Bottlenose dolphins (Tursiops truncatus) are sentinel species of environmental health. Monitoring the health of dolphin populations provides insight into local environmental conditions. Skin lesions, which can be observed through photo-identification, can indicate viral, bacterial, or fungal disease and may be linked to contaminant exposure and used to infer population health. This study presents a preliminary examination of skin lesion prevalence and classification of cetacean bottlenose dolphins in the Outer Banks, NC, using photo-identification. Dedicated boat-based transect surveys were conducted monthly in Roanoke Sound from April through October 2012, using standardized photo-identification techniques. Sighting data and dorsal fin images were processed using FinBase. High quality images of distinctive fins were examined for the presence and type of skin lesions. A minimum estimate revealed that 44% of the animals screened (n=83) exhibited at least one of seven different types of skin lesions, with pale lesions being the most common type observed (P=0.46). At least 1/3 of the animals screened presented multiple types of lesions. The greatest prevalence of lesions occurred in the spring (P=0.75; p<0.001). A residency analysis revealed 83% of the seasonal residents (n=5) and 75% of the transients (n=10) observed in the spring exhibited lesions, suggesting residency does not contribute to seasonal lesion presence. The skin lesions occurring on Roanoke Sound dolphins are similar in frequency and type to those observed on other east coast populations.

The methods used in this study are suitable for further examination of skin lesions on dolphins in this area. Seasonal occurrence of lesions observed may result from the influence of lower water temperature in the spring. Future studies should focus on expanding the current dataset to further examine the seasonal prevalence of lesions, relationship between residency and lesions, and correlations between lesion presence and environmental factors.