



Mute Swan

An Invasive Species And Its Management In Rhode Island

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HISTORY and STATUS:

Mute swans (*Cygnus olor*) are an indigenous species to Europe and parts of Asia and were introduced into North America as a decorative waterfowl for parks, zoos, and private estates during the later 1870s. However, by the early 1900s, a small number of birds escaped into the wild in New Jersey (1916) and New York (1919). These birds provided the nucleus for the current Atlantic Flyway population. The first sign of mute swans in Rhode Island occurred on Block Island in 1923, and then in south shore coastal ponds in 1930. Nesting attempts were first noted in Briggs Marsh, Little Compton in 1948. A population dynamic study of mute swans conducted in RI during the 1960s, resulted in a recommendation for controlling this invasive species to a then “current population” of 300 birds. By 2001, 141 swan nests were found in 26 of the 39 towns and cities of RI (Table 1). The current Rhode Island mute swan population fluctuates between 1500± birds in summer and 900± birds in winter.



Although nonmigratory, this species is currently found throughout the Atlantic Flyway from southern Ontario to North Carolina, with “semi-domestic” flocks ranging south to Florida. Regional growth rates in the Atlantic Flyway between 1986 and 1999 ranged from 43 % in southern New England (MA, RI, and CT) to 1271% in the Chesapeake Bay Region (MD and VA). The growth of the Atlantic Flyway population during this 13-year period was 118%.

HABITAT AND LIFE HISTORY:

Mutes favor phragmites reed and cattail for nesting material because of their ability to penetrate dense stands of these plants, which provide protection from potential predators. Only a few animals prey on mute swans in the early stages of life. Raccoons will take advantage of an empty nest to sample the large eggs, but if the adult is at close hand the mammal is chased away. Snapping turtles will take cygnets during the first few weeks of life. Average survival may fluctuate annually depending upon winter severity and available food sources. As a bird lives longer its survival rate increases. Life expectancy in the wild may reach over 25 years, however, the average is probably closer to 7 years. Swans are capable of breeding by their third spring and will continue throughout their life. Due to poor frontal vision, mutes often collide with power lines that are stretched over or adjacent to wetlands, causing severe injuries or death. On average 4.5 acres (range of 0.5-12 acres) of habitat are required for nesting and brood rearing. This selected territory may be defended year round but is strictly protected when

active nest or young are present. Some swans will tolerate other waterfowl nesting within their territory, but not commonly. Competition for habitat and their large size make mute swans a potential threat to resident waterfowl.

IMPACT:

Mute swans, one of the largest waterfowl (25-35 pounds), have become a symbol for beauty, grace, tranquility, love and a host of other anthropomorphic expressions. Its image can be found on hotel marques, soap bar wrappings, post cards, beauty aids, tissues, and snack foods to name a few.

Unfortunately, the swans' personality does not match its image. It is quite capable of chasing off other waterfowl species from its declared territory, possibly killing the duck and goose including its young, or another swan or its cygnets.

Individuals have reported incidence of a mute attacking a child because food handout had not continued, or a small dog chained to its doghouse, that was within the birds' territory. Not all adult swans are this aggressive, but people need to recognize that this is a wild animal, not a friendly creature with loving human traits.



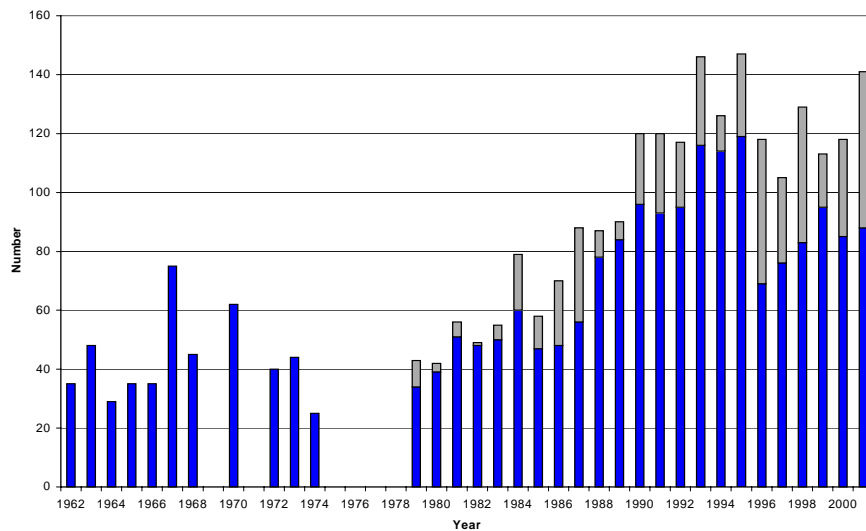
POPULATION CONTROL:

The growth rate of Rhode Islands' mute swan population has maintained itself at 5.6% annually since 1986 despite attempts by the Department of Environmental Management's, Division of Fish and Wildlife (DFW) to control the population at the recommended levels of the 1960s. Method of control followed by the DFW has been egg addling or pipping. The current egg-addling program has resulted in over 10,000 eggs being controlled since 1978 (Figure 1). Although egg addling is the most acceptable control method by the general public, it fails to meet total population control needs. Future management of this species will likely require additional management methods.

Recent studies by the DFW indicate that mute swan concentrations will significantly reduce submerged aquatic vegetation during the summer in waters less than a half-meter deep. If this species continues to grow unchecked, it will be a limiting factor in the amount of wintering foods available to migratory waterfowl within RI and along the Atlantic Flyway. Others have described the negative impact of many exotic species brought to North America, which had escaped, and have successfully established feral populations. The results have been mostly detrimental to native species of flora, fauna, and insects. In 1994, a Defenders of Wildlife Magazine editorial raised the question of controlling invasive species and pronounced, "States also are primarily responsible for controlling exotics" and "Many states have been lax about eradicating exotic species and preventing introductions." More recently (1999) President Clinton signed an Executive



Order on Invasive Species (Executive Order 13112) “to prevent the introduction of invasive species and provide for their control and to minimize the economic, ecological, and human health impacts that invasive species cause.” As the mute swan spreads throughout the continent, close examination should be kept on displacement of native waterfowl species and habitat competition. There is a need for the development of a national mute swan management plan and implementation of national control efforts. An invasive species with few natural predators and a capability of significant population growth, the mute swan needs to be controlled at a level that will allow both human appreciation and a limit on its competition with native waterfowl.



If you have further questions, please contact the Division of Fish and Wildlife, Great Swamp Field Office, West Kingston, at (401) 789-0281.

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