

## Lower Tar River Recommendations

### Recommendations

- Explore development of a more comprehensive basinwide stormwater management to prevent uncontrolled development in areas currently exempt from stormwater regulations and to protect watersheds with threatened and endangered species.
- Identify sources of organic nitrogen that could be contributing to the increase in basinwide TKN concentrations. Basinwide, the ammonia component of TKN shows a decrease in concentration since 1991. Specifically in this subbasin ammonia concentrations have decreased with peaks during dryer years, while TKN concentrations have increased over 1997-2008 period.
- Total phosphorus concentrations decreased and have remained steady over the past several years over an 11 year time period from 1997-2008. However, the TP loads measured at Grimesland have not been below the 1991 baseline except for 2007 & 2008. The Tar-Pamlico NSW strategy requires no increase in phosphorus loading from the 1991 conditions, to achieve this it may be necessary to revisit older laws to identify where new technology alternatives may be able to assist in meeting nutrient goals (e.g., G.S 143-214.4. prohibits certain cleaning agents from containing phosphorus, household dishwashing machine detergent is exempt.) Several states have recently [banned phosphorous](#) in dishwasher detergent and lawn fertilizers.
- More research is needed to understand the amount nutrients entering the Tar River and its tributaries through baseflow and how this contribution can be managed. The NSW strategy

targets point and some nonpoint source nutrient contributions to surface waters. However, some nonpoint sources are not specifically addressed in the strategy. Nutrients from non-discharge spray field systems, wastewater residual applications, septic systems and tiled agriculture may all be contributing to nutrient loads in surface waters via groundwater. DWQ Aquifer Protection Planning Unit is currently compiling a few select watershed-scale estimates of total nutrient loads from permitted land application facilities which will help determine the potential nutrient loading magnitude.

- Identify where local Drainage Districts are active and if their activities impact water quality.