USGS

Patuxent Science Meeting 2004 Poster Abstract

An Experiment with Predator Scents: Testing Olfactory Response of Red Foxes on Cape Cod, Massachusetts

O'Connell, A. F., Jr., and N. W.Talancy

Human influence has altered and fragmented most ecosystems, often resulting in the absence of large carnivores. As a result, medium-sized predators like red foxes (Vulpes vulpes) and raccoons (Procyon lotor) can occur at high densities (i.e., meso-predator release [Crooks and Soulé 1999]) and productivity of ground-nesting birds often declines. A prime example of this problem is along the Atlantic coast where the red fox is a significant predator of the federally threatened piping plover (Charadrius melodus). Public opposition to predator control, limited success of predator removal programs and NPS policies that advocate an ecosystem approach have led to an interest in evaluating alternatives for managing mammalian predators.

Red foxes and coyotes (Canis latrans) overlap in many areas but through intereference competition, coyotes are dominant over foxes (Litvaitis1992), and often exclude them from their home ranges (Voigt and Earle 1983, Sargeant et al. 1987). There is also evidence that wolves (Canis lupus) and coyotes have a similar relationship (Carbyn 1982, Dekker 1989). Chemosensory detection may be an important aspect in predator avoidance behavior for many mammals (Stoddard 1980, Epple et al.1993). Fear-provoking odors have gained popularity with ecologists and resource managers due to their ability to modify prey behavior (Shumake 1977, Swihart 1991). This study will test the hypothesis that predator odors of medium to large canids will influence scent post visits by smaller predators like the red fox or raccoons.