Beech Mountain

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1. System Information

Contact Information

PROVISIONAL

Water System Name:	Beech Mountain	PWSID:	01-95-104
Mailing Address:	403 Beech Mountain Parkway Beech Mountain, NC 28604	Ownership:	Municipality
Contact Person:	Robert Heaton	Title:	Director of Public Utilities
Phone:	828-387-9282	Fax:	828-387-4862
Email:	buckeyewtp@townofbeechmountain.com		
Secondary Contact:	Randy Feierabend	Phone:	828-387-4236
Mailing Address:	403 Beech Mountain Parkway Beech Mountain, NC 28604	Fax:	828-387-4862
Email:	manager@townofbeechmountain.com		

Distribution System

Line Type	Size Range (Inches)	Estimated % of lines
Ductile Iron	4-8	5.00 %
Galvanized Iron	2-12	94.00 %
Polyvinyl Chloride	6	1.00 %

What are the estimated total miles of distribution system lines? 66 Miles

How many feet of distribution lines were replaced during 2012? 0 Feet

How many feet of new water mains were added during 2012? 0 Feet

How many meters were replaced in 2012? 3

How old are the oldest meters in this system? 41 Year(s)

How many meters for outdoor water use, such as irrigation, are not billed for sewer services? 0

What is this system's finished water storage capacity? 1.500 Million Gallons

Has water pressure been inadequate in any part of the system since last update? No

Programs

Does this system have a program to work or flush hydrants? Yes, Quarterly

Does this system have a valve exercise program? No

Does this system have a cross-connection program? Yes

Does this system have a program to replace meters? Yes

Does this system have a plumbing retrofit program? No

Does this system have an active water conservation public education program? No

Does this system have a leak detection program? Yes

NOTE We have purchased digital meters which allow for weekly readings of the service meters to watch meter totals for leaks. We have also purchased lead detection corolators to use in identification of main line leaks in suspect areas.

Water Conservation

What type of rate structure is used? Increasing Block, Uniform

How much reclaimed water does this system use? 0.000 MGD For how many connections? 0

Does this system have an interconnection with another system capable of providing water in an emergency? No

Does this system have an interconnection with another system capable of providing water in an emergency? No

NOTE We have no feasible access to the nearest water system to us due to elevation and terrain, along with neighboring treatment capacity being too small for support.

2. Water Use Information

Service Area

Sub-Basin(s)	% of Service Population
Watauga River (16-1)	100 %

County(s)	% of Service Population
Watauga	85 %
Avery	15 %

What was the year-round population served in 2012? 365

What was the seasonal population and months served in 2012? (if applicable) 2,500 (Jan Feb Mar Jun Jul Aug Dec)

System Map: keep beechmtnwatersystemmap.pdf

Has this system acquired another system since last report? No

Water Use by Type

Type of Use	Metered Connections	Metered Average Use (MGD)	Non-Metered Connections	Non-Metered Estimated Use (MGD)
Residential	1,986	0.101	0	0.000
Commercial	28	0.013	0	0.000
Industrial	0	0.000	0	0.000
Institutional	0	0.000	0	0.000

How much water was used for system processes (backwash, line cleaning, flushing, etc.)? 0.025 MGD

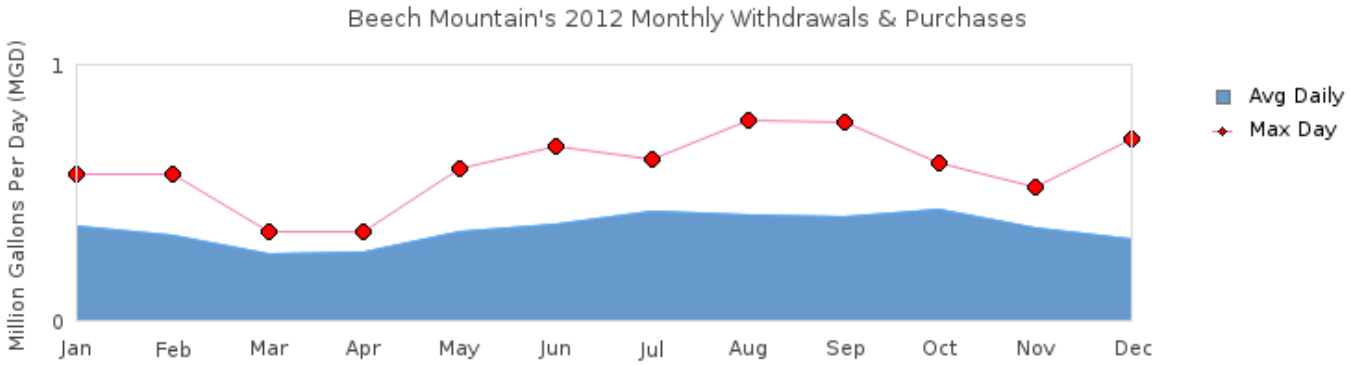
NOTE We account for .014 MGD through process of backwash and hydrant flushing. We stay with the .025 average from year to year due to the unknown amount of water used for line cleaning, firefighting, and general hydrant use that goes without monitoring.

Water Sales

3. Water Supply Sources

Monthly Withdrawals & Purchases

	Average Daily Use (MGD)	Max Day Use (MGD)		Average Daily Use (MGD)	Max Day Use (MGD)		Average Daily Use (MGD)	Max Day Use (MGD)
Jan	0.365	0.572	May	0.344	0.591	Sep	0.401	0.771
Feb	0.334	0.574	Jun	0.371	0.681	Oct	0.430	0.613
Mar	0.256	0.349	Jul	0.424	0.628	Nov	0.359	0.523
Apr	0.262	0.346	Aug	0.411	0.784	Dec	0.316	0.711



Ground Water Sources

Surface Water Sources

Stream	Reservoir	Average Daily Withdrawal		Maximum Day Withdrawal (MGD)	Available Raw Water Supply		Usable On-Stream Raw Water Supply Storage (MG)
		MGD	Days Used		MGD	* Qualifier	
Buckeye Creek	Buckeye Lake	0.357	365	0.784	2.000	SY20	50.000
Pond Creek	Lake Coffey	0.000	0	0.000	0.200	SY20	7.000

* Qualifier: C=Contract Amount, SY20=20-year Safe Yield, SY50=50-year Safe Yield, F=20% of 7Q10 or other instream flow requirement, CUA=Capacity Use Area Permit

Surface Water Sources (continued)

Stream	Reservoir	Drainage Area (sq mi)	Metered?	Sub-Basin	County	Year Offline	Use Type
Buckeye Creek	Buckeye Lake	3	Yes	Watauga River (16-1)	Watauga		Regular
Pond Creek	Lake Coffey	1	Yes	Watauga River (16-1)	Watauga		Emergency

What is this system's off-stream raw water supply storage capacity? 0 Million gallons

Are surface water sources monitored? Yes, Daily

Are you required to maintain minimum flows downstream of its intake or dam? Yes

Does this system anticipate transferring surface water between river basins? No

NOTE We are required by permit to always let out the same amount that is coming in. When lake level drops below the spillway overflow, we open the lake drain to match the flow downstream to the flow upstream.

Water Purchases

Water Treatment Plants

Plant Name	Permitted Capacity (MGD)	Is Raw Water Metered?	Is Finished Water Ouput Metered?	Source
Buckeye Treatment Plant	1.000	Yes	Yes	Buckeye Creek
Pond Creek WTP	0.300	Yes	Yes	West Pond Creek

Did average daily water production exceed 80% of approved plant capacity for five consecutive days during 2012? No

If yes, was any water conservation implemented? No

Did average daily water production exceed 90% of approved plant capacity for five consecutive days during 2012? No

If yes, was any water conservation implemented? No

Are peak day demands expected to exceed the water treatment plant capacity in the next 10 years? Yes

NOTE We are in process of upgrading the Buckeye Creek water treatment facility.

4. Wastewater Information

Monthly Discharges

	Average Daily Discharge (MGD)		Average Daily Discharge (MGD)		Average Daily Discharge (MGD)
Jan	0.269	May	0.077	Sep	0.198
Feb	0.147	Jun	0.143	Oct	0.160
Mar	0.152	Jul	0.192	Nov	0.135
Apr	0.228	Aug	0.164	Dec	0.206

How many sewer connections does this system have? 1,683

How many water service connections with septic systems does this system have? 303

Are there plans to build or expand wastewater treatment facilities in the next 10 years? Yes

NOTE The Buckeye Creek Water Treatment Plan discharge (NC0088099) will undergo upgrade along with the treatment plant.

Wastewater Permits

Permit Number	Permitted Capacity (MGD)	Design Capacity (MGD)	Average Annual Daily Discharge (MGD)	Maximum Day Discharge (MGD)	Receiving Stream	Receiving Basin
NC0022730	0.080	0.080	0.038	0.325	Grassy Gap Creek	Watauga River (16-1)
NC0069761	0.400	0.400	0.122	0.878	Pond Creek	Watauga River (16-1)
NC0088099	1.000	1.000	0.021	0.084	Buckeye Creek	Watauga River (16-1)

Wastewater Interconnections

5. Planning

Projections

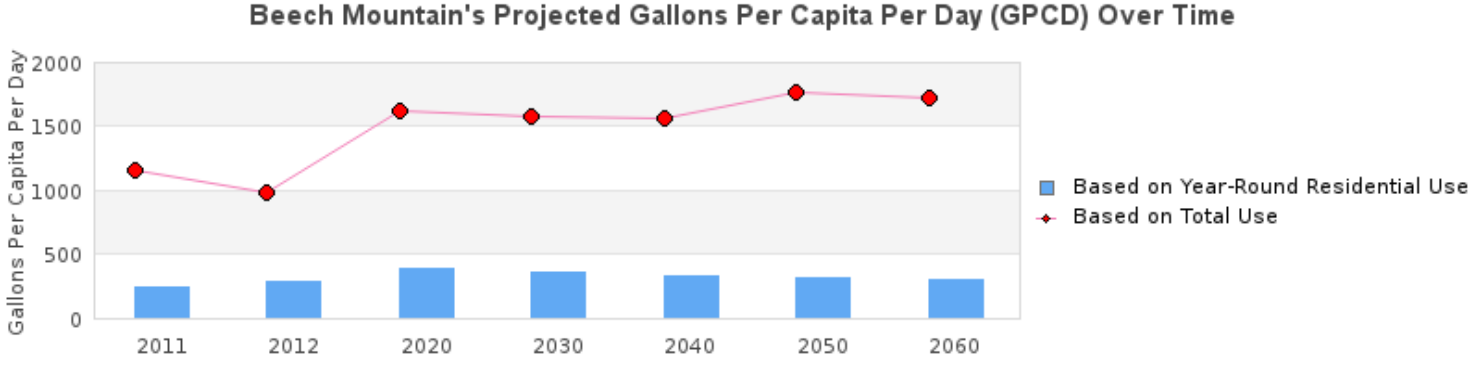
	2012	2020	2030	2040	2050	2060
Year-Round Population	365	370	400	430	460	490
Seasonal Population	2,500	4,710	4,740	4,770	4,800	4,840
Residential	0.101	0.141	0.142	0.143	0.144	0.145
Commercial	0.013	0.073	0.080	0.090	0.140	0.145
Industrial	0.000	0.000	0.000	0.000	0.000	0.000
Institutional	0.000	0.013	0.016	0.019	0.022	0.025
System Process	0.025	0.007	0.009	0.010	0.012	0.014
Unaccounted-for	0.217	0.365	0.386	0.409	0.496	0.514

Future Sales

Future Supplies

Demand v/s Percent of Supply

	2012	2020	2030	2040	2050	2060
Surface Water Supply	2.000	2.000	2.000	2.000	2.000	2.000
Ground Water Supply	0.000	0.000	0.000	0.000	0.000	0.000
Purchases	0.000	0.000	0.000	0.000	0.000	0.000
Future Supplies		0.000	0.000	0.000	0.000	0.000
Total Available Supply (MGD)	2.000	2.000	2.000	2.000	2.000	2.000
Service Area Demand	0.356	0.599	0.633	0.671	0.814	0.843
Sales	0.000	0.000	0.000	0.000	0.000	0.000
Future Sales		0.000	0.000	0.000	0.000	0.000
Total Demand (MGD)	0.356	0.599	0.633	0.671	0.814	0.843
Demand as Percent of Supply	18%	30%	32%	34%	41%	42%



The purpose of the above chart is to show a general indication of how the long-term per capita water demand changes over time. The per capita water demand may actually be different than indicated due to seasonal populations and the accuracy of data submitted. Water systems that have calculated long-term per capita water demand based on a methodology that produces different results may submit their information in the notes field.

Your long-term water demand is 277 gallons per capita per day. What demand management practices do you plan to implement to reduce the per capita water demand (i.e. conduct regular water audits, implement a plumbing retrofit program, employ practices such as rainwater harvesting or reclaimed water)? If these practices are covered elsewhere in your plan, indicate where the practices are discussed here.

Are there other demand management practices you will implement to reduce your future supply needs?

What supplies other than the ones listed in future supplies are being considered to meet your future supply needs?

How does the water system intend to implement the demand management and supply planning components above?

Additional Information

Has this system participated in regional water supply or water use planning? No

What major water supply reports or studies were used for planning?

Please describe any other needs or issues regarding your water supply sources, any water system deficiencies or needed improvements (storage, treatment, etc.) or your ability to meet present and future water needs. Include both quantity and quality considerations, as well as financial, technical, managerial, permitting, and compliance issues: