

VIRGINIA DROUGHT MONITORING TASK FORCE
Drought Status Summary Report
July 28, 2010

The Virginia Drought Monitoring Task Force (DMTF) held a conference call to discuss existing conditions on July 22, 2010. This *Summary Report* is a supplement to the *Drought Status Report* dated July 14, 2010 and provides applicable updates to drought conditions. As a result of continued agricultural impacts and the potential for expansion of impacts to other sectors if dry conditions continue, the DMTF recommends that the Drought Watch issued by the Virginia Department of Environmental Quality (DEQ) be maintained through at least the beginning of August. The DMTF recommendation is based on the following information.

Despite rain events in many regions during the last two weeks, short-term precipitation deficits (30 and 60 day) remain across the majority of the Commonwealth (Appendix A). The US Drought Monitor indicates “abnormally dry” to “moderate drought” conditions exist in approximately 86% of the Commonwealth (Appendix B). The June-July period is on pace to be the driest on record and the third warmest on record. The recent extremely hot weather has come to an end, at least through the first week of August. While temperatures will be average to slightly above average through the first week of August, the extreme heat of the last 2 weeks will not be repeated in the short term. Unfortunately, precipitation during the same period will be average at best. The moisture from Tropical Depression Bonnie will primarily affect North Carolina, and not have an impact on most of the Commonwealth. There will be several opportunities for scattered showers and thunderstorms through the end of the week of August 2nd, but there are no current indications of rainfall that will be widespread or heavy enough to end the dry period experienced in Virginia since June 1st.

Although streamflow initially responded positively to rain events in the middle of July, the majority of stream gages across Virginia are recording flows below normal to well below normal ranges based on July flow statistics (Appendices C and D). These ranges correspond to the 5th to 25th percentile of streamflows. The driest portions of the Commonwealth analyzed by hydrologic units are the southeast and central regions. Because of the wet winter and spring, groundwater levels are recording water levels in the normal range at approximately half of Virginia’s monitoring locations. Groundwater levels are below normal at the remaining monitoring locations (Appendix E). Release of the groundwater storage is the primary source for maintaining streamflow. Releases of groundwater to streams will continue to decline through August and into September.

The most significant impacts of the dry conditions have occurred in agricultural production. Since the July 7, 2010, Drought Monitoring Task Force conference call, seven Virginia localities have formally requested the Governor’s assistance in obtaining federal agricultural disaster designation due to drought conditions. The Virginia Department of Agriculture and Consumer Services (VDACS) has requested that the USDA/Farm Service Agency (FSA) prepare official loss assessment reports (LARs) for Caroline, Essex, King and Queen, Northumberland, Prince Edward, Rockbridge and Westmoreland. VDACS expects additional localities will request assistance in the coming weeks.

Reports from the agricultural community around the state remain the same. Weather conditions remain critical for crops in many areas, especially Eastern Virginia. There have been no reports of significant rainfall in most areas of the state for several weeks. Areas that have received showers only reported an average of 1/10 to 2/10 of an inch of rain. Corn growers with crop insurance have adjusters in their fields and corn will soon be cut for silage if the grower has livestock. Farmers have reported 0 to 5 bushels of corn per acre in some areas. Soybeans in many fields are dead; especially double crop beans, which were planted later in the season. Cotton is stressed and the fruit is falling off. With some immediate rainfall, the cotton crop is salvageable, but yields will definitely be reduced. Peanuts look good on top of the ground but spider mites are attacking the plants. Peanut yields will be greatly reduced as the plants struggle to grow and produce pegs due to lack of moisture.

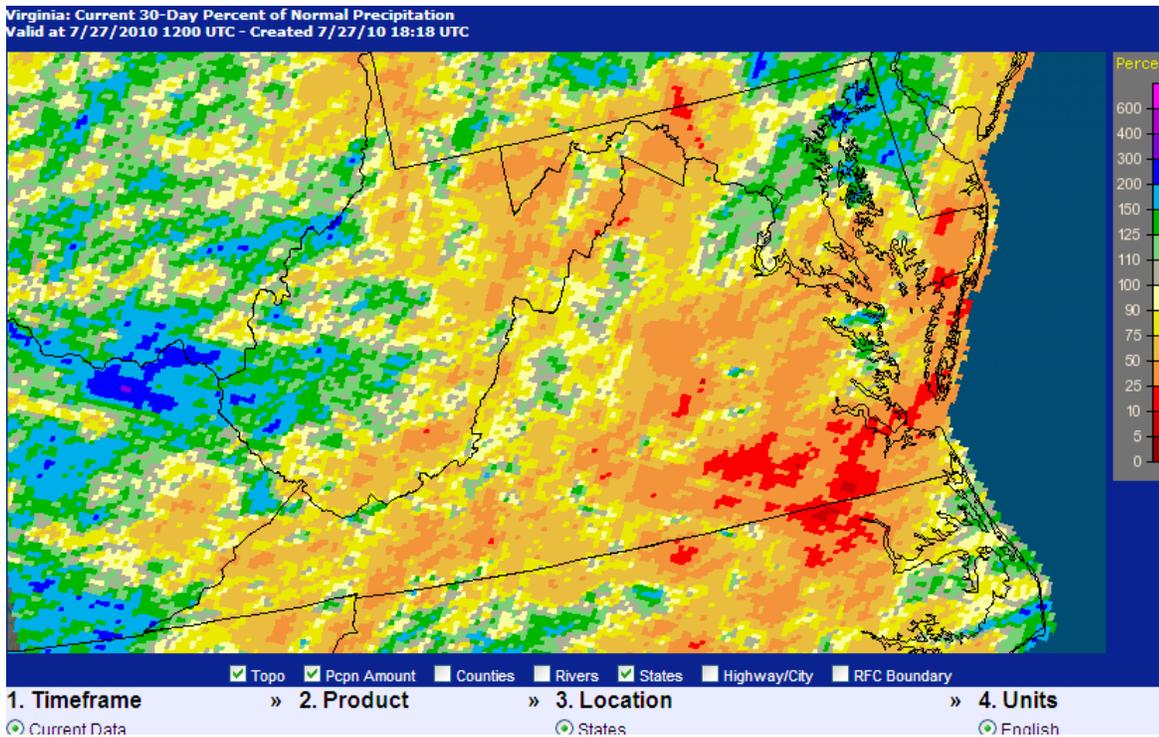
The dry weather is also a major concern for livestock. The agricultural drought situation in most parts of the state has reached critical proportions. Many producers are feeding hay with an extremely short hay supply while others are purchasing hay out of Pennsylvania. Cattle movement has begun to increase. We will continue to see larger numbers of feeder cattle and cows brought to market over the next several weeks as these dry conditions continue. Several locations are making plans to add additional special sales.

Generally, water supply systems across the Commonwealth are stable and levels in large reservoirs are in normal ranges. However, between July 6th and July 28th, six additional utilities issued voluntary water conservation measures and one utility issued mandatory water conservation measures. The additional utilities with voluntary measures are the Town of Smithfield, Appomattox River Water Authority, Petersburg, Chesterfield County Central Water System, Town of Hamilton, and Puddledock Road system. The additional utility under mandatory conservation measures is Caroline County. The Virginia Department of Health's updated restrictions report is included as Appendix F.

The Virginia Department of Game and Inland Fisheries reports that recreational facilities and trout operations remain unaffected by dry conditions. The Virginia Department of Forestry Daily Report for July 27th indicates that fire danger is above normal for much of the Commonwealth and burn bans are in place for approximately 20 Virginia localities.

APPENDIX A

30-Day Precipitation Departures



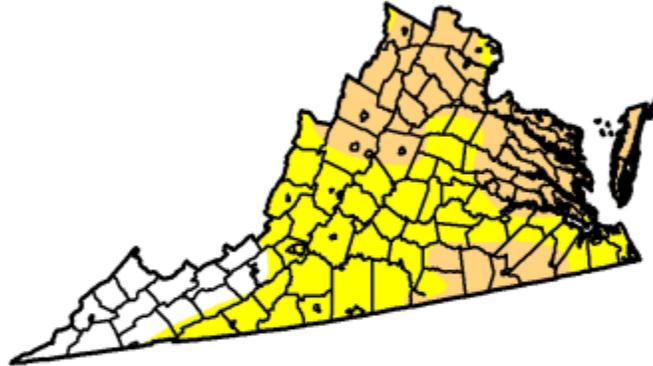
APPENDIX B

U.S. Drought Monitor Virginia

July 20, 2010
Valid 7 a.m. EST

Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	14.3	85.7	38.1	0.0	0.0	0.0
Last Week (07/13/2010 map)	14.1	85.9	37.4	0.0	0.0	0.0
3 Months Ago (04/27/2010 map)	100.0	0.0	0.0	0.0	0.0	0.0
Start of Calendar Year (01/05/2010 map)	100.0	0.0	0.0	0.0	0.0	0.0
Start of Water Year (10/06/2009 map)	86.9	13.1	0.4	0.0	0.0	0.0
One Year Ago (07/21/2009 map)	81.9	18.1	0.0	0.0	0.0	0.0



Intensity:

- D0 Abnormally Dry
- D1 Drought - Moderate
- D2 Drought - Severe
- D3 Drought - Extreme
- D4 Drought - Exceptional

The Drought Monitor focuses on broad-scale conditions.
Local conditions may vary. See accompanying text summary
for forecast statements

<http://drought.unl.edu/dm>

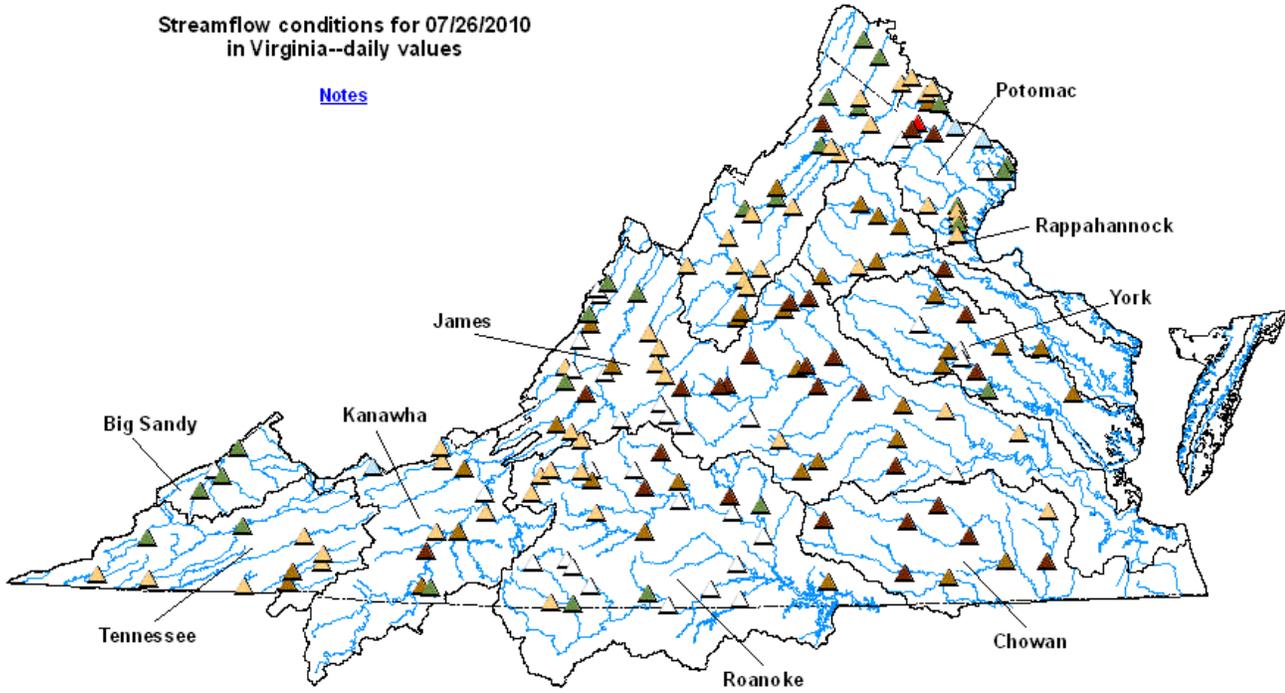


Released Thursday, July 22, 2010
Author: A. Artusa, CPC/NOAA

APPENDIX C

Streamflow conditions for 07/26/2010
in Virginia--daily values

[Notes](#)



Current streamflow conditions



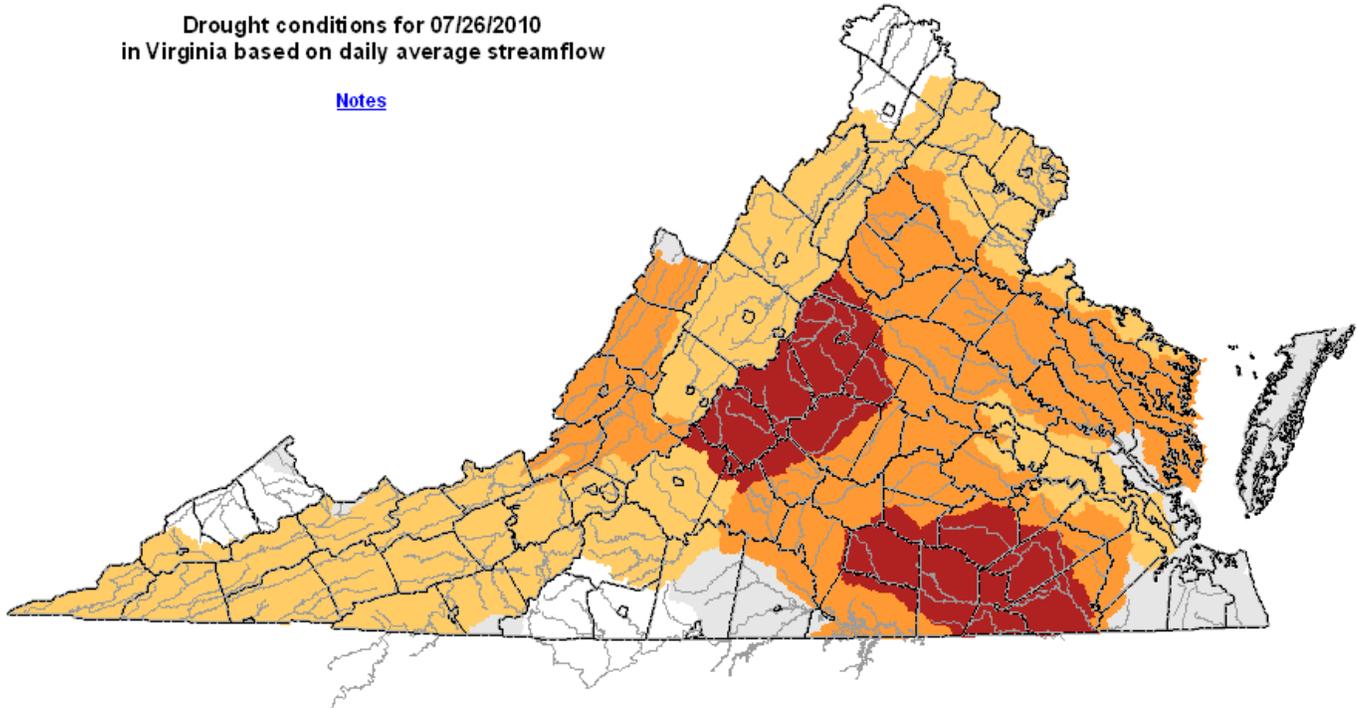
△ Not ranked

APPENDIX D

Drought Watch -- USGS State Information on Drought Map of below normal daily average streamflow

Drought conditions for 07/26/2010
in Virginia based on daily average streamflow

[Notes](#)



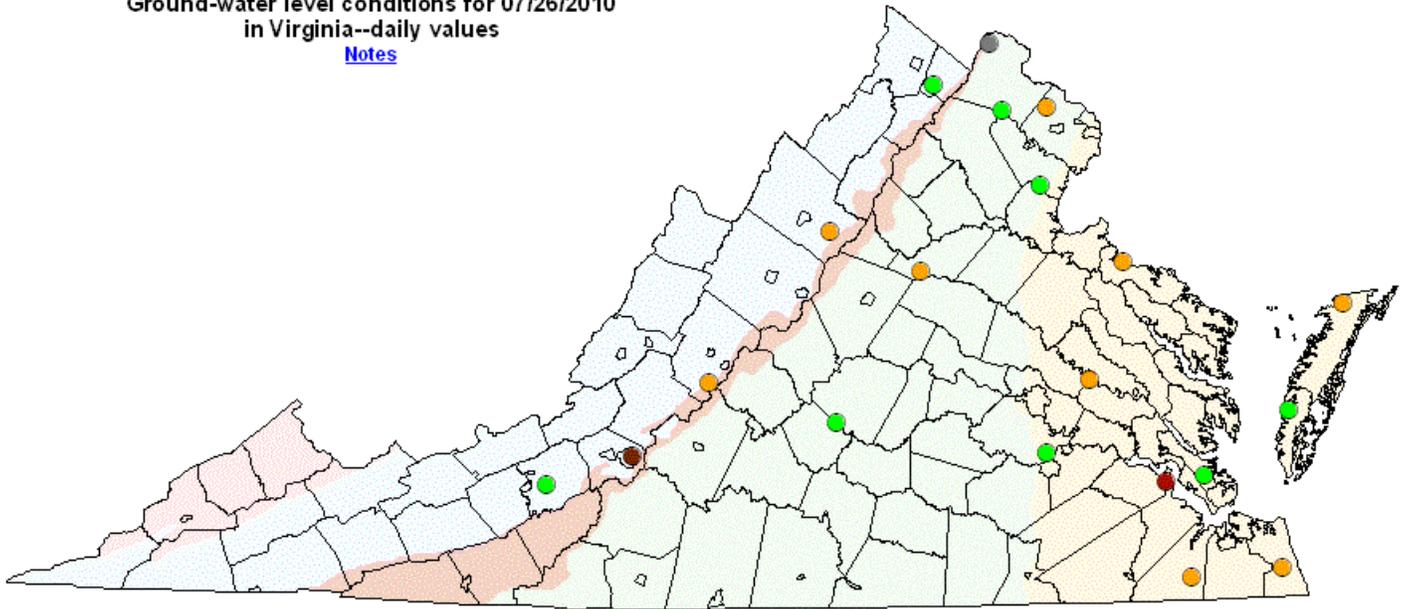
EXPLANATION - Percentile classes				
Low	<=5	6-9	10-24	Insufficient data
Extreme drought	Severe drought	Moderate drought	Below normal	

APPENDIX E

Virginia Climate Response Network

July 26, 2010

Ground-water level conditions for 07/26/2010
in Virginia--daily values
[Notes](#)



Explanation - Percentile classes (symbol color based on most recent daily value.)										
	●	●	●	●	●	●	●	●	●	●
New Low	<5	5-10	10-24	25-75	76-90	90-95	>95	New High	Not Ranked	
	Well Below Normal		Below Normal	Normal	Above Normal	Well Above Normal				

APPENDIX F

Condition of Public Water Supplies

July 21, 2010

ODW Drought Situation Report

Date: **7/21/10**

	Restriction totals
Mandatory	2
Voluntary	18
Total	20

N-None
M-Mandatory
V-Voluntary

B-Better
S-Stable/Same
W-Worse

PWSID	Waterworks	Source Name	Restrictions	Situation	Population Served
3053280	DCWA Central (Dinwiddie County)	Appomattox River Water Authority (ARWA)	V	S - 07/14/2010 - Voluntary restrictions as of 7/12/2010.	6,800
3081550	GCWSA - Jarratt	Nottoway River	N	S - 07/19/10 - Waterworks production rate reduced due to lower demand; river level sufficient to allow plant operation at 1.9 mgd. Chief operator noted that river is getting low.	7,190
3093120	Isle of Wight County	Suffolk	V	W - 07/15/10 - Obtains water from Suffolk. Follows Suffolk's lead on conservation.	1,284
3149700	Puddledock Road	ARWA	V	W - 07/15/2010 - Voluntary restrictions as of 7/12/2010.	9,723
3550050	Chesapeake - Western Branch system	City of Portsmouth	V	S -07/15/2010 This portion of the city is consecutive to (receives water from) the city of Portsmouth. City Council voted to go to voluntary conservation city-wide - it took effect on 24 Oct 2007. Still following Portsmouth's lead on conservation.	36,642
3550051	Chesapeake	Northwest River, City of Norfolk Raw Water (Lake Gaston)	N	S -07/15/2010 Through the first 6 months surplus rainfall for 2010 is 10.73 inches. There are no water restrictions in Chesapeake. Chlorides remain low between 30-40 mg/l. Continuing to purchase raw water from Norfolk (7.4 MGD average). The Intown Lakes	103,504

				remain full and there are no irregularities in the tidal patterns in NWR.	
3550052	Chesapeake - South Norfolk system	City of Norfolk	V	S -07/15/2010-This portion of the city is consecutive to (receives water from) the city of Norfolk. City Council voted to go to voluntary conservation city-wide - it took effect on 24 Oct 2007. Still following Norfolk's lead on conservation.	38,709
3570150	Colonial Heights	ARWA	V	S - 07/14/10 - Voluntary restrictions currently in place. Generally follow ARWA recommendations on water restrictions.	17,286
3595250	Emporia	Meherrin River	N	S - 07/19/10 - Reservoir level sufficient for normal operation. Power plant & ILUKA also withdrawing from river.	5,600
3670800	Virginia-American Water Company (Hopewell)	Appomattox & James Rivers	N	S - 07/19/2010 - Level at intakes normal and sufficient to supply plant. July rainfall thus far below monthly average and year-to-date totals slightly below average. Still experiencing taste and odor issues and adjusting treatment.	28000 - Primary / 45463 Total including Consecutive System (Ft. Lee)
3700500	Newport News	Chickahominy River, Skiffs Creek, Diascand, Little Creek, Harwoods Mill, Lee Hall	N	7/20/10 - Total reservoir capacity at 83%. Chickahominy pumps secured since June 20th. (MIF/chlorides). At current delivery rate of about 50 MGD, there is about 189 days of stored water available.	414,000
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.	V	W - As of 07/19/10, reservoirs at 85.8% (down from 91.5% on 06/28/10). Historic reservoir capacity is 88.1% at this time of year. Avg. pumping from Lake Gaston = 50.2 MGD. Total Reservoir Storage = 13,048 MG. Approx. 650 days of storage remaining under current demand with 50 MGD pumping from Lake Gaston, and approx. 190 days of storage remaining under current demand with no pumping from Lake Gaston. Called for voluntary conservation 11/1/07.	261,250 - Primary / 755,617 - Total including consecutive systems (Va Beach + military bases).
3730750	Petersburg	ARWA	V	W - 07/14/10 - Voluntary restrictions requested 7/12/2010. Generally follow ARWA recommendations on	33,740

				water restrictions.	
3740600	Portsmouth	Lakes Cohoon, Meade, Kilby, and Speights Run	V	W - As of 07/16/10, reservoirs at 83% (down from 90% on 07/02/10). Median reservoir capacity is 94% for the month and historical average capacity is 92% (period of 1969-2008). The emergency wells are off. Estimated days of storage remaining at current pumpage and rainfall is 186 days (avg. pumpage is 16.7 MGD). Called for voluntary conservation on 10/10/07.	100,400 - Primary / 120,400 Total including consecutive systems (military bases)
3800805	Suffolk	Lone Star Lakes, Cumps Mill Pond	V	W -7/15/2010-Will follow Portsmouth's lead and the region as far as conservation. Average reservoir levels : Southern Lakes at 82.5% capacity, for the Northern Lakes at 75.29% and Crumps Mill Pond at 83.39%. The Southern Lakes are for emergency use only. Overall they are at 81.09% capacity as of June 30, 2010. For the reservoirs or the period (April-June 2010) capacity 86.87%. The operator states that they were in better condition last year when compared to 2009 (101.01%) for the same period. This can be attributed to the berm break at Lake I. Still purchasing water from Portsmouth per their contract, no drought measure taken to date.	62,562
3810900	Virginia Beach	Norfolk	V	W - 07/19/10 - Obtains water from Norfolk. Called for voluntary conservation on 9/19/07.	423,743
3830850	Williamsburg	Waller Mill Reservoir	N	7/20/2010 : 2" above primary spillway - about 92% of usable capacity. 372 days of usable storage based on drawdown rate of the past week of 2.25".	16,400
4041035	APPOMATTOX RIVER WATER AUTHORITY	Surface water; Lake Chesdin	V	S - Wholesaler to Chesterfield County, Prince George County, Dinwiddie County; Cities of Petersburg and Colonial Heights. Reservoir is at 31" below top of dam. Voluntary restrictions has begun.	200,000

4041845	CHESTERFIELD CO CENTRAL WATER SYSTEM	Surface water; Swift Creek reservoir; purchases finished water	V	S- Purchases water from the City of Richmond and the Appomattox River Water Authority. Swift Creek Reservoir is at 0.9 feet below top of dam. Voluntary restrictions have begun.	286,000
4057800	TAPPAHANNOCK, TOWN OF	Groundwater wells	N	S	2,100
4073311	GLOUCESTER CO WATER TREATMENT PLT	Surface water, Beaverdam reservoir; 2 deep groundwater wells	N	S-Reservoir is full.	8,870
4075283	EASTERN GOOCHLAND CENTRAL WATER SYSTEM	Purchased surface water	N	S-purchases water from Henrico County	2,500
4075735	JAMES RIVER CORRECTIONAL CTR	Surface water; James River	N	S- Conservation at all DOC facilities	9,300
4085398	HANOVER SUBURBAN WATER SYSTEM	Surface water; North Anna River; some groundwater wells; purchases finished water	N	S (see Richmond)	71,000
4085770	SPRING MEADOWS- MEADOW GATE	Groundwater wells	N	S	2,300
4087125	HENRICO COUNTY WATER SYSTEM	Surface water; James River	N	S (see Richmond)	289,000
4101900	WEST POINT, TOWN OF	Groundwater wells	N	S	3,000
4127110	DELMARVA PROPERTIES	Groundwater wells	N	S-New Kent Co. encourages conservation at all county owned waterworks.	7,700
4145675	POWHATAN COURTHOUSE	Groundwater wells	N	S	2,600
4193280	COLONIAL BEACH, TOWN OF	Groundwater wells	N	S	3,300
4760100	RICHMOND, CITY OF	Surface water; James River	N	S- water levels do not affect intake; James River Regional Flow Management Plan set restrictions based on James River level for counties of Henrico, Chesterfield, Goochland, and Hanover counties, which purchase water from the City. Voluntary restrictions not yet necessary, but may become necessary if	197,000

				no substantive rainfall events.	
5143210	Town of Gretna	Georges Creek Res	N	S	2,500
5029085	Buckingham County	Troublesome Creek Reservoir	N	S	5,751
5037300	Town of Keysville	Keysville Reservoir	N	S	800
5780600	HCSA-South Boston	Dan River	N	S	11,388
5141640	Town of Stuart	South Mayo River	N	S	1,500
5147170	Town of Farmville	Appomattox River	N	S	7,011
5011050	Town of Appomattox	Wells	V	S	1,708
5067265	Hales Point	Wells	N	S - hauling water	46
5690400	City of Martinsville	Beaver Creek Reservoir	N	B - reservoir now overflowing	16,000
6033085	Caroline Utility	Groundwater	M	S - 7/13/2010 Mandatory water use restriction of High-Level 3. Last update 7/15/2010.	3600 primary 3000 consec
6061200	Marshall	Groundwater	M	S - The WSA Alert Messaging Service maintains the Water Use Restriction Notice as of 7/21/2010. The mandatory water use restriction is not directly drought related but depends on water source development.	2,134
6107150	Town of Hamilton	Groundwater	V	S - 7/21/10 Voluntary water use restrictions initiated 7/6/2010	2,000
6107400	Town of Lovettsville	Groundwater	V	S - 7/21/10 Voluntary water use restrictions remain in place; however there is no problem with water supply.	1,280
6107600	Town of Purcellville	Surfce water/groundwater	V	B - 7/21/10 All sources returned to service. Voluntary water conservation initiated 7/2/10.	6,300
6107650	Town of Round Hill	Groundwater	V	S - 7/21/10 - No water supply problems.Voluntary water use restrictions effective 7/6/10.	3,156

*Rows in yellow are additions from the 7/6/10 report.