DROUGHT MONITORING TASK FORCE

Drought Status Report

March 25, 2008 **(REVISED March 28, 2008)**

Statewide precipitation for the previous water year (October 1, 2006 through September 30, 2007) was below normal (81% of normal). Statewide precipitation for the period from October 1, 2006 until March 21, 2008 was below normal (71% of normal). Statewide precipitation for the period from February 1, 2008 through March 21, 2008 is in the normal range (90% of normal). Precipitation greater than 85% of normal is considered to be in the normal range. The relatively wet period from February 1 until March 21has had very little effect on accumulated precipitation deficits across the Commonwealth. The following drought evaluation regions are currently below normal for the period beginning October 1, 2006; Big Sandy (73%), New River (77%), Roanoke (76%), Upper James (80%), Middle James (80%), Shenandoah (81%), Northern Virginia (77%), Northern Piedmont (75%), Chowan (84%), Northern Coastal Plain (78%), and York-James (79%). Cumulative precipitation deficits across the Commonwealth decreased 1-4% in most drought evaluation regions since the last report. All drought evaluation regions now have accumulated precipitation deficits that represent below normal conditions except Southeast Virginia (85%) and the Eastern Shore (91%). Appendix A contains precipitation tables for periods dating to October 1, 2006. The long-range monthly climatologic outlook calls for above normal temperatures statewide and equal chances of below normal, normal and above normal precipitation for the Commonwealth through April of 2008. The long-range seasonal outlook calls for above normal temperatures for southern two thirds Commonwealth through June 2008. The long-range seasonal outlook calls for equal chances of below normal, normal and above normal precipitation for the Commonwealth through June 2008.

The latest NOAA drought monitor indicates the occurrence of drought conditions throughout the majority of the Commonwealth and is included as Appendix B. Appendix C contains information from the national drought monitor with only Virginia displayed. Drought conditions have improved over the Commonwealth during the last month with a general reduction of one category in drought severity. Severe drought (D3) conditions have been eliminated in Virginia, at least for the short term. The NOAA seasonal drought outlook through June 2008 indicates that drought conditions may improve in the majority of the Commonwealth with the potential for minor improvement in southeastern third of Virginia. The seasonal drought outlook is included as Appendix D.

Seven day average streamflows for March 24 are below normal (10^{th} to 24^{th} percentiles) in the northern Coastal Plain. Streamflows in the southern Coastal Plain and Southside Virginia are indicative of moderate hydrologic drought (6^{th} to 9^{th} percentiles) with areas in the lower Roanoke river basin exhibiting flows indicative of severe hydrologic drought ($< 5^{th}$ percentile). While drought monitoring ground water levels data is scarce, ground water levels are generally in the lower range of expected water levels in areas east of Route 95 and are generally lower than normal in the area west of Route 95. Eight dedicated drought monitoring wells are at levels indicative of moderate hydrologic drought (10^{th} to 24^{th} percentiles) and seven are at levels indicative of severe hydrologic drought ($< 10^{th}$ percentile). Ground water levels in 14 of 19 dedicated monitoring wells have shown increases in water levels in the last month indicating a short period of ground water recharge. While this period of ground water recharge is beneficial all indications are that ground water recharge will be below normal prior to the onset of the 2008 growing season. Levels of most large reservoirs have continued to rebound over the last month and are now full. There are three significant reservoirs that remain unusually low, Lake Anna, Carvins Cove and Spring Hollow.

While the Virginia Department of Health has not reported any impacts to public water supplies that have compromised their ability to provide the needs of their customers' 29 systems remain on voluntary water conservation requirements and 9 systems remain on mandatory water conservation requirements. The reduction in conservation requirements is likely reflective of decrease water demands during the winter season and it is likely that additional systems will initiate water conservation requirements with the onset of the growing season. Appendix E contains a table of waterworks that have initiated water conservation requirements.

The Department of Forestry reports that forestry related impacts from the drought have slightly improved over the last month. Recurring periods of light precipitation have improved soil and fuel moisture conditions statewide. Wildfire activity has remained light through the period, with most activity resulting from recent wind events following the passage of frontal systems across the Commonwealth. Most short term forecasts are promising periodic rainfall through early April, and if that holds true, it will certainly help to reduce the potential for significant wildfire activity this spring. Since January 1st, VDOF has responded to more than 670 wildfires which have burned more than 18,000 acres as well as damaging or destroying 12 homes and 30 other structures. On a positive note, VDOF has saved or protected 325 homes and 237 other structures during this same period. The historic wildfire outbreak on February 10, 2008 has pushed these totals well above 5 and 10 year averages for the period.

The Department of Game and Inland Fisheries reports all boating access facilities are accessible and operating to support the beginning of the spring fishing season. Reservoirs are expected to be at normal levels for both recreation and the spring fish spawning period. Trout stocking is on schedule in the western part of the state, however the average size and the total number of fish is down due to the drought and reduced production during 2007. While river and stream flows increased to near average levels during the recent rainfall events, flows rapidly decreased due to depressed ground water levels. As the spring growing season begins significant precipitation events will be necessary to maintain stream flows and recreational opportunities. Periodic spring rains are necessary to recharge seasonal pools and wetlands that amphibians require for reproduction. Climate change, habitat fragmentation and recent drought have contributed to significant declines in many species of frogs and salamanders. There are currently no hunting seasons open. Spring turkey season begins April 12, and if fire danger increase hunters will be reminded to take necessary precautions when outdoors.

While the intensity of drought impacts has diminished slightly during the last month, these are likely only short-term improvements. Current moisture deficits will likely result in significant drought impacts across all socio-economic sectors during the 2008 growing season without significant additional precipitation during the summer of 2008.

Reports from the Climatology Office of the University of Virginia, the National Weather Service, the Virginia Department of Agriculture and Consumer Services, the Virginia Department of Environmental Quality, and the United States Geological Survey follow.

Report of the Climatology Office of the University of Virginia

Consistent winter storm activity has led to significant precipitation gains over almost the entire Commonwealth during the first three weeks of March. Statewide averaged totals slightly exceeded normal for the period and some areas received substantially more.

Short-range outlooks indicate continued opportunities for precipitation during March, but longer-range outlooks suggest a shift in the upper-air circulation to one that will be less favorable to widespread precipitation. This leads to a March through May period that is forecast to bring below normal precipitation for almost the entire state.

As has been emphasized in previous reports, precipitation during the colder months of the year is critical to the moisture status throughout the upcoming growing season. An analysis of the long-term climatological records was performed to estimate the probability of receiving threshold statewide average precipitation totals between now and the end of March. This analysis gives us a roughly even chance of reaching 85% of normal (low end of the "normal range") for the October 2007 through March 2008 period. Since this is based upon precipitation averaged across Virginia, it does not indicate its likely distribution across the individual Drought Regions.

With the start of the growing season only weeks away, there is a strong likelihood that the moisture reserves we have at this time will not significantly increase and will be called upon to last throughout 2008 growing season.

Report of the National Weather Service

Current model predictions indicate that significant rainfall is not likely in the Mid Atlantic region during the next 7-14 days. While this is unfavorable from a short-term water perspective, it appears that temperatures are likely to be at or below normal during that period, which should mitigate any negative consequences of the short-term dryness. Looking out 30-90 days, there are no real indications with regard to precipitation amounts through June. There are equal chances of above, normal or below normal rainfall during that period. With a forecast of weak La Nina conditions to persist through the summer, it is possible that we could benefit from some tropical rainfall during mid-late summer.

Virginia Department of Agriculture and Consumer Services
Status of Agricultural Drought

According to the USDA Crop Weather Report released on March 3, 2008, topsoil moisture was adequate throughout the month. Surface moisture continues to improve in Central, Eastern and Northwestern Virginia although rainfall is slightly behind normal for the new calendar year. Preparation for spring planting season is progressing. Winter feed supplies remain tight for producers, who had to start feeding earlier than normal in the fall. While the Commonwealth is still experiencing deficit rainfall, the impact of the continued drought cannot be determined at this time.

Nursery/Horticulture

The Virginia Nursery and Landscape industries do not have any additional drought updates at this time since the spring growing season is just getting underway. Growers report sufficient water at this time. However, as plants begin to develop, the demand for water will increase. This is when any severe root damage sustained by plants during last year's drought will become evident. Moderate damage may not become symptomatic until plants are impacted by future heat and drought stress conditions.

Impact on Dairy Industry

Recent rains have helped to reduce the rainfall deficit. Dairymen continue to attempt to make the scarce feed supply last until this spring's hay and pasture crops are ready. With the high costs of grain and hay, the soaring cost of fertilizer is beginning to put a strain on farmers' budgets. If the price of milk goes down, and production costs continue to rise, it is expected that the combination and lasting affects of last year's drought could force some dairymen out of business.

Impact on Livestock

The high cost and shortage of hay has decreased the profits of beef cattle farmers. The body condition scores of the beef cattle and calves seen at livestock markets and feeder calf sales are the lowest that have been seen in many years. However, the numbers of cattle being sold has remained strong. Southwest Virginia is still experiencing a critical short feed supply and hay is expected to be very short this spring. Pastures are in very poor condition and will need complete renovation. Livestock seizures are occurring and are being contemplated due to poor body condition from inadequate feeding.

Impact on Wells, Rivers, and Ponds

Rivers and ponds are low for this time of year. Ground water levels in wells are reported as being dangerously low.

Disaster Designations

Due to the extreme agricultural drought, 93 Virginia counties and 34 independent cities received a Secretarial disaster designation in 2007 as a primary natural disaster area. York and Arlington counties and the independent cities of Alexandria, Bristol, Falls Church, Poquoson, and Norton were named contiguous disaster areas. The majority of the disaster designations will remain in effect until June 16, 2008.

Waivers for Hauling of Emergency Supplies

At the request of the Department of Agriculture and Consumer Services, the Department of Transportation and Department of Motor Vehicle have jointly authorized a temporary waiver of registration and license requirements along with normal weight and width restrictions for the hauling of hay and feed to the counties that have been designated natural disaster areas by the U.S. Secretary of Agriculture. The waiver also pertains to contiguous counties. In addition, the Department of Emergency Management has authorized appropriate motor carrier exemptions to hours worked as prescribed by the Code of Federal Regulations and corresponding state regulations throughout the Commonwealth for carriers transporting emergency supplies destined for the affected localities. Both waivers became effective at 6 a.m. on August 11 and will remain in effect through April 15, 2008.

Virginia Department of Environmental Quality
Condition of Major Reservoirs

With few exceptions most major reservoirs have fully recharged and will be entering the low flow – high use season in good condition but with seasonally low inflows. Lake Anna, due to its relatively small watershed and large consumptive use, has not fully recovered. Lake Moomaw in western Virginia remains full.

Kerr Reservoir is at 301.2 feet, 1.2 feet above guide curve and 3.6 feet higher than a month ago. The Southeastern Power Administration (SEPA) is still making the minimum amount of hydroelectric power to fulfill their contracts which has allowed the reservoir to recover. The reservoir is high enough to release extra water to augment flow in the lower Roanoke River to enhance the spawning of anadromous fish next month.

The other large Corps of Engineers lake, Lake Philpott, is at 969.8, 2.0 feet up from a month ago but still 4 feet below the guide curve. SEPA is making only half of the normal release for hydropower in order to bring that lake back up to a more normal level.

Smith Mountain Lake is full and the variance allowing lower than permitted downstream discharges has been lifted. DEQ continues to monitor the lake closely due to the abnormally low springtime inflows. There is also about 6000 acre feet of extra storage on hand to enhance flow for the spawning run of Striped Bass next month.

Two large water supply reservoirs for the Western Virginia Water Authority that serve the Roanoke area are a cause for concern. Carvins Cove Reservoir is at 59% of capacity and Spring Hollow Reservoir is at 69% of capacity. Both of these reservoirs have extremely small drainage areas. Spring Hollow Reservoir relies on a pump station on the Roanoke River for refill. That station is subject to minimum instream flowby protection rules and flows have only on occasion exceeded allowable pumping triggers.

United States Geological Survey
Streamflow and Ground Water Levels

Streamflow throughout Virginia has increased because of the recent precipitation events. Greatest improvements have been west of the Blue Ridge, especially in southwest Virginia. Until the latest precipitation, streamflows were well below normal in the Blue Ridge Physiographic Province and western Piedmont Physiographic Province--especially in the headwaters of the Roanoke and Rappahannock River Basins and central James River Basin. Streamflows in the eastern Piedmont and Coastal Plain Physiographic Provinces generally remain below normal. Without additional precipitation, expect streamflows across the State to decline to the below normal range within two weeks.

Water levels in water-table monitoring wells provide indications of the amount of ground-water storage in an area. Ground water is a major contributor to streamflows during the summer and fall. While ground-water levels have increased, they still remain well below the normal range. March and April usually have the highest water-table levels for the year, with the decline in water-table levels beginning in May. With current water-table levels and the expected decline of water levels during the spring through the summer months, ground-water storage and streamflows will probably remain well below normal.

Streamflow conditions based on daily values for March 24 are presented in Appendix F. Area summaries of 7-day average streamflows from the USGS drought watch web page show similar flow conditions and are presented in Appendix G. Current conditions are generally lower than depicted by seven day average stream flows as flows continue to decline since the last significant precipitation event. Ground water levels based on conditions on March 24 are presented in Appendix H.

APPENDIX A

Precipitation departures by Drought Evaluation Region.

PRELIMINARY PRECIPITATION SUMMARY

Prepared: 03/22/08

	DROUGHT REGION	OBSERVED	Mar 1, 2008 NORMAL	- Mar 21, 2008 DEPARTURE	% OF NORM.
1	Big Sandy	3.73	2.88	0.85	130%
2	New River	2.48	2.49	0.00	100%
3	Roanoke	2.71	2.89	-0.18	94%
4	Upper James	2.24	2.57	-0.33	87%
5	Middle James	2.74	2.75	-0.01	100%
6	Shenandoah	2.48	2.17	0.31	114%
7	Northern Virginia	2.54	2.48	0.06	102%
8	Northern Piedmont	2.61	2.58	0.03	101%
9	Chowan	3.25	2.96	0.29	110%
10	Northern Coastal Plain	3.16	2.90	0.26	109%
11	York-James	4.47	3.18	1.29	141%
12	Southeast Virginia	2.75	2.85	-0.09	97%
13	Eastern Shore	2.05	2.92	-0.87	70%
	Statewide	2.84	2.74	0.10	104%

	DROUGHT REGION	OBSERVED	Feb 1, 2008 NORMAL	- Mar 21, 2008 DEPARTURE	% OF NORM.
1	Big Sandy	6.21	6.46	-0.25	96%
2	New River	4.23	5.42	-1.19	78%
3	Roanoke	4.92	6.20	-1.29	79%
4	Upper James	4.13	5.42	-1.29	76%
5	Middle James	5.34	5.87	-0.53	91%
6	Shenandoah	4.42	4.58	-0.16	97%
7	Northern Virginia	5.20	5.15	0.05	101%
8	Northern Piedmont	5.01	5.55	-0.54	90%
9	Chowan	6.02	6.13	-0.11	98%
10	Northern Coastal Plain	5.67	6.04	-0.37	94%
11	York-James	8.16	6.71	1.45	122%
12	Southeast Virginia	6.38	6.35	0.03	101%
13	Eastern Shore	5.23	6.11	-0.88	86%
	Statewide	5.26	5.87	-0.61	90%

	DROUGHT REGION	OBSERVED	Jan 1, 2008 NORMAL	- Mar 21, 2008 DEPARTURE	% OF NORM.
1	Big Sandy	8.48	10.19	-1.71	83%
2	New River	5.47	8.63	-3.16	63%
3	Roanoke	5.81	10.12	-4.31	57%
4	Upper James	5.39	8.70	-3.31	62%
5	Middle James	6.31	9.53	-3.22	66%
6	Shenandoah	5.41	7.43	-2.02	73%
7	Northern Virginia	6.58	8.43	-1.85	78%
8	Northern Piedmont	7.90	9.07	-1.17	87%
9	Chowan	7.20	10.24	-3.04	70%
10	Northern Coastal Plain	6.89	9.79	-2.90	70%
11	York-James	9.57	10.85	-1.28	88%
12	Southeast Virginia	7.89	10.51	-2.62	75%
13	Eastern Shore	7.04	9.67	-2.63	73%
	Statewide	6.63	9.51	-2.88	70%

	DROUGHT REGION	OBSERVED	Dec 1, 2007 NORMAL	- Mar 21, 2008 DEPARTURE	% OF NORM.
1	Big Sandy	11.39	13.83	-2.44	82%
2	New River	7.92	11.34	-3.42	70%
3	Roanoke	9.03	13.37	-4.34	68%
4	Upper James	8.36	11.65	-3.29	72%
5	Middle James	8.99	12.70	-3.71	71%
6	Shenandoah	8.35	10.02	-1.66	83%
7	Northern Virginia	9.61	11.53	-1.91	83%
8	Northern Piedmont	10.81	12.35	-1.54	88%
9	Chowan	11.34	13.26	-1.92	86%
10	Northern Coastal Plain	9.63	13.07	-3.44	74%
11	York-James	13.68	14.24	-0.56	96%
12	Southeast Virginia	11.55	13.69	-2.14	84%
13	Eastern Shore	11.61	12.91	-1.30	90%
	Statewide	9.70	12.63	-2.93	77%

	DROUGHT REGION	OBSERVED	Nov 1, 2007 NORMAL	- Mar 21, 2008 DEPARTURE	% OF NORM.
1	Big Sandy	13.09	17.11	-4.02	76%
2	New River	8.37	14.37	-6.00	58%
3	Roanoke	9.51	16.73	-7.22	57%
4	Upper James	8.76	15.01	-6.25	58%
5	Middle James	9.51	16.21	-6.70	59%
6	Shenandoah	9.46	13.07	-3.61	72%
7	Northern Virginia	11.20	14.94	-3.74	75%
8	Northern Piedmont	11.67	16.15	-4.48	72%
9	Chowan	11.79	16.37	-4.58	72%
10	Northern Coastal Plain	10.74	16.21	-5.47	66%
11	York-James	14.50	17.61	-3.11	82%
12	Southeast Virginia	12.11	16.76	-4.64	72%
13	Eastern Shore	12.45	15.85	-3.40	79%
	Statewide	10.50	15.86	-5.36	66%

	DROUGHT REGION	OBSERVED	Oct 1, 2007 NORMAL	- Mar 21, 2008 DEPARTURE	% OF NORM.
1	Big Sandy	15.05	19.99	-4.94	75%
2	New River	12.08	17.54	-5.46	69%
3	Roanoke	13.13	20.44	-7.31	64%
4	Upper James	11.13	18.26	-7.13	61%
5	Middle James	13.13	20.05	-6.92	65%
6	Shenandoah	11.67	16.26	-4.59	72%
7	Northern Virginia	14.44	18.42	-3.98	78%
8	Northern Piedmont	14.68	20.14	-5.46	73%
9	Chowan	14.89	19.95	-5.06	75%
10	Northern Coastal Plain	16.11	19.72	-3.61	82%
11	York-James	18.34	21.14	-2.80	87%
12	Southeast Virginia	17.38	20.42	-3.03	85%
13	Eastern Shore	15.81	19.06	-3.25	83%
	Statewide	13.81	19.36	-5.55	71%

	DROUGHT REGION	OBSERVED	Sep 1, 2007 NORMAL	- Mar 21, 2008 DEPARTURE	% OF NORM.
1	Big Sandy	16.30	23.45	-7.15	70%
2	New River	13.71	20.95	-7.23	65%
3	Roanoke	15.21	24.67	-9.47	62%
4	Upper James	13.39	21.76	-8.37	62%
5	Middle James	13.94	24.18	-10.24	58%
6	Shenandoah	13.61	19.93	-6.32	68%
7	Northern Virginia	15.61	22.49	-6.88	69%
8	Northern Piedmont	15.67	24.42	-8.75	64%
9	Chowan	15.85	24.38	-8.53	65%
10	Northern Coastal Plain	17.36	23.81	-6.45	73%
11	York-James	20.24	26.04	-5.80	78%
12	Southeast Virginia	18.11	24.85	-6.74	73%
13	Eastern Shore	17.37	22.67	-5.30	77%
	Statewide	15.23	23.36	-8.13	65%

	DROUGHT REGION	OBSERVED	Aug 1, 2007 NORMAL	- Mar 21, 2008 DEPARTURE	% OF NORM.
1	Big Sandy	17.48	27.28	-9.79	64%
2	New River	14.91	24.26	-9.35	61%
3	Roanoke	16.04	28.39	-12.36	56%
4	Upper James	14.83	25.09	-10.26	59%
5	Middle James	16.66	28.00	-11.34	60%
6	Shenandoah	16.39	23.26	-6.87	70%
7	Northern Virginia	17.47	26.34	-8.87	66%
8	Northern Piedmont	18.05	28.24	-10.19	64%
9	Chowan	17.86	28.69	-10.83	62%
10	Northern Coastal Plain	18.80	27.67	-8.87	68%
11	York-James	22.56	30.91	-8.35	73%
12	Southeast Virginia	21.59	29.97	-8.38	72%
13	Eastern Shore	19.87	26.54	-6.67	75%
	Statewide	17.10	27.19	-10.09	63%

	DROUGHT REGION	OBSERVED	Jul 1, 2007 NORMAL	- Mar 21, 2008 DEPARTURE	% OF NORM.
1	Big Sandy	21.98	31.76	-9.78	69%
2	New River	17.83	28.05	-10.21	64%
3	Roanoke	19.31	32.78	-13.47	59%
4	Upper James	17.17	29.13	-11.96	59%
5	Middle James	19.02	32.41	-13.39	59%
6	Shenandoah	18.38	27.02	-8.63	68%
7	Northern Virginia	19.93	30.11	-10.18	66%
8	Northern Piedmont	19.58	32.64	-13.06	60%
9	Chowan	20.92	33.20	-12.28	63%
10	Northern Coastal Plain	20.22	32.12	-11.90	63%
11	York-James	26.01	36.01	-10.00	72%
12	Southeast Virginia	24.90	35.04	-10.14	71%
13	Eastern Shore	21.95	30.54	-8.59	72%
	Statewide	19.83	31.53	-11.70	63%

	DROUGHT REGION	OBSERVED	Jun 1, 2007 NORMAL	- Mar 21, 2008 DEPARTURE	% OF NORM.
1	Big Sandy	24.72	35.90	-11.18	69%
2	New River	20.87	31.90	-11.02	65%
3	Roanoke	22.24	36.67	-14.44	61%
4	Upper James	20.92	32.84	-11.91	64%
5	Middle James	22.37	35.92	-13.55	62%
6	Shenandoah	21.66	30.73	-9.07	70%
7	Northern Virginia	21.87	33.97	-12.10	64%
8	Northern Piedmont	21.73	36.65	-14.92	59%
9	Chowan	23.13	36.85	-13.72	63%
10	Northern Coastal Plain	22.08	35.68	-13.60	62%
11	York-James	28.19	39.42	-11.23	72%
12	Southeast Virginia	28.12	38.65	-10.53	73%
13	Eastern Shore	27.21	33.52	-6.31	81%
	Statewide	22.69	35.32	-12.63	64%

	DROUGHT REGION	OBSERVED	May 1, 2007 NORMAL	- Mar 21, 2008 DEPARTURE	% OF NORM.
1	Big Sandy	26.47	40.72	-14.25	65%
2	New River	22.65	36.11	-13.45	63%
3	Roanoke	24.21	41.00	-16.79	59%
4	Upper James	22.95	37.12	-14.17	62%
5	Middle James	24.84	40.16	-15.32	62%
6	Shenandoah	23.85	34.57	-10.72	69%
7	Northern Virginia	23.14	38.31	-15.17	60%
8	Northern Piedmont	23.82	40.87	-17.05	58%
9	Chowan	26.02	40.94	-14.92	64%
10	Northern Coastal Plain	23.32	39.84	-16.52	59%
11	York-James	29.75	43.69	-13.94	68%
12	Southeast Virginia	30.08	42.51	-12.42	71%
13	Eastern Shore	28.95	37.04	-8.09	78%
	Statewide	24.72	39.58	-14.86	62%

	DROUGHT REGION	OBSERVED	Apr 1, 2007 NORMAL	- Mar 21, 2008 DEPARTURE	% OF NORM.
1	Big Sandy	30.93	44.48	-13.54	70%
2	New River	25.77	39.66	-13.88	65%
3	Roanoke	27.42	44.80	-17.38	61%
4	Upper James	26.45	40.52	-14.07	65%
5	Middle James	28.07	43.50	-15.43	65%
6	Shenandoah	27.42	37.49	-10.06	73%
7	Northern Virginia	26.86	41.61	-14.75	65%
8	Northern Piedmont	26.92	44.16	-17.24	61%
9	Chowan	30.45	44.37	-13.92	69%
10	Northern Coastal Plain	27.03	42.93	-15.90	63%
11	York-James	33.79	46.99	-13.20	72%
12	Southeast Virginia	34.60	45.76	-11.16	76%
13	Eastern Shore	33.50	39.96	-6.46	84%
	Statewide	28.36	43.00	-14.64	66%

	DROUGHT REGION	OBSERVED	Mar 1, 2007 NORMAL	- Mar 21, 2008 DEPARTURE	% OF NORM.
1	Big Sandy	34.07	48.73	-14.66	70%
2	New River	29.81	43.33	-13.52	69%
3	Roanoke	31.11	49.07	-17.96	63%
4	Upper James	30.08	44.31	-14.23	68%
5	Middle James	31.12	47.56	-16.44	65%
6	Shenandoah	30.30	40.69	-10.39	74%
7	Northern Virginia	30.02	45.27	-15.25	66%
8	Northern Piedmont	29.35	47.97	-18.62	61%
9	Chowan	33.02	48.74	-15.72	68%
10	Northern Coastal Plain	29.84	47.21	-17.37	63%
11	York-James	35.51	51.68	-16.17	69%
12	Southeast Virginia	36.54	49.96	-13.42	73%
13	Eastern Shore	35.28	44.27	-8.99	80%
	Statewide	31.43	47.04	-15.61	67%

	DROUGHT REGION	OBSERVED	Feb 1, 2007 NORMAL	- Mar 21, 2008 DEPARTURE	% OF NORM.
1	Big Sandy	35.47	52.31	-16.84	68%
2	New River	31.46	46.26	-14.80	68%
3	Roanoke	33.16	52.38	-19.22	63%
4	Upper James	32.53	47.16	-14.62	69%
5	Middle James	33.09	50.68	-17.59	65%
6	Shenandoah	32.36	43.10	-10.74	75%
7	Northern Virginia	32.86	47.94	-15.08	69%
8	Northern Piedmont	31.79	50.94	-19.15	62%
9	Chowan	35.19	51.91	-16.72	68%
10	Northern Coastal Plain	32.35	50.35	-18.00	64%
11	York-James	37.25	55.21	-17.96	67%
12	Southeast Virginia	38.80	53.46	-14.65	73%
13	Eastern Shore	38.07	47.46	-9.39	80%
	Statewide	33.52	50.17	-16.65	67%

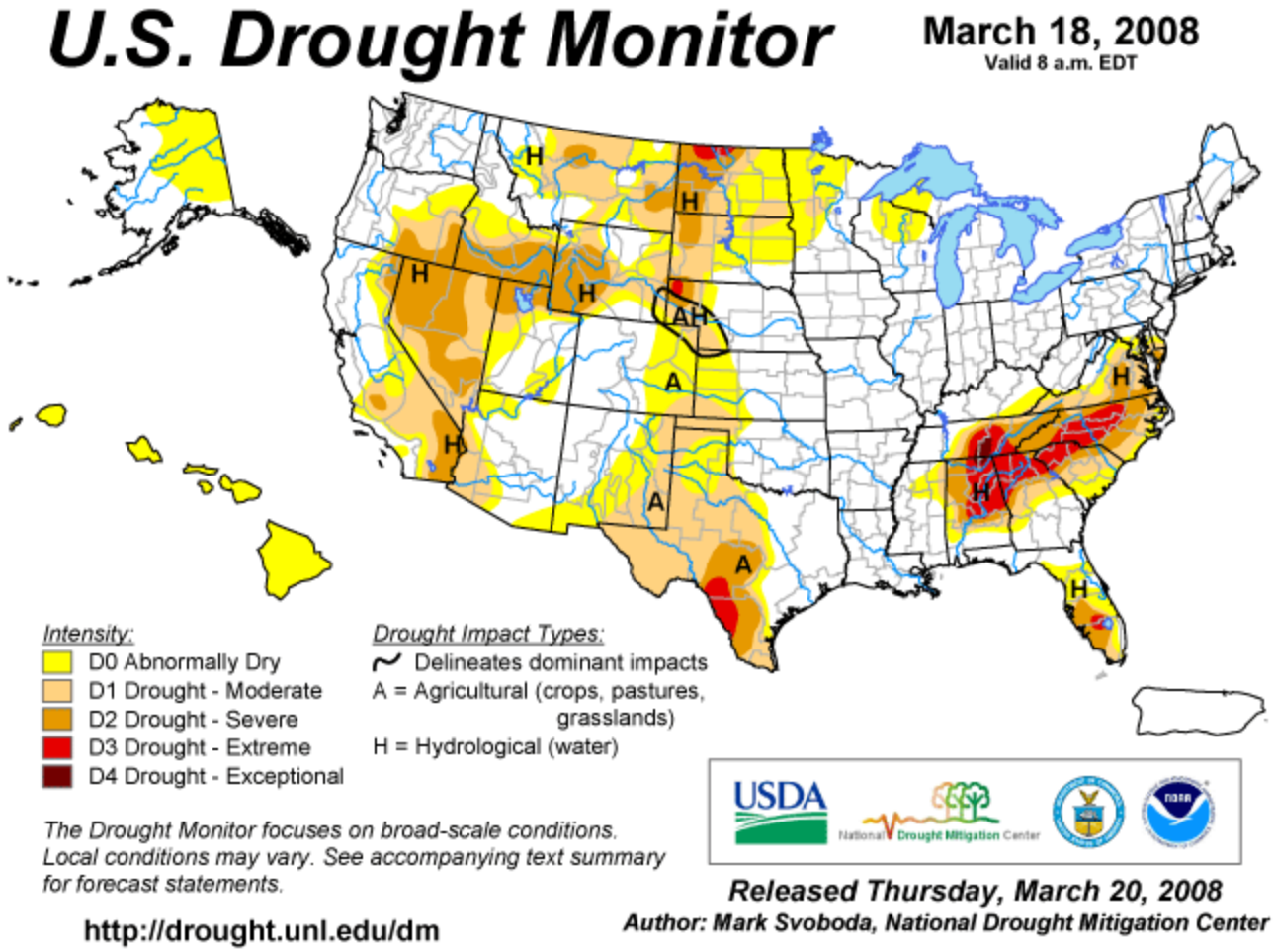
	DROUGHT REGION	OBSERVED	Jan 1, 2007 NORMAL	- Mar 21, 2008 DEPARTURE	% OF NORM.
1	Big Sandy	38.65	56.04	-17.39	69%
2	New River	34.42	49.47	-15.05	70%
3	Roanoke	37.04	56.30	-19.26	66%
4	Upper James	35.54	50.44	-14.89	70%
5	Middle James	36.67	54.34	-17.67	67%
6	Shenandoah	33.92	45.95	-12.03	74%
7	Northern Virginia	35.10	51.22	-16.12	69%
8	Northern Piedmont	34.31	54.46	-20.15	63%
9	Chowan	37.71	56.02	-18.31	67%
10	Northern Coastal Plain	36.59	54.10	-17.51	68%
11	York-James	39.86	59.35	-19.49	67%
12	Southeast Virginia	41.97	57.62	-15.64	73%
13	Eastern Shore	40.24	51.02	-10.78	79%
	Statewide	36.58	53.81	-17.23	68%

	DROUGHT REGION	OBSERVED	Dec 1, 2006 NORMAL	- Mar 21, 2008 DEPARTURE	% OF NORM.
1	Big Sandy	40.64	59.68	-19.04	68%
2	New River	36.20	52.18	-15.97	69%
3	Roanoke	39.22	59.55	-20.34	66%
4	Upper James	37.53	53.39	-15.85	70%
5	Middle James	38.25	57.51	-19.26	67%
6	Shenandoah	35.04	48.54	-13.50	72%
7	Northern Virginia	36.77	54.32	-17.55	68%
8	Northern Piedmont	36.06	57.74	-21.68	62%
9	Chowan	39.88	59.04	-19.16	68%
10	Northern Coastal Plain	38.29	57.38	-19.09	67%
11	York-James	41.68	62.74	-21.06	66%
12	Southeast Virginia	44.42	60.80	-16.37	73%
13	Eastern Shore	42.99	54.26	-11.27	79%
	Statewide	38.43	56.93	-18.50	68%

	DROUGHT REGION	OBSERVED	Nov 1, 2006 NORMAL	- Mar 21, 2008 DEPARTURE	% OF NORM.
1	Big Sandy	43.40	62.96	-19.56	69%
2	New River	40.16	55.21	-15.05	73%
3	Roanoke	44.61	62.91	-18.30	71%
4	Upper James	41.32	56.75	-15.43	73%
5	Middle James	43.98	61.02	-17.04	72%
6	Shenandoah	39.19	51.59	-12.40	76%
7	Northern Virginia	42.56	57.73	-15.17	74%
8	Northern Piedmont	42.37	61.54	-19.18	69%
9	Chowan	47.25	62.15	-14.90	76%
10	Northern Coastal Plain	43.59	60.52	-16.93	72%
11	York-James	47.35	66.11	-18.76	72%
12	Southeast Virginia	52.04	63.87	-11.82	81%
13	Eastern Shore	47.86	57.20	-9.34	84%
	Statewide	43.59	60.16	-16.57	72%

	DROUGHT REGION	OBSERVED	Oct 1, 2006 NORMAL	- Mar 21, 2008 DEPARTURE	% OF NORM.
1	Big Sandy	48.37	65.84	-17.47	73%
2	New River	45.14	58.38	-13.23	77%
3	Roanoke	50.65	66.62	-15.97	76%
4	Upper James	48.25	60.00	-11.75	80%
5	Middle James	51.68	64.86	-13.18	80%
6	Shenandoah	44.43	54.78	-10.35	81%
7	Northern Virginia	47.35	61.21	-13.86	77%
8	Northern Piedmont	48.90	65.53	-16.64	75%
9	Chowan	54.95	65.73	-10.78	84%
10	Northern Coastal Plain	49.67	64.03	-14.36	78%
11	York-James	55.35	69.64	-14.29	79%
12	Southeast Virginia	57.11	67.53	-10.41	85%
13	Eastern Shore	54.80	60.41	-5.61	91%
	Statewide	49.83	63.66	-13.83	78%

APPENDIX B


U.S. Drought Monitor
March 18, 2008
Valid 8 a.m. EDT
Intensity:
D0 Abnormally Dry
D1 Drought - Moderate
D2 Drought - Severe
D3 Drought - Extreme
D4 Drought - Exceptional
Drought Impact Types:
Delineates dominant impacts
A = Agricultural (crops, pastures, grasslands)
H = Hydrological (water)
The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.
http://drought.unl.edu/dm
USDA
National Drought Mitigation Center
Released Thursday, March 20, 2008
Author: Mark Svoboda, National Drought Mitigation Center

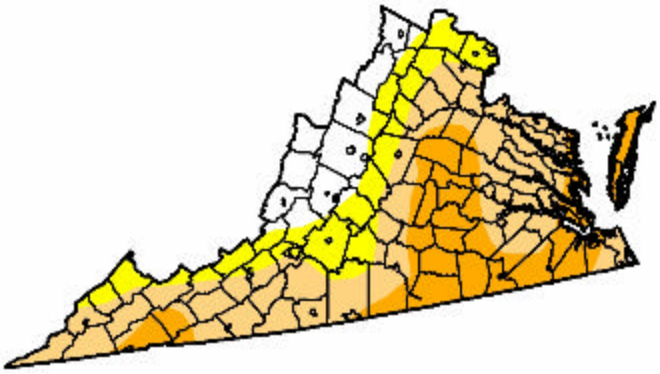
APPENDIX C

U.S. Drought Monitor
Virginia

March 18, 2008
Valid 7 a.m. EST

Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	13.4	86.6	67.4	25.8	0.0	0.0
Last Week (03/11/2008 map)	13.4	86.6	67.4	25.8	0.0	0.0
3 Months Ago (12/25/2007 map)	8.0	92.0	74.8	29.5	9.2	6.3
Start of Calendar Year (01/01/2008 map)	8.0	92.0	74.8	27.3	9.2	6.3
Start of Water Year (10/02/2007 map)	0.1	99.9	92.7	76.4	25.0	5.0
One Year Ago (03/20/2007 map)	75.4	24.6	8.7	0.0	0.0	0.0



Intensity:

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

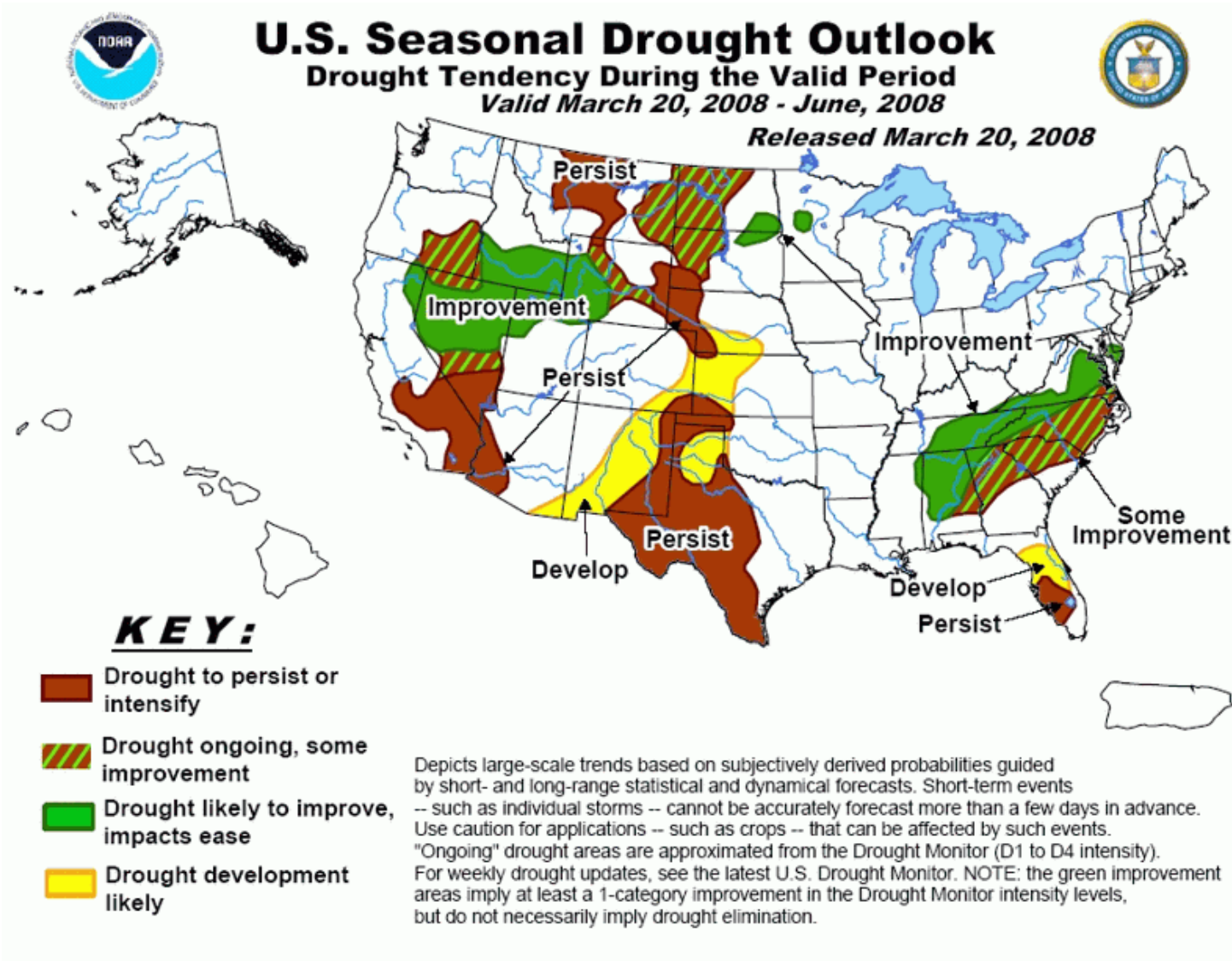
The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements

http://drought.unl.edu/dm

Released Thursday, March 20, 2008

Author: Mark Svoboda, National Drought Mitigation Center

APPENDIX D


U.S. Seasonal Drought Outlook
Drought Tendency During the Valid Period
Valid March 20, 2008 - June, 2008
Released March 20, 2008
Persist
Improvement
Persist
Improvement
Persist
Develop
Some Improvement
Develop
Persist
KEY:
Drought to persist or intensify
Drought ongoing, some improvement
Drought likely to improve, impacts ease
Drought development likely
Depicts large-scale trends based on subjectively derived probabilities guided by 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. Use caution for applications -- such as crops -- that can be affected by such events. "Ongoing" drought areas are approximated from the Drought Monitor (D1 to D4 intensity). For weekly drought updates, see the latest U.S. Drought Monitor. NOTE: the green improvement areas imply at least a 1-category improvement in the Drought Monitor intensity levels, but do not necessarily imply drought elimination.

APPENDIX E
Condition of Public Water Supplies
March 20, 2008

ODW Drought Situation Report

Date: **3/20/08**

	Restriction totals
Mandatory	9
Voluntary	29
Total	**38**

N-None
M-Mandatory
V-Voluntary

B-Better
S-Stable/Same
W-Worse

PWSID	Waterworks	Source Name	Restrictions	Situation	Populatic Served
1105200	Town of Jonesville	Wynn Spring #1 and Slemp Spring	N	**B** 3/18/08: Springs flowrates are near normal. WTP operating rate at 340 gpm with plenty of flow by. WTP running 17 hrs/day.	1,100
1105400	Lee County PSA	Blue Springs	N	**S** 03/18/08: Spring flow has increased significantly. Currently treating 230000 to 250000 gpd with a lot of flow -by. At this rate, tank levels are staying full.	2,500
1105400	Lee County PSA	KVS Quarry	N	**B** 03/18/08: Water level in quarry is rising; currently at 163 inches below catwalk . Level was 190 inches below catwalk on 02/21/08. A floating raw water pump has been put into service.	2,500
1155635	Town of Pulaski	Two impoundments and Peak Creek	N	**B** 3/20/08: Hogans Reservoir is still lowered to repair dam. Gatewood full. Hogans down 14.5 ft. Working on drought response plan with NRV PDC/Kevin Byrd. This plan identified 20 ft down as the critical point for reservoir level. In good shape.	9,452
1169725	Town of Nickelsville	Wells	V	**B** 03/18/08: Well production had dropped and voluntary conservation notice issued 8/31/07. Well production steady now. Well #1 pump was replaced and is now pumping at capacity. Well #3 drops to ~ 8 - 10 gpm (safe yield = 13 gpm). Well #6 starts out at ~15 gpm and then after about 3 - 4 hours will drop to ~5 - 8 gpm (safe yield=21 gpm). Well #4 & 5 no drop in output. Repairing leaks, but accountability is satisfactory. Have added two new wells: (1) Park well is being us ed. (2) New Tank well is drilled and grouted; yield and drawdown done (28 gpm); plans and specs reviewed and commented on; waiting on response from consultant.	900

1195050	Town of Appalachia	reservoir	**M**	**B** 03/18/08: down 5' 7" from overflow. 68 MG left, 149 days ± 10 left. Pumping from Powell River to reservoir @ approx. 350 gpm.	3,280
1195100	Town of Big Stone Gap	Big Cherry Reservoir	**M**	**B** 03/18/08: Reservoir full..	9,000
1195950	Town of Wise	reservoir	N	**B** 03/19/08: Reservoir down 5.3 ft, 161.81 MG left, 269 days left (@ 0.6 MGD). About average for this time of year. Auxiliary mine well source being pumped into reservoir only about once per week to exercise pump.	6,375
1720076	City of Norton	reservoirs	N	**B** 3/18/08: Both the Upper and Lower reservoirs are full.	4,247
2003250	Albemarle County / Crozet	Beaver Creek Reservoir	V	**S -** Beaver Creek Reservoir is full. Drought Watch still in effect since 1/2/08	5,768
2003600	Charlottesville/Albemarle County	Sugar Hollow and Ragged Mountain Reservoirs (Observatory WTP)	V	**B** - Sugar Hollow reservoir is full. Ragged Mountain reservoir is full. Drought Watch still in effect since 1/2/08	40,743
2003675	Albemarle County / Scottsville	Totier Creek Reservoir	V	**S -** Totier Creek reservoir is full. Drought Watch still in effect since 1/2/08	700
2003725	Charlottesville/Albemarle County	South Fork Rivanna (South Rivanna WTP)	V	**S -** South Fork Rivanna reservoir is full. Drought Watch still in effect since 1/2/08	54,200
2023720	Town of Troutville	Five Drilled Wells	N	**S -** Town reported the pumping rate of their No. 3 well dropped from 123 gpm to 40 gpm. The pumping rates of the other four wells are the same.	500
2023730	Dal-Nita Hills	Drilled Well	V	**S** - Well yield has dropped to 4 to 5 gpm. Owner is hauling water, as needed, to keep storage tank full. Letter provided to the customers advising them of the situation.	100
2043125	Berryville, Town of	Shenandoah River	V	**S -** Voluntary conservation requested on 11 December 2007.	2,965
2065250	Fluvanna Correctional Center for Women	Mechunk Creek and on-site Raw Water Reservoir	V	**S -** Reservoir is 3 feet below full (~35 MG stored). Moderate Drought Condition continues.	1,650
2171750	Town of Strasburg	North Fork Shenandoah River	V	**S -** Voluntary conservation has been requested. Stream flow approx 487 cfs on March 18th.	4,500
2560100	Town of Clifton Forge	Smith Creek	V	**S** - Voluntary conservation has been requested.	4,679
2660345	City of Harrisonburg	North River, Dry River/Switzer Reservoir (Rawley Springs)	V	**S** - Voluntary conservation has been requested. This has not been implemented as a result of limited low source water quantity, but rather at the request of the Governor's letter requesting conservation.	44,500
3053280	DCWA Central (Dinwiddie County)	Appomattox River Water Authority (ARWA)	N	**S** - Lifted restrictions on 12/27/07.	6,800
3081550	GCWSA - Jarratt	Nottoway River	N	**S** - Waterworks has increased work hours per day to decrease withdrawal rate, performed work at the intake to maximize capacity, and inquired about future use of existing inactive groundwater sources.	7,190
3093120	Isle of Wight County	Suffolk	V	**B** - follows Suffolk's lead on conservation.	1,284
3095490	JCSA Central	wells	N	**S** - No restrictions at this time.	44,760
3149700	Puddledock Road (Prince George County)	ARWA	N	**S** - Lifted restrictions on 12/28/07.	6,525
3550050	Chesapeake - Western Branch system	City of Portsmouth	V	**S** -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.	36,407

3550051	Chesapeake	Northwest River, City of Norfolk Raw Water (Lake Gaston)	V	**S** - City Council voted to go to voluntary conservation city-wide - took effect on 24 Oct 2007. Chlorides are used as an indicator of drought, the higher the levels the more concentrated the contaminant in a lesser amount of surface water. The average level has been approximately 139 mg/l for the past month. City is still encouraging voluntary conservation measures.	101,175
3550052	Chesapeake - South Norfolk system	City of Norfolk	V	**S** - 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.	38,608
3570150	Colonial Heights	ARWA	N	**S** - Lifted restrictions on 12/1/07.	17,286
3595250	Emporia	Meherrin River	N	**S** - Water is going over the dam.	5,600
3670800	Virginia-American Water Company (Hopewell)	Appomattox & James Rivers	N	**S** - Raw water quality is biggest concern at this time as higher salinity is reaching the intake from the Bay.	25000 - Primary 42463 Tot including Consecuti System (F Lee)
3700500	Newport News	Chickahomony River, Skiffs Creek, Diascand, Little Creek, Harwoods Mill, Lee Hall	N	**B -** reservoir levels are rising (3-17-08 at 96% full).	406,000
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	**S** - As of 03/10, reservoirs at 91.9% (down from 94.2% on 02/19), however Norfolk reports that levels are higher than usual for the year. Historic reservoir capacity is 94.8%. Avg. pumping: Lake Gaston = 7.1 MGD; Blackwater River = 0 MGD; Nottoway River = 0 MGD; Deep wells = 0.44 MGD; Spillway elev.: Western Branch -1.9 ft; Lake Prince 0.1 ft; Burnt Mils -3.0 ft; Lake Wright 0.2 ft; Lake Smith 0 ft; Blackwater River N/A ft; Nottoway River N/A ft. Called for voluntary conservation 11/1/07.	261,250 Primary 755,617 Total including consecutiv systems (V Beach + military bases).
3730750	Petersburg	ARWA	N	**S** - Lifted restrictions on 1/8/08.	39,386
3740600	Portsmouth	Lakes Cohoon, Meade, Kilby, and Speights Run	V	**S** - As of 03/14, reservoirs at 100% (same as on 02/15). Median reservoir capacity is 100%, average capacity is 96% (period of 1969-2006). Both emergencywells are OFF. Estimated 269 days of reservoir storage remaining at current pumpage and no rainfall, up from 262 days on 02/15. Called for voluntary conservation on 10/10/07.	100,400 Primary 120,400 Total including consecutiv systems (military bases)
3800805	Suffolk	Lone Star Lakes, Cumps Mill Pond	V	**B** - Will follow Portsmouth's lead and the region as far as conservation. As of 3/19/08-Reservoir levels look good. Southern Lakes at 33% capacity, 91.89% for the Northern Lakes and Crumps Mill Pond at 85.47% The Southern Lakes are for emergency use only. Still purchasing water from Portsmouth per their contract, no modifications.	62,562
3810900	Virginia Beach	Norfolk	V	**S** - obtains water from Norfolk. Called for voluntary conservation on 9/19/07.	423,743
4041035	APPOMATTOX RIVER WATER AUTHORITY	Surface water; Lake Chesdin	N	Wholesaler to Chesterfield County, Prince George County, Dinwiddie County; Cities of Petersburg and Colonial Heights.	200,000

4041845	CHESTERFIELD CO CENTRAL WATER SYSTEM	Surface water; Swift Creek reservoir; purchases finished water	N	Purchases water from the City of Richmond and the Appomattox River Water Authority.	263,000
4057800	TAPPAHANNOCK, TOWN OF	Groundwater wells	N		2,100
4073311	GLOUCESTER CO WATER TREATMENT PLT	Surface water, Beaverdam reservoir; 2 deep groundwater wells	N	Reservoir at 100%.	8,870
4075283	EASTERN GOOCHLAND CENTRAL WATER SYSTEM	Purchased surface water	N	purchases water from Henrico County	2,500
4075735	JAMES RIVER CORRECTIONAL CTR	Surface water; James River	N		9,300
4085398	HANOVER SUBURBAN WATER SYSTEM	Surface water; North Anna River; some groundwater wells; purchases finished water	N		71,000
4085770	SPRING MEADOWS-MEADOW GATE	Groundwater wells	N		2,300
4087125	HENRICO COUNTY WATER SYSTEM	Surface water; James River	N	Similar to City of Richmond	289,000
4101900	WEST POINT, TOWN OF	Groundwater wells	N		3,000
4127110	DELMARVA PROPERTIES	Groundwater wells	V	New Kent Co. encourages conservation. Still in place.	7,700
4145675	POWHATAN COURTHOUS E	Groundwater wells	N		2,600
4193280	COLONIAL BEACH, TOWN OF	Groundwater wells	N		3,300
4760100	RICHMOND, CITY OF	Surface water; James River	N	Improved water levels in the James River; under James River Regional Flow Management Plan; counties of Henric o, Chesterfield, Goochland, and Hanover counties purchases water from the City.	197,000
5515050	City of Bedford	Stoney Creek Reservoir and Wells 1 to 5	N	**B**	6,946
5143210	Town of Gretna	Georges Creek Res	N	**S - Town is moving forward on new supplemental source development**	2,500
5029085	Buckingham County	Troublesome Creek Reservoir	N	**B**	5,751
5037300	Town of Keysville	Keysville Reservoir	N	**B**	800
5083550	Town of Halifax	Bannister River Reservoir	N	**B**	1,389
5780600	Town of South Boston	Dan River	N	**B**	9,726
5141640	Town of Stuart	South Mayo River	N	**B**	1,500
5147170	Town of Farmville	Appomattox River	N	**B**	7,011

5011050	Town of Appomattox	Wells	V	**S** - The Town has noted a significant water level drop in many of their wells. The town is actively looking for additional water sources.	1,708
5031150	Campbell County Central System	Big Otter River	N	**B** - stream flow at 200 cfs (well above plant capicity) and they also have an interconnection with Lynchburg.	20,000
5025450	Town of Lawrenceville	Great Creek (with upstream reservoir)	N	B - reservoir level 3" above full pond	4,806
5135160	Town of Crewe	Crystal Lake	N	**B**	3,500
5111450	Town of Kenbridge	Flat Rock Creek and Offstream Reservoir	N	**B**	1,400
5067785	Ridgscrest	Wells	N	**B**	52
5067265	Hales Point	Wells	V	**B** - system still hauling in water to meet demand.	46
5067937	Stripers Landing	Wells	N	**B**	125
5680200	City of Lynchburg	Pedlar Reservoir	N	**Overflowing spillway**	76,000
6047070	Emerald Hill Elementary School	Groundwater	N	**S - Well EHS-3 is onstream at a reliable production rate of 12 gpm. Well 1 has been reworked for improved production. Water hauling is no longer needed.**	977
6047500	Town of Culpeper	Lake Pelham	N	**S - On Monday, March 18, 2008, the main reservoir, Lake Pelham, was reported to be at a level 4" *above* the overflow (full + 4")**	14,200
6059501	Fairfax County Water Authority	Potomac River and Occoquan Reservoir	V	**B** - 3/17/08 Fairfax Water has reduced withdrawals to about 75 MGD from Potomac River, limited by half of Corbalis WTP out of service (scheduled outages for construction of tie-ins), with the balance taken from Occoquan Reservoir. Potomac River flows have increased due to recent rains. Occoquan Reservoir is 100% full. Metro Washington area-wide voluntary conservation went into effect 10/3/07.	823,216
6061200	Marshall	Groundwater	M	**S** - Well production not capable of meeting demands, including significant system leakage. 40 loads of water were hauled in January to suppliment well production. New owner (FCWSA) has performed some well work and will be conducting water line repairs/replacement and addition of new sources and storage. **As of 2/19/2008, no change in status. *3/18/2008 Update - 3 loads of water hauled in February & one to date in March. Two old wells (Piedmont & Lawrence) have been restarted.Mandatory restrictions are still in place.***	2,134
6061600	Town of Warrenton	Reservoir on Cedar Run and groundwater	N	**S - On Monday, 3/17, Warrenton Reservoir surface elevation is at 445.4 feet which is the full level.**	11,160
6107150	Town of Hamilton	Groundwater	M	**S - 3/17/08 Water levels in wells improving. One well out of service for well pump replacement.**	2,000

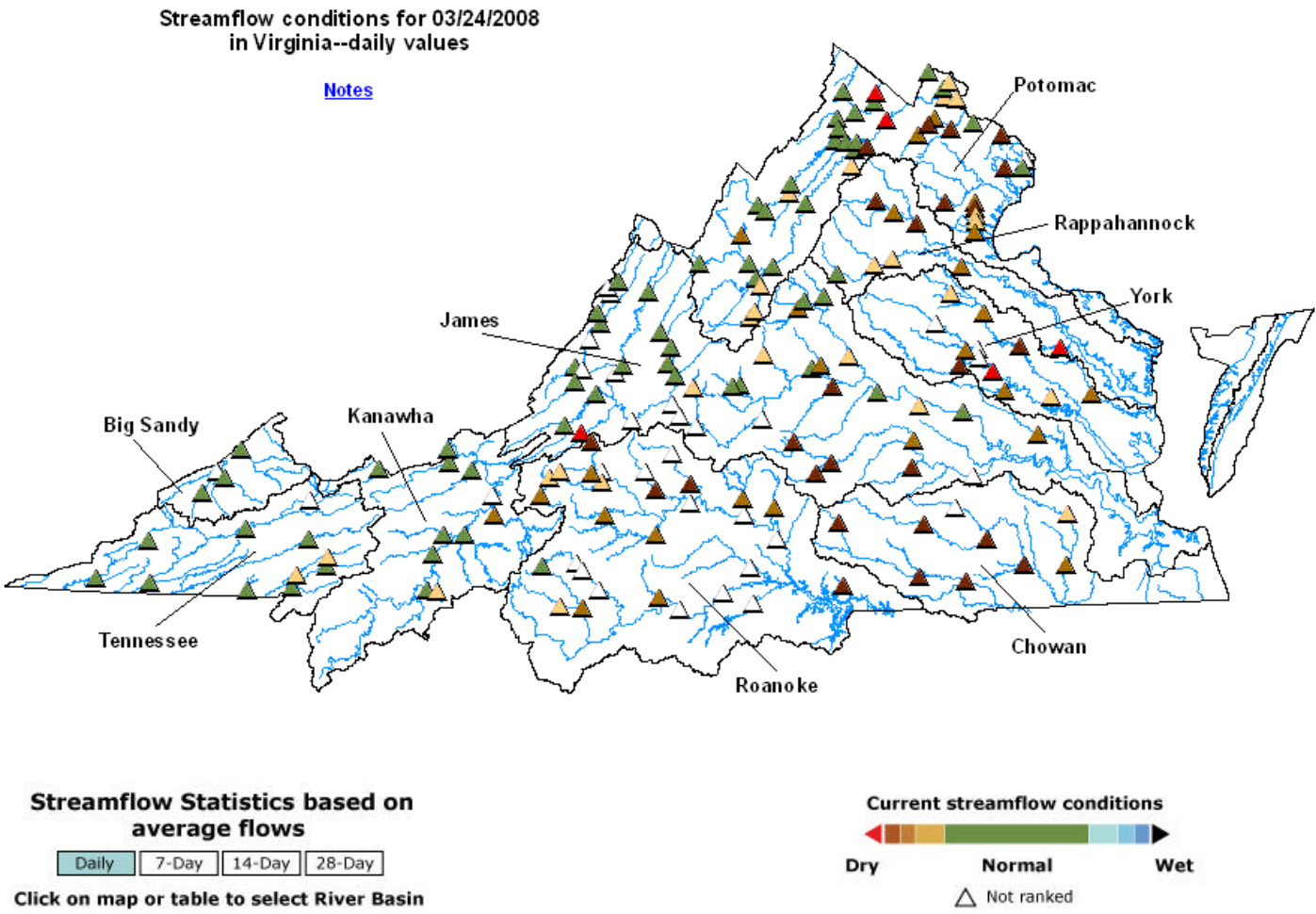
6107200	Town of Hillsboro	Spring/Well	M	**S - 2/19/08 Reduced flow in spring and well barely adequate to meet demand. Distribution system has been shut off from storage occasionally as needed to conserve water supply. A leak in the distribution system is suspected. Water is being hauled to meet demand as needed**	58
6107221	LCSA Lenah Farms	Groundwater	V	**S**	810
6107300	Town of Leesburg	Potomac River	N	**S** - 3/17/08 Potomac River supply is adequate	37,000
6107350	Loudoun County Sanitation Authority	Purchase treated surface water from FCWA (Potomac River) and City of Fairfax (Goose Creek Reservoir)	V	**S** - 3/17/08 Mandatory use restrictions lifted 3/11/08. Recent rains maintaining flow in Goose Creek, sufficient for 7.5 MGD treatment rate.	167,904
6107400	Town of Lovettsville	Groundwater	V	**S** - 3/17/08 Voluntary water use restrictions remain in place; however there is no problem with water supply.	1,280
6107450	Town of Middleburg	Groundwater	M	**S - 3/17/08 Mandatory Water Use Restrictions remain in place, beginning 10/11/07**	590
6107600	Town of Purcellville	Hirst Reservoir and groundwater	M	**S** -- 3/17/08 Recent rains have resulted in an increase in flows from the springs and increased water level in the reservoir, to approximately 85% full. Wells are being closely monitored and production remains consistent without any impacts from drought thus far. Groundwater levels are increasing.	6,300
6107650	Town of Round Hill	Groundwater	M	**B - 3/17/08 - Mandatory water use restrictions remain in place. Well recovery rates improving.**	3,156
6113200	Town of Madison	White Oak Run	N	**S** -- Stream flow remains adequate to meet normal demands.	778
6137300	Rapidan Service Authority - Rt. 15	Purchase treated surface water from Town of Orange (Rapidan River)	N	**S** - **2/19/08 - Town of Orange raw water availability is well above minimum.**	273
6137400	Town of Gordonsville	Purchase treated surface water from RSA and Town of Orange	N	**S**--No water use restrictions are in place.	1,800
6137500	Town of Orange	Rapidan River	V	**S** - 3/18/08 **- Fourteen day running average of Rapidan River flow is 798 cfs (withdrawal restrictions are imposed below 44 cfs) Offstream raw water reservoir is full.**	4,500
6137999	Rapidan Service Authority - Wilderness and Lake of the Woods	Rapidan River	N	Rapidan River flow has been steady at an adequate level.	11,331
6153260	Woodbridge Mobile Home Park	Groundwater	M	**S** -- 3/17/08 Waterworks continues to have episodes of low pressure due to inadequate sources and leaks in the distribution system. **This problem is indirectly related to drought as source problems existed previously.**	320
6153675	Quantico Marine Corps Base - Mainside	Breckenridge, Lunga, and Gray Reservoirs	N	**S**	14,525

6600100	City of Fairfax	Goose Creek Reservoir	V	**B** -- 3/17/08 Adequate flows coming down Goose Creek. WTP is producing approx 7.5 MGD with approx 3 mgd of the treated water going to LCSA, balance to the City. No longer purchasing water from FCWA. Pumping into Beaver Dam Reservoir at approx 4.5 MGD, which has risen about ten feet due to pumping plus recent rains. Reservoir is still about 7.8 feet below full.	45,000
6685100	City of Manassas	Lake Manassas	N	**B** -- 3/17/08 **Mandatory restrictions were lifted 2/15/08.** Water level in Lake Manassas has risen to 92% full, 2 feet below the spillway due to recent rains. Withdrawals from Lake Manassas have risen to 12 - 13 MGD. Wholesale customers PWCSA and Manassas Park have resumed taking water from the City.	37,000
6179100 and 6179775	Stafford County	Smith Lake and Abel Lake	V	**B** -- Both lakes are full. Mandatory restrictions went into effect 9/17/07, were increased 10/8/07, and were reduced 2/19/08. **Mandatory restrictions lifted 3/18/08**.	53,086

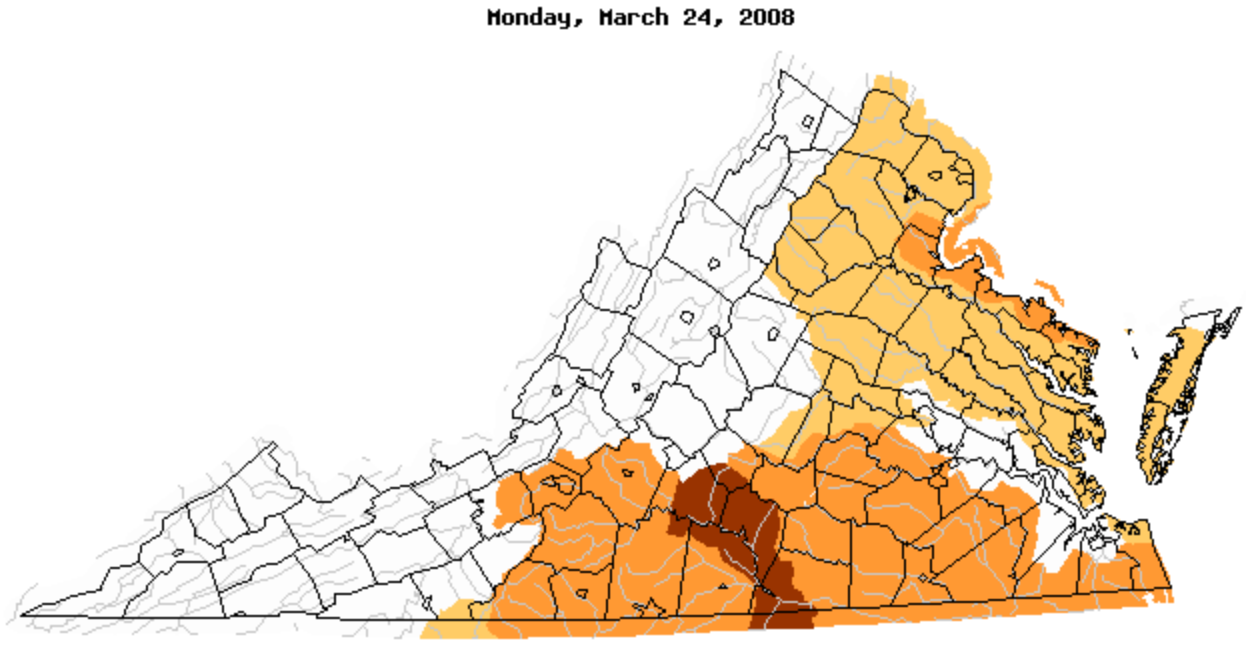
Notes of interest:
(1) Metropolitan Washington Council of Governments issued a region-wide voluntary conservation advisory on 10/3/07, covering DC, Maryland, and Northern Virginia.

(2) Interstate Commission on the Potomac River Basin (ICPRB) gathers meterological, drought, and water supply data from all of the major water suppliers in the Metro Washington area and determines the need for upstream reservoir releases, if any, to augment the flow in the Potomac River for water supply withdrawal. ICPRB has predicted that releases from upstream reservoirs will likely not be needed for the Fall and Winter.

APPENDIX F


Streamflow conditions for 03/24/2008
in Virginia--daily values
Notes
Potomac
Rappahannock
York
James
Big Sandy
Kanawha
Tennessee
Chowan
Roanoke
Streamflow Statistics based on average flows
Daily
7-Day
14-Day
28-Day
Click on map or table to select River Basin
Current streamflow conditions
Dry
Normal
Wet
Not ranked

APPENDIX G
Drought Watch -- USGS State Information on Drought
Map of below normal 7-day average streamflow

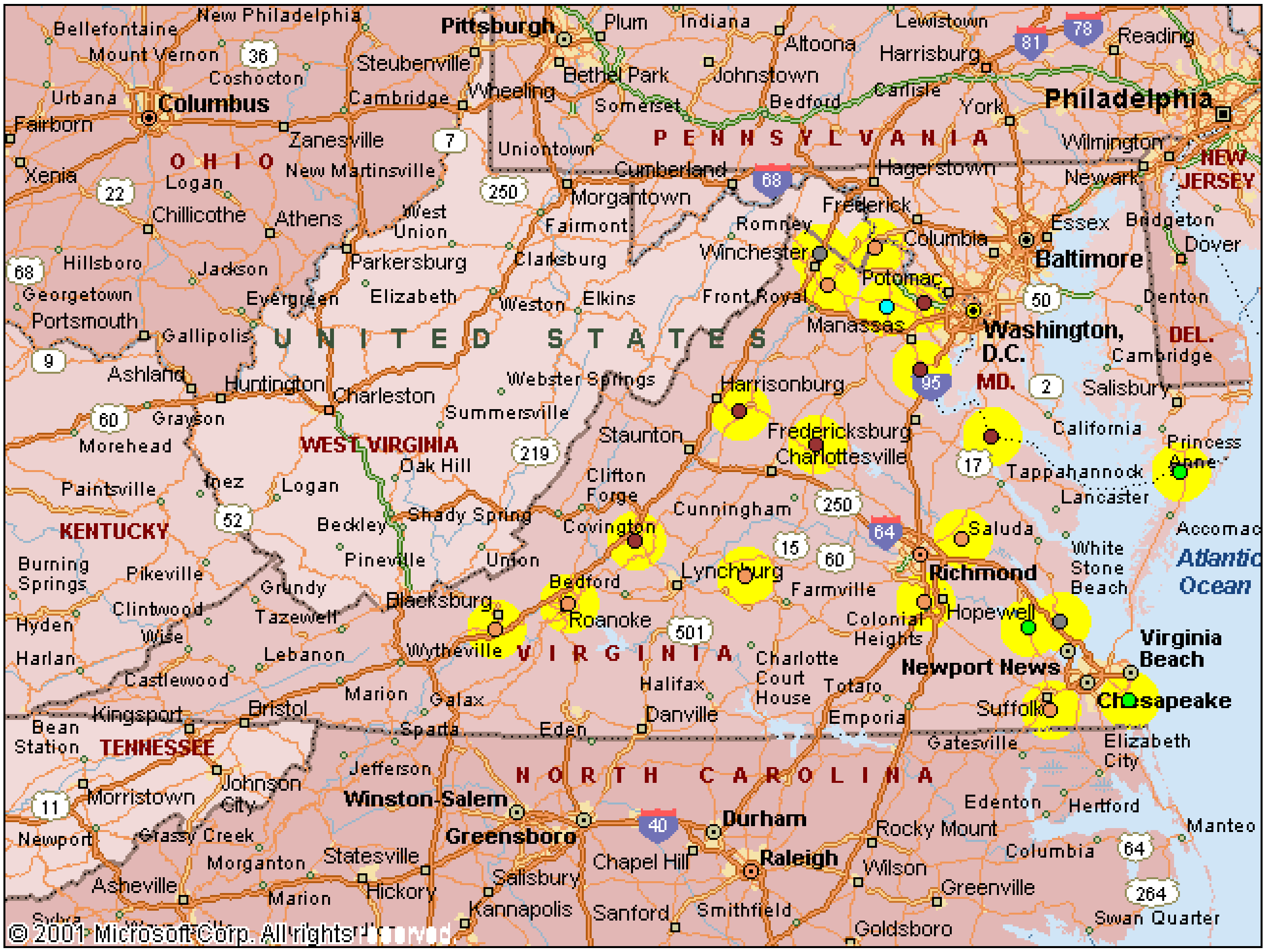


USGS

Explanation - Percentile classes				
Low	<=5	6-9	10-24	Insufficient data for a hydrologic region
Extreme hydrologic drought	Severe hydrologic drought	Moderate hydrologic drought	Below normal	

APPENDIX H
Virginia Climate Response Network

March 24, 2008



Explanation - Percentile classes							
New Low	<10 Much Below Normal	10-24 Below Normal	25-75 Normal	76-90 Above Normal	>90 Much Above Normal	New High	Not Ranked