### **DROUGHT MONITORING TASK FORCE**

Drought Status Report December 20, 2007

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 December 18, 2007 was below normal (79% of normal) and statewide precipitation in each successive shorter time period is below normal. Statewide precipitation for the period from December 1, 2007 to December 18, 2007 is 81% of normal. Precipitation greater than 85% of normal is considered to be in the normal range. The following drought evaluation regions are currently below normal for the period beginning October 1, 2006; Big Sandy (71%), New River (80%), Roanoke (78%), Upper James (84%), Middle James (82%), Shenandoah (83%), Northern Virginia (78%), Northern Piedmont (71%), Northern Coastal Plain (79%), and York-James (75%). Precipitation deficits across the Commonwealth declined in all drought evaluation regions since the last report with precipitation remaining in the low end of the normal rang in only The Southeast Virginia and Eastern Shore regions. Appendix A contains precipitation tables for periods going back to October 1, 2006. The long-range monthly climatologic outlook calls for above normal temperatures and below normal precipitation for the Easter half of the Commonwealth through March 2008. The long-range seasonal outlook calls for equal chances of below normal, normal and above normal precipitation for the area west of the Blue Ridge and below normal precipitation for the commonwealth through March 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 remained stable over the Commonwealth during the last month. Exceptional drought conditions persist in portions of southwest Virginia. The NOAA seasonal drought outlook through March 2008 indicates that drought conditions may improve in the majority of the Commonwealth with the potential for minor improvement along the North Carolina border. The seasonal drought outlook is included as Appendix D.

Seven day average streamflows for December 19 in the majority of the Commonwealth are below normal  $(10^{th} to 24^{th} percentiles)$  with some areas in south central and south east Virginia in the range of flows indicative of moderate hydrologic drought (6<sup>th</sup> to 9<sup>th</sup> percentiles) to severe hydrologic drought (< 5<sup>th</sup> percentile). Stream flows reacted positively to falling temperatures and the resultant reduction in evapotranspiration and will likely remain stable until the beginning of the growing season. 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. Five dedicated drought monitoring wells are at levels indicative of moderate hydrologic drought (10<sup>th</sup> to 24<sup>th</sup> percentiles) and eight are at levels indicative of severe hydrologic drought (< 10<sup>th</sup> percentile). Levels of most large reservoirs have remained relatively stable over the last month with the exception of Lake Moomaw which has experienced a significant increase in storage

While the Virginia Depart ment of Health has not reported any impacts to public water supplies that have compromised their ability to provide the needs of their customers 31 systems have initiated voluntary water conservation requirements and 29 systems have initiated mandatory water conservation requirements. Appendix E contains a table of waterworks that have initiated water conservation requirements. The Virginia Department of Emergency Management reports anecdotal reports of private well failures in the most drought stricken areas of southwest Virginia.

The Department of Forestry reports that light wildfire activity has continued during the month of December. This would be considered a little out of the normal and a slight extension of the normal fall wildfire season. Since December 1, 2007 the DOF has responded to 42 wildfires which have burned 257 acres.

The intensity of drought impacts has begun to decline with the end of the active growing season. Current moisture deficits coupled with a dry fall and winter could result in significant drought impacts across all socio-economic sectors in the spring of 2008.

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

### Report of the Climatology Office of the University of Virginia

Although there has been winter storm activity in the region over the last month, only the most recent event (December 15th - 16th) has brought significant widespread precipitation to Virginia. Nonetheless, some regions have received enough to stay slightly ahead of normal for the first half of December. Coupled with an especially dry November, however, few regions have risen far above the fifty-percent threshold for the one and one-half month period.

Forecasts for the next two weeks indicate above normal precipitation, as the upper-air configuration over North America shifts to one more favorable to storm development and movement into Virginia. Precipitation expected over the next week could well bring statewide totals to normal for December.

It is critically important that ample precipitation (normal or above) be received throughout the Commonwealth during the remaining cold months. Should the upper-air circulation shift back into a persistent mode that steers storm activity away from Virginia, the opportunity to make up moisture deficits before the growing season begins could be lost.

### Virginia Department of Agriculture and Consumer Services Status of Agricultural Drought

### <u>Overview</u>

According to the USDA crop weather report for the week ending December 2, 2007, 64% of topsoil moisture was short to very short this week. Pastures and hayfields have shown little regrowth in most areas. Many producers who have not already begun feeding livestock started this week. Livestock are still being culled heavily at most stockyards. The soybean harvest continued and is very close to completion with yields being reported as average. Small grain planting also continued while some producers have begun top-dressing winter wheat.

### Impact on Crops:

### Nursery/Horticulture:

• The Virginia Nursery and Landscape Association reports that, while drought conditions seem to have been alleviated in many previously stricken areas of the state, it is the amount and frequency of rainfall received during the growing season that is of greater significance than the total amount of precipitation in a given year. Plant practitioners are being informed of the negative effects of drought on plant growth and health as a problem that can last for years to come. Drought conditions, or more specifically, soil water deficits, can influence the normal physiology and growth of plants in many ways. The effect of drought is particularly acute for newly transplanted trees and shrubs where the immediate effects of drought can be seen in both natural and man-made landscapes as leaves wilt, show marginal scorch, and prematurely drop from the plant. However, the long-term effects of drought on the health and survivability of woody plants are less obvious as the plants' capacity to absorb water is damaged resulting in dieback of branches and eventual plant death. The effects of poor plant sales and increased operational costs have severely hurt many horticultural growers this season; however, the true impact of this year's drought will not be evident until next spring after plants break dormancy. The nursery and landscape industry is responding to the drought by encouraging the planting of drought-resistant nursery stock and sod as a long-term solution.

### Hay Crop:

• Hay supplies statewide are very short. Hay prices at auctions in the Harrisonburg area have been steadily increasing and have reached record levels. Buyer interest is coming from at least a 150-mile radius and occasionally from Tennessee. Good quality grass hay has been selling for \$150 - \$175/ton, with premium quality hay selling consistently at \$225 - \$275/ton. There have also been price spikes to \$400/ton. These prices are eating at the profits of beef and dairy producers. The highest priced hay is going to the horse industry. Feed supply companies have done an admirable job in securing alternative feeds. But there are no bargains or good deals. High fiber roughage substitutes are \$185 - \$200/ton on a bulk basis, and up to \$250/ton for bagged product.

#### Impact on Livestock:

• Feeder cattle prices are declining and combined with high priced hay may cause further cow herd liquidation. Runs of cattle continue strong for this time of year. Given the increased marketing of cattle early in the season, there will be fewer feeder cattle wintered and fewer cows carried through the winter season.

#### Impact on Water:

• Some shallow wells have dried up, while all are extremely low. Reduced stream flows and water levels in farm ponds have placed greater demands on farm wells that supply drinking water to livestock. There has been no appreciable rainfall since October in the Lynchburg area and only 1/2 inch of rain fell in November in Northwest Virginia.

#### **Disaster Designations**

Due to the extreme agricultural drought, 93 Virginia counties and 34 independent cities have received a Secretarial disaster designation 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.

### 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 the contiguous counties. In addition, the Department of Emergency Management has authorized appropriate motor carrier exe mptions 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 the exception of Lake Moomaw in extreme western Virginia, major reservoirs levels are only slightly changed over the past month. The edges of two storm systems passing through the Ohio Valley have brought precipitation to Bath and Highland Counties benefiting Lake Moomaw. The lake's conservation pool is now 28% full and rising, gaining 10% in just the past week. We stand a good chance of getting the reservoir full by next spring. Variances to the minimum flows remain in place. The project is releasing only 100 cubic feet of water per second to the Jackson River.

Kerr Reservoir is at 294.7 feet msl, 1.4 feet below the guide curve. The project has fallen 0.9 feet in the past month. The Southeastern Power Administration is making the minimum amount of hydroelectric power to fulfill their contracts. However the minimum power demands increased in December and the project is now releasing about 3100 cfs; inflow is only 1900 cfs so the lake continues to fall. Salinity levels in the lower Roanoke River in North Carolina remain at acceptable levels. The Corps of Engineers is in discussions with the Southeastern Power Administration to get that agency to purchase power on the open market in lieu of generating the power at Kerr. DEQ supports this adjustment. The other Corps of Engineers lake, Lake Philpot is at 960.5; 7 feet below guide curve. Power production at this facility will likely be cut by a third in the near future to stabilize the lake level.

Smith Mountain Lake is at 792.9 feet; 2.1 feet below full and has fallen 0.2 feet in the past month. The lake level is currently steady. The project is operating under variance and is currently releasing 400 cfs instead of 650 cfs. The variance has been in effect for four months, saving about 3 .5 feet of water over the normal release. Because of early action by the State, the lake is only two feet down and has a good chance of refilling by spring.

#### United State Geological Survey Streamflow and Ground Water Levels

Rainfall in the last two weeks has improved streamflow across most of the State. The majority of streams in the Valley and Ridge are now in the normal range of flow for December. Flow at gages in the Piedmont and Coastal Plain, have increased, but are still below normal to well below normal. Transpiration has decreased substantially and much of the precipitation received in the last few weeks has probably been used to offset the very low soil moisture. Groundwater levels are leveling off and some well even show increasing water levels. Most wells levels however are still well below normal, therefore, streamflow may drop rapidly with the next short dry period.

Precipitation in the next two months will be critical for reducing the effect of drought this spring and summer.

Streamflow conditions based on daily values for December 19<sup>th</sup> 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. Ground water levels based on conditions on December 19<sup>th</sup> are presented in Appendix H.

### **Department of Forestry**

Light wildfire activity has continued during the month of December. This would be considered a little out of the normal and a slight extension of the normal fall wildfire season. Since December 1, 2007 the DOF has responded to 42 wildfires which have burned 257 acres.

In general, the fall fire season has been lighter than average in Virginia. Several rain events during November really helped to minimize the fire activity in spite of the overall long term drought. Since the start of the official fall season (October 15, 2007), the agency has responded to 188 wildfires which have burned 1711 acres and damaged or destroyed 11 homes or other structures. Agency suppression efforts helped to protect 138 homes during this same period.

For the calendar year to date, the agency has responded to 1390 wildfires which burned 10,158 acres and damaged or destroyed 33 homes or other structures. This level of activity represents a slightly higher than average year in terms of number of fires and a slightly lower than average year in terms of acres burned. The lighter than expected fall season really helped to hold down our wildfire numbers and damage for the 2007 year.

Currently, the agency remains concerns that drought conditions remain statewide. The agencies Cumulative Severity Index (CSI) readings at each of the agencies six regional offices remain 2 to 3 times above the normal average for this time of the year. Historically, this measure would be expected to be around the 100 mark (on a scale of 0 - 800) at this time of the year, however agency readings range from a low of 247 in Tappahannock to a high of 445 in Abingdon. This helps to account for the continued wildfire activity, with the agency responding to around 5 - 8 new fires on a daily basis up until this past weekend. Significant precipitation is needed this winter to help reduce the potential for what is beginning to look like a particularly busy spring.

# **APPENDIX** A

## Precipitation departures by Drought Evaluation Region.

### PRELIMINARY PRECIPITATION SUMMARY

Prepared: 12/19/07

	DROUGHT		Dec 1, 2007	- Dec 18, 2007	
	REGION	OBSERVED	NORMAL	DEPARTURE	% OF NORM.
1	Big Sandy	1.66	2.11	-0.45	79%
2	New River	1.19	1.57	-0.38	76%
3	Roanoke	1.04	1.89	-0.85	55%
4	Upper James	1.87	1.71	0.16	109%
5	Middle James	1.13	1.84	-0.71	61%
6	Shenandoah	1.90	1.50	0.39	126%
7	Northern Virginia	2.10	1.80	0.30	117%
8	Northern Piedmont	1.49	1.90	-0.41	78%
9	Chowan	1.40	1.75	-0.36	80%
10	Northern Coastal Plain	1.53	1.90	-0.37	80%
11	York-James	1.51	1.97	-0.46	77%
12	Southeast Virginia	1.62	1.85	-0.23	88%
13	Eastern Shore	1.99	1.88	0.11	106%
	Statewide	1.46	1.81	-0.35	81%

	DROUGHT		Nov 1, 2007	- Dec 18, 2007	
_	REGION	OBSERVED	NORMAL	DEPARTURE	% OF NORM.
1	Big Sandy	3.34	5.39	-2.06	62%
2	New River	1.84	4.60	-2.76	40%
3	Roanoke	1.51	5.25	-3.74	29%
4	Upper James	2.39	5.07	-2.69	47%
5	Middle James	1.72	5.35	-3.63	32%
6	Shenandoah	3.03	4.55	-1.52	67%
7	Northern Virginia	3.72	5.21	-1.49	71%
8	Northern Piedmont	2.49	5.70	-3.21	44%
9	Chowan	1.91	4.86	-2.96	39%
10	Northern Coastal Plain	2.67	5.04	-2.37	53%
11	York-James	2.33	5.34	-3.01	44%
12	Southeast Virginia	2.19	4.92	-2.73	44%
13	Eastern Shore	2.83	4.82	-1.99	59%
	Statewide	2.31	5.04	-2.73	46%

	DROUGHT		Oct 1, 2007	- Dec 18, 2007	
	REGION	OBSERVED	NORMAL	DEPARTURE	% OF NORM.
1	Big Sandy	5.07	8.27	-3.20	61%
2	New River	5.68	7.77	-2.09	73%
3	Roanoke	5.46	8.96	-3.50	61%
4	Upper James	4.76	8.32	-3.57	57%
5	Middle James	5.63	9.19	-3.56	61%
6	Shenandoah	5.43	7.74	-2.31	70%
7	Northern Virginia	7.38	8.69	-1.31	85%
8	Northern Piedmont	5.00	9.69	-4.70	52%
9	Chowan	5.00	8.44	-3.44	59%
10	Northern Coastal Plain	8.05	8.55	-0.51	94%
11	York-James	6.17	8.87	-2.70	70%
12	Southeast Virginia	7.46	8.58	-1.12	87%
13	Eastern Shore	6.20	8.03	-1.84	77%
	Statewide	5.70	8.54	-2.84	67%

	DROUGHT		Sep 1, 2007	- Dec 18, 2007	
	REGION	OBSERVED	NORMAL	DEPARTURE	% OF NORM.
1	Big Sandy	6.32	11.73	-5.41	54%
2	New River	7.32	11.18	-3.86	65%
3	Roanoke	7.54	13.19	-5.65	57%
4	Upper James	7.01	11.82	-4.81	59%
5	Middle James	6.44	13.32	-6.88	48%
6	Shenandoah	7.38	11.41	-4.04	65%
7	Northern Virginia	8.55	12.76	-4.21	67%
8	Northern Piedmont	5.99	13.97	-7.99	43%
9	Chowan	5.97	12.87	-6.91	46%
10	Northern Coastal Plain	9.29	12.64	-3.36	73%
11	York-James	8.07	13.77	-5.70	59%
12	Southeast Virginia	8.18	13.01	-4.82	63%
13	Eastern Shore	7.76	11.64	-3.89	67%
	Statewide	7.12	12.54	-5.42	57%

	DROUGHT		Aug 1, 2007	- Dec 18, 2007	
	REGION	OBSERVED	NORMAL	DEPARTURE	% OF NORM.
1	Big Sandy	7.50	15.56	-8.06	48%
2	New River	8.52	14.49	-5.98	59%
3	Roanoke	8.37	16.91	-8.54	49%
4	Upper James	8.45	15.15	-6.70	56%
5	Middle James	9.16	17.14	-7.98	53%
6	Shenandoah	10.15	14.74	-4.59	69%
7	Northern Virginia	10.41	16.61	-6.20	63%
8	Northern Piedmont	8.37	17.79	-9.43	47%
9	Chowan	7.97	17.18	-9.21	46%
10	Northern Coastal Plain	10.74	16.50	-5.77	65%
11	York-James	10.40	18.64	-8.24	56%
12	Southeast Virginia	11.66	18.13	-6.47	64%
13	Eastern Shore	10.25	15.51	-5.26	66%
	Statewide	8.99	16.37	-7.38	55%

	DROUGHT		Jul 1, 2007	- Dec 18, 2007	
	REGION	OBSERVED	NORMAL	DEPARTURE	% OF NORM.
1	Big Sandy	12.00	20.04	-8.05	60%
2	New River	11.44	18.28	-6.84	63%
3	Roanoke	11.64	21.30	-9.65	55%
4	Upper James	10.79	19.19	-8.40	56%
5	Middle James	11.51	21.55	-10.04	53%
6	Shenandoah	12.15	18.50	-6.36	66%
7	Northern Virginia	12.88	20.38	-7.50	63%
8	Northern Piedmont	9.90	22.19	-12.30	45%
9	Chowan	11.03	21.69	-10.66	51%
10	Northern Coastal Plain	12.16	20.95	-8.80	58%
11	York-James	13.84	23.74	-9.90	58%
12	Southeast Virginia	14.97	23.20	-8.23	65%
13	Eastern Shore	12.34	19.51	-7.17	63%
	Statewide	11.72	20.71	-8.99	57%

	DROUGHT		Jun 1, 2007	- Dec 18, 2007	
	REGION	OBSERVED	NORMAL	DEPARTURE	% OF NORM.
1	Big Sandy	14.74	24.18	-9.44	61%
2	New River	14.48	22.13	-7.65	65%
3	Roanoke	14.57	25.19	-10.62	58%
4	Upper James	14.55	22.90	-8.35	64%
5	Middle James	14.87	25.06	-10.19	59%
6	Shenandoah	15.42	22.21	-6.79	69%
7	Northern Virginia	14.82	24.24	-9.42	61%
8	Northern Piedmont	12.05	26.20	-14.16	46%
9	Chowan	13.25	25.34	-12.10	52%
10	Northern Coastal Plain	14.01	24.51	-10.51	57%
11	York-James	16.03	27.15	-11.12	59%
12	Southeast Virginia	18.19	26.81	-8.62	68%
13	Eastern Shore	17.59	22.49	-4.90	78%
	Statewide	14.58	24.50	-9.92	60%

	DROUGHT		May 1, 2007	- Dec 18, 2007	
	REGION	OBSERVED	NORMAL	DEPARTURE	% OF NORM.
1	Big Sandy	16.49	29.00	-12.52	57%
2	New River	16.26	26.34	-10.08	62%
3	Roanoke	16.54	29.52	-12.98	56%
4	Upper James	16.57	27.18	-10.61	61%
5	Middle James	17.33	29.30	-11.97	59%
6	Shenandoah	17.61	26.05	-8.44	68%
7	Northern Virginia	16.08	28.58	-12.50	56%
8	Northern Piedmont	14.14	30.42	-16.29	46%
9	Chowan	16.13	29.43	-13.30	55%
10	Northern Coastal Plain	15.25	28.67	-13.42	53%
11	York-James	17.58	31.42	-13.84	56%
12	Southeast Virginia	20.16	30.67	-10.51	66%
13	Eastern Shore	19.33	26.01	-6.68	74%
	Statewide	16.61	28.76	-12.15	58%

	DROUGHT		Apr 1, 2007	- Dec 18, 2007	
	REGION	OBSERVED	NORMAL	DEPARTURE	% OF NORM.
1	Big Sandy	20.95	32.76	-11.81	64%
2	New River	19.38	29.89	-10.51	65%
3	Roanoke	19.75	33.32	-13.56	59%
4	Upper James	20.07	30.58	-10.51	66%
5	Middle James	20.56	32.64	-12.08	63%
6	Shenandoah	21.19	28.97	-7.79	73%
7	Northern Virginia	19.81	31.88	-12.07	62%
8	Northern Piedmont	17.23	33.71	-16.48	51%
9	Chowan	20.57	32.86	-12.30	63%
10	Northern Coastal Plain	18.96	31.76	-12.80	60%
11	York-James	21.62	34.72	-13.10	62%
12	Southeast Virginia	24.67	33.92	-9.25	73%
13	Eastern Shore	23.88	28.93	-5.05	83%
	Statewide	20.25	32.18	-11.93	63%

	DROUGHT		Mar 1, 2007	- Dec 18, 2007	
	REGION	OBSERVED	NORMAL	DEPARTURE	% OF NORM.
1	Big Sandy	24.09	37.01	-12.92	65%
2	New River	23.42	33.56	-10.15	70%
3	Roanoke	23.44	37.59	-14.15	62%
4	Upper James	23.71	34.37	-10.67	69%
5	Middle James	23.61	36.70	-13.09	64%
6	Shenandoah	24.07	32.17	-8.11	75%
7	Northern Virginia	22.96	35.54	-12.58	65%
8	Northern Piedmont	19.66	37.52	-17.86	52%
9	Chowan	23.13	37.23	-14.10	62%
10	Northern Coastal Plain	21.77	36.04	-14.27	60%
11	York-James	23.34	39.41	-16.07	59%
12	Southeast Virginia	26.61	38.12	-11.50	70%
13	Eastern Shore	25.66	33.24	-7.58	77%
	Statewide	23.32	36.22	-12.90	64%

	DROUGHT		Feb 1, 2007	- Dec 18, 2007	
	REGION	OBSERVED	NORMAL	DEPARTURE	% OF NORM.
1	Big Sandy	25.49	40.59	-15.11	63%
2	New River	25.07	36.49	-11.43	69%
3	Roanoke	25.49	40.90	-15.41	62%
4	Upper James	26.16	37.22	-11.06	70%
5	Middle James	25.58	39.82	-14.24	64%
6	Shenandoah	26.12	34.58	-8.46	76%
7	Northern Virginia	25.80	38.21	-12.41	68%
8	Northern Piedmont	22.11	40.49	-18.39	55%
9	Chowan	25.30	40.40	-15.10	63%
10	Northern Coastal Plain	24.28	39.18	-14.91	62%
11	York-James	25.09	42.94	-17.85	58%
12	Southeast Virginia	28.88	41.62	-12.74	69%
13	Eastern Shore	28.45	36.43	-7.98	78%
	Statewide	25.41	39.35	-13.94	65%

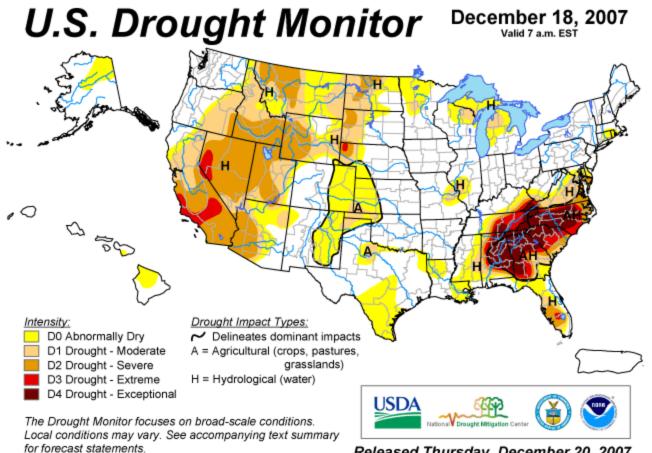
	DROUGHT		Jan 1, 2007	- Dec 18, 2007	
	REGION	OBSERVED	NORMAL	DEPARTURE	% OF NORM.
1	Big Sandy	28.67	44.32	-15.65	65%
2	New River	28.03	39.70	-11.68	71%
3	Roanoke	29.37	44.82	-15.45	66%
4	Upper James	29.17	40.50	-11.34	72%
5	Middle James	29.16	43.48	-14.32	67%
6	Shenandoah	27.68	37.43	-9.75	74%
7	Northern Virginia	28.05	41.49	-13.44	68%
8	Northern Piedmont	24.62	44.01	-19.39	56%
9	Chowan	27.82	44.51	-16.69	63%
10	Northern Coastal Plain	28.52	42.93	-14.42	66%
11	York-James	27.70	47.08	-19.38	59%
12	Southeast Virginia	32.05	45.78	-13.73	70%
13	Eastern Shore	30.62	39.99	-9.37	77%
	Statewide	28.47	42.99	-14.52	66%

	DROUGHT		Dec 1, 2006	- Dec 18, 2007	
	REGION	OBSERVED	NORMAL	DEPARTURE	% OF NORM.
1	Big Sandy	30.66	47.96	-17.30	64%
2	New River	29.81	42.41	-12.60	70%
3	Roanoke	31.55	48.07	-16.52	66%
4	Upper James	31.16	43.45	-12.29	72%
5	Middle James	30.75	46.65	-15.91	66%
6	Shenandoah	28.80	40.02	-11.22	72%
7	Northern Virginia	29.71	44.59	-14.88	67%
8	Northern Piedmont	26.37	47.29	-20.92	56%
9	Chowan	29.99	47.53	-17.54	63%
10	Northern Coastal Plain	30.22	46.21	-15.99	65%
11	York-James	29.52	50.47	-20.95	58%
12	Southeast Virginia	34.50	48.96	-14.46	70%
13	Eastern Shore	33.37	43.23	-9.86	77%
	Statewide	30.32	46.11	-15.79	66%

	DROUGHT		Nov 1, 2006	- Dec 18, 2007	
	REGION	OBSERVED	NORMAL	DEPARTURE	% OF NORM.
1	Big Sandy	33.42	51.24	-17.83	65%
2	New River	33.77	45.44	-11.68	74%
3	Roanoke	36.94	51.43	-14.48	72%
4	Upper James	34.94	46.81	-11.87	75%
5	Middle James	36.48	50.16	-13.68	73%
6	Shenandoah	32.95	43.07	-10.12	76%
7	Northern Virginia	35.50	48.00	-12.50	74%
8	Northern Piedmont	32.68	51.09	-18.42	64%
9	Chowan	37.36	50.64	-13.28	74%
10	Northern Coastal Plain	35.52	49.35	-13.83	72%
11	York-James	35.18	53.84	-18.66	65%
12	Southeast Virginia	42.12	52.03	-9.91	81%
13	Eastern Shore	38.25	46.17	-7.92	83%
	Statewide	35.48	49.34	-13.86	72%

	DROUGHT		Oct 1, 2006	- Dec 18, 2007	
	REGION	OBSERVED	NORMAL	DEPARTURE	% OF NORM.
1	Big Sandy	38.39	54.12	-15.73	71%
2	New River	38.75	48.61	-9.86	80%
3	Roanoke	42.98	55.14	-12.16	78%
4	Upper James	41.87	50.06	-8.19	84%
5	Middle James	44.17	54.00	-9.83	82%
6	Shenandoah	38.19	46.26	-8.07	83%
7	Northern Virginia	40.29	51.48	-11.19	78%
8	Northern Piedmont	39.21	55.08	-15.88	71%
9	Chowan	45.07	54.22	-9.16	83%
10	Northern Coastal Plain	41.60	52.86	-11.27	79%
11	York-James	43.18	57.37	-14.19	75%
12	Southeast Virginia	47.19	55.69	-8.50	85%
13	Eastern Shore	45.18	49.38	-4.20	91%
	Statewide	41.72	52.84	-11.12	79%

### **APPENDIX B**



Released Thursday, December 20, 2007 Author: Brian Fuchs, National Drought Mitigation Center

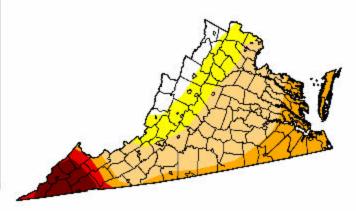
http://drought.unl.edu/dm

## **APPENDIX C**

## U.S. Drought Monitor Virginia

December 18, 2007 Valid 7 a.m. EST

	D	Drought Conditions (Percent Area)						
	None	D0-D4	D1-D4	D2-D4	D3-D4	D4		
Current	8.0	92.0	74.8	29.5	9.2	6.3		
Last Week (12/11/2007 map)	4.6	95.4	81.6	30.7	9.2	6.3		
3 Months Ago (09/25/2007 map)	0.1	99.9	92.7	50.9	7.5	1.3		
Start of Calendar Year (01/02/2007 map)	95.2	4.8	0.0	0.0	0.0	0.0		
Start of Water Year (10/02/2007 map)	0.1	99.9	92.7	76.4	25.0	5.0		
One Year Ago (12/19/2006 map)	99.7	0.3	0.0	0.0	0.0	0.0		



Intensity:

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

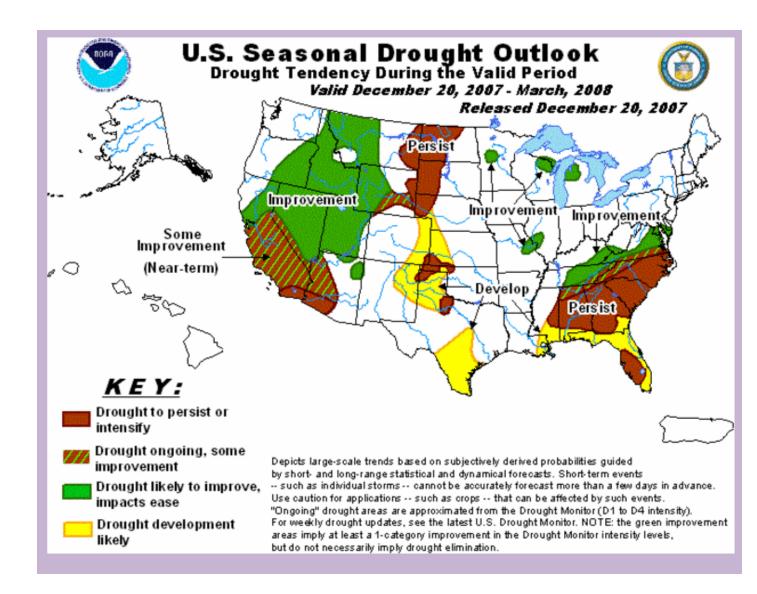
The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements

### http://drought.unl.edu/dm



Released Thursday, December 20, 2007 Author: Brian Fuchs, National Drought Mitigation Center

## **APPENDIX D**



# **APPENDIX E Condition of Public Water Supplies**

### **ODW Drought Situation Report**

Date: 12/19/07

	Restriction totals
Mandatory	29
Voluntary	31
Total	60

N-None M-Mandatory V-Voluntary B-Better

S-Stable/Same W-Worse

PWSID	Waterworks	Source Name	Restriction s	Situation	Population Served
1071455	Giles County PSA	well	N	<b>S</b> 12/17/07: Well water level at 100 ft above pump at startup. Drops slightly during pumping. 10/05/07: started using secondary wells, Orchard & Tannery, to supplement. Still in good shape.	8,500
1077240	Town of Fries	Eagle Bottom Creek & New River	N	<b>S</b> 12/17/07: the Creek impoundment now overflowing. Creek flow back to normal fall weather rate. They exercised their auxiliary New River withdrawal portable pump on 8/16/07; it is ready to use if needed.	614
1105200	Town of Jonesville	Wynn Spring #1 and Slemp Spring	N	<b>S</b> 12/17/07: Springs' flowrates are stable. Normal WTP operating rate = 380 gpm; down to 320 gpm. WTP running 17.5 hrs/day. Using all of Wynne Spring production and part of the production of Slemp spring.	1,100
1105400	Lee County PSA	Blue Springs	N	<b>B</b> 12/17/07: Spring flow has fallen below the established safe yield. Safe yield = 250,000 gpd. WTP treating all the water the intake can capture (approx. 237,600- 244,800 gpd). At this rate, tank levels are staying at about full.	2,500
1105400	Lee County PSA	KVS Quarry	Ν	<b>S</b> 12/17/07: Water level in quarry is dropping about 1/2 to 1 inch per day; currently at 201.5 inches below catwalk and 4.5 inches above pumps. In process of building a floating raw water pump station; won't	2,500

				be ready for another month.	
1155635	Town of Pulaski	Two impoundments and Peak Creek	N	<b>S</b> 12/17/07: Hogans Reservoir lowered to repair dam. Gatewood down 5.5 ft. Hogans down 12 ft. Working on drought response plan with NRV PDC/Kevin Byrd. This plan identified 20 ft down as the critical point for reservoir level.	9,452
<del>1167050</del>	Russell County Water & Sewerage Authority	<del>springs, wells, Clinch River</del>	N	S 11/29/2007: Source average monthly production reductions: Crystal well from 65 to 43 gpm; Sargent Spring from 200 to 80 gpm; Seven Spring well 1 from 24 to 15 gpm; Seven Springs from 200 to 77 gpm; Straight Hollow mines from 200 to 105 gpm. Purchasing supplemental water from St. Paul at an average of 20 gpm. Accountability increased from 40% in August to 54% in September. St. Paul has adequate surplus capacity to provide up to 50% of RCWSA average daily demand. REMOVED FROM REPORT SINCE ST. PAUL HAS SUFFICIENT EXCESS CAPACITY TO SUPPLY DEMAND.	<del>5,565</del>
1169725	Town of Nickelsville	Wells	V	<b>S</b> 12/17/07: Well production had dropped and voluntary conservation notice issued 8/31/07. Well production holding steady now. Well #1 is used occasionally now. Well #3 drops to ~ 6 gpm(safe yield=13). Well #6 drops to ~8- 10 gpm(safe yield=21 gpm). Well #4 & 5 no drop in output. Repairing leaks (accountability is satisfactory). Working on adding two new wells: (1) Park well's bacts were all negative. Park well now being used. (2) New Tank well is drilled and grouted; yield and drawdown done (28 gpm) and waiting on test results.	900

1185061	Town of Bluefield	impoundment of Bluestone River	Ν	<b>S</b> 12/17/07: Water levels remain steady since 11/01/07 report. The WTP is currently able to withdraw at its design capacity of 1.5 MGD. REMOVED FROM REPORT DUE TO ADEQUATE SUPPLY AND AVAILABILITY OF BACKUP SOURCE FROM WEST VA. AMERICAN WATERWORKS.	6,138
1185625	Town of Pocahontas	Abbs Valley Creek	Ν	<b>S</b> 12/17/07: Removed call for voluntary conservation on 11/19/07. No change since 11/15/07 report. Flow in source water, Abbs Valley Creek is now overflowing the check dam. WTP operates 12 hours/day on average. It can be supplied by Greater Tazewell WTP if there is a need to reduce demand at Pocahonatas. Likewise the Greater Tazewell WTP could supplement supply to Pocahontas through an existing interconnection via the TCPSA Boissevain storage tank, which is 72 feet higher in elevation than the Pocahontas tanks.	1,200
1185762	Greater Tazewell	Lake Witten, Clinch River, & impoundment of Cox Brance	Ν	<b>S</b> 12/17/07: Cox Branch and Clinch River flows restored to normal levels by recent rainfall. Lake Witten (main source) level still decreasing. PSA does not control use of Lake Witten for maintaining downstream flows. No current problems in meeting demand.	11,964
1195050	Town of Appalachia	reservoir	М	<b>S</b> 12/14/07: down 17'-1.5" from overflow. 22 MG left, 44 days ±10 left. Pumping from Powell River to reservoir @ approx. 350 gpm.	3,280
1195100	Town of Big Stone Gap	Big Cherry Reservoir	М	W 12/19/07: Reservoir down 18.8 ft from overflow. 113.3 MG left, 50 days, including 1 MGD for flow-by. As of 12/19/07, preparing to construct: (1) permanent emergency pump station to get 0.25 MGD of water from Pennington Gap via Dryden via Eastern Lee; (2) temporary pump station to get 0.15 MGD of water from Duffield; and (3) 1,500 ft for above ground temporary pipe to get 0.25 MGD of water from Wise County PSA via Norton.	9,000

1195950	Town of Wise	reservoir	N	<b>B</b> 12/17/07: Reservoir down 10.7 ft, 102 MG left, 170 days left (@ 0.6 MGD). 9.35 ft down is average for late November. Auxiliary mine well source being pumped into reservoir.	6,375
1720076	City of Norton	reservoirs	N	<b>S</b> 12/17/07: Upper reservoir down 28 ft; lower reservoir down 12 ft from overflow. 44 MG, approx 98 days left based on 0.45 MGD production. Purchasing more water from Wise County PSA. Worse than normal for this time of year.	4,247
2003250	Albemarle County / Crozet	Beaver Creek Reservoir	М	<b>S</b> - Beaver Creek Reservoir is currently down 2.2 feet from normal full. Drought warning and mandatory restrictions in effect since August 15	25
2003600	Charlottesville/Albema rle County	Sugar Hollow and Ragged Mountain Reservoirs (Observatory WTP)	М	<b>S</b> - The Sugar Hollow reservoir is down 11.8 feet from full. Ragged Mountain reservoir is 1.8 feet below full. Drought warning and mandatory restrictions in effect since August 15.	25
2003675	Albemarle County / Scottsville	Totier Creek Reservoir	М	<b>S</b> - The Totier Creek reservoir is full. Drought warning and mandatory restrictions in effect since August 15	25
2003725	Charlottesville/Albema rle County	South Fork Rivanna (South Rivanna WTP)	М	<b>S</b> - The South Fork Rivanna reservoir is full. Drought warning and mandatory restrictions in effect since August 15	25
2023730	Dal-Nita Hills	Drilled Well	V	<b>S</b> - 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.	35 homes
2065250	Fluvanna Correctional Center for Women	Mechunk Creek and on-site Raw Water Reservoir	V	<b>S</b> - Reservoir is at ~74% of full capacity (~29.5 MG remain). Sporadic withdrawals from Mechunk Creek currently due to low levels. Moderate Drought Condition has been declared. Non-essential water use has been reduced.	1,650
2069250	Frederick County Sanitation Authority	Stephens City and Clearbrook Quarries; City of Winchester	V	<b>S</b> - Voluntary conservation has been requested.	33,330
2125325	NCSA - Lovingston	Black Creek Reservoir and Wells	V	<b>S</b> - Mandatory restrictions lifted October 29, reservoir back to full	900
2125065	NCSA - Gladstone	Spring	V	<b>S</b> - Mandatory restrictions lifted October 29	90
2125650	NCSA - Schuyler	Johnson's Branch	V	<b>S</b> - Mandatory restrictions lifted October 29	300

2125910	NCSA - Wintergreen	Lake Monacan	V	<b>S</b> - Lake Monacan system at 92% of full. Mandatory restrictions lifted October 29.	3,800
2171750	Town of Strasburg	North Fork Shenandoah River	V	<b>S</b> - Voluntary conservation has been requested. Stream flow (median) approx 355 cfs on 17 December.	4,017
2187406	Front Royal	South Fork, Shenandoah River	V	<b>S</b> - Mean stream flow reported at 21.57% (345cfs) on 17 December. VWPP requires conservation controls to be implemented at 24% (voluntary) and 17% (mandatory) of mean stream flow based on 14-day running average.	12,500
2560100	Town of Clifton Forge	Smith Creek	V	<b>S</b> - Voluntary conservation has been requested.	4,679
2660345	City of Harrisonburg	North River, Dry River/Switzer Reservoir (Rawley Springs)	V	<b>S</b> - 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.	
2840500	Winchester, City of	North Fork Shenandoah River	V	S - Voluntary conservation requested on 1 October. Stream flow (median) approx 400 cfs on 17 December.	27,485
3053280	DCWA Central (Dinwiddie County)	Appomattox River Water Authority (ARWA)	М	S	6,800
3081550	GCWSA - Jarratt	Nottoway River	Ν	<b>S</b> - 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>S</b> - follows Suffolk's lead on conservation.	1,284
3095490	JCSA Central	wells	Ν	<b>B</b> - No restrictions at this time.	44,760
3149700	Puddledock Road (Prince George County)	ARWA	Μ	S	6,525
3550050	Chesapeake - Western Branch system	City of Portsmouth	V	<b>S</b> -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.	36,381
3550051	Chesapeake	Northwest River, City of Norfolk Raw Water (Lake Gaston)	V	<b>S</b> - City Council voted to go to voluntary conservation city- wide - took effect on 24 Oct 2007. Chlorides have lowered in river. Water level is not affected - river is tidally influenced.	105,525

3550052	Chesapeake - South Norfolk system	City of Norfolk	V	<b>S</b> - 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.	33,602
3570150	Colonial Heights	ARWA	М	S	17,286
3595250	Emporia	Meherrin River	Ν	<b>S</b> - Water is going over the dam.	5,600
3670800	Virginia-American Water Company (Hopewell)	Appomattox & James Rivers	Ζ	<b>S</b> - Raw water quality is biggest concern at this time as higher salinity is reaching the intake from the Bay.	25000 - Primary / 42463 Total including Consecutive System (Ft. Lee)
3700500	Newport News	Chickahomony River, Skiffs Creek, Diascand, Little Creek, Harwoods Mill, Lee Hall	Ν	<b>B</b> - reservoir levels are rising (currently at 71.8% full); waterworks still cautious, but feels the winter weather will allow the reserviors to refill.	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	<b>B</b> - As of 12/17, reservoirs at 82.3% (up from 79.6% on 11/26). Historic reservoir capacity is 85.2%. Avg. pumping: Lake Gaston = 59.0 MGD; Blackwater River = 7.0 MGD; Nottoway River = 16.0 MGD; Deep wells = 4.39 MGD; Spillway elev.: Western Branch -3.6 ft; Lake Prince -1.1 ft; Burnt Mils -5.8 ft; Lake Wright - 0.1 ft; Lake Smith +0.5 ft; Blackwater River +3.6 ft; Nottoway River +4.7 ft. Called for voluntary conservation 11/1/07.	261,250 - Primary / 755,617 - Total including consecutive systems (Va Beach + military bases).
3730750	Petersburg	ARWA	М	<b>S</b> - Mandatory restrictions as of 10/29.	39,386
3740600	Portsmouth	Lakes Cohoon, Meade, Kilby, and Speights Run	V	<b>B</b> - As of 12/17, reservoirs at 86% (up from 82% on 11/23). Median reservoir capacity is 96%, average capacity is 89% (period of 1969-2006). Both emergency wells are ON and pumping 3.1 MGD. Estimated 209 days of reservoir storage remaining at current pumpage and no rainfall, up from 203 days on 11/23. 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	<b>S</b> - Will follow Portsmouth's lead and the region as far as conservation. As of 12/17Reservoir levels look good. Crumps Mill Pond @ 14.9 ft (high) and Lone Star Lakes at 7.3 ft (normal).	62,562
3810900	Virginia Beach	Norfolk	V	<b>B</b> - obtains water from Norfolk. Called for voluntary	423,743

				conservation on 9/19/07.	
4041035	APPOMATTOX RIVER WATER AUTHORITY	Surface water; Lake Chesdin	М	Wholesaler to Chesterfield County, Prince George County, Dinwiddie County; Cities of Petersburg and Colonial Heights. Low water levels; mandatory & voluntary restrictions in place.	200,000
4041845	CHESTERFIELD CO CENTRAL WATER SYSTEM	Surface water; Swift Creek reservoir; purchases finished water	М	In effect Monday, Oct. 15. 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	Ν	Reservoir at 100%.	8,870
4075283	EASTERN GOOCHLAND CENTRAL WATER SYSTEM	Purchased surface water	Μ	purchases water from Henrico County	2,500
4075735	JAMES RIVER CORRECTIONAL CTR	Surface water; James River	М		9,300
4085398	HANOVER SUBURBAN WATER SYSTEM	Surface water; North Anna River; some groundwater wells; purchases finished water	М		71,000
4085770	SPRING MEADOWS- MEADOW GATE	Groundwater wells	Ν		2,300
4087125	HENRICO COUNTY WATER SYSTEM	Surface water; James River	М	Similar to City of Richmond	289,000
4101900	WEST POINT, TOWN OF	Groundwater wells	Ν		3,000
4127110	DELMARVA PROPERTIES	Groundwater wells	V	New Kent Co. encourages conservation.	7,700
4145675	POWHATAN COURTHOUSE	Groundwater wells	Ν		2,600
4193280	COLONIAL BEACH, TOWN OF	Groundwater wells	Ν		3,300
4760100	RICHMOND, CITY OF	Surface water; James River	М	Slightly improved (but still below normal) water levels in the James River; under James River Regional Flow Management Plan; counties of Henrico, Chesterfield, Goochland, and Hanover counties purchases water from the City.	197,000
5515050	City of Bedford	Stoney Creek Reservoir and Wells 1 to 5	М	<b>B</b> - water level in reservoir increased from 26 inches down to 21 inches down since last report	6,946

5143210	Town of Gretna	Georges Creek Res	N	В	2,500
5029085	Buckingham County	Troublesome Creek Reservoir	Ν	В	5,751
5037300	Town of Keysville	Keysville Reservoir	Ν	В	800
5083550	Town of Halifax	Bannister River Reservoir	Ν	В	1,389
5780600	Town of South Boston	Dan River	N	В	9,726
5141640	Town of Stuart	South Mayo River	N	N B	
5147170	Town of Farmville	Appomattox River	N	В	7,011
5011050	Town of Appomattox	Wells	V	<b>S</b> - The Town has noted a significant water level drop in many of their wells. The town is actively looking for additional groundwater sources.	1,708
5031150	Campbell County Central System	Big Otter River	Ν	<b>B</b> - stream flow at 108 cfs (well above plant capicity) and they also have an interconnection with Lynchburg.	20,000
5025450	Town of Lawrenceville	Great Creek (with upstream reservoir)	Ν	B - reservoir level rising	4,806
5135160	Town of Crewe	Crystal Lake	N	В	3,500
5111450	Town of Kenbridge	Flat Rock Creek and Offstream Reservoir	N	<b>B</b> Reservoir was low due to leaking valve. The valve is fixed and levels are returning to normal.	1,400
5067785	Ridgscrest	Wells	N	B - no longer hauling water	52
5067265	Hales Point	Wells	V	<b>B</b> - system still hauling in water to meet demand.	46
5067937	Stripers Landing	Wells	N	В	125
6033425	Lake Caroline	Lake Caroline	N	<b>S</b> - Lake level is steady	3,370
6047070	Emerald Hill Elementary School	Groundwater	V	B - 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	М	S - Lake Pelham surface was 22 1/2 " below the overflow on 12/17/07. Town is on mandatory water use restriction at least through Dec 22.	11,500
6059501	Fairfax County Water Authority	Potomac River and Occoquan Reservoir	V	<b>B</b> - 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 has increased to 90% full. FW is providing additional water to Prince William County Service Authority to make-up for supply	823,216

				and treatment cut-backs by the City of Manassas. Metro Washington area-wide voluntary conservation went into effect 10/3/07.	
6061200	Town of Marshall	Groundwater	М	S - Well production not capable of meeting demands, including significant system leakage. Water being hauled in at approx 25,000 gpd. Owner (FCWSA) has performed some well work and is considering water line repairs/replacement and addition of new sources and storage. As of 12/18, no change in status.	2,039
6061600	Town of Warrenton	Reservoir on Cedar Run and groundwater	М	S - Warrenton Reservoir surface elevation is at 441 feet vs full level at 445.3 feet.	11,107
6107150	Town of Hamilton	Groundwater	V	S	2,000
6107200	Town of Hillsboro	Spring/Well	М	W - Reduced flow in spring and well not adequate to meet demand. Distribution system has been shut off from storage several days per week to conserve water supply. A leak in the distribution system is suspected. Water is being hauled to meet demand	58
6107221	LCSA Lenah Farms	Groundwater	V	S	810
6107300	Town of Leesburg	Potomac River	Ν	<b>S</b> - 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)	М	<b>S</b> - Recent rains maintaining flow in Goose Creek, sufficient for 6 MGD treatment rate. LCSA moving water from 410 zone to 438 zone via pump station.	167,904
6107400	Town of Lovettsville	Groundwater	V	S	1,280
6107450	Town of Middleburg	Groundwater	М	S - Mandatory Water Use Restrictions in place 10/11/07	590
6107600	Town of Purcellville	Hirst Reservoir and groundwater	М	<b>S</b> Recent rain sufficient to hold water levels steady but not fill reservoir. Reduced temperatures have reduced demand. Reservoir has less than 60 days storage remaining. Wells are being closely monitored and production remains consistent without any impacts from drought thus far.	6,300
6107650	Town of Round Hill	Groundwater	М	S	3,156

6113200	Town of Madison	White Oak Run	N	<b>S</b> 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)	Ν	S - 12/19 - 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		<b>S</b> No water use restrictions are in place.	1,800
6137500	Town of Orange	Rapidan River	V	S - 12/19 - Fourteen day running average of Rapidan River flow is 109 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.	9,818
6153260	Woodbridge Mobile Home Park	Groundwater	М	<ul> <li>S Waterworks continues to have episodes of low pressure due to inadequate sources and leaks in the distribution system.</li> <li>This problem is indirectly related to drought as source problems existed previously.</li> </ul>	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>B</b> Adequate flows coming down Goose Creek. WTP is producing approx 6 MGD with around 1-2 mgd of the treated water going to LCSA, balance to the City. No longer purchasing water from FCWA. Pumping into Beaver Dam Reservoir, which has risen about one foot due to pumping plus recent rains.	45,000
6685100	City of Manassas	Lake Manassas	М	B Mandatory restrictions went into effect 10/25/07. Water level in Lake Manassas has risen slightly due to recent rains. Withdrawals from Lake Manassas remain at about 5 - 6 mgd. Wholesale customers PWCSA and Manassas Park are not taking water from the City and are obtaining water from FCWA.	37,000
6177280 and 6177300	Spotsylvania County	Motts Run Reservoir, Rappahannock River, Ni River Reservoir, and Hunting Run Reservoir (Rapidan River off-stream reservoir)	N	S	37,506

6179100 and Staff 6179775	ord County	Smith Lake and Abel Lake	М	<b>W</b> Mandatory restrictions went into effect 9/17/07 and were increased on 10/8/07.	53,086
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Notes of interest:

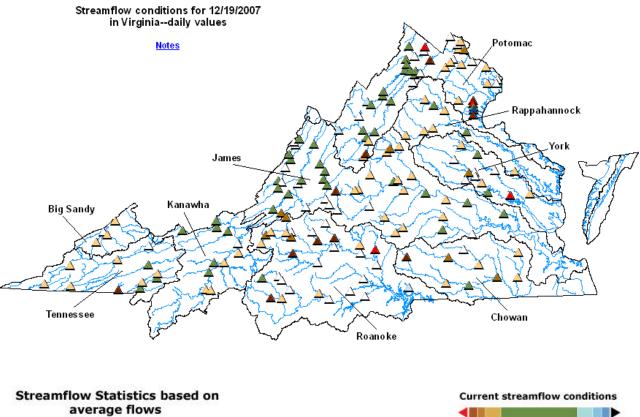
(1) Metropolitan Washington Council of Governments issued a region-wide voluntary conservation advisory on 10/3/07, covering DC, Maryland, and Northern Virginia.

(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**



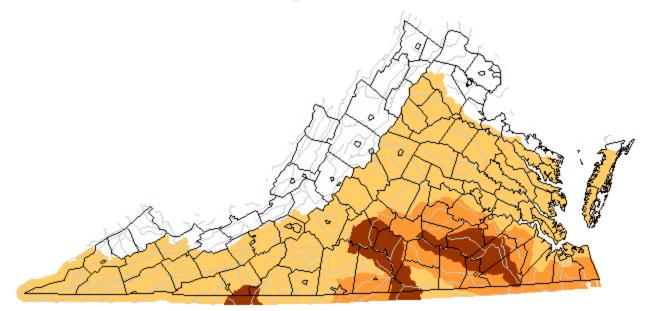
Daily 7-Day 14-Day 28-Day

Click on map or table to select River Basin

Dry Normal Wet

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

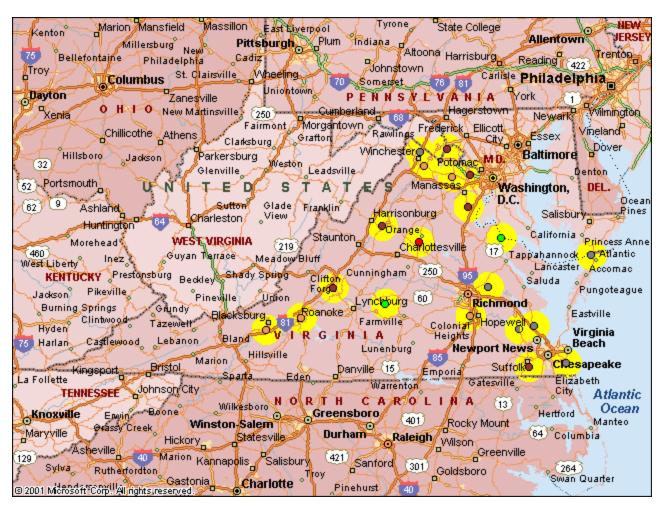
Hednesday, December 19, 2007



### ≊USGS

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

## APPENDIX H Virginia Climate Response Network



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