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3.0 EXISTING WATER USE

In accordance with 9 VAC 25-780-80, existing water use information for the NVRC regions is summarized below.

Total Population¹

Based on the 2007 Census estimates, the total population of the region is approximately 2,201,654. Table 3-1 presents the 2007 Census estimated population information for each locality within the region. Please note that the population information for each county does not include the cities and towns within the respective county. A map showing the population density of the region is included as Figure 3.1. A map showing the household density of the region is included as Figure 3.2.

Table 3-1: Population by Locality Based on 2007 Census Estimates

Name of Locality	Population
Arlington County	203,914
Fairfax County	1,005,531
Loudoun County	277,459
Prince William County	402,002
City of Alexandria	140,233
City of Fairfax	23,317
City of Falls Church	11,039
City of Manassas	34,817
City of Manassas Park	11,533
Town of Clifton	208
Town of Dumfries	4,848
Town of Hamilton	506
Town of Haymarket	1,217
Town of Herndon	23,217
Town of Leesburg	38,320
Town of Lovettsville	1,613
Town of Middleburg	675
Town of Occoquan	820
Town of Purcellville	4,961
Town of Quantico	480
Town of Round Hill	539
Town of Vienna	14,781
Total Population for Region	2,201,645

Please note that Arlington County, as well as all subsequent Annual and Monthly Withdrawal Tables have been split to show the most recent data first. Older data will be shown below.

¹ 9 VAC 25-780-80.B.1

3.1 Community Water Systems

3.1.1 Arlington County

3.1.1.1. Public Community Water Systems

There are two public community water systems in Arlington County: Arlington County and the Arlington County-Willston Area system. The systems purchase water from the Washington Aqueduct and serve a combined population of approximately 208,652 with approximately 37,115 service connections (Table 3-2).

Table 3-2: Summary of Population Served for Public Community Water Systems

System Name	Source	Approximate Population Served	Approximate Number of Connections
Arlington County	Washington Aqueduct	207,300	36,797
Arlington County – Willston Area	Washington Aqueduct	1,352	318
Total		208,652	37,115

Data Source: VDH Listing

Arlington County is a public community water system that purchases water from the Washington Aqueduct. The average monthly water use in 2007 was 742.49 MG with an annual usage of 9057.22 MG (Table 3-3). Estimated disaggregated use is summarized in Table 3-4. No information on production prior to 2006 was available at the time of this report.

Table 3-3: Annual and Monthly Average Withdrawal for Arlington County– 2002 – 2007

Month	2002		2003		2004		2005		2006		2007	
	Total Monthly Withdrawal (MG/Mo)	Average Daily Withdrawal (MGD)	Total Monthly Withdrawal (MG/Mo)	Average Daily Withdrawal (MGD)	Total Monthly Withdrawal (MG/Mo)	Average Daily Withdrawal (MGD)	Total Monthly Withdrawal (MG/Mo)	Average Daily Withdrawal (MGD)	Total Monthly Withdrawal (MG/Mo)	Average Daily Withdrawal (MGD)	Total Monthly Withdrawal (MG/Mo)	Average Daily Withdrawal (MGD)
Jan	694.90	22.42	703.20	22.68	758.10	24.45	714.20	23.04	716.87	23.12	674.75	21.77
Feb	647.09	23.11	635.50	22.70	718.90	25.68	641.18	22.90	629.20	22.47	631.08	22.54
Mar	694.40	22.40	733.90	23.67	736.50	23.76	673.66	21.73	775.53	25.02	697.40	22.50
Apr	694.60	23.15	711.10	23.70	785.20	26.17	698.07	23.27	749.90	25.00	677.58	22.59
May	816.80	26.35	769.50	24.82	935.80	30.19	837.84	27.03	823.32	26.56	822.96	26.55
June	912.40	30.41	783.30	26.11	943.80	31.46	932.61	31.09	864.10	28.80	794.15	26.47
July	1016.50	32.79	906.00	29.23	1027.90	33.16	973.29	31.40	906.48	29.24	895.82	28.90
Aug	1067.10	34.42	931.90	30.06	962.45	31.05	973.56	31.41	981.56	31.66	913.12	29.46
Sept	874.60	29.15	860.10	28.67	897.96	29.93	968.62	32.29	772.74	25.76	807.12	26.90
Oct	828.30	26.72	823.00	26.55	861.96	27.81	842.03	27.16	747.88	24.13	806.44	26.01
Nov	731.30	24.38	696.40	23.21	763.05	25.44	737.88	24.60	679.12	22.64	669.51	22.32
Dec	686.01	22.13	722.50	23.31	711.10	22.94	751.16	24.23	660.62	21.31	665.51	21.47
Total Annual Withdrawal	9664 MG		9276.4 MG		10102.72 MG		9744.1 MG		9307.32 MG		9055.44 MG	
Average Monthly Withdrawal	805.33 MG		773.03 MG		841.89 MG		812.01 MG		775.61 MG		754.62 MG	
Average Day	26.48 MG		25.41 MG		27.68 MG		26.70 MG		25.50 MG		24.81 MG	

Data Source: VDH Listing

Table 3-4: Estimated Disaggregated Uses for Arlington County *

Category	Monthly Usage MG (2007)	%
Residential	181.11	24
Commercial, Institutional, Industrial	211.29	28
Commercial and Industrial	218.84	29
Military	15.09	2
Production Process	0	0
Unaccounted-for-water	127.15	17
Sales	0	0
Other	0	0
Total	745.77	100%

*Disaggregated use data are estimated

Arlington County-Willston Area is a public community water system using purchased water from the Washington Aqueduct as a water source and serving an approximate population of 1,352 with 318 service connections (Table 3-2). Willston is a small residential area along the western edge of Arlington County served through the Falls Church water system for topographic reasons. It is comprised of primarily single family residential houses with a few institutional, commercial and service retail customers.

Table 3-5: Summary of Water Withdrawal Amounts for Arlington County-Willston Area

System Name	Source	Average Monthly (MG)	Annual Average (MG)
Arlington County-Willston Area	Washington Aqueduct	N/A	N/A

Table 3-6: Annual and Monthly Average Withdrawal for Arlington County – Willston Area 2002-2007

	2002		2003		2004		2005		2006		2007	
Month	Total Quarterly Withdrawal (MG/Q)	Average Daily Withdrawal (MGD)	Total Quarterly Withdrawal (MG/Q)	Average Daily Withdrawal (MGD)	Total Quarterly Withdrawal (MG/Q)	Average Daily Withdrawal (MGD)	Total Quarterly Withdrawal (MG/Q)	Average Daily Withdrawal (MGD)	Total Quarterly Withdrawal (MG/Q)	Average Daily Withdrawal (MGD)	Total Quarterly Withdrawal (MG/Q)	Average Daily Withdrawal (MGD)
Jan - Mar	8.48	0.09	7.00	0.08	7.81	0.09	9.30	0.10	8.02	0.09	8.58	0.10
Apr - Jun	7.78	0.09	7.68	0.08	8.15	0.09	8.13	0.09	8.19	0.09	8.24	0.09
July - Sept	11.24	0.12	9.24	0.10	9.75	0.11	9.63	0.10	8.34	0.09	10.76	0.12
Oct - Dec	11.62	0.13	8.37	0.09	9.22	0.10	9.46	0.10	9.18	0.10	10.21	0.11
Total Annual Withdrawal	39.122 MG		32.636 MG		34.933 MG		36.517 MG		33.726 MG		37.792 MG	
Average Monthly Withdrawal	3.26 MG		2.72 MG		2.91 MG		3.04 MG		2.81 MG		3.15 MG	
Average Day	0.11 MG		0.09 MG		0.10 MG		0.10 MG		0.09 MG		0.10 MG	

Table 3-7: Estimated Disaggregated Uses for Arlington County-Willston Area*

Category	Monthly Usage MGD (2007)	%
Residential Single Family	26.45	70
Residential Multi-Family	3.02	8
Commercial and Industrial	1.89	5
Military	0	0
Production Process	0	0
Unaccounted-for-water	6.37	17
Sales	0	0
Other	0	0
Total	37.79	100%

*Disaggregated use data are estimated

3.1.1.2. Private Community Water Systems

There are no private community water systems in Arlington County.

3.1.2 Fairfax County

3.1.2.1. Public Community Water Systems

Fairfax Water operates one public community water system in Fairfax County. The Fairfax Water public community water system consists of the Occoquan Reservoir, the Potomac River, and two water treatment plants. Table 3-8, 3-9, and 3-10 summarize the demand and usage from 2002 to 2007.

Table 3-8: Summary of Population Served for Public Community Water Systems in Fairfax County

System Name	Source	Approximate Population Served	Approximate Number of Connections
Fairfax Water	Occoquan Reservoir & Potomac River	Total - 1,356,995 Retail Customers – 828,846 Wholesale Customers – 528,149	231,977 Number of connections is limited to retail customers.

Data Source: Source and Use Data Sheets (2007)

Table 3-9: Annual and Monthly Average Withdrawal for Fairfax Water – 2002 – 2007

	2002		2003		2004		2005		2006		2007	
Month	Total Monthly Withdrawal (MG/Mo)	Average Daily Withdrawal (MGD)	Total Monthly Withdrawal (MG/Mo)	Average Daily Withdrawal (MGD)	Total Monthly Withdrawal (MG/Mo)	Average Daily Withdrawal (MGD)	Total Monthly Withdrawal (MG/Mo)	Average Daily Withdrawal (MGD)	Total Monthly Withdrawal (MG/Mo)	Average Daily Withdrawal (MGD)	Total Monthly Withdrawal (MG/Mo)	Average Daily Withdrawal (MGD)
Jan	2459.19	79.33	2328.03	75.10	1645.97	53.10	2062.28	66.53	2292.65	73.96	1926.88	62.16
Feb	2323.76	82.99	1556.06	55.57	2007.69	71.70	2053.11	73.33	2066.32	73.80	1725.54	61.63
Mar	1884.21	60.78	2203.73	71.09	2250.50	72.60	2489.43	80.30	1998.63	64.47	2344.23	75.62
Apr	1762.05	58.74	2044.20	68.14	1910.13	63.67	1840.68	61.36	1840.85	61.36	1911.69	63.72
May	2456.70	79.25	2318.90	74.80	2169.05	69.97	1932.44	62.34	2280.83	73.58	2148.86	69.32
June	1941.68	64.72	1905.59	63.52	2580.34	86.01	2206.28	73.54	2382.41	79.41	2635.16	87.84
July	2322.29	74.91	2343.84	75.61	2125.38	68.56	1948.86	62.87	2630.49	84.85	2879.31	92.88
Aug	2996.19	96.651	2328.48	75.11	2722.50	87.82	2951.64	95.21	3035.13	97.91	3428.13	110.59
Sept	2934.89	97.83	1944.28	64.81	2363.66	78.79	2863.91	95.46	2748.10	91.60	2770.19	92.34
Oct	3054.53	98.53	3043.73	98.19	2338.30	75.43	2825.50	91.15	2822.64	91.05	3242.12	104.58
Nov	2912.51	97.08	2208.00	73.60	2307.48	76.92	2770.03	92.33	2320.46	77.35	2815.64	93.86
Dec	2102.49	67.82	2597.81	83.80	2407.60	77.67	2184.25	70.46	2315.79	74.70	2511.37	81.01
Total Annual Withdrawal	29150.51 MG		26822.65 MG		26828.60 MG		28128.41 MG		28734.28 MG		30339.13 MG	
Average Monthly Withdrawal	2429.21 MG		2235.22 MG		2235.72 MG		2344.03 MG		2394.52 MG		2528.26 MG	
Average Day	79.864 MG		73.487 MG		73.503 MG		77.064 MG		78.724 MG		83.12 MG	

Data Source: Source and Use Data Sheets (2007)

Disaggregated use data for 2007 was unavailable at the time of this report, therefore, 2006 disaggregated use data was used (Table 3-10).

Table 3-10: Estimated Disaggregated Uses for Fairfax Water

Category	Monthly Usage MGD (2006)	%
Residential Single Family	47.307	27.94
Residential Multi-Family	12.853	7.59
Commercial and Industrial	17.901	10.57
Military	0.00	0
Production Process	12.852	7.59
Unaccounted-for-water	9.468	5.59
Sales	68.617	40.53
Other-Hydrant	0.315	0.186
Total	169.314	100%

Data Source: Source and Use Data Sheets (2007)

3.1.2.2. Private Community Water Systems

There are two private community water systems in Fairfax County: Tauxemont Water System and Fort Belvoir. The Tauxemont Water System utilizes groundwater to serve approximately 250 people with approximately 117 service connections. Fort Belvoir purchases water from Fairfax Water and serves approximately 29,577 people with approximately 3,504 service connections. A summary of the private community water systems in Fairfax County is presented in Table 3-11.

Table 3-11: Summary of Population Served for Private Community Water Systems in Fairfax County

System Name	Source	Approximate Population Served	Approximate Number of Connections
Tauxemont Water System	Groundwater	250 (2)	117 (2)
Fort Belvoir	Fairfax Water	29,577 (1)	3,504 (1)

1 – Data Source: VDH Listing

2 – Data Source: Source and Use Data Sheets (2007)

Available water use information for the Tauxemont Water System is presented in Table 3-12. The average monthly water use in 2007 was 0.963 MG with an annual usage of 11.55 MG.

Table 3-12: Annual and Monthly Average Withdrawal for Tauxemont Water System– 2002 – 2007

Month	Well #	2002		2003		2004		2005		2006		2007	
		Withdrawal (MG)	Total Monthly Withdrawal (MG)	Withdrawal (MG)	Total Monthly Withdrawal (MG)	Withdrawal (MG)	Total Monthly Withdrawal (MG)	Withdrawal (MG)	Total Monthly Withdrawal (MG)	Withdrawal (MG)	Total Monthly Withdrawal (MG)	Withdrawal (MG)	Total Monthly Withdrawal (MG)
Jan	3	0.021	0.581	0.129	0.638	0.106	0.658	0.22	0.626	0.072	0.603	0.181	0.626
	4	0.118		0.104		0.306		0.011		0.11		0.024	
	5	0.442		0.405		0.246		0.395		0.421		0.421	
Feb	3	0.013	0.557	0.249	0.564	0.058	0.579	0.124	0.537	0.144	0.53	0	0.635
	4	0.036		0.188		0.168		0.049		0.086		0.064	
	5	0.508		0.127		0.353		0.364		0.3		0.571	
Mar	3	0.324	0.565	0.306	0.652	0	0.626	0.302	0.606	0.216	0.675	0.034	0.805
	4	0		0.052		0.001		0.279		0.134		0.121	
	5	0.241		0.294		0.625		0.025		0.325		0.65	
Apr	3	0.396	0.741	0.003	0.607	0.01	0.601	0.244	0.663	0.082	0.732	0.177	0.81
	4	0.059		0.078		0		0.32		0.155		0.109	
	5	0.286		0.526		0.591		0.099		0.495		0.524	
May	3	0.274	0.718	0.001	0.661	0.149	0.811	0.094	0.708	0.119	0.884	0.068	1.188
	4	0.063		0.079		0.636		0.307		0.217		0.144	
	5	0.381		0.581		0.026		0.306		0.548		0.976	
June	3	0.199	0.958	0.054	0.623	0.03	0.642	0.132	0.945	0.039	0.916	0.355	1.248
	4	0.091		0.084		0.526		0.252		0.205		0.14	
	5	0.668		0.485		0.086		0.561		0.672		0.753	
July	3	0.424	1.428	0.586	1.035	0.005	0.654	0.072	0.989	0.179	0.861	0.424	1.632
	4	0.185		0.094		0		0.171		0.123		0.121	
	5	0.819		0.355		0.649		0.746		0.559		1.087	

Month	Well #	2002		2003		2004		2005		2006		2007	
		Withdrawal (MG)	Total Monthly Withdrawal (MG)	Withdrawal (MG)	Total Monthly Withdrawal (MG)	Withdrawal (MG)	Total Monthly Withdrawal (MG)	Withdrawal (MG)	Total Monthly Withdrawal (MG)	Withdrawal (MG)	Total Monthly Withdrawal (MG)	Withdrawal (MG)	Total Monthly Withdrawal (MG)
Aug	3	0.544	1.705	0.332	0.674	0.014	0.625	0.006	1.279	0.331	1.665	0.427	1.3
	4	0.319		0.11		0.001		0.25		0.227		0	
	5	0.842		0.232		0.61		1.023		1.107		0.873	
Sept	3	0.218	1.066	0.291	0.634	0.029	0.62	0.15	1.613	0.124	0.744	0.232	1.052
	4	0.108		0.146		0		0.287		0.108		0	
	5	0.74		0.197		0.591		1.176		0.512		0.82	
Oct	3	0.152	0.913	0.258	0.698	0.11	0.653	0.153	0.843	0.159	0.584	0.337	1.15
	4	0.329		0.07		0.004		0.143		0.068		0	
	5	0.432		0.37		0.539		0.547		0.357		0.813	
Nov	3	0.142	0.71	0.313	0.602	0.075	0.593	0.103	0.621	0.188	0.529	0.096	0.538
	4	0.283		0.066		0		0.099		0.006		0	
	5	0.285		0.223		0.518		0.419		0.335		0.442	
Dec	3	0.094	0.707	0.19	0.636	0.042	0.592	0.048	0.652	0.064	0.557	0.101	0.566
	4	0.175		0.085		0		0.098		0.007		0	
	5	0.438		0.361		0.55		0.506		0.486		0.465	
Total Annual Withdrawal		10.649 MG		8.024 MG		11.55 MG		10.08 MG		9.28 MG		11.55 MG	
Average Monthly Withdrawal		0.887 MG		0.669 MG		0.963 MG		0.840 MG		0.773 MG		0.963 MG	
Average Day		0.029 MG		0.022 MG		0.032 MG		0.028 MG		0.025 MG		0.032 MG	

Data Source: DEQ Water Use Database

Available water use information for Fort Belvoir is presented in Table 3-13. The average monthly water use in 2007 was 61.87 MG with an annual usage of 742.49 MG.

Table 3-13: Annual and Monthly Average Withdrawal for Fort Belvoir Water System– 2002 – 2007

	2002		2003		2004		2005		2006		2007	
Month	Total Monthly Withdrawal (MG/Mo)	Average Daily Withdrawal (MGD)	Total Monthly Withdrawal (MG/Mo)	Average Daily Withdrawal (MGD)	Total Monthly Withdrawal (MG/Mo)	Average Daily Withdrawal (MGD)	Total Monthly Withdrawal (MG/Mo)	Average Daily Withdrawal (MGD)	Total Monthly Withdrawal (MG/Mo)	Average Daily Withdrawal (MGD)	Total Monthly Withdrawal (MG/Mo)	Average Daily Withdrawal (MGD)
Jan	45.7	1.474	44.6	1.439	41.147	1.327	37.843	1.221	56.35	1.818	57.889	1.867
Feb	37.6	1.343	41.81	1.493	36.927	1.319	37.425	1.337	41.62	1.486	61.949	2.212
Mar	39.7	1.281	40.76	1.315	41.366	1.334	47.29	1.525	81.56	2.631	63.284	2.041
Apr	53.4	1.78	51.63	1.721	50.944	1.698	53.584	1.786	67.07	2.236	72.449	2.415
May	52.9	1.706	48.86	1.576	44.035	1.42	44.474	1.435	66.51	2.145	68.123	2.198
June	59	1.967	44.43	1.481	46.888	1.563	66.131	2.204	87.99	2.933	66.653	2.222
July	74.8	2.413	62.67	2.022	62.592	2.019	62.004	2	71.92	2.32	63.922	2.062
Aug	77.7	2.506	53.1	1.713	46.277	1.493	72.843	2.35	94.39	3.045	71.846	2.318
Sept	51.5	1.717	42.67	1.422	54.522	1.817	63.944	2.131	64.16	2.139	55.569	1.852
Oct	49.3	1.59	46.96	1.515	42.458	1.37	45.38	1.464	61.89	1.996	67.548	2.179
Nov	36.3	1.21	37.67	1.256	38.135	1.271	57.018	1.901	61.46	2.049	44.591	1.486
Dec	39.3	1.268	44.5	1.435	46.012	1.484	57.877	1.867	57.96	1.87	48.663	1.57
Total Annual Withdrawal	617.20 MG		559.66 MG		551.30 MG		645.81 MG		812.88 MG		742.49 MG	
Average Monthly Withdrawal	51.433 MG		46.638 MG		45.942 MG		53.818 MG		67.740 MG		61.873 MG	
Average Day	1.691 MG		1.533 MG		1.510 MG		1.769 MG		2.227 MG		2.034 MG	

Data Source: DEQ Water Use Database

3.1.3 Loudoun County

3.1.3.1. Public Community Water Systems

There are seven (7) public community water systems in Loudoun County: Loudoun Water Central System, Beacon Hill, Elysian Heights, Lenah Run, Raspberry Falls Subdivision, Reserve at Rokeby Farm, and Selma Estates. Loudoun Water purchases water from Fairfax Water to feed the Loudoun Water Central System. This public community water system serves approximately 173,572 people with approximately 56,389 service connections. The six (6) additional public community water system use groundwater to serve a combined population of approximately 2,113 with 714 service connections. A summary of the public community water systems in Loudoun County is presented in Table 3-14.

Table 3-14: Summary of Population Served for Public Community Water Systems in Loudoun County

System Name	Source	Approximate Population Served	Approximate Number of Connections
Loudoun Water Central System	Fairfax Water City of Fairfax	173,572 (2)	56,389 (2)
Beacon Hill	Groundwater	326 (2)	93 (2)
Elysian Heights	Groundwater	250 (2)	71 (2)
Lenah Run	Groundwater	819 (2)	258 (2)
Raspberry Falls Subdivision	Groundwater	455 (2)	130 (2)
Reserve at Rokeby Farm	Groundwater	196 (2)	56 (2)
Selma Estates	Groundwater	122 (2)	35 (2)

1 – Data Source: VDH Listing

2 – Data Source: Source and Use Data Sheets (2007)

Available water use information for the Loudoun Water Central System is presented in Tables 3-15 and 3-16. The average monthly water use in 2007 was 670.84 MG with an annual usage of 8050.12 MG

Table 3-15: Annual and Monthly Average Withdrawal for Loudoun Water Central System – 2002 – 2007

	2002		2003		2004		2005		2006		2007	
Month	Total Monthly Withdrawal (MG/Mo)	Average Daily Withdrawal (MGD)	Total Monthly Withdrawal (MG/Mo)	Average Daily Withdrawal (MGD)	Total Monthly Withdrawal (MG/Mo)	Average Daily Withdrawal (MGD)	Total Monthly Withdrawal (MG/Mo)	Average Daily Withdrawal (MGD)	Total Monthly Withdrawal (MG/Mo)	Average Daily Withdrawal (MGD)	Total Monthly Withdrawal (MG/Mo)	Average Daily Withdrawal (MGD)
Jan	333.97	10.773	348.56	11.244	376.99	12.161	425.54	13.727	458.82	14.801	449.87	14.512
Feb	301.97	10.785	316.99	11.321	367.29	13.117	382.24	13.652	416.34	14.869	455.73	16.276
Mar	371.22	11.975	384.75	12.411	393.82	12.704	425.3	13.719	479.38	15.464	496.56	16.018
Apr	375.72	12.524	370.5	12.35	416.77	13.892	475.61	15.854	539.48	17.983	546.89	18.23
May	415.71	13.41	401.16	12.941	515.27	16.622	566.13	18.262	678.71	21.894	829.68	26.764
June	475.92	15.864	432.31	14.41	524.17	17.472	657.53	21.918	700.3	23.343	919.53	30.651
July	545.97	17.612	496.86	16.028	599.21	19.329	671.44	21.659	807.47	26.047	1048.66	33.828
Aug	593.1	19.132	505.61	16.31	589.59	19.019	738.78	23.832	945.41	30.497	918.69	29.635
Sept	448.02	14.934	401.14	13.371	536.47	17.882	782.38	26.079	587.68	19.589	825.55	27.518
Oct	389.24	12.556	396.02	12.775	488.41	15.755	592.82	19.123	528.64	17.053	585.76	18.895
Nov	336.5	11.217	362.31	12.077	433.34	14.445	492.88	16.429	487.31	16.244	481.68	16.056
Dec	348.1	11.229	364.85	11.769	429.38	13.851	460.33	14.849	408.94	13.192	491.54	15.856
Total Annual Withdrawal	4,935.44 MG		4,781.05 MG		5,670.71 MG		6,670.99 MG		7,038.47 MG		8,050.12 MG	
Average Monthly Withdrawal	411.29 MG		398.42 MG		472.56 MG		555.92 MG		586.54 MG		670.84 MG	
Average Day	13.522 MG		13.099 MG		15.536 MG		18.277 MG		19.283 MG		22.055 MG	

Data Source: Source and Use Data Sheets (2007)

Table 3-16: Estimated Disaggregated Uses for the Loudoun Central Water System

Category	Monthly Usage MGD (2007)	%
Residential	18.539	84.04
Commercial Light Industrial	1.524	6.91
Heavy Industrial	0.00	0
Military	0.00	0
Production Process	0.232	1.05
Unaccounted-for-water	1.765	8.00
Sales	0.00	0
Other	0.00	0
Total	22.060	100%

Data Source: Source and Use Data Sheets (2007)

Available water use information for Beacon Hill is presented in Tables 3-17 and 3-18. Beacon Hill is a public community water system using groundwater and serves approximate 326 people with approximately 70 service connections (Table 3-12). The average monthly water use in 2007 was 1.03 MG with an annual usage of 12.32 MG.

Table 3-17: Annual and Monthly Average Withdrawal for Beacon Hill – 2002 – 2007

	2002		2003		2004		2005		2006		2007	
Month	Total Monthly Withdrawal (MG/Mo)	Average Daily Withdrawal (MGD)	Total Monthly Withdrawal (MG/Mo)	Average Daily Withdrawal (MGD)	Total Monthly Withdrawal (MG/Mo)	Average Daily Withdrawal (MGD)	Total Monthly Withdrawal (MG/Mo)	Average Daily Withdrawal (MGD)	Total Monthly Withdrawal (MG/Mo)	Average Daily Withdrawal (MGD)	Total Monthly Withdrawal (MG/Mo)	Average Daily Withdrawal (MGD)
Dec	0.08	0.003	0.24	0.008	0.33	0.011	0.50	0.016	0.53	0.017	0.59	0.019
Nov	0.067	0.002	0.55	0.018	0.41	0.014	0.55	0.018	0.50	0.017	0.61	0.02
Oct	0.06	0.002	1378	0.057	0.57	0.018	0.71	0.023	1.01	0.033	0.93	0.030
Sept	0.07	0.002	1.42	0.047	0.60	0.02	1.53	0.051	1.18	0.039	1.43	0.048
Aug	0.08	0.003	1.42	0.046	1.02	0.033	1.30	0.042	2.05	0.066	1.57	0.051
July	0.09	0.003	1.06	0.034	0.924	0.03	1.07	0.035	1.46	0.047	1.99	0.064
June	0.08	0.003	0.58	0.019	0.730	0.024	1.24	0.041	1.17	0.039	1.46	0.049
May	0.09	0.003	0.35	0.011	0.600	0.019	0.85	0.027	1.80	0.058	1.44	0.046
Apr	0.02	0.001	0.17	0.006	0.55	0.018	0.63	0.021	1.34	0.045	0.62	0.021
Mar	0.04	0.001	0.13	0.004	0.39	0.013	0.38	0.012	0.66	0.021	0.55	0.018
Feb	0	0	0.09	0.003	0.30	0.011	0.31	0.011	0.42	0.015	0.52	0.019
Jan	0	0	0.13	0.004	0.25	0.008	0.36	0.012	0.46	0.015	0.56	0.018
Total Annual Withdrawal	0.62 MG		7.95 MG		6.68 MG		9.42MG		12.57 MG		12.27 MG	
Average Monthly Withdrawal	0.062 MG		0.66 MG		0.56 MG		0.79 MG		1.05 MG		1.02 MG	
Average Day	0.002 MG		0.022 MG		0.018 MG		0.026 MG		0.034 MG		0.034 MG	

Data Source: VDH Listing

Table 3-18: Estimated Disaggregated Uses for Beacon Hill*

Category	Monthly Usage MGD (2007)	%
Residential Single Family	0.033	98
Residential Multi-Family	0	0
Commercial and Industrial	0	0
Military	0	0
Production Process	0	0
Unaccounted-for-water	0.001	2
Sales	0	0
Other	0	0
Total	0.034	100%

*Disaggregated use data are estimated

Available water use information for Elysian Heights is presented in Tables 3-19 and 3-20. Elysian Heights is a public community water system using groundwater and serves approximately 250 people with approximately 71 service connections (Table 3-12). The average monthly water use in 2007 was 0.84 MG with an annual usage of 10.06 MG. Elysian Heights is a newer system with production beginning in May, 2006.

Table 3-19: Annual and Monthly Average Withdrawal for Elysian Heights – 2006 – 2007

Month	2006		2007	
	Total Monthly Withdrawal (MG/Mo)	Average Daily Withdrawal (MGD)	Total Monthly Withdrawal (MG/Mo)	Average Daily Withdrawal (MGD)
Dec	0.29	0.009	1.01	0.033
Nov	0.26	0.009	1.06	0.035
Oct	0.25	0.008	1.22	0.039
Sept	0.48	0.016	1.43	0.048
Aug	0.64	0.021	1.04	0.034
July	0.28	0.009	1.21	0.039
June	0.75	0.025	0.95	0.032
May	1.798	0.058	0.89	0.029
Apr	-	-	0.35	0.012
Mar	-	-	0.30	0.010
Feb	-	-	0.30	0.011
Jan	-	-	0.29	0.009

	2006		2007	
Month	Total Monthly Withdrawal (MG/Mo)	Average Daily Withdrawal (MGD)	Total Monthly Withdrawal (MG/Mo)	Average Daily Withdrawal (MGD)
Total Annual Withdrawal	2.96 MG		10.06 MG	
Average Monthly Withdrawal	0.25 MG		0.84 MG	
Average Day	0.008 MG		0.028 MG	

Data Source: VDH Listing

Table 3-20: Estimated Disaggregated Uses for Elysian Heights

Category	Monthly Usage MGD (2007)	%
Residential Single Family	0.027	98
Residential Multi-Family	0	0
Commercial and Industrial	0	0
Military	0	0
Production Process	0	0
Unaccounted-for-water	0.001	2
Sales	0	0
Other	0	0
Total	0.028	100%

*Disaggregated use data are estimated

Available water use for Lenah Run is presented in Tables 3-21 and 3-22. Lenah Run is a public community water system using groundwater and serves approximately 819 people with approximately 250 service connections (Table 3-12). The average monthly water use in 2007 was 3.80 MG with an annual usage of 45.57 MG.

Table 3-21: Annual and Monthly Average Withdrawal for Lenah Run – 2002 – 2007

	2002		2003		2004		2005		2006		2007	
Month	Total Monthly Withdrawal (MG/Mo)	Average Daily Withdrawal (MGD)	Total Monthly Withdrawal (MG/Mo)	Average Daily Withdrawal (MGD)	Total Monthly Withdrawal (MG/Mo)	Average Daily Withdrawal (MGD)	Total Monthly Withdrawal (MG/Mo)	Average Daily Withdrawal (MGD)	Total Monthly Withdrawal (MG/Mo)	Average Daily Withdrawal (MGD)	Total Monthly Withdrawal (MG/Mo)	Average Daily Withdrawal (MGD)
Dec	0.62	0.02	1.08	0.035	1.43	0.046	0.046	1.42	0.046	2.02	0.065	1.44
Nov	0.53	0.018	1.14	0.038	1.29	0.043	0.064	1.71	0.057	2.16	0.072	1.93
Oct	0.86	0.028	1.72	0.056	1.86	0.06	0.083	2.39	0.077	4.09	0.132	2.56
Sept	1.38	0.046	1.5	0.05	2.53	0.084	0.162	3.46	0.125	5.69	0.19	4.87
Aug	2.33	0.075	1.91	0.062	2.53	0.082	0.116	4.72	0.152	5.49	0.177	3.61
July	2.08	0.067	2.05	0.066	2.6	0.084	0.094	3.45	0.111	6.05	0.195	2.93
June	1.67	0.056	1.4	0.047	2.24	0.075	0.121	3.2	0.124	5.61	0.187	3.63
May	1.24	0.04	1.39	0.045	2.82	0.096	0.078	3.68	0.119	6.1	0.197	2.41
Apr	1.3	0.043	0.93	0.031	1.76	0.059	0.063	2.54	0.085	2.57	0.086	1.9
Mar	1.09	0.035	0.96	0.031	1.41	0.046	0.039	1.57	0.051	1.69	0.054	1.23
Feb	1.2	0.043	0.64	0.023	1.08	0.039	0.041	1.24	0.044	2.67	0.06	1.16
Jan	0.66	0.021	0.68	0.022	1.11	0.036	0.044	1.26	0.041	1.79	0.058	1.36
Total Annual Withdrawal	14.94 MG		15.41 MG		22.67 MG		29.03 MG		31.15 MG		44.92 MG	
Average Monthly Withdrawal	1.25 MG		1.28 MG		1.89 MG		2.42 MG		2.60 MG		3.74 MG	
Average Day	0.041 MG		0.042 MG		0.062 MG		0.080 MG		0.085 MG		0.123 MG	

Data Source: VDH Listing

Table 3-22: Estimated Disaggregated Uses for Lenah Run*

Category	Monthly Usage MGD (2007)	%
Residential Single Family	0.121	98
Residential Multi-Family	0	0
Commercial and Industrial	0	0
Military	0	0
Production Process	0	0
Unaccounted-for-water	0.002	2
Sales	0	0
Other	0	0
Total	0.123	100%

*Disaggregated use data are estimated

Available water use for Raspberry Falls is presented in Table 3-23 and 3-24. Raspberry Falls Subdivision is a public community water system using groundwater and serves approximate 455 people with approximately 130 service connections. The average monthly water use in 2007 was 2.17 MG with an annual usage of 26.03 MG.

Table 3-23: Annual and Monthly Average Withdrawal for Raspberry Falls Subdivision – 2002 – 2007

	2002		2003		2004		2005		2006		2007	
Month	Total Monthly Withdrawal (MG/Mo)	Average Daily Withdrawal (MGD)	Total Monthly Withdrawal (MG/Mo)	Average Daily Withdrawal (MGD)	Total Monthly Withdrawal (MG/Mo)	Average Daily Withdrawal (MGD)	Total Monthly Withdrawal (MG/Mo)	Average Daily Withdrawal (MGD)	Total Monthly Withdrawal (MG/Mo)	Average Daily Withdrawal (MGD)	Total Monthly Withdrawal (MG/Mo)	Average Daily Withdrawal (MGD)
Dec	0.13	0.004	0.55	0.018	0.81	0.026	1.92	0.062	0.74	0.023	0.83	0.027
Nov	0.13	0.004	0.45	0.015	0.84	0.028	1.87	0.062	0.86	0.029	1.25	0.042
Oct	0.20	0.007	0.67	0.022	1.25	0.040	2.47	0.080	1.19	0.038	2.75	0.089
Sept	0.28	0.009	0.92	0.031	1.61	0.054	4.43	0.148	1.95	0.065	3.55	0.118
Aug	0.40	0.013	1.15	0.37	2.16	0.070	4.08	0.132	3.82	0.123	3.87	0.125
July	0.46	0.015	1.03	0.033	2.44	0.079	3.34	0.108	3.06	0.099	4.17	0.134
June	0.19	0.006	0.76	0.25	1.62	0.054	3.29	0.110	2.57	0.086	3.08	0.103
May	0.20	0.007	0.40	0.013	1.29	0.042	2.42	0.078	2.24	0.072	3.10	0.100
Apr	0.07	0.002	0.31	0.010	0.67	0.022	1.30	0.043	1.28	0.043	1.01	0.034
Mar	-	-	0.25	0.008	0.58	0.019	0.75	0.024	1.41	0.045	0.71	0.023
Feb	-	-	0.24	0.009	0.58	0.019	0.71	0.025	2.25	0.080	1.01	0.036
Jan	-	-	0.59	0.019	0.58	0.019	0.78	0.025	2.18	0.070	0.71	0.023
Total Annual Withdrawal	2.07 MG		7.31 MG		14.39 MG		27.38 MG		2.55 MG		26.03 MG	
Average Monthly Withdrawal	0.17 MG		0.61 MG		1.20 MG		2.28 MG		1.96 MG		2.17 MG	
Average Day	0.006 MG		0.020 MG		0.039 MG		0.075 MG		0.065 MG		0.071 MG	

Data Source: VDH Listing

Table 3-24: Estimated Disaggregated Uses for Raspberry Falls Subdivision*

Category	Monthly Usage MGD (2007)	%
Residential Single Family	0.70	98
Residential Multi-Family	0	0
Commercial and Industrial	0	0
Military	0	0
Production Process	0	0
Unaccounted-for-water	0.01	2
Sales	0	0
Other	0	0
Total	0.071	100%

*Disaggregated use data are estimated

Available water use for the Reserve at Rokeby Farm is presented in Tables 3-25 and 3-26. Reserve at Rokeby Farm is a public community water system using groundwater and serves approximate 259 people with approximately 81 service connections. The average monthly water use in 2007 was 0.79 MG with an annual usage of 9.50 MG. The Rokeby well system is a new system that came on-line in January, 2006.

Table 3-25: Annual and Monthly Average Withdrawal for Reserve at Rokeby Farm – 2006 – 2007

Month	2006		2007	
	Total Monthly Withdrawal (MG/Mo)	Average Daily Withdrawal (MGD)	Total Monthly Withdrawal (MG/Mo)	Average Daily Withdrawal (MGD)
Dec	0.40	0.013	0.47	0.015
Nov	0.35	0.012	0.61	0.020
Oct	0.43	0.014	0.57	0.018
Sept	0.35	0.012	0.70	0.023
Aug	0.33	0.11	0.80	0.026
July	0.47	0.015	1.56	0.050
June	0.59	0.020	1.55	0.052
May	0.54	0.017	1.34	0.043
Apr	0.16	0.005	0.55	0.018
Mar	0.23	0.007	0.40	0.013
Feb	0.08	0.003	0.37	0.013
Jan	0.13	0.004	0.39	0.013
Total Annual Withdrawal	4.07 MG		9.30 MG	

	2006		2007	
Month	Total Monthly Withdrawal (MG/Mo)	Average Daily Withdrawal (MGD)	Total Monthly Withdrawal (MG/Mo)	Average Daily Withdrawal (MGD)
Average Monthly Withdrawal		0.34 MG		0.78 MG
Average Day		0.011 MG		0.025 MG

Data Source: VDH Listing

Table 3-26: Estimated Disaggregated Uses for Rokeby Farm*

Category	Monthly Usage MGD (2007)	%
Residential Single Family	0.024	98
Residential Multi-Family	0	0
Commercial and Industrial	0	0
Military	0	0
Production Process	0	0
Unaccounted-for-water	0.001	2
Sales	0	0
Other	0	0
Total	0.025	100%

*Disaggregated use data are estimated

Selma Estates is a public community water system using groundwater and serves approximate 122 people with approximately 35 service connections. Selma Estates is a new water system with production commencing in 2008, therefore no data was entered.

Table 3-27: Summary of Water Withdrawal Amounts for Selma Estates

System Name	Source	Average Monthly (MG)	Annual Average (MG)
Selma Estates	Groundwater	N/A	N/A

Table 3-28: Estimated Disaggregated Uses for Selma Estates*

Category	Monthly Usage MGD (2007)	%
Residential Single Family	N/A	97
Residential Multi-Family	N/A	0
Commercial and Industrial	N/A	0
Military	N/A	0
Production Process	N/A	1
Unaccounted-for-water	N/A	2
Sales	N/A	0
Other	N/A	0
Total	N/A	100%

*Disaggregated use data are estimated

3.1.3.2. Private Community Water Systems

There are five private community water systems in Loudoun County: Aldie Water Company, Hiway Trailer Park, Inc., Potomac Farms, and the Foxcroft School. These private community water systems serve a combined population of approximately 550 with a total of 179 connections. A summary of the private community water systems in Loudoun County is presented in Table 3-29.

Table 3-29: Summary of Available Water Use for Private Community Water Systems in Loudoun County

System Name	Source	Approximate Population Served	Approximate Number of Connections	Annual Average (MG)
Aldie Water Company	Groundwater	70 (1)	39 (1)	1.92 (2)
Hiway Trailer Park, Inc.	Groundwater	80 (1)	46 (1)	2.19 (2)
Potomac Farms	Groundwater	100 (1)	46 (1)	3.858 (3)
Foxcroft School	Groundwater	300 (1)	48 (1)	N/A

1 – Data Source: VDH Listing

2 – Based on 75 gpd per person (SCAT Regs)

3 – Data Source: DEQ Water Use Database

Aldie Water Company is a private community water system using groundwater and serves approximately 70 people with approximately 39 service connections (Table 3-30). No additional information was available for this system at the time of this report.

Hiway Trailer Park, Inc. is a private community water system using groundwater and serves approximately 80 people with approximately 46 service connections (Table 3-30). No additional information was available for this system at the time of this report.

Table 3-30: Summary of Water Withdrawal Amounts for Private Community Water Systems with Limited Information in Loudoun County

System Name	Source	Average Monthly (MG)	Annual Average (MG)
Aldie Water Company	Groundwater	0.16	1.92
Hiway Trailer Park, Inc.	Groundwater	0.18	2.19

Table 3-31: Summary of Water Withdrawal Amounts for Private Community Water Systems with Limited Information in Loudoun County

System Name	Source	Average Daily Withdrawal (MGD)	Maximum Daily Withdrawal (MGD)
Aldie Water Company	Groundwater	0.064	N/A
Hiway Trailer Park, Inc.	Groundwater	0.073	N/A

Available water use information for Potomac Farms is presented in Table 3-33. Potomac Farms is a private community water system using groundwater and serves approximately 100 people with approximately 46 service connections (Table 3-30). The average monthly water use in 2007 was 0.28 MG with an annual usage of 3.30 MG.

Table 3-32: Annual and Monthly Average Withdrawal for Potomac Farms– 2002 – 2007

Month	Well #	2002		2003		2004		2005		2006		2007	
		Total Monthly Withdrawal (MG/Mo)	Average Daily Withdrawal (MGD)	Total Monthly Withdrawal (MG/Mo)	Average Daily Withdrawal (MGD)	Total Monthly Withdrawal (MG/Mo)	Average Daily Withdrawal (MGD)	Total Monthly Withdrawal (MG/Mo)	Average Daily Withdrawal (MGD)	Total Monthly Withdrawal (MG/Mo)	Average Daily Withdrawal (MGD)	Total Monthly Withdrawal (MG/Mo)	Average Daily Withdrawal (MGD)
Dec	1	0.281	0.009	0.2818	0.009	0.392	0.013	0.446	0.014	0.215	0.007	0.2177	0.007
Nov	1	0.3	0.011	0.322	0.012	0.46	0.016	0.265	0.009	0.1954	0.007	0.1862	0.007
Oct	1	0.257	0.008	0.2845	0.009	0.341	0.011	0.352	0.011	0.2014	0.006	0.1731	0.006
Sept	1	0.36	0.012	0.287	0.01	0.458	0.015	0.344	0.011	0.2173	0.007	0.2263	0.008
Aug	1	0.369	0.012	0.405	0.013	0.347	0.011	0.329	0.011	0.3076	0.01	0.3633	0.012
July	1	0.458	0.015	0.348	0.012	0.304	0.01	0.425	0.014	0.2588	0.009	0.3626	0.012
June	1	0.587	0.019	0.429	0.014	0.322	0.01	0.326	0.011	0.2151	0.007	0.5744	0.019
May	1	0.568	0.018	0.339	0.011	0.32	0.01	0.354	0.011	0.4111	0.013	0.3065	0.01
Apr	1	0.367	0.012	0.38	0.013	0.361	0.012	0.585	0.02	0.1974	0.007	0.221	0.007
Mar	1	0.31	0.01	0.358	0.012	0.246	0.008	0.1645	0.005	0.2289	0.007	0.3031	0.01
Feb	1	0.331	0.011	0.306	0.01	0.524	0.017	0.209	0.007	0.2042	0.007	0.1779	0.006
Jan	1	0.307	0.01	0.356	0.011	0.332	0.011	0.199	0.006	0.1971	0.006	0.1902	0.006
Total Annual Withdrawal		4.495 MG		4.096 MG		4.407 MG		3.999 MG		2.849 MG		3.302 MG	
Average Monthly Withdrawal		0.375 MG		0.341 MG		0.367 MG		0.333 MG		0.237 MG		0.275 MG	
Average Day		0.012 MG		0.011 MG		0.012 MG		0.011 MG		0.008 MG		0.009 MG	

Data Source: DEQ Water Use Database

Foxcroft School is a private community water system served by groundwater and serves approximately 300 people with approximately 48 service connections. Available water use information for Foxcroft School is presented in Table 3-34. The average monthly water use in 2007 for Foxcroft School was 0.741 MG with an annual usage of approximately 8.896 MG.

Table 3-33: Annual and Monthly Average Withdrawal for Foxcroft School – 2002 – 2007

Month	Well #	2002		2003		2004		2005		2006		2007	
		Withdrawal (MG)	Total Monthly Withdrawal (MG)	Withdrawal (MG)	Total Monthly Withdrawal (MG)	Withdrawal (MG)	Total Monthly Withdrawal (MG)	Withdrawal (MG)	Total Monthly Withdrawal (MG)	Withdrawal (MG)	Total Monthly Withdrawal (MG)	Withdrawal (MG)	Total Monthly Withdrawal (MG)
Jan	1	0.241	0.637	0.429	1.199	0.758	1.088	0.425	0.780	0.475	0.829	0.602	0.855
	3	0.003		0.000		0.000		0.000		0.015		0.000	
	6	0.022		0.770		0.330		0.354		0.333		0.253	
	7	0.371		0.000		0.000		0.001		0.002		0.000	
	8	0.000		0.000		0.000		0.000		0.004		0.000	
Feb	1	0.242	0.567	0.354	0.674	0.577	0.934	0.399	0.714	0.352	0.666	0.788	3.375
	3	0.000		0.000		0.000		0.000		0.000		0.000	
	6	0.215		0.320		0.355		0.315		0.314		0.300	
	7	0.110		0.000		0.002		0.000		0.000		0.000	
	8	0.000		0.000		0.000		0.000		0.000		0.000	
Mar	1	0.159	0.516	0.312	0.721	0.340	0.710	0.307	0.660	0.307	0.646	0.392	0.748
	3	0.000		0.015		0.000		0.000		0.000		0.000	
	6	0.357		0.393		0.370		0.353		0.339		0.201	
	7	0.000		0.001		0.000		0.000		0.000		0.155	
	8	0.000		0.001		0.000		0.000		0.000		0.000	
Apr	1	0.307	0.645	0.437	0.791	0.577	0.932	0.129	0.470	0.479	0.824	0.490	0.827
	3	0.000		0.000		0.000		0.000		0.000		0.000	
	6	0.338		0.354		0.355		0.341		0.340		0.178	
	7	0.000		0.000		0.000		0.000		0.000		0.159	
	8	0.000		0.000		0.000		0.000		0.005		0.000	
May	1	0.209	0.639	0.394	0.773	0.516	0.883	0.618	0.968	0.780	1.169	0.484	0.911
	3	0.000		0.000		0.000		0.000		0.000		0.000	
	6	0.319		0.379		0.367		0.350		0.349		0.210	
	7	0.111		0.000		0.000		0.000		0.000		0.217	
	8	0.000		0.000		0.000		0.000		0.040		0.000	

Month	Well #	2002		2003		2004		2005		2006		2007	
		Withdrawal (MG)	Total Monthly Withdrawal (MG)	Withdrawal (MG)	Total Monthly Withdrawal (MG)	Withdrawal (MG)	Total Monthly Withdrawal (MG)	Withdrawal (MG)	Total Monthly Withdrawal (MG)	Withdrawal (MG)	Total Monthly Withdrawal (MG)	Withdrawal (MG)	Total Monthly Withdrawal (MG)
Jun	1	0.045	0.438	0.285	0.650	0.290	0.629	0.263	0.617	0.473	0.820	0.322	0.629
	3	0.000		0.000		0.000		0.000		0.000			
	6	0.339		0.365		0.339		0.340		0.327		0.159	
	7	0.029		0.000		0.000		0.000		0.000		0.148	
	8	0.025		0.000		0.000		0.014		0.020		0.000	
Jul	1	0.300	0.642	0.363	0.764	0.320	0.647	0.437	0.770	0.459	0.790	0.403	0.754
	3	0.000		0.007		0.013		0.000		0.000			
	6	0.319		0.378		0.348		0.333		0.284		0.188	
	7	0.000		0.004		0.005		0.000		0.000		0.163	
	8	0.023		0.005		0.018		0.000		0.047		0.000	
Aug	1	0.256	0.610	0.395	0.764	0.282	0.647	0.300	0.435	0.501	1.176	0.391	0.782
	3	0.000		0.000		0.000		0.000		0.000			
	6	0.354		0.369		0.323		0.135		0.651		0.232	
	7	0.000		0.000		0.009		0.000		0.006		0.159	
	8	0.000		0.000		0.033		0.000		0.018		0.000	
Sep	1	0.320	0.665	0.727	1.079	0.449	0.785	0.566	0.899	0.575	0.904	0.403	0.842
	3	0.000		0.000		0.000		0.000		0.000			
	6	0.337		0.352		0.336		0.333		0.329		0.288	
	7	0.000		0.000		0.000		0.000		0.000		0.151	
	8	0.008		0.000		0.000		0.000		0.000		0.000	
Oct	1	0.264	0.641	0.667	1.071	0.483	0.845	0.535	0.881	0.577	0.927	0.347	0.717
	3	0.004		0.000		0.002		0.000		0.000			
	6	0.361		0.404		0.357		0.346		0.350		0.217	
	7	0.003		0.000		0.000		0.000		0.000		0.048	
	8	0.009		0.000		0.002		0.000		0.000		0.105	
Nov	1	0.233	0.594	0.580	0.984	0.351	0.707	0.525	0.856	0.475	0.783	0.248	0.576

		2002		2003		2004		2005		2006		2007	
Month	Well #	Withdrawal (MG)	Total Monthly Withdrawal (MG)	Withdrawal (MG)	Total Monthly Withdrawal (MG)	Withdrawal (MG)	Total Monthly Withdrawal (MG)	Withdrawal (MG)	Total Monthly Withdrawal (MG)	Withdrawal (MG)	Total Monthly Withdrawal (MG)	Withdrawal (MG)	Total Monthly Withdrawal (MG)
	3	0.000		0.000		0.003		0.000		0.000		0.000	
	6	0.361		0.404		0.341		0.331		0.308		0.157	
	7	0.000		0.000		0.009		0.000		0.000		0.081	
	8	0.000		0.000		0.003		0.000		0.000		0.090	
Dec	1	0.242	0.611	0.577	0.939	0.301	0.661	0.426		0.542		0.231	
	3	0.000		0.000		0.000		0.000		0.000		0.000	
	6	0.369		0.362		0.360		0.337		0.100		0.073	
	7	0.000		0.000		0.000		0.000		0.009		0.083	
	8	0.000		0.000		0.000		0.000		0.016		0.080	
Total Annual Withdrawal		7.205 MG		10.402 MG		9.525 MG		8.813 MG		10.201 MG		8.896 MG	
Average Monthly Withdrawal		0.600 MG		0.867 MG		0.794 MG		0.724 MG		0.850 MG		0.741 MG	
Average Day		0.020 MG		0.028 MG		0.026 MG		0.024 MG		0.028 MG		0.024 MG	

Data Source: DEQ Water Use Database

3.1.4 Prince William County

3.1.4.1. Public Community Water Systems

There are seven (7) public community water systems in Prince William County operated by the PWCSA: OWDT, Oak Ridge, Manassas Southside, Greater Manassas, VAWCo-Dale City (in Prince William County, but not operated by PWCSA), Occoquan Forest, Bull Run Mountain Lower, and Bull Run Mountain Upper. The PWCSA purchases water from Fairfax Water for the OWDT and the Oak Ridge and purchases water from the City of Manassas and Fairfax Water for the Manassas Southside and the Greater Manassas systems. In 2007, the combined PWCSA service areas served approximately 228,244 people with approximately 77,634 service connections. The three additional public community water system use groundwater to serve a combined population of approximately 2,275 with approximately 774 service connections. There is one public community water system in Prince William County operated by the VA-American Water Company: Dale City. The Virginia American Water Company purchases water from Fairfax Water and served approximately 60,000 people in 2007 with approximately 18,578 service connections. A summary of the public community water systems in Prince William County is presented in Table 3-34.

Table 3-34: Summary of Population Served for Public Community Water Systems in Prince William County

System Name	Source	Approximate Population Served	Approximate Number of Connections
OWDT	Fairfax Water	119,061	40,497
Oak Ridge	Fairfax Water	10,140	3,449
Manassas Southside	Fairfax Water	6,506	2,213
Greater Manassas	Fairfax Water	92,537	31,475
Occoquan Forest	Groundwater	685	233
Bull Run Mountain Lower	Groundwater	1,111	378
Bull Run Mountain Upper	Groundwater	33	11
VAWCo-Dale City	Fairfax Water	60,000	18,578
Total		290,073	96,834

Data Source: Source and Use Data Sheets (2007)

Available water use for OWDT is presented in Tables 3-35 and 3-36. OWDT is a public community water system using purchased water from Fairfax Water. The average monthly water use in 2007 was 367.15 MG with an annual usage of 4,405.76 MG.

Table 3-35: Annual and Monthly Average Withdrawal for OWDT – 2002 – 2007

	2002		2003		2004		2005		2006		2007	
Month	Total Monthly Withdrawal (MG/Mo)	Average Daily Withdrawal (MGD)	Total Monthly Withdrawal (MG/Mo)	Average Daily Withdrawal (MGD)	Total Monthly Withdrawal (MG/Mo)	Average Daily Withdrawal (MGD)	Total Monthly Withdrawal (MG/Mo)	Average Daily Withdrawal (MGD)	Total Monthly Withdrawal (MG/Mo)	Average Daily Withdrawal (MGD)	Total Monthly Withdrawal (MG/Mo)	Average Daily Withdrawal (MGD)
Jan	304.44	9.821	307.38	9.916	326.2	10.523	304.39	9.819	332.53	10.727	295.36	9.528
Feb	286.14	10.219	288.47	10.303	299.52	10.697	306.89	10.961	299.75	10.705	311.46	11.124
Mar	310.93	10.03	326.1	10.519	306.89	9.9	322.72	10.41	348.7	11.248	34.44	1.111
Apr	334.31	11.144	329.53	10.984	324.6	10.82	350.35	11.678	38.3	1.277	331.94	11.065
May	361.92	11.675	338.77	10.928	387.7	12.507	400.9	12.932	429.11	13.842	295.36	9.528
June	406.51	13.55	377.45	12.582	372.05	12.402	457.73	15.258	458.84	15.295	515.18	17.173
July	450.79	14.542	418.92	13.514	409.93	13.224	452.89	14.609	510.98	16.483	552.53	17.823
Aug	457.59	14.761	388.46	12.531	371.58	11.986	462.02	14.904	583.05	18.808	490.43	15.82
Sept	373.84	12.461	340.3	11.343	330.57	11.019	457.27	15.242	428.8	14.293	458.11	15.27
Oct	305.46	9.854	342.64	11.053	305.86	9.866	398.02	12.839	415.44	13.401	435.38	14.044
Nov	310.48	10.349	312.35	10.412	293.8	9.793	342.8	11.427	376.17	12.539	340.88	11.363
Dec	311.01	10.033	310.43	10.014	290.3	9.365	351.2	11.329	367.06	11.841	344.69	11.119
Total Annual Withdrawal	4,216.42 MG		4,080.80 MG		4,018.99 MG		4,607.17 MG		4,588.75 MG		4,405.76 MG	
Average Monthly Withdrawal	351.12 MG		340.07 MG		334.92 MG		383.93 MG		382.40 MG		367.15 MG	
Average Day	11.544 MG		11.180 MG		11.011 MG		12.622 MG		12.572 MG		12.071 MG	

Data Source: Source and Use Data Sheets (2007)

Table 3-36: Estimated Disaggregated Uses for OWDT

Category	Monthly Usage MGD (2007)	%
Residential	10.918	84.54
Commercial and Light Industrial	1.107	8.57
Heavy Industrial	0.243	1.88
Military	0	0
Production Process	0	0
Unaccounted-for-water	0	0
Sales	0.646	5.00
Other	0	0
Total	12.914	100%

Data Source: Source and Use Data Sheets (2007)

Available water use information for Oak Ridge is presented in Tables 3-37 and 3-38. Oak Ridge is a public community water system using purchased water from Fairfax Water. The average monthly water use in 2007 was 37.18 MG with an annual usage of 446.20 MG.

Table 3-37: Annual and Monthly Average Withdrawal for Oak Ridge – 2002 – 2007

Month	2002		2003		2004		2005		2006		2007	
	Total Monthly Withdrawal (MG/Mo)	Average Daily Withdrawal (MGD)	Total Monthly Withdrawal (MG/Mo)	Average Daily Withdrawal (MGD)	Total Monthly Withdrawal (MG/Mo)	Average Daily Withdrawal (MGD)	Total Monthly Withdrawal (MG/Mo)	Average Daily Withdrawal (MGD)	Total Monthly Withdrawal (MG/Mo)	Average Daily Withdrawal (MGD)	Total Monthly Withdrawal (MG/Mo)	Average Daily Withdrawal (MGD)
Jan	14.91	0.481	15.75	0.508	17.16	0.554	18.3	0.590	23.97	0.773	25.29	0.816
Feb	14.95	0.534	14.53	0.519	15.82	0.565	15.78	0.564	22.14	0.791	23.55	0.841
Mar	15.33	0.495	15.8	0.510	17.25	0.556	22.65	0.731	26.54	0.856	27.53	0.888
Apr	20.49	0.683	17.06	0.569	19.78	0.659	27.68	0.923	31.12	1.037	29.71	0.990
May	24.7	0.797	18.47	0.596	27.2	0.877	34.97	1.128	40	1.29	49.11	1.584
June	35.73	1.191	19.02	0.634	25.52	0.851	47.99	1.600	44.89	1.496	52.55	1.752
July	38.94	1.256	26.54	0.856	29.78	0.961	46.26	1.492	43.94	1.417	59.71	1.926
Aug	38.18	1.232	26	0.839	25.35	0.818	45.16	1.457	54.93	1.772	48.68	1.570
Sept	27.33	0.911	19.11	0.637	23.26	0.775	48.19	1.606	32.5	1.083	37.88	1.263
Oct	20.2	0.652	20.33	0.656	13.99	0.451	32.11	1.036	29.6	0.955	41.03	1.324
Nov	15.3	0.51	16.55	0.552	17.74	0.591	25.77	0.859	26.16	0.872	25.83	0.861
Dec	15.76	0.508	16.2	0.522	18.13	0.585	25.65	0.827	25.5	0.823	25.34	0.817
Total Annual Withdrawal	281.83 MG		225.34 MG		250.97 MG		390.52 MG		401.27 MG		446.20 MG	
Average Monthly Withdrawal	23.49 MG		18.78 MG		20.91 MG		32.54 MG		33.44 MG		37.18 MG	
Average Day	0.772 MG		0.617 MG		0.688 MG		1.070 MG		1.099 MG		1.222 MG	

Data Source: Source and Use Data Sheets (2007)

Table 3-38: Estimated Disaggregated Uses for Oak Ridge

Category	Monthly Usage MGD (2007)	%
Residential	1.042	85.48
Commercial and Light Industrial	0.083	6.81
Heavy Industrial	0.033	2.71
Military	0	0
Production Process	0	0
Unaccounted-for-water	0.061	5.00
Sales	0	0
Other	0	0
Total	1.219	100%

Data Source: Source and Use Data Sheets (2007)

Available water use information for Manassas Southside is presented in Table 3-39 and 3-40. Manassas Southside is a public community water system using purchased water from the City of Manassas. The average monthly water use in 2007 was 20.77 MG with an annual usage of 249.24 MG.

Table 3-39: Annual and Monthly Average Withdrawal for Manassas Southside – 2002 – 2007

Month	2002		2003		2004		2005		2006		2007	
	Total Monthly Withdrawal (MG/Mo)	Average Daily Withdrawal (MGD)	Total Monthly Withdrawal (MG/Mo)	Average Daily Withdrawal (MGD)	Total Monthly Withdrawal (MG/Mo)	Average Daily Withdrawal (MGD)	Total Monthly Withdrawal (MG/Mo)	Average Daily Withdrawal (MGD)	Total Monthly Withdrawal (MG/Mo)	Average Daily Withdrawal (MGD)	Total Monthly Withdrawal (MG/Mo)	Average Daily Withdrawal (MGD)
Jan	5.82	0.188	6.35	0.205	6.76	0.218	6.94	0.224	7.66	0.247	7.56	0.244
Feb	5.69	0.203	6.35	0.227	4.71	0.168	6.75	0.241	3.74	0.134	7.24	0.259
Mar	5.76	0.186	12.01	0.388	7.66	0.247	7.42	0.239	5.64	0.182	7.93	0.256
Apr	6.73	0.224	6.09	0.203	8.12	0.271	8.33	0.278	8.27	0.276	14.38	0.479
May	7.42	0.239	6.05	0.195	9.49	0.306	5.96	0.192	6.70	0.216	3.95	0.127
June	8.91	0.297	6.53	0.218	8.03	0.268	9.87	0.329	7.55	0.252	3.79	0.126
July	9.19	0.297	7.51	0.242	9.25	0.298	9.08	0.293	4.30	0.139	8.23	0.265
Aug	9.32	0.301	7.41	0.239	8.47	0.273	13.74	0.443	11.09	0.358	37.81	1.220
Sept	11.98	0.399	6.51	0.217	8.00	0.267	14.74	0.491	11.01	0.367	48.52	1.617
Oct	12.33	0.398	6.21	0.200	7.52	0.243	9.85	0.318	5.83	0.188	47.54	1.534
Nov	11.54	0.385	5.18	0.173	6.91	0.230	10.16	0.339	8.85	0.295	26.30	0.877
Dec	11.38	0.367	5.49	0.177	6.73	0.217	8.54	0.276	5.93	0.191	35.98	1.161
Total Annual Withdrawal	106.06 MG		81.68 MG		91.64 MG		111.39 MG		86.57 MG		249.24 MG	
Average Monthly Withdrawal	8.84 MG		6.81 MG		7.64 MG		9.28 MG		7.21 MG		20.77 MG	
Average Day	0.291 MG		0.224 MG		0.251 MG		0.305 MG		0.237 MG		0.683 MG	

Data Source: Source and Use Data Sheets (2007)

Table 3-40: Estimated Disaggregated Uses for Manassas Southside

Category	Monthly Usage MGD (2007)	%
Residential	0.588	87.5
Commercial and Light Industrial	0.035	5.21
Heavy Industrial	0.016	2.38
Military	0	0
Production Process	0	0
Unaccounted-for-water	0	0
Sales	0	0
Other	0	0
Total	0.672	100%

Data Source: Source and Use Data Sheets (2007)

Available water use information for Greater Manassas is presented in Tables 3-41 and 3-42. Greater Manassas is a public community water system using purchased water from the City of Manassas. The average monthly water use in 2007 was 399.43 MG with an annual usage of 4,793.18 MG.

Table 3-41: Annual and Monthly Average Withdrawal for Greater Manassas – 2002 – 2007

Month	2002		2003		2004		2005		2006		2007	
	Total Monthly Withdrawal (MG/Mo)	Average Daily Withdrawal (MGD)	Total Monthly Withdrawal (MG/Mo)	Average Daily Withdrawal (MGD)	Total Monthly Withdrawal (MG/Mo)	Average Daily Withdrawal (MGD)	Total Monthly Withdrawal (MG/Mo)	Average Daily Withdrawal (MGD)	Total Monthly Withdrawal (MG/Mo)	Average Daily Withdrawal (MGD)	Total Monthly Withdrawal (MG/Mo)	Average Daily Withdrawal (MGD)
Jan	193.70	6.248	200.45	6.466	225.00	7.258	243.59	7.858	263.48	8.499	271.83	8.769
Feb	186.37	6.656	236.12	8.433	212.28	7.582	212.02	7.572	232.56	8.306	249.47	8.910
Mar	188.73	6.088	205.61	6.633	228.20	7.361	249.56	8.050	272.98	8.806	273.35	8.818
Apr	201.24	6.708	199.73	6.658	213.82	7.127	277.25	9.242	308.87	10.296	322.93	10.764
May	230.01	7.420	199.50	6.435	265.66	8.570	329.45	10.627	384.83	12.414	509.57	16.438
June	258.25	8.608	237.36	7.912	284.61	9.487	377.34	12.578	437.18	14.573	492.17	16.406
July	298.07	9.615	296.00	9.548	296.38	9.561	382.37	12.335	403.79	13.026	535.77	17.283
Aug	320.80	10.348	300.25	9.685	293.88	9.480	383.87	12.383	482.40	15.561	494.93	15.965
Sept	258.88	8.629	252.63	8.421	288.69	9.623	396.73	13.224	408.89	13.630	490.32	16.344
Oct	195.21	6.297	257.41	8.303	274.25	8.847	314.28	10.138	292.64	9.440	454.89	14.674
Nov	182.04	6.068	236.71	7.890	247.64	8.255	270.29	9.010	253.85	8.462	353.12	11.771
Dec	185.90	5.997	226.28	7.299	250.14	8.069	263.46	8.499	267.93	8.643	344.83	11.124
Total Annual Withdrawal	2,699.20 MG		2,848.05 MG		3,080.55 MG		3,700.21 MG		4,009.40 MG		4,793.18 MG	
Average Monthly Withdrawal	224.93 MG		237.34 MG		256.71 MG		308.35 MG		334.12 MG		399.43 MG	
Average Day	7.39 MG		7.81 MG		8.44 MG		10.13 MG		10.97 MG		13.11 MG	

Data Source: Source and Use Data Sheets (2007)

Table 3-42: Estimated Disaggregated Uses for Greater Manassas

Category	Monthly Usage MGD (2007)	%
Residential	10.707	81.70
Commercial and Light Industrial	0.785	5.99
Heavy Industrial	0.959	7.32
Military	0	0
Production Process	0	0
Unaccounted-for-water	0.655	5.00
Sales	0	0
Other	0	0
Total	13.105	100%

Data Source: Source and Use Data Sheets (2007)

Available water use information for Occoquan Forest is presented in Tables 3-43 and 3-44. Occoquan Forest is a public community water system using groundwater. The average monthly water use in 2007 was 1.35 MG with an annual usage of 16.14 MG.

Table 3-43: Annual and Monthly Average Withdrawal for Occoquan Forest– 2002 – 2007

	2002		2003		2004		2005		2006		2007	
Month	Total Monthly Withdrawal (MG/Mo)	Average Daily Withdrawal (MGD)	Total Monthly Withdrawal (MG/Mo)	Average Daily Withdrawal (MGD)	Total Monthly Withdrawal (MG/Mo)	Average Daily Withdrawal (MGD)	Total Monthly Withdrawal (MG/Mo)	Average Daily Withdrawal (MGD)	Total Monthly Withdrawal (MG/Mo)	Average Daily Withdrawal (MGD)	Total Monthly Withdrawal (MG/Mo)	Average Daily Withdrawal (MGD)
Jan	1.17	0.038	1.22	0.039	1.39	0.045	1.39	0.045	1.22	0.039	1.33	0.043
Feb	1.39	0.050	1.21	0.043	1.25	0.045	1.41	0.050	1.08	0.039	1.20	0.043
Mar	1.35	0.044	1.14	0.037	1.19	0.038	1.35	0.044	1.04	0.034	1.31	0.042
Apr	1.46	0.049	1.22	0.041	1.18	0.039	1.24	0.041	1.23	0.041	1.27	0.042
May	1.53	0.049	1.28	0.041	1.73	0.056	1.33	0.043	1.31	0.042	1.41	0.046
June	1.95	0.065	1.35	0.045	1.38	0.046	1.31	0.044	1.33	0.044	1.38	0.046
July	2.13	0.069	1.35	0.044	1.38	0.045	1.45	0.047	1.26	0.041	1.33	0.043
Aug	1.66	0.054	1.30	0.042	1.38	0.045	1.45	0.047	1.72	0.055	1.28	0.041
Sept	1.61	0.054	1.18	0.039	1.40	0.047	1.46	0.049	1.07	0.036	1.52	0.051
Oct	1.37	0.044	1.12	0.036	1.27	0.041	1.30	0.042	1.26	0.041	1.31	0.042
Nov	1.26	0.042	1.17	0.039	1.28	0.043	1.22	0.041	1.19	0.040	1.34	0.045
Dec	1.33	0.043	1.13	0.036	1.39	0.045	1.34	0.043	1.31	0.042	1.46	0.047
Total Annual Withdrawal	18.21 MG		14.66 MG		16.23 MG		16.25 MG		15.03 MG		16.14 MG	
Average Monthly Withdrawal	1.52 MG		1.22 MG		1.35 MG		1.35 MG		1.25 MG		1.35 MG	
Average Day	0.050 MG		0.040 MG		0.044 MG		0.045 MG		0.041 MG		0.044 MG	

Data Source: Source and Use Data Sheets (2007)

Table 3-44: Estimated Disaggregated Uses for Occoquan Forest

Category	Monthly Usage MGD (2007)	%
Residential	0.0378	85.91
Commercial and Light Industrial	0.004	8.64
Heavy Industrial	0	0
Military	0	0
Production Process	0	0
Unaccounted-for-water	0.002	5.00
Sales	0	0
Other	0	0
Total	0.044	100%

Data Source: Source and Use Data Sheets (2007)

Available water use information for Bull Run Mountain Lower is presented in Tables 3-45 and 3-46. Bull Run Mountain Lower is a public community water system using groundwater. The average monthly water use in 2007 was 3.53 MG with an annual usage of 42.39 MG.

Table 3-45: Annual and Monthly Average Withdrawal for Bull Run Mountain Lower– 2002 – 2007

Month	2002		2003		2004		2005		2006		2007	
	Total Monthly Withdrawal (MG/Mo)	Average Daily Withdrawal (MGD)	Total Monthly Withdrawal (MG/Mo)	Average Daily Withdrawal (MGD)	Total Monthly Withdrawal (MG/Mo)	Average Daily Withdrawal (MGD)	Total Monthly Withdrawal (MG/Mo)	Average Daily Withdrawal (MGD)	Total Monthly Withdrawal (MG/Mo)	Average Daily Withdrawal (MGD)	Total Monthly Withdrawal (MG/Mo)	Average Daily Withdrawal (MGD)
Jan	3.25	0.105	3.04	0.098	3.72	0.12	3.39	0.11	2.85	0.092	3.11	0.1
Feb	3.17	0.113	3.15	0.112	3.02	0.108	3.04	0.109	2.64	0.094	3.14	0.112
Mar	3.25	0.105	3.03	0.098	2.7	0.087	3.36	0.108	3.06	0.099	3.12	0.101
Apr	3.33	0.111	2.75	0.092	2.81	0.094	3.64	0.121	3.17	0.106	3.32	0.111
May	3.31	0.107	2.77	0.089	3.3	0.106	4.24	0.137	3.52	0.114	4.11	0.133
June	3.66	0.122	3.71	0.124	3.08	0.103	4.49	0.15	3.7	0.123	4.02	0.134
July	3.96	0.128	3.59	0.116	3.55	0.115	4.14	0.134	3.64	0.117	4.04	0.13
Aug	4.47	0.144	3.67	0.118	3.04	0.098	4.29	0.139	4.12	0.133	4.21	0.136
Sept	3.59	0.12	3.05	0.102	2.93	0.098	4.52	0.151	2.81	0.094	4.14	0.138
Oct	3.15	0.102	2.65	0.086	3.06	0.099	3.5	0.113	2.83	0.091	3.43	0.111
Nov	3.11	0.104	2.41	0.08	3.23	0.108	2.6	0.087	2.78	0.093	2.75	0.092
Dec	2.87	0.093	2.78	0.09	3.4	0.11	2.76	0.089	2.99	0.097	3.02	0.097
Total Annual Withdrawal	41.12 MG		36.60 MG		37.84 MG		43.99 MG		38.12 MG		42.39 MG	
Average Monthly Withdrawal	3.46 MG		3.05 MG		3.15 MG		3.67 MG		3.18 MG		3.53 MG	
Average Day	0.113 MG		0.100 MG		0.104 MG		0.121 MG		0.104 MG		0.116 MG	

Data Source: Source and Use Data Sheets (2007)

Table 3-46: Estimated Disaggregated Uses for Bull Run Mountain Lower

Category	Monthly Usage MGD (2007)	%
Residential	0.109	93.97
Commercial and Light Industrial	0.001	0.86
Heavy Industrial	0	0
Military	0	0
Production Process	0	0
Unaccounted-for-water	0.006	5.00
Sales	0	0
Other	0	0
Total	0.116	100%

Data Source: Source and Use Data Sheets (2007)

Available water use information for Bull Run Mountain Upper is presented in Tables 3-47 and 3-48. Bull Run Mountain Upper is a public community water system using groundwater. The average monthly water use in 2007 was 0.40 MG with an annual usage of 4.86 MG.

Table 3-47: Annual and Monthly Average Withdrawal for Bull Run Mountain Upper– 2002 – 2007

Month	2002		2003		2004		2005		2006		2007	
	Total Monthly Withdrawal (MG/Mo)	Average Daily Withdrawal (MGD)	Total Monthly Withdrawal (MG/Mo)	Average Daily Withdrawal (MGD)	Total Monthly Withdrawal (MG/Mo)	Average Daily Withdrawal (MGD)	Total Monthly Withdrawal (MG/Mo)	Average Daily Withdrawal (MGD)	Total Monthly Withdrawal (MG/Mo)	Average Daily Withdrawal (MGD)	Total Monthly Withdrawal (MG/Mo)	Average Daily Withdrawal (MGD)
Jan	0.30	0.010	0.33	0.011	0.27	0.009	0.31	0.010	0.47	0.015	0.33	0.011
Feb	0.29	0.011	0.30	0.011	0.26	0.009	0.27	0.010	0.38	0.014	0.31	0.011
Mar	0.31	0.010	0.29	0.010	0.26	0.009	0.33	0.011	0.45	0.015	0.35	0.011
Apr	0.32	0.011	0.31	0.010	0.27	0.009	0.31	0.010	0.45	0.015	0.39	0.013
May	0.29	0.009	0.30	0.010	0.33	0.011	0.47	0.015	0.50	0.016	0.48	0.016
June	0.33	0.011	0.30	0.010	0.31	0.010	0.41	0.014	0.48	0.016	0.46	0.015
July	0.42	0.014	0.35	0.011	0.39	0.013	0.38	0.012	0.48	0.016	0.56	0.018
Aug	0.45	0.015	0.35	0.011	0.31	0.010	0.38	0.012	0.66	0.021	0.46	0.015
Sept	0.33	0.011	0.33	0.011	0.31	0.010	0.43	0.014	0.57	0.019	0.49	0.016
Oct	0.29	0.010	0.27	0.009	0.32	0.010	0.40	0.013	0.48	0.016	0.43	0.014
Nov	0.30	0.010	0.29	0.010	0.26	0.009	0.41	0.014	0.34	0.011	0.29	0.010
Dec	0.31	0.010	0.26	0.008	0.29	0.009	0.44	0.014	0.34	0.011	0.30	0.010
Total Annual Withdrawal	3.95 MG		3.69 MG		3.59 MG		4.53 MG		5.60 MG		4.86 MG	
Average Monthly Withdrawal	0.33 MG		0.31 MG		0.30 MG		0.38 MG		0.47 MG		0.40 MG	
Average Day	0.011 MG		0.010 MG		0.010 MG		0.012 MG		0.015 MG		0.013 MG	

Data Source: Source and Use Data Sheets (2007)

Table 3-48: Estimated Disaggregated Uses for Bull Run Mountain Upper

Category	Monthly Usage MGD (2007)	%
Residential	0.012	92.31
Commercial and Light Industrial	0.0001	6.92
Heavy Industrial	0	0
Military	0	0
Production Process	0	0
Unaccounted-for-water	0.0007	5.00
Sales	0	0
Other	0	0
Total	0.013	100%

Data Source: Source and Use Data Sheets (2007)

Available water use information for Dale City is presented in Tables 3-49 and 3-50. Dale City is a public community water system that purchases water from the Fairfax Water. The average monthly water use in 2007 was 194.66 MG with an annual usage of 2335.96 MG.

Table 3-49: Annual and Monthly Average Withdrawal Dale City– 2002 – 2007

	2002		2003		2004		2005		2006		2007	
Month	Total Monthly Withdrawal (MG/Mo)	Average Daily Withdrawal (MGD)	Total Monthly Withdrawal (MG/Mo)	Average Daily Withdrawal (MGD)	Total Monthly Withdrawal (MG/Mo)	Average Daily Withdrawal (MGD)	Total Monthly Withdrawal (MG/Mo)	Average Daily Withdrawal (MGD)	Total Monthly Withdrawal (MG/Mo)	Average Daily Withdrawal (MGD)	Total Monthly Withdrawal (MG/Mo)	Average Daily Withdrawal (MGD)
Jan	172.08	5.551	182.23	5.879	171.38	5.528	160.78	5.186	163.19	5.264	159.49	5.145
Feb	141.64	5.059	150.81	5.386	148.12	5.290	154.50	5.518	148.31	5.297	171.83	6.137
Mar	145.93	4.708	147.37	4.754	182.43	5.885	186.00	6.000	186.29	6.009	163.31	5.268
Apr	167.07	5.569	154.00	5.133	173.05	5.768	165.89	5.530	166.94	5.565	165.16	5.505
May	207.15	6.682	198.04	6.388	184.93	5.965	183.23	5.911	198.56	6.405	239.08	7.712
June	206.92	6.897	165.89	5.530	195.01	6.500	261.27	8.709	246.16	8.205	229.08	7.636
July	252.47	8.144	218.14	7.037	222.04	7.162	206.76	6.670	192.32	6.204	246.60	7.955
Aug	229.89	7.416	186.62	6.020	173.04	5.582	236.70	7.635	256.70	8.281	237.19	7.651
Sept	186.14	6.205	157.08	5.236	201.36	6.712	215.05	7.168	177.98	5.933	193.61	6.454
Oct	188.37	6.076	194.06	6.260	165.85	5.350	181.81	5.865	171.88	5.544	212.90	6.868
Nov	143.02	4.767	139.42	4.647	153.87	5.129	184.68	6.156	177.48	5.916	163.27	5.442
Dec	165.32	5.333	184.24	5.943	195.2	6.297	165.68	5.345	156.43	5.046	154.45	4.982
Total Annual Withdrawal	2,206.00 MG		2,077.91 MG		2,166.26 MG		2,302.34 MG		2,242.24 MG		2,335.96 MG	
Average Monthly Withdrawal	183.83 MG		173.16 MG		180.52 MG		191.86 MG		186.85 MG		194.66 MG	
Average Day	6.044 MG		5.693 MG		5.935 MG		6.308 MG		6.143 MG		6.40 MG	

Data Source: Source and Use Data Sheets (2007)

Table 3-50: Estimated Disaggregated Uses for Dale City

Category	Monthly Usage MGD (2007)	%
Residential Single Family	2.950	56.54
Commercial, Institutional, Light Industrial	0.350	6.71
Heavy Industrial	0	0
Military	0	0
Production Process	0	0
Unaccounted-for-water	0.380	7.28
Sales	1.188	22.77
Other	0.350	6.71
Total	5.218	100%

Data Source: Source and Use Data Sheets (2007)

3.1.4.2. Private Community Water Systems

There are three privately owned community water systems in Prince William County: Linton Hall School, Woodbridge MHP, and QMBC-Mainside. Linton Hall School and Woodbridge MHP are private community water systems using groundwater as a source and serve a combined population of approximately 600 with approximately 143 service connections. QMBC-Mainside is a private community water system using a surface water reservoir, the Breckenridge-Lunga Reservoir, and serves approximately 14,525 people with approximately 1,334 connections. A summary of private community water systems in Prince William County is presented in Table 3-51.

Table 3-51: Summary of Population Served for Private Community Water Systems in Prince William County

System Name	Source	Approximate Population Served	Approximate Number of Connections	Annual Average (MG)
Linton Hall School	Groundwater	280	10	2.92
Woodbridge MHP	Groundwater	320	133	10.22
QMBC-Mainside	Breckenridge-Lunga Reservoir	14,525	1,334	11.63
NTNC		?		
QMCB - Camp Barrett		?		
Total		15,125	1,477	24.77

Available water use information for the private community water systems in Prince William County is presented in Tables 3-52, 3-53, 3-54, and 3-55. The private community water systems in Prince William County serve a total combined population of approximately 15,125 people with 1,477 combined service connections.

Table 3-52: Summary of Water Withdrawal Amounts for Private Community Water Systems with Limited Information in Prince William County

System Name	Source	Average Monthly (MG)	Annual Average (MG)
Linton Hall School	Groundwater	0.24	2.92
Woodbridge MHP.	Groundwater	0.851	10.22

Data Source: Source and Use Data Sheets (2007)

Table 3-53: Summary of Water Withdrawal Amounts for Private Community Water Systems with Limited Information in Prince William County

System Name	Source	Average Daily Withdrawal (MGD)	Maximum Daily Withdrawal (MGD)
Linton Hall School	Groundwater	0.008	Unknown
Woodbridge MHP.	Groundwater	0.028	Unknown

Data Source: Source and Use Data Sheets (2007)

Table 3-54: Annual and Monthly Average Withdrawal for QMBC-Mainside– 2002 – 2007

Month	2002		2003		2004		2005		2006		2007	
	Total Monthly Withdrawal (MG/Mo)	Average Daily Withdrawal (MGD)	Total Monthly Withdrawal (MG/Mo)	Average Daily Withdrawal (MGD)	Total Monthly Withdrawal (MG/Mo)	Average Daily Withdrawal (MGD)	Total Monthly Withdrawal (MG/Mo)	Average Daily Withdrawal (MGD)	Total Monthly Withdrawal (MG/Mo)	Average Daily Withdrawal (MGD)	Total Monthly Withdrawal (MG/Mo)	Average Daily Withdrawal (MGD)
Dec	30.97	1.000	27.47	0.890	25.42	0.820	-	-	-	-	33.73	1.090
Nov	36.06	1.200	27.51	0.920	25.2	0.840	-	-	-	-	31.26	1.040
Oct	33.14	1.070	27.09	0.870	28.86	0.930	42.84	1.380	38.56	1.240	37.94	1.220
Sept	37.65	1.260	28.53	0.950	28.92	0.960	43.08	1.440	40.50	1.350	37.41	1.250
Aug	40.73	1.310	36.95	1.190	33.11	1.070	-	-	49.60	1.600	43.87	1.420
July	38.94	1.260	37.05	1.200	35.34	1.140	42.66	1.380	48.36	1.560	38.07	1.230
June	35.07	1.170	34.47	1.150	30.9	1.030	-	-	43.35	1.450	36.69	1.220
May	40.58	1.310	29.57	0.950	34.04	1.100	-	-	43.34	1.400	37.11	1.200
Apr	46.20	1.540	26.55	0.890	29.67	0.990	-	-	-	-	32.79	1.090
Mar	39.49	1.270	29.61	0.960	30.35	0.980	-	-	-	-	41.29	1.330
Feb	33.21	1.190	28.50	1.020	25.06	0.900	-	-	42.50	1.520	38.75	1.380
Jan	35.15	1.130	29.42	0.950	27.16	0.880	-	-	48.48	1.560	38.19	1.230
Total Annual Withdrawal	447.19		362.72		354.03 MG		Insufficient Data		Insufficient Data		447.1 MG	
Average Monthly Withdrawal	37.27 MG		30.23 MG		29.50 MG		42.86 MG		44.34 MG		37.26 MG	
Average Day	1.23 MG		1.00 MG		0.97 MG		1.40 MG		1.46 MG		1.23 MG	

Data Source: VDH Listing

Table 3-55: Estimated Disaggregated Uses for QMBC-Mainside

Category	Monthly Usage MGD (2007)	%
Residential	0	0
Commercial and Light Industrial	0	0
Heavy Industrial	0	0
Military	1.453	95.84
Production Process	0	0
Unaccounted-for-water	0	0
Sales	0.063	4.16
Other	0	0
Total	1.516	100%

Data Source: Source and Use Data Sheets (2007)

3.1.5 City of Alexandria

3.1.5.1. Public Community Water Systems

There is one public community water systems in the City of Alexandria: VA-American Water Company, which is a private company which purchases water from Fairfax Water and sells to the City. The system serves approximately of 143,885 people with approximately 25,148 service connections. Table 3-56 below summarizes the population served and the service connections for the system.

Table 3-56: Summary of Population Served for Public Community Water Systems in the City of Alexandria

System Name	Source	Approximate Population Served	Approximate Number of Connections
VA American Water Company – City of Alexandria	Fairfax Water	143,885	25,418

Data Source: VDH Listing

Available water use information for the City of Alexandria is presented in Tables 3-57 and 3-58. VA American - City of Alexandria is a public community water system that purchases water from the Fairfax Water. The average monthly water use in 2007 was 508.26 MG with an annual usage of 6099.13 MG.

Table 3-57: Annual and Monthly Average Withdrawal for VA American Water Company - City of Alexandria– 2002 – 2007

Month	2002		2003		2004		2005		2006		2007	
	Total Monthly Withdrawal (MG/Mo)	Average Daily Withdrawal (MGD)	Total Monthly Withdrawal (MG/Mo)	Average Daily Withdrawal (MGD)	Total Monthly Withdrawal (MG/Mo)	Average Daily Withdrawal (MGD)	Total Monthly Withdrawal (MG/Mo)	Average Daily Withdrawal (MGD)	Total Monthly Withdrawal (MG/Mo)	Average Daily Withdrawal (MGD)	Total Monthly Withdrawal (MG/Mo)	Average Daily Withdrawal (MGD)
Jan	526.65	16.989	548.86	17.705	491.16	15.844	453.47	14.628	464.18	14.974	421.21	13.588
Feb	437.28	15.617	458.00	16.357	425.82	15.208	433.22	15.472	425.63	15.201	447.47	15.981
Mar	456.15	14.714	448.20	14.458	517.59	16.696	535.08	17.261	540.70	17.442	433.10	13.971
Apr	490.36	16.345	458.34	15.278	487.33	16.244	469.80	15.660	570.55	19.018	436.26	14.542
May	582.15	18.779	579.56	18.695	498.76	16.089	478.73	15.443	531.92	17.159	568.93	18.353
June	558.91	18.630	500.37	16.679	541.49	18.050	588.84	19.628	605.62	20.187	548.47	18.282
July	698.97	22.547	626.60	20.213	621.18	20.038	567.58	18.309	524.29	16.913	605.37	19.528
Aug	675.35	21.786	564.04	18.195	523.12	16.875	693.13	22.359	678.21	21.878	656.54	21.179
Sept	571.05	19.035	501.43	16.714	603.32	20.111	644.08	21.469	503.24	16.775	526.05	17.535
Oct	595.74	19.217	585.00	18.871	486.02	15.678	572.78	18.477	462.06	14.905	594.13	19.166
Nov	438.33	14.611	437.71	14.590	450.14	15.005	611.82	20.394	455.70	15.190	449.98	14.999
Dec	493.41	15.916	528.19	17.039	537.11	17.326	573.84	18.511	413.31	13.333	411.62	13.278
Total Annual Withdrawal	6,524.34 MG		6,236.30 MG		6,183.04 MG		6,622.36 MG		6,175.41 MG		6,099.13 MG	
Average Monthly Withdrawal	543.69 MG		519.69 MG		515.25 MG		551.86 MG		514.62 MG		508.26 MG	
Average Day	17.875 MG		17.086 MG		16.940 MG		18.143 MG		16.919 MG		16.710 MG	

Data Source: Source and Use Data Sheets (2007)

Table 3-58: Estimated Disaggregated Uses for VA American - City of Alexandria *

Category	Monthly Usage MG (2007)	%
Residential Single Family	406.61	80
Commercial, Institutional, Light Industrial	50.83	10
Heavy Industrial	25.41	5
Military	0	0
Production Process	5.08	1
Unaccounted-for-water	0.33	4
Sales	0	0
Other	0	0
Total	508.26	100%

*Disaggregated use data is estimated.

3.1.5.2. Private Community Water Systems

There are no private community water systems in the City of Alexandria.

3.1.6 City of Fairfax

3.1.6.1. Public Community Water Systems

There is one public community water system in the City of Fairfax, which is served by Goose Creek and an associated water treatment plant. The system serves approximately 24,000 people, roughly 7,000 of whom are within Fairfax County, outside the City. There are approximately 11,187 service connections, total (roughly 2,900 outside the City). Table 3-59 summarizes the population served and the service connections for the City of Fairfax.

Table 3-59: Summary of Population Served for Public Community Water Systems in the City of Fairfax

System Name	Source	Approximate Population Served	Approximate Number of Connections
City of Fairfax	Goose Creek	24,000	11,187

Data Source: VDH Listing

Available water use information for the City of Fairfax is presented in Tables 3-60 and 3-61. The average monthly water use in 2007 for the City of Fairfax was 277.00 with an annual usage of 3323.97 MG.

Table 3-60: Annual and Monthly Average Withdrawal for City of Fairfax– 2002 – 2007

	2002		2003		2004		2005		2006		2007	
Month	Total Monthly Withdrawal (MG/Mo)	Average Daily Withdrawal (MGD)	Total Monthly Withdrawal (MG/Mo)	Average Daily Withdrawal (MGD)	Total Monthly Withdrawal (MG/Mo)	Average Daily Withdrawal (MGD)	Total Monthly Withdrawal (MG/Mo)	Average Daily Withdrawal (MGD)	Total Monthly Withdrawal (MG/Mo)	Average Daily Withdrawal (MGD)	Total Monthly Withdrawal (MG/Mo)	Average Daily Withdrawal (MGD)
Dec	174.03	5.61	359.21	11.59	280.05	9.030	280.05	9.030	246.57	7.950	258.54	8.340
Nov	314.62	10.49	356.78	11.89	297.33	9.910	288.63	9.620	254.28	8.480	160.11	5.340
Oct	390.60	12.60	391.62	12.630	323.05	10.420	329.93	10.640	272.27	8.780	114.86	3.710
Sept	290.10	9.67	413.97	13.800	343.26	11.440	388.80	12.960	291.48	9.720	186.48	6.220
Aug	371.38	11.98	429.99	13.87	354.71	11.44	381.24	12.300	413.51	13.340	275.68	8.890
July	351.85	11.35	432.18	13.94	372.84	12.030	362.45	11.690	370.26	11.940	454.12	14.650
June	420.41	14.01	372.82	12.43	389.31	12.980	359.58	11.990	336.30	11.210	407.31	13.580
May	402.25	12.98	386.23	12.46	412.15	13.300	346.67	11.180	354.55	11.440	398.85	12.870
Apr	379.22	12.64	319.29	10.640	370.26	12.340	316.68	10.560	318.39	10.610	293.37	9.780
Mar	360.01	11.61	330.21	10.650	367.78	11.860	289.94	9.350	313.94	10.130	273.85	8.830
Feb	323.67	11.56	297.99	10.64	338.44	11.67	274.88	9.820	270.03	9.640	256.65	9.170
Jan	348.43	11.24	330.20	10.65	360.81	11.64	290.63	9.380	278.26	8.980	244.16	7.880
Total Annual Withdrawal	4,192,000,000 MG		4,420,000,000		4,209,000,000		3,909.48 MG		3,719.84 MG		3,323.97 MG	
Average Monthly Withdrawal	315.59 MG		363.77 MG		350.67 MG		325.79 MG		309.99 MG		277.00 MG	
Average Day	10.24 MG		11.77 MG		11.48 MG		10.71 MG		10.18 MG		9.10 MG	

Data Source: VDH Listing

Table 3-61: Estimated Disaggregated Uses for the City of Fairfax *

Category	Monthly Usage MG (2007)	%
Residential Single Family	204.98	74
Commercial, Institutional, Light Industrial	27.70	10
Heavy Industrial	13.85	5
Military	0	0
Production Process	2.77	1
Unaccounted-for-water	27.70	10
Sales	0	0
Other	0	0
Total	277.00	100%

*Disaggregated use data is estimated.

3.1.6.2. Private Community Water Systems

There are no private community water systems in the City of Fairfax.

3.1.7 City of Falls Church

3.1.7.1. Public Community Water Systems

There are two public community water systems in the City of Falls Church. The City of Falls Church and the City of Falls Church-Arlington Special systems are served by water purchased from the Washington Aqueduct. These two systems serve a combined population of approximately 127,160 with 37,850 service connections. Approximately 115,800 of those served are outside City limits (including the Arlington Special system), while there are approximately 12,332 with the City, itself. Table 3-62 summarizes the population served and the service connections for each system.

Table 3-62: Summary of Population Served for Public Community Water Systems in the City of Falls Church

System Name	Source	Approximate Population Served	Approximate Number of Connections
City of Falls Church	Washington Aqueduct	128,132	37,850
City of Falls Church-Arlington Special	Washington Aqueduct	972	320
Total		120,972	36,037

Data Source: City of Falls Church Rate Study (May 2011)

Available water use information for the public community water systems in the City of Falls Church is presented in Tables 3-63 and 3-64. The average monthly water use in 2007 for the City of Falls Church and the City of Falls Church-Arlington Special was 533.46 MG with an annual usage of approximately 6,401.48 MG.

Table 3-63: Annual and Monthly Average Withdrawal for City of Falls Church/City of Falls Church-Arlington Special – 2003 – 2007

Month	2003		2004		2005		2006		2007	
	Total Monthly Withdrawal (MG/Mo)	Average Daily Withdrawal (MGD)	Total Monthly Withdrawal (MG/Mo)	Average Daily Withdrawal (MGD)	Total Monthly Withdrawal (MG/Mo)	Average Daily Withdrawal (MGD)	Total Monthly Withdrawal (MG/Mo)	Average Daily Withdrawal (MGD)	Total Monthly Withdrawal (MG/Mo)	Average Daily Withdrawal (MGD)
Jan	410.41	13.239	411.15	13.263	412.93	13.320	410.89	13.255	449.58	14.503
Feb	354.44	12.658	326.41	11.657	370.78	13.242	382.12	13.647	456.67	16.310
Mar	386.07	12.454	375.26	12.105	419.36	13.528	460.76	14.863	455.15	14.682
Apr	390.94	13.031	388.9	12.963	419.66	13.989	449.46	14.982	466.81	15.560
May	438.89	14.158	488.08	15.744	455.34	14.688	513.72	16.571	588.55	18.985
June	409.97	13.666	494.67	16.489	538.51	17.950	557.18	18.573	592.63	19.754
July	445.26	14.363	537.78	17.348	515.86	16.641	539.51	17.404	655.52	21.146
Aug	463.41	14.949	496.44	16.014	569.42	18.368	658.68	21.248	648.86	20.931
Sept	408.31	13.610	497.95	16.598	587.37	19.579	472.92	15.764	602.26	20.075
Oct	463.17	14.941	447.16	14.425	488.77	15.767	458.17	14.780	575.77	18.573
Nov	388.56	12.952	405.96	13.532	429.11	14.304	441.25	14.708	451.79	15.060
Dec	435.37	14.044	429.87	13.867	420.89	13.577	445.17	14.360	457.89	14.771
Total Annual Withdrawal	4,994.79 MG		5,299.61 MG		5,628.00 MG		5,789.83 MG		6,401.48 MG	
Average Monthly Withdrawal	416.23 MG		441.63 MG		469.00 MG		482.49 MG		533.46 MG	
Average Day	13.684 MG		14.519 MG		15.419 MG		15.863 MG		17.538 MG	

Data Source: Source and Use Data Sheets (2007)

Table 3-64: Estimated Disaggregated Uses for the City of Falls Church

Category	Monthly Usage MGD (2007)	%
Residential	9.804	55.58
Commercial and Light Industrial	4.354	24.68
Heavy Industrial	0	0.00
Military	0	0.00
Production Process	0	0.00
Unaccounted-for-water	1.754	9.94
Sales	1.728	9.80
Other	0	0.00
Total	17.640	100%

Data Source: Source and Use Data Sheets (2007)

3.1.7.2. Private Community Water Systems

There are no private community water systems in the City of Falls Church.

3.1.8 City of Manassas

3.1.8.1. Public Community Water Systems

There is one public community water system in the City of Manassas, which is served by water from Lake Manassas and an associated water treatment plant. This system serves approximately 37,568 people with approximately 10,887 service connections. Table 3-65 below shows the population served and the service connections for each system.

Table 3-65: Summary of Population Served for Public Community Water Systems in the City of Manassas

System Name	Source	Approximate Population Served	Approximate Number of Connections
City of Manassas	Lake Manassas	37,568	10,887

Data Source: VDH Listing

Available water use for the City of Manassas is presented in Tables 3-66 and 3-67. The average monthly water use in 2007 for the City of Manassas was 189.79 MG with an annual usage of approximately 2277.42 MG.

Table 3-66: Annual and Monthly Average Withdrawal for City of Manassas – 2002 – 2007

Month	2002		2003		2004		2005		2006		2007	
	Total Monthly Withdrawal (MG/Mo)	Average Daily Withdrawal (MGD)	Total Monthly Withdrawal (MG/Mo)	Average Daily Withdrawal (MGD)	Total Monthly Withdrawal (MG/Mo)	Average Daily Withdrawal (MGD)	Total Monthly Withdrawal (MG/Mo)	Average Daily Withdrawal (MGD)	Total Monthly Withdrawal (MG/Mo)	Average Daily Withdrawal (MGD)	Total Monthly Withdrawal (MG/Mo)	Average Daily Withdrawal (MGD)
Jan	-	-	152.64	4.924	128.16	4.134	141.30	4.558	123.99	4.000	186.97	6.031
Feb	-	-	164.63	5.880	118.97	4.249	115.39	4.121	155.02	5.537	185.84	6.637
Mar	-	-	185.33	5.978	110.3	3.558	134.68	4.344	188.70	6.087	185.92	5.998
Apr	-	-	187.22	6.241	156.33	5.211	126.64	4.221	157.09	5.236	181.89	6.063
May	-	-	210.84	6.801	168	5.419	148.06	4.776	183.50	5.919	185.23	5.975
June	-	-	162.93	5.431	135.59	4.520	170.66	5.689	209.70	6.990	214.73	7.158
July	-	-	183.58	5.922	158.51	5.113	187.21	6.039	169.95	5.482	281.79	9.090
Aug	-	-	175.97	5.676	170.41	5.497	194.26	6.267	212.97	6.870	179.20	5.781
Sept	-	-	132.57	4.419	134.98	4.499	128.24	4.275	214.25	7.142	134.31	4.477
Oct	-	-	156.93	5.062	123.98	3.999	236.38	7.625	181.46	5.853	190.33	6.140
Nov	-	-	105.60	3.520	139.58	4.653	160.29	5.343	175.14	5.838	167.25	5.575
Dec	-	-	134.78	4.348	164.25	5.298	161.98	5.225	183.10	5.906	183.97	5.935
Total Annual Withdrawal	-		1,953.02 MG		1,709.05 MG		1,905.09 MG		2,154.85 MG		2,277.42 MG	
Average Monthly Withdrawal	-		162.75 MG		142.42 MG		158.76 MG		179.57 MG		189.79 MG	
Average Day	-		5.351 MG		4.682 MG		5.219 MG		5.904 MG		6.240 MG	

Data Source: Source and Use Data Sheets (2007)

Table 3-67: Estimated Disaggregated Uses for the City of Manassas

Category	Monthly Usage MGD (2007)	%
Residential	2.050	18.24
Commercial and Light Industrial	1.430	12.72
Heavy Industrial	2.280	20.28
Military	0	0
Production Process	1.022	9.09
Unaccounted-for-water	0.490	4.36
Sales	3.97	35.31
Other	0	0
Total	11.242	100%

Data Source: Source and Use Data Sheets (2007)

3.1.8.2. Private Community Water Systems

There are no private community water systems in the City of Manassas.

3.1.9 City of Manassas Park

3.1.9.1. Public Community Water Systems

There is one public community water system in the City of Manassas Park, which is served by groundwater as well as by water purchased from the City of Manassas and PWCSA. The system serves approximately 14,050 people with approximately 3,871 service connections. Table 3-68 summarizes the population served and the service connections for the City of Manassas Park.

Table 3-68: Summary of Population Served for Public Community Water Systems in the City of Manassas Park

System Name	Source	Approximate Population Served	Approximate Number of Connections
City of Manassas Park	City of Manassas	14,050	3,871

Data Source: VDH Listing

Available water use information for the City of Manassas Park is presented in Tables 3-69 and 3-70. Complete monthly data for 2007 was unavailable at the time of this report. The average monthly water use in 2006 for the City of Manassas was 38.99 MG with an annual usage of approximately 467.93 MG.

Table 3-69: Annual and Monthly Average Withdrawal for City of Manassas Park – 2002 – 2007

Month	2002		2003		2004		2005		2006		2007	
	Total Monthly Withdrawal (MG/Mo)	Average Daily Withdrawal (MGD)	Total Monthly Withdrawal (MG/Mo)	Average Daily Withdrawal (MGD)	Total Monthly Withdrawal (MG/Mo)	Average Daily Withdrawal (MGD)	Total Monthly Withdrawal (MG/Mo)	Average Daily Withdrawal (MGD)	Total Monthly Withdrawal (MG/Mo)	Average Daily Withdrawal (MGD)	Total Monthly Withdrawal (MG/Mo)	Average Daily Withdrawal (MGD)
Dec	14.93	0.480	-	-	-	-	36.86	1.190	31.90	1.030	18.78	0.610
Nov	12.89	0.430	-	-	35.18	1.170	39.27	1.310	34.42	1.150	18.72	0.620
Oct	-	-	-	-	-	-	47.33	1.530	52.95	1.710	24.65	0.800
Sept	-	-	34.70	1.160	36.34	1.210	45.87	1.530	37.82	1.260	46.68	1.560
Aug	13.94	0.450	34.89	1.130	40.32	1.300	43.58	1.410	43.98	1.420	36.40	1.170
July	-	-	23.20	0.750	39.92	1.290	38.13	1.230	43.12	1.390	-	-
June	-	-	-	-	42.06	1.400	41.50	1.380	39.83	1.330	8.08	0.270
May	-	-	11.35	0.370	36.21	1.170	42.24	1.360	40.14	1.290	4.07	0.130
Apr	-	-	12.26	0.410	33.2	1.110	39.14	1.300	35.89	1.200	-	-
Mar	-	-	15.34	0.490	35.41	1.140	44.94	1.450	38.93	1.260	28.97	0.930
Feb	-	-	-	-	31.67	1.130	33.61	1.200	32.13	1.150	22.96	0.820
Jan	-	-	16.17	0.520	37.7	1.220	42.96	1.390	36.82	1.190	30.81	0.990
Total Annual Withdrawal	Insufficient DATA		Insufficient DATA		447.64 MG		495.43 MG		467.93 MG		Insufficient DATA	
Average Monthly Withdrawal	13.92 MG		21.13 MG		37.30 MG		41.29 MG		38.99 MG		24.01 MG	
Average Day	0.45 MG		0.69 MG		1.22 MG		1.36 MG		1.28 MG		0.79 MG	

Data Source: VDH Listing

Table 3-70: Estimated Disaggregated Uses for City of Manassas Park

Category	Monthly Usage MGD (2006)	%
Residential	1.131	71.99
Commercial and Light Industrial	0.126	8.02
Heavy Industrial	0	0
Military	0	0
Production Process	0	0
Unaccounted-for-water	0.314	19.99
Sales	0	0
Other	0	0
Total	1.571	100%

Data Source: Source and Use Data Sheets (2007)

3.1.9.2. Private Community Water Systems

There are no private community water systems in the City of Manassas Park.

3.1.10 Town of Clifton

There are no public or private community water systems in the Town of Clifton.

3.1.11 Town of Dumfries

The Town of Dumfries is served by the PWCSA and all components of the water system belong to the PWCSA. For water use information for Prince William County refer to Section 3.1.5.

3.1.12 Town of Hamilton

3.1.12.1. Public Community Water Systems

There is one public community water systems in the Town of Hamilton, which serves approximately 2,000 people with approximately 665 service connections. Table 3-71 summarizes the population and service connection information for the Town of Hamilton.

Table 3-71: Summary of Population Served for Private Community Water Systems in the Town of Hamilton

System Name	Source	Approximate Population Served	Approximate Number of Connections
Town of Hamilton	Groundwater	2,000	665

Data Source: VDH Listing

Available water use information for the Town of Hamilton is presented in Tables 3-72 and 3-73. The average monthly water use in 2007 was 3.700 MG with an annual usage of 44.395 MG.

Table 3-72 Annual and Monthly Average Withdrawal for the Town of Hamilton – 2002 – 2007

Month	Well #	2002		2003		2004		2005		2006		2007	
		Withdrawal (MG)	Total Monthly Withdrawal (MG)	Withdrawal (MG)	Total Monthly Withdrawal (MG)	Withdrawal (MG)	Total Monthly Withdrawal (MG)	Withdrawal (MG)	Total Monthly Withdrawal (MG)	Withdrawal (MG)	Total Monthly Withdrawal (MG)	Withdrawal (MG)	Total Monthly Withdrawal (MG)
Jan	1	0.336	3.563	0.334	3.757	0.415	3.995	0.347	3.860	0.367	3.741	0.435	4.009
	10	0.000		0.263		0.250		0.213		0.209		0.206	
	11	0.751		0.608		0.806		0.729		0.711		0.666	
	12	0.392		0.384		0.228		0.449		0.499		0.420	
	4A	0.556		0.532		0.530		0.500		0.637		0.642	
	6	1.037		0.947		0.667		0.767		0.881		1.204	
	7	0.000		0.238		0.512		0.351		0.000		0.000	
	8	0.403		0.379		0.510		0.441		0.378		0.361	
	9	0.088		0.072		0.077		0.063		0.059		0.076	
Feb	1	0.302	2.990	0.308	3.492	0.365	3.776	0.327	3.491	0.331	3.236	0.376	3.375
	10	0.000		0.221		0.213		0.193		0.179		0.176	
	11	0.619		0.586		0.646		0.663		0.620		0.559	
	12	0.349		0.319		0.425		0.375		0.422		0.344	
	4A	0.506		0.497		0.509		0.476		0.536		0.554	
	6	0.807		0.867		0.709		0.701		0.758		0.990	
	7	0.000		0.320		0.427		0.323		0.000		0.000	
	8	0.341		0.308		0.416		0.378		0.334		0.300	
	9	0.066		0.066		0.066		0.055		0.056		0.076	
Mar	1	0.326	3.255	0.343	3.790	0.391	3.904	0.427	3.619	0.389	3.743	0.402	3.446
	10	0.000		0.261		0.174		0.246		0.198		0.186	
	11	0.659		0.703		0.688		0.832		0.713		0.606	
	12	0.385		0.369		0.406		0.488		0.491		0.367	
	4A	0.552		0.563		0.614		0.630		0.646		0.592	

Month	Well #	2002		2003		2004		2005		2006		2007	
		Withdrawal (MG)	Total Monthly Withdrawal (MG)	Withdrawal (MG)	Total Monthly Withdrawal (MG)	Withdrawal (MG)	Total Monthly Withdrawal (MG)	Withdrawal (MG)	Total Monthly Withdrawal (MG)	Withdrawal (MG)	Total Monthly Withdrawal (MG)	Withdrawal (MG)	Total Monthly Withdrawal (MG)
	6	0.877		0.942		0.810		0.332		0.856		0.964	
	7	0.000		0.203		0.307		0.414		0.000		0.000	
	8	0.378		0.341		0.441		0.177		0.384		0.246	
	9	0.078		0.065		0.073		0.073		0.066		0.084	
Apr	1	0.336	3.338	0.340	3.504	0.391	3.728	0.384	3.677	0.377	3.787	0.412	3.637
	10	0.000		0.231		0.239		0.221		0.198		0.192	
	11	0.662		0.652		0.394		0.734		0.684		0.624	
	12	0.393		0.343		0.431		0.470		0.489		0.374	
	4A	0.535		0.526		0.629		0.577		0.634		0.637	
	6	0.952		0.846		0.745		0.551		0.937		1.050	
	7	0.000		0.187		0.407		0.381		0.000		0.000	
	8	0.387		0.311		0.452		0.293		0.398		0.267	
	9	0.073		0.068		0.040		0.066		0.071		0.082	
May	1	0.350	3.573	0.329	3.823	0.400	4.255	0.372	3.917	0.434	4.275	0.455	4.372
	10	0.000		0.230		0.234		0.227		0.224		0.236	
	11	0.754		0.744		0.881		0.726		0.744		0.617	
	12	0.413		0.381		0.350		0.474		0.545		0.449	
	4A	0.512		0.549		0.674		0.565		0.723		0.714	
	6	1.027		1.003		0.888		0.886		1.063		1.503	
	7	0.000		0.126		0.294		0.284		0.000		0.000	
	8	0.437		0.383		0.461		0.315		0.452		0.325	
	9	0.080		0.078		0.073		0.068		0.091		0.072	
Jun	1	0.373	3.604	0.355	3.822	0.370	3.846	0.409	4.004	0.428	3.991	0.478	3.871
	10	0.000		0.254		0.225		0.225		0.209		0.215	
	11	0.768		0.766		0.780		0.727		0.679		0.683	
	12	0.424		0.345		0.388		0.498		0.527		0.373	

Month	Well #	2002		2003		2004		2005		2006		2007	
		Withdrawal (MG)	Total Monthly Withdrawal (MG)	Withdrawal (MG)	Total Monthly Withdrawal (MG)	Withdrawal (MG)	Total Monthly Withdrawal (MG)	Withdrawal (MG)	Total Monthly Withdrawal (MG)	Withdrawal (MG)	Total Monthly Withdrawal (MG)	Withdrawal (MG)	Total Monthly Withdrawal (MG)
	4A	0.516		0.506		0.638		0.641		0.653		0.745	
	6	0.982		0.993		0.662		0.849		0.964		1.124	
	7	0.000		0.118		0.271		0.282		0.000		0.000	
	8	0.447		0.409		0.446		0.309		0.431		0.167	
	9	0.094		0.076		0.066		0.064		0.101		0.086	
Jul	1	0.434	4.120	0.381	3.920	0.387	4.194	0.413	3.997	0.442	4.108	0.458	3.875
	10	0.000		0.263		0.239		0.207		0.222		0.206	
	11	0.834		0.774		0.848		0.680		0.668		0.686	
	12	0.459		0.371		0.420		0.533		0.484		0.415	
	4A	0.627		0.550		0.699		0.654		0.708		0.734	
	6	1.223		0.951		0.823		0.839		1.012		0.977	
	7	0.000		0.144		0.254		0.276		0.000		0.000	
	8	0.450		0.413		0.456		0.333		0.464		0.289	
	9	0.093		0.073		0.068		0.062		0.109		0.110	
Aug	1	0.418	4.117	0.402	4.021	0.391	4.037	0.415	4.152	0.513	4.083	0.393	3.544
	10	0.219		0.256		0.189		0.227		0.245		0.177	
	11	0.766		0.816		0.818		0.718		0.688		0.538	
	12	0.427		0.378		0.432		0.517		0.000		0.352	
	4A	0.636		0.573		0.582		0.657		0.855		0.635	
	6	1.162		0.946		0.838		0.881		1.120		0.844	
	7	0.000		0.176		0.270		0.305		0.000		0.000	
	8	0.384		0.400		0.443		0.352		0.551		0.479	
	9	0.105		0.074		0.074		0.080		0.111		0.127	
Sep	1	0.348	3.494	0.045	4.044	0.340	3.732	0.377	3.798	0.418	3.379	0.394	3.572
	10	0.220		0.281		0.229		0.211		0.247		0.175	
	11	0.608		0.899		0.778		0.688		0.558		0.534	

		2002		2003		2004		2005		2006		2007	
Month	Well #	Withdrawal (MG)	Total Monthly Withdrawal (MG)	Withdrawal (MG)	Total Monthly Withdrawal (MG)	Withdrawal (MG)	Total Monthly Withdrawal (MG)	Withdrawal (MG)	Total Monthly Withdrawal (MG)	Withdrawal (MG)	Total Monthly Withdrawal (MG)	Withdrawal (MG)	Total Monthly Withdrawal (MG)
	12	0.335		0.400		0.423		0.555		0.219		0.354	
	4A	0.553		0.064		0.476		0.628		0.592		0.652	
	6	0.865		1.263		0.712		0.847		0.786		0.873	
	7	0.200		0.511		0.285		0.038		0.000		0.000	
	8	0.301		0.495		0.419		0.372		0.466		0.474	
	9	0.064		0.086		0.070		0.082		0.093		0.117	
Oct	1	0.349		3.690		0.000		3.956		0.362		3.793	
	10	0.221	0.290		0.221	0.218	0.248		0.175				
	11	0.650	0.963		0.760	0.725	0.345		0.540				
	12	0.361	0.385		0.428	0.536	0.446		0.359				
	4A	0.554	0.000		0.513	0.646	0.722		0.627				
	6	0.925	1.095		0.780	0.835	1.113		0.958				
	7	0.229	0.567		0.241	0.000	0.000		0.000				
	8	0.333	0.564		0.420	0.368	0.421		0.472				
	9	0.068	0.092		0.068	0.083	0.077		0.111				
Nov	1	0.322	3.529	0.000	3.646	0.362	3.831	0.383	3.746	0.386	3.403	0.375	3.507
	10	0.223		0.281		0.219		0.211		0.182		0.165	
	11	0.626		0.941		0.743		0.720		0.578		0.511	
	12	0.346		0.310		0.421		0.487		0.354		0.342	
	4A	0.510		0.000		0.514		0.636		0.561		0.592	
	6	0.906		0.968		0.805		0.857		0.940		0.972	
	7	0.213		0.515		0.288		0.000		0.000		0.000	
	8	0.328		0.539		0.415		0.364		0.323		0.447	
	9	0.055		0.092		0.064		0.088		0.080		0.104	
Dec	1	0.334	3.683	0.229	4.094	0.354	3.722	0.417	3.900	0.413	3.658	0.416	3.547
	10	0.231		0.283		0.212		0.210		0.201		0.182	

		2002		2003		2004		2005		2006		2007						
Month	Well #	Withdrawal (MG)	Total Monthly Withdrawal (MG)	Withdrawal (MG)	Total Monthly Withdrawal (MG)	Withdrawal (MG)	Total Monthly Withdrawal (MG)	Withdrawal (MG)	Total Monthly Withdrawal (MG)	Withdrawal (MG)	Total Monthly Withdrawal (MG)	Withdrawal (MG)	Total Monthly Withdrawal (MG)					
	11	0.680		0.961		0.740		0.743		0.639		0.535						
	12	0.396		0.058		0.354		0.594		0.372								
	4A	0.541		0.420		0.508		0.603		0.604								
	6	0.958		1.030		0.728		0.889		1.023								
	7	0.124		0.487		0.307		0.000		0.000								
	8	0.362		0.536		0.452		0.375		0.326								
	9	0.057		0.090		0.067		0.069		0.079								
Total Annual Withdrawal		42.956 MG				45.869 MG				46.813 MG				45.962 MG		45.280 MG		44.395 MG
Average Monthly Withdrawal		3.580 MG				3.869 MG				3.901 MG				3.830 MG		3.773 MG		3.700 MG
Average Day		0.118 MG		0.126 MG		0.128 MG		0.126 MG		0.124 MG		0.122 MG						

Data Source: DEQ Water Use Database

Table 3-73: Estimated Disaggregated Uses for the Town of Hamilton *

Category	Monthly Usage MG (2007)	%
Residential Single Family	2.74	74
Commercial, Institutional, Light Industrial	0.37	10
Heavy Industrial	0.19	5
Military	0	0
Production Process	0.04	1
Unaccounted-for-water	0.37	10
Sales	0	0
Other	0	0
Total	3.70	100%

*Disaggregated use data is estimated.

3.1.12.2. Private Community Water Systems

There are no private community water systems in the Town of Hamilton.

3.1.13 Town of Haymarket

The Town of Haymarket is served by the PWCSA and all components of the water system belong to the PWCSA. For water use information for Prince William County refer to Section 3.1.5.

3.1.14 Town of Herndon

3.1.14.1. Public Community Water Systems

There is one public community water system in the Town of Herndon, which is served by water purchased from Fairfax Water. This system serves approximately 23,496 people with approximately 5,400 service connections. Table 3-74 summarizes the population served and the service connections for the Town of Herndon.

Table 3-74: Summary of Population Served for Public Community Water Systems in the Town of Herndon

System Name	Source	Approximate Population Served	Approximate Number of Connections
Town of Herndon	Fairfax Water	23,496	5,400

Data Source: VDH Listing

Available water use information for the Town of Herndon is presented in Tables 3-75 and 3-76. The average monthly water use in 2007 for the Town of Herndon was 79.01 MG with an annual usage of approximately 948.12 MG.

Table 3-75: Annual and Monthly Average Withdrawal for Town of Herndon – 2002 – 2007

Month	2002		2003		2004		2005		2006		2007	
	Total Monthly Withdrawal (MG/Mo)	Average Daily Withdrawal (MGD)	Total Monthly Withdrawal (MG/Mo)	Average Daily Withdrawal (MGD)	Total Monthly Withdrawal (MG/Mo)	Average Daily Withdrawal (MGD)	Total Monthly Withdrawal (MG/Mo)	Average Daily Withdrawal (MGD)	Total Monthly Withdrawal (MG/Mo)	Average Daily Withdrawal (MGD)	Total Monthly Withdrawal (MG/Mo)	Average Daily Withdrawal (MGD)
Dec	63.37	2.044	65.06	2.099	76.96	2.483	63.37	2.044	62.93	2.030	60.98	1.967
Nov	71.81	2.394	65.30	2.177	64.43	2.148	71.81	2.394	71.82	2.394	65.68	2.189
Oct	71.48	2.306	88.46	2.853	69.49	2.241	71.48	2.306	71.72	2.313	84.27	2.718
Sept	86.49	2.883	73.74	2.458	85.52	2.851	86.49	2.883	72.76	2.425	84.07	2.802
Aug	73.80	2.381	76.80	2.477	75.19	2.425	92.63	2.988	104.69	3.377	100.20	3.232
July	78.41	2.529	81.38	2.625	87.05	2.808	78.41	2.529	81.43	2.627	96.32	3.107
June	86.44	2.881	71.98	2.399	74.62	2.487	86.44	2.881	95.31	3.177	91.04	3.035
May	70.29	2.267	75.04	2.421	69.44	2.240	70.29	2.267	73.66	2.376	90.96	2.934
Apr	67.04	2.235	59.08	1.969	66.03	2.201	67.04	2.235	64.98	2.166	68.78	2.293
Mar	74.24	2.395	58.13	1.875	70.49	2.274	74.24	2.395	72.27	2.331	68.13	2.198
Feb	61.73	2.205	60.75	2.170	57.66	20.59	61.73	2.205	59.02	2.108	70.57	2.520
Jan	63.71	2.055	71.08	2.293	64.79	2.090	63.71	2.055	62.88	2.028	64.98	2.096
Total Annual Withdrawal	868.79 MG		846.79 MG		861.63 MG		887.61 MG		893.43 MG		945.95 MG	
Average Monthly Withdrawal	72.40 MG		70.57 MG		71.80 MG		73.97 MG		74.45 MG		78.83 MG	
Average Day	2.380 MG		2.320 MG		2.361 MG		2.432 MG		2.448 MG		2.592 MG	

Data Source: Source and Use Data Sheets (2007)

Table 3-76: Estimated Disaggregated Uses for the Town of Herndon

Category	Monthly Usage MGD (2004)	%
Residential	1.154	48.88
Commercial and Light Industrial	0.935	39.60
Heavy Industrial	0	0
Military	0	0
Production Process	0	0
Unaccounted-for-water	0.261	11.05
Sales	0	0
Other	0.011	0.47
Total	2.361	100%

Data Source: Source and Use Data Sheets (2007)

3.1.14.2. Private Community Water Systems

There are no private community water systems in the Town of Herndon.

3.1.15 Town of Leesburg

3.1.15.1. Public Community Water Systems

The Town of Leesburg operates one public community water system in the Town of Leesburg which is served by the Potomac River, one groundwater well, and a water treatment plant. Table 3-77 summarizes the population and connection information for the Town of Leesburg.

Table 3-77: Summary of Population Served for Public Community Water Systems in the Town of Leesburg

System Name	Source	Approximate Population Served	Approximate Number of Connections
Town of Leesburg	Potomac River Groundwater Well	44,578	15,031

Data Source: Source and Use Data Sheets (2007)

Available water use information for the Town of Leesburg is presented in Tables 3-78 and 3-79. The average monthly water use in 2007 for the Town of Leesburg was 145.53 MG with an annual usage of approximately 1746.30 MG.

Table 3-78: Annual and Monthly Average Withdrawal for the Town of Leesburg – 2002 – 2007

	2002		2003		2004		2005		2006		2007	
Month	Total Monthly Withdrawal (MG/Mo)	Average Daily Withdrawal (MGD)	Total Monthly Withdrawal (MG/Mo)	Average Daily Withdrawal (MGD)	Total Monthly Withdrawal (MG/Mo)	Average Daily Withdrawal (MGD)	Total Monthly Withdrawal (MG/Mo)	Average Daily Withdrawal (MGD)	Total Monthly Withdrawal (MG/Mo)	Average Daily Withdrawal (MGD)	Total Monthly Withdrawal (MG/Mo)	Average Daily Withdrawal (MGD)
Jan	109.67	3.540	116.13	3.750	113.96	3.680	118.69	3.830	117.67	3.800	113.10	3.650
Feb	96.90	3.460	102.62	3.670	107.37	3.830	105.77	3.780	105.39	3.760	103.41	3.690
Mar	108.72	3.510	113.63	3.670	113.03	3.650	115.68	3.730	119.36	3.850	116.01	3.740
Apr	114.92	3.830	111.33	3.710	115.03	3.830	121.48	4.050	126.39	4.210	124.72	4.160
May	125.84	4.060	117.62	3.790	128	4.130	147.78	4.770	153.45	4.950	170.56	5.500
June	141.08	4.700	119.26	3.980	134.02	4.470	159.23	5.310	157.50	5.250	182.21	6.070
July	166.08	5.360	141.72	4.570	156.71	5.060	154.90	5.000	170.08	5.490	209.76	6.770
Aug	170.84	5.510	138.51	4.470	156.15	5.040	167.48	5.400	198.50	6.400	174.39	5.630
Sept	134.97	4.500	119.58	3.990	140.76	4.690	176.75	5.890	134.95	4.500	164.24	5.470
Oct	123.19	3.970	120.36	3.880	130.45	4.210	141.32	4.560	131.89	4.250	147.99	4.770
Nov	107.55	3.590	107.48	3.580	113.45	3.780	118.72	3.960	112.86	3.760	118.57	3.950
Dec	113.96	3.680	111.27	3.590	116.43	3.760	119.10	3.840	119.88	3.870	121.34	3.910
Total Annual Withdrawal	1,513.71 MG		1,419.51 MG		1,525.36 MG		1,646.92 MG		1,647.91 MG		1,746.30 MG	
Average Monthly Withdrawal	126.14 MG		118.29 MG		127.11 MG		137.24 MG		137.33 MG		145.53 MG	
Average Day	4.147 MG		3.889 MG		4.179 MG		4.512 MG		4.515 MG		4.784 MG	

Data Source: Source and Use Data Sheets (2007)

Table 3-79: Estimated Disaggregated Uses for the Town of Leesburg

Category	Monthly Usage MG (2006)	%
Residential	1082.447	76.06
Commercial Light Industrial	182.621	12.83
Heavy Industrial	0	0
Military	0	0
Production Process	0	0
Unaccounted-for-water	92.014	6.47
Sales	0	0
Other	66.072	4.64
Total	1423.154	100%

Data Source: Source and Use Data Sheets (2007)

3.1.15.2. Private Community Water Systems

There are no privately owned community water systems in the Town of Leesburg.

3.1.16 Town of Lovettsville

3.1.16.1. Public Community Water Systems

There is one public community water system in the Town of Lovettsville, which utilizes groundwater and serves approximately 1,613 with approximately 664 service connections. Table 3-80 summarizes the population served and the service connections for the Town of Lovettsville.

Table 3-80: Summary of Population Served for Public Community Water Systems in the Town of Lovettsville

System Name	Source	Approximate Population Served	Approximate Number of Connections
Town of Lovettsville	Groundwater	1,613	664

Data Source: VDH Listing

Available water use information for the Town of Lovettsville is presented in Tables 3-81 and 3-82. The average monthly water use in 2007 for the Town of Lovettsville was 3.45 MG with an annual usage of approximately 41.35 MG.

Table 3-81: Annual and Monthly Average Withdrawal for Town of Lovettsville – 2002 – 2007

Month	Well #	2002		2003		2004		2005		2006		2007	
		Withdrawal (MG)	Total Monthly Withdrawal (MG)	Withdrawal (MG)	Total Monthly Withdrawal (MG)	Withdrawal (MG)	Total Monthly Withdrawal (MG)	Withdrawal (MG)	Total Monthly Withdrawal (MG)	Withdrawal (MG)	Total Monthly Withdrawal (MG)	Withdrawal (MG)	Total Monthly Withdrawal (MG)
Jan	KR-1		3.312		3.240		3.555	0.000	1.809	0.172	2.964	1.473	3.017
	3	2.012		2.517		2.699		0.831		1.550		0.716	
	4	0.000		0.000		0.000		0.000		0.000		0.828	
	5	1.300		0.723		0.856		0.978		1.242		0.000	
Feb	KR-1		3.057		2.842		2.985	0.000	1.830	0.377	2.819	1.184	2.663
	3	1.875		2.159		2.314		0.551		1.276		0.695	
	4	0.002		0.000		0.000		0.578		0.000		0.784	
	5	1.180		0.683		0.671		0.701		1.165		0.001	
Mar	KR-1		3.229		3.275		3.190	0.000	2.046	0.314	2.951	1.314	3.073
	3	1.976		2.419		2.411		0.469		1.333		0.800	
	4	0.000		0.000		0.000		0.941		0.000		0.959	
	5	1.253		0.856		0.779		0.636		1.304		0.001	
Apr	KR-1		3.350		2.965		2.950	0.000	2.323	0.377	3.338	1.615	3.182
	3	2.077		2.073		2.201		0.471		1.622		0.857	
	4	0.000		0.029		0.000		1.084		0.177		0.710	
	5	1.273		0.863		0.749		0.768		1.163		0.001	
May	KR-1		3.436		2.280		2.780	0.000	2.643	0.312	4.691	2.938	3.891
	3	2.161		1.582		2.188		0.320		1.623		0.728	
	4	0.000		0.000		0.000		1.428		1.691		0.224	
	5	1.275		0.698		0.592		0.895		1.065		0.001	
Jun	KR-1		3.569		2.532		2.875	0.000	2.951	0.496	4.658	2.859	4.402
	3	2.289		1.819		1.920		0.435		1.490		0.874	
	4	0.000		0.000		0.385		1.631		1.555		0.668	
	5	1.280		0.713		0.570		0.885		1.118		0.001	
Jul	KR-1		3.726		3.001		2.597	0.000	2.824	0.193	4.474	2.814	4.337

		2002		2003		2004		2005		2006		2007	
Month	Well #	Withdrawal (MG)	Total Monthly Withdrawal (MG)	Withdrawal (MG)	Total Monthly Withdrawal (MG)	Withdrawal (MG)	Total Monthly Withdrawal (MG)	Withdrawal (MG)	Total Monthly Withdrawal (MG)	Withdrawal (MG)	Total Monthly Withdrawal (MG)	Withdrawal (MG)	Total Monthly Withdrawal (MG)
	3	2.357		2.251		1.132		0.391		1.497		0.854	
	4	0.000		0.000		0.807		1.482		1.652		0.669	
	5	1.369		0.750		0.658		0.951		1.132		0.000	
Aug	KR-1		2.938		3.003		2.184	0.000	2.792	0.609	5.484	2.857	4.273
	3	1.644		2.252		0.811		0.760		1.781		0.769	
	4	0.000		0.000		0.768		1.206		1.832		0.637	
	5	1.294		0.751		0.605		0.826		1.263		0.009	
Sep	KR-1		3.019		3.246		2.239	0.000	3.012	1.605	3.945	2.572	3.813
	3	1.745		2.457		0.964		0.954		0.862		0.637	
	4	0.000		0.000		0.686		1.224		0.879		0.604	
	5	1.274		0.789		0.589		0.834		0.599		0.000	
Oct	KR-1		3.040		3.336		2.060	0.000	2.974	1.688	3.820	1.891	3.107
	3	1.930		2.568		0.771		1.025		0.821		0.655	
	4	0.000		0.000		0.875		1.052		0.824		0.558	
	5	1.110		0.768		0.414		0.897		0.488		0.003	
Nov	KR-1		2.592		3.317		2.313	0.000	2.733	1.327	2.720	1.456	2.883
	3	2.060		2.473		0.726		1.076		0.659		0.935	
	4	0.000		0.000		0.945		0.739		0.724		0.492	
	5	0.532		0.844		0.642		0.918		0.010		0.000	
Dec	KR-1							0.311		1.340		1.562	
	3	2.245		2.582		0.767		1.571		0.710		0.637	
	4	0.003		0.085		0.456		0.000		0.794		0.510	
	5	0.646		0.857		0.771		1.251		0.000		0.001	
Total Annual Withdrawal		38.162 MG		36.561 MG		31.722 MG		31.070 MG		44.709 MG		41.351 MG	

		2002		2003		2004		2005		2006		2007	
Month	Well #	Withdrawal (MG)	Total Monthly Withdrawal (MG)	Withdrawal (MG)	Total Monthly Withdrawal (MG)	Withdrawal (MG)	Total Monthly Withdrawal (MG)	Withdrawal (MG)	Total Monthly Withdrawal (MG)	Withdrawal (MG)	Total Monthly Withdrawal (MG)	Withdrawal (MG)	Total Monthly Withdrawal (MG)
Average Monthly Withdrawal		3.180 MG		3.047 MG		2.643 MG		2.589 MG		3.726 MG		3.446MG	
Average Day		0.105 MG		0.100 MG		0.087 MG		0.085 MG		0.122 MG		0.113 MG	

Data Source: DEQ Water Use Database

Table 3-82: Estimated Disaggregated Uses for the Town of Lovettsville*

Category	Monthly Usage MG (2007)	%
Residential Single Family	2.73	79
Commercial, Institutional, Light Industrial	0.28	8
Heavy Industrial	0	0
Military	0	0
Production Process	0.17	5
Unaccounted-for-water	0.28	8
Sales	0	0
Other	0	0
Total	3.46	100%

*Disaggregated use data is estimated.

3.1.16.2. Private Community Water Systems

There are no private community water systems in the Town of Lovettsville.

3.1.17 Town of Middleburg

3.1.17.1. Public Community Water Systems

There is one public community water system in the Town of Middleburg, which utilizes groundwater and serves approximately 675 people with approximately 446 service connections. Table 3-83 summarizes the population served and the service connections for the Town of Middleburg.

Table 3-83: Summary of Population Served for Public Community Water Systems in the Town of Middleburg

System Name	Source	Approximate Population Served	Approximate Number of Connections
Town of Middleburg	Groundwater	675	446

Data Source: VDH Listing

Available water use information for the Town of Middleburg is presented in Tables 3-84 and 3-85. The average monthly water use in 2007 for the Town of Middleburg was 3.508 MG with an

annual usage of approximately 42.10 MG. Information prior to 2005 was limited or unavailable at the time of this report.

Table 3-84: Annual and Monthly Average Withdrawal for Town of Middleburg – 2002 – 2007

Month	2002		2003		2004		2005		2006		2007	
	Total Monthly Withdrawal (MG/Mo)	Average Daily Withdrawal (MGD)	Total Monthly Withdrawal (MG/Mo)	Average Daily Withdrawal (MGD)	Total Monthly Withdrawal (MG/Mo)	Average Daily Withdrawal (MGD)	Total Monthly Withdrawal (MG/Mo)	Average Daily Withdrawal (MGD)	Total Monthly Withdrawal (MG/Mo)	Average Daily Withdrawal (MGD)	Total Monthly Withdrawal (MG/Mo)	Average Daily Withdrawal (MGD)
Dec	3.4	0.110	3.5	0.113	4.5	0.145	5.4	0.174	4.2	0.135	3.3	0.106
Nov	3.1	0.103	3.6	0.120	5.2	0.173	3.8	0.136	4.1	0.139	2.90	0.104
Oct	3.1	0.100	3.6	0.116	5.3	0.171	4.3	0.139	4.0	0.129	3.70	0.106
Sept	3.3	0.11	3.4	0.113	5.2	0.173	3.8	0.123	4.1	0.137	3.30	0.110
Aug	3.7	0.119	3.4	0.119	4.7	0.152	4.1	0.132	4.5	0.145	3.80	0.123
July	3.5	0.113	3.8	0.123	4.3	0.139	4.0	0.133	4.1	0.137	3.60	0.120
June	3.2	0.107	4.5	0.150	4.0	0.133	4.1	0.132	3.3	0.106	3.80	0.123
May	3.1	0.100	3.9	0.126	4.1	0.132	3.3	0.106	3.6	0.116	3.90	0.126
Apr	3.2	0.107	4.0	0.133	3.7	0.123	4.1	0.137	3.2	0.107	3.60	0.120
Mar	3.3	0.106	4.1	0.132	3.8	0.123	4.3	0.139	3.4	0.110	3.50	0.113
Feb	2.9	0.104	3.4	0.121	3.8	0.136	4.3	0.143	3.2	0.103	3.50	0.117
Jan	3.1	0.100	3.8	0.123	3.5	0.113	3.9	0.126	3.3	0.106	3.20	0.103
Total Annual Withdrawal	38.90 MG		45.00 MG		52.10 MG		49.40 MG		45.00 MG		42.10 MG	
Average Monthly Withdrawal	3.240 MG		3.750 MG		4.341 MG		4.117 MG		3.750 MG		3.508 MG	
Average Day	0.107 MG		0.123 MG		0.143 MG		0.135 MG		0.123 MG		0.115 MG	

Data Source: DEQ Water Use Database

Table 3-85: Estimated Disaggregated Uses for the Town of Middleburg – 2002 – 2007*

Category	Monthly Usage MG (2007)	%
Residential Single Family	2.63	75
Commercial, Institutional, Light Industrial	0.56	16
Heavy Industrial	0	0
Military	0	0
Production Process	0.04	1
Unaccounted-for-water	0.28	8
Sales	0	0
Other	0	0
Total	3.51	100%

*Disaggregated use data is estimated.

3.1.17.2. Private Community Water Systems

There are no private community water systems in the Town of Middleburg.

3.1.18 Town of Occoquan

The Town of Occoquan is served by the PWCSA and all components of the water system belong to the PWCSA. For water use information for Prince William County refer to Section 3.1.5.

3.1.19 Town of Purcellville

3.1.19.1. Public Community Water Systems

The Town of Purcellville operates one public community water system. The Town of Purcellville public community water system consists of the groundwater wells, Hirst Reservoir/Cooper Spring Empoundment, and a water treatment plant. Table 3-86 summarizes the population and service connections information for Purcellville.

Table 3-86: Summary of Population Served for Public Community Water Systems in the Town of Purcellville

System Name	Source	Approximate Population Served	Approximate Number of Connections
Town of Purcellville	Hirst Reservoir/ Cooper Spring Empoundment, Groundwater Wells	6,945	2,562

Data Source: Source and Use Data Sheets (2007)

Available water use information for the Town of Purcellville is presented in Tables 3-87 and 3-88. The average monthly water use in 2007 for the Town of Purcellville was 17.49 MG with an annual usage of approximately 209.90 MG.

Table 3-87: Annual and Monthly Average Withdrawal for the Town of Purcellville – 2002 – 2007

Month	2002		2003		2004		2005		2006		2007	
	Total Monthly Withdrawal (MG/Mo)	Average Daily Withdrawal (MGD)	Total Monthly Withdrawal (MG/Mo)	Average Daily Withdrawal (MGD)	Total Monthly Withdrawal (MG/Mo)	Average Daily Withdrawal (MGD)	Total Monthly Withdrawal (MG/Mo)	Average Daily Withdrawal (MGD)	Total Monthly Withdrawal (MG/Mo)	Average Daily Withdrawal (MGD)	Total Monthly Withdrawal (MG/Mo)	Average Daily Withdrawal (MGD)
Jan	10.07	0.320	11.74	0.380	13.36	0.430	15.75	0.510	15.80	0.510	14.26	0.460
Feb	10.61	0.380	11.68	0.420	14.08	0.500	14.18	0.510	14.39	0.510	14.48	0.467
Mar	11.86	0.380	12.06	0.390	15.56	0.500	15.55	0.500	15.82	0.510	16.32	0.526
Apr	11.20	0.370	15.44	0.510	16.94	0.560	18.12	0.600	15.75	0.530	16.50	0.617
May	11.58	0.370	14.76	0.480	15.73	0.510	18.39	0.590	18.43	0.590	20.22	0.652
June	12.69	0.420	14.59	0.490	15.63	0.520	19.44	0.650	16.09	0.540	19.97	0.644
July	13.78	0.440	15.80	0.510	17.26	0.560	14.66	0.470	15.52	0.500	19.64	0.633
Aug	14.25	0.460	15.85	0.510	17.78	0.570	19.31	0.620	15.79	0.510	17.92	0.578
Sept	12.14	0.400	15.01	0.500	17.31	0.580	17.30	0.580	14.07	0.470	17.44	0.562
Oct	12.57	0.410	15.77	0.510	16.41	0.530	15.66	0.510	11.94	0.390	17.51	0.564
Nov	12.33	0.410	14.55	0.490	15.24	0.510	14.49	0.480	13.45	0.450	16.61	0.536
Dec	11.08	0.360	13.87	0.450	15.88	0.510	13.43	0.430	11.46	0.370	17.03	0.549
Total Annual Withdrawal	144.17 MG		171.14 MG		191.19 MG		196.28 MG		178.53 MG		209.90 MG	
Average Monthly Withdrawal	12.01 MG		14.26 MG		15.93 MG		16.36 MG		14.88 MG		17.49 MG	
Average Day	0.395 MG*		0.469 MG*		0.524 MG*		0.538 MG*		0.489 MG*		0.575 MG*	

Data Source: Source and Use Data Sheets (2007)

Table 3-88: Estimated Disaggregated Uses for the Town of Purcellville

Category	Monthly Usage MGD (2006)	%
Residential	0.350	64.22
Commercial Light Industrial	0.140	25.69
Heavy Industrial	0	0
Military	0	0
Production Process	0.027	4.95
Unaccounted-for-water	0.028	5.14
Sales	0	0
Other	0	0
Total	0.545	100%

Data Source: Source and Use Data Sheets (2007)

*note: This number appears lower than the true average water used per day because it does not include the unaccounted-for-loss.

3.1.19.2. Private Community Water Systems

There are no private community water systems in the Town of Purcellville.

3.1.20 Town of Quantico

3.1.20.1. Public Community Water Systems

There is one public community water system in the Town of Quantico, which is served by water purchased from the QMBC Lunga. This system serves approximately 670 people with approximately 172 service connections. Table 3-89 summarizes the population served and the service connections for the Town of Quantico.

Table 3-89: Summary of Population Served for Public Community Water Systems in the Town of Quantico

System Name	Source	Approximate Population Served	Approximate Number of Connections
Town of Quantico	QMBC Lunga	670	172

Data Source: Source and Use Data Sheets (2007)

Available water use information for the Town of Quantico is presented in Tables 3-90 and 3-91. The average monthly water use in 2007 for the Town of Quantico was 1.12 MG with an annual usage of approximately 13.41 MG.

Table 3-90: Annual and Monthly Average Withdrawal for Town of Quantico – 2002 – 2007

Month	2002		2003		2004		2005		2006		2007	
	Total Monthly Withdrawal (MG/Mo)	Average Daily Withdrawal (MGD)	Total Monthly Withdrawal (MG/Mo)	Average Daily Withdrawal (MGD)	Total Monthly Withdrawal (MG/Mo)	Average Daily Withdrawal (MGD)	Total Monthly Withdrawal (MG/Mo)	Average Daily Withdrawal (MGD)	Total Monthly Withdrawal (MG/Mo)	Average Daily Withdrawal (MGD)	Total Monthly Withdrawal (MG/Mo)	Average Daily Withdrawal (MGD)
Jan	1.55	0.050	1.33	0.043	1.32	0.043	1.36	0.044	0.81	0.026	1.05	0.034
Feb	1.79	0.064	1.35	0.048	1.35	0.048	1.39	0.050	1.13	0.040	1.22	0.044
Mar	1.38	0.044	1.66	0.053	1.18	0.038	1.06	0.034	1.07	0.035	0.93	0.030
Apr	1.32	0.044	1.27	0.042	1.52	0.051	1.39	0.046	1.14	0.038	1.09	0.036
May	1.36	0.044	1.29	0.042	1.43	0.046	1.10	0.036	0.99	0.032	1.02	0.033
June	1.50	0.050	1.44	0.048	0.9	0.030	1.12	0.037	1.05	0.035	1.05	0.035
July	1.37	0.044	1.44	0.046	0.88	0.028	1.07	0.035	1.28	0.041	1.22	0.039
Aug	1.55	0.050	1.44	0.047	1.49	0.048	1.59	0.051	1.35	0.044	0.94	0.030
Sept	1.44	0.048	1.15	0.038	1	0.033	1.37	0.046	1.58	0.053	1.13	0.038
Oct	1.47	0.047	1.71	0.055	1.71	0.055	1.20	0.039	1.08	0.035	1.08	0.035
Nov	1.52	0.051	1.41	0.047	1.41	0.047	1.41	0.047	0.90	0.030	1.50	0.050
Dec	1.49	0.048	1.37	0.044	1.37	0.044	1.80	0.058	1.19	0.038	1.19	0.038
Total Annual Withdrawal	17.73 MG		16.85 MG		15.56 MG		15.88 MG		13.57 MG		13.41 MG	
Average Monthly Withdrawal	1.48 MG		1.40 MG		1.30 MG		1.32 MG		1.13 MG		1.12 MG	
Average Day	0.049 MG		0.046 MG		0.043 MG		0.043 MG		0.037 MG		0.037 MG	

Data Source: Source and Use Data Sheets (2007)

Table 3-91: Estimated Disaggregated Uses for the Town of Quantico

Category	Monthly Usage MGD (2007)	%
Residential	0.028	71.79
Commercial and Light Industrial	0.011	28.21
Heavy Industrial	0	0
Military	0	0
Production Process	0	0
Unaccounted-for-water	0	0
Sales	0	0
Other	0	0
Total	0.039	100%

Data Source: Source and Use Data Sheets (2007)

3.1.20.2. Private Community Water Systems

There are no private community water systems in the Town of Quantico.

3.1.21 Town of Round Hill

3.1.21.1. Public Community Water Systems

There is one public community water system in the Town of Round Hill which utilizes groundwater and serves approximately 3,579 people with approximately 1,207 service connections. Table 3-92 summarizes the population served and the service connections for the Town of Round Hill.

Table 3-92: Summary of Population Served for Public Community Water Systems in the Town of Round Hill

System Name	Source	Approximate Population Served	Approximate Number of Connections
Town of Round Hill	Groundwater	3,579	1,207

Data Source: VDH Listing

Available water use information for the Town of Round Hill is presented in Tables 3-93 and 3-94. The average monthly water use in 2007 for the Town of Round Hill was 5.994 MG with an annual usage of approximately 71.93 MG.

Table 3-93: Annual and Monthly Average Withdrawal for Town of Round Hill – 2002 – 2007

	2002		2003		2004		2005		2006		2007	
Month	Total Monthly Withdrawal (MG/Mo)	Average Daily Withdrawal (MGD)	Total Monthly Withdrawal (MG/Mo)	Average Daily Withdrawal (MGD)	Total Monthly Withdrawal (MG/Mo)	Average Daily Withdrawal (MGD)	Total Monthly Withdrawal (MG/Mo)	Average Daily Withdrawal (MGD)	Total Monthly Withdrawal (MG/Mo)	Average Daily Withdrawal (MGD)	Total Monthly Withdrawal (MG/Mo)	Average Daily Withdrawal (MGD)
Jan	4.85	0.160	4.20	0.140	5.52	0.180	6.32	0.200	5.78	0.190	6.11	0.200
Feb	3.91	0.140	4.08	0.140	5.62	0.200	5.59	0.200	6.01	0.210	4.94	0.180
Mar	3.74	0.120	4.50	0.140	5.78	0.190	6.44	0.210	6.49	0.210	5.96	0.190
Apr	4.49	0.150	4.91	0.160	5.37	0.180	7.21	0.240	6.30	0.210	5.81	0.190
May	4.61	0.150	5.33	0.170	6.1	0.200	5.59	0.280	7.61	0.250	6.63	0.210
June	4.63	0.150	5.09	0.170	5.88	0.200	6.48	0.220	7.42	0.250	6.81	0.230
July	5.72	0.180	5.91	0.190	5.97	0.190	6.58	0.210	7.13	0.230	7.26	0.230
Aug	5.49	0.180	5.64	0.180	6.65	0.210	10.57	0.340	7.74	0.250	6.25	0.200
Sept	4.97	0.170	5.89	0.200	6.34	0.210	10.66	0.360	6.12	0.200	5.97	0.300
Oct	4.23	0.140	6.20	0.200	7.59	0.240	7.73	0.250	5.88	0.190	5.43	0.180
Nov	3.55	0.120	6.30	0.210	6.23	0.210	8.05	0.270	5.62	0.190	5.15	0.170
Dec	4.85	0.160	5.98	0.190	6.64	0.210	7.87	0.250	5.68	0.180	5.61	0.180
Total Annual Withdrawal	55.061 MG		64.027 MG		73.690 MG		92.077 MG		77.780 MG		71.930 MG	
Average Monthly Withdrawal	4.588 MG		5.336 MG		6.141 MG		7.673 MG		6.482 MG		5.994 MG	
Average Day	0.151 MG		0.175 MG		0.202 MG		0.252 MG		0.213 MG		0.197 MG	

Data Source: DEQ Water Use Database

Table 3-94: Estimated Disaggregated Uses for the Town of Round Hill*

Category	Monthly Usage MG (2007)	%
Residential Single Family	4.44	74
Commercial, Institutional, Light Industrial	0.60	10
Heavy Industrial	0.30	5
Military	0	0
Production Process	0.060	1
Unaccounted-for-water	0.60	10
Sales	0	0
Other	0	0
Total	5.994	100%

*Disaggregated use data is estimated.

3.1.21.2. Private Community Water Systems

There are no private community water systems in the Town of Round Hill.

3.1.22 Town of Vienna

3.1.22.1. Public Community Water Systems

There is one public community water system in the Town of Vienna, which is served by water purchased from the City of Falls Church. Vienna also has connections to Fairfax Water but they are only used in an emergency scenario. Groundwater wells were previously available, but have been taken out of service. The Town of Vienna serves approximately 30,000 people with approximately 9,534 service connections. Table 3-95 summarizes the population served and the service connections for the Town of Vienna.

Table 3-95: Summary of Population Served for Public Community Water Systems in the Town of Vienna

System Name	Source	Approximate Population Served	Approximate Number of Connections
Town of Vienna	City of Fall Church	30,000	9,534

Data Source: Source and Use Data Sheets (2007)

Available water use information for the Town of Vienna is presented in Tables 3-96 and 3-97. The average monthly water use in 2007 for the Town of Vienna was 74.99 MG with an annual usage of approximately 899.90 MG.

Table 3-96: Annual and Monthly Average Withdrawal for Town of Vienna – 2002 – 2007

	2002		2003		2004		2005		2006		2007	
Month	Total Monthly Withdrawal (MG/Mo)	Average Daily Withdrawal (MGD)	Total Monthly Withdrawal (MG/Mo)	Average Daily Withdrawal (MGD)	Total Monthly Withdrawal (MG/Mo)	Average Daily Withdrawal (MGD)	Total Monthly Withdrawal (MG/Mo)	Average Daily Withdrawal (MGD)	Total Monthly Withdrawal (MG/Mo)	Average Daily Withdrawal (MGD)	Total Monthly Withdrawal (MG/Mo)	Average Daily Withdrawal (MGD)
Jan	65.89	2.130	72.27	2.330	60.93	1.970	64.03	2.070	73.09	2.360	51.24	1.650
Feb	59.86	2.140	69.33	2.480	65.59	2.340	52.18	1.860	61.02	2.180	61.42	2.190
Mar	67.33	2.170	74.45	2.400	69.81	2.250	53.48	1.730	68.82	2.220	44.53	1.440
Apr	67.71	2.260	69.27	2.310	67.22	2.240	58.88	1.960	77.68	2.590	64.17	2.140
May	65.34	2.110	67.68	2.180	82.07	2.650	73.80	2.380	82.95	2.680	87.04	2.810
June	75.75	2.530	65.23	2.170	60.34	2.010	64.01	2.130	82.04	2.730	82.50	2.750
July	101.90	3.290	78.18	2.520	84.96	2.740	62.62	2.020	87.21	2.810	122.85	3.960
Aug	94.31	3.040	76.35	2.460	79.39	2.560	52.28	1.690	99.96	3.220	91.11	2.940
Sept	84.16	2.810	63.74	2.120	69.39	2.310	43.77	1.460	69.78	2.330	86.14	2.870
Oct	70.81	2.280	69.82	2.250	69.97	2.260	45.98	1.480	83.44	2.690	81.76	2.640
Nov	55.91	1.860	64.33	2.140	64.28	2.140	64.41	2.150	58.16	1.940	65.09	2.170
Dec	79.63	2.570	70.82	2.280	63.61	2.050	70.89	2.290	56.16	1.810	62.05	2.000
Total Annual Withdrawal	888.60 MG		841.47 MG		837.56 MG		706.33 MG		900.31 MG		899.90 MG	
Average Monthly Withdrawal	74.05 MG		70.12 MG		69.80 MG		58.86 MG		75.03 MG		74.99 MG	
Average Day	2.435 MGD		2.305 MGD		2.295 MGD		1.925 MGD		2.467 MGD		2.465 MGD	

Data Source: Source and Use Data Sheets (2007)

Table 3-97: Estimated Disaggregated Uses for the Town of Vienna

Category	Monthly Usage MGD (2007)	%
Residential	1.922	83.78
Commercial and Light Industrial	0.372	16.22
Heavy Industrial	0	0
Military	0	0
Production Process	0	0
Unaccounted-for-water	0	0
Sales	0	0
Other	0	0
Total	2.294	100%

Data Source: Source and Use Data Sheets (2007)

3.1.22.1. Private Community Water Systems

There are no private community water systems in the Town of Vienna.

3.2 Estimate of Water Used by Self-Supplied, Non-agricultural Users of More than 300,000 Gallons per Month of Surface or Ground Water Inside the Service Areas of Community Water Systems²

3.2.1 Arlington County

There is one known self-supplied, non-agricultural user using greater than 300,000 gallons per month of water inside the service area in Arlington County. Reagan National Airport purchases water from within the service area and serves a population of approximately 28,055 with 42 service connections.

3.2.2 Fairfax County

There is one known self-supplied, non-agricultural user using greater than 300,000 gallons per month of water inside the service area in Fairfax County. Dulles Airport purchases water from within the service area and serves a population of approximately 16,325 with 184 service connections.

² 9 VAC 25-780-80. B. An estimate of the water used on an average annual basis by self-supplied non-agricultural users of more than 300,000 gallons of month of surface and ground water inside the service areas of community water systems.

3.2.3 Loudon County

There are no known self-supplied, non-agricultural users of more than 300,000 gallons per month of surface or groundwater inside the service area in Loudoun County.

3.2.4 Prince William County

There are no known self-supplied, non-agricultural users of more than 300,000 gallons per month of surface or groundwater inside the service area in Prince William County.

3.2.5 City of Alexandria

There are no known self-supplied, non-agricultural users of more than 300,000 gallons per month of surface or groundwater inside the service area in the City of Alexandria.

3.2.6 City of Fairfax

There are no known self-supplied, non-agricultural users of more than 300,000 gallons per month of surface or groundwater inside the service area in the City of Fairfax.

3.2.7 City of Falls Church

There are no known self-supplied, non-agricultural users of more than 300,000 gallons per month of surface or groundwater inside the service area in the City of Falls Church.

3.2.8 City of Manassas

There are no known self-supplied, non-agricultural users of more than 300,000 gallons per month of surface or groundwater inside the service area in the City of Manassas.

3.2.9 City of Manassas Park

There are no known self-supplied, non-agricultural users of more than 300,000 gallons per month of surface or groundwater inside the service area in the City of Manassas Park.

3.2.10 Town of Clifton

There are no known self-supplied, non-agricultural users of more than 300,000 gallons per month of surface or groundwater inside the service area in the Town of Clifton.

3.2.11 Town of Dumfries

There are no known self-supplied, non-agricultural users of more than 300,000 gallons per month of surface or groundwater inside the service area in the Town of Dumfries.

3.2.12 Town of Hamilton

There are no known self-supplied, non-agricultural users of more than 300,000 gallons per month of surface or groundwater inside the service area in the Town of Hamilton.

3.2.13 Town of Haymarket

There are no known self-supplied, non-agricultural users of more than 300,000 gallons per month of surface or groundwater inside the service area in the Town of Haymarket.

3.2.14 Town of Herndon

There are no known self-supplied, non-agricultural users of more than 300,000 gallons per month of surface or groundwater inside the service area in the Town of Herndon.

3.2.15 Town of Leesburg

There are no known self-supplied, non-agricultural users of more than 300,000 gallons per month of surface or groundwater inside the service area in the Town of Leesburg.

3.2.16 Town of Lovettsville

There are no known self-supplied, non-agricultural users of more than 300,000 gallons per month of water outside the service area in the Town of Lovettsville.

3.2.17 Town of Middleburg

There are no known self-supplied, non-agricultural users of more than 300,000 gallons per month of surface or groundwater inside the service area in the Town of Middleburg.

3.2.18 Town of Occoquan

There are no known self-supplied, non-agricultural users of more than 300,000 gallons per month of surface or groundwater inside the service area in the Town of Occoquan.

3.2.19 Town of Purcellville

There are no known self-supplied, non-agricultural users of more than 300,000 gallons per month of surface or groundwater inside the service area in the Town of Purcellville.

3.2.20 Town of Quantico

There are no known self-supplied, non-agricultural users of more than 300,000 gallons per month of surface or groundwater inside the service area in the Town of Quantico.

3.2.21 Town of Round Hill

There are no known self-supplied, non-agricultural users of more than 300,000 gallons per month of surface or groundwater inside the service area in the Town of Round Hill.

3.2.22 Town of Vienna

There are no known self-supplied, non-agricultural users of more than 300,000 gallons per month of surface or groundwater inside the service area in the Town of Vienna.

3.3 Estimate of Water Used by Self-Supplied, Non-agricultural Users of More than 300,000 Gallons per Month of Surface or Ground Water Outside the Service Areas of Community Water Systems³

3.3.1 Arlington County

There are no known self-supplied, non-agricultural users using greater than 300,000 gallons per month of water outside the service area in the Arlington County.

3.3.2 Fairfax County

There are seven (7) known self-supplied, non-agricultural users using greater than 300,000 gallons per month of water outside the service area in Fairfax County. Information on the self-supplied non-agricultural users of greater than 300,000 gallons per month of water in Fairfax County is presented in Table 3-98.

³ 9 VAC 25-780-80. C. An estimate of the water used on an average annual basis by self-supplied non-agricultural users of more than 300,000 gallons of month of surface and ground water outside the service areas of community water systems.

3.3.3 Loudon County

There are seven (18) known self-supplied, non-agricultural users using greater than 300,000 gallons per month of water outside the service area in Loudoun County. Information on the self-supplied non-agricultural users of greater than 300,000 gallons per month of water in Loudoun County is presented in Table 3-106.

3.3.4 Prince William County

There are twelve (12) known self-supplied, non-agricultural users using greater than 300,000 gallons per month of water outside the service area in Prince William County. Information on the self-supplied non-agricultural users of greater than 300,000 gallons per month of water in Prince William County is presented in Table 3-106.

3.3.5 City of Alexandria

There are no known self-supplied, non-agricultural users using greater than 300,000 gallons per month of water outside the service area in the City of Alexandria.

3.3.6 City of Fairfax

There are no known self-supplied, non-agricultural users using greater than 300,000 gallons per month of water outside the service area in the City of Fairfax.

3.3.7 City of Falls Church

There are no known self-supplied, non-agricultural users using greater than 300,000 gallons per month of water outside the service area in the City of Falls Church.

3.3.8 City of Manassas

There is one (1) known self-supplied, non-agricultural users using greater than 300,000 gallons per month of water outside the service area in the City of Manassas.

3.3.9 City of Manassas Park

There are no known self-supplied, non-agricultural users using greater than 300,000 gallons per month of water outside the service area in the City of Manassas Park.

3.3.10 Town of Clifton

There are two (2) known self-supplied, non-agricultural users using greater than 300,000 gallons per month of water outside the service area in the Town of Clifton. Information on the self-supplied non-agricultural users of greater than 300,000 gallons per month of water in the Town of Clifton is presented in Table 3-98.

3.3.11 Town of Dumfries

There are no known self-supplied, non-agricultural user using greater than 300,000 gallons per month of water outside the service area in the Town of Dumfries.

3.3.12 Town of Hamilton

There are no known self-supplied, non-agricultural users using greater than 300,000 gallons per month of water outside the service area in the Town of Hamilton.

3.3.13 Town of Haymarket

There are no known self-supplied, non-agricultural users using greater than 300,000 gallons per month of water outside the service area in the Town of Haymarket.

3.3.14 Town of Herndon

There is one known self-supplied, non-agricultural user using greater than 300,000 gallons per month of water outside the service area in the Town of Herndon. Information on the self-supplied non-agricultural users of greater than 300,000 gallons per month of water in the Town of Herndon is presented in Table 3-98.

3.3.15 Town of Leesburg

There are no known self-supplied, non-agricultural users using greater than 300,000 gallons per month of water outside the service area in the Town of Leesburg.

3.3.16 Town of Lovettsville

There are no known self-supplied, non-agricultural users using greater than 300,000 gallons per month of water outside the service area in the Town of Lovettsville.

3.3.17 Town of Middleburg

There are no known self-supplied, non-agricultural user using greater than 300,000 gallons per month of water outside the service area in the Town of Middleburg.

3.3.18 Town of Occoquan

There are no known self-supplied, non-agricultural users using greater than 300,000 gallons per month of water outside the service area in the Town of Occoquan.

3.3.19 Town of Purcellville

There are no known self-supplied, non-agricultural user using greater than 300,000 gallons per month of water outside the service area in the Town of Purcellville.

3.3.20 Town of Quantico

There are no known self-supplied, non-agricultural user using greater than 300,000 gallons per month of water outside the service area in the Town of Quantico.

3.3.21 Town of Round Hill

There are no known self-supplied, non-agricultural users using greater than 300,000 gallons per month of water outside the service area in the Town of Round Hill.

3.3.22 Town of Vienna

There are no known self-supplied, non-agricultural users using greater than 300,000 gallons per month of water outside the service area in the Town of Vienna.

Table 3-98: Estimated Water Use for Self-Supplied, Non-agricultural Users

System Name	County/ City/ Town	Approximate Population Served	Approximate Number of Connections	Estimated Average Daily Use (MGD)	Estimated Annual Average Use (MG)
Arlington National Airport	Arlington County	Unknown	Unknown	Unknown	Unknown
Dulles Airport	Fairfax County	71,963	184	1.86	679.37
Clifton Elementary School	Fairfax County	453	1	0.001	0.42
Fort Belvoir North Area	Fairfax County	5,390	4	0.404	147.65
Fairfax Yacht Club	Fairfax County	350	181	0.026	9.59
L'Auberge	Fairfax County	345	1	0.017	6.30

System Name	County/ City/ Town	Approximate Population Served	Approximate Number of Connections	Estimated Average Daily Use (MGD)	Estimated Annual Average Use (MG)
Chez Francois					
Luck Stone – Fairfax Plant	Fairfax County	35	3	0.003	0.96
Mount Vernon	Fairfax County	3,000	10	0.012	4.38
St Francis Episcopal Church	Fairfax County	40	2	Unknown	Unknown
Boyd Montessori School	Loudoun	25	1	0.00254	0.13
Arcola United Methodist Church	Loudoun	200	1	Unknown	Unknown
ADESA Washington DC	Loudoun	178	3	0.0110	4.02
Tart Lumber Company, Inc.	Loudoun	49	1	0.00123	0.45
Middleburg Training Center	Loudoun	100	1	0.00750	2.74
Trobridge Steel Company	Loudoun	32	1	0.0008	0.29
Aldie Elementary School	Loudoun	106	1	0.00106	0.276
Skills USA	Loudoun	531	1	0.000129	0.047
Banneker Elementary School	Loudoun	193	1	0.00130	0.47
Hillsboro Elementary School	Loudoun	136	1	0.00136	0.35
Lincoln Elementary School	Loudoun	148	1	0.00148	0.38
Lucketts Elementary School	Loudoun	269	2	0.00139	0.51
Philomont Community Center	Loudoun	75	1	0.00075	0.27
Waterford Elementary School	Loudoun	260	1	0.00160	0.42
Luck Stone – Fairfax Plant	Loudoun	35	3	0.00088	0.32
Village Montessori School at Bluemont	Loudoun	30	1	0.00008	0.03
Broad Run	Prince William		5	Unknown	Unknown

System Name	County/ City/ Town	Approximate Population Served	Approximate Number of Connections	Estimated Average Daily Use (MGD)	Estimated Annual Average Use (MG)
Service Corporation		50			
Falling Creek Office Building	Prince William	46	1	Unknown	Unknown
Greenwich Presbyterian Preschool	Prince William	30	1	Unknown	Unknown
Nokesville Church of the Bretheren	Prince William	68	1	Unknown	Unknown
Public Safety Training Center	Prince William	150	3	0.013	4.75
William A. Hazel Inc.	Prince William	120	1	Unknown	Unknown
Catharpin Square	Manassas	140	4	0.001	0.365
Brentsville High School	Prince William	1,600	2	0.01	3.65
Holy Family Academy	Prince William County	170	1	0.00057	0.21
Nokesville Elementary School	Prince William County	620	4	0.002	0.73
Transportation Area (PWC Schools)	Prince William County	63	3	0.00063	0.164
Woodbine Christian School	Prince William County	120	2	0.0012	0.31
Clifton Presby. Church Preschool	Clifton	45	2	0.00041	0.149
Country School House	Clifton	37	1	0.096	35.1
Tim's River Shore Restaurant	Prince William County	580	1	Unknown	Unknown
AT&T Company	Herndon	85	1	0.0064	2.33
Middleburg Academy	Loudoun	200	25	0.0021	0.53
Loudoun Valley Nazarene	Loudoun	55	1	Unknown	Unknown
Quantico MCB – Camp Upshur	Quantico Marine Corps Base	625	35	0.0156	5.70

3.4 Estimate of Water Used by Self-Supplied, Agricultural Users of More than 300,000 Gallons per Month of Surface or Ground Water Outside the Service Areas of Community Water Systems⁴

Agricultural water usage information for users of more than 300,000 gallons per month of water outside the service areas of community water systems was limited or unavailable. General agricultural information as well as available information on livestock (e.g., number of head of cattle) and crops (e.g., type of crop planted) for the region was collected from the USDA NASS. This information was used to make a general estimate of water used by self-supplied agricultural users in the region. Please note that the USDA 2002 Census of Agriculture and NASS do not provide information for cities and towns. While this information does not provide information on specific agricultural users within the region, it provides a good starting point for providing estimates on agricultural use in the region.

3.4.1 Arlington County

There are no known agricultural users in Arlington County.

3.4.2 Fairfax County

Fairfax County is home to beef cattle, hogs and pigs, sheep and lambs, poultry, and horses, requiring Livestock Water Use for the County of approximately 3.20 MG annually. Fairfax County also has a notable number of vegetable and potato farms, requiring an estimated 20.91 MG of water annually.

3.4.3 Loudon County

Loudon County is home to beef cattle, milk cows, hogs and pigs, sheep and lambs, poultry, and horses, resulting in Livestock Water Use for the County of 81.25 MG annually. Loudon County also has a significant number of vegetable and potato farms, requiring a Crop Irrigation Water Use of approximately 1889.52 MG annually.

3.4.4 Prince William County

Prince William County is home to beef cattle, milk cows, hogs and pigs, sheep and lambs, poultry, and horses. Livestock Water Use for the County was estimated at 25.28 MG annually.

⁴ 9 VAC 25-780-80. D. An estimate of the water used on an average annual basis by-self-supplied agricultural users of more than 300,000 gallons of month of surface and ground water outside the service area of each community water supply.

Prince William County also has a significant number of vegetable and potato farms, requiring a Crop Irrigation Water Use of approximately 358.57 MG annually.

3.4.5 City of Alexandria

Agricultural information from the USDA 2007 Census of Agriculture and NASS was not available for the City of Alexandria; however, there are no known self-supplied, agricultural users utilizing more than 300,000 gallons per month of groundwater or surface water in the City of Alexandria.

3.4.6 City of Fairfax

Agricultural information from the USDA 2007 Census of Agriculture and NASS was not available for the City of Fairfax; however, there are no known self-supplied, agricultural users utilizing more than 300,000 gallons per month of groundwater or surface water in the City of Fairfax.

3.4.7 City of Falls Church

Agricultural information from the USDA 2007 Census of Agriculture and NASS was not available for the City of Falls Church; however, there are no known self-supplied, agricultural users utilizing more than 300,000 gallons per month of groundwater or surface water in the City of Falls Church.

3.4.8 City of Manassas

Agricultural information from the USDA 2007 Census of Agriculture and NASS was not available for the City of Manassas; however, there are no known self-supplied, agricultural users utilizing more than 300,000 gallons per month of groundwater or surface water in the City of Manassas.

3.4.9 City of Manassas Park

Agricultural information from the USDA 2007 Census of Agriculture and NASS was not available for the City of Manassas Park; however, there are no known self-supplied, agricultural users utilizing more than 300,000 gallons per month of groundwater or surface water in the City of Manassas Park.

3.4.10 Town of Clifton

Agricultural information from the USDA 2007 Census of Agriculture and NASS was not available for the Town of Clifton; however, there are no known self-supplied, agricultural users utilizing more than 300,000 gallons per month of groundwater or surface water in the Town of Clifton.

3.4.11 Town of Dumfries

Agricultural information from the USDA 2007 Census of Agriculture and NASS was not available for the Town of Dumfries; however, there are no known self-supplied, agricultural users utilizing more than 300,000 gallons per month of groundwater or surface water in the Town of Dumfries.

3.4.12 Town of Hamilton

Agricultural information from the USDA 2007 Census of Agriculture and NASS was not available for the Town of Hamilton; however, there are no known self-supplied, agricultural users utilizing more than 300,000 gallons per month of groundwater or surface water in the Town of Hamilton.

3.4.13 Town of Haymarket

Agricultural information from the USDA 2007 Census of Agriculture and NASS was not available for the Town of Haymarket; however, there are no known self-supplied, agricultural users utilizing more than 300,000 gallons per month of groundwater or surface water in the Town of Haymarket.

3.4.14 Town of Herndon

Agricultural information from the USDA 2007 Census of Agriculture and NASS was not available for the Town of Herndon; however, there are no known self-supplied, agricultural users utilizing more than 300,000 gallons per month of groundwater or surface water in the Town of Herndon.

3.4.15 Town of Leesburg

Agricultural information from the USDA 2007 Census of Agriculture and NASS was not available for the Town of Leesburg; however, there are no known self-supplied, agricultural

users utilizing more than 300,000 gallons per month of groundwater or surface water in the Town of Leesburg.

3.4.16 Town of Lovettsville

Agricultural information from the USDA 2007 Census of Agriculture and NASS was not available for the Town of Lovettsville; however, there are no known self-supplied, agricultural users utilizing more than 300,000 gallons per month of groundwater or surface water in the Town of Lovettsville.

3.4.17 Town of Middleburg

Agricultural information from the USDA 2007 Census of Agriculture and NASS was not available for the Town of Middleburg; however, there are no known self-supplied, agricultural users utilizing more than 300,000 gallons per month of groundwater or surface water in the Town of Middleburg.

3.4.18 Town of Occoquan

Agricultural information from the USDA 2007 Census of Agriculture and NASS was not available for the Town of Occoquan; however, there are no known self-supplied, agricultural users utilizing more than 300,000 gallons per month of groundwater or surface water in the Town of Occoquan.

3.4.19 Town of Purcellville

Agricultural information from the USDA 2007 Census of Agriculture and NASS was not available for the Town of Purcellville; however, there are no known self-supplied, agricultural users utilizing more than 300,000 gallons per month of groundwater or surface water in the Town of Purcellville.

3.4.20 Town of Quantico

Agricultural information from the USDA 2007 Census of Agriculture and NASS was not available for the Town of Quantico; however, there are no known self-supplied, agricultural users utilizing more than 300,000 gallons per month of groundwater or surface water in the Town of Quantico.

3.4.21 Town of Round Hill

Agricultural information from the USDA 2007 Census of Agriculture and NASS was not available for the Town of Round Hill; however, there are no known self-supplied, agricultural users utilizing more than 300,000 gallons per month of groundwater or surface water in the Town of Round Hill.

3.4.22 Town of Vienna

Agricultural information from the USDA 2007 Census of Agriculture and NASS was not available for the Town of Vienna; however, there are no known self-supplied, agricultural users utilizing more than 300,000 gallons per month of groundwater or surface water in the Town of Vienna.

3.5 Estimate of Water Used by Self-Supplied Users of Less than 300,000 Gallons per Month of Ground Water⁵

To estimate the number of residences and businesses that are self-supplied and served by individual groundwater wells withdrawing less than 300,000 gallons per month, the population served by both public and private community water systems was determined. Population served by public community water systems was provided by each jurisdiction. Population served by private community water systems was provided by VDH. The total population for each county and city was provided by the 2007 US Census Bureau population estimates. The total population for each town was provided by the 2000 US Census Bureau population estimates and subtracted from the county population.

The population served by individual wells was estimated by subtracting the population served by public and private community water systems from the total population.

It is important to note that the total county populations do not include the towns within the respective county.

Water use for self-supplied, individual well users in each jurisdiction was estimated based on the assumption of 75 gallons per day per person.

⁵ 9 VAC 25-780-80. 8. An estimate of the number of self-supplied users of less than 300,000 gallons per month of ground water and an estimate of the total amount of water used by them on an annual average basis within the service area of each community water supply.

Table 3-99: Estimated Self-Supplied Water Use

Jurisdiction	Population Served by Public CWS	Estimated Population Served by Private CWS	Estimated Population Served by Individual Wells	Estimated Annual Average Water Use For Individual Wells (MG)
Arlington County	208,652 (1)	0	0	0
Fairfax County	928,816 (2)	250 (1)	108,652 ⁶	2,976.39
Loudon County	175,685 (2)	250 (1)	54,646	1,496.96
Prince William County	290,519 (2)	15,125	81,380	2,229.30
City of Alexandria	143,885 (1)	0	0	0
City of Fairfax	24,000 (1)	0	0	0
City of Falls Church	120,972 (2)	0	0	0
City of Manassas	37,568 (2)	0	0	0
City of Manassas Park	14,050 (2)	0	0	0
Town of Clifton	0	0	208	5.70
Town of Dumfries	4,848	0	0	0
Town of Hamilton	2,000 (1)	0	0	0
Town of Haymarket	1,217	0	150	4.106
Town of Herndon	23,496 (1)	0	0	0
Town of Leesburg	44,578 (2)	0	50	1.83
Town of Lovettsville	2,048 (1)	0	0	0
Town of Middleburg	590 (1)	300 (1)	0	0
Town of Occoquan	820	0	0	0
Town of Purcellville	6,945 (2)	0	0	0
Town of Quantico	670 (2)	5,447	0	0
Town of Round Hill	5,579 (4)	0	0	0
Town of Vienna	30,000 (2)	0	0	0

- 1 – Data Source: VDH Listing
- 2 – Data Source: Source and Use Data Sheets
- 3 – Data Source: DEQ Water Use Database
- 4 – Data Source: Round Hill Water Resources Report

⁶ Fairfax County website notes more than 15,000 homes and businesses rely on groundwater wells for water supply. <http://www.fairfaxcounty.gov/dpwes/environmental/water.htm>