

Attraction of Free Ranging Sharks by Acoustic Signals

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Abstract

An underwater television system located off Bimini, Bahamas, was used to observe and record the attraction of free-ranging sharks to a nearby sound source. Several species of sharks were attracted by irregularly pulsed signals either containing harmonics (e.g., over-driven sine waves) or consisting of octave bands of noise. Irregularly pulsed pure tones and harmonic sounds above 1000 Hz were apparently not attractive. Attraction was not reinforced and habituation of the approach response was regularly observed in prolonged test series. As the number of sharks in the test area increased, swimming activity rose dramatically. Circling and criss-crossing of the site became more intense under conditions of low ambient light and turbidity. Additional tests showed that minimum attractive sound levels were remarkably low and that sharks could locate a sound source within seconds from distances beyond our limit of visibility (about 25 m). Details of the study have recently been published in *Marine Biology* (1969) 2(3):264-276. This work was supported by the Oceanic Biology Program, ONR, Contract NONR 4008(10), and the National Science Foundation, Grant GB5897.