

PLASTIC DEBRIS AND DERELICT FISHING GEAR ON  
SHACKLEFORD BANKS, NORTH CAROLINA

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ABSTRACT

Surveys of the quantity, type, and source of plastic debris on beaches on Shackleford Banks, Cape Lookout National Seashore, North Carolina, were conducted in December 1986 and September 1987 by the National Marine Fisheries Service Beaufort Laboratory and the National Park Service. Eight 1-km beaches established as benchmarks were surveyed and measured using standard beach survey methods developed in Alaska. In 1986 an average 863 items/km of beach were found. Packaging industry items comprised 51%; fishing gear (commercial and sport), 15%; fragments, 14%; maritime industry, 8%; miscellaneous, 7%; and personal effects, 5% of the total debris. Fourteen percent of the debris items were categorized as entanglement dangers, and 55% were categorized as ingestible dangers to marine animals such as the endangered marine turtles: Fishing gear contributed significantly to the entanglement items and packaging contributed significantly to the ingestible items.

In 1987, an average of 1,073 items/km of beach were found, an increase of 25% from 1986. Four transects of beach cleared of all debris in 1986 and resurveyed in 1987 increased 117% from 526 items/km to 1,141 items/km. Composition was similar to that found in 1986. Shackleford Banks ranks high in the amount of plastic debris on its beaches when compared to beaches in Texas, Oregon, and Alaska. Because several species of endangered marine turtles utilize the barrier islands of the southeast United States for nesting, plastic debris may pose a serious threat to their well-being.