

## **EXECUTIVE SUMMARY**

Organization of the West Piedmont Planning District Commission (WPPDC) Regional Water Supply Plan (Plan) generally follows the State Water Control Board's regulation 9 VAC 25-780, Local and Regional Water Supply Planning. The major sections in the Plan include information on water sources, water use, and natural resources in the region; water demand management information including population and demand projections, water conservation practices, and drought response and contingency planning; a statement of need and alternatives analysis; and information on public participation. This executive summary provides a summary of the regional approach as well as a summary for each of the ten participating jurisdictions.

The conclusions presented in the Plan are based upon information (current as of October 2010) provided by the ten participating jurisdictions and two public water authorities, the Virginia Department of Health (VDH), and/or the Virginia Department of Environmental Quality (VDEQ). The projected water demands presented in the Plan are based on current water source and current water use information provided during the study and as described in the Plan. Future water needs for the region are based on the demand projections, which become more hypothetical as the demands are projected through the 50-year planning period. A projected potential water surplus or deficit in the future does not imply that such a surplus or deficit will actually occur but based on current information plans should be made for addressing this situation. This Plan will be reviewed every five years and resubmitted to VDEQ every 10 years; therefore, the projected water demands and future water needs presented in Plan will be revised as updated information becomes available to refine those projections and more accurately characterize future needs.

The Plan complies with the State Water Control Board's regulation 9 VAC 25-780, Local and Regional Water Supply Planning, and is a functional plan supporting sustainable growth and economic development. The purpose of the regulation is to establish a comprehensive water supply planning process for the development of local, regional, and state water supply plans. This process is designed to:

- ◆ Ensure that adequate and safe drinking water is available to all citizens within the region;
- ◆ Encourage, promote, and protect all other beneficial uses of the region's water resources;
- ◆ Encourage, promote, and develop incentives for alternative water sources; and
- ◆ Promote conservation.

Local governments participating in the regional plan notified VDEQ of their intent to participate in the Plan before the November 2, 2008 deadline. The Plan was submitted to the VDEQ prior to the November 2, 2011 deadline. A public hearing was held by each participating jurisdiction and the local governments passed resolutions approving the Plan and adopting other policies or ordinances that were developed during the planning process.

The WPPDC regional water supply planning group is made up of ten (10) local governments and two (2) service authorities. Participating jurisdictions include the counties of Henry, Patrick, and Pittsylvania; the cities of Danville and Martinsville; and the towns of Chatham, Gretna, Hurt, Ridgeway, and Stuart. The Henry County Public Service Authority and Pittsylvania County Public Service Authority also participate.

The WPPDC region is located in the south-central portion of Virginia in the Blue Ridge Mountains and western piedmont region. According to the U.S. Census Bureau, the total population for the region in 2000 was estimated to be 206,909. The region is served by both surface water and groundwater sources. The major streams utilized in the region as water sources include the Dan River, Upper Smith River, Cherrystone Creek, South Mayo River, and Leatherwood Creek. The major reservoirs in the region utilized as water sources include Beaver Creek Reservoir, Georges Creek Reservoir, and Philpott Reservoir. Much of the region is also dependent upon groundwater as well as several springs.

Overall the region is considered to be a water rich region. Based on projected demands and the total existing public community water system capacities for each locality, the WPPDC region is projected to experience a water supply surplus of approximately 15.2 MGD by the year 2060. However, Henry County and the Town of Gretna are expected to

experience a deficit by 2060. Henry County is in the process of requesting a permit capacity increase which will eliminate their deficit and the Town of Gretna is currently working on a new intake on Whitethorn Creek to supplement the existing Georges Creek Reservoir. It should be noted that there is some uncertainty associated with any point estimate of future deficit (or surplus) 50 years out into the future. This surplus is based on current limiting capacities and total demands (excluding sales to jurisdictions). The majority of this surplus is due to the large surplus from the City of Martinsville.

Additional private demand (from groundwater and surface water sources) of approximately 3.0 MGD may be needed to supply residential and agricultural users outside the service areas of the public community water systems. It is important to note should any of the private community water systems become part of a public community water system; this may increase the future public community water system deficit projections.

Please note that the Plan generally follows the Regional Water Supply Planning regulation (9 VAC 25-780). The major sections in the Plan, in order, are as follows: information on water sources, water use, and natural resources in the region; water demand management information including population and demand projections, water conservation practices, and drought response and contingency planning; a statement of need and alternatives analysis; and information on public participation.

### **Henry County**

Henry County is located in the central portion of WPPDC. According to the U.S. Census Bureau, the population in 2000 was 57,930, which includes the Town of Ridgeway population. The HCPSA operates the public community water systems in Henry County. The Upper Smith River Water Treatment Facility (WTF), which utilizes a stream intake on the Upper Smith River, serves approximately half of the residences in Henry County that use public drinking water. The HCPSA serves approximately 31,000 people. In addition, there are six private community water systems utilizing groundwater in Henry County. These private systems serve approximately 372 people. The remaining residents within the County are served by individual groundwater wells.

Henry County is expected to experience a water supply deficit in 2049, ultimately ending in 0.19 MGD deficit in 2060. The current Upper Smith River WTP permit capacity is 4.0 MGD. The HCPSA is working with VDEQ to increase the permit capacity from 4.0 MGD to 6.0 MGD, which would eliminate the 0.19 deficit in 2060. Based on a permit capacity of 6.0 MGD, Henry County would have a surplus of 1.81 MGD in 2060.

### **Patrick County**

Patrick County is located in the Blue Ridge Mountains in the western portion of WPPDC. According to the U.S. Census Bureau, the population in 2000 was 19,407, which includes the Town of Stuart population. At the time of the study (2006-2008) Patrick County did not own a public community water system; however, the County recently formed the Patrick County Public Service Authority (PCPSA), which operates a community water system using two groundwater wells. In addition, there are 2 private community water systems utilizing groundwater in Patrick County. These private systems serve approximately 60 people. The remaining residents within the County are served by individual groundwater wells.

### **Pittsylvania County**

Pittsylvania County is located in the eastern portion of WPPDC. According to the U.S. Census Bureau, the population in 2000 was 61,745, which includes the population for the towns of Chatham, Gretna, and Hurt. The PCSA owns and operates the public community water systems in Pittsylvania County. The public community water systems owned by the PCSA are served by either groundwater or with water purchased from the HCPSA, City of Danville, Town of Chatham, Town of Gretna, or Town of Hurt. The PCSA serves approximately 13,707 people. In addition, there are seven private community water systems utilizing groundwater in Pittsylvania County. These private systems serve approximately 511 people. The remaining residents within the County are served by individual groundwater wells.

### **City of Danville**

The City of Danville is located at the south-central portion of Pittsylvania County at the intersection of Route 29, Route 58, and Route 360. According to the U.S. Census Bureau the population in 2000 was 48,411. The City of Danville public community water system utilizes a stream intake on the Dan River. Water is supplied to the residents by the City of Danville Water Treatment Facility (WTF). The City of Danville WTF serves approximately 46,988 people and has an average daily withdrawal of 6.36 MGD.

### **City of Martinsville**

The City of Martinsville is located at the center of Henry County at the intersection of Route 58 and Route 220. According to the U.S. Census Bureau the population in 2000 was 15,416. The City of Martinsville public community water system utilizes the Beaver Creek Reservoir as the primary water source and a stream intake on Leatherwood Creek as a secondary water source. Intakes on Jones Creek and Little Beaver Creek are no longer being used; however, they are still an option in the future if necessary. Water is supplied to the residents by the City of Martinsville WTF. The City of Martinsville WTF serves approximately 16,000 people and has an average daily withdrawal of 1.94 MGD.

### **Town of Chatham**

The Town of Chatham is located in the central portion of Pittsylvania County along Route 29. According to the U.S. Census Bureau the population in 2000 was 1,338. The Town of Chatham public community water system utilizes a stream intake on Cherrystone Creek. Water is supplied to the residents by the Town of Chatham WTP. The Town of Chatham serves approximately 2,500 people in the town and surrounding portions of Pittsylvania County and has an average daily withdrawal of 0.41 MG.

### **Town of Gretna**

The Town of Gretna is located in the north-central portion of Pittsylvania County along Route 29. According to the U.S. Census Bureau the population in 2000 was 1,257. The Town of Gretna public community water system utilizes Georges Creek Reservoir. Water is supplied to the residents by the Town of Gretna WTP. The Town of Gretna

serves approximately 2,500 people in the town and surrounding portions of Pittsylvania County and has an average daily withdrawal of 0.20 MG.

Based on water demand projections, the Town of Gretna is currently expected to experience a water supply deficit in 2023, ultimately ending with a 0.3 MGD deficit in 2060. The Town of Gretna has recognized the need for additional raw water capacity or an alternate water supply. This need became more apparent when the existing Georges Creek Reservoir nearly went dry during the drought of 2002. Following the drought of 2002, the regional VDH Office of Drinking Water (ODW) in Danville determined that the safe yield of the Georges Creek Reservoir was approximately 0.18 MGD, which is significantly less than the permit capacity of 0.432 MGD. As a result, the ODW reduced the permit capacity and requested the Town of Gretna develop an alternate water supply.

On June 11, 2008, the Town of Gretna entered into a Consent Order with VDH, which gives the Town until June 1, 2012 to develop a water supply alternative or the ODW will permanently reduce the Town's design capacity. In May 2010, Peed & Bortz, LLC, on behalf of the Town of Gretna, submitted a permit application for new or expanded minor surface water withdrawals to the VDEQ. The permit application re-evaluated alternatives previously discussed in a Preliminary Engineering Report completed by Peed & Bortz, LLC and recommended a new intake on Whitethorn Creek to supplement the existing Georges Creek Reservoir.

### **Town of Hurt**

The Town of Gretna is located in the northern portion of Pittsylvania County along Route 29. According to the U.S. Census Bureau the population in 2000 was 1,276. The Town of Hurt public community water system purchases water from the Town of Altavista located in Campbell County. Water is supplied to the residents by the Town of Hurt WTP. The Town of Hurt serves approximately 1,300 people in the town and surrounding portions of Pittsylvania County and has an average daily withdrawal of 0.10 MG.

### **Town of Ridgeway**

The Town of Ridgeway is located in the southern portion of Henry County along Route 220. According to the U.S. Census Bureau the population in 2000 was 775. The Town of Ridgeway does not own or operate a community water system. The Town of Ridgeway is served by water from the HCPSA.

### **Town of Stuart**

The Town of Stuart is located in the central portion of Patrick County along Route 58. According to the U.S. Census Bureau the population in 2000 was 961. The Town of Stuart public community water system utilizes a stream intake on the South Mayo River. Water is supplied to the residents by the Town of Stuart WTP. The Town of Stuart serves approximately 1,529 people and has an average daily withdrawal of 0.31 MG.