

SHORT COMMUNICATIONS

A CLASSIFICATION-TREE ANALYSIS OF NESTING HABITAT IN AN ISLAND POPULATION OF NORTHERN HARRIERS

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Abstract. Nantucket Island, Massachusetts, hosts the largest population of breeding Northern Harriers (*Circus cyaneus*) in the northeastern United States. We analyzed 128 nest sites to determine landscape features influential to habitat selection. We performed a vegetation community use-availability study, and we used 70 GIS-derived landscape metrics to conduct a classification tree analysis. We used the classification tree results to quantify, predict, and map the preferred nesting habitat of harriers islandwide. The vegetation community use-availability study showed that harriers had a preference for herbaceous marsh and shrublands and that they used low vegetation and forested habitats less than expected by availability. Preferred nesting habitat had two classification nodes. The first node represents habitat distant from developed land and roads, out of forests, and in or immediately adjacent to wetlands. The second node represents habitat identical to the first node with respect to distance from high densities of development and forests, but is upland and contains only minimal developed land. We applied the classification tree's criteria to GIS data for the entire island to create an islandwide map of preferred nesting habitat. Although most of the island's preferred nesting habitat is currently preserved (86%), we suggest conserving the remaining unprotected areas to maintain important nesting habitats.

Key words: *Circus cyaneus*, *classification tree*, *Nantucket*, *nesting habitat*, *Northern Harrier*.