

DROUGHT RESPONSE OPERATING PROTOCOL

JANUARY 10, 2013

Purpose

To describe the procedures and criteria that OWASA will use for making water supply and demand management decisions during an extended drought, including provisions for public notice of potential Water Supply Shortage declarations, water purchases, and/or use of OWASA's Jordan Lake water supply storage allocation. The protocol outlined below will provide OWASA's customers, local elected boards, and the overall Carrboro-Chapel Hill-UNC community with timely notice of a potential water shortage due to extended drought and the opportunity to reduce water consumption in order to avoid and/or minimize the need for more severe water use restrictions or emergency actions.

The statistically derived drought responses described below were based on the risk of depleting OWASA's existing Cane Creek/University Lake/Quarry Reservoir system to the Emergency Storage level. Those risks do not assume that Jordan Lake is part of OWASA's existing or primary water supply portfolio (University Lake, Cane Creek Reservoir, and Quarry Reservoir); instead, Jordan Lake is only an "insurance policy" for use during extended drought or operational emergencies.

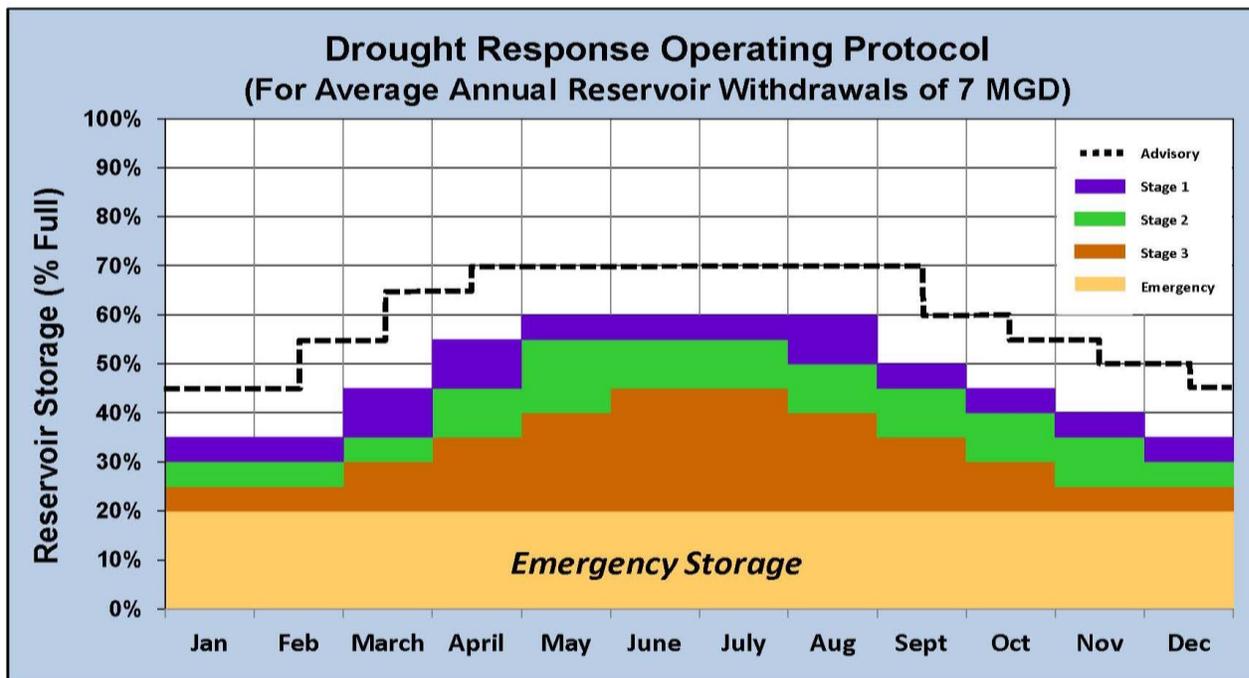
Protocol

1. OWASA shall monitor OWASA's water supply and demand conditions, short-and long-term weather forecasts, regional water supply conditions, and other factors which may affect the risk of a water supply shortage due to drought.
2. The attached graph, which is a modified version of the 7 million gallon per day (mgd) "trigger table"* in OWASA's State-approved *Water Shortage Response Plan*, shall guide OWASA's drought response decisions when raw water demands are at an annual average of 7 mgd. (When annual average demands are greater than 7 mgd, the corresponding trigger table graphs from the *Water Shortage Response Plan* shall be used.) Any drought-related Water Supply Shortage declaration at storage levels above those indicated on the trigger table, and/or any decision to purchase water from a neighboring jurisdiction (and/or to use OWASA's Jordan Lake allocation) during a drought, shall be made only upon approval by the OWASA Board of Directors.
3. OWASA shall declare a Water Shortage Advisory no later than when the total water stored in the reservoirs drops to within 10% of the mandatory Stage 1 trigger. (This Advisory stage is represented by the black dashed line on the attached graph). At or around that time, OWASA will initiate communications with the Carrboro Board of Aldermen, Chapel Hill Town Council, Orange County Board of Commissioners, and the University of North Carolina at Chapel Hill – and shall give public notice to customers and other stakeholders – regarding the likelihood that Stage 1 water use restrictions will go into effect, and that it may be necessary to begin purchasing water from the City of Durham and/or Town of Cary if current drought conditions continue or worsen. OWASA will carefully consider the advice and feedback from the elected boards. The OWASA Board of Directors will continue to exercise its sole responsibility and authority for decisions about water shortage declarations and water purchases, consistent with this Protocol. As in the past, OWASA will expand its standard conservation messaging before declaring the Water Shortage Advisory in order to encourage

* *The graph is based on an average daily raw water demand of 7 mgd. Trigger levels for greater or lesser demands will be correspondingly higher or lower than those depicted here.*

and to give the community as much opportunity as possible to intensify its water saving practices.

4. When total water storage in OWASA's reservoirs system declines to the purple block on the attached graph, OWASA must declare a Stage 1 Shortage as required by its State-approved *Water Shortage Response Plan*. OWASA may, at its own discretion, initiate Stage 1 use restrictions – with or without corresponding drought rate surcharges – earlier than indicated on the graph, but not later. The OWASA Board may authorize purchases from other utilities and/or obtain water through its Jordan Lake allocation only when total water storage in University Lake, Cane Creek Reservoir, and the Quarry Reservoir is below the Mandatory Stage 1 Shortage trigger, but no sooner. Board approval for such a declaration or purchase decision shall not be required, however, during an operational emergency as determined by OWASA's Executive Director per OWASA's *Water Shortage Response Plan*. Operational emergencies are typically characterized by the need for rapid response and may require the curtailment of water use and/or purchases in a short period of time. Examples of such emergencies include, but are not limited to:
 - Production problems at the Jones Ferry Road Water Treatment Plant
 - Failure of pumps, storage tanks, or pipelines
 - Raw or treated drinking water quality problems
 - Planned or unplanned maintenance events
 - Natural disasters.
5. During an extended drought, OWASA staff will initiate discussions with the Board of Directors regarding the need and timing of commencing water purchases or other prudent actions as total water in storage approaches the mandatory Stage 1 trigger levels shown on the attached graph; however, no purchase or use of OWASA's Jordan Lake allocation shall be made without explicit approval by the Board of Directors (except during Operational Emergencies as described above in Paragraph 4). Restrictions shall, and purchases may, continue until storage returns to levels above the mandatory Stage 1 trigger. Water use restrictions shall continue until storage returns to the "rescission" levels specified in the *Water Supply Shortage Response Plan*.
6. OWASA shall provide regular updates to the community and to the local elected boards throughout the drought as described in Paragraph 3 above. The OWASA Board and staff shall be available to attend meetings of the local governments to provide information about supply and demand conditions and to provide any information or answer questions elected officials may have.
7. The OWASA Board shall review this protocol (a) concurrently with its review of OWASA's State-approved *Water Shortage Response Plan* (as required in conjunction with Local Water Supply Plan updates that must be submitted to the NC Division of Water Resources at least once every five years); (b) following any drought during which mandatory water use restrictions were implemented; and/or (c) at any time deemed necessary to reflect changes in water supply and demand conditions or other new information, such as when the expanded Quarry Reservoir comes on line.



These responses are based on the risk of depleting OWASA's existing Cane Creek/ University Lake/Quarry Reservoir system to the Emergency Storage level and are consistent with the Response Triggers of OWASA's State-approved Water Shortage Response Plan. Those risks do not consider Jordan Lake to be part of OWASA's existing or primary water supply (University Lake, Cane Creek, and Quarry Reservoirs), but only as an "insurance policy" for use during extended drought or emergency conditions.

Water Shortage Advisory: Aggressive public awareness/education effort, including direct communication with the Carrboro, Chapel Hill, and Orange County elected boards and the University of North Carolina at Chapel Hill. A Water Shortage Advisory may be initiated earlier at OWASA's discretion.

Stage 1 Shortage: Mandatory use restrictions -- with or without rate surcharges -- may be initiated earlier at OWASA's discretion, but not later. The OWASA Board may authorize purchases of water from other utilities and/or obtain water through its Jordan Lake allocation only when total water storage in University Lake, Cane Creek Reservoir, and the Quarry Reservoir is below this Mandatory Stage 1 trigger, but not sooner. Board approval for such a declaration or purchase decision shall not be required, however, during an operational emergency as determined by the Executive Director per OWASA's *Water Shortage Response Plan*.

Stage 2 Shortage: May be initiated earlier at OWASA's discretion, but not later.

Stage 3 Shortage: May be initiated earlier at OWASA's discretion, but not later.

Water Supply Emergency: Emergency actions will be taken to obtain supplemental water to ensure the protection of public health, safety and welfare. If Cane Creek/University Lake/Quarry Reservoir storage declines to this level, such actions would likely include the installation of temporary facilities to pump water from the Haw River to the Cane Creek Reservoir.