

**UPPER OCONEE BASIN WATER AUTHORITY**

**DROUGHT CONTINGENCY PLAN**

## UPPER OCONEE BASIN WATER AUTHORITY DROUGHT CONTINGENCY PLAN

(i) *Drought condition indicators:*

(1) *The applicant or permittee must develop a system for determining drought severity based on some approved indicator, e.g.:*

- I. *Streamflow levels;*
- II. *Groundwater levels;*
- III. *Reservoir storage or levels; or*
- IV. *Other.*

Drought severity will be based upon three primary indicators. These indicators are:

- Flow in the Middle Oconee River as indicated by the Arcade USGS gage;
- Bear Creek Reservoir levels; and
- Palmer Hydrologic Drought Index (PHDI).

Secondary indicators of drought endangerment, which will also be used, are:

- Long range National Weather Service predictions for climate and rainfall; and
- The Standard Precipitation Index (SPI).

Stages of drought endangerment warnings will be declared as described in the following table:

	Level 1	Level 2	Level 3	Level 4
<b>Palmer Index</b>	-0.5 to -0.99	-1.00 to -1.99	-2.00 to -2.99	>-3.00
<b>Stream flow</b>	<80/60/50% ADD and >7Q10 + 2/3 delta	<7Q10 + 2/3 delta and >7Q10 + 1/3 delta	<7Q10 + 1/3 delta and >7Q10	<7Q10
<b>Reservoir Level</b>	<692.3 (90% US) and >689.3 (80% US)	<689.3 (80% US) and >686.2 (70% US)	<686.2 (70% US) and >682.9 (60% US)	<682.9 (60% US)

The stages of warnings will be enacted based on providing advance warnings going into drought conditions (from less severe to more server drought level), conservative going out (from more severe to less severe drought level), smooth transitions, and ease of understanding and implementation. The drought "in" and drought "out" triggers are:

**Drought in:** When the average of all of the triggers is a certain (or more severe) level for at least two consecutive months, then that level is invoked. For example, if the average PHDI, stream flow, and reservoir level are Level 2 for two successive months, then Level 2 drought management would be implemented.

**Drought out:** When the average of the triggers are at a less severe level for at least two consecutive months then that level is invoked.

*(ii) Potable water use priorities program:*

*(I) The following order of potable water use priorities is generally recommended but may be modified as needed based on local conditions:*

- I. Emergency facilities for essential life support measures.*
- II. Domestic and personal uses, including drinking, cooking, washing, sanitary and health related.*
- III. Farm uses.*
- IV. Industrial uses (including those industries on public water systems).*
- V. Other uses such as lawn sprinkling, non-commercial car washing, garden watering, etc.*
- VI. Outdoor recreation uses.*

The individual jurisdictions making up the Upper Oconee Basin Water Authority generally will follow this proposed list of priorities. However, each County will be responsible for establishing its own individual priority program.

*(II) Conditions or events that put priority use system into effect;*

When ordinary demands and requirements of the users of the Bear Creek Reservoir compromise the availability of general population survival and fire protection, a drought/emergency condition will be deemed to exist. Any conditions or events that place the system into the levels described above will put the priority use system for each individual county into effect.

*(III) Adopted priority use system for service during periods of water shortages;*

*The priority use system shall generally follow priorities listed above.*

- I. Emergency facilities for essential life support measures.*
- II. Domestic and personal uses, including drinking, cooking, washing, sanitary and health related.*
- III. Farm uses.*
- IV. Industrial uses (including those industries on public water systems).*
- V. Other uses such as lawn sprinkling, non-commercial car washing, garden watering, etc.*
- VI. Outdoor recreation uses.*

Each individual county will establish its own priority use system.

*(IV) Restrictions on lower priority uses (including enforcement procedures);*

In the event of drought conditions causing a water shortage, the Authority hereby establishes the following minimum consumption reduction goals, which will be given to all users for application within their individual systems:

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	Level 1	Level 2	Level 3	Level 4
Consumption Reduction Goals	2.5%	5%	10%	20%

Each individual county will be responsible for implementing the consumption reductions as illustrated above. The protocol and methodology for achieving these reductions are included in the Drought Contingency Plan for each individual county. These individual plans are presented as appendices to this document.

Enforcement of water consumption goals will be the responsibility of each individual user county. The approach for enforcement and penalties for violations of county water use restrictions are included in each individual county's Drought Management Plan.

The Upper Oconee Basin Water Authority, through its management and operations staff, will notify each individual county whenever, one of the four drought levels is imminent. Each individual county will notify local media of the declaration according to procedures in their individual Drought Contingency Plan.

When water consumption reduction goals are required, reductions will be based on the consumption levels for each member county for the previous two months prior to the implementation of reduction goals, as follows:

- Level 1 – Consumption reduction goals will be based on the previous two months consumption.
- Levels 2 through 4 – Consumption goals will be based on the previous two months consumption level for each county at the time increased reduction goals beyond level 1 are required.

All consumption reduction goals will also be applicable to all wholesale customers of each county with contracts in place at the time consumption goals reduction are required.

The Upper Oconee Basin Water Authority, through its management and operations staff, will notify each individual county, if that county is not meeting consumption reduction goals. The Authority will utilize a progressive enforcement procedure to facilitate compliance with consumption reduction goals, as follows:

- Non-compliance with consumption reduction goals for the first full calendar month after reduction goals are implemented. – The Authority will issue a letter of non-compliance to the affected county.
- Non-compliance with consumption reduction goals for two consecutive calendar months after reduction goals are implemented. – The Authority will assess a ten (10) percent surcharge to the most recent month's water bill for the affected county.
- Non-compliance with consumption reduction goals for three or more consecutive calendar months after reduction goals are implemented. – The Authority will assess a twenty (20) percent surcharge to the most recent month's water bill for the affected county.

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- The Authority further reserves the right to restrict flow to any county for non-compliance with consumption reduction goals. This action will only occur with concurrence of the full Authority Board.
- Any individual county may petition, in writing, requesting a waiver of surcharges based upon extraordinary events. Examples of extraordinary events could include addition of a new, major, water consuming industry or initiation of a contract between a county and a wholesale customer.
- An individual county's request for waiver of surcharges and adjustment of consumption goals would be directed to the Upper Oconee Basin Water Authority Operations Committee. The Operations Committee would then forward its recommendation to the full Authority for final approval.

*(V) Rationing and/or other emergency procedures.*

In the case of severe emergency conditions exceeding the fourth stage conditions, the Authority may restrict water quantities allowed to each of the counties involved. This action will only occur with concurrence of the full Authority Board.

*(iii) Low Flow Protection:*

- (I) For applications for new or modified permits to withdraw, impound or divert surface water:*

*No Permit will be issued by the Director which authorizes the depletion of the instream flow established for the withdrawal, diversion or impoundment of surface water, except for periods of Emergency Water Shortage as described in Subsection 391-3-6-.07(12).*

The Authority will not deplete the instream flow except during periods of emergency water shortage as described in Subsection 391-3-6-.07(12).

- (II) For applicants for new or modified permits, the applicant will be required to pass instream flow at or immediately downstream of the point of withdrawal, diversion, or impoundment so long as it is available from upstream. When upstream flows drop below the required instream flow at the point of withdrawal, diversion, or impoundment, the applicant will be required to pass that upstream flow. The Instream Flow required for new or modified permits in this subsection shall be:*

- I. The 7Q10 flow, if no unreasonable adverse effects to the stream or other stream water users will occur from the withdrawal, diversion, or impoundment; or*
- II. The Non-Depletable Flow, as established by the Director, if probable impacts of the withdrawal, diversion, or impoundment would not occur to other water users; or*
- III. Other appropriate instream flow limit, as established by the Director;*

Withdrawals for the project from the Middle Oconee River will not occur at streamflow levels below the 7Q10 flow for the Middle Oconee plus allowance for Athens-Clarke downstream withdrawals. Withdrawals for the project from Bear Creek will not occur at streamflow levels below the 7Q10 flow for Bear Creek.

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(III) *Low flow monitoring plan that outlines applicant's procedure to monitor and protect instream flow below point of withdrawal. Where applicable, the applicant must develop a plan for monitoring stream flow based on one of the following:*

- I. *U.S.G.S. staff gage or continuous recording station;*
- II. *Other staff gage as approved by the Director;*
- III. *Weir;*
- IV. *Other.*

There is a gage established on the Middle Oconee River near Arcade to monitor flows established in section (II) above. The gage is accessed through [www/ga.water.usgs.gov](http://www/ga.water.usgs.gov).

(iv) *Water storage available to ensure availability of raw water to applicant through a critical drought period. Examples of suitable critical drought periods include but are not limited to: 1954-1956 drought; 1984-1988 drought. The definition of available storage should include:*

- (I) *Yield vs. drought return period;*
- (II) *Storage type, e.g., mainstream or off-stream supplemental;*
- (III) *Any available alternate sources of finished and raw water such as groundwater, interconnections, contractual agreements.*

These studies shown in the Hydrologic Model in Appendix B include the 1984-1988 drought period and tabulate the available yield of the reservoir.

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## SECTION 4

### WATER CONSERVATION MEASURES

#### 4.1 DESCRIPTION OF COMPLIANCE WITH STATE WATER CONSERVATION LAW

Barrow County has adopted and enforces the Georgia Standard Plumbing Code (International Plumbing Code), 2000 Edition with 2001 Amendments. This code is enforced by the Barrow County License/Permits Department throughout the Authority's water service areas. A copy of Table 604.4 Maximum Flow Rates and Consumption for Plumbing Fixtures and Fixture Fitting are included as Appendix I.

#### 4.2 ORDINANCES/CODES PERTAINING TO WATER USE

The Authority has a water ordinance, which establishes water rate schedules and service rules and regulations; provides for penalties and cut-offs upon failure to pay bills; and provides for cut-on and cut-off fees. A copy of this ordinance is included as Appendix J.

The Barrow County Board of Commissioners has adopted a water ordinance, which establishes water use restrictions and provides enforcement and penalties for violations to said ordinance. A copy of this ordinance along with a copy of Chapter 90 - Utilities of the Barrow County Code of Ordinances is included as Appendix K. Barrow County also adheres to the Georgia Water Conservation Plan Guidelines as it pertains to outdoor watering and other uses. This plan is also included in Appendix K.