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3.0 EXISTING WATER USE INFORMATION

3.1 Population

Based on the 2000 Census, the total population for the region is 190,020. Table 3.1 presents 2000 Census population information for each locality within the region. Total populations for each county do not include the towns within those counties. A map showing population density for the region is included as Figure 3 (Appendix A).

Table 3.1: Population Based on 2000 Census.

Locality	Population	Locality	Population
Bland County	6,871	Damascus	981
Carroll County	26,638	Fries	614
Grayson County	15,102	Glade Spring	1,374
Smyth County	22,701	Hillsville	2,607
Washington County	40,968	Independence	971
Wythe County	18,445	Marion	6,349
City of Bristol	17,367	Rural Retreat	1,350
City of Galax	6,837	Saltville	2,204
Abingdon	7,780	Troutdale	1,230
Chilhowie	1,827	Wytheville	7,804

3.1.1 Bland County

The BCWA owns and operates the BCWA water system and the Rocky Gap/Bastian Regional water system. The population served by the BCWA is approximately 2,105. The BCWA serves approximately 601 customers. The customer base is predominantly residential with some commercial and light industrial; however, the two are not separated for billing purposes. Approximately 43.94 MG per year of water is used to serve residential and commercial customers. In addition, approximately 0.84 MG per year of water is used for production processes and approximately 9.01 MG per year of water is unaccounted-for-water. The average daily and maximum daily withdrawal amounts for the BCWA are approximately 0.147 MGD and 0.177 MGD assuming a peaking factor of 1.2, respectively. The monthly and annual average water usage is approximately 4.48 MG and 53.79 MG, respectively.

The Bland Correction Center and Deer Run Water Company, Inc. are private community water systems in Bland County. The population served by the Bland Correction Center is

approximately 750. The average daily water use is approximately 0.11 MGD. The monthly and annual average water usage is approximately 3.36 MG and 40.03 MG, respectively. The population served by the Deer Run Water Company, Inc. is approximately 43. No water use information was available for this water system; however, water use information was estimated based on the assumption of 75 gpd of water used per person. The estimated average daily water use is approximately 0.003 MGD. The estimated monthly and annual average water usage is approximately 0.093 MG and 1.12 MG, respectively.

3.1.2 Carroll County

The CCPSA owns and operates the following public community water systems: Cana Regional Water System, Carroll County Route 100 Water System, Carroll County Industrial Park, Gladeville/Cranberry, Hillcrest, Tower Road, and Woodlawn water systems. The CCPSA serves approximately 8,825 people with approximately 2,147 connections. The CCPSA customer base is predominantly residential. Approximately 158.57 MG per year and 23.58 MG per year of water is used for residential and commercial use, respectively. In addition, approximately 11.60 MG per year of water is unaccounted-for-water. The average daily withdrawal is approximately 0.53 MGD and the maximum daily withdrawal is approximately 0.64 MGD assuming a peaking factor of 1.2. The average monthly and average annual water usage is approximately 16.15 MG and 193.75 MG, respectively. Available water use information for each system is described below.

The population served by the Cana Regional Water System is approximately 1,347. This system serves approximately 404 customers. The average daily withdrawal is approximately 0.048 MGD. The monthly and annual average water usage is approximately 1.46 MG and 17.53 MG, respectively.

The population served by the Carroll County Industrial Park is approximately 1,438. This system serves approximately 38 customers. The average daily withdrawal is approximately 0.074 MGD. The monthly and annual average water usage is approximately 2.25 MG and 27.03 MG, respectively.

The population served by the Carroll County Route 100 water system is approximately 2,665. This system serves approximately 392 customers. The average daily withdrawal is

approximately 0.224 MGD. The monthly and annual average water usage is approximately 6.82 MG and 81.87 MG, respectively.

The population served by the Gladeville/Cranberry water system is approximately 2,705. This system serves approximately 882 customers. The average daily withdrawal is approximately 0.111 MGD. The monthly and annual average water usage is approximately 3.38 MG and 40.54 MG, respectively.

The population served by the Hillcrest water system is approximately 38 people. This system serves approximately 15 customers. The average daily water withdrawal is approximately 0.003 MGD. The monthly and annual average water usage is approximately 0.087 MG and 1.04 MG, respectively.

The population served by the Tower Road water system is approximately 233. This system serves approximately 93 customers. The average daily withdrawal is approximately 0.006 MGD. The monthly and annual average water usage is approximately 0.165 MG and 1.99 MG, respectively.

The population served by the Woodlawn water system is approximately 1,837. This system serves approximately 323 customers. The average daily withdrawal is approximately 0.065 MGD. The monthly and annual average water usage is approximately 1.98 MG and 23.74 MG, respectively.

The Town of Hillsville also owns and operates a public community water system in Carroll County. The population served by the Town of Hillsville water system is approximately 2,850 with approximately 1,175 connections. The customer base is predominantly residential (approximately 52.70 MG per year) with some commercial and light industrial as well as heavy industrial use (approximately 15.52 MG and 5.58 MG, respectively). In addition, approximately 17.40 MG per year of water is unaccounted-for-water and approximately 7.30 MG per year of water is sold to the CCPSA. The average daily and maximum daily withdrawal amounts are approximately 0.27 MGD and 0.32 MGD assuming a peaking factor of 1.2, respectively. The monthly and annual average water usage is approximately 8.21 MG and 98.50 MG, respectively.

The following are privately owned community water systems in Carroll County: Brandywine Estates, Cascade Mountain Resort, Chalet High, Inc., Laurel Meadows Home, Olde Mill Golf Course, Pinebrook Subdivision, and Sunrise Trailer Park. Water use information for these systems was not available; however, water use was estimated based on the assumption of 75 gpd of water used per person. The total population served by private community water systems in Carroll County is approximately 902 with approximately 290 connections. The annual average water usage is approximately 24.71 MG. Refer to the demand projection calculations ([Appendix X](#)) for individual population served, number of connections, and annual average water use (MG) for each private community water system in Carroll County.

3.1.3 Grayson County

Grayson County owns and operates two public community water systems: Fairview water system and Old Town water system. Both water systems are supplied with water purchased from the City of Galax. The customer base is predominantly residential (approximately 27.09 MG per year) with some commercial (approximately 0.04 MG per year). In addition, approximately 0.22 MG per year of water is unaccounted-for-water. The Fairview water system and Old Town water system serve approximately 700 people with approximately 299 connections. The average daily water use for the Fairview water system is approximately 0.067 MGD and the maximum daily water use is approximately 0.08 MGD assuming a peaking factor of 1.2. The monthly and annual average water usage is approximately 2.03 MG and 24.31 MG, respectively. The average daily water use for the Old Town water system is approximately MGD and the maximum daily water use is approximately 0.008 MGD assuming a peaking factor of 1.2. The month and annual average water usage is approximately 0.25 MG and 3.04 MG, respectively.

The Town of Fries owns and operates a public community water system in Grayson County. The population served by the Town of Fries is approximately 690. The Town serves approximately 277 residential customers and approximately 12 commercial customers. The average daily withdrawal is approximately 0.039 MG and the maximum daily withdrawal is approximately 0.047 assuming a peaking factor of 1.2. The monthly and annual average water usage is approximately 1.20 MG and 14.38 MG, respectively. Approximately 9.75 MG per year of water is used for residential use and approximately 0.46 MG per year of water is used for

commercial use. In addition, approximately 0.58 MG per year of water is used for production processes and approximately 3.59 MG per year of water is considered unaccounted-for-water.

The Town of Independence owns and operates a public community water system in Grayson County. The population served by the Town of Independence is approximately 1,000. The Town serves approximately 440 residential customers and approximately 125 commercial customers. Approximately 25.3 MG per year of water is used for residential use and approximately 14.1 MG per year of water is used for commercial use. In addition, approximately 2.2 MG per year of water is used for production processes and approximately 13.9 MG per year of water is considered unaccounted-for-water. The average daily withdrawal is approximately 0.152 MGD and the maximum daily withdrawal is approximately 0.182 MGD assuming a peaking factor of 1.2. The monthly and annual average water usage is approximately 4.63 MG and 55.5 MG, respectively.

The Town of Troutdale owns and operates a public community water system in Grayson County. The population served by the Town of Troutdale is approximately 188 with approximately 80 connections. Approximately 5.97 MG per year of water is used for residential use and approximately 0.45 MG per year of water is used for commercial use. In addition, approximately 0.36 MG per year of water is used for production processes and approximately 2.26 MG per year of water is considered unaccounted-for-water. The average daily withdrawal is approximately 0.025 MGD and the maximum daily withdrawal is approximately 0.029 MGD. The monthly and annual average water usage is approximately 0.75 MG and 9.05 MG, respectively.

In addition, the following are private community water systems in Grayson County: Lawn Acres Trailer Park, Oak Hill Academy, and Sun Valley Trailer Park. Water use information for these systems was not available; however, water use was estimated based on the assumption of 75 gpd of water per person. The total population served by private community water systems in Grayson County is approximately 324 with approximately 54 connections. The annual average water usage is approximately 8.88 MG. Refer to the demand projection calculations (**Appendix X**) for individual population served, number of connections, and annual average water use (MG) for each private community water system in Grayson County.

3.1.4 Smyth County

The Smyth County owns and operates the following public community water systems: Atkins Extension, East Hungry Mother, Hutton Branch, Poor Valley, Saint Claires Creek, Saint John's Crossing, South Fork, Walker Creek, and Watson Gap water systems. Smith County serves approximately 3,425 people. Approximately 89.69 MG per year and 1.83 MG per year of water is used for residential and commercial use, respectively. In addition, approximately 6.23 MG per year of water is used for production processes and approximately 38.94 MG per year of water is considered unaccounted-for-water. Smyth County also sells approximately 12.69 MG per year of water to the towns of Marion and Saltville. The average daily withdrawal is approximately 0.43 MGD and the maximum daily withdrawal is approximately 0.51 MGD assuming a peaking factor of 1.2. The average monthly and average annual water usage is approximately 12.98 MG and 155.76 MG, respectively.

The Town of Chilhowie owns and operates a public community water system in Smyth County. The population served by the Town of Chilhowie is approximately 4,482 with approximately 2,261 connections. Approximately 161.92 MG and 60.86 MG per year of water is used for residential and commercial use, approximately. In addition, approximately 120.81 MG per year of water is considered unaccounted-for-water. The average daily withdrawal is approximately 0.94 MGD and the maximum daily withdrawal is 1.29 MGD assuming a peaking factor of 1.2. The monthly and annual average water usage is approximately 28.63 MG and 343.58 MG, respectively.

The Town of Marion owns and operates a public community water system in Smyth County. The population served by the Town of Marion water system is approximately 10,000. This system serves approximately 3,600 customers. Approximately 96 MG and 240 MG per year of water is used for residential and commercial use, respectively. In addition, approximately 29.20 MG per year of water is considered unaccounted-for-water and approximately 9.60 MG per year of water is used for other uses. The Town of Marion also sells approximately 24 MG per year of water to Smyth County. The average daily withdrawal is approximately 1.97 MGD and the maximum daily withdrawal is approximately 2.37 MGD assuming a peaking factor of 1.2. The monthly and annual average water usage is approximately 60 MG and 720 MG, respectively.

The Town of Saltville owns and operates a public community water system in Smyth County. The population served by the Town of Saltville is approximately 4,000. The system serves approximately 1,012 residential customers and approximately 118 commercial customers. Approximately 155.36 MG and 18.12 MG per year of water is used for residential and commercial use. In addition, approximately 12.70 MG per year of water is used for production processes and approximately 79.35 MG per year of water is considered unaccounted-for-water. The town also sells approximately 51.86 MG per year of water to Smyth County. The average daily withdrawal is approximately 0.87 MGD and the maximum daily withdrawal is approximately 1.04 MGD based on a peaking factor of 1.2. The monthly and annual average water usage is approximately 26.47 MG and 317.38 MG, respectively.

There are two private community water systems in Smyth County: the Rye Valley Water Authority (RVWA) and the Thomas Bridge Water Corporation (TBWC). The population served by the RVWA is approximately 1,276 with approximately 520 connections. The average daily withdrawal is approximately 0.118 MGD and the maximum daily withdrawal is approximately 0.141 MGD based on a peaking factor of 1.2. The monthly and annual average water usage is approximately 3.6 MG and 43.14 MG, respectively. Water use information disaggregated into appropriate categories of use was not available.

The population served by TBWC is approximately 3,500 with approximately 1600 connections. The average daily withdrawal is approximately 0.392 MGD and the maximum daily withdrawal is approximately 0.47 MGD. The monthly and annual average water usage is approximately 11.93 MG and 143.10 MG, respectively. Water use information disaggregated into appropriate categories of use was not available.

3.1.5 Washington County

The WCSA owns and operates the following public community water systems in Washington County: Clear Creek, Hayter's Gap, Lower Poore Valley (Mendota), WCSA WTP, and WCSA/Chilhowie Regional WTP. The WCSA serves approximately 50,008 people. The system serves approximately 19,499 residential customers and approximately 952 commercial customers. Approximately 1,083 MG per year and 444.34 MG per year of water is used for residential and commercial use, respectively. In addition, approximately 969.44 MG per year of

water is considered unaccounted-for-water. The average daily withdrawal is approximately 0.60 MGD and the maximum daily withdrawal is approximately 0.72 MGD assuming a peaking factor of 1.2. The average monthly and average annual water usage is approximately 218.34 MG and 2,620.11 MG, respectively. Each individual water system is described below.

The Clear Creek water system serves approximately 54 people. Water use information was not available for this water system.

The Hayter's Gap water system is served by water purchased from the Town of Saltville. The population served is approximately 254. The average daily and maximum daily withdrawal amounts are approximately 0.04 MG and 0.126 MG, respectively. The monthly and annual average water usage is approximately 1.23 MG and 14.79 MG, respectively.

The Lower Poore Valley (Mendota) water system serves approximately 142 people. The average daily and maximum daily withdrawal amounts are approximately 0.01 MG and 0.013 MG, respectively. The monthly and annual average water usage is approximately 0.30 MG and 3.64 MG, respectively.

The WCSA WTP utilizes a stream intake on the Middle Fork of the Holston River as well as purchasing water from BVUB. The population served by the WCSA is approximately 49,332. The average daily and maximum daily withdrawal amounts for the Middle Fork of the Holston River are approximately 4.76 MGD and 12.16 MGD, respectively. The monthly and annual average water usage is approximately 145.25 MG and 1,738 MG, respectively.

The WCSA/Chilhowie Regional WTP is jointly owned and operated by the WCSA and the Town of Chilhowie. The average daily withdrawal is approximately 1.63 MGD and the maximum daily withdrawal is approximately 1.96 MGD assuming a peaking factor of 1.2. The monthly and annual average water usage is approximately 50 MG and 596 MG, respectively.

3.1.6 Wythe County

Wythe County owns and operates the following public community water systems: Austinville, Ivanhoe/Max Meadows, and Speedwell. Wythe County serves approximately 5,182 people with approximately 2,130 connections. Approximately 51 MG per year and 74.90 MG per year of

water is used for residential and commercial use, respectively. In addition, approximately 89.24 MG per year of water is considered unaccounted-for-water. The average daily withdrawal is approximately 0.59 MGD and the maximum daily withdrawal is approximately 0.71 MGD assuming a peaking factor of 1.2. The average monthly and average annual water usage is approximately 17.93 MG and 215.15 MG, respectively. Each individual water system is described below.

The Austinville water system serves approximately 200 residential customers. The average daily and maximum daily withdrawal amounts are approximately 0.008 MG and 0.009 MG, respectively. The monthly and annual average water usage is approximately 0.24 MG and 2.83 MG, respectively.

The population served by the Ivanhoe/Max Meadows water system is approximately 4,432. This system serves approximately 1,840 customers. The customer base is predominantly commercial and light industrial with some residential use. The average daily and maximum daily withdrawal amounts are approximately 0.524 MG and 1.0 MG, respectively. The monthly and annual average water usage is approximately 9.58 MG and 115 MG, respectively.

The population served by the Speedwell water system is approximately 550. This system serves approximately 220 residential customers. The average daily and maximum daily withdrawal amounts are approximately 0.04 MG and 0.12 MG, respectively. The monthly and annual average water usage is approximately 0.24 MG and 2.83 MG, respectively.

The Town of Rural Retreat owns and operates a public community water system in Wythe County. The population served by the Town of Rural Retreat is approximately 2,500. This system serves approximately 862 residential customers and approximately 84 commercial customers. Approximately 40.32 MG per year and approximately 11.52 MG per year of water is used for residential and commercial use, respectively. In addition, approximately 3.0 MG per year of water is used for production processes, approximately 1.92 MG per year of water is used for other purposes, and approximately 45 MG per year of water is considered unaccounted-for-water. The average daily withdrawal is approximately 0.293 MG and the maximum daily withdrawal is approximately 0.352 assuming a peaking factor of 1.2. The monthly and annual average water usage is approximately 8.92 MG and 107.04 MG, respectively.

The Town of Wytheville owns and operates a public community water system in Wythe County. The population served by the Town of Wytheville is approximately 10,315. This system serves approximately 3,178 residential customers and approximately 882 commercial customers. Approximately 316.21 MG per year, 232.32 MG per year, and 497.66 MG per year of water is used for residential, commercial, and heavy industrial use, respectively. The average daily withdrawal is approximately 2.86 MG and the maximum daily withdrawal is approximately 3.44 MG assuming a peaking factor of 1.2. The monthly and annual average water usage is approximately 87.18 MG and 1046.19 MG, respectively. Water use information disaggregated into appropriate categories of use was not available.

Barren Springs Waterworks, Inc. is a privately owned community water system in Wythe County. The population served by the Barren Springs Waterworks is approximately 146 with approximately 59 connections. Water use information for this system was not available; however, water use was estimated based on the assumption of 75 gpd of water used per person. The estimated annual average water use is approximately 4.0 MG.

3.1.7 City of Bristol

The population served by the City of Bristol is approximately 17,347. The system serves approximately 6,791 residential customers and approximately 1,121 commercial customers. Approximately 326.62 MG per year and approximately 392.33 MG per year of water is used for residential and commercial use, respectively. In addition, approximately 69.51 MG per year of water is used for production processes and approximately 350.30 MG per year of water is considered unaccounted-for-water. The City of Bristol also sells approximately 189.69 MG per year of water to the WCSA. The average daily withdrawal is approximately 3.63 MGD and the maximum daily withdrawal is approximately 4.36 MGD assuming a peaking factor of 1.2. The monthly and annual average water usage is approximately 110.70 MG and 1,328.46 MG, respectively.

3.1.8 City of Galax

The population served by the City of Galax is approximately 6,700. This system serves approximately 2,350 residential customers and approximately 453 commercial customers. Approximately 392.37 MG per year and approximately 75.63 MG per year of water is used for

residential and commercial use. In addition, approximately 146.10 MG per year is used for production processes and approximately 78.17 MG per year is considered unaccounted-for-water. The City of Galax also sells approximately 19.73 MG per year of water to the CCPSA and Grayson County. The average daily withdrawal is approximately 1.95 MGD and the maximum daily withdrawal is approximately 2.34 MGD assuming a peaking factor of 1.2. The monthly and annual average water usage is approximately 59.35 MG and 712.24 MG, respectively.

3.1.9 Buchanan County

- ◆ Total Estimated Number of Connections – 6,949
- ◆ Total Estimated Population Served – 17,093
- ◆ Total Estimated Annual Water Use - 1,091.3 MG
- ◆ Estimated Annual Residential Water Use - 191.0 MG
- ◆ Estimated Annual Non-residential Water Use - 298.6 MG
- ◆ Estimated Annual Water Production Use - 0 MG
- ◆ Estimated Annual Unaccounted Water Loss - 601.7 MG

3.1.10 Dickenson County

- ◆ Total Estimated Number of Connections – 5,997
- ◆ Total Estimated Population Served – 15,348
- ◆ Total Estimated Annual Water Use - 491.6 MG
- ◆ Estimated Annual Residential Water Use - 225.0 MG
- ◆ Estimated Annual Non-residential Water Use - 85.1 MG
- ◆ Estimated Annual Water Production Use - 53.7 MG
- ◆ Estimated Annual Unaccounted Water Loss - 127.8 MG

3.1.11 Russell County

- ◆ Total Estimated Number of Connections – 9,727
- ◆ Total Estimated Population Served – 16,171
- ◆ Total Estimated Annual Water Use – 516.5 MG
- ◆ Estimated Annual Residential Water Use - 208.8 MG
- ◆ Estimated Annual Non-residential Water Use - 97.2 MG
- ◆ Estimated Annual Water Production Use - 9.1 MG
- ◆ Estimated Annual Unaccounted Water Loss - 201.4 MG

3.1.12 Tazewell County

- ◆ Total Estimated Number of Connections – 13,849
- ◆ Total Estimated Population Served – 33,300
- ◆ Total Estimated Annual Water Use – 1,774.0 MG
- ◆ Estimated Annual Residential Water Use – 603.5 MG
- ◆ Estimated Annual Non-residential Water Use – 390.4 MG
- ◆ Estimated Annual Water Production Use – 114.2 MG
- ◆ Estimated Annual Unaccounted Water Loss – 665.9 MG

3.1.1 Lee County

- ◆ Total Estimated Number of Connections – 7,043
- ◆ Total Estimated Population Served – 19,621
- ◆ Total Estimated Annual Water Use – 657.0 MG
- ◆ Estimated Annual Residential Water Use – 262.4 MG
- ◆ Estimated Annual Non-residential Water Use – 104.4 MG
- ◆ Estimated Annual Water Production Use – 44.4 MG
- ◆ Estimated Annual Unaccounted Water Loss – 245.8 MG

3.1.2 Scott County

- ◆ Total Estimated Number of Connections – 5,828
- ◆ Total Estimated Population Served – 12,537
- ◆ Total Estimated Annual Water Use – 446.4 MG
- ◆ Estimated Annual Residential Water Use – 236.1 MG
- ◆ Estimated Annual Non-residential Water Use – 67.0 MG
- ◆ Estimated Annual Water Production Use – 44.7 MG
- ◆ Estimated Annual Unaccounted Water Loss – 98.6 MG

3.1.3 Wise County

- ◆ Total Estimated Number of Connections – 13,271
- ◆ Total Estimated Population Served – 36,120
- ◆ Total Estimated Annual Water Use – 1,858.2 MG
- ◆ Estimated Annual Residential Water Use – 642.8 MG
- ◆ Estimated Annual Non-residential Water Use – 309.6 MG
- ◆ Estimated Annual Water Production Use – 73.2 MG
- ◆ Estimated Annual Unaccounted Water Loss – 832.6 MG

3.1.4 City of Norton

- ◆ Total Estimated Number of Connections – 2,260
- ◆ Total Estimated Population Served – 4,680
- ◆ Total Estimated Annual Water Use – 372.1 MG
- ◆ Estimated Annual Residential Water Use – 78.2 MG
- ◆ Estimated Annual Non-residential Water Use – 78.6 MG
- ◆ Estimated Annual Water Production Use – 27.9 MG
- ◆ Estimated Annual Unaccounted Water Loss – 187.4 MG

3.2 Estimate of Water Used on an Average Annual Basis by Self-Supplied Nonagricultural Users of More than 300,000 Gallons per Month of Surface and Groundwater Within the Service Area of the Community Water System

3.2.1 MRPDC

Table 3.2.1 presents estimated annual average water use for the self-supplied, non-agricultural users of more than 300,000 gallons per month of surface or groundwater within the service area of the community water systems in the MRPDC region.

Table 3.2.1: Average Annual Water Use of Self-Supplied, Non-Agricultural Users Using More Than 300,000 Gallons Per Month of Surface and/or Groundwater.

Locality	Self-Supplied User	Source	Average Annual Water Use (MG)
Bland County	Pounding Mill Quarry Corporation	Wolf Creek	1.77
Carroll County	Groundhog Mountain Waterworks	3 groundwater wells	4.62
Smyth County	Holston Hills Country Club	Holston River	1.70
Washington County	Olde Farm Golf Course	4 groundwater wells	21.22
Washington County	Virginian Golf Club House	Creek	1,213
Town of Rural Retreat	Klockner-Pentaplast	1 groundwater well	14.7

3.2.2 Cumberland Plateau PDC

3.2.2.1 Buchanan County

- ◆ Vansant Coke Ovens – 157.7 MG

- ◆ Vansant #2 Prep Plant – 132.5 MG
- ◆ Luke Prep Plant – 25.0 MG

3.2.2.2 Dickenson

- ◆ McClure #1 & Prep Plant – 302.1 MG
- ◆ Paramont Deep Mine 26 – 65.5 MG
- ◆ Nora Prep Plant – 10.9 MG

3.2.2.3 Russell County

- ◆ Moss #3 Prep Plant – 712.4 MG
- ◆ Clinch River Power Plant – 15.6 MG

3.2.2.4 Tazewell County

- ◆ Fincastle Country Club – 12.1 MG
- ◆ Richwood Golf Club – 4.8 MG
- ◆ Coal Creek #3 Prep Plant – 10.1 MG

3.2.3 LENOWISCO

There are no known self-supplied, non-agricultural users using greater than 300,000 gallons per month of surface or groundwater within the service area of the community water systems in the LENOWISCO region.

3.3 Estimate of Water Used on an Average Annual Basis by Self-Supplied Users of Less than 300,000 Gallons per Month of Groundwater and an estimate of the Total Amount used by them on an annual Average Basis Within the Service Area of each Community Water Supply

3.3.1 MRPDC

To determine an estimate 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 2000 US Census Bureau. The total population for each town was

provided by the 2000 US Census Bureau and subtracted from the county population. Table 3.3.1 presents the population served by individual wells withdrawing less than 300,000 gallons per month and the amount of water used by them on an annual average basis.

Table 3.3.1: Summary of Population Served by Individual Wells and Annual Average Water Use.

Locality	Population Served by Individual Wells	Annual Average Water Use (MG)
Bland County	1,551	42.49
Carroll County	16,668	456.60
Grayson County	13,973	382.77
Smyth County	6,398	175.27
Washington County	1,095	26.71
Wythe County	9,456	259.04
City of Bristol	20	0.55
City of Galax	137	3.75
Town of Abingdon	0	0.00
Town of Chilhowie	0	0.00
Town of Damascus	0	0.00
Town of Fries	0	0.00
Town of Glade Spring	0	0.00
Town of Hillsville	0	0.00
Town of Independence	0	0.00
Town of Marion	0	0.00
Town of Rural Retreat	0	0.00
Town of Saltville	0	0.00
Town of Troutdale	1,042	28.54
Town of Wytheville	0	0.00
Region	50,340	1375.72

3.3.2 Cumberland Plateau PDC

3.3.2.1 Russell County

- ◆ Estimated Annual Water Use – 89.7 MG

3.3.2.2 Tazewell County

- ◆ Estimated Annual Water Use – 86.8 MG

3.3.2.3 Buchanan County

- ◆ Estimated Annual Water Use – 17.6 MG

3.3.3 LENOWISCO PDC

3.3.3.1 Lee County

- ◆ Estimated Annual Water Use – 38.6 MG

3.3.3.2 Scott County

- ◆ Estimated Annual Water Use – 47.0 MG

3.3.3.3 Wise County

- ◆ Estimated Annual Water Use – 21.5 MG

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

3.4.1 MRPDC

Available water use information for self-supplied, non-agricultural users outside the service area of community water systems in the region was generally very limited. Available information is discussed in the following sections and presented in the Table 3.4.1 below.

Information for self-supplied, non-agricultural users in the region was provided by VDH and VDEQ. Information for many of the self-supplied, non-agricultural users greater than 300,000 gallons of water per month was available through VDEQ's water use database. For those self-supplied, non-agricultural users not included in VDEQ's Water Use Database, water use information was estimated based on one of the following assumptions: groundwater well average daily withdrawal, VDH permit capacity, SCAT regulations, or the number of people served at 75 gpd.

Table 3.4.1: Estimated Water Use for Self-Supplied, Non-Agricultural Users Outside the Service Areas of Community Water Systems in MRPDC Region.

Locality	Annual Average Water Use (MG)
Bland County	2.23
Carroll County	28.04
Grayson County	9.32
Smyth County	989.14
Washington County	1.53
Wythe County	1353.19
City of Bristol	0.00
City of Galax	0.00
Town of Abingdon	0.00
Town of Chilhowie	0.00
Town of Damascus	0.00
Town of Fries	0.00
Town of Glade Spring	0.00
Town of Hillsville	0.00
Town of Independence	0.00
Town of Marion	0.00
Town of Rural Retreat	0.00
Town of Saltville	0.00
Town of Troutdale	0.00
Town of Wytheville	0.42
Region	2383.87

3.4.2 Cumberland Plateau PDC

3.4.2.1 Dickenson County

- ◆ Paramont Deep Mine No. 35 – estimated annual water use 9.4 MG

3.4.3 LENOWISCO PDC

There are no known self-supplied, non-agricultural users of more than 300,000 gallons per month of surface and/or groundwater outside the service areas of community water systems in the LENOWISCO region.

3.5 Estimate of Water used by Self-Supplied Agricultural Users of Greater than 300,000 Gallons per Month of Surface and Groundwater

3.5.1 MRPDC

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 does not provide information for cities and towns. These sources do not provide specific information on agricultural water use within the region; however, the sources do provide information for estimating agricultural water use in the region. In the event specific data regarding agricultural water use in the region becomes available, the Plan should be updated. Please refer to the demand projections ([Appendix X](#)) for water use calculations for each jurisdiction.

Table 3.5.1 presents the estimated water use for self-supplied, agricultural users of surface and groundwater in the MRPDC region.

Table 3.5.1: Estimated Water Use for Self-Supplied, Agricultural Users in MRPDC Region.

Jurisdiction	Estimated Annual Average Water Use - Livestock (MG)	Estimated Annual Average Water Use - Irrigation (MG)	Total Estimated Annual Average Water Use (MG)
Bland County	45.00	73.00	118.00
Carroll County	83.00	333.00	416.00
Grayson County	87.00	354.00	441.00
Smyth County	99.00	282.00	381.00
Washington County	148.00	567.00	715.00
Wythe County	145.00	575.00	720.00
Total	607.00	2184.00	2791.00

3.5.2 Cumberland Plateau PDC

There are no known self-supplied, agricultural users using more than 300,000 gallons per month of surface or groundwater in the Cumberland Plateau region.

3.5.3 LENOWISCO PDC

There are no known self-supplied, agricultural users using more than 300,000 gallons per month of surface or groundwater in the LENOWISCO region.

3.6 Estimate of Water used by Self-Supplied Users of Less than 300,000 Gallons per Month of Ground Water Outside the Service Areas of the Community Water Systems

3.6.1 MRPDC

Please refer to Section 3.3.1 regarding estimated water use for self-supplied users using less than 300,000 gallons per month of groundwater outside the service areas of community water systems for the MRPDC region.

3.6.2 Cumberland Plateau PDC

3.6.2.1 Buchanan County

- ◆ Estimated Annual Water Use – 172.2 MG

3.6.2.2 Dickenson County

- ◆ Estimated Annual Water Use – 43.7 MG

3.6.2.3 Russell County

- ◆ Estimated Annual Water Use – 193.6 MG

3.6.2.4 Tazewell County

- ◆ Estimated Annual Water Use – 167.5 MG

3.6.3 LENOWISCO PDC

3.6.3.1 Lee County

- ◆ Estimated Annual Water Use – 58.0 MG

3.6.3.2 Scott County

- ◆ Estimated Annual Water Use – 149.0 MG

3.6.3.3 Wise County

- ◆ Estimated Annual Water Use – 163.3 MG

DRAFT 5/02/2017