

DROUGHT MONITORING TASK FORCE

Drought Status Report

November 25, 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 improved significantly throughout the Commonwealth due to rainfall since September 1. The majority of the Commonwealth is currently experiencing normal short-term moisture conditions with a significant portion of the state characterized as abnormally dry. Statewide rainfall for the first three weeks of November was 241% of long term average rainfall for this period. Rainfall for the same period was above average in each of the Commonwealth's climatic divisions. The long-range climatological outlook calls for equal chances of below average, average, and above average precipitation through February 2003. Most streamgages across the Commonwealth recorded peak flows near bank full due to recent rainfall, with streamflows declining into the normal range of flow. Ground water levels have showed little consistent improvements from the recent precipitation but are anticipated to improve in the coming months. Levels of large reservoirs such as Lake Moomaw, Smith Mountain Lake, Kerr Reservoir, and Philpott Reservoir are full or will be full in the next several weeks. Above normal rainfall since September 1 has improved hay and pasture conditions and has provided adequate soil moisture to support fall grain planting. Ninety-eight requests for agricultural drought designation have been received from eighty-four separate localities. Heavy rains on November 16 and 17 have now reduced forest drought indices to readings of zero for the first time in almost two years. Fuel conditions are now saturated to the point that even if drought conditions return, little wildfire activity is expected before the spring wildfire season which normally begins in late February. Reservoir and stream levels that support public water supplies have improved since the last report. Ground water based public water supplies west of Route 95 have reported dropping ground water levels or reduced yields. The Virginia Department of Health issued over 6,700 private well replacement permits for private water supply wells that failed during July, August, September and October. The rate of private well failures has slowed considerably with only 334 well replacement permits issued November 1-15, 2002. Water supply conditions have improved to the point that water use restrictions contained in Executive Order #33 were suspended on November 12, 2002. For the first time in several months, all major facilities and waters are available to recreational boaters and anglers.

CLIMATOLOGICAL CONDITIONS

National Weather Service

The mid-October to mid-November period continued a pattern of regular, substantial rainfall across the Commonwealth, which started in mid-September. Most areas in the state received 5 inches or more of rainfall during the last month, which has substantially relieved short-term drought conditions, and appears to have begun alleviating some long term problems, as suggested by both the Drought Monitor and Palmer Drought Index. The greatest long term problems continue to exist west of Interstate 95, and in the Interstate 81 corridor.

Although no major precipitation events are forecast through Thanksgiving, the 30 and 90 day forecasts (through February, 2003) suggest a continuation of the fall weather pattern, with regular, if not frequent, precipitation events, and the potential for above normal precipitation. Should this forecast hold true, many of the drought related problems experienced in the Commonwealth during the last 18 to 24 months will have abated by the beginning of spring.

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

The 90-day outlook through the month of February 2003 calls for equal chances of below average, average, and above average precipitation and temperatures.

The latest NOAA drought monitor indicates a significant improvement in drought conditions since the last report on October 21. The drought monitor now indicates the majority of the Commonwealth is experiencing normal short-term moisture conditions with a significant band that is characterized as abnormally dry in the central portion of the state and is included as Appendix A. Appendix B contains information from the national drought monitor with only Virginia displayed. The NOAA seasonal drought outlook through February 2003 shows no activity in the Commonwealth since official drought designations have been eliminated. The seasonal drought outlook is included as Appendix C.

Report of the State Climatologist

The November 19 National Drought Monitor has dropped all official drought designations in Virginia. A significant portion of central Virginia is now simply designated as “abnormally dry”. This designation is due primarily to existing ground water conditions.

Abundant rainfall since early September has been of sufficient magnitude to negate virtually all deficits that have been accumulated in the last year. Remaining deficits are therefore those that accrued between the beginning of the current episode, in summer of 1998, and late in 2000. These are the main reason for keeping the “abnormally dry” designation, and, because these deficits are so far back in time, they only apply to deep moisture considerations. It will likely take several months before monitoring wells show consistent increases in ground water levels. However, reports of residential well failures should become less frequent in coming months.

Upper atmospheric features conducive to both below normal temperatures and abundant precipitation have persisted for several months, and long-range weather forecasting models indicate a continuation of this pattern through the Thanksgiving period. Because the resultant evaporation rates are very low—probably less than an inch per month under these conditions—soils will remain at or near field capacity, and most of any additional precipitation will run off into streams and reservoir systems.

Nonetheless, because of the length of time required for recovery of ground water levels, the Federal Drought Monitor is likely to keep a portion of central Virginia in the “abnormally dry” through at least mid-December.

Statewide average precipitation has been over 150% of the long-term mean for three months and is now at 98% for the last year. Even the western Piedmont is now over 90% (92%) of long-term mean precipitation for the last 12 months.

While it has been common in this multi-year drought to begin tallying deficits in the summer of 1998, it must be noted that the year prior to that was one of the wettest on record in the state. If we began the deficit tally in mid-1997, about one-third of the remaining deficit in the driest regions of the state would be removed.

While there is no guarantee of future weather, a continuation of the current regime should be sufficient to ameliorate even the deep moisture problems early next year. Appendix D contains tables of climatological division precipitation for various periods, from monthly, back to three years.

PROVISIONAL ASSESSMENT OF HYDROLOGIC CONDITIONS IN VIRGINIA

United States Geological Survey

Because of recent rains across the State, streamflows in every major basin have risen to above the normal range of flow. Currently, most streamflows have declined to the normal range of flow or just above the normal range of flow. Statewide, surface-water resources are in good condition.

The latest ground-water information available is from the end of October. Across the State, some water-table aquifer wells showed water levels that are increasing while others showed water levels that were declining or relatively constant. Because the ground-water system is so complex, we will not be able to gauge its response to the current precipitation for several months. With continued precipitation and reduced evaporation and transpiration, however, some of the October-November precipitation will likely help recharge the ground-water storage that has been depleted by the drought.

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

Most major reservoirs are either full or will be full within the next few days or weeks. Smith Mountain Lake and Kerr Reservoir are now full. Lake Moomaw is 86% full and rising at a rate of 2.5% per day.

Philpott Reservoir has risen 4 feet to 968.3 in the past 18 days. It is still 3.3 feet below the guide curve but should surpass the guide curve in the near future.

Dominion Power reports that Lake Anna remains 3.2 feet below full at an elevation of 246.8 on November 18, 2002. This reflects a change of 1.6 feet over 20 days. Lake Anna like Lake Philpott has a relatively large volume and a relatively small watershed and will refill more slowly than some of the other major reservoirs.

VIRGINIA AGRICULTURAL SITUATION

Virginia Department of Agriculture and Consumer Services

Local Disaster Designation Requests

Ninety-eight requests for federal drought disaster designation have been submitted to the Governor. These requests are from eighty-four separate counties with fourteen of the eighty-four submitting a second request for additional damages experienced since their original requests. The U.S. Secretary of Agriculture has approved primary disaster designation for forty-five of the localities (Appomattox, Augusta, Bedford, Bland, Botetourt, Brunswick, Buckingham, Campbell, Caroline, Craig, Cumberland, Floyd, Fluvanna, Franklin, Goochland, Greene, Hanover, Henry, King and Queen, King George, King William, Louisa, Lunenburg, Madison, Mecklenburg, Middlesex, Montgomery, Nelson, New Kent, Nottoway, Orange, Page, Pittsylvania, Powhatan, Prince Edward, Prince William, Richmond, Rockbridge, Rockingham, Spotsylvania, Stafford, Suffolk, Surry, Westmoreland, and Wythe counties). Five localities (Bedford, Buckingham, Cumberland, Franklin, and Goochland counties) have received a second drought disaster designation. Six localities whose original requests were denied (Augusta, Bland, Nelson, Page, Rockingham and Wythe counties) because their loss of production did not meet the 30% federal requirement submitted second request that were recently approved. The Governor has submitted thirty-six requests for federal designation whose approval is still pending (Accomack, Albemarle, Alleghany, Amelia, Amherst, Campbell (2nd request), Carroll, Charles City, Charlotte, Chesterfield, Culpeper, Dinwiddie, Essex, Fauquier, Giles, Grayson, Greensville, Halifax, Henrico, Isle of Wight, Lancaster, Lee, Louisa (2nd request), Northampton, Northumberland, Orange (2nd request), Patrick, Prince George, Pulaski, Rappahannock, Roanoke, Russell, Scott, Shenandoah, Southampton and Warren counties). Six damage assessment reports are pending from USDA (Bath, Buchanan, Gloucester, Smyth, Tazewell and Wise). Fifty-eight different localities have received secondary designation because they are contiguous to counties that have primary designation.

Crop Weather Summary

Virginia experienced several cool weeks and received excellent rainfall this month. The precipitation helped boost fall pasture and hayfield conditions, as well as the small grain growth in the state. However, it put a damper on fall harvesting and small grain seeding. The rain also hampered the baling of hay that was on the ground. There were reports of some diseases found in some soybean fields. Pastures are looking excellent with above normal topsoil moisture. Wet field conditions continue to hinder wheat planting. Soil moisture continued to improve in many parts of the state. The cool, damp conditions have not affected the health of most older livestock, but have placed stress on the health of some weaned calves. Other activities for the month included marketing livestock, feeding livestock, rotating livestock to fields with grass, soil sampling, soybean, cotton, and peanut harvesting, and small grain seeding.

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

FOREST SITUATION IN VIRGINIA

Virginia Department of Forestry

Wildfire Conditions

Continued rainfall and cooler temperatures have prevented the development of a normal fall wildfire season. The agency is experiencing one of its lightest fall seasons in the last 10 years, and with about two weeks remaining in the "official" fall wildfire season, wildfire activity is not expected to be significant at this point.

Heavy rains on November 16 and 17 have now reduced forest drought indices to readings of zero which is the first time this has happened in almost two years. Fuel conditions are now saturated to the point that even if drought conditions return, little wildfire activity is expected before the spring wildfire season which normally begins in late February.

Since January 1st, the agency has responded to 1630 wildfires which have burned 13,196 acres. This activity remains above the historical 5 and 10 year averages due to the increased activity during the early spring, and throughout the summer. From a wildfire standpoint, 2002 will be remembered as the year the spring season started early but ended quickly, resumed with full force during the normally quite summer months, and never developed into the difficult season that was predicted for the fall.

PUBLIC WATER SUPPLY SYSTEMS

Virginia Department of Health

Most reservoirs are reporting overflowing conditions or rapidly filling conditions. Stream flows have significantly increased without supplemental flow from off-stream reservoirs. Water levels have risen several inches to several feet in some cases across the state. Most surface water waterworks have lifted or reduced previous water restrictions.

Some ground water waterworks continue to show signs of the drought. The Division of Drinking Water continues to work diligently with these waterworks to solve the problem.

Of the 119 waterworks listed 44 are under mandatory restrictions, 49 have no water restrictions, and 26 have voluntary water restrictions in place.

Overall, no waterworks are reporting worsening conditions. Better conditions are being reported by 76 waterworks. Same/Stable conditions are being reported by 43 waterworks.

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 6,700 replacement well permits between July and November 2002. The rate of private well replacement permit issuance has decreased markedly with recent rainfall. Only 334 private well replacement permits were issued November 1-15, 2002.

Appendix G contains detailed reports of public water supply conditions in the six field offices as reported on November 15.

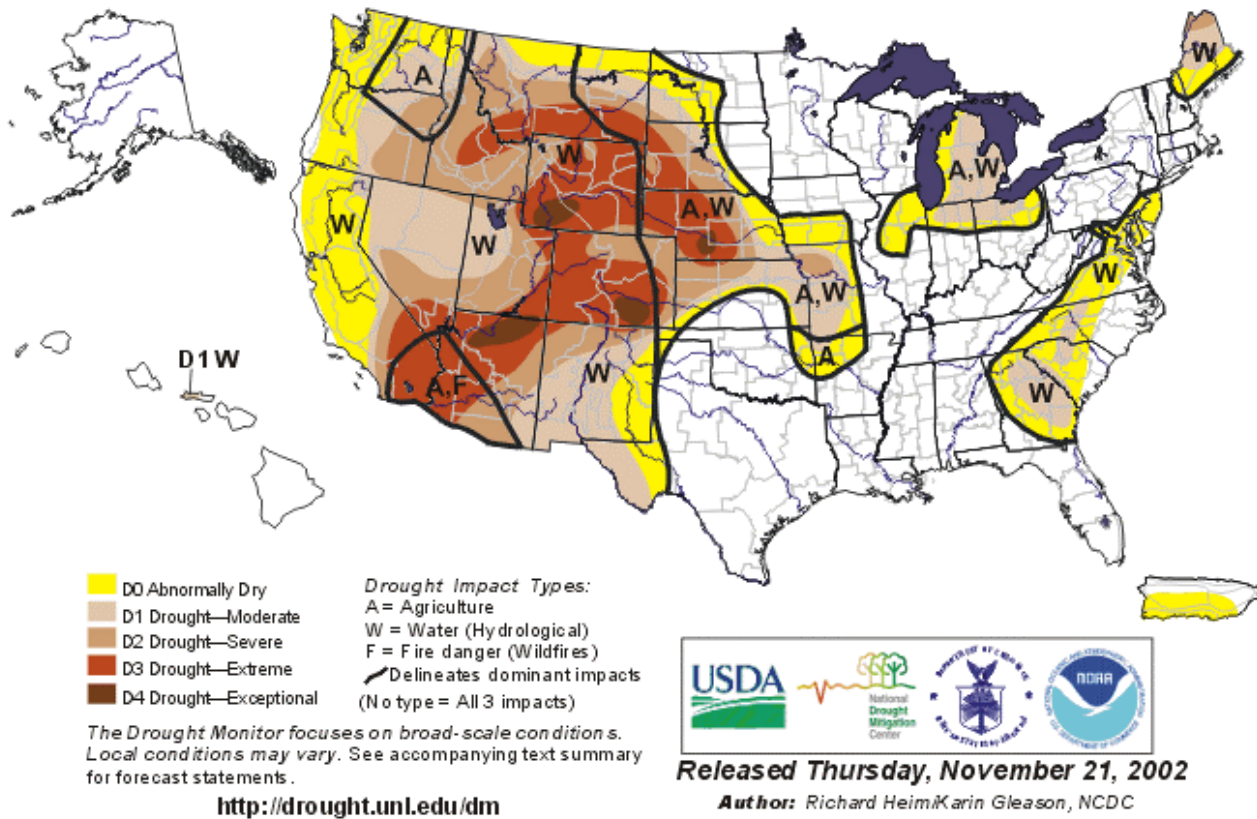
FISHERIES AND RECREATIONAL IMPACTS

Virginia Department of Game and Inland Fisheries

For the first time in several months, all major facilities and waters are available to recreational boaters and anglers. Water supply levels for all trout facilities are at, or above median levels, and trout stocking is proceeding as scheduled. Sufficient rainfall has now occurred so that recreation and hatchery needs are insured for the winter period. In the long term, continued precipitation events are needed to recharge groundwater to dependable levels in order to mitigate future drought conditions.

APPENDIX A

U.S. Drought Monitor November 19, 2002 Valid 7 a.m. EST



National Drought Summary – November 19, 2002

The East: It was another wet week over the drought areas in the eastern United States, with a major winter storm over the Northeast. Two inches, or more, of rain (or liquid equivalent snow/ice) fell over a huge swath from northeast Georgia all the way to central Maine. Streams were high, topsoil saturated, reservoirs continued to fill, and many drought indicators, especially the short-term indicators, signaled wet conditions. The New York City Delaware River Basin reservoirs continued their march above the long-term median. In New Jersey, the only remaining concern was the south Jersey unconfined aquifers.

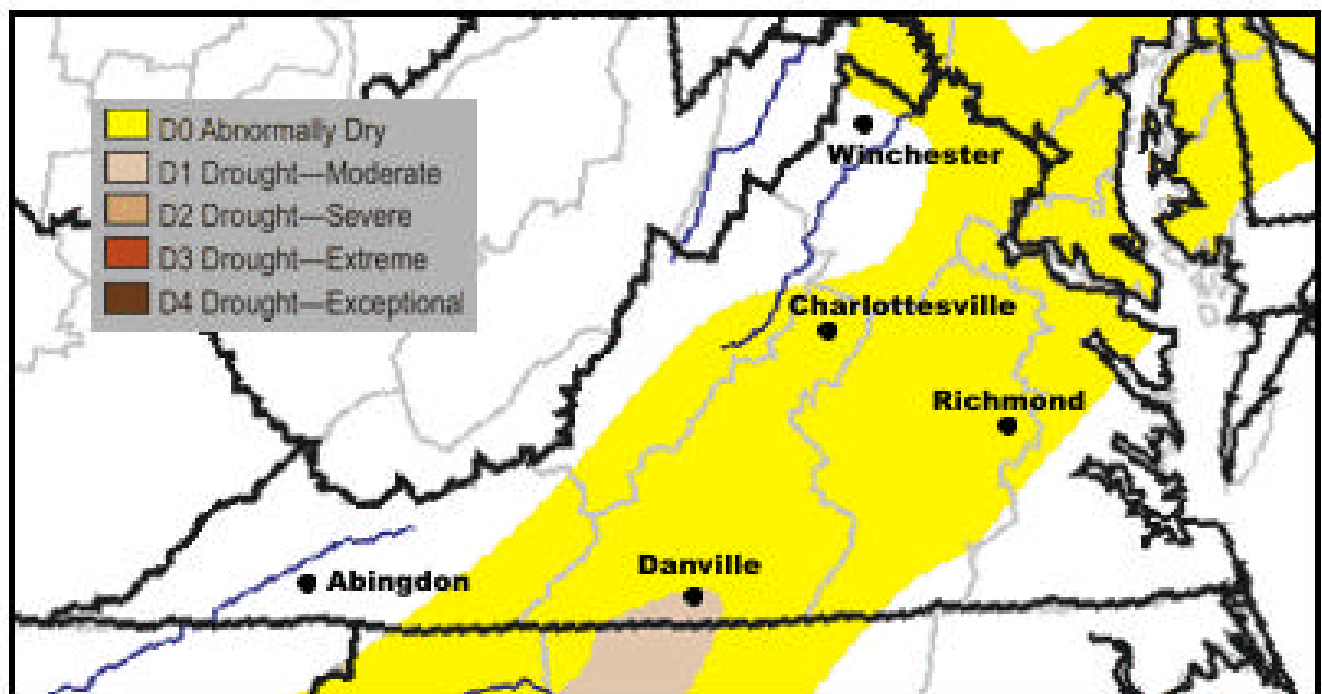
D1 (moderate drought) was eliminated from New Jersey to southern Virginia, D2 (severe drought) removed from the Carolinas, and D1 reduced in the Carolinas. The southern boundaries of D0 and D1 areas were shaved back in Maine. The D0 in southern Florida was wiped out by widespread 2 inch rains with locally heavier amounts.

This month marks the third consecutive wet month across much of the eastern drought areas, indicating that the short-term drought is over. Well observations show ground water levels increasing, however levels are still significantly below 1998 levels, up to 10 feet or more behind in some locations. According to USGS reports, the real-time well in Baltimore County, Maryland, is a deep well and has finally responded to the recent rains, after 15 months of declining water levels. But it is still below the record low levels set in the 1960s. Some Georgia users depend on ground water for up to 90 percent of their water supplies. Wells were still going dry this week around Maryland and Virginia. Water use restrictions continued in many eastern U.S. towns dependent on ground water. Some estimates call for several more months of above normal precipitation before the ground water levels fully recover. Substantial 12-month to 24-month precipitation deficits remain, especially in the Maine and Southeast to Mid-Atlantic areas. Consequently, D0 was left in place from New Jersey to southern Virginia, and D0 to D1 across the Carolinas and Georgia, to indicate the presence of these long-term hydrological drought conditions.

APPENDIX B

U.S. Drought Monitor - Virginia

November 19, 2002

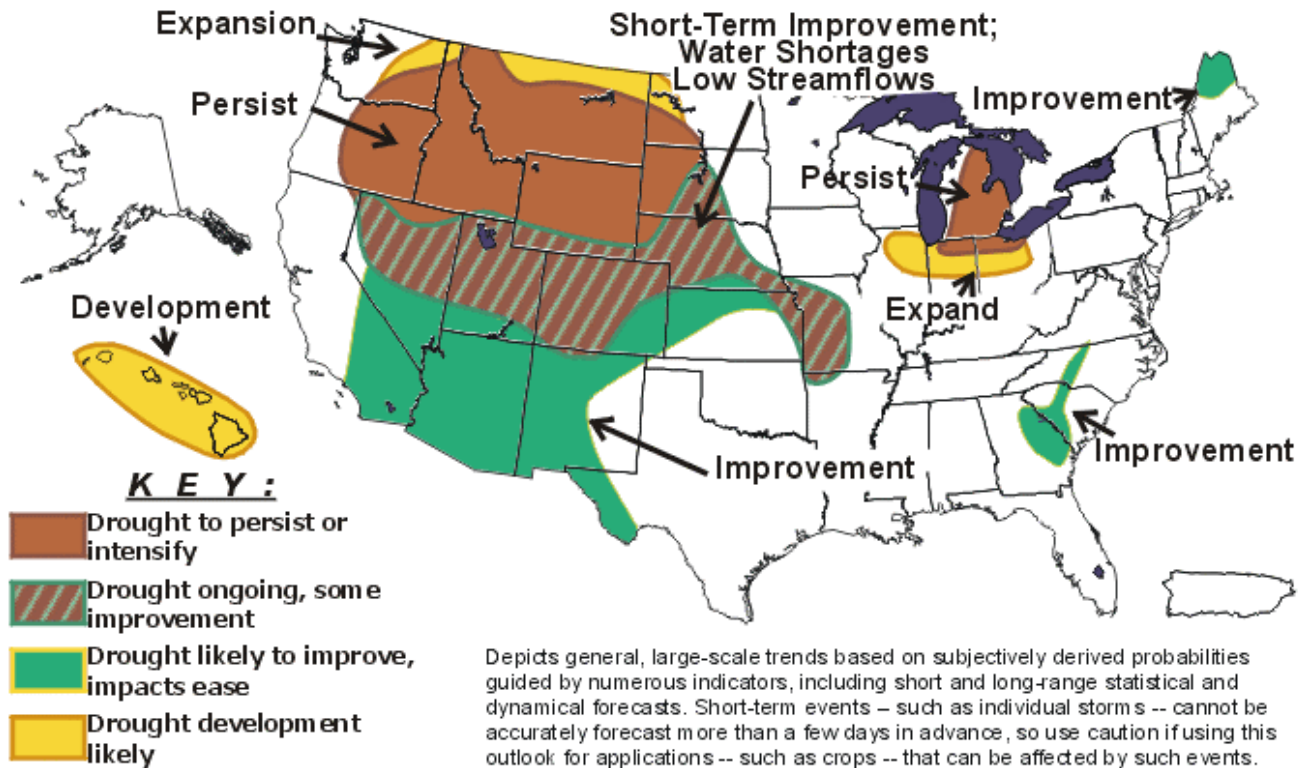


Note: The U.S. Drought Monitor focuses on broad-scale conditions. Local conditions may vary. Click on map to view complete U.S. Drought Monitor graphic.

APPENDIX C



U. S. Seasonal Drought Outlook Through February 2003 Released November 21, 2002



Depicts general, large-scale trends based on subjectively derived probabilities guided by numerous indicators, including short and long-range statistical and dynamical forecasts. Short-term events -- such as individual storms -- cannot be accurately forecast more than a few days in advance, so use caution if using this outlook for applications -- such as crops -- that can be affected by such events. "Ongoing" drought areas are schematically approximated from the Drought Monitor (D1 to D4). For weekly drought updates, see the latest Drought Monitor map and text.

Latest Seasonal Assessment - October's pattern of heavy and widespread rains across the Eastern Seaboard continued into November, as rainfall totals during the first 3 weeks of the month exceeded 4 inches in a large swath extending from Georgia to Maine. The moisture has eliminated most aspects of the Eastern drought. Although aquifers and reservoirs in a few areas remained below normal, even the deeper wells started to recover during November.

APPENDIX D

Precipitation departures by Climatological Division.

Three Week Precipitation Departures

Climatological Division	NOV 1-20 2002	NOV 1-20 NORMAL	NOV 1-20 DEPARTURE	NOV 1-20 % NORMAL
Tidewater	4.40	1.87	2.53	235%
Eastern Piedmont	4.70	1.93	2.77	244%
Western Piedmont	5.00	1.89	3.11	264%
Northern	3.40	1.91	1.49	178%
Central Mountain	5.20	1.75	3.45	297%
Southwestern	4.00	1.87	2.13	214%
Statewide	4.50	1.87	2.63	241%

Seven Week Precipitation Departures

Climatological Division	OCT-NOV 20 2002	OCT-NOV 20 NORMAL	OCT-NOV 20 DEPARTURE	OCT-NOV 20 % NORMAL
Tidewater	10.05	4.93	5.12	204%
Eastern Piedmont	11.17	5.05	6.12	221%
Western Piedmont	10.97	5.22	5.75	210%
Northern	8.92	5.17	3.75	172%
Central Mountain	10.63	4.88	5.75	218%
Southwestern	8.21	4.69	3.52	175%
Statewide	10.05	4.98	5.07	202%

Eleven Week Precipitation Departures

Climatological Division	SEPT-NOV 20 2002	SEPT-NOV 20 NORMAL	SEPT-NOV 20 DEPARTURE	SEPT-NOV 20 % NORMAL
Tidewater	12.53	8.78	3.75	143%
Eastern Piedmont	13.18	8.50	4.68	155%
Western Piedmont	14.03	8.93	5.10	157%
Northern	12.71	8.57	4.14	148%
Central Mountain	14.86	8.03	6.83	185%
Southwestern	12.04	7.77	4.27	155%
Statewide	13.19	8.44	4.75	156%

Fifteen Week Precipitation Departures

Climatological Division	AUG-NOV 20 2002	AUG-NOV 20 NORMAL	AUG-NOV 20 DEPARTURE	AUG-NOV 20 % NORMAL
Tidewater	16.81	13.57	3.24	124%
Eastern Piedmont	18.00	12.83	5.17	140%
Western Piedmont	17.35	13.20	4.15	131%
Northern	15.92	12.65	3.27	126%
Central Mountain	16.41	11.98	4.43	137%
Southwestern	14.42	11.70	2.72	123%
Statewide	16.56	12.69	3.87	131%

Forty-three Week Precipitation Departures (Year to date)

Climatological Division	JAN-NOV 20 2002	JAN-NOV 20 NORMAL	JAN-NOV 20 DEPARTURE	JAN-NOV 20 % NORMAL
Tidewater	39.27	39.58	-0.31	99%
Eastern Piedmont	37.29	38.79	-1.50	96%
Western Piedmont	37.27	40.13	-2.86	93%
Northern	36.56	36.63	-0.07	100%
Central Mountain	37.19	35.73	1.46	104%
Southwestern	41.35	38.76	2.59	107%
Statewide	38.36	38.50	-0.14	100%

One Year Precipitation Departures

Climatological Division	DEC 2001- NOV 20, 2002	DEC 2001- NOV 20, 2002 NORMAL	DEC 2001- NOV 20, 2002 DEPARTURE	DEC 2001- NOV 20, 2002 % NORMAL
Tidewater	41.09	42.70	-1.61	96%
Eastern Piedmont	39.52	42.01	-2.49	94%
Western Piedmont	40.10	43.49	-3.39	92%
Northern	38.24	39.57	-1.33	97%
Central Mountain	39.52	38.61	0.91	102%
Southwestern	43.91	42.09	1.82	104%
Statewide	40.63	41.66	-1.03	98%

Two Year Precipitation Departures

Climatological Division	DEC 2000- NOV 20, 2002	DEC 2000- NOV 20, 2002 NORMAL	DEC 2000- NOV 20, 2002 DEPARTURE	DEC 2000- NOV 20, 2002 % NORMAL
Tidewater	75.72	86.33	-10.61	88%
Eastern Piedmont	73.19	84.97	-11.78	86%
Western Piedmont	72.82	87.92	-15.10	83%
Northern	74.12	80.10	-5.98	93%
Central Mountain	70.13	78.09	-7.96	90%
Southwestern	83.03	85.12	-2.09	98%
Statewide	75.23	84.24	-9.01	89%

Three Year Precipitation Departures

Climatological Division	DEC 1999- NOV 20, 2002	DEC 1999- NOV 20, 2002 NORMAL	DEC 1999- NOV 20, 2002 DEPARTURE	DEC 1999- NOV 20, 2002 % NORMAL
Tidewater	122.95	129.96	-7.01	95%
Eastern Piedmont	112.62	127.93	-15.31	88%
Western Piedmont	111.42	132.35	-20.93	84%
Northern	111.44	120.63	-9.19	92%
Central Mountain	110.85	117.57	-6.72	94%
Southwestern	120.23	128.15	-7.92	94%
Statewide	115.44	126.82	-11.38	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 NOVEMBER FLOW, PERIOD OF RECORD (CFS)	7Q2 (CFS)	7Q10 (CFS)	PERCENT OF TIME FLOW EQUALED OR EXCEEDED FOR NOVEMBER DAILY MEAN FLOWS (CUBIC FEET PER SECOND)			CURRENT CONDITIONS FLOW (CFS)
					75%	50%	25%	
								November 15, 2002
<u>SHENANDOAH RIVER BASIN</u>								
South River near Waynesboro, Va.	17	23	30	24	38	63	129	108
South Fork Shenandoah River at Front Royal, Va.	107	107	344	235	444	641	1,248	3,140
North Fork Shenandoah River at Cootes Store, Va.	0.2	1.2	3.2	0.77	11	32	99	354
North Fork Shenandoah River near Strasburg, Va.	35	48	-	-	134	190	386	1,600
<u>POTOMAC RIVER BASIN</u>								
Goose Creek near Leesburg, Va.	0.4	2.4	12	2.5	47	93	227	-
<u>RAPPAHANNOCK RIVER BASIN</u>								
Rappahannock River at Remington, Va.	2.9	29	50	11	156	287	589	682
Rapidan River near Culpeper, Va.	2.2	8	-	-	137	250	498	467
Rappahannock River near Fredericksburg, Va.	5.0	45	189	48	381	666	1,290	2,230
<u>YORK RIVER BASIN</u>								
Pamunkey River near Hanover, Va.*	45	65	-	-	223	395	754	2,090
Mattaponi River near Beulahville, Va.	.78	21	48	14	155	292	498	630

	MINIMUM	MINIMUM	7Q2	7Q10	PERCENT OF TIME FLOW EQUALED OR			CURRENT
	DAILY	NOVEMBER	(CFS)	(CFS)	EXCEEDED FOR NOVEMBER DAILY			CONDITIONS
	FLOW,	FLOW,			MEAN FLOWS (CUBIC FEET PER			FLOW (CFS)
	PERIOD OF	PERIOD OF			SECOND)			
	RECORD	RECORD			75%	50%	25%	November 15, 2002
	(CFS)	(CFS)						
JAMES RIVER BASIN								
Jackson River near Bacova, Va.	13	17	26	20	33	59	110	300
Potts Creek near Covington, Va.	15	16	24	17	34	58	113	247
Cowpasture River near Clifton Forge, Va.	40	48	73	54	104	167	325	1,050
Craig Creek at Parr, Va.	25	39	43	31	66	112	242	721
James River at Buchanan, Va.*	207	300	378	271	490	773	1,510	3,950
Maury River near Buena Vista, Va.	22	76	89	62	132	220	427	1,130
Hardware River below Briery Run near Scottsville, Va	0.1	14	24	7.5	40	62	102	97
Rivanna River at Palmyra, Va.	5.2	54	-	-	190	317	568	615
James River at Cartersville, Va.	330	709	1,120	584	1,810	2,740	5,070	18,600
Appomattox River at Farmville, Va.	6.3	32	52	21	99	145	226	557
Appomattox River at Mattoax, Va.	13	72	86	30	201	299	508	3,630
Chickahominy River near Providence Forge, Va.	0.07	3.1	16	4.0	65	124	230	331
CHOWAN RIVER BASIN								
Nottoway River near Sebrell, Va.	14	29	82	24	194	438	881	2,020
Blackwater River near Franklin, Va.	0.07	0.21	-	-	26	188	496	875
Meherrin River near Lawrenceville, Va.	4.2	16	52	16	102	174	318	739

	MINIMUM DAILY FLOW, PERIOD OF RECORD (CFS)	MINIMUM NOVEMBER FLOW, PERIOD OF RECORD (CFS)	7Q2 (CFS)	7Q10 (CFS)	PERCENT OF TIME FLOW EQUALED OR EXCEEDED FOR NOVEMBER DAILY MEAN FLOWS (CUBIC FEET PER SECOND)			CURRENT CONDITIONS FLOW (CFS)
					75%	50%	25%	
								November 15, 2002
ROANOKE RIVER BASIN								
Roanoke River at Roanoke, Va.*	19	38	58	35	90	132	234	330
Pigg River near Sandy Level, Va.	25	95	96	47	162	222	314	390
Roanoke River at Randolph, Va.*	179	321	847	426	1,170	1,510	2,200	3,020
Dan River at Paces, Va.	244	336	-	-	1,120	1,430	2,120	3,750
Hyc0 River near Denniston, Va.*	1.5	3.2	-	-	27	41	96	1,350
KANAWHA RIVER BASIN								
New River at Allisonia, Va.	453	608	1,040	725	1,270	1,840	2,820	3,770
Little River at Graysontown, Va.	47	81	109	69	156	217	327	325
Walker Creek at Bane, Va.	24	26	44	33	55	86	177	589
BIG SANDY RIVER BASIN								
Russell Fork at Haysi, Va.	0.2	1.5	8.7	1.0	26	58	142	235
TENNESSEE RIVER BASIN								
South Fork Holston River near Damascus, Va.	40	73	99	73	123	188	312	731
North Fork Holston River near Saltville, Va.	2.0	22	34	24	47	88	173	487
Clinch River at Cleveland, Va.	37	51	81	54	109	202	392	1,170
Powell River near Jonesville, Va.	18	23	42	24	61	129	294	674
* indicates some regulation								

APPENDIX F

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

TOPSOIL MOISTURE PERCENT

<i>Week Ending</i>	<i>Very Short</i>	<i>Short</i>	<i>Adequate</i>	<i>Surplus</i>
November 17	0	1	67	32
November 10	1	4	73	22
November 3	1	7	73	19
October 27	1	17	70	12
October 20	3	25	60	12

CROP CONDITION PERCENT

Crop	Very Poor	Poor	Fair	Good	Excellent
Pastures	5	15	46	30	4
Livestock	1	3	27	61	8
Small Grain & Winter Grazing Crops	0	2	33	49	16
Winter Wheat	0	3	30	58	9

CROP PROGRESS PERCENT – WITH COMPARISONS

Crop	This Week	Last Week	Last Year	5 Year Average
Soybeans Harvested	47	44	97	69
Winter Wheat Seeded	58	51	76	72
Barley Seeded	96	94	100	96
Peanuts Dug	98	98	100	100
Peanuts Combined	92	88	100	99
Cotton Harvested	79	76	88	77
Beef Cattle Forage % from pastures	64	70	40	NA
Milk Cow Forage % obtained from pastures	20	25	9	NA
Sheep Forage % obtained from pastures	69	74	48	NA

APPENDIX G

Virginia Department of Health Field Office Reports for Public Water Systems (November 16, 2002)

(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/Stable, W: Worse
1071525	Marville Subdivision	spring	N	S: Spring is low to dry; Giles County is hauling water to residents.
1195050	Town of Appalachia	reservoir	V	B: Up 3 ft, 2 inches since 11/06/02; 62 MG and 107 days left, no alternate source, voluntary conservation measures. Better conditions compared to 1998, 1999, and 2000; slightly worse than 2001 for this time of year.
1195100	Town of Big Stone Gap	Big Cherry Reservoir	N	B: Now full; Up 10 feet since 11/06/02; alternate well source is still out of use after its turbidity rose drastically along with problems with high iron, etc. Voluntary conservation has been lifted. Now doing much better compared to 1998-2001 conditions for this time of year.
1195950	Town of Wise	reservoir	N	B: Up 8 inches since 11/06/02; 142 MG and 221 days left; alternate creek source is still available but not in use; no conservation measures. Worse shape than in '00 and '01 but better compared to '98 and '99 for this time of year.
1720076	City of Norton	two reservoirs in series	V	B: Up 13 ft since the 11/06/02 report; 76 MG and 109 days left, alternate source is in use, voluntary conservation measures encouraged on public access TV channel. Better than in 1998 -2001 for this time of year.
2003250	Albemarle County / Crozet	Beaver Creek Reservoir	M	B: Beaver Creek Reservoir is currently down 3.7 feet from normal full. The RWSA currently able to meet normal demands. Mandatory water restrictions have been relaxed (car washing and power washing allowed) but others remain in effect.
2003600	Charlottesville/Albemarle County	Sugar Hollow and Ragged Mountain Reservoirs (Observatory WTP)	M	B: The Sugar Hollow reservoir (Observatory WTP) is 3.1 feet below overflow. Ragged Mountain reservoir is 8.3 feet below normal. Overall, source water availability is at 87% of "full available capacity" (this includes both the South Rivanna system and the Sugar Hollow/Ragged Mountain system). Mandatory water restrictions have been relaxed (car washing and power washing allowed) but others remain in effect.
2003675	Albemarle County / Scottsville	Totier Creek Reservoirs (Scottsville WTP)	M	S: The Totier Creek Reservoir (Scottsville WTP) is full and overflowing. At this time, there is adequate water to meet normal daily demands; however, the Albemarle County Service Authority has initiated mandatory water restrictions in Scottsville in addition to Crozet and the Urban area. These mandatory water restrictions have been relaxed (car washing and power washing allowed) but others remain in effect.
2003725	Charlottesville/Albemarle County	South Rivanna (South Rivanna WTP)	M	B: Their main reservoir-South Rivanna (South Rivanna WTP) is full. Overall source water

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	marle County	Rivanna WTP)		Rivanna WTP) is full. Overall, source water availability is at 87% of "full available capacity" (this includes both the South Rivanna system and the Sugar Hollow/Ragged Mountain system). Mandatory water restrictions have been relaxed (car washing and power washing allowed) but others remain in effect.
2015150	Craigsville	Wells and springs	M	S: Craigsville spring production is holding its own- well production ok-construction completed for interconnecting water line with Augusta Springs.
2015200	Augusta County Service Authority - Deerfield	Deerfield Spring	V	B: The Deerfield Spring is overflowing. A supplemental well has been drilled, which is also overflowing (artesian), and has been connected into the treatment system on an emergency basis. Submission of plans for approval will follow.
2015550	Reynolds Metals Company(ALCOA)	Drilled wells	N	S: The water system has gone to a backup well due to low water production. A well site investigation was performed on 10/9/02 for a new well site. The well site approval was forwarded on 10/23/02. Reynolds Metals Company has recently been negotiating with the Town of Grottoes to purchase water for potable water for use at the plant.
2015575	South River S.D. (ACSA)	Coles Run	N	S: Coles Run reservoir level is full.
2017300	Millboro	Millboro Spring	N	B: Recent rains have improved spring flows above last week's level. Several large leaks have also been found and repaired. Several more leaks need to be repaired.
2023020	Apple Tree	Drilled wells	M	S: Well production is lower than usual; 2 wells not in service (Steeplechase 1 & 3); water imported from and exported to AquaSource's Highland Manor system (2023415). Water restrictions are in excess of EO-33.
2023194	Clearview Estates	Drilled wells	M	S: Currently no production from the two Clearview Estates wells - importing water from AquaSource's Rainbow Forest system (2023480). Water restrictions are in excess of EO-33.
2023415	Highland Manor	Drilled wells	M	S: Only two wells producing water (Rosemae and Carolyn); water exported to and imported from AquaSource's Apple Tree system (2023020). Water restrictions are in excess of EO-33.
2023480	Rainbow Forest	Drilled wells	M	S: Well production is lower than usual, Well No.4 pump lowered and now has production; however, exporting water to AquaSource's Clearview Estates system (2023194). Water restrictions are in excess of EO-33.
2043250	Boyce-Millwood	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
2043629	Keystone Baptist Church	Drilled Wells	V	S: Well yields down significantly. Well 1 yield has fallen from 8 gpm to 1.5 gpm. Well 2 has yield of 1.5 gpm. Internal water conservation measures instituted have minimized water use. Well production currently meeting daily demands. Continuing to proceed with plans for new well and additional storage.

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2065250	Fluvanna Correctional Center	Mechunk Creek	M	B: The raw water impoundment is approximately 92.0 % full (37-MGD available, 40-MG full capacity) and filling quickly. The facility water demand is holding at approximately 105,000 GPD and use restrictions within the correctional facility remain in effect.
2065300	Fork Union Sanitary District	Drilled Wells	V	B: The FUSD waterworks source water is obtained from 6 drilled wells. Water production remains below normal levels, but has improved. Distribution system storage was maintained at 100% during this past week and available production has been in excess of the daily demand. Mandatory water restrictions have been relaxed.
2065480	Lake Monticello Service Company Aqua Source	Rivanna River	V	B: Flows in the Rivanna River at the Lake Monticello Water Treatment Plant have improved due to recent rainfall events. Mandatory water restrictions were lifted on November 1, 2002.
2065520	Oakland School	Drilled Wells	V	B: The Oakland School waterworks provides water to approximately 150 students and staff. Work is underway to get an additional well into operation. During this past week, well production has increased. Mandatory water restrictions were lifted on November 1, 2002.
2079625	Rapidan Service Authority	Rapidan River	N	B: Flows in the Rapidan River at the Greene Water Treatment Plant have improved due to recent rainfall events. Mandatory restrictions were (initiated on August 23, 2002) were lifted on November 1, 2002
2091150	Monterey		N	B: Monterey well production holding its own. New well construction completed, and is in operation. Situation is improving.
2125202	Johnson's Senior Center	Drilled Wells	M	S: The Johnson's Senior Center waterworks provides water to 35 nursing home residents in Nelson County. During the past week, the well production has not met the normal daily demand. Laundry is taken off site to save water. Sufficient water is available for flushing toilets, drinking, and bathing. Water restrictions remain in effect.
2125325	Nelson County Service Authority - Lovingston	Drilled wells	V	B: The NCSA - Lovingston waterworks source water is obtained from 11 drilled wells. During this past week storage, tank levels have been maintained at 100% full and some wells have been rested. Mandatory water restrictions were lifted in November 1, 2002.
2125650	Nelson County Service Authority - Schuyler	Johnson's Branch	V	B: The NCSA - Schuyler waterworks source water is obtained from Johnson's Branch. The Johnson's Branch flow has significantly increased due to recent rainfall events. Mandatory water restrictions were lifted on November 1, 2002.
2125910	NCSA - Wintergreen	Lake Monacan, Valley Ponds, Stoney Creek	V	B: The NCSA - Wintergreen waterworks source water is obtained from Lake Monacan and the Valley Ponds. All reservoirs are currently full due to recent rainfall events. Mandatory water restrictions were lifted on November 1, 2002.
2161700	Roanoke County WTF	Spring Hollow Reservoir	M	B: Reservoir level 29.7 feet below normal; 200.3 feet of water remaining in the reservoir or approximately 246 days of storage left at the current usage rate and without pumping from the Roanoke River (average flow rate 127.36 cfs). Water restrictions general follow EO-33; except the county's rules are stricter on car washing but allow watering of golf courses and athletic fields. Water

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				is exported to the City of Roanoke system (2770650).
2161910	Mountain View Mobile Home Park	Drilled wells	M	S: Well production is lower than normal. Water levels in the wells are not routinely measured. Water restrictions are in effect per EO-33.
2163075	Brownsburg Water Company	Drilled wells	V	S: No defined problems have occurred and they have requested voluntary restrictions as a precaution.
2163250	Town of Goshen	Goshen Spring	M	B: The spring level continues to rise. The Town Council is attempting to decide how to proceed with funding for several much-needed infrastructure improvements that will reduce leakage and unaccounted for water.
2163550	Maury Service Authority	Maury River	N	B: Water level continues to rise above the intake
2165045	Bridgewater, Town of	North River	N	B: The river is up from last week, and there continues to be more than enough water for the town.
2165060	Broadway, Town of	North Fork of Shenandoah, Linville Creek	N	B: N. Fork is continues to rise above the intake. Not currently using Linville Creek.
2165300	Food Processors	North Fork Shen	N	B: The river is at its highest level in many months.
2165765	Valley View MHP	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 completed and the water system is making the necessary arrangements with Rockingham County to connect to their new waterline. The mobile home park is expected to be connected to the Rockingham county water line by mid December. After this the MHP PWS will be inactive and will not be in a drought related problem.
2171250	Stoney Creek Sanitary District		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 new 250 gpm well and water treatment plant.
2171750	Strasburg	North Fork Shenandoah River	V	B: Stream flow has increased due to recent rains - at 2600 cfs (1679.6 MGD) at 12:15 PM on 11/13/02; intake water level still above 1999 drought levels; maintaining normal pumping rates.
2187406	Front Royal	South Fork, Shenandoah River	N	B: Implemented mandatory restrictions per Governor's policy. Stream flows have increased significantly. Running 14-day average is well above 30% mean stream flow [64.31% with mean stream flow at 992 cfs (640.8 MGD) on 11/13/02]. VWPP requires conservation controls be implemented at 30% (voluntary), 17% (mandatory), 15% (emergency), and 13% (rationing) of mean stream flow based on 14-day running average.
2187522	High Knob Subdivision	Springs and wells	M	S: Spring yields have dropped significantly and wells are being increasingly relied upon to meet water demand.

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2660345	Harrisonburg, City of	Riven Rock_Dry River, North River, Silver Lake	N	B: Sufficient water over the intakes, Silver Lake and Dry River not in use. Switzer, Riven Rock, and North River in use and levels continue to rise. The WTP operator reported that there was noticeable turbidity in the North river for the first time in recent months. Switzer Dam is full.
2770650	Roanoke City - Carvins Cove	Carvins Cove Reservoir/Tinker Creek/Catawba Creek	M	B: Reservoir level 28.5' below spillway (29% of supply remaining). Approximately 215 days of storage remaining at the current rate. 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 (1-2 MGD) and placing Crystal Spring (up to 2.8 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. Water restrictions are in excess of EO-33.
2790600	Staunton	North River Dam, Middle River	N	B: The dam is overflowing and they are using 1.8 MGD from the dam. The Middle River water level is up enough to use but is not needed.
3095490	James City Service Authority Central System	30 wells	V	S: No significant impact on water levels in wells. Conservation due to high demands in distribution system.
3183550	Jarratt	Nottoway River	N	S: No quality or quantity problems noted.
3550050	Chesapeake - Western Branch system	Western Branch system	M	B: 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 Portsmouth's lead, for ALL residents of the city. City Council voted to establish Mandatory Conservation at the meeting on 07/10/02. The restrictions took effect immediately. Purchased water from Portsmouth at the beginning of August was averaging 3.4 MGD. After reducing the service area on 8/14/02 purchased water averaged 2.15 MGD. A decrease of 1.25 MGD.
3550051	Chesapeake - NW River system	NW River system	M	B: As of 11/13, chlorides levels in the Northwest River average 78 mg/l with a low of 65 and a high of 96 mg/l. Plant production averaged 8.7 MGD for the past week. The ASR facility was in use once during this period. 2.1 inches of rainfall fell thus far this month. 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 07/10/02. The restrictions took effect immediately.

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3550052	Chesapeake - South Norfolk system	South Norfolk system	M	B: 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 07/10/02. The restrictions took effect immediately. Purchases from Norfolk increased from 3.8 MGD to 4.3 MGD after the service area was enlarged to lessen the burden on Portsmouth. The normal average purchased water from Norfolk was 3.6 MGD. This volume should decrease once the service area decreases.
3595250	Emporia	Meherrin River	V	S: Water is still flowing over the dam. The power plant has been operating, while maintaining a full reservoir.
3650150	Ft. Monroe	Big Bethel Reservoir System	V	S: Reservoirs are full.
3670800	Virginia-American, Hopewell	Appomattox River/James River	M	S: No problems with water quantity. Due to recent rains, flows have increased in the James River. Despite the rain, flows are still low in the Appomattox River as the Lake Chesdin reservoir is continuing to fill. Dissolved minerals have decreased, but are still having some effect on industrial consumers and disinfection byproducts. Water quality is still fluctuating with changes in the tide. City of Hopewell enacted water conservation ordinance to mirror EO 33 on September 10.
3700500	Newport News	Chickahominy, Little Creek, Diascund, Skiffes Creek, Harwoods Mill and Lee Hall Reservoirs	M	B: As of 11/13/02, the reservoirs were 64% full (in the previous report the reservoirs were 61% full) gaining a 1% about every 3 days. Chickahominy pump station maxed out at it arbitrary limit of 40 MGD. Able to store 25 MGD (to Little Creek) as well as supply the two plants. Went to Voluntary Conservation effective 07/25/02. Mandatory Conservation effective 10/18/02. RO plant back up to producing about 4 MGD. Rains throughout the two major basins helping. May hit 70% by the weekend and 78% by the end of the month (reservoir capacity).
3710100	Norfolk	Lake Prince, Lake Burnt Mills, Western Branch reservoir, Nottoway River, Blackwater River, 4 western wells; Little Creek reservoir, Lakes Smith, Lawson, Whitehurst, and Wright. Lake Gaston.	N	B: As of 11/12, reservoirs are at 86.0% of total capacity. This is a 1.0% increase since 11/04. Historic reservoir capacity at this time of year is 78.8%. Reservoirs are the Western Branch Reservoir, Lake Prince, Burnt Mills Reservoir, and the in-town lakes. Surface water sources pumped into the reservoirs are Lake Gaston, Nottoway River and Blackwater River. There are also four groundwater wells, which discharge to the reservoirs. Avg. pumping into the reservoirs from Lake Gaston = 31.7 MGD; Blackwater River = 23.9 MGD; Nottoway River = 21.7 MGD. Deep wells = 0 MGD (pumps off 09/24). Estimated 199 days of storage on reservoirs alone with no pumpage from the surface water sources or wells into the reservoirs. Currently not under locally imposed conservation measures.

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3740600	Portsmouth	Lakes Cohoon, Meade, Kilby, and Speights Run	M	B: As of 11/12, reservoirs are at 67% of useful capacity. This is a 6% increase since 10/28. Historic avg. capacity for this time of year is 85% and the monthly median is 91%. Both emergency wells are ON, pumping an average of 6.2 MGD. Est. days of reservoir storage remaining at current raw water pumpage of 14.97 MGD is about 160 days. City Council voted to establish Mandatory Conservation (Condition II) at meeting of 07/09/02. The city lifted the interim surcharges on excess water usage effective 8 Nov. The city is getting ready to begin construction of a raw water line to bring Norfolk raw water to a Portsmouth reservoir.
3800787	City of Suffolk	Route 17 Corridor	V	B: 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. Since Portsmouth has gone to Mandatory Conservation, Suffolk will probably switch the supply source to their Central System (groundwater).
3800805	City of Suffolk	Central System	V	B: As of 11/13, reservoir system is 55% full in Crumps Mill. This is a 22% increase from the last report. Suffolk has been pumping from Crumps Mill to Lone Star. Lone Star Lakes is at 88 % full a 3% increase. Lone Star makes up the majority of the Northern Lakes. The Southern Lakes were at 29%. This is a 3% increase from the last report. Rainfall received for the period is 1.73 inches. The average demand was 4.9 MGD for the period. 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	B: As of 11/13/02, Waller Mill reservoir is 20 inches below the spillway. (last report was 22") Continuing to purchase 2.2 MGD raw water from Newport News. Supplemental well (361 gpm/0.52 MGD) has been pumping to the reservoir for about 22 months. Also getting 225,000 to 250,000 gallons per day delivered to the watershed from York County's Lightfoot water system. Voluntary conservation measures are in effect as of March 30, 2002.
4041035	Appomattox River Water Authority	Lake Chesdin	M	B: Water is flowing over the dam (as of 11/1/02). It is currently about 6 inches over the dam. A week ago, the level was 3 inches over the top of the dam. Wholesale water provided - but following the Governor's EO for mandatory conservation.
4041845	Swift Creek WTP (Chesterfield County)	Swift Creek Reservoir	M	B: The reservoir level is 175.5 feet. The level is 1.0 feet higher than it was a week ago and 1.5 feet below the top of the dam.
4073311	Gloucester	Beaverdam Reservoir	V	B: The Beaverdam Reservoir water overflow elevation is 40.5 feet. The reservoir is not overflowing. The water level was 40.0 on November 12, 2002 and is rising. The reservoir level has risen since the last report. Note that about a million gallons of water is allowed to flow

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				through the reservoir every day. V - following the Governor's guidelines for conservation.
4075630	Pagebrook (Goochland)	Groundwater	N	S: Sydnor continues to haul 2 tanker loads of water per week (5,000 gallons).
4075735	James River Correctional Center	Beaverdam Creek and the James River	M	B: The flow in the primary source of water (Beaverdam Creek) is about 24 inches over the top of the dam. One week ago, the level was 5 inches over the top of the dam.
4085398	Hanover County	North Anna River , wells, and purchased water from the City of Richmond	M	S: 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 determined by DEQ. Following the City's lead, the County went to mandatory water conservation on August 27, 2002. M - the County is enforcing the conservation measures in their main service area only.
4087125	Henrico County	purchased from the City of Richmond	M	S: Henrico County has an emergency ordinance in place, which allows them to enact mandatory water restrictions. Henrico County's decision to go to mandatory restrictions is driven by demand (tank levels) or a decision by the City of Richmond to go to mandatory restrictions. Following the City's lead, the County went to mandatory water conservation on August 27, 2002.
4760100	City of Richmond	James River	M	B: The current flow in the James River is way up due to the recent rains. The current flow rate is approximately 24,400 cfs. Normal flow for this time of year is about 2,500 cfs. Richmond is having no problems with water withdrawals. The City went to mandatory water conservation on August 27, 2002.
5007030	Amelia Academy	Well No.1(bored)	M	S: Existing well remains low. They control the pump rate at 1.25 gpm. We are awaiting plans for connection of their new well and will allow it's emergency connection if it should become necessary.
5009050	Town of Amherst	Buffalo River	N	B: Mill Creek Reservoir is down about 2.25". Recent rain has allowed Town to close reservoir valve. This will increase reservoir storage. Town is drawing all water from Buffalo Creek. Approximately 18"6 inches is overflowing spillway. Town is planning to drill a well to supplement supply.
5009250	Amherst County Service Authority	Graham Creek Res., Harris Creek	M	B: Drawing 100% from creek. Reservoir is full. Emergency line from the James River was completed on 9/16. Stopped pumping from James River on 10/28/02. Started mandatory water restrictions July 24, 2002.
5019250	Eagle Eyrie	Unnamed Reservoir	N	S: Reservoir is down 9.5'. Engineer estimates 50 days of storage. Studying the use of wells to supplement supply. Identified leak on the waterline from intake to plant. Repaired leak. Planning to drill well next week to supplement reservoir. Long term plan is to connect to BCPSA.
5019400	High Point Subdivision	Smith Mountain Lake	N	B: Recent rains have improved lake level.

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5025450	Town of Lawrenceville	Great Creek	N	S: Great Creek Reservoir is at maximum pool with a good overflow.
5029085	Buckingham County Waterworks	Troublesome Creek Reservoir	N	B: Reservoir is 9.75-inches above the spillway. They have removed all water restrictions.
5031050	Town of Altavista	Staunton River, Reed Creek	V	B: Using Staunton River as primary source. Recent rain has improved flows in the creek and river. Planning to draw from the creek.
5031150	CCUSA	Otter River	N	B: 12" above intake screen. Terminal Reservoir is full. Recent rain on watershed has greatly improved reservoir levels.
5031175	Town of Brookneal	Phelps Creek Reservoir	N	B: Over one inch of rain. Reservoir is overflowing. Estimated reserve below spillway 287 days.
5031200	Dan River, Inc. - Brookneal Plant	Falling River	N	B: Approximately 2 inches of water over spillway, though intakes still adequately covered. Going to connect to Town of Brookneal water system for drinking water.
5037300	Town of Keysville	Spring Creek Impoundment	N	S: Reservoir is at full pond and overflowing. They no longer have water use restrictions.
5067840	Town of Rocky Mount	Blackwater Creek	N	B: Have 12 inches overflow at the check dam (without plate in place at check dam that is used during low flow periods) so much improved with recent rainfall; The Town is not under any sort of conservation.
5083550	Town of Halifax	Banister River	N	S: The reservoir level is at full pond and overflowing.
5089376	Fieldcrest Cannon WTP	Smith River	M	S: Flow subject to release from Philpott Dam.
5089487	Marrowbone Cr. WTP	Marrowbone Creek	N	B: Creek flowing over check dam and plant operating at design capacity of 1 MGD. Not pumping from upstream reservoir; Local mandatory conservation measures in place since 7/16/02 lifted & now using single interconnection with City of Martinsville to supplement system.
5089852	Upper Smith River WTP	Smith River	M	S: Flow subject to release from Philpott Dam.
5111450	Town of Kenbridge	Flat Rock Creek & reservoir	N	S: The reservoir is full. They are able to pump from much improved flow in the creek.
5111800	Town of Victoria	Nottoway Falls & Lunenburg Lake	N	S: Water is flowing over dams (>2-inches). No water restrictions
5117310	Town of Clarksville	Kerr Lake	N	S: Kerr Lake is approximately 3 inches above normal pool.
5135100	Town of Blackstone	Nottoway River Reservoir	N	S: Nottoway Reservoir is full with a good overflow.
5135110	Town of Burkeville	7 wells	M	S: One well has lost production others showed signs of stress. Water conservation is still in place.
5135160	Town of Crewe	Lazeretto Creek/Crystal Lake	N	S: Reservoir is 5-inches above the overflow. Restrictions were lifted with Governors announcement.
5141640	Town of Stuart	South Mayo River	N	S: About 5 inches overflowing spillway. Recent rain improved river flow. Completed pump test and sampling of two previously approved inactive wells. Planning to interconnect wells to system.
5143114	Town of Chatham	Cherrystone Creek	M	B: Creek flow adequate to allow operation of WTP at full capacity--no supplement from upstream reservoir necessary at this time.
5143210	Town of Gretna	Georges Creek Reservoir	N	B: Town reservoir full and overflowing; No longer pumping from temporary impoundment of tributary to Whitethorn Creek or from Elba spring into the reservoir. Town lifted water restrictions on 11/5/02 (these mandatory conservation measures were established 8/7/02).

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5147450	Town of Farmville	Appomattox River	N	S: The river depth is above their staff gauge. This is almost out of the bank. They believe they are lifting restrictions today.
5515050	City of Bedford	Stoney Creek Reservoir	M	B: Reservoir is overflowing. Recent rain has significantly increased reservoir level. City is no longer using wells or river to supplement reservoir. City went to mandatory conservation.
5590100	City of Danville	Dan River, Schofield Dam	N	B: City is having no problems meeting their demand. Flow improving with recent rainfall received.
5680200	City of Lynchburg	Pedlar Reservoir	N	B: Pedlar Reservoir is 84" down. No longer drawing water from the James River.
5690400	City of Martinsville	Beaver Creek Reservoir	V	B: Reservoir was 8.8' below spillway last week, but additional rain received will help. In order to help reduce loss in reservoir, the City continues to use Leatherwood source along with reservoir and is pumping at ~2 MGD from this source. It has been holding up since recent rainfall. City implemented voluntary conservation measures on 8/27/02.
5780600	Town of South Boston	Dan River	N	S: The Dan River is a deeper than normal, >5 feet deep at the intake screen.
6033100	Caroline	Campbell's Creek (groundwater)	M	S: Hauling water (approx. 10,000 GPD) from county system. Recently drilled well has yield of 17 gpm and samples have been sent to DCLS for complete chemical/bacti analyses. Fe/Mn treatment required. Waterline extension from county being considered.
6033425	Lake Caroline	Lake Caroline	M	B: Lake Caroline is 13 inches below normal level. Estimated 360-day supply remaining.
6047500	Town of Culpeper	Lake Pelham	N	B: No problems at this time. Reservoir is near normal level for this time of year.
6059500	FCWA-Lorton/Occoquan WTPs	Occoquan Reservoir	N	B: Reservoir 100% full, 8.0 billion gallons usable storage. All of FCWA service area is on "watch" status.
6059501	FCWA-Corbalis WTP	Potomac River	N	B: Jennings Randolph and Little Seneca reservoirs in the Potomac River watershed are at 89% full and 84% full, respectively, on 11/11/02. Flow in Potomac River at Little Falls (downstream of the Wash. Met. intakes) on 11/13/02 was 6800 MGD. Releases from upstream Jennings Randolph Reservoir were halted on September 23. Releases from Little Seneca were stopped on Sept 14. All of FCWA service area is on "watch" status. Voluntary conservation will be instituted when the upstream reservoirs drop below 60% full.
6061320	Northwestern Elementary School	Groundwater (1 well)	M	S: Significant decline in well yield. Currently hauling water to meet demand. Inspection of nearby existing well conducted several weeks ago. CFO working rapidly with owner to connect well.
6061600	Town of Warrenton	Warrenton Reservoir	N	B: No problems at this time. Main reservoir is near normal level for this time of year.
6107200	Town of Hillsboro	GWUDISW (Spring) and newly drilled well	V	B: Spring flow remains stable at 5 gpm. New well drilled July 68, 2002, using DWSRF planning grant money shows yield approx. of 8 gpm. Well temporarily connected to system. CFO continues to work with town to get well permanently connected.
6107300	Leesburg	Potomac River	V	B: Current river level at 188.9 feet. Normal level is 187.50 feet. Leesburg intake is located upstream of the FCWA and Wash. Met. Intakes. Signs requesting voluntary conservation have been placed around town and on town web-site.

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/Stable, W: Worse
6107600	Purcellville	Hirst Reservoirs	V	B: Front lake 2.0 feet below full; back lake is 3.9 feet below full. Drought "watch" status still in effect. Mandatory restrictions go into effect when front lake reaches 5 feet below normal.
6113200	Town of Madison	White Oak Run	M	B: Stream flow is low, but no adverse impact on water treatment plant to this point.
6137500	Town of Orange	Rapidan River	M	B: Stream flow has increased dramatically, to about 50 MGD. Some water use restrictions lifted, outdoor use still banned. Temporary raw water pumps are available for use when flow recedes away from intake structure. Dam repair is complete except for minor details. Estimated that 400,000 GPD was lost through existing dam prior to repair. Work on emergency raw water sources currently not critical due to improved river flow. Town to press ahead on design and construction of raw water storage basins on plant site.
6137500	Wilderness WTP	Rapidan River	M	B: Stream flow is low, but has increased in recent days. Temporary pumps are available to get water to intake structure.
6153675	Quantico - Mainside	Lunga Reservoir/ Breckenridge reservoir	N	B: Water Level: Lunga 25 inches below overflow; Breckenridge 10 inches below full.
6600100	City of Fairfax	Goose Creek/Beaver Dam	N	B: Goose Creek Reservoir is 2-3 inches over top of dam, and Beaver Dam Reservoir is 7.5 feet below full.
6630050	City of Fredericksburg	Motts Run/Rappahannock River	M	B: City of Fredericksburg (consecutive system to Spotsylvania County) has asked for mandatory conservation based on Spotsylvania County's action.
6685100	City of Manassas	Lake Manassas (Broad Run)	N	B: Current Water Level: 286.66 feet; Max is 290 feet. Mean elevation for November is 287.39 feet. Stage 1 conservation (voluntary) starts at reservoir elevation 279.72 feet.
6177280, 6177300	Spotsylvania County	Ni River Reservoir and Motts Run/Rappahannock River	M	B: Spotsylvania County declared a water emergency in mid November 2001 and instituted mandatory conservation. Ni River Reservoir is 56% full (54 inches below normal). Motts Run Reservoir is 92% full (1.6 feet below normal). Flow in Rappahannock River is at 43% mean annual flow. Estimated approximately 365 supply remaining.
6179100, 6179775	Stafford County	Smith Lake and Abel Lake	M	B: Smith Lake is 89 inches below normal and Abel Lake is 78.5 inches below normal. Estimated 279-day supply remaining.