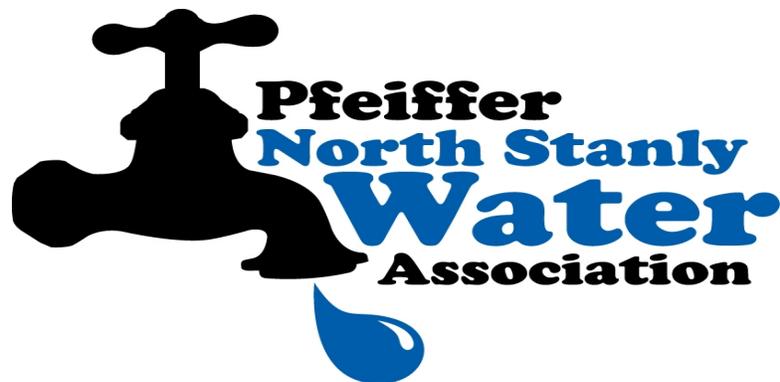


PFEIFFER-NORTH STANLY WATER DISTRICT

20-Year Population Estimate



Prepared and Submitted by:
Stanly County Planning Department
March 2008

Purpose

Pfeiffer-North Stanly Water District's population estimate is a report of the approximate population. Since the United States Census Bureau releases official population counts every ten years, it is important to calculate the base population for the current year between the decennial census and use to project future population.

The quality of data is very important to decision making. The base population estimates are intended to provide basic quality data to public and private decision-makers. Public entities may use this information to forecast service demands of water, sewer, tax revenues, building trends, grant writing and other public purposes. Private citizens may use this information to formulate business plans, consider investing in the community, and consider relocating to Pfeiffer-North Stanly Water District or any number of other uses.

Methodology

Population/Permit Basis

The population estimates will use the 2000 U.S. Census population as the base year and calculate population growth since 2000 based on the net growth of population. Once the net growth of population is determined, an average household size of 2.62 (2000 U.S. Census) will be applied to the population to yield an annual housing unit growth. The net growth of population will be determined by the following:



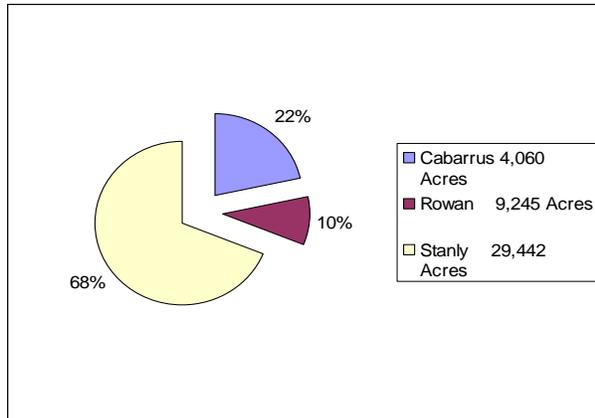
- Historical population growth – which is compiled from the past decennial census and current year estimates maintained by the Census Bureau;
- Demolition permits for homes – which are compiled from the building permit database maintained by the Inspections Department;
- Planning Development Growth – planning projects currently discussed or in the works by any jurisdiction will be reviewed to determine the impacts of growth to the area;
- Economic expansion impacts – economic impacts in or near the study area to determine the immediate need and pressure for development in the study area;

The population estimates are considered accurate for July 1st of the year. This allows for a balance of new homes permitted in the previous year to be complete and to coincide with the annual estimates from the Census. The Village of Misenheimer does have large institutions such as a college with a stable enrollment, but otherwise there are no special populations to evaluate. This method does not account for loft apartments or other types of residences in commercial structures.



Exhibit 1 is the equation used to establish annual estimates. Since the first estimate was developed for 2007 using annual data since 1990, some of the data for the early years of the decade are not available. This methodology and data can be refined in the future following the 2010 decennial census to fine tune the estimate accuracy.

Exhibit 1: Estimation Equation and Baselines
(Stanly County)



Study area in Acres:	<u>41,747</u>	<u>in Percent</u>
Rowan	9,245	21.63
Cabarrus	4,060	9.50
Stanly	29,442	68.87

Statistical data calculations:

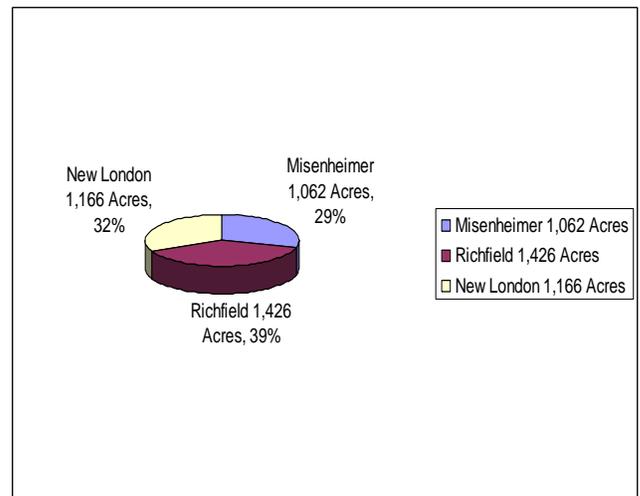
Average population density: 2.28 acres per person

Average population per household: 2.62

Area within each Municipality:

- Misenheimer 1,062 acres
- Richfield 1,426 acres
- New London 1,166 acres

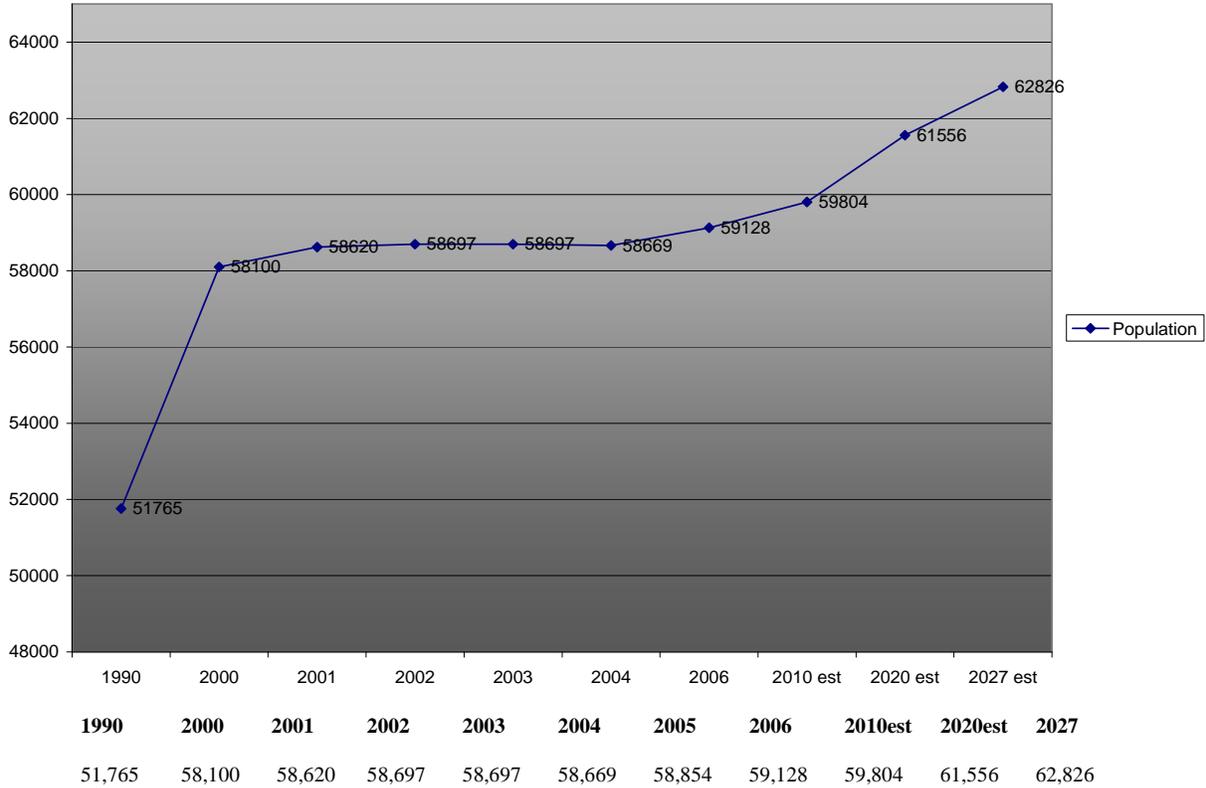
Town Sizes

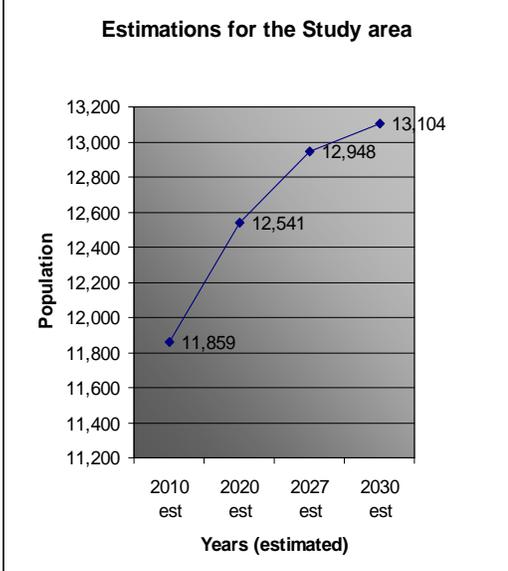
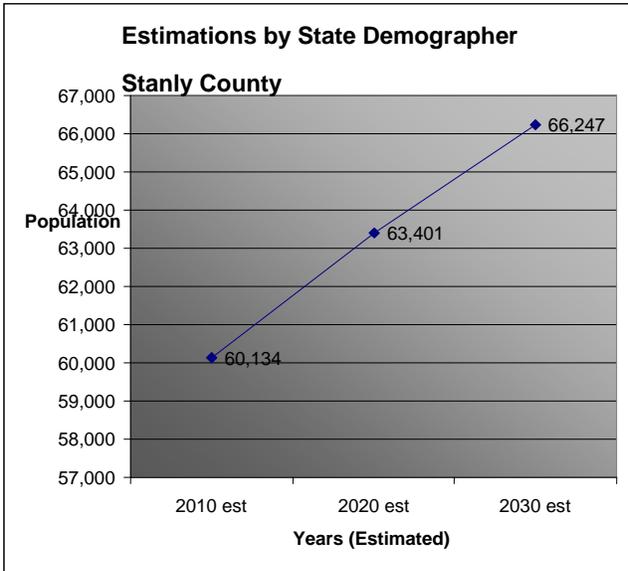


These figures are derived from the Stanly County Planning Staff based on baseline data from the US Census and their projections. Note they are lower than the State demographer due to the use of historical data rather than more real time effects on population growth as listed below.

Stanly County Population (Census):

Stanly County Population
1990 ~ Est 2027





Estimations by State demographer			
Year	2010 est	2020 est	2030 est
Population	60,134	63,401	66,247

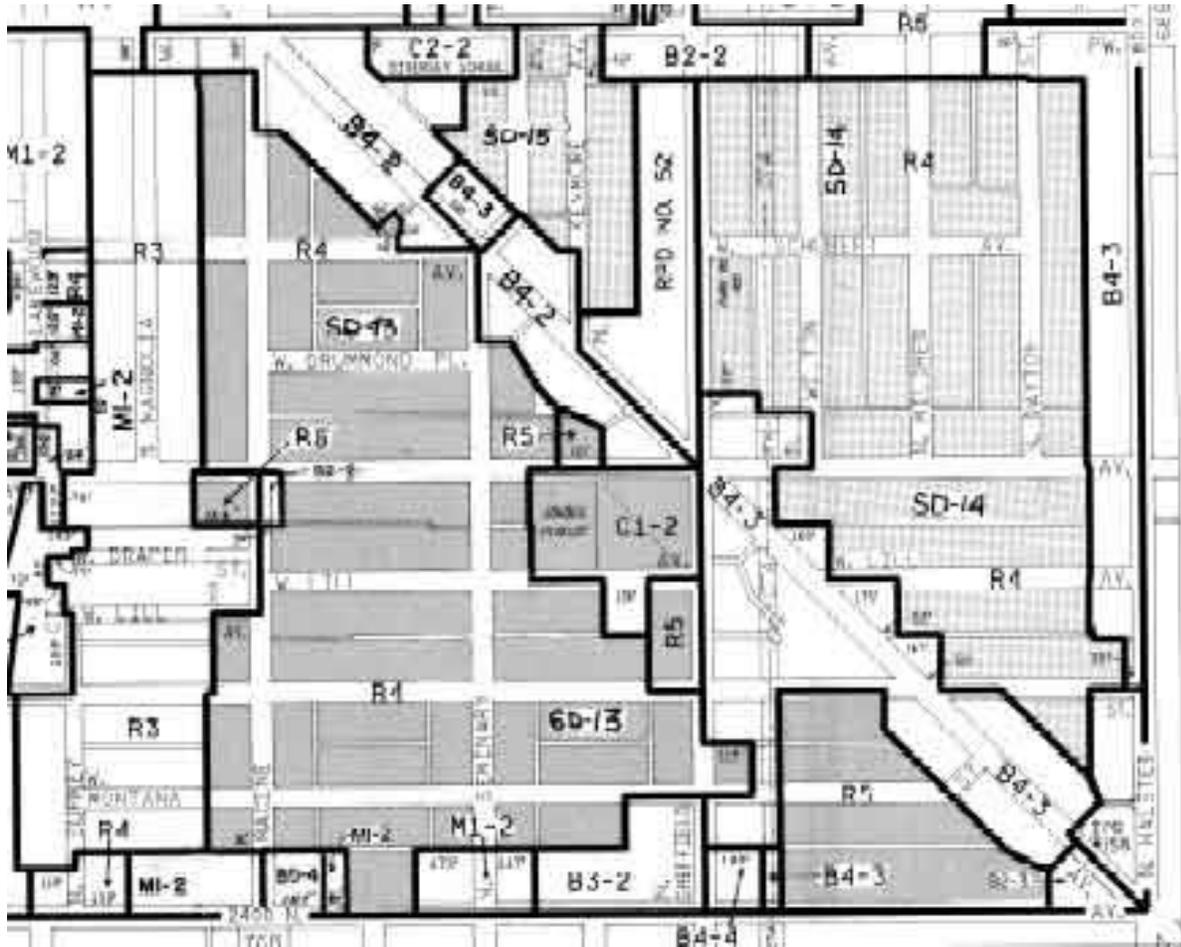
Estimation for the Study area				
Year	2010 est	2020 est	2027 est	2030 est
Population	11,859	12,541	12,948	13,104

These figures by the State Demographer are based on several demographic formulas. Birth rate, death rate, employment rates, net migration, housing starts, marriage licenses, automobile registration, and unemployment claims.

These numbers are based on several factors and assumptions. Since over 60% of the study area is located in Stanly County, and the other two counties contribute their lowest growth area to the equation, we used the assumption of standards in Census Tract 9901 of Stanly County. Rowan and Cabarrus did have very similar demographics on all counts except a higher overall county growth rate. The assumption of persons per household was relatively constant, so with a calculation of acreages, number of houses, and acres related to each household was used to set a base amount for the current year. Using the demographer's number, which we think is more correct for the Study area, we set a base growth rate from the county and applied that to the study area. We were able to estimate that number through the year 2030. Please keep in mind that this estimation could be lower due to factors such as job loss, no expansion of infrastructure, higher tax rates, and lack of public facility expansions. In turn, they could exceed the estimation due to major job expansion, low taxes, easy access to infrastructure such as water and sewer, better than average public services, and more accessible land from which to commute.

Zoning:

Currently, there is approximately 3660 acres of the land zoned for non-residential use which represents about 8.7% of the study area. This should increase as the need for job centers and retail locations increase with the increase of population. An estimation of 10-12% of non-residential land or approximately 4500 acres is reasonable for the projected period. The prospects of a large industrial use are good. The location of the major roads and the access to rail should draw attention to prospective industries. Keep in mind that the overall factors will be important such as cost of services and taxes. All the municipalities and counties in the study area have expressed a willingness to work with prospective industries, and it will continue to be important. Industrial sites would work best along the existing roadways especially outside of the watershed and along the existing rail line. Commercial zoning will be competing for some of this same area, so early zoning changes may need to be made to designate prime industrial properties before the demand becomes too high.



Roads:

There are two and possibly three major road projects affecting this study area.

- 1) US 49 is the east-west route that connects to the region's economic engine (Charlotte) to the west of the Study area. East of the study area on NC 49 connects to Asheboro and the future I-73/74 corridor that runs north and south. NC 49 is currently on the NCDOT Transportation Improvements Program (TIP) as a funded project in three phases covering 2010-2012. This improvement along with the improvements in Cabarrus County will allow a four lane highway to connect with areas outside the Study area. NC 49 east to Asheboro will need to be improved and connected to US 220/I-73/I-74 to have the best impact for the study area.



- 2) US 52 provide a north-south route that connects Albemarle to Salisbury/I-85. This road was expanded to a five lane undivided road in the 1980's from Albemarle to Richfield/NC 49. Plans for expansion of this extension to Salisbury/I-85 have been looked at, but it continues to be an unfunded and a non-TIP project. This road would give direct connectivity to an existing interstate system and thus points to the north of the study area.



- 3) The other possibility is the need for an immediate by-pass of the Pfeiffer University Campus which straddles the US 52 corridor and creates a very dangerous situation where a student crossing, railroad, and highway meet. A segment of the US 52 By-pass would be beneficial to the University and road traffic in the area. A by-pass of the University could open other lands for development and create many opportunities for the area.

These two roads crossing in the midst of the study area create an opportunity for Industrial and Commercial growth at and surrounding this intersection. It is apparent that traffic movement on these roads need to be maintained or improved by limited drive cuts and cross over movements. New roads need to be limited access to all extent possible.

Water:

Currently, there are two water providers in the study area. One, the City of Albemarle, has a multi-million gallon plant located on Tuckertown Lake and NC 49 which mainly just transports their potable water through the study area south to the City of Albemarle without retailing any customers along the way. The second is Pfeiffer-North Stanly Water Association which was created to supply water in this area and which purchases all their water from the City of Albemarle. When this association was created, the supply of water was provided from the Albemarle city limits, but now can be supplied directly from the Tuckertown water plant. Even with the recent droughts in North Carolina, the City of Albemarle has not had any problems supplying water to their customers. Within the study area, water service needs to continue to be expanded to serve the area and possibly expand to include the increasing demand north along the lake, north along US 52, and West along NC 49. Lake development is growing along Tuckertown, and the need for clean water is important. The Gold Hill community currently is not served with water, and could be along with the connecting US 52 corridor expansion area.



Sewer:

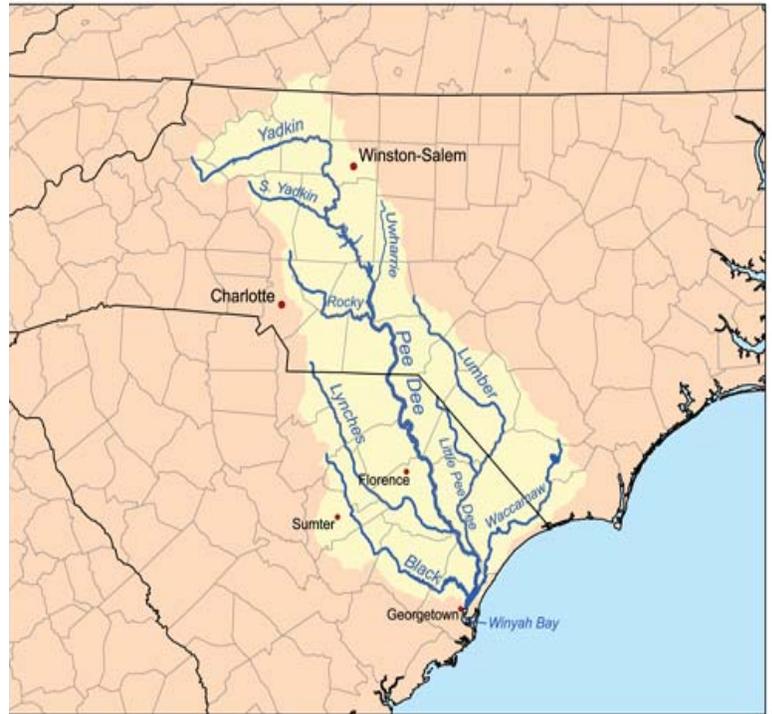


Sewer in the study area is very limited both in scope and size. All waste water in this area is treated by the City of Albemarle. It is critical to this area that adequate future allocations for sewer treatment from Albemarle be secured. Transportation is also important with the exception for the Town of New London where sewer is transported directly to the City of Albemarle, sewer further north is transported from the Town of Richfield, and Pfeiffer University through lines operated by Stanly County Utilities. These systems could easily be overrun with development if not properly planned and expanded over time.

It would make logical sense to expand sewer to areas where the most customers can be served at a reasonable cost. A map of the drainage basins in the study area is attached for consideration. Additionally due to the watershed constraints and concerns, concentrations would make the most sense in non-watershed areas, while sewer in the watershed areas would help prevent septic failures into the lake which supply drinking water. Currently, the Towns of Richfield and New London operate a sewer system, and a small system is run by Pfeiffer University. New London has a very new system for most of their town, where all the residents have hooked onto the system, where available. Richfield has a gray water system with septic tanks connected to the sewer system. It's the understanding of several that there is capacity for expansion in the sewer systems lines and pump stations, if improvements can be made to create more transportation capacity. A long term plan needs to be in place to avoid pump stations. As a general rule, they are a maintenance issue in the long run. Richfield recently received a state grant to study their existing sewer system.

Other Factors:

Approximately 50% of the acreage lies within the WS-IV water-supply watershed where development is limited. Non-residential development is limited to 24-36%. Some development can be obtained at 70%, but that is limited in quantity. Residential development is generally limited to two units per acre. Development outside the watershed could develop at a higher density, as the land suitability permits. The installation of water and more especially sewer could greatly increase the density outside the watershed to four units per acre, but easily max out the two units per acre within the watershed. Critical watershed area should be closely watched when developed, since they can have the highest potential impact on the water supply with runoff and failing septic tanks.



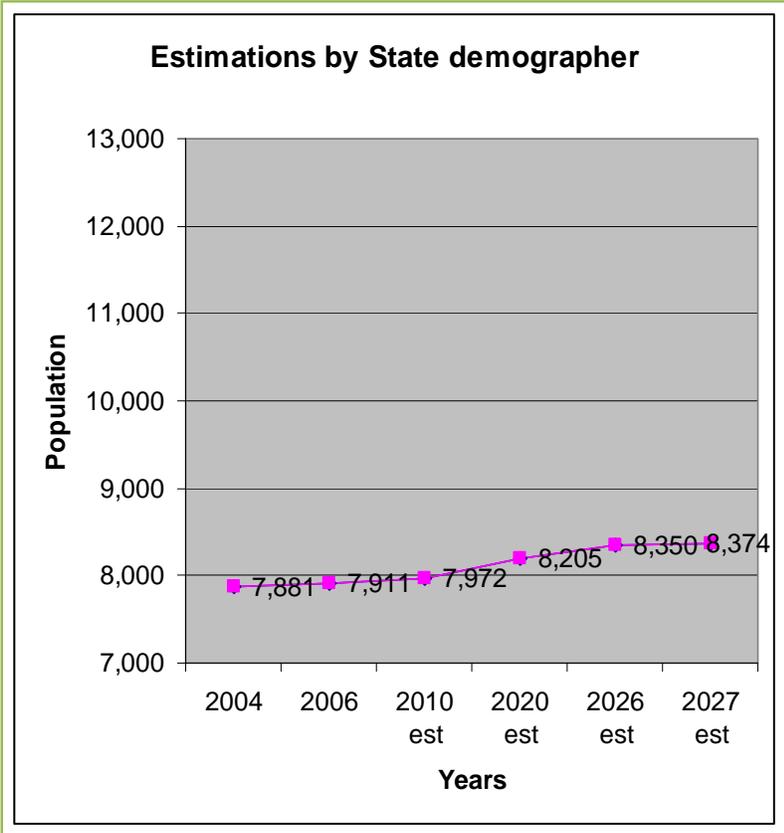
Pee Dee River Map

SUMMARY:

Using the projections to estimate the growth in Census Tract 9901 of Stanly County and the portions of Rowan and Cabarrus County, we have attempted to plot where historical growth and influenced growth in this area may arise. Many factors can change the growth in the study area, but unless some major influence in the area increases the demand for job and thus housing, these numbers should remain solid. Sewer could play a major role by creating the opportunity for large residential developments. The proximity to growth in Cabarrus County would make the study area prime for development, even while Cabarrus County continues to keep their eastern side a low growth area for their county. A leap frog effect could occur in northern Stanly and southern Rowan. The historic Gold Hill section in southern Rowan County presents potential as a tourist destination with bed and breakfast, antique dealers, and shops, while the outlying area encourages low density residential growth.

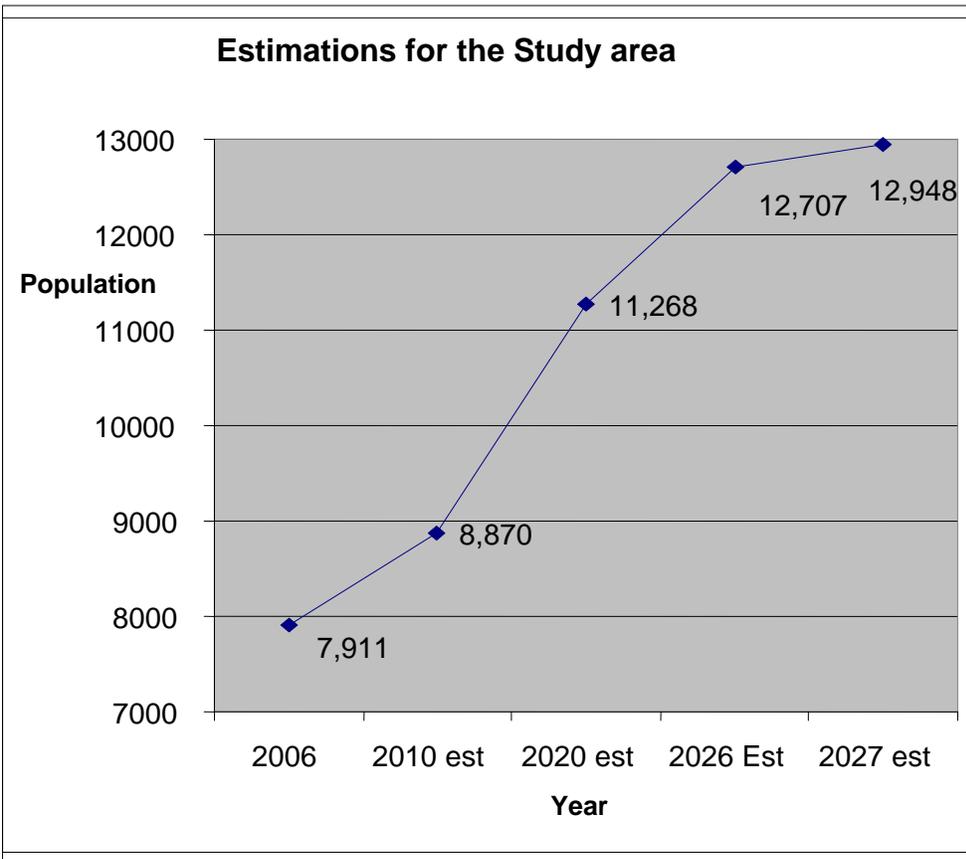
The Tuckertown Lake area is feeling the impact of second homes used mainly for recreation and retirement homes along with investment property, as it is being discovered by people leaving the metropolitan region of Charlotte and Greensboro. Kannapolis has future potential with the opening of the Research Center, and the prospectus of related research facilities, and home for the employees in a University setting at Pfeiffer.

PNSWA – Study Area – Conservative by Planning Staff



Estimations by State demographer based on Stanly County						
Year	2004	2006	2010 est	2020 est	2026 est	2027 est
Population	7,881	7,911	7,972	8,205	8,350	8,374

PNSWA – Study Area – Realistic by Planning Staff



Estimation for the Study area – Realistic					
Year	2006	2010 est.	2020 est.	2026 Est.	2027 est.
Population	7,911	8,870	11,268	12,707	12,948

*Estimates by Planning Staff

With the best estimate available with current statistics, we can assume that the study area will encompass approximately 12,948 people. With the 2010 census counts, a recount of the study area may need to be performed to check the base data estimated for 2010 and compare to future projections of the State Demographer and the Census estimates.