction in water demand. Stage I will be initiated when Buckhorn drops to 144.0 ft msl or 4.0 feet below capacity. This would be equivalent to 60% of the total capacity of the Lake. The following should be encouraged under a Stage I Response:

- 1) A publicity and educational campaign will be initiated using public media and other methods to inform the public of the voluntary water restrictions.
- 2) Residential customers will be encouraged to practice the following conservation measures:
 - a) Use shower for bathing rather than a bathtub whenever possible. Try and limit the time to 5 minutes.
 - b) Do not leave water running while shaving or washing dishes.
 - c) Run dish washers and clothes washers only when fully loaded whenever possible.
 - d) Do not use sprinklers just to cool off or for play.
 - e) Delay new landscaping and seeding until a later date whenever possible.
 - f) Limit existing lawn watering to that necessary for plants to survive.
 - g) Water shrubbery the minimum required, reusing household water when possible.
 - h) Limit car washing to a minimum or utilize a car wash which practices recycling.
 - i) Limit washing down of outside areas such as sidewalks, patios, siding, etc.
 - j) Install water saving devices in shower heads whenever possible.
 - k) Install water saving devices in toilets such as water filled plastic jugs or commercially available units.
 - l) Use disposable dishes and utensils when possible.
 - m) Limit hours of operation of water-cooled air conditioners.
 - n) No water will be sold for filling of pools outside the City of Wilson. Water should only be used for refilling of pools within the City
 - o) We request that contractors and street sweeping water usage be reduced where possible or reclaimed water be used instead.

STAGE II

Mandatory Reductions I

The Goal for Stage II will be a 10% reduction in water demand. This is the second stage of drought conditions. This will be initiated when Buckhorn drops to 142.0 ft msl or 6.0 feet below capacity. This would be equivalent to 43% capacity at Buckhorn. If the conditions for a Stage II reduction are met, the following mandatory restrictions would be added in addition to the voluntary water recommendations from a Stage I drought:

It shall be unlawful to:

- 1) Water lawns, grass, shrubbery, trees, and flower and vegetable gardens except as follows:
 - (a) Such watering may only be done between the hours of 8 PM and 8AM.
 - (b) Watering by a sprinkler system is limited to a rate of $\frac{1}{2}$ inch per week; or customers may water by hand-held hose, with a container, or with a drip irrigation system.
- 2) Introduce water into any ornamental fountain pool or pond or make similar use of water except to keep fish alive in an existing pond.
- 3) Wash automobiles, trucks, trailers, boats, campers, airplanes, or any other type of mobile equipment, including commercial washing establishments unless 50% of the water is recycled. The equipment may be washed if it cannot be safely operated unless cleaned.
- 4) Operate water-cooled air conditioners or other equipment that does not recycle cooling water, except when health and safety are adversely affected.
- 5) Fill newly constructed swimming and/or wading pools, or refill existing swimming and/or wading pools which have been drained. A minimal amount of water may be added to maintain continued operation of an existing pool.

- 6) Wash down outside areas such as streets, driveways, service station aprons, parking lots, office buildings, exteriors of existing or newly constructed homes or apartments, sidewalks or patios, or use water for other similar purposes unless done so for public safety, sanitation, or by Public Works staff.
- 7) Use water from public or private fire hydrants for any purpose other than fire suppression or other public emergency or by Public Works staff.
- 8) Use water for dust control or compaction.
- 9) Use potable water for fire department training or equipment testing unless required by State or Federal regulations.
- 10) Use water for any unnecessary purpose or intentionally waste water.

STAGE III

Mandatory Reductions II

The Goal for Stage III will be a 15% reduction in water demand. Stage III will be initiated when Buckhorn Lake drops to 140.0 ft msl or 8.0 feet below capacity. This would be equivalent to approximately 30% of capacity at Buckhorn. In addition to the restrictions set forth in Stage I and Stage II, the following additional water restrictions shall be imposed.

- 1) Contractors are asked to reduce water usage to essential needs.

It shall be unlawful to:

- 3) Water lawns, grass, shrubbery, trees, and flower and vegetable gardens except as follows:
 - (a) Such watering may be done on Saturday only from 8 PM to Sunday 8 AM
 - (b) Such watering is to be done only by hand-held hose, by container, or by drip irrigation system.

Provided, however, that any person regularly engaged in the sale of plants shall be permitted to use a minimal amount of water at any time to keep plants living.

- 4) Add any water from the City of Wilson water supply to an ornamental pond.
- 5) Wash automobiles, trucks, trailers, boats, campers, airplanes, or any other type of mobile equipment, including commercial washing establishments unless 75% of the water is recycled or if the equipment cannot be safely operated unless cleaned.
- 6) Refuse to repair water leaks on property or facilities of City of Wilson customers within ten (10) days of discovery and notification by the City of Wilson.

STAGE IV EMERGENCY REDUCTIONS

The Goal for Stage IV will be a 25% reduction in water demand. This will be initiated whenever Buckhorn Lake drops to 138.0 ft msl, or 10.0 feet below capacity. This would be equivalent to 19% of capacity at Buckhorn Reservoir. In addition to the restrictions set forth in Stages I-III the following restrictions shall be imposed:

It shall be unlawful to:

- 1) Use water outside a structure for any use other than an emergency, a fire, for public safety, or use by Public Works staff to maintain the system. This includes car washes unless 100% of the water is recycled, any watering of lawns and shrubs, and outside use by a contractor unless to finish a portion of a job
- 2) Operate an evaporative air conditioning unit that recycles water except during the operating hours of the business. An exception is made when health and safety are adversely affected.
- 3) Refuse to repair water leaks within 10 days of notification. Large leaks will be immediately shut off from service.
- 4) Large industrial customers are asked to delay projects consuming large quantities of water where possible.

The City of Wilson shall implement a temporary drought surcharge of 1.25 times the normal water rate for Stage IV Reductions for all customers.

STAGE V

WATER RATIONING

The goal of Stage 5, Water Rationing, is to provide drinking water to protect public health (i.e. residences, residential health care facilities and correctional facilities).

This will be initiated whenever Buckhorn Lake drops to 135.0 ft msl or 13.0 feet below capacity. This would be equivalent to 10% of capacity. In addition to the restrictions imposed in Stages I-IV, the following restrictions shall be imposed:

- (1) A system of water rationing shall be put in effect. In the event of water rationing, water will be supplied in the minimal quantities required for the health, welfare, and safety of the citizens in accordance with a program determined by the City Council and the City Manager for the City of Wilson.
- (2) It shall be unlawful to fail to act in accordance therewith or to use water in any manner or attempt to evade or avoid such water rationing restrictions.
- (3) Fire protection will be maintained, but where possible, tank trucks shall use raw water.

The City of Wilson shall investigate all other sources of water for use (both raw and finished) as a possible supply. Additional reserves shall also be used from Wiggins Mill and Lake Wilson.

IV. Triggers

A. Buckhorn Lake

Stage	Usable Storage	Intake Level
1	<60%	Buckhorn Lake 4 ft below capacity
2	<43%	Buckhorn Lake 6 ft below capacity
3	<30%	Buckhorn Lake 8 ft below capacity
4	<19%	Buckhorn Lake 10 ft below capacity
5	<10%	Buckhorn Lake 13 ft below capacity

V. Enforcement

The provisions of the water shortage response plan will be enforced by City of Wilson Public Works and police personnel. Violators may be reported to the City's Public Works at 252-399-2400 or by e-mail contact listed on the City of Wilson website. (wilsonnc.org). Citations are assessed according to the following schedule depending on the number of prior violations and current level of water shortage.

Water Shortage Level	First Violation	Second Violation	Third Violation
Voluntary Reductions	N/A	N/A	N/A
Mandatory I (Stage II)	Warning	\$100	\$250
Mandatory II (Stage III)	Warning	\$250	Discontinuation of Service
Emergency Reductions	\$250	Discontinuation of Service	Discontinuation of Service
Water Rationing	\$500	Discontinuation of Service	Discontinuation of Service

Drought surcharge rates are effective in Stages 4 and 5.

VI. Return to Normal

When water shortage conditions have abated and the situation is returning to normal, water conservation measures employed during each phase should be decreased in reverse order of implementation. Permanent measures directed toward long-term monitoring and conservation should be implemented or continued so that the community will be in a better position to prevent shortages and respond to recurring water shortage conditions.

VII. Public Comment

Customers will have multiple opportunities to comment on the provisions of the water shortage response plan. First, a draft plan will be published in *The Wilson Times* and on the City of Wilson website. A public hearing will be scheduled at the Regular City Council Meeting so that comments may be made. All subsequent revisions to the draft plan will be published at least 30 days prior to an adoption vote by Wilson City Council.

VIII. Variance Protocols

Applications for water use variance requests are available from the City of Wilson website and Customer Services at 208 Nash Street NE, Wilson N.C. 27893. All applications will be reviewed by the Assistant Public Works Director/City Engineer or by the Water

Treatment Division Manager. 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, job retention, purpose (i.e. necessary use of drinking water) and the prevention of structural damage.

IX. Effectiveness

The effectiveness of the City of Wilson Water Shortage Response Plan will be determined by comparing the stated water conservation goals with observed water use reduction data. Other factors to be considered include frequency of plan activation, any problem periods without activation, total number of violation citations, desired reductions attained and evaluation of demand reductions compared to the previous year's seasonal data.

X. Revision

The water shortage response plan will be reviewed and revised as needed to adapt to new circumstances affecting water supply and demand, following implementation of emergency restrictions, and at a minimum of every five years, as required by the provisions of G.S. 143-355 (I). Further, a water shortage response planning work group will review procedures following each emergency or rationing stage to recommend any necessary improvements to the plan to Wilson's City Council. The City of Wilson Director of Public Works or the Assistant Director of Public Works/City is responsible for initiating all subsequent revisions.