

UCONN  
Water Supply Emergency Contingency Plan

**1. TRIGGER LEVELS:**

**Stage IA – Water Conservation Alert:**

- Projected Available Supply<sup>1</sup> is forecast to be greater than or equal to the Projected Water Usage<sup>2</sup> for an extended period yet flow in the Fenton River is at 3.0 cfs or less.

**Stage IB – Water Supply / Drought Advisory:**

- Projected Available Supply<sup>1</sup> is forecast to be equal to or less than Projected Water Usage<sup>2</sup> for an extended period, or
- Five consecutive days of continuous pumping at maximum available supply results in an overall decrease in tank storage, as expressed by water levels in the High Head Reservoir.

**Stage II – Water Supply / Drought Watch:**

- Projected Available Supply<sup>1</sup> is forecast to be significantly less than Projected Water Usage<sup>2</sup> for an extended period, or
- If the High Head Reservoir fails to recover to two-thirds full (10' level) for three consecutive days.

**Stage III – Water Supply / Drought Warning:**

- If the High Head Reservoir fails to recover to 40% full (6' level) for four consecutive days.

**Stage IV – Water Supply / Drought Emergency:**

- If the High Head Reservoir fails to recover to 20% full (3' level) for four consecutive days.

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<sup>1</sup> Projected Available Supply is the expected capacity of the system's sources operating concurrently, and adjusting for any losses due to well maintenance or repair, transmission or pumping limitations, anticipated reductions in Fenton well withdrawal based on flow recession equations developed in the Study Report, or other supply-reducing events.

<sup>2</sup> Projected Water Usage is the expected production for the particular time of year for which the assessment is made, and includes any reductions or increases in demand due to historical variation or known significant changes.

## **2. RESPONSE:**

### **Stage IA – Water Conservation Alert:**

- Issue Demand-Side Water Conservation request for voluntary conservation.
- Maintain compliance with Fenton River Study flow management recommendations, including cessation of Fenton Well Field withdrawals when flow is less than 3 cfs, as measured at USGS gauging station 01121330.
- Evaluate the operative status of system components and availability of supply.
- Monitor daily production, storage and consumption to quantify any demand reductions.

### **Stage IB – Water Supply / Drought Advisory:**

- Re-issue Demand-Side Water Conservation request for voluntary conservation.
- Contact the Department of Public Health and other state and local agencies, as outlined in the plan, concerning the initiation of an Advisory.
- Maintain compliance with Fenton River Study flow management recommendations, including phased scaling back of Fenton Well Field withdrawals when flow is less than 6 cfs, as measured at USGS gauging station 01121330.
- Investigate any material deviation from normal consumption, production or storage patterns.
- Evaluate the operative status of system components and availability of supply. Evaluate and identify operating adjustments, emergency equipment, or other actions necessary to temporarily increase available supply.
- Review Water Supply Plan Emergency Contingency Plan and update if necessary.
- Monitor daily on-campus, metered consumption, storage and metered production to ensure consumption and production reductions are met (10% from previous non-advisory average).

### **Stage II – Water Supply / Drought Watch:**

- Re-issue Demand-Side Water Conservation request for voluntary conservation.
- Issue Demand-Side Water Conservation notice for water use restrictions.
- Contact the Department of Public Health and other state and local agencies, as outlined in the plan, concerning the initiation of a Watch.
- Maintain compliance with Fenton River Study flow management recommendations, including phased scaling back of Fenton Well Field withdrawals when flow is less than 6 cfs, as measured at USGS gauging station 01121330.
- Continue investigation of any material deviation from normal production, consumption and storage patterns.
- Evaluate the operative status of system components and availability of supply. Schedule necessary in-house emergency equipment; order additional equipment or services from outside vendors following University purchasing procedures.

**Stage II – Water Supply / Drought Watch (continued):**

- Ensure all operating adjustments are made to increase available supply, with the exception of activating Fenton wells that are off-line or restricted due to low-flow conditions.
- Review Mandatory Conservation measures and update if necessary.
- Monitor daily on-campus, metered consumption and metered production to ensure consumption and production reductions are met (15% from previous non-advisory average).

**Stage III – Water Supply / Drought Warning:**

- Re-issue Demand-Side Water Conservation request for voluntary conservation.
- Re-issue Demand-Side Water Conservation notice for water use restrictions.
- Contact the Department of Public Health and other state and local agencies, as outlined in the plan, concerning the initiation of a Warning.
- Evaluate the operative status of system components, availability of supply, and the effect of demand reduction measures taken to date. Evaluate and prioritize reactivation of any Fenton wells off-line or throttled due to flow-imposed limits.
- Eliminate all unnecessary outdoor water usage and routinely monitor and enforce compliance with mandatory conservation measures.
- During increasing severity of stage, and upon notification and consultation with appropriate state agencies, initiate limited Fenton well use to maintain level in the High Head Reservoir.
- Review High Priority User<sup>3</sup> list and update if necessary.
- Schedule necessary purchase of supplemental water, either bottled or by tanker, for critical areas.
- Monitor daily on-campus, metered consumption, metered storage, and metered production to ensure consumption and production reductions are met (20% from previous non-advisory average).

**Stage IV – Water Supply / Drought Emergency:**

- Re-issue Demand-Side Water Conservation request for voluntary conservation.
- Re-issue Demand-Side Water Conservation notice for water use restrictions.
- Contact the Department of Public Health and other state and local agencies, as outlined in the plan, concerning the initiation of an Emergency.
- Eliminate all outside water usage, and enforce all mandatory conservation restrictions, as necessary.
- Evaluate the operative status of all system components, availability of supply, and the effect of demand reduction measures taken to date. Make necessary operating adjustments to meet needs of high priority users.

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<sup>3</sup> High Priority Users are... (needs to be developed!)

- During increasing severity of stage, and upon notification and consultation with appropriate state agencies, increase production at the Fenton Well Field to maintain level in the High Head Reservoir.
- Order supplemental water supplies for high priority users.
- Monitor daily on-campus, metered consumption and metered production to ensure consumption and production reductions are met (25% from previous non-advisory average).

### 3. CONSERVATION MEASURES:

<b>DRAFT 02/07</b>				
<b>UCONN Water Supply Emergency and Drought Response</b>				
<b>Recommended Water Use Restrictions</b>				
<b>Water Use</b>	<b>Response Stage</b>			
	<b>Alert/Advisory</b>	<b>Watch</b>	<b>Warning</b>	<b>Emergency</b>
Sprinkling, watering or irrigating of shrubbery, trees, lawns, grass, ground cover, plants, vegetable gardens, vines and flowers	<ul style="list-style-type: none"> <li>• Allow</li> <li>• Request voluntary reduction of irrigation</li> </ul>	<ul style="list-style-type: none"> <li>• Allow up to 4 hours per day between the hours of 5a.m. and 9 a.m. and 7p.m. and 9 p.m.</li> <li>• Allow if in the furtherance of a person's livelihood</li> <li>• Watering of new lawns allowed</li> <li>• Hand watering of fruits, vegetables and plants for human consumption allowed</li> </ul>	<ul style="list-style-type: none"> <li>• Allow 2 days per week up to 4 hours per day between the hours of 5 a.m. and 9 a.m. and 7 p.m. and 9 p.m.</li> <li>• Allow if in the furtherance of a person's livelihood</li> <li>• Watering of new lawns allowed</li> <li>• Hand watering of fruits, vegetables and plants for human consumption allowed</li> </ul>	<ul style="list-style-type: none"> <li>• Ban all</li> <li>• Hand watering of fruits, vegetables and plants for human consumption allowed</li> </ul>
The filling of pools used for private or public recreational purposes	<ul style="list-style-type: none"> <li>• Allow with prior notification to UConn Facilities Operations</li> <li>• Request voluntary reduction</li> </ul>	<ul style="list-style-type: none"> <li>• Allow filling of public and private pools by pool truck or service connection</li> </ul>	<ul style="list-style-type: none"> <li>• Allow filling of public and private pools by pool truck only</li> <li>• Ban filling or topping off of public or private pools by service connection.</li> </ul>	<ul style="list-style-type: none"> <li>• Ban all</li> </ul>
The washing of motor vehicles	<ul style="list-style-type: none"> <li>• Allow</li> <li>• Request voluntary reduction</li> </ul>	<ul style="list-style-type: none"> <li>• Ban all</li> </ul>	<ul style="list-style-type: none"> <li>• Ban all</li> </ul>	<ul style="list-style-type: none"> <li>• Ban all</li> </ul>
Visible/detectable service line leaks on customer-owned service lines	<ul style="list-style-type: none"> <li>• All leaks should be reported immediately to UConn Facilities Operations</li> </ul>	<ul style="list-style-type: none"> <li>• Fix within 7 days or face termination of service</li> </ul>	<ul style="list-style-type: none"> <li>• Same as Watch</li> </ul>	<ul style="list-style-type: none"> <li>• Same as Watch</li> </ul>
The use of ornamental or display fountains of any kind	<ul style="list-style-type: none"> <li>• Allow</li> <li>• Request voluntary reduction</li> </ul>	<ul style="list-style-type: none"> <li>• Ban all</li> </ul>	<ul style="list-style-type: none"> <li>• Ban all</li> </ul>	<ul style="list-style-type: none"> <li>• Ban all</li> </ul>

**DRAFT 02/07**  
**UCONN Water Supply Emergency and Drought Response**  
**Recommended Water Use Restrictions**

Water Use	Response Stage			
	Alert/Advisory	Watch	Warning	Emergency
The use of industrial and commercial air conditioning and cooling water supported by evaporative-based cooling towers	<ul style="list-style-type: none"> <li>• Allow</li> <li>• Request voluntary reduction</li> </ul>	<ul style="list-style-type: none"> <li>• Voluntarily reduce air conditioning and cooling loads</li> </ul>	<ul style="list-style-type: none"> <li>• Require reduction in air conditioning and cooling loads</li> </ul>	<ul style="list-style-type: none"> <li>• Require maximum reduction of all air conditioning and cooling loads.</li> </ul>
The use of water for flushing or wetting down any streets, sidewalks, driveways or parking areas	<ul style="list-style-type: none"> <li>• Allow</li> <li>• Request voluntary reduction</li> </ul>	<ul style="list-style-type: none"> <li>• Ban all unless a threat to public health and safety exists as certified by local health department</li> </ul>	<ul style="list-style-type: none"> <li>• Same as Watch</li> </ul>	<ul style="list-style-type: none"> <li>• Same as Watch</li> </ul>
Water main flushing	<ul style="list-style-type: none"> <li>• Allow</li> </ul>	<ul style="list-style-type: none"> <li>• Only in response to water quality issues</li> </ul>	<ul style="list-style-type: none"> <li>• Same as Watch</li> </ul>	<ul style="list-style-type: none"> <li>• Ban all except for public health issues</li> </ul>
Fire Flow Tests	<ul style="list-style-type: none"> <li>• Allow</li> </ul>	<ul style="list-style-type: none"> <li>• Critical tests only</li> </ul>	<ul style="list-style-type: none"> <li>• Critical tests only</li> </ul>	<ul style="list-style-type: none"> <li>• Ban all</li> </ul>
Making new service connections or filling/flushing new extensions	<ul style="list-style-type: none"> <li>• Allow</li> </ul>	<ul style="list-style-type: none"> <li>• Allowed</li> </ul>	<ul style="list-style-type: none"> <li>• Allowed</li> </ul>	<ul style="list-style-type: none"> <li>• Ban except for connecting emergency supply or new construction</li> </ul>
Use of hydrant sprinkler caps	<ul style="list-style-type: none"> <li>• Allow</li> </ul>	<ul style="list-style-type: none"> <li>• Ban all</li> </ul>	<ul style="list-style-type: none"> <li>• Ban all</li> </ul>	<ul style="list-style-type: none"> <li>• Ban all</li> </ul>
Use of water by University or municipality for street sweeping	<ul style="list-style-type: none"> <li>• Allow</li> <li>• Request voluntary reduction</li> </ul>	<ul style="list-style-type: none"> <li>• Allow</li> </ul>	<ul style="list-style-type: none"> <li>• Allow</li> </ul>	<ul style="list-style-type: none"> <li>• Ban all</li> </ul>

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**Recommended Water Use Restrictions**

Water Use	Response Stage			
	Alert/Advisory	Watch	Warning	Emergency
Water for athletic fields or courts	<ul style="list-style-type: none"> <li>• Allow</li> <li>• Request voluntary reduction</li> </ul>	<ul style="list-style-type: none"> <li>• Allowed for 2 hours between 5 am and 9 am for natural grass athletic fields</li> <li>• During preseason, allowed for 2 hours per day for artificial turf</li> <li>• During the regular season, allowed for 2 hours per day for artificial turf on days with scheduled games</li> <li>• During the regular season, ban turf watering on non-game days</li> </ul>	<ul style="list-style-type: none"> <li>• Same as Watch</li> </ul>	<ul style="list-style-type: none"> <li>• Ban all</li> </ul>
Power washing of houses and buildings	<ul style="list-style-type: none"> <li>• Allow</li> <li>• Request voluntary reduction</li> </ul>	<ul style="list-style-type: none"> <li>• Allow if in the furtherance of a person's livelihood</li> </ul>	<ul style="list-style-type: none"> <li>• Ban all</li> </ul>	<ul style="list-style-type: none"> <li>• Ban all</li> </ul>
The use of water from fire hydrants	<ul style="list-style-type: none"> <li>• Allow</li> </ul>	<ul style="list-style-type: none"> <li>• Allowed for fire protection and flushing of sewers or where a threat to public health or safety may exist</li> <li>• Determined on a case-by-case basis for hydrant permits, tanker trucks and other commercial uses considering public health and safety</li> </ul>	<ul style="list-style-type: none"> <li>• Same as Watch</li> </ul>	<ul style="list-style-type: none"> <li>• Same as Watch</li> </ul>
Water used for construction dust control and rinsing	<ul style="list-style-type: none"> <li>• Allow</li> </ul>	<ul style="list-style-type: none"> <li>• Ban all. Construction contractors must bring from off-system sources</li> </ul>	<ul style="list-style-type: none"> <li>• Same as Watch</li> </ul>	<ul style="list-style-type: none"> <li>• Same as Watch</li> </ul>

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**Recommended Water Use Restrictions**

Water Use	Response Stage			
	Alert/Advisory	Watch	Warning	Emergency
Other Typical Domestic and Residential Uses	<ul style="list-style-type: none"> <li>• Reduce domestic and residential use               <ul style="list-style-type: none"> <li>○ Shorter showers</li> <li>○ Condense washing of loads (dishes and laundry)</li> </ul> </li> <li>• Be more conscious of use               <ul style="list-style-type: none"> <li>○ Not letting water run to warm up or cool down</li> <li>○ Not letting faucets run while brushing teeth, shaving, etc</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Same as Alert/Advisory</li> </ul>	<ul style="list-style-type: none"> <li>• Same as Alert/Advisory</li> </ul>	<ul style="list-style-type: none"> <li>• Same as Alert/Advisory</li> </ul>

**UCONN Water Supply Emergency and Drought Response  
Demand-Side Water Conservation Plan (Page 1 of 2)**

Water Conservation Measures	Departmental Responsibilities
<p><b><u>Voluntary Measures</u></b></p> <p><b>All Drought Response Stages – Alert, Advisory, Watch, Warning, Emergency</b></p> <ul style="list-style-type: none"> <li>• Reduce domestic and residential use                             <ul style="list-style-type: none"> <li>○ Shorter showers</li> <li>○ Condense washing of loads (dishes and laundry)</li> </ul> </li> <li>• Be more conscious of use                             <ul style="list-style-type: none"> <li>○ Not letting water run to warm up or cool down</li> <li>○ Not letting faucets run while brushing teeth, shaving, etc</li> </ul> </li> <li>• Eliminate non-essential consumption of water (lawn watering, garden watering at night only, car washing).</li> <li>• Report leaks immediately                             <ul style="list-style-type: none"> <li>○ Facilities Operations (486-3113)</li> </ul> </li> </ul>	<p><b><u>Communication Responsibilities</u></b></p> <ol style="list-style-type: none"> <li>1. OEP – draft Water Conservation (WC) request for voluntary conservation measure</li> <li>2. Univ. Relations – review and approve draft WC request</li> <li>3. VP/COO – issue WC request as UConn Announcement</li> <li>4. FacOps/NEWUS – issue WC request to off-campus users</li> </ol> <p><b><u>Operations Responsibilities</u></b></p> <p>FacOps/NEWUS – respond to reported leaks as high priority repairs</p> <p>FacOps/NEWUS – report relevant water demand changes to UConn WC communications team (A&amp;O, OEP, Univ. Relations, Town of Mansfield)</p>
<p><b><u>Mandatory Water Conservation Measures</u></b></p> <p><b>Watch (Stage II)</b></p> <ul style="list-style-type: none"> <li>• Non-essential landscape irrigation restricted, unless separate irrigation ponds or wells are used</li> <li>• Athletic field irrigation restricted</li> <li>• No routine maintenance flushing of hydrants, pipes, and sewer lines<sup>+</sup></li> <li>• No use of hydrant sprinkler caps<sup>+</sup></li> <li>• No water main flushing<sup>++</sup></li> <li>• No routine fire flow tests<sup>+</sup></li> <li>• No motor vehicle washing</li> <li>• Curtail running of lasers, autoclaves, and other research lab devices that consume water for cooling (once-through cooling)</li> <li>• No use of UC water for construction site dust control or rinse water</li> <li>• No flushing or wetting down streets, sidewalks, driveways, or parking areas<sup>+</sup></li> <li>• No power washing of buildings unless in the furtherance of a person’s livelihood</li> <li>• No use of ornamental or display fountains</li> <li>• Increase indoor temperature set points as practical</li> </ul>	<p><b><u>Communication Responsibilities (Stages II, III, &amp; IV)</u></b></p> <ol style="list-style-type: none"> <li>1. OEP – draft WC notice for water use restrictions</li> <li>2. Univ. Relations – review and approve draft WC notice</li> <li>3. VP/COO – issue WC notice as UConn Announcement</li> <li>4. FacOps/NEWUS – issue WC notice to off-campus users</li> <li>5. A&amp;O – notify DPH, DEP, DOC, Town of Mansfield, and town members of Water/Sewer Advisory Board</li> <li>6. Univ. Relations – notify legislators and governor, as needed</li> <li>7. * VP/COO – Issue department-head directives applicable to UConn operations (COO direct reports and Athletics)</li> <li>8. * EVP/Provost - Issue directives applicable to academic/research activities (Deans and Directors)</li> <li>9. * FacOps/NEWUS – Issue directives applicable to non-University and off-campus water system users</li> </ol>

<sup>+</sup> Allowed only in response to fire protection and threats to public health and safety.

<sup>++</sup> Allowed only in response to water quality issues.

\* When warranted, these parties are also responsible for notifying same water system users about repeal of mandatory measures.

**UCONN Water Supply Emergency and Drought Response  
Demand-Side Water Conservation Plan (Page 2 of 2)**

Water Conservation Measures	Departmental Responsibilities
<p><b>Warning (Stage III)</b></p> <ul style="list-style-type: none"> <li>• Refer to Watch bans and restrictions</li> <li>• Further restrictions on non-essential landscape and athletic field irrigation</li> <li>• No pool filling unless by service truck from off-service supply</li> <li>• No power washing of buildings</li> <li>• Increase indoor temperature set points</li> </ul> <p><b>Emergency (Stage IV)</b></p> <ul style="list-style-type: none"> <li>• Refer to Watch &amp; Warning bans and restrictions</li> <li>• No irrigation unless used to support plants grown for human consumption</li> <li>• No pool filling</li> <li>• No use of water for street sweeping</li> <li>• Increase indoor temperature set points to permissible maximum</li> </ul>	<p><b><u>Operations Responsibilities</u></b> <b><u>(Stages II, III, &amp; IV)</u></b></p> <p>FacOps/NEWUS – respond to reported leaks as high priority repairs</p> <p>FacOps – provide updated list of CUP and centrally-cooled buildings</p> <p>FacOps – report relevant water production and demand changes to UConn Water Team (A&amp;O, OEP, Univ. Relations, Town of Mansfield)</p>

#### **4. RECOVERY FROM EMERGENCY:**

The method of recovery from a water emergency will vary according to the stage and responsible trigger. In general, once the emergency condition is rectified, the emergency can be considered over and normal system operating conditions can resume. Several non-drought emergencies may not result in formal activation of the stage response plan due to the short-term duration of the emergency. Therefore, the recovery can be quite rapid, compared to recovery from a drought.

The steps to be taken to step down from longer term and drought related emergencies are as follows:

##### *Stage IV – Water Supply / Drought Emergency:*

When the water level in the High Head Reservoir is maintained above 6 feet, 40% full, for three consecutive days with an overall trend showing an increase in tank storage, and continued recovery can be sustained without use of the Fenton wells, well use may be curtailed as flow management recommendations dictate. When water level in the High Head Reservoir can be maintained above 10 feet, two-thirds full, with an overall trend showing an increase in tank storage, Stage III can be re-implemented and mandatory restrictions eased.

##### *Stage III – Water Supply / Drought Warning:*

When response measures have resulted in the water level in the High Head Reservoir being maintained above 10 feet, two-thirds full, for three consecutive days with an overall trend showing an increase in tank storage, and continued recovery can be sustained without use of the Fenton wells, well use may be curtailed as flow management recommendations so dictate. Production from all sources is to be reviewed and if projected available supply is greater than the projected water usage, Stage II can be re-implemented and mandatory restrictions further eased.

##### *Stage II – Water Supply / Drought Watch:*

When response measures have resulted in the water level in the High Head Reservoir returning to normal, and when Projected Available Supply is greater than the Projected Water Usage, Stage I can be re-implemented and voluntary conservation maintained.

##### *Stage IB – Water Supply / Drought Advisory:*

When response measures have resulted in the water level in the High Head Reservoir returning to normal for five consecutive days, and when Projected Available Supply is greater than the Projected Water Usage, the advisory can be lifted.

##### *Stage IA – Water Conservation Alert:*

When response measures have resulted in the water level in the High Head Reservoir returning to normal for five consecutive days, and when Projected Available Supply is greater than the Projected Water Usage, and when the flow in the Fenton River is greater than 3.0 cfs, the alert can be lifted.