

STATUS: HIGH CONSERVATION PRIORITY IN IOWA

Black Tern

Childonias niger

Introduction

A small and graceful wetland tern, the Black Tern differs from other North American terns in that it has a black and silver breeding plumage. In its choice of surroundings, this species leads a double life: in Iowa and across North America in summer it is found on freshwater wetlands and marshes, but in winter it becomes a seabird along tropical coasts.

Like most other terns, this species feeds on insects as well as small fish. Black Terns have been described as “a restless waif of the air, light and buoyant as a butterfly. Its darting zigzag flight as it mounts into the air to chase a fluttering moth is suggestive of a flycatcher or a nighthawk; as it skims swiftly over the surface of the water it reminds one of a swallow.”

A highly social species, Black Terns often forages in flocks. Populations have declined markedly in North America, at least since the 1960s. Loss of wetlands on breeding grounds and along migration routes is probably a major cause, but reduced food supplies through agricultural control of insect populations and by over-fishing in the marine winter range may also be a major contributing factor.

LINK TO IOWA IBA: BLACK TERN

Habitat Preferences

The Black Tern is a bird of marshes and wetlands, and nests in shallow freshwater wetlands with extensive open water and abundant emergent vegetation. Wetlands and wetland complexes of 10 acres or more in size are preferred. Nesting and feeding habitat also includes prairie sloughs, margins of lakes, and occasionally river or island edges.

In migration this species uses a similar variety of wetlands, lakes, larger rives and coastal waters.

Feeding Habits

On its breeding grounds Black Terns most often forage on insects and freshwater fish; and proportions vary with availability.

This species circles low (3 to 10 feet in height) over foraging areas with slow, shallow wing beats and bill pointed downward, and often feeds in flocks where food is concentrated. Black Terns hover briefly before a sudden drop or swoop to the water surface, where it dips its bill into water or picks insects off of vegetation. Infrequently, hunting will take place from a perch over water. Plunge dives are weak and rarely seen, but this species may catch insects in the air, especially when insects swarm over land. Agile zigzag chases of dragonflies can last several seconds.

The main summertime insect foods are damselflies and dragonflies, but mayflies, caddisflies, beetles, moths, grasshoppers, crickets, and locusts are taken. In addition, water scorpions, spiders, various grubs and larvae, amphipods, crayfish, and small mollusks are also captured and eaten.

Black Terns eat small fish in summer where available, but many prairie sloughs do not contain fish. Rare foods include juvenile tree frogs and lizards. Adults drink during bathing or swoop to water to dip bill several times, particularly after swallowing prey.

Breeding Biology

The Black Tern most often nests in scattered colonies, amidst emergent vegetation in biologically rich wetlands. Reproductive success is highly variable. Adaptations to wetland nesting include frequent renesting, low site tenacity, and eggshell morphology suited to damp conditions.

Nests are built by both parents in semi-permanent wetland ponds, which are most often on mats of vegetation. These may vary from a substantial floating platform of wetland plant material to simple depressions with only a few bits of vegetation added. Nests are also placed on old muskrat houses, on debris, or on the ground near water. Many nests are easily destroyed by wind action across the water, or by changing water levels.

The 2 to 4 eggs that are laid are often damp, and incubation, which lasts from 21 to 22 days, is by both parents. Young Black Terns develop rapidly, and are capable of flight 19 to 25 days after hatching; and may be fed by parents for up to two more weeks. There is usually one brood per year.

Concerns and Limiting Factors

Loss, fragmentation, and/or degradation of wetlands, both at breeding and migration stopover sites, in Iowa as well as in other states, are probably the important causes of population decline. In addition, a significant reduction in stocks of small pelagic fish in core wintering areas on oceans has been identified, but the effect on Black Terns numbers has not been officially proven. Nothing is known of physiological changes accompanying the shift of this species between freshwater and marine habitats.

Direct chemical toxicity apparently is not a problem, but pesticides may reduce favored insect foods. Nesting terns are tolerant of nearby human activity as long as the nesting colony itself is not entered.

Emergent vegetation usually prevents this, and frequently protects nests from disturbance from waves caused by boat traffic.

Low and variable reproductive success is probably normal, given the breeding biology of this relatively long-lived species. Research is needed on other critical aspects of population dynamics that might play a role in population decline, such as changes in first-year and adult annual survival, age of first breeding, and possible skipping of breeding after first attempt.

Better knowledge of migration and wintering biology, including stopover times and locations, and data on food sources and availability, would also be useful. For example, small fish abundance is probably broadly altered by El Niño events, over-fishing, agricultural runoff, or introduction of sports fish to freshwater lakes, but the impact on Black Terns has not been confirmed.

Habitat Management Recommendations

Most habitat management for Black Terns has been piecemeal, with unpublished results. There is a need for controlled tests of management techniques and for publication of recommendations for management of wetlands both on breeding and migration range. Standardized regional surveys are needed. But detailed site studies are not useful for regional population monitoring, as birds readily change colony sites.

Black Terns readily accept artificial sites such as restored wetlands and sewage settling ponds. Wetlands managed for waterfowl are attractive if flooding/drawdown regimes preserve appropriate emergent vegetation, nesting substrate, and stable water levels through the nesting season. Fish-stocking is an option, but the benefit to Black Terns is unknown.

Nest platforms are often accepted and utilized, and can lead to higher productivity where water levels fluctuate. Attractiveness of platforms seems to be increased when decayed vegetation is piled on, but it is unclear whether platforms attract birds to new habitats.

Wetland management recommendations that will benefit Black Terns are provided in Part 3 within sections entitled Wetland Management for Birds, and Recommended Wetland Management Practices.