DROUGHT MONITORING TASK FORCE

Drought Status Report
August 19, 2002

The Department of Environmental Quality compiled the following drought status report from information provided by the State Climatologist, the Virginia Departments of Agriculture and Consumer Services, Health, Forestry, Emergency Management, Game and Inland Fisheries; the Virginia Cooperative Extension Service, Farm Service Agency-USDA, the National Weather Service, and the U. S. Geological Survey.

OVERVIEW

Drought conditions have deteriorated quickly during the first two weeks of August. Statewide rainfall for the first half of the month of August was 10% of long term average rainfall for this period. Near normal rainfall (93% of long term average rainfall) in July resulted in some stabilization of drought conditions prior to August 1 but the recent dry spell has seen conditions rapidly deteriorate in all sectors. Weather forecasts call for above normal temperatures and below normal precipitation for the next ten days. The long-range climatological forecast calls for below average precipitation through November 2002. The recent period of above average temperatures and very low rainfall has created conditions that favor the production of ground-level ozone. Since May 24 Virginia has experienced 26 code orange (unhealthy for sensitive groups), 10 code red (unhealthy) and 2 code purple (very unhealthy) ground-level ozone advisories at one or more monitoring stations. Streamflows over the majority of the Commonwealth are well below levels that are expected in August. Record minimum flows for the period of record are expected at streamgages in the Shenandoah, Rappahannock, York, James, and Chowan River Basins. Ground water levels continue to decline. Levels of large reservoirs such as Smith Mountain Lake, Kerr Reservoir, and Philpott Reservoir continue to decline despite variances to required minimum discharges. Lake Moomaw is currently operating under their normal summer water quality release that is supplying about one half of the flow measured in the James River near Richmond. While July rainfall improved agricultural conditions slightly, much below average rainfall in the first two weeks of August has adversely impacted agricultural concerns across the Commonwealth. Topsoil moisture conditions were short or very short across 82% of the Commonwealth for the week of August 18. Wildfire threats have significantly increased as forest fuel moisture continues to decline. These continuing reductions in forest fuel moisture levels indicate the potential for an extremely serious fall wildfire season. Reservoir and stream levels that support public water supplies have declined significantly since the last report. The Town of Gretna and the Town of Farmville have experienced water shortage emergencies in the last week and the Town of Orange is anticipating a water shortage emergency within two weeks. Ground water based public water supplies in Amherst, Appomattox, Augusta, Botetourt, Caroline, Clarke, Fluvanna, Fauquier, Loudoun, Nottoway, Shenandoah, and Warren Counties have reported dropping ground water levels or reduced yields. During the six-week period from July 1, 2002 through August 15, 2002 local offices of the Virginia Department of Health issued over 2200 private well replacement permits for private water supply wells that have failed. The Department of Game and Inland Fisheries continue operations at all nine aquaculture facilities. Many public boat ramps and fishing piers have decreased accessibility and approximately 15 are out of service due to low levels. Approximately one-third of the Department's 225 ramps are classified as at low water conditions and are marginally usable.

CLIMATOLOGICAL CONDITIONS

National Weather Service

Dry weather will continue over the next few days with little rain predicted over the next 6 to 10 days. A dry, weak cold front that has crossed most of the state will be south of the area by the evening of Tuesday August 20. High pressure behind the front will usher in cooler and drier air over the next couple of days, at least through Thursday August 22. The surface high pressure will move into the Atlantic as another frontal boundary will attempt to cross the region late Thursday into Friday. At this time, it does not appear that this front will produce an appreciable amount of rainfall. A weak disturbance could affect the state on the evening of Saturday August 24 and into Sunday, but with the persistent, strong upper ridging, chances for significant widespread rain are small.

The 6 to 10 day outlook.calls for below normal precipitation and above normal temperatures.

The 30-day outlook through the month of September 2002 calls for equal chances of below average, average, and above average precipitation and temperatures.

The 90-day outlook through the month of November 2002 calls for below average precipitation and equal chances of below average, average, or above average temperatures.

The latest NOAA drought monitor indicates significant increases in drought severity since the last report on July 8 and is included as Appendix A. Appendix B contains information from the national drought monitor with only Virginia displayed. The area of exceptional drought has spread significantly to the Northeast and now includes the majority of the Virginia Piedmont and northern Coastal Plain. Please note that the NOAA Drought Monitor and the derivative Virginia Drought Monitor is updated weekly and is available at http://www.deq.state.va.us/info/drought.html by noon on Thursdays. The NOAA seasonal drought outlook has deteriorated and calls for current drought conditions to continue over the state through November with conditions deteriorating in southwest Virginia and the Shenandoah Valley. The seasonal drought outlook is included as Appendix C.

Report of the State Climatologist

Short-term moisture conditions declined in the Virginia Piedmont and Tidewater regions during the last month. Short-term moisture conditions remained relatively unchanged in the Shenandoah Valley. Conditions in Northern Virginia, while somewhat dry, are not as severe as other areas of the state. Conditions in southwestern Virginia continue in the normal range. The Piedmont, Tidewater and Shenandoah Valley regions are most affected by the current drought.

Precipitation within the last month has not been evenly distributed. Rainfall during the July 15-31 period was generally above normal over much of the state. With the exception of Tidewater and Southwestern Virginia, little rain of consequence has occurred since August 1. The result in the Shenandoah Valley was a brief recovery in corn and pasture conditions in late July and early August, followed by another rapid decline. The late July rains appear to have saved some of the Valley corn crop from total failure. As a result, the 2002 yield reductions may not be as large as they were in 1999, which were the greatest absolute yield departures in the modern record.

The region of exceptional drought in the Piedmont has expanded eastward and northeastward as a result of recent dryness. This is accurately portrayed in the recent NOAA Drought Monitor. The extreme dryness in the central Shenandoah Valley is beneath the spatial resolution level of this national publication and is not accurately portrayed in this product.

Evaporation rates normally peak during this time of year at rates of about two inches per week. A higher-than-normal percentage of sunny days has increased evaporation rates above these levels. These excessive evaporation rates have led to extremely dry topsoil and surface conditions in the Piedmont and Shenandoah Valley where very little rainfall has occurred in the last two weeks. In Northern Virginia there has also been a rapid drying in recent weeks. As is usually the case in these circumstances, this is resulting in afternoon temperatures commonly reaching the mid and upper 90s over rural Virginia, with 100 degree readings in the urban cores, particularly in the Washington DC region. Temperatures have been somewhat lower in the Tidewater cities because of onshore winds in the afternoon. As a result, air quality in Northern Virginia has met advisory criteria on several days and will continue to do so until there is a substantial change in our weather regime, or there is a general and widespread rain.

Streamflow conditions, especially in the Piedmont, are at or near record-low values. These near record low streamflows along with higher than normal evaporation has resulted in an accelerated and abnormal decline in reservoir levels in the dry regions.

Appendix D contains an updated table of cumulative precipitation departures through August 15. The Eastern and Western Piedmont Climatic Divisions have received approximately 60% of normal

precipitation during the last year. This magnitude of precipitation deficit is normally associated with severe and extreme drought. For comparative purposes, the modern Virginia drought of record, 1930, generally displayed about 50% of normal rain in the one-year time frame. Forty-eight month precipitation deficits indicate that the Dale Enterprise station (Harrisonburg) has experienced the second largest long-term precipitation deficit in its 120-year record and the Roanoke station has experienced the largest long-term precipitation deficit in its 75-year record.

Climatologically, we continue in a regime marked only by very scattered late-day thundershowers. There is very little chance of this changing through late August. Tropical cyclone activity in the Atlantic Basin remains weak, although historical records reveal a propensity for a bloom of multiple systems in late August.

PROVISIONAL ASSESSMENT OF HYDROLOGIC CONDITIONS IN VIRGINIA

United States Geological Survey

Record minimum flows for the period of record are expected at streamgages in the Shenandoah, Rappahannock, York, James, and Chowan River Basins. Streamflows in August and September are usually the lowest for the year, and most of the period of record minimum flows were established during those two months during previous droughts. While most basins in the State have low streamflows because of the lack of precipitation and low ground-water storage, smaller tributary basins in central and eastern Virginia are indicating the worst conditions statistically.

Coastal Plain basins in the Rappahannock and York River Basins are nearly dry, while basins of similar size in the Piedmont are still maintaining some flow. Tributary basins in the James and Chowan River Basins still maintain some flow, but are well below previous minimums. The Appomattox River at Farmville, Va., streamgage has a current flow rate of 0.2 cubic feet per second with a previous minimum daily-mean flow rate of 6.3 cubic feet per second set in 1941. The Meherrin River near Lawrenceville, Va., streamgage has a current flow rate of 3.0 cubic feet per second with a previous minimum daily-mean flow rate of 4.2 cubic feet per second set in 1954. Some of the record minimum flows may be due to natural conditions; however, withdrawals for water supply and irrigation probably significantly impact the streamflows. Flow at streamgaging stations on rivers that have augmented flow (releases from dams), is low, but would be much lower without the augmentation. Two rivers that are in this category are the Pamunkey and James Rivers.

The Roanoke River Basin has been one of the most impacted basins in the State; however, recent thunderstoms have boosted streamflows temporarily. Without additional precipitation, streamflows again will approach record minimums in approximately one week.

Streamflows in the Kanawha, Big Sandy, and Tennessee River Basins have been affected the least by drought condtions this summer. Periodic precipitation has maintained streamflow in the normal to below-normal range, well above period of record minimums.

Appendix E contains flow duration and current flow conditions for selected U.S. Geological Survey and Virginia Department of Environmental Quality surface-water gaging stations. Data are provisional and subject to revision. The normal range of flows is defined as flows in the middle two quartiles (between those flows equaled or exceeded 75 percent of the time and those flows equaled or exceeded 25 percent of the time).

Department of Environmental Quality, Status of Major Reservoirs

Smith Mountain Lake is 3.0 feet below full and falling. It has fallen 0.6 feet since the last report. Inflow is only 75 cfs and outflow is 400 cfs. Inflow has fallen from 200 cfs in the last report. The lake continues to operate under a variance. The release will probably be dropped to 350 cfs on September 1st.

Kerr Reservoir is at 294 feet above mean sea level and falling. The lake has fallen five feet since the last report and is 5.5 below the guide curve. Inflows are much below normal, on the order of 400 cfs; outflows are 2500 cfs. The lake will probably decline another 4 feet in the next month. Lake levels are about 3 feet lower than we were at this time last year. DEQ meets weekly with North Carolina and the Corps of Engineers to reach decisions on releases from Lakes Kerr, Gaston, Roanoke Rapids and Philpott.

Philpott Reservoir is 9.0 feet below normal and falling. This is two feet lower than the last report. The Lake is expected to decline another two feet by mid September. Minimum releases have been cut back to one fourth of their normal condition and the lake is still falling.

Lake Moomaw in western Virginia is 57% full and operating under their normal summer water quality release. Inflow is 50 cfs and outflow is 280 cfs. At this rate the lake loses 1% of its conservation pool every day. At the last report the lake was 86% full. The lake is supplying about half the flow in the James River near Richmond. Lake levels are several feet lower than at this time last year. The situation has deteriorated rapidly in the last few weeks. At the current discharge rate the conservation pool will be empty in 2 months. A conference call with James River stakeholders has been scheduled August 22 to discuss reducing releases to prolong the ability to augment flows.

Lake Anna was 4.1 feet down at 245.9 feet above sea level. Current operational conditions require shut down of the nuclear generating facilities when lake levels drop to 244.0. Dominion will probably shut down in September for normal maintenance and at that time extend the shafts of the intake pumps to allow operations at lower lake levels.

Claytor Lake on the New River is 2.5 feet below full. AEP had been attempting to honor a gentlemen's agreement with DGIF and release 750 cfs. With inflows of only 500 cfs, the Lake level has declined. AEP has reduced releases to 650cfs.

VIRGINIA AGRICULTURAL SITUATION

Virginia Department of Agriculture and Consumer Services

Local Disaster Designation Requests

Thirty Virginia localities have submitted requests to the Governor for federal drought disaster designation. The U.S. Secretary of Agriculture has approved primary disaster designations for Bedford, Brunswick, Buckingham, Cumberland, Fluvanna, Goochland, Louisa, Orange, Prince Edward, and Rockbridge counties. The Secretary disapproved primary disaster designation for the counties of Augusta, Bland, Nelson, Page, Rockingham and Wythe because they did not meet the 30% loss of production requirement. Damage assessment reports have been completed and the Governor has asked the Secretary of Agriculture for disaster designation for Campbell, Franklin and Pittsylvania counties. Damage assessment reports (DAR) are pending from USDA for Appomatox, Caroline, Hanover, King George, Madison, Mecklenburg, New Kent, Nottoway, Prince William, Powhatan, and Westmoreland. DARs are also pending for nine counties that have submitted a second request for losses due to drought and excessive heat: Augusta, Bland, Buckingham, Cumberland, Goochland, Nelson, Page, Rockingham, and Wythe. Forty-six counties have received secondary designation because they are contiguous to counties that have primary designation.

Soil/Crop Conditions

Virginia experienced more hot, dry weather and below average rainfall this month. Extremely dry conditions have caused crop yield potential to remain low. Farmers continue to haul water and feed hay and silage to livestock. Soybeans have been slow to set pods and corn chopping continued due to the ever present dry weather. Fall vegetable planting has slowed down and even stopped in areas where there is no irrigation. Topsoil moisture in 82% of Virginia's fields is short to very short.

Tables describing topsoil moisture, crop condition, and crop progress are contained in Appendix F.

FOREST SITUATION IN VIRGINIA

Virginia Department of Forestry

Wildfire Conditions

Wildfire activity remains at higher than normal levels, and continues daily throughout the Commonwealth. Large fires (those greater than 100 acres) have occurred on a regular basis since June, and no relief is expected in the near future. Drought conditions have escalated significantly over the last month, and forest fuel conditions remain at near record levels of dryness, making fire control efforts much more difficult. Forest drought measures used by the agency to monitor the drought situation have now approached extreme drought levels that are not normally seen at any time of the year here in Virginia. Projections are that conditions will continue to deteriorate over the next 30 - 60 days.

Through August 13, the DOF has responded to 1439 wildfires for over 11,945 acres this calendar year. This activity is well above the normal five and ten year averages.

The current dry forest fuel conditions lead to increased difficulty in extinguishing wildfires that occur. Larger numbers of personnel and equipment are needed to initially control, and then totally extinguish the blazes that occur. Controlled wildfires must be monitored on a daily basis for indefinite periods of time to make sure that they do not re-kindle due to the dry forest fuel conditions. This creates a growing problem of personnel and resource shortages for new wildfires that occur.

Agency firefighters have continued to report that fire behavior is more severe than would normally be expected. The low fuels moistures resulting from long term rain deficits are definitely making fire operations more difficult and dangerous, regardless of the season. Drought indices remain at very high levels compared to what is normally expected during the summer months. The potential for wildfire starts remains high and current conditions will result in rapid spread of any wildfires that do start.

The potential for a severe fall fire season remains a major concern for VDOF. Current long-term predictions indicate that the fall wildfire season in Virginia has the potential be even more severe than what was experienced last fall. The agency has continued its focus on the training of new fire resources for the state, exploration into new fire suppression technologies, and in maintaining the continued close working relationships with other cooperating agencies, to ensure adequate fire readiness as we face yet another severe wildfire season.

PUBLIC WATER SUPPLY SYSTEMS

Virginia Department of Health

Decreased rainfall and higher evaporation rates associated with the summer time have significantly decreased reservoir and stream levels elsewhere.

Mandatory water restrictions are in place for waterworks in fourteen (14) counties and cities. Mandatory water restrictions are in place in the City of Roanoke, Craigsville, Spotsylvania County, City of Fredericksburg, Chesterfield County, Chesapeake, Portsmouth, Town of Amherst, Town of Burkeville, Town of Crewe, Town of Chatham, Town of Gretna, Town of Farmville and Town of Appomattox. In Caroline County, Lake Caroline and Campbell's Creek Subdivision have initiated mandatory water restrictions. In Henry County the Marrowbone Creek WTP has initiated mandatory water restrictions.

In addition, voluntary water restrictions are in place for thirty-nine waterworks in twenty-four counties and cities. Of the one hundred eleven waterworks reporting, fifty-six report a decline in conditions since the last report on July 16.

Ground water based public water supplies in parts of Albemarle, Amherst, Appomattox, Augusta, Botetourt, Caroline, Clarke, Fluvanna, Fauquier, Loudoun, Nottoway, Shenandoah, and Warren County have reported dropping water levels or reduced yields from wells and springs.

Several areas have reported both public and private wells are going dry. County Health Departments from across the Commonwealth report the issuance of more than 2200 replacement well permits since July 1, 2002.

Appendix G contains detailed reports of public water supply conditions in the six field offices.

FISHERIES AND RECREATIONAL IMPACTS

Virginia Department of Game and Inland Fisheries

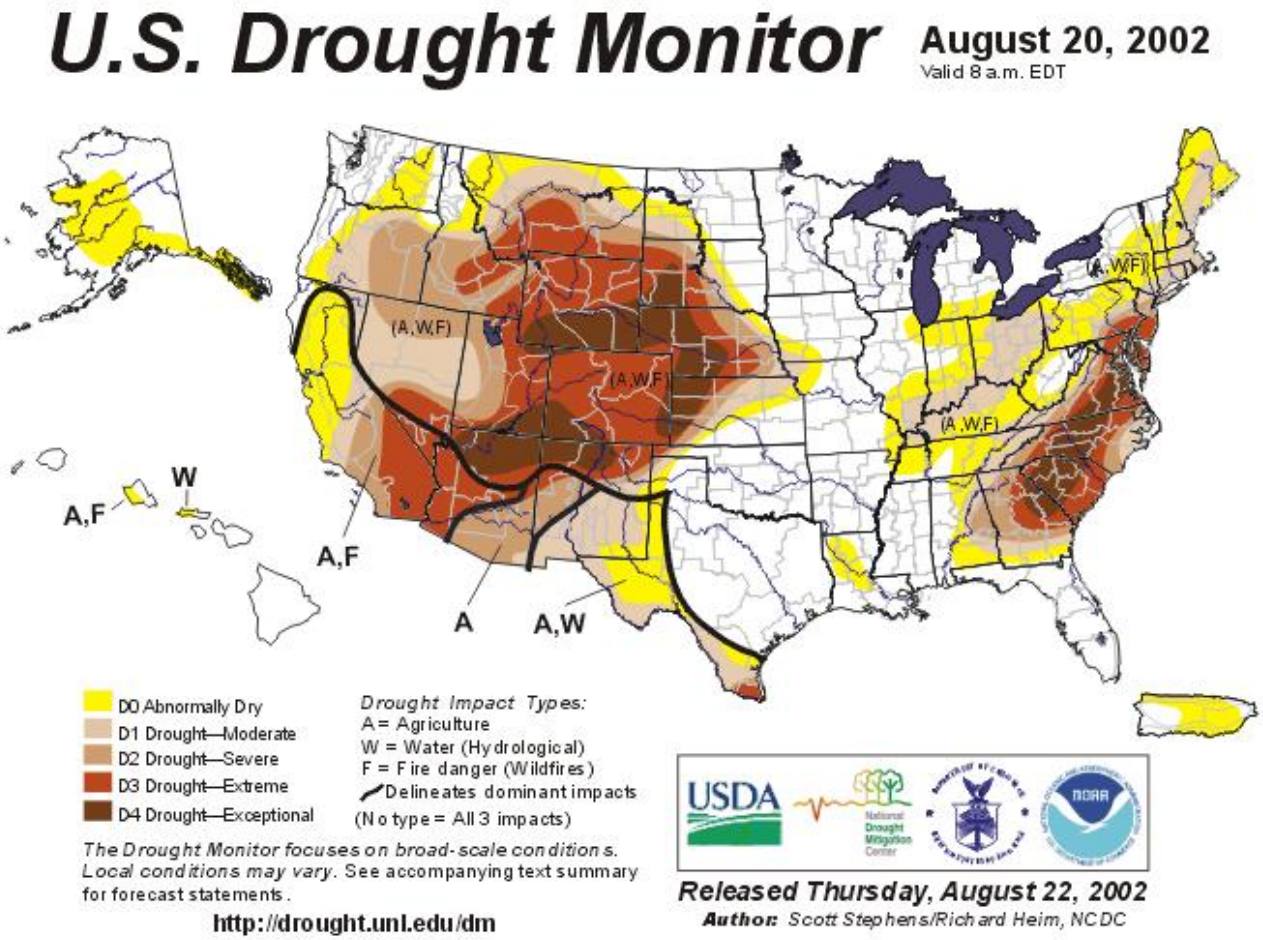
Water levels in all rivers and reservoirs throughout the Commonwealth have dropped significantly since the last report. Boating access is now difficult at many river access locations. Many public boat ramps and fishing piers have decreased accessibility and approximately 15 are out of service due to low levels. Anglers and boaters are encouraged to use caution when launching and boating as approximately one-third of the Department's 225 ramps are classified as at low water condition.

Flow variances remain in place for Leesville Reservoir (Roanoke River/Smith Mountain Lake). The New River is experiencing critical low flows affecting the operation of Claytor Lake, Byllesby Dam and Buck Dam. Flow variances have been initiated at Claytor Lake, and additional decreases are being discussed for Smith Mountain Lake and Lake Moomaw. The Department has begun receiving requests to provide water from some of their lakes for public and private usage.

There has been no fish mortality at Department hatcheries to date. Flows at some facilities have decreased as much as one-third in the past six weeks. There have been no drought-related fish kills reported in public waters; however, private pond owners have reported very low levels and concern for fish survival.

Coordination continues with local and state agencies as well as the private sector to best utilize the available resources of the Commonwealth.

APPENDIX A



National Drought Summary – July 16, 2002

The East: A week of virtually rainless conditions across Delmarva prompted the expansion of exceptional drought (D4) into the middle peninsula of Virginia, and into parts of eastern Maryland and Delaware. Extreme drought designation (D3) was pushed westward to include the greater Washington, D.C. area as rainfall during the period from September 1 through August 19 was nearly half of average. For Washington, this was the driest such period on record with only 21.09 inches of rainfall, or about half the average. Extreme drought also expanded north into southeast Pennsylvania and much of southern New Jersey as streamflows and soil moisture decreased dramatically under hot temperatures and a lack of rainfall. Despite an increase in daily shower and thunderstorm activity in the Southeast after the 15th, the scattered nature of the precipitation did little to ameliorate D3 to D4 drought conditions. In Charlotte, N.C., mandatory water conservation measures were implemented on the 21st, and this is only the second time in city history that mandatory measures have been implemented. Charlotte joins over 70 other North Carolina cities enforcing water conservation.

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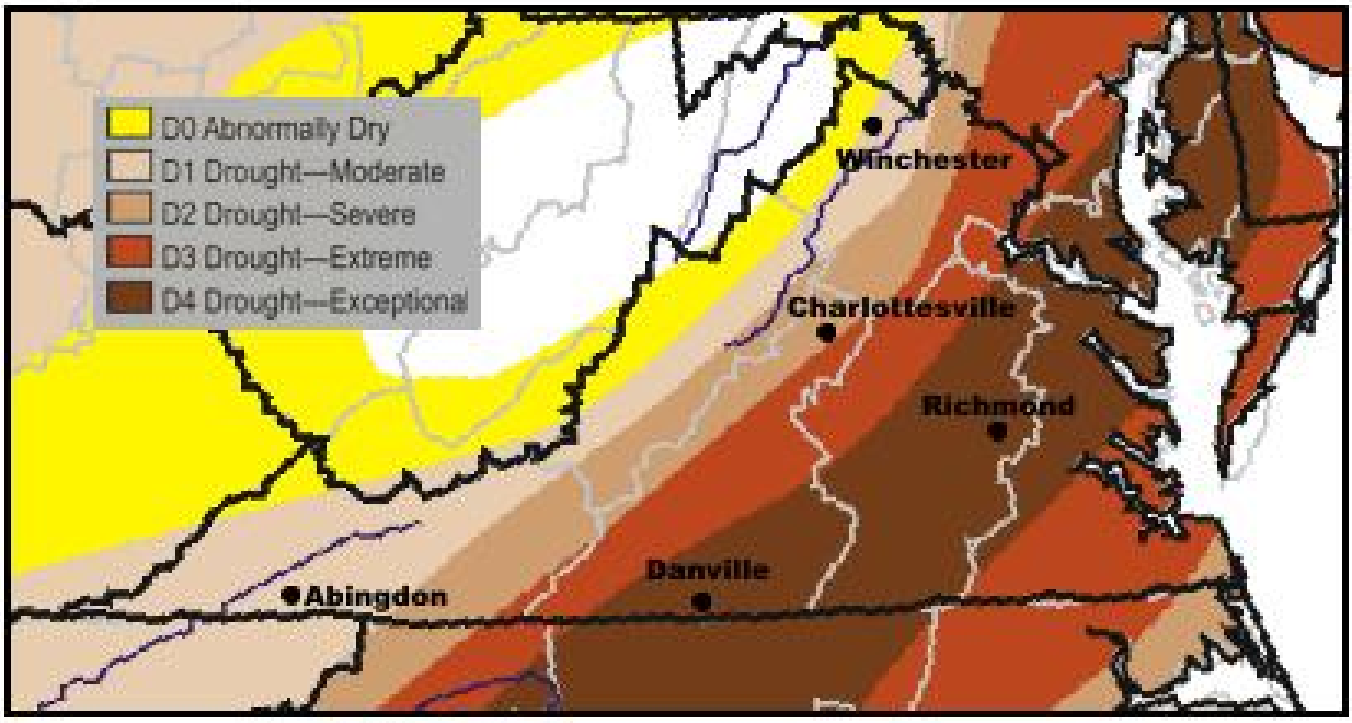
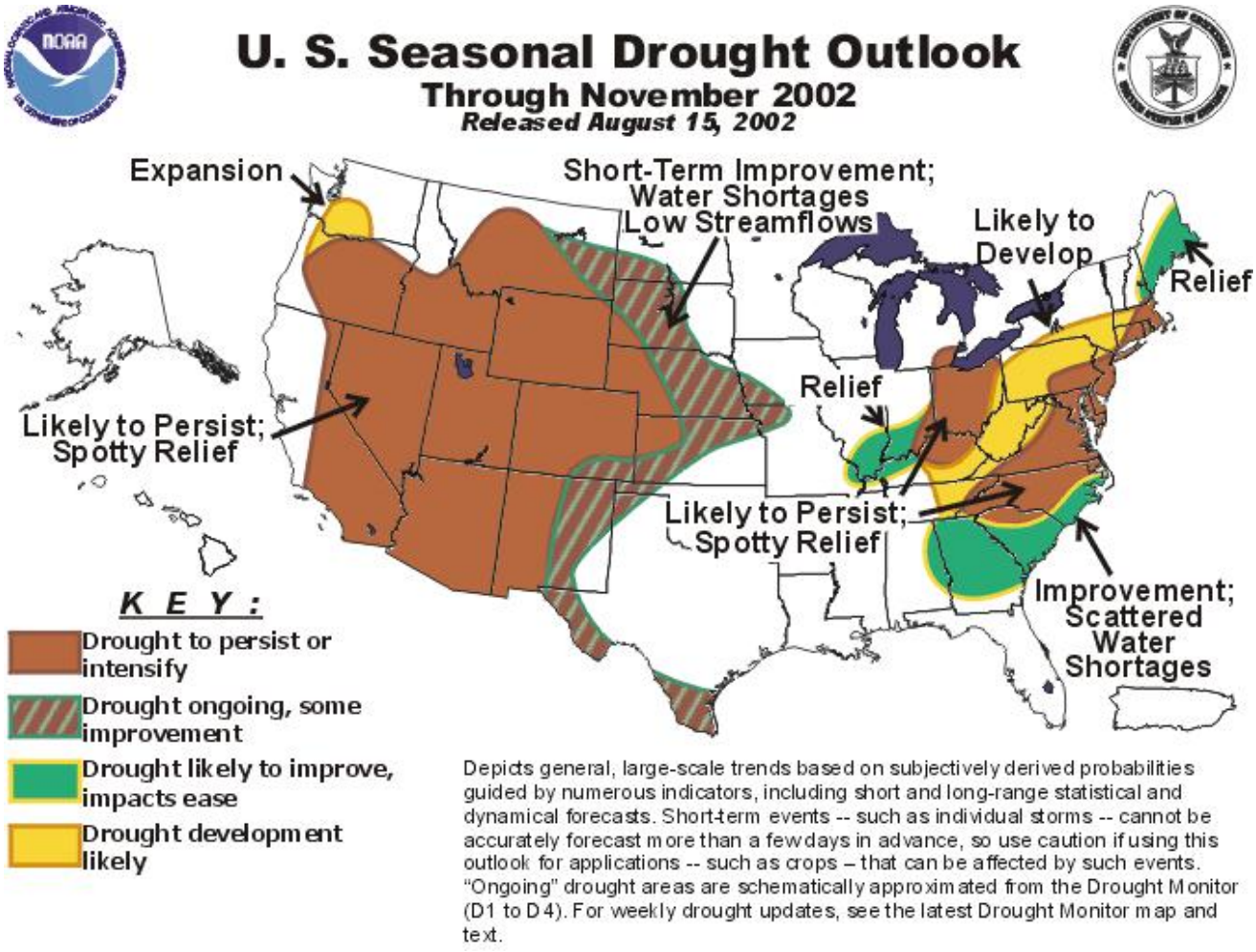
APPENDIX B



Note: The U.S. Drought Monitor focuses on broad-scale conditions. Local conditions may vary. Click on map to view complete U.S. Drought Monitor graphic.

APPENDIX C



Latest Seasonal Assessment - In the East, improvement is likely in northern New England, the Southeast coastal plain, and in Illinois and Indiana, but drought should persist from northern South Carolina to southern New England, as well as in Ohio and parts of Kentucky. Drought is expected to expand into upstate New York and northern Pennsylvania, as well as from West Virginia southward into eastern Tennessee. The reason that drought is expected to persist across this region is that the latest official CPC seasonal outlook calls for below-normal precipitation during September-November from the Carolinas into southern New England. Extreme heat accompanied by only spotty showers intensified drought across much of the Eastern Seaboard during the first half of August, but increased rainfall and slightly lower temperatures should provide some short-term improvement during the second half of the month.

APPENDIX D

Precipitation departures by Climatological Division.

Two Week Precipitation Departures

Climatological Division	AUGUST 1-15 2002	AUGUST 1-15 NORMAL	AUGUST 1-15 DEPARTURE	AUGUST 1-15 % DEPARTURE
Tidewater	0.10	2.32	-2.22	4%
Eastern Piedmont	0.10	2.10	-2.00	5%
Western Piedmont	0.10	2.07	-1.97	5%
Northern	0.70	1.97	-1.27	35%
Central Mountain	0.20	1.91	-1.71	10%
Southwestern	0.20	1.90	-1.70	11%
Statewide	0.20	2.06	-1.86	10%

Six Week Precipitation Departures

Climatological Division	JULY-AUG 15 2002	JULY-AUG 15 NORMAL	JULY-AUG 15 DEPARTURE	JULY-AUG 15 % DEPARTURE
Tidewater	5.00	7.34	-2.34	68%
Eastern Piedmont	2.40	6.76	-4.36	36%
Western Piedmont	4.00	6.70	-2.70	60%
Northern	4.70	6.04	-1.34	78%
Central Mountain	5.50	5.93	-0.43	93%
Southwestern	5.60	6.45	-0.85	87%
Statewide	4.40	6.60	-2.20	67%

Ten Week Precipitation Departures

Climatological Division	JUNE-AUG 15 2002	JUNE-AUG 15 NORMAL	JUNE-AUG 15 DEPARTURE	JUNE-AUG 15 % DEPARTURE
Tidewater	7.20	11.14	-3.94	65%
Eastern Piedmont	4.27	10.67	-6.40	40%
Western Piedmont	5.81	10.84	-5.03	54%
Northern	8.33	9.99	-1.66	83%
Central Mountain	7.64	9.79	-2.15	78%
Southwestern	8.61	10.49	-1.88	82%
Statewide	6.79	10.55	-3.76	64%

Fourteen Week Precipitation Departures

Climatological Division	MAY-AUG 15 2002	MAY-AUG 15 NORMAL	MAY-AUG 15 DEPARTURE	MAY-AUG 15 % DEPARTURE
Tidewater	10.37	14.73	-4.36	70%
Eastern Piedmont	7.79	14.35	-6.56	54%
Western Piedmont	9.61	14.81	-5.20	65%
Northern	12.26	13.85	-1.59	88%
Central Mountain	10.85	13.52	-2.67	80%
Southwestern	12.41	14.55	-2.14	85%
Statewide	10.36	14.37	-4.01	72%

Thirty Week Precipitation Departures

Climatological Division	JAN-AUG 15 2002	JAN-AUG 15 NORMAL	JAN-AUG 15 DEPARTURE	JAN-AUG 15 % DEPARTURE
Tidewater	24.13	28.33	-4.20	85%
Eastern Piedmont	18.48	28.06	-9.58	66%
Western Piedmont	19.30	29.00	-9.70	67%
Northern	21.46	25.95	-4.49	83%
Central Mountain	21.41	25.66	-4.25	83%
Southwestern	27.18	28.96	-1.78	94%
Statewide	21.99	27.87	-5.88	79%

One Year Precipitation Departures

Climatological Division	SEPT 2001-AUG 15, 2002	SEPT 2001-AUG 15, 2002 NORMAL	SEPT 2001-AUG 15, 2002 DEPARTURE	SEPT 2001-AUG 15, 2002 % DEPARTURE
Tidewater	29.35	41.17	-11.82	71%
Eastern Piedmont	23.30	40.74	-17.44	57%
Western Piedmont	26.04	42.24	-16.20	62%
Northern	27.29	38.42	-11.13	71%
Central Mountain	27.45	37.45	-10.00	73%
Southwestern	34.09	40.99	-6.90	83%
Statewide	27.92	40.40	-12.48	69%

Two Year Precipitation Departures

Climatological Division	SEPT 2000-AUG 15, 2002	SEPT 2000-AUG 15, 2002 NORMAL	SEPT 2000-AUG 15, 2002 DEPARTURE	SEPT 2000-AUG 15, 2002 % DEPARTURE
Tidewater	67.64	84.80	-17.16	80%
Eastern Piedmont	60.27	83.70	-23.43	72%
Western Piedmont	61.77	86.67	-24.90	71%
Northern	66.47	78.95	-12.48	84%
Central Mountain	62.43	76.93	-14.50	81%
Southwestern	73.99	84.02	-10.03	88%
Statewide	65.49	82.98	-17.49	79%

Three Year Precipitation Departures

Climatological Division	SEPT 1999-AUG 15, 2002	SEPT 1999-AUG 15, 2002 NORMAL	SEPT 1999-AUG 15, 2002 DEPARTURE	SEPT 1999-AUG 15, 2002 % DEPARTURE
Tidewater	130.89	128.43	2.46	102%
Eastern Piedmont	110.19	126.66	-16.47	87%
Western Piedmont	109.48	131.10	-21.62	84%
Northern	111.25	119.48	-8.23	93%
Central Mountain	107.31	116.41	-9.10	92%
Southwestern	114.60	127.05	-12.45	90%
Statewide	114.43	125.56	-11.13	91%

APPENDIX E

Flow duration and current flow conditions for selected U.S. Geological Survey and Virginia Department of Environmental Quality surface-water gaging stations

	MINIMUM DAILY FLOW, PERIOD OF RECORD (CFS)	MINIMUM AUGUST FLOW, PERIOD OF RECORD (CFS)	7Q2 (CFS)	7Q10 (CFS)	PERCENT OF TIME FLOW EQUALED OR EXCEEDED FOR AUGUST DAILY MEAN FLOWS (CUBIC FEET PER SECOND)			CURRENT CONDITIONS FLOW (CFS)/ DURATION (PERCENT)
					75%	50%	25%	August 19, 2002
SHENANDOAH RIVER BASIN								
South River near Waynesboro, Va.	17	17	30	24	35	42	54	15/>95
South Fork Shenandoah River at Front Royal, Va.	107	160	344	235	418	545	871	155/>95
North Fork Shenandoah River at Cootes Store, Va.	0.2	0.2	3.2	0.77	3.7	14	48	8/60
North Fork Shenandoah River near Strasburg, Va.	35	45	-	-	117	172	307	87/90
POTOMAC RIVER BASIN								
Goose Creek near Leesburg, Va.	0.4	0.55	12	2.5	15	41	102	8/85
RAPPAHANNOCK RIVER BASIN								
Rappahannock River at Remington, Va.	2.9	4.3	50	11	57	153	313	9/>95
Rapidan River near Culpeper, Va.	2.2	4.6	-	-	82	158	306	18/>95
YORK RIVER BASIN								
Pamunkey River near Hanover, Va.*	45	45	-	-	114	197	412	37/>95
Mattaponi River near Beulahville, Va.	.78	.78	48	14	55	133	302	0.5/>95

	MINIMUM DAILY FLOW, PERIOD OF RECORD (CFS)	MINIMUM AUGUST FLOW, PERIOD OF RECORD (CFS)	7Q2 (CFS)	7Q10 (CFS)	PERCENT OF TIME FLOW EQUALED OR EXCEEDED FOR AUGUST DAILY MEAN FLOWS (CUBIC FEET PER SECOND)			CURRENT CONDITIONS FLOW (CFS)/ DURATION (PERCENT)
					75%	50%	25%	August 19, 2002
JAMES RIVER BASIN								
Jackson River near Bacova, Va.	13	13	26	20	30	37	55	20/95
Potts Creek near Covington, Va.	15	16	24	17	27	36	54	17/>95
Cowpasture River near Clifton Forge, Va.	40	42	73	54	87	116	185	61/>95
Craig Creek at Parr, Va.	25	27	43	31	48	66	114	34/>95
James River at Buchanan, Va.*	207	230	378	271	468	652	1,020	615/55
Maury River near Buena Vista, Va.	22	30	89	62	106	144	227	51/>95
Hardware River below Briery Run near Scottsville, Va	0.1	0.2	24	7.5	24	44	74	0.02/>95
Rivanna River at Palmyra, Va.	5.2	10	-	-	102	197	373	22/>95
James River at Cartersville, Va.	330	465	1,120	584	1,470	2,260	3,750	728/>95
Appomattox River at Farmville, Va.	6.3	10	52	21	58	97	152	0.2/>95
Appomattox River at Mattoax, Va.	13	16	86	30	110	194	336	3.7/>95
Chickahominy River near Providence Forge, Va.	0.07	0.42	16	4.0	21	64	169	0.05/>95
CHOWAN RIVER BASIN								
Nottoway River near Sebrell, Va.	14	18	82	24	106	268	613	23/>95
Blackwater River near Franklin, Va.	0.07	0.33	-	-	15	109	399	6/>95
Meherrin River near Lawrenceville, Va.	4.2	8.0	52	16	67	120	221	3/>95

	MINIMUM DAILY FLOW, PERIOD OF RECORD (CFS)	MINIMUM AUGUST FLOW, PERIOD OF RECORD (CFS)	7Q2 (CFS)	7Q10 (CFS)	PERCENT OF TIME FLOW EQUALED OR EXCEEDED FOR AUGUST DAILY MEAN FLOWS (CUBIC FEET PER SECOND)			CURRENT CONDITIONS FLOW (CFS)/ DURATION (PERCENT)
					75%	50%	25%	August 19, 2002
ROANOKE RIVER BASIN								
Roanoke River at Roanoke, Va.*	19	19	58	35	79	115	190	78/75
Pigg River near Sandy Level, Va.	25	25	96	47	110	168	233	39/>95
Roanoke River at Randolph, Va.*	179	231	847	426	963	1,340	1,860	537/93
Dan River at Paces, Va.	244	336	-	-	928	1,320	1,920	158/>95
Hyco River near Denniston, Va.*	1.5	1.5	-	-	20	34	77	5/95
KANAWHA RIVER BASIN								
New River at Allisonia, Va.	453	524	1,040	725	1,270	1,670	2,270	739/>95
Little River at Graysontown, Va.	47	47	109	69	132	185	254	93/93
Walker Creek at Bane, Va.	24	26	44	33	54	73	115	35/93
BIG SANDY RIVER BASIN								
Russell Fork at Haysi, Va.	0.2	1.3	8.7	1.0	23	47	111	48/50
TENNESSEE RIVER BASIN								
South Fork Holston River near Damascus, Va.	40	65	99	73	127	176	227	108/85
North Fork Holston River near Saltville, Va.	2.0	17	34	24	46	71	119	41/80
Clinch River at Cleveland, Va.	37	39	81	54	117	182	319	92/85
Powell River near Jonesville, Va.	18	27	42	24	69	108	204	97/55

* indicates some regulation

APPENDIX F

Virginia Agriculture Statistic Services report of topsoil moisture, crop condition and crop progress.

TOPSOIL MOISTURE PERCENT				
Week Ending	*Very Short*	*Short*	*Adequate*	*Surplus*
August 18	42	40	18	0
August 11	32	42	25	1
August 4	23	40	35	2
July 28	27	34	37	2
July 21	37	33	30	0

CROP CONDITION PERCENT					
Crop	Very Poor	Poor	Fair	Good	Excellent
Pastures	42	33	19	6	0
Livestock	2	18	35	42	3
Other Hay	33	26	27	13	1
Alfalfa Hay	12	31	35	19	3
Corn for Grain	27	40	24	8	1
Soybeans	29	33	26	11	1
Tobacco, Flue-Cured	4	14	42	40	0
Tobacco, Burley	2	18	43	36	1
Tobacco, Dark Fire-Cured	5	24	39	32	0
Tobacco, Sun	8	45	24	23	0
Peanuts	8	17	40	33	2
Cotton	6	23	29	40	2
Apples, All	26	11	31	32	0

CROP PROGRESS PERCENT – WITH COMPARISONS				
Crop	This Week	Last Week	Last Year	5 Year Average
Corn Dough	83	76	71	63
Corn Dent	66	50	45	37
Corn Mature	37	19	16	15
Corn Harvested	3	NA	6	1
Corn Silage	14	6	6	9
Soybeans Blooming	86	7	74	70
Soybeans Setting Pods	57	46	46	44
Flu Cured Tobacco Harvested	18	10	31	25
Burley Tobacco Harvested	6	2	9	6
Dark Fire Cured Tobacco Harvested	20	10	34	25
Sun Tobacco Harvested	11	NA	26	17
Cotton Bolls Opening	23	15	4	3
Summer Apples Harvested	90	83	84	77
Fall Apples Harvested	10	NA	NA	NA
Peaches Harvested	80	72	75	69

APPENDIX G

Virginia Department of Health Field Office Reports for Public Water Systems

(Note: The first digit in the PWSID number indicates the field office location of the waterworks. PWSID 2770650 is located in the Lexington Field Office, etc.)

PWSID **1**-Abingdon **2**-Lexington **3**-Southeast VA **4**-East Central **5**-Danville **6**-Culpeper	**Waterworks**	**Source Name**	**Restrictions** **N**-No **M**-Mandatory **V**-Voluntary	**Situation** **B**-Better, **S**-Same, **W**-Worse
2015150	Craigsville (Augusta County)	Old Spring, New Spring, 4 wells	M	B: Craigsville spring and well production off. Construction completed for interconnecting water line with Augusta Springs.
2770650	Roanoke City - Carvins Cove	Carvins Cove Reservoir/Tinker Creek/Catawba Creek	M	S: Reservoir level is 30.1 feet below spillway - situation steadily worsening (29% of supply remaining). Mandatory restrictions imposed when reservoir level is between 26 and 30 feet below spillway (Stage 4). Suspension of all outdoor water uses with certain exceptions; cutting back on reservoir use by water purchases from Roanoke County (3 - 4 MGD) and the City of Salem (1.5 MGD) and placing Crystal Spring (3 MGD) into service; imposition of civil penalties and surcharge applied to base water rates. Suspension means no outside use of potable water for washing your own car, watering lawns and gardens and filling pools, etc. The 30-foot level would have triggered more drastic conservation measures (Stage 5); however, the City has maintained Stage 4 conservation measures at this time.
3550050	Chesapeake - Western Branch system	Western Branch system	M	W: This portion of the city is consecutive to (receives water from) the city of Portsmouth. Because Portsmouth decided to go on mandatory restrictions, Chesapeake has decided to follow

PWSID **1**-Abingdon **2**-Lexington **3**-Southeast VA **4**-East Central **5**-Danville **6**-Culpeper	**Waterworks**	**Source Name**	**Restrictions** **N**-No **M**-Mandatory **V**-Voluntary	**Situation** **B**-Better, **S**-Same, **W**-Worse
				Portsmouth's lead, for ALL residents of the city. City Council voted to establish Mandatory Conservation at the meeting on 7/10/02. The restrictions took effect immediately.
3550051	Chesapeake - NW River system	NW River system	M	W: As of 8/5/02, chlorides levels in the Northwest River are above average (600-650 mg/L) while well water levels remained the same at 95 %. The level has not changed since the last report. Plant production has been low at 9.8 MGD in June and 9.0 MGD in July. The ASR facility use has declined. They have been able to inject water in the aquifer. Because a portion of the city (a separate system from the NW River system) is served from Portsmouth, Chesapeake has decided to follow Portsmouth's lead, for ALL residents of the city. City Council voted to establish Mandatory Conservation at the meeting on 7/10/02. The restrictions took effect on immediately.
3550052	Chesapeake - South Norfolk system	South Norfolk system	M	W: This portion of the city is consecutive to (receives water from) the city of Norfolk. Because Portsmouth decided to go on voluntary restrictions, Chesapeake has decided to follow Portsmouth's lead, for ALL residents of the city. City Council voted to establish Mandatory Conservation at the meeting on 7/10/02. The restrictions took effect immediately.
3740600	Portsmouth	Lakes Cohoon, Meade, Kilby, and Speights Run	M	W: As of 8/12/02, reservoirs are at 57% of useful capacity. This is a 6 % drop since 7/08/02. Both emergency wells are ON, pumping an average of 4.4 MGD, but levels continue to drop. City Council voted to establish Mandatory Conservation

PWSID **1**-Abingdon **2**-Lexington **3**-Southeast VA **4**-East Central **5**-Danville **6**-Culpeper	**Waterworks**	**Source Name**	**Restrictions** **N**-No **M**-Mandatory **V**-Voluntary	**Situation** **B**-Better, **S**-Same, **W**-Worse
				(Condition II) at meeting of 7/09/02.
4041845	Swift Creek WTP (Chesterfield County)	Swift Creek Reservoir	M	W: The reservoir level is 174.2 feet. The level is 0.8 feet lower than it was 3 weeks ago and 2.8 feet below the top of the dam. Mandatory water conservation will go into effect for the period of 8/15/02-10/31/02.
5009050	Town of Amherst (Amherst County)	Buffalo River	M	W: Flow has decreased to the point that the plant has had to cut its pumping rate to 350 gpm, the Town is arranging for release of water from upstream reservoirs owned by Amherst County.
5009250	Amherst County Service Authority	Graham Creek Res., Harris Creek	M	W: Drawing from creek as much as possible, but almost entirely from reservoir, which is 33 inches down. Planning to install a line from the James River as an additional source. Started mandatory water restrictions 7/24/02.
5011050	Town of Appomattox (Appomattox County)	Wells	M	B: Well levels are holding - Town has instituted partial mandatory restrictions and is planning to add another well to their system.
5089487	Marrowbone Cr. WTP (Henry County)	Marrowbone Creek	M	W: On morning of 8/6/02, no flow over check dam --the rate through WTP was reduced to 0.5 MGD to try to establish flow over check dam. Getting set up to pump from upstream reservoir into creek to improve flow; Mandatory conservation measures in place 7/16/02 and using interconnections with City of Martinsville to supplement system. Also considering drilling raw water well and possibly use of wells previously used at industrial site.
5135110	Town of Burkeville (Nottoway County)	7 wells	M	S: One well has lost production, others are showing signs of stress; system currently being evaluated closely. Water conservation has been requested for approximately 1 month.

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5135160	Town of Crewe (Nottoway County)	Lazerretto Creek/Crystal Lake	M	W: Reservoir is 21.5 inches below spillway; pumping water just downstream of dam back over into reservoir. Mandatory conservation restrictions in place. Water supply estimated to last 3 - 4 weeks.
5143114	Town of Chatham (Pittsylvania County)	Cherrystone Creek	M	W: Reduced flow in creek since last drought report; Reservoir level dropped 3 - 4 inches in last week or so; As needed, plant reduces operating time from normal 8.5-9 hours to 6 hour stretches with rest periods. In addition, extending filter run times to reduce water used for backwashing.
5143210	Town of Gretna (Pittsylvania County)	Georges Creek Reservoir	M	W: Impoundment down 19 inches on 8/2/02. Estimated 45 days reserve capacity left. Town initiated mandatory conservation measures beginning 8/7/02. Town investigating using nearby creek and wells to supplement raw water supply.
5147170	Town of Farmville (Prince Edward County)	Appomattox River	M	W: Town has declared emergency. Appomattox River has been sand bagged to increase height of dam and divert water to intake flume. Were using about 0.9 MGD of water under voluntary conservation. Requesting release of water from Holiday Lake State Park to supplement supply.
6033100	Campbell's Creek Subdivision (Caroline County)	Groundwater (3 wells)	M	W: Hauling water (approximately 10,000 gpd) from Caroline County system. New well sites approved in March 2002. Considering waterline extension from county system.
6033425	Lake Caroline (Caroline County)	Lake Caroline	M	S: Lake Caroline is 14 inches below normal level. Conservation measures in place.
6630050	City of Fredericksburg	Motts Run/Rappahannock River	M	W: City of Fredericksburg (consecutive system to Spotsylvania County) has asked for mandatory conservation based on Spotsylvania County's action.

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6177280, 6177300	Spotsylvania County	Ni River Reservoir and Motts Run/Rappahannock River	M	W: Spotsylvania County declared a water emergency in mid November and instituted mandatory conservation (vehicle washing at homes not allowed). Ni River Reservoir is 4 feet below normal. Motts Run Reservoir is 4 feet below normal. Flow in Rappahannock River is at 7% mean annual flow.
2015575	South River S.D.[ACSA] (Augusta County)	Coles Run	N	S: Coles Run reservoir level down 5 - 6 feet, however no impact on system due to availability of multiple sources.
2017300	Millboro (Bath County)	Millboro Spring	N	S: Recent rains have improved spring flows. Several large leaks have also been found and repaired.
2065520	Oakland School (Fluvanna County)	Drilled Wells	N	W: The Oakland School waterworks provides water to approximately 150 students and staff. Well production has been steadily dropping over the summer and additional source capacity is needed before arrival of the fall students. Well sites have been evaluated and drilling will begin as soon as possible. Water hauling was initiated the first week of August.
2091150	Monterey (Highland County)	2 wells	N	S: Monterey well production off. New well was added and situation is improving.
2125650	Nelson County Service Authority - Schuyler	Johnson's Branch	N	S: The flow is currently approximately 15 gpm (normal treatment capacity is 70 to 90 gpm). Withdrawal from Rockfish River has been initiated to supplement the flow from Johnson's Branch. They are currently meeting the normal daily demand with water from the Rockfish River.
2165765	Valley View MHP (Rockingham County)	Two drilled wells	N	S: The water system serving the park is starting to experience drought related shortages, but is not yet severe. A new waterline project that extends water service near this PWS has been recently

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				completed and the water system is making the necessary arrangements with Rockingham County to connect to their new waterline. After this the MHP PWS will be inactive and will not be in a drought-related problem.
2187522	High Knob Subdivision (Warren County)	Springs and wells	N	W: Spring yields have dropped significantly and wells are being increasingly relied upon to meet water demand.
2790600	City of Staunton	Middle River	N	S: River flow reduced.
3183550	Jarratt (Sussex County)	Nottoway River	N	S: No quality or quantity problems noted. The river level is slightly lower.
3595250	Emporia	Meherrin River	N	S: The reservoir is full. The power plant has not been operating (voluntarily) to conserve water. The City is drafting an ordinance for water restrictions in case it is needed.
3650150	Ft. Monroe (City of Hampton)	Big Bethel Reservoir System	N	W: The water plant came back on line on 7/1/02. The lower reservoir is currently 2 feet below spillway, upper reservoir not yet used. Considering going to voluntary conservation.
3670800	Virginia-American (Hopewell)	Appomattox River/James River	N	S: No problems with water quantity. Operator reports slight increase in Manganese in raw water. Water quality is still fluctuating with changes in the tide. VAWC may ask for voluntary restrictions at Fort Lee due to observed water wastage.
3710100	Norfolk	Lake Prince, Lake Burnt Mills, Western Branch reservoir, Nottoway River, Blackwater River, 4 western wells; Little Creek reservoir, Lakes Smith, Lawson, Whitehurst, Lake Gaston, and Wright	N	W: As of 8/5/02, reservoirs are at 82.9% of total capacity (increase from 82.1% on 7/8/02). Historic reservoir capacity at this time of year is 86.6%. Avg. pumping from Lake Gaston = 33.4 MGD; Blackwater River = 8.1 MGD (pump on 7/22/02); Nottoway River = 21.7 MGD (pump on 7/22). Deep wells = 0 MGD (pumps off since 7/15/02). Not currently considering conservation measures, but that could change with continued dry

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				weather.
4041035	Appomattox River Water Authority (Chesterfield County)	Lake Chesdin	N	W: The water level is 50 inches below the top of the dam. Three weeks ago, the level was 24 inches below the top of the dam. Only about 40 cfs of water is flowing into the reservoir.
4073311	Gloucester	Beaverdam Reservoir	N	W: The Beaverdam Reservoir water overflow elevation is 40.5 feet. The reservoir is not overflowing. The water level was 39.42 feet on August 5, 2002. The reservoir level is falling. *Note that about a million gallons of water is allowed to flow through the reservoir every day.*
4075630	Pagebrook (Goochland County)	Groundwater (3 wells)	N	S: Sydnor continues to haul 2 tanker loads of water per week (5,000 gallons).
4075735	James River Correctional Center (Goochland County)	Beaverdam Creek and the James River	N	W: The flow in the primary source of water (Beaverdam Creek) is still insignificant. The secondary source (James River) is currently being used almost exclusively. The water plant is alternating between a skid-mounted pump sitting on the riverbank beside the bridge and a trailer mounted diesel-powered pump sitting on the riverbank near the confluence of Beaverdam Creek and the James River. Both pumps have flexible hoses extending into the river. The raw water line for the newer pump discharges into Beaverdam Creek about 100 yards upstream of the check dam on Beaverdam Creek.
5007030	Amelia Academy (Amelia County)	Well No.1(bored)	N	W: Existing well is very low.
5019250	Eagle Eyrie (Bedford County)	Unnamed Reservoir	N	W: 7 - 7.5 foot down - using second intake.
5025450	Town of Lawrenceville (Brunswick County)	Great Creek	N	S: Great Creek Reservoir is below normal.
5031050	Town of Altavista (Campbell County)	Staunton River, Reed Creek	N	S: River is still low, but OK; Creek intake not in use because water level is too low. The two springs have lost some capacity.

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5031150	Campbell County Central System	Big Otter River	N	W: River is 32 inches down, only 16 inches above intake screen.
5031175	Town of Brookneal (Campbell County)	Phelps Creek Reservoir	N	W: Reservoir overflow is only 1/2 inches over spillway.
5031200	Dan River, Inc. - Brookneal Plant (Campbell County)	Falling River	N	W: Less than 1/2 inches of water over spillway, though intakes still adequately covered.
5067840	Town of Rocky Mount (Franklin County)	Blackwater Creek	N	W: Flow in the river continues to drop, still an overflow over the check dam but only by putting flow restricting plate in the dam bypass; the Town is considering asking for voluntary conservation. If necessary the plant could cut back pumping rate and extend operating hours to maintain flow.
5083550	Town of Halifax (Halifax County)	Banister River	N	S
5089376	Fieldcrest Cannon WTP (Henry County)	Smith River	N	S: Flow subject to release from Philpott Dam.
5089852	Upper Smith River WTP (Henry County)	Smith River	N	S: Flow subject to release from Philpott Dam.
5111450	Town of Kenbridge (Lunenburg County)	Flat Rock Creek & reservoir	N	S: Creek level 6 inches below spillway; Reservoir is 2 feet low.
5111800	Town of Victoria (Lunenburg County)	Nottoway Falls & Lunenburg Lake	N	B: Water flowing over spillway, "but not much".
5117310	Town of Clarksville (Mecklenburg County)	Kerr Lake	N	W: Kerr Lake is approximately 5 feet below normal pool.
5141640	Town of Stuart (Patrick County)	South Mayo River	N	W: "Lowest levels ever seen," though some water still moving over spillway.
5590100	City of Danville	Dan River, Schofield Dam	N	S: Water overflowing spillway on 8/6/02. City is having no problems meeting their average demand of 7.0 MGD.
5680200	City of Lynchburg	Pedlar Reservoir	N	W: Pedlar Reservoir is down 125 inches down. Drawing about 60% of water from James River and may use more river water when reservoir reaches 130 inches down. Will use river as necessary to prevent reservoir from dropping below 160 inches down.
5690400	City of Martinsville	Beaver Creek Reservoir	N	W: Reservoir at approximately 7.1 feet below spillway on 8/4/02. In order to help reduce loss in reservoir (approx. 0.1 inches

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				every two days), the City has initiated use of Leatherwood source along with reservoir.
5780600	Town of South Boston	Dan River	N	W: The river is lower but the Town has no problem withdrawing water.
6047500	Town of Culpeper (Culpeper County)	Lake Pelham	N	S: No problems at this time. Reservoir is near overflow.
6059500	Fairfax County Water Authority-Lorton/Occoquan WTPs	Occoquan Reservoir	N	W: Reservoir 82% full, 6.53 billion gallons usable storage. All of FCWA service area is on "watch" status.
6059501	Fairfax County Water Authority-Corbalis WTP	Potomac River	N	B: Jennings Randolph and Little Seneca reservoirs on the Potomac River are at 100% full and 97% full, respectively, on 7/29/02. Flow In Potomac River at Little Falls (downstream of the Wash DC intakes) on 7/29/02 was 1680 MGD. No water releases from Jennings Randolph and Little Seneca reservoirs since 7/12-13/02. All of FCWA service area is on "watch' status. Voluntary conservation will be instituted when the upstream reservoirs drop below 60% full. No releases were made from the reservoirs in 2000 or 2001, but 3.1 BG were released in summer of 1999. Reservoir storage is adequate to meet the water supply needs in the event the 1930-31 drought of record were to re-occur.
6061411	Pete's Park and Eat (Fauquier County)	Groundwater (1 well)	N	W: Well has gone dry, temporarily closing business. New well being drilled this week.
6061580	Trinity Packaging Corp (Fauquier County)	Groundwater (1 well)	N	W: Well yield decreased significantly causing interruptions in plant production. New well being drilled this week to increase supply.
6061600	Town of Warrenton (Fauquier County)	Warrenton Reservoir	N	S: No problems at this time. Reservoir is near overflow.
6061665	Waterloo Estates (Fauquier County)	Groundwater (5 wells)	N	S: Decrease in well production led to a request for residents to voluntarily conserve water beginning 3/26/02, but well pump throttled back to allow pump to

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				run longer thereby increasing production and lifting voluntary restrictions 6/15/2002.
6107150	Hamilton (Loudoun County)	Groundwater (9 wells)	N	S: Groundwater levels and system demands currently stable. In process to add additional well.
6107600	Purcellville (Loudoun County)	Hirst Reservoirs	N	S: Front reservoir 0.1 feet below full; back reservoir 2.1 feet below full. Drought "watch" status still in effect.
6113200	Town of Madison (Madison County)	White Oak Run	N	S: Stream flow is below normal, but no adverse impact on water treatment plant to this point.
6137212	Locust Grove Elementary School (Orange County)	Groundwater (1 well)	N	W: Significant decrease in well yield. Well has capacity to serve existing school, but plans to use this well to serve an additional proposed middle school may be affected.
6137500	Town of Orange (Orange County)	Rapidan River	N	S: Stream flow is below normal, but no impact on water treatment plant to this point.
6137500	Wilderness WTP (Orange County)	Rapidan River	N	S: Stream flow is below normal and continues to drop. Level being monitored daily. No impact on water treatment plant to this point.
6153675	Quantico- Mainside (Prince William County)	Lunga Reservoir/ Breckenridge reservoir	N	W: Lunga 7 inches below overflow; Breckenridge 50 inches below overflow.
6600100	City of Fairfax	Goose Creek/Beaver Dam	N	S: Goose Creek Reservoir is 1 inch above overflow, and Beaver Dam Reservoir is 12 - 14 inches below full.
6685100	City of Manassas	Lake Manassas (Broad Run)	N	S: Current water level is 288.02 feet; Max is 290 feet.
4-all County owned systems	Hanover County	North Anna River, wells, and purchased water from the City of Richmond	V	S: Letters mailed to customers with conservation tips. In addition, general unidirectional flushing program has been discontinued. Hanover County has an ordinance in place with triggers for mandatory water restrictions. Mandatory water conservation is triggered if (1) either the City of Richmond or Henrico County goes to mandatory restrictions or (2) low flow in the North Anna River as

PWSID **1**-Abingdon **2**-Lexington **3**-Southeast VA **4**-East Central **5**-Danville **6**-Culpeper	**Waterworks**	**Source Name**	**Restrictions** **N**-No **M**-Mandatory **V**-Voluntary	**Situation** **B**-Better, **S**-Same, **W**-Worse
				determined by DEQ.
1071455	Giles County PSA	WTP Well	V	W: Well production reduced. Issued voluntary water conservation notice to the Towns and Giles County. Began using backup well.
2003250	Albemarle County / Crozet	Beaver Creek Reservoir	V	S: Beaver Creek Reservoir is currently down 3.9 feet from normal "full". The previous all time low water level on record (Feb. 2002) was 8 feet below normal "full".
2003263	Forest Lodge Water Company (Albemarle County)	Drilled Well	V	W: The Forest Lodge Water Company provides water to 37 single-family residences in Albemarle County. Over the past several weeks, the well production has not met the normal daily demand. A new well has been drilled and should be on line late this week.
2003600	Charlottesville/Albermarle County	Sugar Hollow and Ragged Mountain Reservoirs (Observatory WTP)	V	W: The Sugar Hollow reservoir (Observatory WTP) is 0.7 feet below overflow. Ragged Mountain reservoir is 6.4 feet below normal. Overall, source water availability is at 84.9% of "full available capacity" (this includes both the South Rivanna system and the Sugar Hollow/Ragged Mountain system).
2003725	Charlottesville/Albermarle County	South Rivanna (South Rivanna WTP)	V	W: Their main reservoir-South Rivanna (South Rivanna WTP) is 1.3 feet below full. Overall, source water availability is at 84.9% of "full available capacity" (this includes both the South Rivanna system and the Sugar Hollow/Ragged Mountain system).
2015200	Augusta County Service Authority-Deerfield	Deerfield Spring	V	B: The Deerfield Spring is drying up and reduced to a small pool in the reservoir. The new suction intake is not adequately located to maximize water collection and is being adjusted. The reservoir housing leaks and the owner (USFS) has denied requests for

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				previous repairs that would allow for the capture and retaining of additional waters. The service authority has been directed to look for a supplemental well site and a well site has been identified.
2023730	Dal-Nita Hills (Botetourt County)	One Drilled Well	V	W: System serves 35 connections. Well production is throttled to 10 gpm. Owner has asked customers to conserve. Owner found and repaired a large leak in distribution system. Well is currently keeping up with demand. New well site has been approved. Owner may drill a new well.
2043250	Boyce-Millwood (Clarke County)	Prospect Hill Spring	V	S: Spring yield is down from normal historical levels. Voluntary measures instituted to reduce water demand. Grouting of the outside area around the spring enclosure has stopped some of the water loss. Development of additional water sources is being investigated.
2065250	Fluvanna Correctional Center (Fluvanna County)	Mechunk Creek	V	W: The raw water impoundment is approximately 62.5% full (25 MGD available, 40 MG full capacity) and dropping. The facility is using approximately 170,000 gpd of finished water and is currently unable to pump raw water from Mechunk Creek.
2065300	Fork Union Sanitary District (Fluvanna County)	6 Drilled Wells	V	W: They are currently operating at approximately 45% of normal available production. Available production is equal to or slightly below the daily demand.
2163075	Brownsburg Water Company (Rockbridge County)	Drilled wells	V	W: No defined problems have occurred, but they have requested voluntary restrictions as a precaution.
2171250	Stoney Creek Sanitary District (Shenandoah County)	8 wells	V	S: Well yield is off. Authority has reduced pumping capacity by 40% based on lower water table levels. Consumers have been asked to conserve water since February. Process of developing

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				new 250 gpm well and water treatment plant.
2187406	Front Royal (Warren County)	Shenandoah River	V	W: Voluntary restrictions instituted again because the running 14-day average will be below 30% (11 of 14 days in calculation). This is in accordance with VWPP requirements. Conservation controls implemented at 30% (voluntary), 17% (mandatory), 15% (emergency), and 13% (rationing) of mean stream flow based on 14-day running average.
3095490	James City Service Authority Central System	27 wells	V	S: No significant impact on water levels in wells. Conservation due to high demands in distribution system.
3700500	Newport News	Little Creek, Diascund, Skiffes Creek, Harwoods Mill and Lee Hall Reservoirs	V	W: As of 8/7/02, the reservoirs were 71% full (in the previous report, the reservoirs were 77% full). The RO plant has increased production to 4.0 MGD (current production - intent is to operate at full capacity of 5.4 MGD). Went to Voluntary Conservation effective 7/25/02.
3800787	City of Suffolk	Route 17 Corridor	V	W: This system is consecutive to (purchases water from) the Portsmouth system. As such, this system has followed the lead of the Portsmouth system, and has adopted Voluntary Conservation. If Portsmouth goes to Mandatory Conservation, Suffolk will probably switch the supply source to their Central System (groundwater).
3800805	City of Suffolk	Central System	V	W: As of 7/15/02, reservoir system is 17% full in Crumps Mill. This is a 54.4% decrease from the last report. Lone Star Lakes is at 81% full a 4.35 % increase. Lone Star makes up the majority of the Northern Lakes. The Southern Lakes were at 36%. This is a 19% decrease from the last report. The surface

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				water treatment plant and the EDR are both operational at this time. The city also purchase finished water from Portsmouth, which enters the central system in downtown Suffolk. As such, this system has followed the lead of the Portsmouth system and has adopted Voluntary Conservation. Suffolk will rescind Voluntary Conservation following Portsmouth's lead but not until the EDR is at full capacity. A decision concerning mandatory conservation is forthcoming.
3830850	Williamsburg	Waller Mill Reservoir	V	W: As of 8/07/02, Waller Mill reservoir is 27 inches below the primary spillway (in the previous report it was 21 inches below the primary spillway). Continuing to purchase 2 MGD raw water from Newport News. Voluntary conservation measures are in effect as of March 30, 2002.
4760100	City of Richmond	James River	V	W: The current flow in the James River flows is very low and dropping again. Flow rates are near or at record lows; currently 752 cfs per USGS gaging station. Richmond is having no problems with water withdrawals. The draft conservation plan calls for mandatory conservation when the 14-day running average is < 750 cfs for 7 consecutive days. Although this plan has not been codified, it is likely that Richmond will act as if it is.
5029085	Buckingham County Waterworks	Troublesome Creek Reservoir	V	W: Reservoir 17 inches below spillway.
5031800	Rustburg Water System (Campbell County)	2 Wells	V	W: CCUSA is running waterline to area.
5037300	Town of Keysville (Charlotte County)	Spring Creek Impoundment	V	B: Only 6 or 7 inches down in reservoir.
5117800	Town of South Hill (Mecklenburg County)	Meherrin River	V	W: Very little water flows downstream when the Town is withdrawing.
5515050	City of Bedford	Stoney Creek Reservoir	V	B: Reservoir is 4.25 inches down. City is drawing about 460,000

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				gpd from three wells and river to supplement reservoir. Mandatory conservation is triggered when reservoir reaches 5 feet low.
6047010	Ashmore Acres Subdivision (Culpeper County)	Groundwater (1 well)	V	S: Voluntary conservation as a precautionary measure started 6/15/02. No problems at this time.
6047025	Catalpa Subdivision (Culpeper County)	Groundwater (1 well)	V	S: Voluntary conservation as a precautionary measure started 6/15/02. No problems at this time.
6047260	Hazel River Subdivision (Culpeper County)	Groundwater (1 well)	V	S: Residents have been asked to conserve water to minimize water outages caused by inadequate distribution system.
6047300	Heritage Estates Subdivision (Culpeper County)	Groundwater (1 well)	V	S: Voluntary conservation as a precautionary measure started 6/15/02. No problems at this time.
6047360	Northtown Village Subdivision (Culpeper County)	Groundwater (2 wells)	V	W: One well has gone dry, resulting in request for conservation beginning 6/15/02,until new well can be drilled.
6047480	South Wales Subdivision (Culpeper County)	Groundwater (3 wells)	V	W: Increased water usage due to drought conditions led to a request for conservation 7/11/02.
6047865	Westover Estates Subdivision (Culpeper County)	Groundwater (1 well)	V	S: Voluntary conservation is a precautionary measure started 6/15/02. No problems at this time.
6107200	Town of Hillsboro (Loudoun County)	GWUDISW (Spring)	V	W: Spring flow has declined to approximately 4 gpm. New well site approved several months ago and well drilled July 6-8, 2002, using DWSRF planning grant money; yield approximately 8 gpm. CFO is working with town to get well connected ASAP.
6107300	Leesburg (Loudoun County)	Potomac River	V	S: Current river level is at 189.6 feet. Normal level is 187.50 feet. Leesburg intake is located upstream of the FCWA and Wash DC Intakes. Signs requesting voluntary conservation have been placed around town and on town web site.

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6107400	Lovettsville (Loudoun County)	Groundwater (3 wells)	V	S: Groundwater levels and system demands currently stable. Voluntary conservation in effect.
6113100	Achsah Acres Subdivision (Madison County)	Groundwater (2 wells)	V	S: Voluntary conservation as a precautionary measure started 6/15/02. No problems at this time.
6113170	Oak Park Subdivision (Madison County)	Groundwater (1 well)	V	S: Voluntary conservation as a precautionary measure started 6/15/02. No problems at this time.
6113500	Valley View Subdivision (Madison County)	Groundwater (1 well)	V	S: Voluntary conservation as a precautionary measure started 6/15/02. No problems at this time.
6179100, 6179775	Stafford County	Smith Lake and Abel Lake	V	W: Stafford County has asked residents to voluntarily conserve water. Smith Lake is 4.3 feet below normal and Abel Lake is 4.6 feet below normal.