EFFECTS OF TIMBER HARVESTING ON WATER RESOURCES IN THE SANTEE WATERSHED IN SOUTH CAROLINA

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The forest resources in South Carolina provide both economic and environmental benefits including manufacturing industry, bioenergy production, wildlife habitat protection and greenhouse gas consumption. Timber harvesting and forest management practices may have potential effects on water and soil resources, and these impacts vary geographically based on regional soil types and climatic zones. The watershed scale is appropriate for evaluating effects on water resources. Then, the specific management practices can be implement to protect natural resources against potential harmful consequences. In this study, we employed hydrologic models to estimate the stream flow, and pollutants loads such as inorganic nitrate and solid sediment of Santee River, and then analyzed the relationship between the stream pollutants and the timber volume harvested within this watershed. The results showed the timber harvesting had no effect on nutrient loads such as inorganic nitrate, but increased the following years solid sediment level.