**Incident Specific Annex #6: Drought**

# LEAD AGENCY

WV Emergency Management Division (WVEMD)  
<http://emd.wv.gov/>

# SUPPORTING AGENCIES

WV Department of Environmental Protection (WVDEP)

WV Department of Health

WV Department of Agriculture (WVDA)

# ANCILLARY AGENCIES AND ORGANIZATIONS

* WV Department of Homeland Security (WVDHS)
* WV National Guard (WVNG)
* WV Public Service Commission (PSC)
* WV Conservation Agency (WVCA)
* WV University Extension Service
* WV Division of Forestry
* WV Division of Natural Resources
* National Weather Service (NWS)
* US Department of Agriculture (USDA)
* Farm Service Agency
* National Resource Conservation Service
* US Geological Survey
* US Army Corps of Engineers (USACE)

**Information flow chart**

Record of Concurrence

When assistance is requested by West Virginia Emergency Management Division, the following agencies have concurred to provide the role of supporting the response to the State of West Virginia during an emergency when or where the Specific Annex #6 Drought Incident is activated.

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| **Support Agency** | **Authorized Representative** | **Date of Concurrence** |
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Authorization & Concurrence

This Plan is considered operational and serves as the logistics guide for responding to Drought Emergencies in West Virginia. This Drought Annex supersedes all previous editions.

Approved: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_\_\_\_

Director of West Virginia Emergency Management Division

# IS ELEMENTS

## PURPOSE

* 1. This annex provides the framework necessary to coordinate Federal, State, Local, and private sector recovery efforts from the long-term consequences of a drought disaster affecting WV.
  2. State assistance under this function consists of three components:
     1. Providing drought monitoring, assessment, and coordination
     2. Helping affected communities return to normal status through coordination and implementation of applicable assistance programs, if needed.
     3. Identifying and implementing programs to minimize the adverse impact of drought.

## SCOPE

This annex applies to all Emergency Support Functions (ESFs) of WV.

## POLICIES

* 1. WVEMD along with our partners WVDA, WVDEP, and WV Department of Health are responsible for the development of this annex with input provided by appropriate agencies. This should occur at minimum once every two years.
  2. This annex is intended to be consistent with the State of WV Emergency Operations Plan (WVEOP), the National Response Framework (NRF), and the National Incident Management System (NIMS).
  3. All agencies assigned responsibilities within this annex will develop and maintain the necessary plans, standard operating procedures, mutual aid agreements, and model contracts to successfully accomplish their tasks.
  4. Each State and Federal agency responding to a drought is to prepare interim report. Final reports and after-action reviews on their activities must be submitted to WVEMD when drought affected areas drop below D0 status statewide.

## SITUATION

* 1. A drought is a natural, yet unpredictable occurrence that can vary widely in progression, duration, severity, and local impact. A drought is a persistent and extended period of below normal precipitation causing abnormal moisture deficiency that results in adverse impacts on vegetation, animals and/or people. The definition of a drought can be solely or in combination further subdivided into:
     1. Meteorological Drought: Based on the degree of dryness (rainfall deficit) and the length of the dry period.
     2. Agricultural Drought: Based on the impacts to agriculture by factors such as rainfall deficits, soil water deficits, reduced groundwater, or reservoir levels needed for irrigation.
     3. Hydrological Drought: Based on the impact of rainfall deficits on the water supply such as streamflow, reservoir and lake levels, and ground water table decline.
     4. Socio-economic Drought: Based on the impact of drought conditions (meteorological, agricultural, or hydrological drought) on supply and demand of some economic goods. Socioeconomic drought occurs when the demand for an economic good exceeds supply as a result of a weather-related deficit in water supply

For more information on droughts, please visit <https://www.weather.gov/safety/drought>

* 1. Drought can be associated with other weather hazards such as heat waves, changes in the La Nina/El Nino cycle, or abnormally high evapotranspiration. Drought can also be associated with excessive water demand or changes in the soil/flora balance.
  2. The size, frequency, economic and social effects of drought can vary considerably, and can span multiple counties or states.
  3. Perceptions of a drought can vary due to a variety of reasons including but not limited to historical, ecological, and/or economic experiences within a localized, regional, or statewide area.
  4. WV receives an annual average of 45.1 inches of precipitation which replenishes ground water and reservoirs. Extended droughts can severely diminish the quality, quantity, or availability of water in streams, reservoirs, and aquifers. `
  5. Residents and visitors within the State of WV depend on public ground water systems, private wells, cisterns, and surface water for their water supply.

## PLANNING ASSUMPTIONS

* 1. Local and state agencies are informed of weather conditions and drought forecasts
  2. Local jurisdictions implement conservation and mitigation procedures where possible. Zoning restrictions and planned development of identified drought vulnerable areas are enforced.
  3. Public education efforts encourage individuals to adopt water conservation and limited burning measures

## ORGANIZATIONAL STRUCTURE

* 1. A shared responsibility for managing agriculture droughts exists at the State level with WVDA, WVDEP, and WVEMD. WV Department of Health is to work directly with local jurisdictions that have been affected by droughts. The National Weather Service will provide timely drought information and weather forecasts.
  2. Planning and policies are to be maintained at the State level by WVDA and WVEMD to manage agriculture droughts and the recovery process afterwards.
  3. Shared responsibility for managing hydrological droughts exists at the State level with WVDA, WVDEP, WVEMD, and WV Department of Health.

## CONCEPT OF OPERATIONS

* 1. General
     1. National Weather Service monitors precipitation and weather forecasts
     2. USGS measures additional ground water levels, stream flows, and water quality
     3. WVEMD and supporting agencies will monitor meteorological data and stream stage information through IFLOWS.
     4. USDA and NRCS monitors soil temperature and moisture, water data logs, and soil samples.
  2. Phases of Management
     1. Preparedness
        1. Monitor weather reports and forecasts issued by the National Weather Service weekly.
           1. Blacksburg, VA Forecast Office: <https://www.weather.gov/rnk/>
           2. Charleston, WV Forecast Office: <https://www.weather.gov/rlx/>
           3. Pittsburg, PA Forecast Office: <https://www.weather.gov/pbz/>
           4. Sterling, VA Forecast Office: <https://www.weather.gov/lwx/>
        2. Monitor current drought conditions issued by the National Drought Mitigation Center for regional, statewide, and localized impacts
           1. National: <https://droughtmonitor.unl.edu/>
           2. West Virginia: <https://droughtmonitor.unl.edu/CurrentMap/StateDroughtMonitor.aspx?WV>
        3. Monitor the weekly Crop Progress & Condition Report issued by the West Virginia USDA field office for precipitation data, crop conditions and progress: <https://www.nass.usda.gov/Statistics_by_State/West_Virginia/Publications/Crop_Progress_&_Condition/index.php>
        4. Weekly reports created by NWS and USGS should be read by all WVEMD and supporting agencies in support of drought related situational awareness
        5. Partner assessment, development, and organization of damage assessment teams must be considered if drought trends continue to trend or persist after a D2 drought. Plans should be made to obtain and analyze damage assessment data
        6. Ensure all personnel integrate the NIMS principles in all planning activities. All Emergency Support Function (ESF) personnel are to

complete all required NIMS training, as outlined in the Department of Homeland Security (DHS) training guidance.

* + - 1. Develop and implement plans to reduce State and local socio- economic consequences.
    1. Response
       1. WVEMD may use the following policies in all drought emergencies:
          1. When drought conditions are in the developing stages, the Commissioner of Agriculture is to regularly receive/obtain data and information from WVDA staff and USDA Farm Service Agency as it related to agriculture. As this information is received, monitored, and analyzed, the Commissioner is to keep WVEMD and all supporting agencies informed with the most up to date information.
          2. Recommend to the Governor that Mandatory Water Conservation Rules be instituted if at any time a city, community or public water supplier who depends on impoundment as its main source of water, and upon that impoundment reaching the point of a 60-day remaining water supply.
          3. Recommend to the Governor an Emergency Drought Relief reimbursement Grant program to assist state, regional, county, municipal agencies, emergency management, and county commissions assisting in water supply efforts.
       2. Should a D3 drought be issued for anywhere in the State of West Virginia, WVEMD should hold weekly meetings with relevant partners and agencies to have situational awareness of the drought response and recovery progress.
       3. Public service announcements about drought awareness, conservation, and limited burning should be published on all forms of media including print, broadcast, and social media platforms
    2. Recovery Operations
       1. Recovery operations are to be monitored and coordinated by WVEMD and in conjunction with WVDA and applicable agencies implement a wide range of specific actions to be taken by state agencies to support local governments and to coordinate recovery activities.
          1. Initiate recovery activities after the damage assessment are complete.
          2. When conditions allow, rapid and thorough assessments must be conducted to:

Assess the overall damage to affected areas.

Assess the overall damage to critical public services; and

Determine whether those damages are sufficient to warrant supplemental State and/or Federal disaster assistance.

* + - 1. Determine the need for a Governor’s request for a Presidential disaster declaration, which makes the state eligible for a variety of Federal assistance programs.
      2. Coordinate Federal assistance programs via the Governor’s appointment of a State Coordinating Officer (SCO), a Governor's Authorized Representative (GAR) and a State Hazard Mitigation Officer (SHMO).
      3. Upon activation of a Joint Field Office (JFO), State Emergency Operations Center (SEOC) operations may terminate, and State operations can be transferred to the JFO.
      4. Deploy damage assessment teams; obtain and analyze damage assessment data.
      5. Assign staff to identify and document economic impact and losses in affected areas in coordination with the Federal government (if there is a declaration).
      6. Coordinate identification of appropriate Federal and State programs to support implementation of long-term recovery plans.
    1. Mitigation Operations
       1. Following a Presidential disaster declaration, the SHMO is to execute the State Hazard Mitigation Plan and implement the State Hazard Mitigation Grant Program (HMGP) according to the HMGP Administrative Plan.
       2. The SHMO reviews and revises the HMGP Administrative Plan, as necessary.
       3. The SHMO reviews and revises the State Hazard Mitigation Plan, as necessary.
       4. The WVEMD Chief of Mitigation and Recovery and the SHMO develop the State's Management Cost Plan.
       5. The SHMO works with the Public Assistance Program to ensure that all Stafford Act Section 406 mitigation opportunities are identified. Section 406 provides for direct Federal assistance for repairs and improvements to the eligible affected public and private entities. HMGP is Section 404 and 406 of the Stafford Act. The total sections of the Stafford Act covering Mitigation are 403 Essential Assistance Mitigation, 404 HMGP, 406 Infrastructure Mitigation (Public Assistance (PA) runs this) and 407 Personal Property Demolition and Removal (PA runs this).
       6. The SHMO works with the Federal Emergency Management Agency (FEMA) and appropriate state agencies to develop a disaster-specific mitigation implementation strategy. The implementation strategy includes an overview of the disaster, geographical and mitigation measure priorities, and a JFO action plan.
       7. Mitigation project completions are overseen by WVEMD, where WVEMD tracks progress, pays grant funds to the applicants, and conducts a final inspection with FEMA prior to final payment. The

WVEMD submits quarterly reports to FEMA on the status of all projects.

* + - 1. Plan for mitigation measures using the HAZUS loss estimation methodology support and other mitigation strategies.
      2. Support requests and directives resulting from the Governor and/or FEMA concerning mitigation and/or re-development activities.
      3. Document matters that may be needed for inclusion in agency or State/Federal briefings, situation reports and action plans.
      4. Coordinate assessment and revision of existing mitigation plans, as necessary.
      5. Review the State mitigation plan and local mitigation plans for affected areas to identify potential mitigation projects.
  1. Drought Classification
     1. Drought classification is published by the U.S Drought Monitor group. It is a partnership between the National Drought Mitigation Center at the University of Nebraska-Lincoln, the US Department of Agriculture, and the National Oceanic and Atmospheric Administration.
        1. Drought Classifications are issued in combination from the following:
           1. Drought conditions are reported to the Condition Monitoring Observer Systems website which allows Drought Monitor authors to better understand local conditions and identify areas that may need more attention. These reports may come from public and government officials or agencies.
           2. National Weather Service provides detailed weather data analysis and forecasts to determine the qualifications of a drought and at what intensity,
           3. Both US Department of Agriculture and WV Department of Agriculture provides crop impact and information
        2. The most current drought information is released on Thursday mornings and can be found on <https://droughtmonitor.unl.edu/CurrentMap.aspx>
        3. Drought intensity and impacts for the State of WV are rated D0 (Abnormally Dry) to D4 (Exceptional Drought). Below is a chart identifying the percentile, frequency, and examples of historically observed impacts

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| Category | Status | Percentile | Frequency |
|  | None | 31-100 | Once per 1-3 years |
| D0 | Abnormally dry | 31-30 | Once per 3-5 years |
| D1 | Moderate drought | 11-20 | Once per 5-10 years |
| D2 | Severe drought | 6-10 | Once per 10-20 years |
| D3 | Extreme drought | 3-5 | Once per 20-50 years |
| D4 | Exceptional drought | 1-2 | Once per 50-100 years |

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| Category | Example of historically observed impacts |
| D0 | Crop growth is stunted; planting is delayed |
| Fire danger is elevated; spring fire season starts early |
| Lawns brown early; gardens begin to wilt |
| Surface water levels decline |
| D1 | Honey production declines |
| Irrigation use increases; hay and grain yields are lower than normal |
| Trees and landscaping are stressed; fish are stressed |
| Voluntary water conservation is requested; reservoir and lake levels are below normal capacity |
| Wildfires and ground fires increase |
| D2 | Fish kills occur; wildlife move to farms for food |
| Golf courses conserve water |
| Producers begin feeding cattle; hay prices are high |
| Specialty crops are impacted in both yield and fruit size |
| Trees are brittle and susceptible to insects |
| Warnings are issued on outdoor burns; air quality is poor |
| Water quality is poor; groundwater is declining; irrigation ponds are dry; outdoor water restrictions are implemented |
| D3 | Crop loss is widespread; Christmas tree farms are stressed; dairy farmers are struggling financially |
| Extremely reduced flow to ceased flow of water is observed; river temperatures are warm; wells are running dry; people are digging more and deeper wells |
| Water recreation and hunting are modified; wildlife disease outbreak is observed |
| Well drillers and bulk water haulers see increased business |
| D4[[1]](#footnote-1) | Wells collapse; Excess mineral and manganese contaminated water; many water sources completely dry |
| Emergency water source relocation and water conservation efforts observed. |
| County and statewide burn bans issued. High fire danger |
| Record sales of farm animals and cattle; Producers prepare for long-term water and feeding shortages; hay shortages span multiple states |
| Wildlife searching for food and water in residential areas; increase in bee stings and insect activity |

* 1. Stages of Drought Response

A drought monitoring and assessment system is required to provide sufficient time for State and local decision-makers to take appropriate action. The drought stages are intended to guide implementation of the State’s response to a drought depending upon seasonality and meteorological events. Each stage is determined by weighing all of the criteria used with the aid of the National Center for Environmental Information of the National Oceanic and Atmospheric Administration (NOAA) to determine the severity of the drought which includes precipitation, ground water, stream flow, reservoir levels, and the drought monitor. These five droughts’ criteria are reassessed each week; therefore, the stages are adjusted weekly. This facilitates progression through the stages on a weekly basis and if the drought worsens, the spacing of re-assessments every 30 days also provides for conservation measures to be effective.

* + 1. Assessments will employ four stages of concern:
       1. The Drought Monitor map identifies areas of drought and labels them by intensity. D1 is the least intense level and D4 the most intense. Drought is defined as a moisture deficit that has the potential to have social, environmental, or economic effects.
       2. D0 areas are not in drought but are experiencing abnormally dry conditions. This could indicate an area could turn into drought or is recovering from drought but are not yet back to normal.
       3. We indicate whether primary physical effects are for short- or long- term drought:
          1. S – Short-term, typically less than 6 months. (agriculture, grasslands)
          2. L – Long-term, typically more than 6 months. (hydrology, ecology)
          3. SL – Area contains both short- and long-term impacts.
       4. Drought intensity categories are based on:
          1. The original five key indicators along with several dozen other objective indicators.
          2. Local condition reports via CMOR or other reporting areas, and impact reports from more than 450 expert observers around the country.
          3. Drought impacts which subjectively support and validate the indicators used.
       5. Normal
          1. Refers to conditions that do not negatively impact water supplies, vegetation, or water quality in the state. No action needed.

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| f. | Alert |  |
|  | i. | When the Drought Classification is at a D1 and stream flow, |
|  |  | reservoir levels and ground water levels are below normal |
|  |  | over a 2-week period and/or the WVEMD Director, |
|  |  | in coordination with appropriate state officials, determines |
|  |  | D1 activities are required, the Governor is to be requested to |
|  |  | make a Drought Alert Declaration. |
|  | ii. | The alert can be rescinded once rainfall, stream flows, |
|  |  | reservoir levels and ground water levels return to normal or near normal levels for that time of year. |

1. Conservation
   1. Activated when the Drought Classification is at a D2 and/or when the Director of WVEMD, in coordination with appropriate state officials, determines that D3 activities are required. Stream flow, reservoir levels and ground water levels continue to decline, and forecasts indicate an extended period of below normal precipitation.
   2. A return to Alert level happens when sufficient precipitation amounts increases; stream flows, reservoir levels and ground water levels stop their decline; and when the Director of WVEMD, in coordination with appropriate state officials, determines that D2 activities are required. Extended forecasts should indicate a return to normal conditions.
2. Emergency
3. Activated when the Drought Classification is at a D3and/or the Director of WVEMD, in coordination with appropriate State officials, determines that D4 activities are required. The Governor may issue a Drought Emergency Declaration when water supplies are inadequate to meet projected demands and extreme measures must be taken. Forecasts are to indicate that precipitation levels, stream flows, reservoir levels, and ground water levels will continue to decline.
   * + - 1. The Governor’s declaration empowers state agencies to review allocation of supplies in communities not adequately responding to their water shortage and to implement emergency programs and actions as provided in the West Virginia Code.
     1. Historical Data:
        1. Alert: Drought Monitor Category D1 (Moderate Drought) Fall 2009, 2019

Spring 2016

* + - 1. Conservation: Drought Monitor Category D2 (Severe Drought) Fall 2008, 2019
      2. Emergency: Drought Monitor Category D3 and above (Extreme to Exceptional Drought)

D3 - Late Summer/Fall 2010

D3 - Summer/Fall 2007

D4 - Summer/Fall 2024

* 1. Federal Interface
     1. This annex is supported by the NRF.
     2. Federal support is tailored based on the type, extent and duration of the event and long-term recovery period, and on the availability of federal resources.
     3. All response personnel are to be familiar with the NRF and the corresponding annex with federal counterpart concepts, actions, and responsibilities.
     4. Following a Presidential disaster declaration, a Letter of Agreement is drawn between FEMA and the state. In that letter, the state agrees to revise its state hazard mitigation plan. This agreement is signed prior to the release of any federal disaster assistance funds.
     5. An agriculture disaster declaration may be entered into by WV with the Secretary of USDA and may not necessarily involve FEMA.

1. **AGENCY RESPONSIBILITIES MATRIX**

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| Supporting Agency | Acronym | Responsibilities |
| WV Department of Agriculture | WVDA | * Request from the Governor a declaration of drought emergency for agriculture drought emergency purposes. * Provide information to farmers on crops and livestock. * Coordinate with the USDA in collecting information regarding critical shortages of water and livestock feed. * Assist with facilitating livestock feed * Assist in encouraging cutbacks of agricultural use of water |
| WV Emergency Management Division | WVEMD | * Coordinate with WVDA to: * Monitor the drought situation throughout all stages with appropriate State assessment and response/recovery recommendations being made to the Governor regarding the potential impacts on the state’s agricultural, economic, environmental, and natural resources. * Conduct meetings with support agencies to address specific drought issues. * Provide a reporting system format and regularly issue reports (e.g., Situation Reports) on drought status through all stages of a drought, including supplemental reports whenever a significant weather event occurs. * Identify resource information gaps and make recommendations for improvement. * Emphasize improving the capability to provide accurate and timely assessments of water availability or agricultural deficiencies. * Develop additional assessment information and the identification of emergency needs. * Increase monitoring, oversight, and analysis activities during the Conservation Stage. Partial activation of the SEOC may occur depending upon the needs/requests of citizens and public officials in drought-stricken areas of the State. * Monitor trends and serve as the technical advisor for State and local decision-makers. |

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|  |  | * Identify resource deficiencies that may aggravate drought effects. * Coordinate with the Governor’s Office and other organizations, as needed, to develop drought legislation. * Coordinate the use of the WV National Guard water tankers/tenders for use by local communities. * Coordinate all drought-related and family emergency information press releases with the Governor’s Office of Communications for dissemination to the news media and public (see ESF #15, External Affairs). * Identify sources of water hauling and pumping capabilities. |
| WV Department of Environmental Protection | WVDEP | * Monitor water quality on a regular basis and provide this information to WVEMD. * Post signage of notice/warning to drought impacted streams where water quality standards could pose a threat to public safety. * Coordinate with the WV Department of Health and Human Resources on the release of drought-related health advisories. * Maintain information on outlet discharge capacity of state-owned dams/reservoirs and improves structural work as appropriate for state- owned dams/reservoirs. * Provide a water availability report to the Governor, comprised of information on precipitation, stream flow, reservoirs, ground water levels, and reports of dry or impacted wells, along with forecasted weather. * Coordinate with other State and Federal agencies on stream draws for water resources for agriculture purposes. * Identify and monitors water impoundments that can be used as water resources. |
| WV Department of Health |  | * Provide increased monitoring of bulk water haulers and tankers through Office of Environmental Health Services district offices in cooperation with county and local government agencies. Requires public water utilities to document all sales of finished water   to contract haulers. |

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|  |  | * Document the number of new and replacement wells drilled. (Information is housed at county health departments). * Office of Laboratory Services will perform routine laboratory testing for total and fecal coliforms for well and water system samples submitted by the local health departments. * Monitor drought trends for health-related effects and serve as a technical advisor for State and local decision makers. * Provide information about the disinfection of drinking water supplies, as necessary, in drought-impacted areas of the State, in cooperation with local health departments and Office of Environmental Health Service regional offices * Provide information about potable water safety in drought-impacted areas of the State, in cooperation with local health departments and Office of Environmental Health Services regional offices. * Provide a list of permitted bottled water manufactures and distributors. * Provide technical assistance to public water utilities, on an as-needed basis, for modification to treatment processes, which may be required to facilitate adequate treatment of water from alternate sources or unusual source water quality conditions, such as the lower stratum of reservoirs. * Provide design standards information for various individual and public water supplies. * Provide information for water quality criteria for recreational contact with water in lakes, on request. * Harmful Algal Bloom, Local Health Departments were tasked with posting public health advisories at designated locations. * Discuss water conservation strategies with water systems. |
| WV Public Service Commission | PSC | * Receive weekly status reports from regulated investor-owned utilities regarding their drought   status and recommended conservation education activities. |

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|  |  | * Recommend voluntary cutbacks on water usage. * Advise PSC-regulated, investor-owned utilities to follow their tariffs with regard to voluntary and mandatory conservation measures. * Develop recommendations for water conservation based upon recognized priorities. * Provide weekly reports on current status of PSC-regulated, investor- owned utilities ability to provide service to their customers. * Assist in encouraging cutbacks of industrial use of water. * Monitor events that may/will impact other PSC-regulated, investor-owned utilities. * Assist unaffected regulated water with available resources * Assist other affected utilities with emergency water services portable or fixed when available |
| USDA Farm Service Agency | USDA-FSA | * Provide assessments of drought damage. * Coordinate requests for Presidential Declarations of Drought Emergency. * Provide technical support to WVEMD and WVDA in preparing the Governor’s request for a Presidential Declaration of Drought Emergency. * Implement Federal drought assistance programs. * Administer drought-related relief in coordination with the WVDA. |
| US Army Corps of Engineers | USACE | * Develop drought plans and procedures for Corps of Engineers projects within West Virginia. * USACE reservoirs have legislatively assigned drought responses that can be coordinated with the Huntington District (CELRH) as the lead for the state. LRH will coordinate with the other districts with reservoirs (Pittsburgh and Baltimore) to ease in coordination and reflect a single point of contact for ease of communications. * Provide information/reports as needed to WVEMD. * Coordinate USACE drought-related activities with WVEMD and affected West Virginia localities. * Provide water from USACE reservoirs/dams, as available during emergencies. * -Monitor USACE dams during a flood event for signs of distress.   -Identify that a dam failure condition exists |

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|  |  | and report to supervisors, local officials, and local emergency management agencies.  -Coordinate emergency response to the dam and take actions to reduce consequences in a dam failure event.  -Arrange for a detailed inspection of the dam and appurtenances and continue to monitor the situation.  -Conduct periodic inspections and assessments of dams to ensure they are being properly maintained.  -Conduct periodic emergency exercises with dam staff and local officials to maintain preparedness.  -Conduct dam safety training to train dam personnel on issue detection and response. |
| National Weather Service | NWS | * Provide research and reports on local weather patterns and forecasts to support drought- related planning and response activities. |
| U.S Department of Agriculture – National Resources Conservation Service | USDA-NRCS | * Assist West Virginia landowners and managers with conservation planning technical assistance * Plan for drought contingencies with various operations such as prescribed grazing plans |
| U.S Geological Survey | USGS | * Provide research and reports on streamflow and groundwater conditions to support drought related planning and response activities |
| West Virginia Conservation Agency | WVCA | * Coordinate with the USDA in collecting information regarding critical shortages of water and livestock feed. * Coordinate with other State and Federal agencies on stream draws for water resources for agriculture purposes. * Identify and monitors water impoundments that can be used as water resources. |

# AUTHORITIES AND REFERENCES

## AUTHORITIES

* 1. West Virginia Code §15-1
  2. West Virginia Code §15-5
  3. West Virginia Code §15-6
  4. West Virginia Code §16
  5. West Virginia Code §19
  6. West Virginia Code §22
  7. West Virginia Code §24

## REFERENCES

* 1. State of West Virginia Emergency Operations Plan, Basic Plan
  2. West Virginia State Hazard Mitigation Plan
  3. WV Department of Environmental Protection
  4. Water quality data is available at https://dep.wv.gov/WWE/watershed/wqmonitoring/Pages/waterquality.aspx

1. All D4 historically observed impacts are not officially recognized by the US Drought Monitor for the State of West Virginia. This annex was reviewed and updated during the fall of 2024 which coincided with the first recorded D4 drought observed in the State of West Virginia. These impacts were observed by weekly virtual meetings held by WVEMD and its supporting agencies. [↑](#footnote-ref-1)