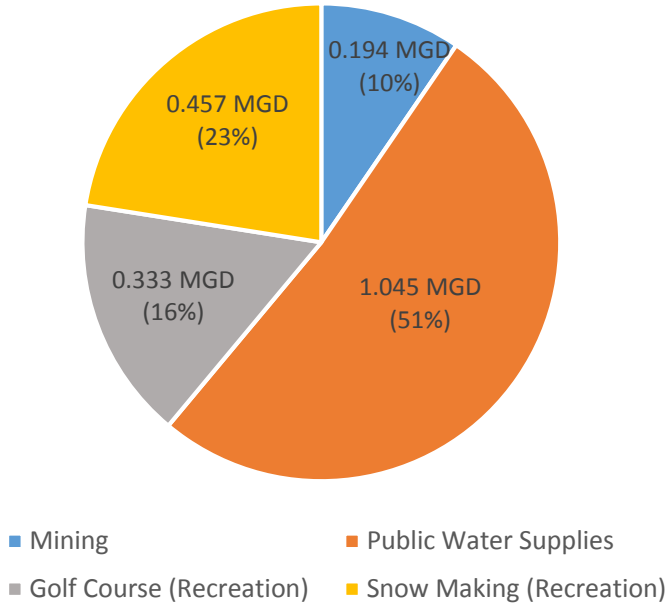
Water Use and Availability – Summary

- USGS collects water use data from all states and provides an estimate of water use by county. Based on USGS county-level data, aquaculture and irrigation (snow making and golf courses) use the most water in Avery and Watauga County (USGS, 2010).
- Based on 2015 numbers, it's estimated that approximately 69% of the population in the basin relies on private groundwater wells for their water supply. The remaining 31% is served by a community well or public water supply (PWS) system with a local water supply plans (LWSP).
- Five PWS systems are required to submit a LWSP. Residential use is expected to **increase** from 35% to 41% of total use by 2060. Non-residential use, system processes and unaccounted-for water is expected to **decrease** by 1% to 3% by 2060.
- Four out of the five PWS systems required to submit a LWSP will be able to meet water demands through 2060. One, however, cannot meet current or long-term water demands.
- Thirteen facilities are registered with the state to withdraw more than 100,000 gallons per day (GPD). In 2015, they withdrew an estimated 1.197 million gallons per day (MGD) from a combination of surface water ponds and groundwater wells. Registered withdraws for snow making and golf course irrigation account for 38% and 28% of the water withdrawn, respectively. PWS systems (four community wells) and one mining facility account for 17% and 16% of water use, respectively. Aquaculture facilities are **not** required to register unless they withdraw more than 1.0 MGD.
- Based on the information provided in the LWSPs and WWATR, total water use in the basin in 2015 was an estimated 2.029 MGD with the 51% being used by PWS systems or community wells. Snow making and golf course irrigation accounted for 71% of the total surface water withdrawn and PWS systems accounted for 78% of the total groundwater withdrawn. These numbers do not account for the amount of water withdrawn by private groundwater wells, small agricultural operations, aquaculture facilities or water used for generating power.



- Currently, there are no interconnections or emergency connections between the PWS systems. Each system is independent of the other due to terrain, elevation and physical location.
- The Watauga River basin experienced extreme weather conditions from above average rainfall due to remnants of three hurricanes (September 2004) to all levels of drought (2000-2008) over the last two decades. Each PWS system that submits a LWSP has also submitted a water shortage response plan (WSRP) which defines different stages of water shortage severity and outlines appropriate responses for each stage.

- No groundwater monitoring wells are located in the Watauga River basin. Groundwater monitoring wells along with stream gauge data would allow DWR's Ground Water Management Branch (GWMB) to estimate groundwater availability and determine if the supply can support current and future demands.
- To understand how surface water withdraws can change water availability in the basin, a hydrologic computer model is being developed. The model can assist with planning for increased water use due to continuous growth, help guide regulatory decisions on waste assimilative capacity, and help with managing resources during drought conditions. DWR will work towards developing a model for the Watauga, New and French Broad River basins.
- The High Country Council of Governments (COG) developed a regional water resource plan that includes information pertaining to water resource planning, development and protection. The plan is intended to be a guide to assist local governments in managing their own water resource needs while also protecting water quality.