

**POPULATION AND BREEDING DISTRIBUTION
OF BLACK TERNS (*Chlidonias niger*) in MAINE**

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The 2006 survey of the Black Tern in Maine was undertaken with the support of the Maine Department of Inland Fisheries and Wildlife through an Endangered and Nongame Wildlife Grant. It is a continuation of an initial study undertaken in 1991 by students from Nokomis Regional High in Newport, Maine. Since 1991, teams of Middle and High School students have continued to survey historic nesting sites during June and July of each year. The initial 1991 work raised concerns about the status of Black Terns and led to the placement of the species on Maine's Endangered Species List.

Preferred nesting habitats of the Black Tern are large (10+ A) freshwater wetlands with about a 50-50 mix of vegetation and water with suitable substrate for nest sites. They seem rather eclectic in their choice of nest material and substrate. Small emergent mud flats, peaty tussocks of grass, and floating mats of dried rushes and cattails are used opportunistically on different wetlands. While nesting materials vary, shallow 30 cm water and open emergent vegetation usually surround the nests. Nests are small (< 10 cm diameter) and may be just a depression in the mud or may be built into a crude cup shape with dried grasses or rushes. Nests are usually less than 5 cm above the waterline and are very sensitive to fluctuations of water levels. Renesting by a pair seems to occur until a brood has been successfully fledged. In some years, that renesting has continued until late August leaving very little chance for late brood growth, development, and survival. The Central Maine population seems to be opportunistic in their selection of a suitable wetland for a particular nesting season and seem to be able to move within the area to a wetland with suitable nesting conditions rather than being locked by imprinting to a particular location.

Currently there are reported five primary breeding sites in Maine - Carlton Pond (Troy), Douglas Pond (Palmyra), Great Moose Lake (Harmony section), the Horseshoe Pond section of Ebeemee Lake in T5 R9 NWP north of Brownville, and Messalonskee Lake (Belgrade). Of these, three are in the Sebasticook River Watershed: Carlton Pond, Douglas Pond, Great Moose Lake. Counts from the past 18 years show that 60% of Maine's nesting populations of Black Terns are located in the Sebasticook watershed. Given the listing as an Endangered Species and that 60% of the population utilizes the watershed, they therefore become a species of special concern within the watershed.

During the 2006 field season, seven historic breeding sites were visited: Carlton Pond, Douglas Pond, Great Moose Lake, the Horseshoe Pond section of Ebeemee Lake, Messalonskee Lake, and Plymouth Pond in Plymouth and Madawaska Wildlife Management Area in Palmyra. Of the six sites supporting nesting Black Terns in 2006, Messalonskee Lake and Carleton Pond have a mixed shrub and grass habitat. The Horseshoe Pond nesting site is predominately grasses and sedges. The other wetlands are predominantly emergent: cattails (*Thypha sp.*), grasses, pickerelweed (*Pontederia sp.*), rushes (*Juncus sp.*), or sedges (*Carex sp.*).

Confirmed sites had the following counts during the 2006 season (see table below) and a total of 115 breeding pairs for 2006. The general trend in the total Black Tern population in Maine seems to be generally up since 1990, when only 26 breeding pairs were reported. The average for the first eight years of data (1989-1996) was 54.6 pairs, whereas the average for the last ten years (1997-2006) was significantly higher: 93 pairs. Even though the 2002 season seemed to have a small dip (to 76 pairs), it still remains reasonably high when compared to the first eight-year average. With counts of 112, 114, and 115 pairs respectively, the 2004, 2005, and 2006 seasons have the highest counts for any years on record.

Colony	2006 Count (pairs)	1997-2006 average (pairs)	1989-2005 average (pairs)
Carlton Pond	26	13	20
Douglas Pond	5	16	18
Great Moose Lake	33	16	18
Horseshoe Pond	30	18	20
Messalonskee Lake	20	14	16
State Total	115	74	93

With a data base of seventeen years, Black Tern populations in central Maine seem to have a "fluctuating stability" with a gradual increase in numbers which are still well below population criteria for Endangered Species. Comparisons of five-year averages over the sixteen-year data set seem to indicate a gradual increase in numbers of Black Terns within the state.