

A REPORT TO
THE HONORABLE MARK R. WARNER, GOVERNOR,
AND
THE GENERAL ASSEMBLY OF VIRGINIA

STATUS OF VIRGINIA'S WATER RESOURCES
A Report on Virginia's Water Supply Planning Activities



Department of Environmental Quality
COMMONWEALTH OF VIRGINIA
January 2003

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I. Introduction

The Commonwealth of Virginia is rich in water resources, both in terms of number and diversity. However, as the past three years have demonstrated this resource cannot be taken for granted. The Commonwealth and its localities must work together to manage and protect our water resources to meet long term human and environmental needs. Improved coordination of drought response and water resources management activities at the local, regional and state levels are essential to guaranteeing the adequacy of Virginia's water supplies to meeting the needs of Virginia's citizens in an environmentally sound manner.

This report, submitted to the Governor and the Virginia General Assembly in accordance with Chapter 3.2 of Title 62.1 of the Code of Virginia, describes the status of the Commonwealth's water sources, both surface and ground water. The report also provides an overview of the drought conditions and impacts on water supplies in the Commonwealth. Section VII. entitled "Water Supply Planning and Policies" summarizes Governor Warner's Virginia Water Supply Initiative.

II. Water Resources Data

A summary of Virginia's water resources is provided in **Table 1**. Virginia has an estimated 49,350 miles of streams and rivers divided into nine major basins (**Figure 1**). Annual statewide rainfall averages almost 43 inches. The total combined flow of all freshwater streams in the state is estimated at about 25 billion gallons per day. The 248 publicly owned lakes in the Commonwealth have a combined area of 162,230 acres. Additionally, many thousands of other small, privately owned lakes and ponds are distributed throughout the state.

Other significant water features of Virginia include approximately 236,900 acres of tidal and coastal wetlands, 808,000 acres of freshwater wetlands, 120 miles of Atlantic Ocean coastline, and more than 2,500 square miles of estuaries.

Table 1. Virginia's Water Resources Data

State Population (1994 Census)	-	6,551,500
State Surface Area	-	40,741 square miles
Major River Basins:		
<i>Potomac/Shenandoah</i>		<i>Tennessee/Big Sandy</i>
<i>James</i>		<i>Chesapeake Bay/Small Coastal</i>
<i>York</i>		<i>Rappahannock</i>
<i>Roanoke</i>		<i>New</i>
<i>Chowan River/ Albemarle Sound Coastal Basin</i>		
Perennial River Miles (freshwater)	-	49,350
Publicly Owned Lakes and Reservoirs		
	<u>Number</u>	<u>Acres</u>
<i>Larger than 5,000 acres</i>	5	109,838
<i>Smaller than 5,000 acres</i>	243	52,392
<i>Total</i>	248	162,230
Acres of Freshwater Wetlands	-	808,000
Acres of Tidal and Coastal Wetlands	-	236,900
Estuary Square Miles	-	2,500
Atlantic Ocean Coastal Miles	-	120
Statewide Average Annual Rainfall	-	42.8 inches
Average Freshwater Discharge of All Rivers	-	Approximately 25 billion gallons per day

MAJOR DRAINAGE BASINS IN VIRGINIA

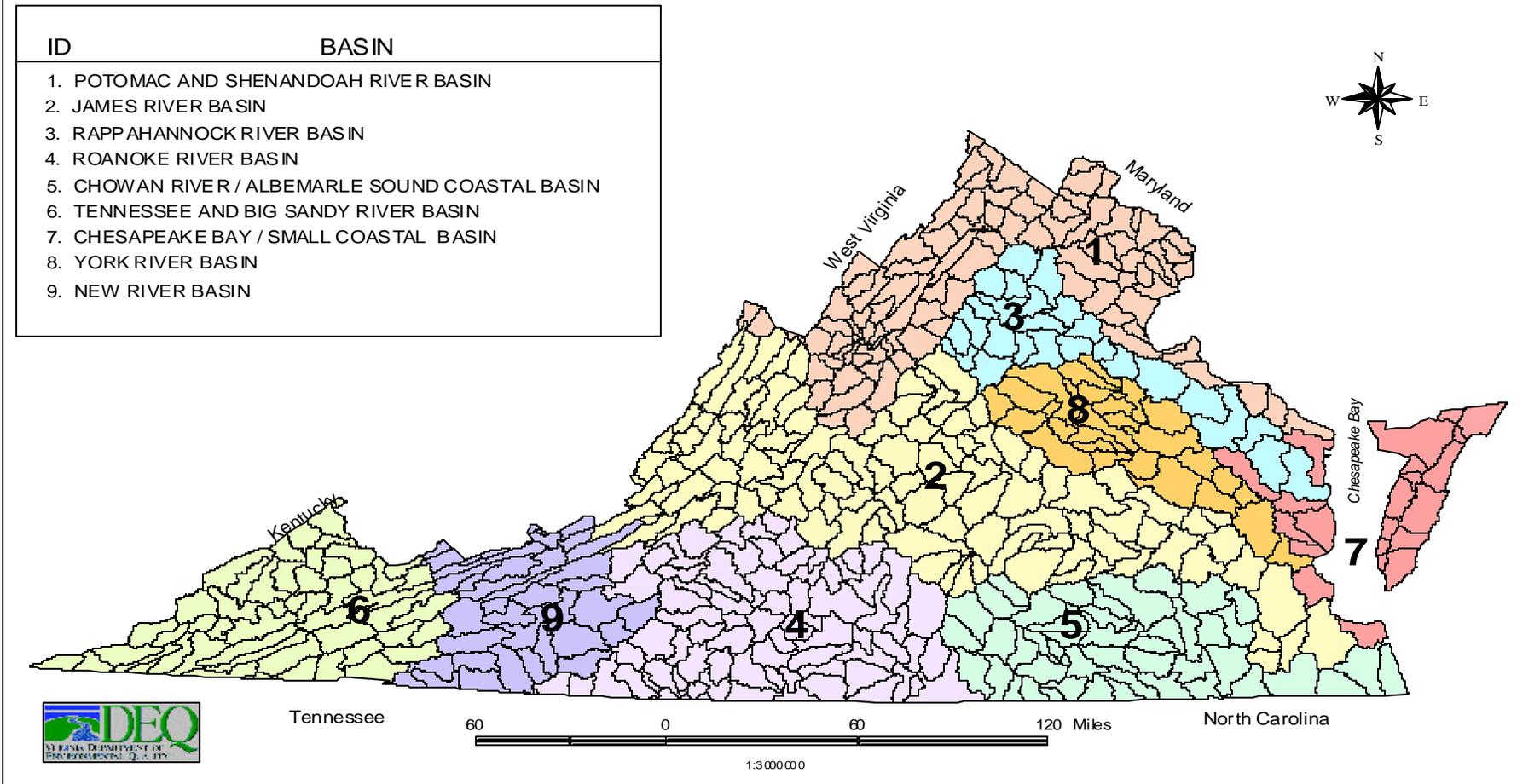


Figure 1. Major River Basins in Virginia

III. Hydrologic Data Gathering

A. Surface Water

The Department of Environmental Quality (DEQ) and the U.S. Geological Survey (USGS) are the primary agencies responsible for collecting hydrologic data in Virginia. The two agencies have worked cooperatively since 1925, except for a period between 1957 and 1967 when they operated independently. Virginia is one of only four states with a cooperative agreement with the USGS. The other three are California, Colorado and Illinois. Individually, the agencies carry out their own agendas in the collection of hydrologic data. Together, they provide a comprehensive picture of hydrologic affairs in the Commonwealth.

To collect systematic hydrologic data on surface water levels, flow volumes, and other streamflow data, the DEQ operates 67 continuous-record stream-gaging stations and more than 100 miscellaneous measurement sites. The DEQ miscellaneous measurement sites are typically located upstream of the Virginia Pollutant Discharge Elimination System (VPDES) permit discharges, whereas the continuous-record gages are located primarily on larger, free-flowing streams. The USGS operates 90 continuous-record gages and more than 100 miscellaneous measurement sites in Virginia. The USGS collects water quality data at 23 continuous-record gaging stations and at 84 water quality sampling sites. The USGS also operates nine gages that provide stage (surface level height) and contents data on lakes and reservoirs. The flow, lake level, water quality, and miscellaneous measurement data are published in *Volume 1, Water Resources Data – Virginia*, an annual report cooperatively prepared by the DEQ and the USGS. The gages farthest downstream in each major river basin are used to summarize or index the hydrologic condition of the Commonwealth for any given water year; water years run from October 1 through September 30.

The drought conditions evident throughout much of Virginia in 2001 carried over into 2002. The spring and summer of 2002 saw streamflows reach record low flows in six of the nine basins across the Commonwealth (Shenandoah, Rappahannock, York, James, Chowan, and Roanoke River Basins). Major reservoirs across the Commonwealth recorded below normal levels and operated at reduced releases during the summer months. This was a result of three years of below normal winter precipitation, warm temperatures, and significantly reduced spring and summer precipitation during 2002. Above normal precipitation beginning in September 2002 contributed to a rebound in streamflows across the Commonwealth.

B. Ground Water

The DEQ collects data on ground water level at 181 wells. The USGS collects similar data at 157 wells, with water quality data is collected at 86 of those wells. These data are published in Volume 2 of the *Annual Water Resources Data Report*, which is cooperatively prepared by the DEQ and the USGS. The water level data collected by the DEQ contributes to the long-term ground water modeling project with the USGS; this cooperative project is designed to improve ground water modeling abilities in the Virginia Coastal Plain. Three major areas where improved information is needed are saltwater intrusion, ground water interactions with

surface water near the fall zone, and the existing hydrogeologic framework and flow model in the Middle Peninsula and Northern Neck areas.

The hydrogeologic framework in the Middle Peninsula and Northern Neck has been refined to the extent possible, and field investigation of this matter continued through FY01. This effort is necessary to predict more accurately the impact that withdrawal of ground water has on existing ground water management areas and to evaluate the need to establish additional ground water management areas in the Coastal Plain.

Wells in the counties of Buchanan, Buckingham, Clarke, Fairfax, Loudoun, Louisa, Montgomery, Rockingham, and Westmoreland and in the cities of Colonial Heights and Suffolk were monitored as examples of the hydrologic condition of the Commonwealth's unconfined water table aquifers. Wells in James City and Isle of Wight Counties are used to monitor water levels in the deep confined Coastal Plain aquifers. These index wells are considered representative of large areas of the Commonwealth with similar geologic, climatologic, and physiographic characteristics. Data on ground water levels was collected by monthly tape measurements to water surfaces or by continuous data recorders. The water levels in water table wells were generally below average for most of the water year (U.S. Geological Survey, Water Resources Data-Virginia Water Year 2001, Volume 2., Water-Data Report VA-01-2, page 3). Water levels in the confined Middle Potomac and Upper Potomac aquifers, however, continued their steady decline due to recent increases in withdrawals. Slight fluctuations to the contrary are due to variations in pumping schedules. (U.S. Geological Survey, Water Resources Data-Virginia Water Year 2001, Volume 2., Water-Data Report VA-01-2, page 5).

IV. Water Withdrawals

The Virginia Water Withdrawal Reporting Regulation (9 VAC 25-200-10 et seq.) requires that individuals or facilities that withdraw water at volumes greater than 10,000 gallons per day (one million gallons per month for crop irrigators) must measure and report annually to DEQ the monthly volume of water withdrawn. The Virginia Water Use Data System (VWUDS) database contains withdrawal data collected for 19 years under this regulation.

A summary of the water withdrawal data for the years 1997 through 2001 is presented in **Table 2**. The data are aggregated by category of use and by source type. Withdrawals by hydroelectric power generating facilities are exempt from reporting requirements and are not included in this report.

During 2001, VWUDS recorded a total average water withdrawal of 8,533 million gallons per day (mgd) for offstream water uses, a decrease of about two percent from the 2000 reported withdrawals. Figure 5 shows the distribution of water withdrawals by category of use, excluding withdrawals associated with electric power generation. The major electric power generating plants in Virginia utilize withdrawals as once-through cooling water. Currently, approximately 90 to 95 percent of the water withdrawn for electric power generation in Virginia

is returned to the source. Newer power plants, however, usually use cooling towers that consume more water than the older plants.

Table 2 and **Figure 5** represent water withdrawals by individuals or facilities covered by the water withdrawal reporting regulation. Withdrawals of less than 10,000 gpd are exempt from the reporting requirements and are not included in the table.

The relative contribution of surface and ground water sources to non-power generation withdrawals is illustrated in **Figure 6**. The figure shows that large water demands are primarily met by surface water sources. Users of ground water sources outnumber surface water users; however, the amount of water withdrawn from aquifers is less than is withdrawn from streams and reservoirs.

The most recent water use report by the USGS, titled “Estimated Use of Water in the United States in 1995,” estimated that 75 percent of Virginia’s population is served by public water supply systems and 25 percent is supplied through private wells. Surface water sources supply 88 percent of the public water, and ground water sources supply the remaining 12 percent. The 1995 publication is the latest in print.

Table 3 lists the top 50 individual water users, ranked by the amount of their 2001 withdrawals. The top eight water users were electric power generators. Excluding electric power facilities, public water supply systems were the largest consumers of water in the Commonwealth, accounting for 57 percent of the remaining withdrawals. The second largest consumer of water in Virginia is manufacturing, which accounted for 35 percent of withdrawals after electric power facilities are excluded (see **Figure 5**).

Table 2.
Virginia Water Withdrawal Summary (1997-2001)
(Million Gallons per Day – MGD)

CATEGORY	1997	1998	1999	2000	2001
Ground Water					
Agr	15.16	12.70	13.68	14.70	13.07
Com	7.33	8.03	6.65	9.06	7.07
Man	117.60	102.60	115.96	108.82	96.31
Min	1.50	1.10	5.54	6.00	6.06
PF	0.09	1.10	2.53	1.15	1.01
PN	0.40	0.02	0.39	0.35	0.56
PWS	63.92	65.45	67.21	72.87	69.41
Irr	10.98	9.72	9.75	15.50	10.84
Subtotal (GW)	216.98	200.72	221.71	228.45	204.33
Surface Water					
Agr	2.44	4.95	2.90	4.29	4.52
Com	9.87	9.95	10.88	16.00	15.53
Man	482.86	477.89	441.38	419.12	390.63
Min	37.47	35.58	38.80	38.04	34.78
PF*	2,832.90	3,071.00	3,004.52	3,175.00	3,422.29
PN*	3,847.87	4,105.00	4,074.84	4,092.00	3,718.28
PWS	717.00	707.57	701.81	695.60	731.67
Irr	12.69	16.96	12.23	7.77	10.52
Subtotal (SW)	7,943.10	8,428.90	8,287.36	8,447.82	8,328.22
Combined Totals					
Grand Total (Rounded)	8,160	8,630	8,509	8,676	8,533
Total Excluding Power Usage	1,479	1,453	1,427	1,408	1,390

Legend

GW	Ground Water	Min	Mining
SW	Surface Water	PF	Power, Fossil Fuel
Agr	Non-crop Agriculture	PN	Power, Nuclear
Com	Commercial	PWS	Public Water Supply
Man	Manufacturing	Irr	Crop Irrigation

*Approximately 90-95% of withdrawal is returned to the source.

FIGURE 2. 2001 WATER WITHDRAWALS BY CATEGORY
(8533 MGD)
(Including Power Generation)

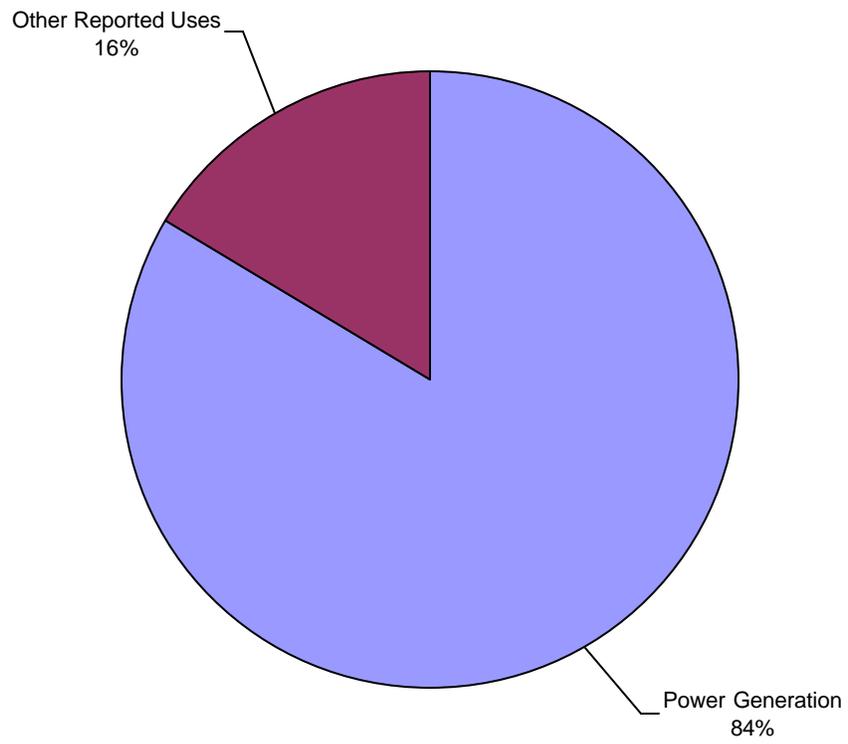


FIGURE 5. 2001 WATER WITHDRAWALS BY CATEGORY
(1390 MGD)
(Excluding Power Generation)

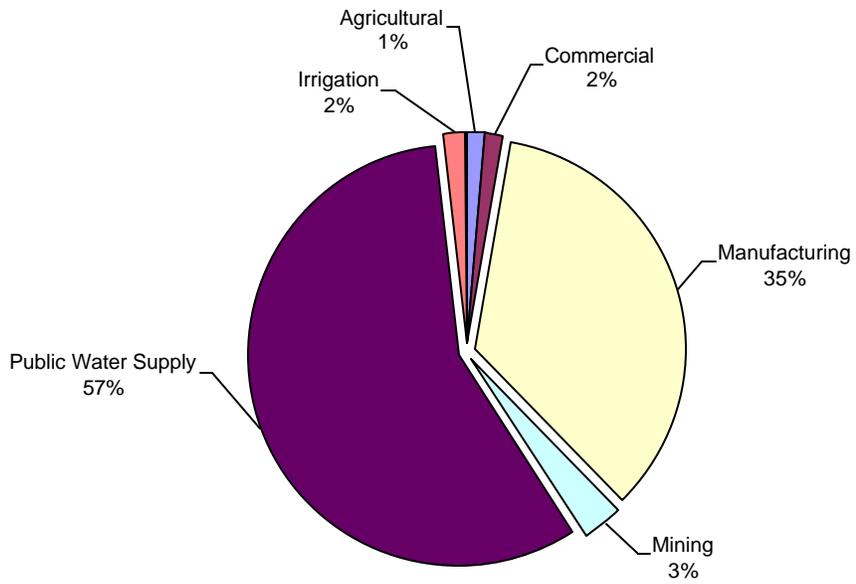


FIGURE 6. 2001 WATER WITHDRAWALS BY SOURCE TYPE
(1390 MGD)
(Excluding Power Generation)

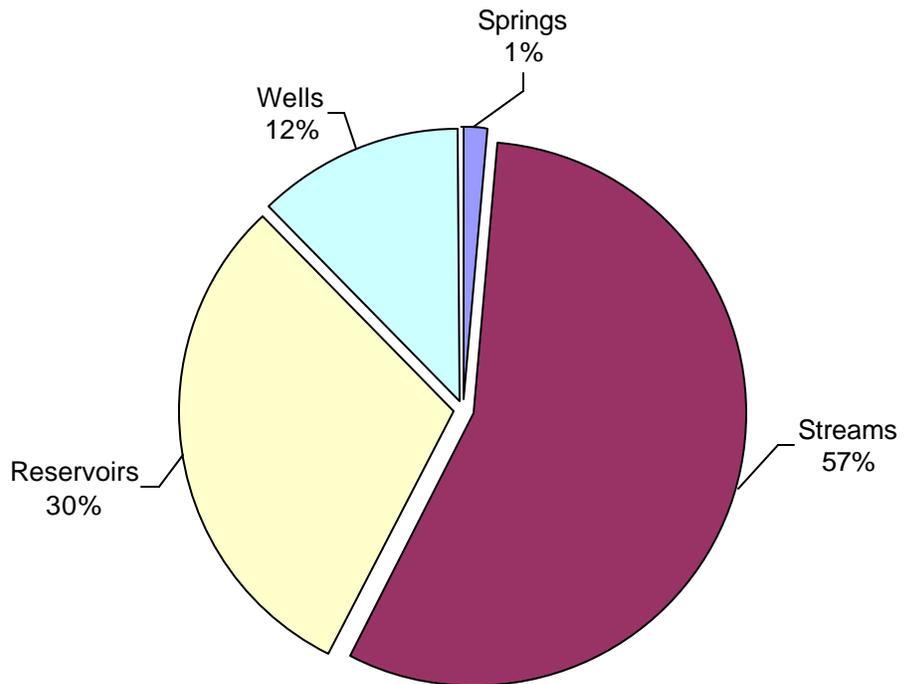


Table 3. Top 50 Water Withdrawers During 2001

	<u>OWNER NAME</u>	<u>SYSTEM</u>	<u>CATEGORY</u>	<u>TOTAL WITHDR</u> (MGD)
1	DOMINION VIRGINIA POWER	SURRY NUCLEAR POWER PLANT	NUCLEAR POWER	1863.60
2	DOMINION VIRGINIA POWER	NORTH ANNA NUCLEAR POWER PLANT	NUCLEAR POWER	1854.31
3	DOMINION VIRGINIA POWER	YORKTOWN FOSSIL POWER PLANT	FOSSIL POWER	963.99
4	DOMINION VIRGINIA POWER	CHESTERFIELD POWER STATION	FOSSIL POWER	915.93
5	DOMINION VIRGINIA POWER	CHESAPEAKE ENERGY CENTER	FOSSIL POWER	572.38
6	MIRANT POTOMAC RIVER LLC	POTOMAC RIVER GENERATION STAT	FOSSIL POWER	356.25
7	APPALACHIAN POWER CO.	GLEN LYN POWER PLANT	FOSSIL POWER	245.54
8	DOMINION VIRGINIA POWER	POSSUM POINT POWER PLANT	FOSSIL POWER	230.00
9	HONEYWELL INTERNATIONAL INC	HOPEWELL PLANT	MANUFACTURING	121.23
10	UNITED STATES GOVERNMENT	WASHINGTON AQUEDUCT DIVISION	PUBLIC WATER SUPPLY	116.38
11	DOMINION VIRGINIA POWER	BREMO BLUFF POWER PLANT	FOSSIL POWER	104.48
12	RICHMOND, CITY OF	RICHMOND, CITY	PUBLIC WATER SUPPLY	95.24
13	NEWPORT NEWS, CITY OF	NEWPORT NEWS	PUBLIC WATER SUPPLY	89.71
14	NORFOLK, CITY OF	NORFOLK	PUBLIC WATER SUPPLY	78.76
15	FAIRFAX COUNTY WATER AUTHORITY	POTOMAC RIVER	PUBLIC WATER SUPPLY	76.32
16	CELANESE ACETATE L.L.C.	CELCO PLANT	MANUFACTURING	62.62
17	UNITED STATES GOVERNMENT	WASHINGTON AQUEDUCT DIVISION	PUBLIC WATER SUPPLY	61.95
18	FAIRFAX COUNTY WATER AUTHORITY	OCOQUAN	PUBLIC WATER SUPPLY	59.18
19	BP PRODUCTS NORTH AMERICA	YORKTOWN REFINERY	MANUFACTURING	57.44
20	VIRGINIA BEACH, CITY OF	LAKE GASTON WITHDRWAL	PUBLIC WATER SUPPLY	39.72
21	INTERNATIONAL PAPER CORP	FRANKLIN PLANT	MANUFACTURING	32.83
22	WESTVACO CORPORATION	COVINGTON PLANT	MANUFACTURING	28.13
23	DUPONT E I DE NEMOURS & CO.	SPRUANCE PLANT	MANUFACTURING	26.16
24	APPOMATTOX R WATER AUTHORITY	LAKE CHESDIN	PUBLIC WATER SUPPLY	25.65
25	VIRGINIA AMERICAN WATER CO.	HOPEWELL DISTRICT	PUBLIC WATER SUPPLY	21.06
26	HONEYWELL INTERNATIONAL INC	CHESTERFIELD PLANT	MANUFACTURING	21.04
27	PORTSMOUTH, CITY OF	PORTSMOUTH	PUBLIC WATER SUPPLY	19.29
28	AMERICAN ELECTRIC POWER CO	CLINCH RIVER POWER PLANT	FOSSIL POWER	16.59
29	ST LAURENT PAPER PRODUCTS CORP	WEST POINT PLANT	MANUFACTURING	15.68
30	U.S. SILICA	MONTPELIER PLANT	MINING	14.40
31	ROANOKE, CITY OF	ROANOKE, CITY OF	PUBLIC WATER SUPPLY	14.08
32	FAIRFAX, CITY OF	FAIRFAX, CITY OF	PUBLIC WATER SUPPLY	11.79
33	SMURFIT -STONE CONTAINER CORP	HOPEWELL PLANT	MANUFACTURING	11.71
34	UNITED STATES GOVERNMENT	RADFORD AMMUNITIONS PLANT	MANUFACTURING	11.67
35	CHESAPEAKE, CITY OF	CHESAPEAKE	PUBLIC WATER SUPPLY	11.23
36	LYNCHBURG, CITY OF	LYNCHBURG	PUBLIC WATER SUPPLY	11.15
37	VIRGINIA POWER/OLD DOMINION EL	CLOVER POWER STATION	FOSSIL POWER	11.13
38	MANASSAS, CITY OF	MANASSAS	PUBLIC WATER SUPPLY	10.81
39	RIVANNA WATER & SEWER AUTH.	ALCSA & CHARLOTTESVILLE	PUBLIC WATER SUPPLY	10.77
40	ROANOKE COUNTY	SPRING HOLLOW RESERVOIR	PUBLIC WATER SUPPLY	10.67
41	CHESTERFIELD COUNTY	CHESTERFIELD COUNTY	PUBLIC WATER SUPPLY	8.54
42	WINCHESTER, CITY OF	WINCHESTER	PUBLIC WATER SUPPLY	7.85
43	STAFFORD COUNTY	STAFFORD COUNTY	PUBLIC WATER SUPPLY	7.85
44	BLACKSBURG-C'BURG-VPI WTR AUTH	BLACKSBURG-CHRISTIANSBURG-VPI	PUBLIC WATER SUPPLY	7.26
45	DANVILLE, CITY OF	DANVILLE-MUNICIPAL	PUBLIC WATER SUPPLY	7.18
46	GEORGIA-PACIFIC CORPORATION	BIG ISLAND PLANT	MANUFACTURING	7.02
47	MERCK & CO.	ELKTON PLANT	MANUFACTURING	6.86
48	HARRISONBURG, CITY OF	HARRISONBURG	PUBLIC WATER SUPPLY	6.81
49	NEWPORT NEWS SHIPBUILDING	NEWPORT NEWS SHIPBUILDING	MANUFACTURING	6.59
50	GRIEF BROS. CORPORATION	RIVERVILLE MILL	MANUFACTURING	6.30

V. Surface Water Management Act (SWMA)

In 1989, the General Assembly enacted the Surface Water Management Area Act (SWMA) for the purpose of protecting instream uses from excessive surface water withdrawals and to enable water users to develop plans for allocation of available surface water resources during low flow conditions. The legislation authorizes the SWCB to establish surface water management areas in places where the levels or supply of surface waters could be potentially adverse to public welfare, health and safety.

The SWCB has initiated the regulatory process for designating the James River in the Richmond metropolitan area as the first Surface Water Management Area. A draft regulation has been developed that will designate the James River upstream from the southeastern toe of the Interstate 95 bridge in the City of Richmond to the southwestern toe of the US Route 522 bridge in Goochland and Powhatan Counties as a surface water management area. The area will include the mainstem of the James River and all tributaries to the James River and their watersheds in this river reach. A public hearing will be held to collect comments regarding this draft regulatory action in late winter or early spring of 2003.

VI. Drought Conditions

Virginia entered a period of below average precipitation in late 1999. Specifically the winters of 1999-2000, 2000-2001, and 2001-2002 were characterized by significantly below normal precipitation. During this same time period the summers of 2000 and 2001 were characterized by normal to slightly above normal precipitation. The normal summertime rainfall during this period prevented the development of typical drought conditions while the lack of precipitation during the wintertime periods resulted in below normal ground water recharge. This set the stage for the rapid development of drought conditions in the summer of 2002 when precipitation fell below normal and ground water levels were well below normal. The below normal ground water levels prevented ground water from discharging to surface water as it would in an "average" climatological year. In late August, the entire Commonwealth was classified as experiencing severe to exceptional drought conditions. Due to rainfall since September 1, drought conditions have decreased throughout the Commonwealth. The US Drought Monitor for January 7, 2003 indicates that no areas in Virginia are experiencing drought conditions at this time.

During the summer of 2002, Virginia experienced record low stream flows and ground water levels, resulting in dramatic increases in the number of public water systems and private well users that faced a crisis situation. In the October 21, 2002 *Drought Status Report*, developed by the Drought Monitoring Task Force, regional VDH offices reported that 30 water suppliers had implemented voluntary water use restrictions and 75 had mandatory restrictions in place. Sixteen public water systems were given "watch status" indicating these systems had failed or could be expected to fail in the next 90 days (through January 15, 2003) without adequate rainfall. Over 6,700 private well

replacement permits were issued by the Department of Health for private water supplies that failed from July through October. Above average rainfall in October, November, and December aided in recharging surface water supplies and reduced the decline in ground water levels. Only 334 well replacement permits were issued November 1-15, 2002.

Agriculture and recreation have also suffered from the drought. As of November, 98 requests for agricultural drought designation had been received from 84 separate localities. Fourteen localities submitted a second request for additional damages experienced since their original requests. In October, the Department of Game and Inland Fisheries reported that 19 Department boat ramps at public reservoirs were closed due to low water.

Ground water levels must be replenished in order for water resources to recover from the extraordinarily dry conditions of the past year. Adequate ground water levels can sustain stream flows during dry periods and provide water for those who rely on wells. Continued above average rainfall or snow from November through March is essential to begin to see ground water improvements. Should that not happen, the drought could intensify again next spring and summer.

In response to the worsening drought conditions, Governor Warner issued Executive Order 33 on August 30, 2002 implementing water use restrictions covering most of the state, with the exception of the Eastern Shore, Northern Virginia and far Southwest Virginia. The restrictions prohibited lawn watering, watering of golf courses (except for tees and greens between the hours of 8:00 p.m. and 8:00 a.m.), filling swimming pools except for health and safety reasons, washing cars (except for commercial car washes) and directed state agencies to reduce consumption by 15%.

Executive Order 33 also authorized the Director of DEQ to allocate ground water and surface water resources and to restrict any withdrawals based upon the adequacy of the resource to meet necessary beneficial uses. The Executive order provided the Director with the authority to over-ride any existing authorizations to use or withdraw surface water or ground water. Following the signing of Executive Order 33, public water supply savings topped 16% as compared to 2001 usage levels.

All state agencies have instituted measures for water savings. To achieve these reductions, agencies have taken a variety of actions including stopping the use of exterior fountains, installing timed showers and establishing water savings criteria for evaluating contract solicitations. The College of William and Mary has reduced its water consumption by 21% since Executive Order 33 was issued. The University of Virginia also achieved savings of more than 20% compared to 2001. Additional savings are expected once agencies are able to quantify their savings at the end of their billing cycles.

In November 2002, above average rainfall, cooler weather, and the normal decrease in environmental water demands following leaf fall enabled a relaxation of the water use restrictions. Water restrictions regarding swimming pools, outdoor watering of lawns

and golf courses, and car washing (item C. of Executive Order 33) were suspended. All other provisions of the order remain in force.

As follow-up to the emergency measures DEQ is working with stakeholders to develop a Drought Emergency Response Plan. The Plan will identify the roles and responsibilities of state and local government agencies involved in drought monitoring and response and provide a strategy for addressing periods of extended dry or drought conditions on both a regional and statewide scale.

VII. Water Supply Planning and Policies

Informed management of Virginia's water resources is crucial to the health and welfare of Virginia's citizens and environment and continued economic prosperity. In recognition of the importance of water supply planning and water resources management, Governor Warner has launched the Virginia Water Supply Initiative. The core of this new policy will be improved state support for and coordination of local and regional water supply planning.

The protracted drought the Commonwealth is now experiencing emphasizes the need for more proactive water supply planning, more efficient and effective water delivery systems, and more innovative financing methods to maximize available resources for drinking water improvements. To begin the development of this water supply planning effort, the Secretary of Natural Resources, in coordination with the State Water Commission and VDH, formed the Water Policy Technical Advisory Committee (Water Policy TAC). The mission of the Committee is:

To identify the roles and responsibilities of state and local governments to assure groundwater and surface water resources are used in a sustainable way that protects the environmental resources and meets citizen water needs (agricultural, business and residential) now and in the future.

The Committee began meeting in October 2002 and has developed recommendations to begin a statewide water supply planning process. Specifically, the Committee recommends that:

1. The state should be in the lead for water policy and planning, but the role of localities must be recognized;
2. Localities should develop plans according to criteria established by DEQ;
3. Regional plans should be encouraged;
4. The Water Policy TAC should continue to look at these issues and develop further recommendations;
5. DEQ should begin a rule making process according to the above.

Based upon these recommendations, the State Water Commission has endorsed legislation that directs DEQ to begin the planning process. Through a rulemaking process DEQ will work with the Water Policy TAC to draft criteria for the development

of future local and regional plans by December 1, 2003. A preliminary state water resources plan will be also be completed by December 1, 2003. The preliminary plan will recognize the importance of and include existing local and regional water supply plans.

VIII. Conclusions and Recommendations

Comprehensive water supply planning is critical to ensuring the adequacy of drinking water supplies for current and future needs. To begin this effort, DEQ will continue to work as a partner with local governments and other interested parties to develop a state water resources plan, comprised of local and regional water supply plans, within three years.

The Virginia Water Supply Initiative establishes new priorities for water supply managers. By encouraging regional water supply planning efforts and recognizing the role of local governments in meeting local water supply needs and the DEQ's responsibility to protect and manage water supplies for human and environmental needs, the Initiative lays the groundwork for managing Virginia's Water Resources for decades to come.