WATER QUALITY ASSESSMENT DATA DEFINITIONS		
Data and Source	**Rank**	**Description**
Water Supply I (WS-I) *NC Division of Water Quality (DWQ)*	9 or 10	Water Supply I are waters protected for all Class C uses plus waters used as sources of water supply for drinking, culinary or food processing purposes for those users desiring maximum protection for their water supplies. WS-I waters are those within natural and undeveloped watersheds in public ownership. All WS-I waters are HQW by supplemental classification *Class C waters are protected for uses such as secondary recreation, fishing, wildlife, fish consumption, aquatic life including propagation, survival and maintenance of biological integrity, and agriculture. Secondary recreation includes wading, boating and other uses involving human body contact with water*
Water Supply II (WS-II) *NC Division of Water Quality (DWQ)*	9 or 10	Water Supply II are waters used as sources of water supply for drinking, culinary or food processing purposes where a WS-I classification is not feasible. These waters are also protected for Class C uses (see above). WS-II waters are generally in predominantly undeveloped watersheds. All WS-II waters are HQW by supplemental classification.
Water Supply III (WS-III) *NC Division of Water Quality (DWQ)*	7 or 8	Water Supply III are waters used as sources of water supply for drinking, culinary or food processing purposes where a more protective WS-I or II classification is not feasible. These waters are also protected for Class C uses. WS-III waters are generally in low to moderately developed watersheds.
Water Supply IV (WS-IV) *NC Division of Water Quality (DWQ)*	7 or 8	Water Supply IV are used as sources of water supply for drinking, culinary or food processing purposes where a WS-I, II or III classification is not feasible. These waters are also protected for Class C uses. WS-IV waters are generally in moderately to highly developed watersheds or protected areas.
Water Supply V (WS-V) *NC Division of Water Quality (DWQ)*	7 or 8	Water Supply V are waters protected as water supplies that are generally upstream and draining to Class WS-IV waters or waters used by industry to supply their employees with drinking water or as waters formerly used as water supply. These waters are also protected for Class C uses.

High Quality Waters (HQW) *NC Division of Water Quality (DWQ)*	9 or 10	High Quality Waters are a supplemental classification intended to protect and recognize waters that are rated excellent based on biological and physical/chemical characteristics through DWQ monitoring or special studies
Outstanding Resource Waters (ORW) *NC Division of Water Quality (DWQ)*	9 or 10	All outstanding resource waters are a subset of High Quality Waters. This supplemental classification is intended to protect and recognize unique and special waters having excellent water quality and being of exceptional state or national ecological or recreational significance. To qualify, waters must be rated Excellent by DWQ and have one of the following outstanding resource values: • Outstanding fish habitat and fisheries, • Unusually high level of water-based recreation or potential for such kind of recreation, • Some special designation such as North Carolina Natural and Scenic River or National Wildlife Refuge, • Important component of state or national park or forest, or • Special ecological or scientific significance (rare or endangered species habitat, research or educational areas).
Native Trout Streams *NC Wildlife Resources Commission*	9 or 10	These are waters that contain the naturally occurring and reproducing strains of Northern and Southern Appalachian Brook Trout. The stream reach where the native trout are known to occur, along with its 100-foot land buffer, is included in the model. Mapping and management of data related to Native Trout Waters is conducted by the Wildlife Resources Commission. The Southern Appalachian Brook Trout is the only native trout species in North Carolina, and they serve as indicators of the health of the watersheds they inhabit. Robust wild brook trout populations demonstrate that a stream or river ecosystem is healthy and that water quality is excellent. They indicate good examples of a particular kind of aquatic community. These waters represent a portion of the most significant aquatic communities in the state.
Stream Bioclass **Benthos - Good and Excellent** *NC Division of Water Quality (DWQ)*	Excellent = 9 or 10 Good = 7 or 8	Benthos Data provide locality and collection information with latitude and longitude for benthic macro invertebrates (aquatic bugs). Stream-bottom macroinvertebrates are an important part of the community of life found in and around a stream and can be sensitive to water pollution. Thus, they can be important indicators about the quality of a stream over long periods of time. Data covers the period from early to mid-1980s to present and consists of approximately 10,000 samples. Data helps indicate relative health of a water body.

National Land Cover Dataset (NCLD, 2006) *The Multi-Resolution Land Characteristics (MRLC) Consortium*	Rankings of categories vary (see below)	The National Land Cover Dataset (NLCD) was developed by a group of federal partners improve the understanding of land use and land cover to be able to better evaluate changes in ecosystems and to develop baseline information needed to protect and mitigate future impacts to ecosystem health. The data set is derived from 2006 Landsat Imagery (i.e., data that is developed by using satellite imagery) and includes per-pixel estimates of percent imperviousness and percent tree canopy and 36 total classes of land-cover data and derivatives of these classes using a decision tree. Our region has 14 of these classes present. A total of 9 categories of land use were used in the Water Quality Assessment, including: • Developed, High Intensity • Developed, Medium Intensity • Developed, Low Intensity • Deciduous Forest • Evergreen Forest • Mixed Forest • Shrub/Scrub • Grassland/Herbaceous • Pasture/Hay • Cultivated Crops
Forested Land (derived from NLCD, 2006)	Rankings vary from 5 – 10	Forested Land represents four NLCD classifications: 41. Deciduous Forest - Areas dominated by trees generally greater than 5 meters tall, and greater than 20% of total vegetation cover. More than 75 percent of the tree species shed foliage simultaneously in response to seasonal change. 42. Evergreen Forest - Areas dominated by trees generally greater than 5 meters tall, and greater than 20% of total vegetation cover. More than 75 percent of the tree species maintain their leaves all year. Canopy is never without green foliage. 43. Mixed Forest - Areas dominated by trees generally greater than 5 meters tall, and greater than 20% of total vegetation cover. Neither deciduous nor evergreen species are greater than 75 percent of total tree cover. 52. Shrub/Scrub - Areas dominated by shrubs; less than 5 meters tall with shrub canopy typically greater than 20% of total vegetation. This class includes true shrubs, young trees in an early successional stage or trees stunted from environmental conditions.

Cropland (derived from NLCD, 2006)	4, 5	Cropland represents 3 NLCD classifications: 71. Grassland/Herbaceous - Areas dominated by grammanoid or herbaceous vegetation, generally greater than 80% of total vegetation. These areas are not subject to intensive management such as tilling, but can be utilized for grazing. 81. Pasture/Hay - Areas of grasses, legumes, or grass-legume mixtures planted for livestock grazing or the production of seed or hay crops, typically on a perennial cycle. Pasture/hay vegetation accounts for greater than 20 percent of total vegetation. 82. Cultivated Crops - Areas used for the production of annual crops, such as corn, soybeans, vegetables, tobacco, and cotton, and also perennial woody crops such as orchards and vineyards. Crop vegetation accounts for greater than 20 percent of total vegetation. This class also includes all land being actively tilled.
Developed Land (derived from NLCD, 2006)	2, 3, or 4	Developed Land represents two NLCD classifications: 22. Developed, Low Intensity - Includes areas with a mixture of constructed materials and vegetation. Impervious surfaces account for 20-49 percent of total cover. These areas most commonly include single-family housing units. 23. Developed, Medium Intensity - Includes areas with a mixture of constructed materials and vegetation. Impervious surfaces account for 50-79 percent of the total cover. These areas most commonly include single-family housing units.
Impervious Surfaces (derived from NLCD, 2006)	1	Impervious surface represent NLCD classification: 24: Developed, High Intensity - Includes highly developed areas where people reside or work in high numbers. Examples include apartment complexes, row houses and commercial/industrial. *Impervious surfaces account for 80 to100 percent of the total cover*.
Digital Elevation Data	High Elevation areas <3,000 ft. = 8 or 10	High resolution elevation data used to assess elevations of basins and to generate small sub-basins throughout the French Broad Watershed.
Sub-Basins of the French Broad Watershed		The basin vector data was generated from the DEM using the freely available ArcHydro toolset for ArcMap. A 1km resolution was set in order to generate small basins throughout the region, which later allowed for a more detailed assessment of each basin. The generated basin dataset from the DEM is unique in that it is classified into much smaller basins which are not available from or standard to the United State Geological Survey. This dataset classifies basin into smaller units than the typical 14-digit hydrologic unit codes.