

7.0 DROUGHT RESPONSE and CONTINGENCY PLANS

The mandated Water Supply Plan, set forth in 9 VAC 25-780-120, requires a locality to specify how a drought or low water condition is declared, what actions they will implement to conserve water under such a condition, and how they will enforce water conservation actions. This Drought Response Plan is a section of the Northern Shenandoah Valley Regional Water Supply Plan and also is a stand-alone document that establishes a coordinated response to drought for the City of Winchester and the five Counties of Clarke, Frederick, Page, Shenandoah, and Warren. The Plan identifies duties and responsibilities of localities to manage water resources during drought and low water events (such as equipment failure or contamination) to minimize adverse impacts on public health and safety, economic activity, and environmental resources; and help preserve the water supply throughout the planning area.

This Regional Drought Response Plan is divided into the following sections:

- A. Drought Stages
- B. Locality Declaration
- C. Actions in Response to Drought Stage

A. Drought Stages

State regulations stipulate a minimum of three drought stages be included in the Water Supply Drought Response Sections. The Northern Shenandoah Valley Regional Water Supply Plan's Drought Response Section includes these three graduated stages of a drought:

Drought Stage	Description	Action
Watch	Drought potential if conditions persist	Increase water conservation awareness; voluntary actions by citizens
Warning	Onset of drought is imminent	Water conservation awareness; precautionary measures voluntary but encouraged by localities
Emergency	Significant drought or low water event	Mandatory responses for water conservation by localities and public

Jurisdictions will have varied declarations of a drought in part due to water sources, water demands, upstream water withdrawals, groundwater's delayed response to reflect low precipitation, equipment failure, and local variations in meteorology and soil moisture.

Local ordinances adopted by the localities within this planning region are appended to the Drought Response Section of the Water Supply Plan. The ordinances document jurisdictional commitment to water conservation implementation and enforcement of the Drought Response Section.

B. Locality Declaration of a Drought Stage

A drought is a period of time characterized by deficits in precipitation, low soil moisture, and surface and subsurface water levels below normal. The physical water shortages adversely affect people, crops, and animals.

A drought phase will be declared when conditions exist that less water is present than under normal streams flows under specific meteorological situations. Public declaration of the drought stage will be determined by the local water purveyor, Chief Administrative Officer (CAO), or designee as determined by the locality. A water purveyor is a public utility, municipal water company, county water district, or municipality that delivers drinking water to customers. Any localities purchasing water from another locality shall follow all drought stage declarations made by the local water purveyor and CAO/designee of the jurisdiction where water is purchased.

The Northern Shenandoah Valley Regional Commission (NSVRC) will act as a clearinghouse to assemble local drought stage designations and broadcast results to the general public and all jurisdictions within the planning region through electronic communication and website postings. The NSVRC staff will communicate with the upper headwaters area in the Central Shenandoah Planning District Commission area and will convey upstream drought conditions to the Northern Shenandoah Valley region jurisdictions. Results of upstream water supply conditions will also be posted on the NSVRC website to provide a comprehensive watershed-wide assessment of drought declarations within the Shenandoah Valley to facilitate localities' awareness of their water declarations.

When one or more of the following conditions are present, the local water purveyor, CAO, or designee may consider a Drought Stage declaration:

Drought Watch Stage

- A local trigger indicates watch level (at a predetermined level) or
- DEQ drought website indicates 2/4 boxes **yellow** for the area
<http://www.deq.virginia.gov/watersupplyplanning/drought/shenandoah/current.html>,
or
- A nearby subwatershed trigger indicates watch levels

Drought Warning Stage

- A local trigger indicates warning level (at a predetermined level), or
- DEQ drought website indicates 2/4 boxes **orange** for the area
<http://www.deq.virginia.gov/watersupplyplanning/drought/shenandoah/current.html>,
or
- A nearby subwatershed trigger indicates warning levels

Drought Emergency Stage

- A local trigger indicates emergency level (predetermined level), or
- DEQ drought website indicates 2/4 boxes **red** for the area
<http://www.deq.virginia.gov/watersupplyplanning/drought/shenandoah/current.html>,
or
- A nearby subwatershed trigger indicates emergency levels

Local Water Sources

Twenty localities in the planning region draw their water supply from three subwatersheds in the Shenandoah River basin: the North Fork of the Shenandoah River watershed, the South Fork of the Shenandoah River watershed, and the watershed of the main stem of the Shenandoah River. Water sources within the region's subwatersheds vary and include groundwater, stream intakes, quarries, and water purchased from another jurisdiction. The water sources and subwatersheds for each locality within the region are shown in Table 1, below (Note: stream surface water = SW, groundwater = GW, quarry = Q). Table 1 lists the watershed where the source intake is located, not necessarily the watershed of the jurisdiction using the water. For example, the City of Winchester is located in the subwatershed of the main stem of the Shenandoah River; however, the City's source intake is located in the subwatershed of the North Fork of the Shenandoah River in Strasburg.

Locality Served	North Fork of the Shenandoah River Watershed	South Fork Shenandoah River Watershed	Main Stem Shenandoah River Watershed
Shenandoah County	GW		
New Market	GW		
Mt Jackson	GW		
Edinburg	GW		
Woodstock	SW		
Toms Brook	GW		

Strasburg	SW		
Page County		GW	
Shenandoah Town		GW	
Stanley		GW	
Luray		GW	
Warren County	GW	GW	
Front Royal		SW	
Frederick County	Quarry & Purchase from Winc SW / GW)		
Middletown	Purchase (SW) From Winc		
Stephens City	Purchase (SW/GW) From FCSA		
City of Winchester	SW		
Clarke County			GW
Boyce			Purchase From CCSA
Berryville			SW

Additional water source data for each locality is presented in Appendix A.

Local Triggers:

Each locality has selected local triggers to monitor and use to declare a drought or low water condition. Typically triggers include a stream level measured at a gage or a groundwater level measured at a specified level in a well, if available. A locality may assume a trigger is activated when either their local trigger has reached a predetermined level and / or a trigger from a neighboring jurisdiction within the same subwatershed has been reached. Table 2 summarizes local triggers and subwatershed triggers to be used when considering a drought stage declaration. The USGS stream gage website http://va.water.usgs.gov/duration_plots/daily/dp01634000.htm includes daily streamflow percentiles (10-25th%, 5th – 10th%, and below 5th%) of historic flows for a specific date. For localities with trigger levels set at percentile flows not posted on the website, the water purveyor will calculate flows to assess if conditions warrant a drought stage declaration.

Drought Trigger Table for the Northern Shenandoah Region:

TABLE 2: LOCAL TRIGGERS FOR WATER LEVELS						
Locality	Drought or Low Water Stage	Groundwater/ Spring	Surface Water/ Reservoir	Quarry		Location of Triggers & Other Information
Clarke County	Watch	GW levels fall between the 10 th & 25 th percentile and the DEQ Drought website Watch stage	Stream flows fall between the 10 th and 25 th percentile			Declaration of a drought / low water stage when two or more indicate low water. The resources will include the County monitoring well network; the DEQ Drought Website page; Spout Run USGS gage; and Main Stem Millville USGS gage
	Warning	GW levels fall between the 5 ^h & 10 th percentile and the DEQ Drought website Warning stage	Stream flows fall between the 5 ^h & 10 th percentile			
	Emergency	GW levels fall below the 5 th percentile and the DEQ Drought website Emergency stage	Stream flows fall below the 5 th percentile			
Frederick County	Watch			Quarry elevation measures 657 ft (SC); 502 ft at CB Quarry		Determination based on water level in Stephens City (SC) Quarry and Clearbrook Quarry (CB); and USGS Gage North Fork Shenandoah at Strasburg; will consider Winchester drought declaration
	Warning			Quarry elevation measures 650 ft (SC); 495 ft at CB Quarry		
	Emergency			Quarry elevation measures 645 ft (SC); 495 ft at CB Quarry		
Page County	Watch	GW levels fall between the 10 th & 25 th percentile	Stream flows fall between the 10 th and 25 th percentile			USGS Gage South Fork Shenandoah in Luray; Rockingham County USGS GW Well 41Q 1
	Warning	GW levels fall between the 5 ^h & 10 th percentile	Stream flows fall between the 5 ^h & 10 th			
	Emergency	GW levels fall below the 5 th percentile	Stream flows fall below the 5 th			
Shenandoah County	Watch	Groundwater capacities in local wells fall between 10 th and 20 th percentile and DEQ Drought website				Thresholds for actions at how much water can be extracted from local wells based upon demand,

	Warning	Groundwater capacities in local wells fall between 5 th and 10 th percentile and DEQ Drought website				pumping capacities and not solely on the level of water in the well, which will also be a factor.
	Emergency	Groundwater capacities in local wells fall below 5 th percentile				Therefore, if while pumping 22 hours a day (8 th percentile of capacity) for a period of time for whatever reason but the well head is still at 25% of normal, warning measures would be enacted.
Warren County	Watch		Stream flows fall between the 10 th and 25 th percentile			USGS Gage South Fork in Front Royal, USGS Gage North Fork Shenandoah at Strasburg, USGS Gage Passage Creek
	Warning		Stream flows fall between the 5 ^h & 10 th percentile			
	Emergency		Stream flows fall below the 5 th percentile			
City of Winchester	Watch		Stream flows fall between the 10 th and 15 th percentile (or below 80 cfs) for a period of 5 consecutive days.			USGS Gage on North Fork Shenandoah North Fork near Strasburg
	Warning		Stream flows fall between the 5 th and 10 th percentile (or below 72 cfs) for a period of 5 consecutive days.			
	Emergency		Stream flows fall below the 5 th percentile (or below 63 cfs) for a period of 5 consecutive days.			
Town of Berryville	Watch		Stream flows fall between the 10 th and 25 th percentile			USGS Gage on Shenandoah River at Millville
	Warning		Stream flows fall between the 5 ^h & 10 th percentile			
	Emergency		Stream flows fall below the 5 th percentile			
Town of Boyce	Watch	GW levels fall between the 10 th & 25 th percentile				Follow drought declaration by Clarke County, based on Clarke County Monitoring Well Network
	Warning	GW levels fall between the 5 ^h & 10 th percentile				
	Emergency	GW levels fall below the 5 th percentile				

Town of Edinburg	Watch	DEQ Drought Website for Shenandoah County				
	Warning	DEQ Drought Website, plus weekly monitoring of Well #1				
	Emergency	Static head of water in Well #1 drops below 10 feet for seven consecutive days (water monitored several times a day). Town will lower the pump in the well to assist with water delivery and downgrade to a Drought Warning depending upon Well #1 water level and the DEQ website.				
Town of Front Royal	Watch		400 cfs, voluntary			Per Town DEQ withdrawal permit based upon flow in the river at various flow rates for the USGS Gage South Fork in Front Royal
	Warning		340 cfs, Mandatory			
	Emergency		240 cfs, Mandatory			
Town of Luray	Watch	10% Overall Reduction in Available Water (Source Water, Finished Water, and/or Stored Water); 1.8" decrease in the Static Level of Hite Spring*; 6" decrease in the Static Level of Lake Arrowhead; DEQ Website – 4 Square for Page County; and Local Well** and Local Surface Water Data				Note: *Static Water Level in Hite Spring is measured at least one (1) hour after the pumping. **Local Well Data includes an evaluation of the static water level in Well #6 at least one (1) hour after the pumping. Surface water references

	Warning	15% Overall Reduction in Available Water (Source Water, Finished Water, and/or Stored Water); 2.76" decrease in the Static Level of Hite Spring*; 12" decrease in the Static Level of Lake Arrowhead; DEQ Website – 4 Square for Page County; and Local Well** and Local Surface Water Data				USGS Gage South Fork in Luray. Luray Town will consider all data sources listed and what other towns are doing before making a declaration of a drought / low water stage based on a collective evaluation of all relevant data sources before the decision is made
	Emergency	20% Overall Reduction in Available Water (Source Water, Finished Water, and/or Stored Water); 3.6" decrease in the Static Level of Hite Spring*; 18" decrease in the Static Level of Lake Arrowhead; DEQ Website – 4 Square for Page County; and Local Well** and Local Surface Water Data				
Town of Middletown	Watch		Stream flows fall between the 10 th and 15 th percentile (or below 80 cfs) for a period of 5 consecutive days.			Follow drought declaration from Winchester; USGS gage at Strasburg on the North Fork
	Warning		Stream flows fall between the 5 th and 10 th percentile (or below 72 cfs) for a period of 5 consecutive days.			
	Emergency		Stream flows fall below the 5 th percentile (or below 63 cfs) for a period of 5 consecutive days.			
Town of Mt Jackson	Watch	DEQ Drought Website for Shenandoah County				
	Warning	DEQ Drought Website for Shenandoah County				
	Emergency	Static head of water in local wells drops below the 5 th percentile of historic records				
Town of New Market	Watch	DEQ Drought Website for Shenandoah County				USGS gaging station at Cootes Store, Broadway and/or Smith Creek to be used in conjunction with local well head levels for
	Warning	DEQ Drought Website				

	Emergency	Static head of water in local wells drops below the 5 th percentile of historic records	Stream flows fall below the 5 th percentile			drought / low water emergency trigger
Town of Shenandoah	Watch	GW levels fall between the 10 th & 25 th percentile	Stream flows fall between the 10 th and 25 th percentile			USGS Gage South Fork Shenandoah in Luray, &
	Warning	GW levels fall between the 5 ^h & 10 th percentile	Stream flows fall between the 5 ^h & 10 th percentile			Rockingham County USGS GW Well 41Q1
	Emergency	GW levels fall below the 5 th percentile	Stream flows fall below the 5 th percentile			
Town of Stanley	Watch	GW levels fall between the 10 th & 25 th percentile	Stream flows fall between the 10 th and 25 th percentile			USGS Gage South Fork Shenandoah in Luray and
	Warning	GW levels fall between the 5 ^h & 10 th percentile	Stream flows fall between the 5 ^h & 10 th percentile			Rockingham County USGS GW Well 41Q1
	Emergency	GW levels fall below the 5 th percentile	Stream flows fall below the 5 th percentile			
Town of Strasburg	Watch		Stream flows fall between the 10 th and 25 th percentile (or below 70 cfs) for 7 consecutive days			USGS Gage on North Fork Shenandoah River at Strasburg (Note: triggers for existing Strasburg intake only; new stream intake will have new drought triggers)
	Warning		Stream flows fall between the 5 ^h & 10 th percentile (or below 60 cfs) for 7 consecutive days			
	Emergency		Stream flows fall below the 5 th percentile (or below 50 cfs) for 7 consecutive days			
Town of Stephens City	Watch			Quarry elevation measures 657 ft (SC); 502 ft at CB Quarry		Follow drought declaration from Frederick County
	Warning			Quarry elevation measures 650 ft (SC); 495 ft at CB Quarry		
	Emergency			Quarry elevation measures 645 ft (SC); 495 ft at CB Quarry		
Town of Toms Brooks	Watch					Local well monitoring, See triggers for Shenandoah County, since water purveyor is Toms Brook-Maurertown Sanitary District
	Warning					
	Emergency					

Town of Woodstock	Watch		Stream flows fall between the 10 th and 25 th percentile/			USGS Gage North Fork Shenandoah at Strasburg
	Warning		Stream flows fall between the 5 th & 10 th percentile			
	Emergency		Stream flows fall below the 5 th percentile			

DEQ Drought Indicator Analysis Website

The DEQ drought indicator analysis website uses a four-square icon that is color-coded to indicate drought stage in the Shenandoah River Basin:

(<http://www.deq.virginia.gov/watersupplyplanning/drought/shenandoah/current.html>). The icon addresses groundwater, surface stream flow, precipitation, and Palmer Drought Severity Index. The icon color yellow indicates drought watch stage, orange denotes a drought warning stage, and red represents drought emergency stage. Localities may reference this website when making drought stage determinations. When two or more squares are colored yellow, orange, or red, a drought stage declaration may be considered by a locality.

Governor Declaration:

A drought stage may also be triggered by a declaration by the Commonwealth's Governor. Droughts declared by the Governor are based on the Virginia Drought Assessment and Response Plan and the professional judgment of the Virginia Drought Monitoring Task Force (Task Force). The Task Force includes representatives from several state, federal and local agencies, as well as universities and non-government organizations. The Task Force monitors stream flows, lake levels, precipitation, groundwater levels and other climatic indicators. In the event the Governor declares an emergency drought, there will be an automatic emergency drought designation. Likewise, gubernatorial declaration can rescind a drought stage.

C. Drought Response Actions

While some drought response actions are applicable to all jurisdictions in the planning region (see list below), other drought response actions are individually determined by each locality based upon the environmental setting and their position within the watershed, water source, and political circumstances. Local water managers and staff will be apprised of Drought Stage declarations through the use of automated crew messaging / emergency notification. **Note:** In the event of a prolonged, multi-seasonal drought emergency, the locality reserves the right to institute a program of water rationing. It is also important to note that in addition to climate, drought refers to any low water event such as a mechanical failure, water theft, and other conditions rendering water unavailable at necessary flow to meet users in the distribution.

The NSVRC will act as a clearinghouse and provide public notification of any drought stage declaration within the region. The public notices will serve to build and raise awareness of the drought status and educate the public of early water conservation steps individuals and localities can implement. Public notification will occur through the newspaper, public service announcements, and notices with water bills. The locality websites will also list drought stage and water conservation actions. The NSVRC website will define the drought stage with a notice that the public will be informed as to appropriate actions, as listed above. Violators of water use may have names printed in the newspaper listing the amount of water used during a drought stage.

Drought stage downgrading will be conducted by the local water purveyor, jurisdictional CAO, or designee as determined by each locality. Decisions to downgrade a stage will be based on the local trigger, DEQ, and other designated triggers as precipitation increases and soil moisture content and water levels rise in streams and wells.

Proposed Drought Response Actions

1. Drought Watch Actions:

The following are the regional actions to be taken by the respective localities when a Drought Watch stage is declared by the local water purveyor, CAO, and/or designee of a locality in the Northern Shenandoah Valley water supply planning region. Water conservation actions listed below will be encouraged when a Drought Watch is declared. It is possible that the increased public awareness of water conservation activities during a drought watch may reduce water use up to 5%.

- A Drought Watch notification will be publicized through the general news media or any other appropriate method for making such notification public. These include newspapers of general circulation such as Northern Virginia Daily, Winchester Star, Daily News Record, radio 92.5 WINC FM, television 3, etc.
- Localities will include water conservation information on their website on a northern Shenandoah Valley webpage [nsvenvironment](#) hyperlinked to the NSVRC.Com website.
- Localities will contact the Northern Shenandoah Valley Regional Commission (NSVRC) office when a drought stage is implemented. The NSVRC will update the locality's drought status on the regional drought website and [nsvenvironment](#) webpage.
- All citizens, including private well users, will be encouraged to begin voluntary water conservation actions (see below).
- Locality staff will continue to monitor drought trigger indicators on a monthly basis and report significant changes to local officials.
- Localities will increase water use efficiency and/or promote use reclaimed water for public facility landscaping.
- Leak detection consults by localities will be conducted upon request, as staff can support.
- Public waterworks and Self-Supplied water users who withdraw more than 10,000 gallons per day are asked to review and voluntarily implement existing drought water conservation methods as outlined in this plan.

- The public will continue conservation until water storage (source and distribution) is replenished.

Voluntary Water Conservation Actions:

- Mow lawns to 2 inches or more and leave clippings (higher cut encourages grass roots to grow deeper to hold soil moisture better than closely clipped lawn.).
- Use mulch around plants to reduce evaporation.
- Aerate lawn to reduce evaporation.
- Avoid over fertilizing your lawn. Fertilizer applications increase the need for water. Apply fertilizers that contain slow-release, water-insoluble forms of nitrogen.
- Place rain barrels under gutter downspouts to collect water for plants, car washing, or general cleaning projects.
- Plant native or dry-loving (xeric) plants in landscaping.
- Do not use the garbage disposal.
- Use automatic dishwasher only when load is full.
- Limit showers to 5 to 10 mins / day / person.
- Avoid running water to get cold temp, keep a pitcher of cold water in fridge.
- Wrap hot water heater and pipes with insulating material.
- Install faucet aerators.

2. Drought Warning Actions:

When a Drought Warning stage is declared by the local water purveyor, CAO, and/or designee of a locality in the Northern Shenandoah Valley water supply planning region, the following are the regional actions to be taken by the respective localities. Water conservation actions and the reduction or elimination of non-essential water uses will be encouraged when a Drought Watch is declared. It is intended that water conservation measures listed will generally result in reductions of water use of 5 to 10%.

- A Drought Warning notification shall be publicized through the general news media or any other appropriate method for making such notification public in newspapers of general circulation and radio and television.
- Localities will include water conservation information on their website.
- Localities will contact the Northern Shenandoah Valley Regional Commission (NSVRC) office when the Drought Warning stage is implemented. The NSVRC will update the locality's drought status on the regional drought website and nsvenvironment webpage.
- Public waterworks and Self-Supplied water users who withdraw more than 10,000 gallons per day will initiate voluntary water conservation measures.
- All local government offices and institutions should consider the reduction or elimination of non-essential water uses with the goal of reducing water usage by 5 to 10%.

- Locality staff will continue to monitor drought triggers monthly to indicate levels and report significant changes to local officials.
- Leak detection consults by localities will be conducted upon request, as staff can support.
- Continue conservation until water storage (source & distribution) is replenished.
- All citizens, including private well users, will be encouraged to voluntarily reduce or eliminate non-essential water uses (see under Drought Emergency Actions) and follow the water conservation actions.

Voluntary Water Conservation Actions:

In addition to those actions listed under the Drought Watch section:

- Use a broom instead of a hose to clean driveways, walks and patios.
- Do not wash hard surfaces or buildings.
- Turn off ornamental fountains or other such structures, unless the water is recycled.
- Reduce lawn watering to no more than 2 times a week, between the hours of 9:00 p.m. and 10:00 a.m.
- Reduce vegetable garden watering by watering only when needed, between the hours of 9:00 p.m. and 10:00 a.m.
- Apply water directly to plants by using soil-soakers or drip irrigation. Avoid use of sprinklers.
- Do not plant new landscaping or grass.

3. Drought Emergency Actions:

The following mandated actions will be implemented when a Drought Emergency is declared by the local water purveyor, CAO and/or designee of a locality in the Northern Shenandoah Valley water supply planning region. The non-essential uses listed below are prohibited during the drought emergency stage.

- A Drought Emergency notification shall be publicized through the general news media or any other appropriate method for making such notification public.
- Localities will include water conservation information on their website.
- Localities will contact the Northern Shenandoah Valley Regional Commission (NSVRC) office when the Drought Warning stage is implemented. The NSVRC will update the locality's drought status on the regional drought website.
- All citizens, including private well users, will initiate the mandatory non-essential water use restrictions listed below and follow the water conservation actions listed under the Drought Watch and Warning sections above.
- Public waterworks and Self-Supplied water users who withdraw more than 10,000 gallons per day will initiate the mandatory non-essential water use restrictions listed below and follow the water conservation actions listed under the Drought Watch and warning sections above.

- All local government offices and institutions will initiate the mandatory non-essential water use restrictions listed below with the goal of reducing water usage by 10 to 15%.
- Localities will be authorized to adopt local ordinances to enforce the mandatory non-essential water use restrictions listed below and to establish, collect, and retain fees for violations of these restrictions.
- Locality staff will continue to monitor drought indicators on a monthly basis and report significant changes to local officials.
- Localities may consider developing increased conservation rate charges or surcharges to respond to drought conditions.
- All users continue conservation until water storage (source & distribution) is replenished.
- Commercial customers are to follow the mandatory non-essential water use restrictions listed below, where appropriate.
- All other residential, business and industrial water users; whether supplied by public water supplies, Self-Supplied sources, or private water wells; who do not normally utilize water for any of the non-essential uses listed below are requested to voluntarily reduce water consumption by at least 10%. This reduction may be the result of elimination of other non-essential water uses, application of water conservation practices, or reduction in essential water uses.

Non-Essential Water Uses

The following non-essential water uses will be prohibited during periods of declared drought emergencies. Below each non-essential use is a list of exceptions. These prohibitions and exceptions will apply to uses from all sources of water and will only be effective on an individual locality basis when a locality in the Northern Shenandoah Valley water supply planning region declares a Drought Emergency. The conservation actions listed in the Drought Watch and Warning section of the Northern Shenandoah Valley Drought Plan become mandatory during the Drought Emergency stage.

Local governments and public waterworks may impose water use restrictions more or less stringent than the mandatory non-essential water use restrictions listed below consistent with local water supply conditions at any time. Nothing contained in this drought response plan should be construed to limit the powers of the local governments to adopt and enforce local emergency ordinances as necessary to protect the public welfare, safety, and health.

Water use restrictions shall not apply to the agricultural production of food or fiber, the maintenance of livestock including poultry, nor the commercial production of plant materials so long as best management practices are applied to assure the minimum amount of water is utilized.

1. Unrestricted non-commercial watering (public or private)
Lawn Irrigation Exceptions-

- Newly sodded and seeded areas may be irrigated to establish cover on bare ground at the minimum rate necessary for no more than a period of 60 days. Irrigation rates may not exceed one inch of applied water in any 7 day period. Consider delaying seeding or sodding of new lawns.
- Gardens, bedding plants, trees, shrubs and other landscape materials may be watered with hand held containers not exceeding three (3) gallons in capacity. Watering may be done between the hours of 9:00 p.m. and 10:00 a.m. to avoid the heat of the day. Do not use sprinklers.

Golf Course Irrigation Exceptions-

- Tees and greens may be irrigated between the hours of 9:00 p.m. and 10:00 a.m. at the minimum rate necessary.
- Fairways may be irrigated between the hours of 9:00 p.m. and 10:00 a.m. at the minimum rate necessary not to exceed one inch of applied water in any ten-day period.
- All allowed golf course irrigation must be applied in a manner to assure that no runoff, puddling or excessive watering occurs.

Athletic Field Irrigation Exceptions-

- Athletic fields may be irrigated between the hours of 9:00 p.m. and 10:00 a.m. at a rate not to exceed one inch per application or more than a total of one inch in multiple applications during any ten-day period. All irrigation water must fall on playing surfaces with no outlying areas receiving irrigation water directly from irrigation heads.
- Athletic fields may be irrigated between the hours of 9:00 p.m. and 10:00 a.m. during necessary overseeding, sprigging or resodding operations at the minimum rate necessary for a period that does not exceed 60 days. Irrigation rates during this restoration period may not exceed one inch of applied water in any seven-day period.
- All allowed athletic field irrigation must be applied in a manner to assure that no runoff, puddling or excessive watering occurs.
- Irrigation is prohibited on athletic fields that are not scheduled for use within the next 120-day period.

2. Use of Fire Hydrants

Exceptions-

- Except for necessary governmental operations such as firefighting, health protection purposes, or certain testing and drills by the fire department as approved by the local government or waterworks operator

3. Washing of paved surfaces such as streets, roads, sidewalks, driveways, garages, parking areas, tennis courts, and patios; flushing of sewers and hydrants

Exceptions-

- Surfaces may be washed with hand held containers not exceeding three (3) gallons in capacity. Washing should not occur during the heat of the day.
- As needed to ensure public health and safety, and approved by the local government or waterworks operator

4. Washing or cleaning of mobile equipment including automobiles, trucks, trailers and boats

Exceptions-

- Mobile equipment may be washed at car washes that utilize reclaimed water as part of the wash process or reduce water consumption by at least 10% when compared to a similar period when water use restrictions were not in effect. Any facility operating a reclaimed water system must prominently display, in public view, a sign stating that such a recycling system is in operation.
- Mobile equipment may be washed using hand held containers not exceeding three (3) gallons in capacity or hand held hoses equipped with automatic shutoff devices provided that no mobile equipment is washed more than once per calendar month and the minimum amount of water is utilized.
- Automobile dealers and rental agencies may wash cars that are in inventory no more than once per week utilizing hand held containers not exceeding three (3) gallons in capacity, hoses equipped with automatic shutoff devices, automated equipment that utilizes reclaimed water as part of the wash process, or automated equipment where water consumption is reduced by at least 10% when compared to a similar period when water use restrictions were not in effect.

5. Use of water for the operation of ornamental fountains, artificial waterfalls, misting machines, and reflecting pools

Exceptions-

- Fountains and other means of aeration necessary to support aquatic life are permitted.

6. Filling and topping off outdoor swimming pools

Exceptions-

- Newly built or repaired pools may be filled to protect their structural integrity.
- Outdoor pools operated by commercial ventures, community associations, recreation associations, and similar institutions open to the public may be refilled as long as:
 - Levels are maintained at mid-skimmer depth or lower,
 - Any visible leaks are immediately repaired,
 - Backwashing occurs only when necessary to assure proper filter operation,
 - Deck areas are washed no more than once per calendar month (except where chemical spills or other health hazards occur),
 - All water features (other than slides) that increase losses due to evaporation are eliminated, and
 - Slides are turned off when the pool is not in operation.
- Swimming pools operated by health care facilities used in relation to patient care and rehabilitation may be filled or topped off.

7. Serving of water in restaurants, clubs, or eating-places

Exceptions-

- May only be allowed at the specific request of the customer

The NSVRC staff will continue to receive monthly reports from system operators maintain database; share information for local jurisdictions; monitor the Virginia Department of Environmental Quality

(DEQ) and U.S. Geological Survey (USGS) websites; serve as a regional liaison assisting localities to publish notices of alert levels and water restrictions. In addition, staff will maintain a list of mandatory water conservation actions on the NSVRC website and news media.

Local governments and water utilities may impose more stringent watering schedules. Citizens are encouraged to contact their local water providers for more specific guidance. The water use restrictions during an emergency stage will be enforced by the locality and a violation of the ordinance will be a misdemeanor with a penalty fine determined by the locality where the violation occurred.

This Drought Response Plan is designed to present the best available practices to date; however, the plan remains flexible to incorporate best technologies as available and actual practices that were determined to be most suitable in response to real droughts. The contents of this Drought Response Plan are subject to revision a minimum of every five years, in accordance with state regulations. In addition, in the event of a drought, practices and actions that best support drought remediation will be substituted in future plans.

The Counties of Clarke and Warren currently have a drought response plan in place. In addition, Frederick County has a FCSA Drought management Plan.

Addenda to Chapter 7: Water supply systems

(Surface Water = SW, Groundwater = GW)

North Fork Shenandoah Watershed by Locality from South to North on the North Fork of the Shenandoah River

- Town of New Market – Groundwater wells (6 wells)
- Town of Mount Jackson – GW wells (5 wells)
- Town of Edinburg – GW wells (2 wells)
- Town of Woodstock – SW intake on North Fork Shenandoah River
- Shenandoah County – Stoney Creek Sanitary District GW wells (7 wells)
- Town of Toms Brook – GW wells (2 wells)
- Town of Strasburg – SW intake on North Fork Shenandoah River
- City of Winchester – SW intake on the North Fork Shenandoah

South Fork Shenandoah Watershed by Locality from South to North on the South Fork of the Shenandoah River

- Town of Shenandoah – GW wells (3 wells)
- Town of Stanley – GW wells (6 wells)
- Town of Luray – 2 Springs and 1 GW well
- Page County - provided by town of Stanley & GW well system
- Warren County
- Town of Front Royal – SW intakes on Sloan Creek, Happy Creek, South Fork of the Shenandoah River

Main Stem of the Shenandoah Watershed by Locality from South to North on the Main Stem Shenandoah River

- Town of Middletown – purchase water from City of Winchester
- Town of Stephens City – purchase water from Frederick County Sanitation Authority (FCSA)
- Frederick County – FCSA Quarries, 3 GW wells, purchase from Winchester
- City of Winchester – SW intake on the North Fork of the Shenandoah River
- Clarke County – Spring water
- Town of Boyce – from Clarke County Service Authority (CCSA)
- Town of Berryville – SW stream intake Shenandoah River (main stem)