STATE ENDANGERED

Black Tern

(Chlidonias niger)

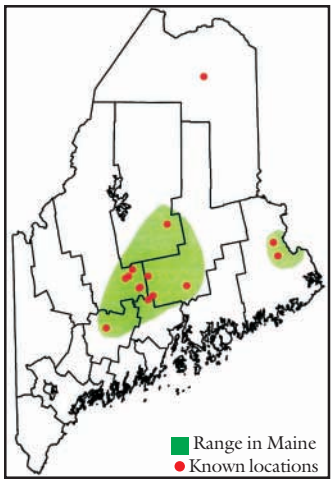
Mark McCollough

Description

Most people are familiar with seeing terns at the ocean, but black terns nest exclusively in freshwater marshes. The black tern is a small (length 9-10 inches), robin-sized tern with unmistakable black plumage. It has a black head and underbody with grayish-black wings and tail. The base of the underside of the tail is white and the underside and leading edge of the wings are whitish. The bill and eyes are black, and the legs are reddish. In late summer and fall, black terns begin to molt and may be mottled with white, especially on the head and neck. Juveniles are white with a dark crown patch and brownish underparts. Their flitting, darting flight is easily recognized.

Range and Habitat

The black tern nests sporadically throughout the northern U.S. and Canada. The largest populations are found in northern prairie regions. Smaller populations are scattered in the Northeast states and Maritime provinces. In Maine, black terns nest in large (over 40 acres), shallow emergent marshes associated with lakes, impoundments, and slow-moving streams. About 11 nesting areas have been identified. Most occur in the Sebasticook River watershed, but small nesting colonies also occur at a few lakes in eastern Maine and Portage Lake in Aroostook County. Nest locations are selected in still water in dense emergent vegetation surrounded by small patches of open water. Some colony sites are in bogs adjacent to lakes. Feeding habitat includes adjacent marshes, fields, and areas of open water. Black terns winter in marine and coastal areas of Central and South America.



Life History and Ecology

Black terns usually breed at two years of age. They arrive at breeding areas in Maine in mid to late May. Returning birds congregate at communal feeding and resting areas and soon begin courtship displays. These displays include “high flights” where small groups ascend several hundred yards and descend in a shallow glide to near the water’s surface. Males carry fish in their bills in a “fish flight” display to attract prospective mates. Ritualistic feeding occurs at potential nest sites.

Black terns nest semi-colonially, typically in clusters of 3-15 nests. The nests are small cuplike gatherings of sticks or reeds and are usually constructed on floating mats of dead vegetation or small mud flats. Both sexes participate in nest building, incubation, and feeding young. A three-egg clutch is laid over a 3-4 day period in early June. Incubation begins with the first egg laid, and eggs begin to hatch after 21 days. Hatching peaks in late June. Birds will re-nest if eggs are destroyed in early incubation. The young are brooded by both parents for the first 10 days. Chicks wander from the nest site within 3-5 days and fly at 20-24 days. Fledglings begin to forage for themselves, but the parents continue to feed the young for an additional two weeks. Adults and young feed on small fish and

insects.

After the young fledge, they remain at breeding areas for only a week or two before beginning migration. Fall migration begins in late July and most birds are gone from breeding areas by mid to late August. Fall migration patterns and routes are not well understood. Immature birds remain in marine areas until they are mature. They can live to eight years of age and likely older.

Threats

Until recently, little was known of factors limiting black tern populations in the Northeast. Research at the University of Maine suggests that fluctuating water levels and nest and chick predation limit population growth. Flooding may eliminate the nests of entire colonies, and in some years significantly reduce productivity. Tern eggs and chicks are killed by herons, bitterns, mink, raccoons, snapping turtles, and predatory fish. Food is adequate and Maine tern chicks grow at rates comparable to those in other areas. Habitat is not limiting as many wetlands are apparently suitable for nesting but unused. Pesticides reduce favored insect foods. Eutrophication (nutrient enrichment of waters) has caused black tern declines in Europe. Stocks of small pelagic fish on core wintering areas have declined and may have reduced overwinter survival.

Conservation and Management

Black terns slowly declined throughout much of their range, and populations are about a third of that measured in the 1960s. In the Northeast, black terns nest in Pennsylvania, New York, Vermont, and Maine, and they are endangered in all of these states. Nesting in Maine was first documented at Messalonskee Lake in 1946. Similar records from New Brunswick suggest that black terns expanded into the region in the 1940s and 1950s in response to the creation of many large marshes for waterfowl. Maine's population has been monitored annually since 1990 by students from Nokomis High School in Newport, and seems to have increased slightly to 80-90 pairs. In 1991, the black tern was listed as a candidate for the federal endangered species list and in 1997 was listed as endangered in Maine. Maintaining stable water levels in impoundments, using floating nest platforms, and employing measures to deter predators may be future recovery options.

Recommendations:

✔ Prior to land development or forest harvesting near black tern wetlands, consult with a biologist from MDIFW to assist with planning.

✔ Municipalities should strive to maintain areas adjacent to black tern nesting sites in a low-density, rural setting and identify these areas in comprehensive plans. Consider protecting wetlands and a 250-foot upland buffer as Resource Protection Districts.

✔ Use voluntary agreements, conservation easements, conservation tax abatements and incentives, and acquisition to protect important habitat for threatened and endangered species.

✔ Follow Shoreland Zoning and LURC standards.

✔ To preserve water quality and wetland functions, maintain contiguous, forested riparian habitats at least 250 feet from wetland habitat for black terns.

✔ Avoid placing roads, pipelines, houses, yards, and other developments within 250 feet from black tern wetlands. Protect grasslands, lakes, and waterways adjacent to black tern wetlands as feeding areas.

✔ When projects are proposed within 250 feet of black tern wetlands, adhere to forestry Best Management Practices (handbook available from the Maine Forest Service, SHS #22, Augusta, ME 04333) and Maine Erosion and Sediment Control Recommendations (available from the Maine Department of Environmental Protection, SHS #17, Augusta, ME 04333).

✔ Avoid the use of broad-spectrum pesticides within ¼ mile of waterways providing habitat for threatened and endangered species.

✔ To maintain or improve water quality, conduct thorough reviews of dam and wastewater discharge proposals. Avoid land uses that would contribute to non-point sources of pollution.

✔ Direct motorboat traffic at least 300 feet away from nesting areas. Establish no-wake areas around vulnerable nesting areas. If the birds leave nests, begin to vocalize, and dive at boats, you are too close!

✔ Prevent the introduction of new fish predators (e.g., northern pike, muskellunge, large-mouthed bass) to watersheds supporting black terns. Predatory fish eat young terns and affect small fish populations used as food by terns.

✔ Manage impoundments for a stable water level, particularly during the incubation period from May 25-July 15.

✔ Support prevention and eradication of introduced aquatic plants like variable milfoil and purple loosestrife that may greatly degrade habitat for black terns.

✔ Place interpretive signs near boat launches to inform the public of nesting terns and their conservation needs.