

BLACK TERN - CHLIDONIAS NIGER

Taxonomy: Kingdom: Animalia Phylum: Chordata Class: Aves Order: Charadriiformes Family: Laridae Genus: Chlidonias
Species: C. niger

Habitat:

Biomes: Black Terns nest in large freshwater wetlands, usually in dense marshes on the edges of shallow lakes of the open prairies or northern forests. They sometimes nest in rice fields or on river islands. Black Terns normally select marshes that are 50 acres or larger for nesting. Migrants turn up in many sorts of wetland habitats: sewage lagoons, river edges, lakes, marshes, lagoons, beaches, and over open ocean waters, even far out to sea. During the nonbreeding season, most Black Terns forage in tropical ocean waters with plenty of small fish, but they also frequent coastlines, lagoons, salt pans, estuaries, marshes, shrimp farms, and flooded farm fields, usually not far from the ocean.

Distribution:

In US: Their breeding habitat is freshwater marshes across most of Canada, the northern United States and much of Europe and western Asia.

In Other Countries: Iceland, UK, Hawaii, Japan, Australia, Europe, West Africa, Tanzania

Holistic Description: An outlier in a world of white seabirds, breeding Black Terns are a handsome mix of charcoal-gray and jet black. Their delicate form and neatly pointed wings provide tremendous agility as these birds flutter and swoop to pluck fish from the water's surface or veer to catch flying insects, much as a swallow does. Black Terns nest in large freshwater marshes, in small, loose colonies. They winter in flocks along tropical coastlines. In the last half-century, this species has lost about half its North American population.

Species Richness: 2 SUBSPECIES

Population Dynamic: The North American population has declined in recent times due to loss of habitat. The black tern is one of the species to which the Agreement on the Conservation of African-Eurasian Migratory Waterbirds (AEWA) applies.

Evolution and Systematics:

Evolution: Black Tern has been reported only from Pleistocene (1.8–2.0 million years before present to 10,000 ybp) in dry lake beds of OREGON.

Systematics: Two subspecies recognized on the basis of coloration (particularly in full alternate plumage) and minor mensural differences. Geographic variation is relatively slight, although populations on either side of the Atlantic Ocean differ consistently in color saturation at all ages and seasons. Eurasian birds average larger in all dimensions except legs, which are shorter.

Number of Species: 2 SUBSPECIES

Number of Genera: 2 SUBSPECIES

Physical Characteristics:

Size and Length: Length: 9.1-10.2 in (23-26 cm) Weight: 1.8-2.1 oz (50-60 g)

Wingspan: 22.4-23.6 in (57-60 cm)

Coloration: Adults in breeding plumage are dark gray above with black heads and black underparts. The underwings and undertail coverts are pale. Nonbreeding adults are gray above, whitish below, with a dusky crown, ear-patch, and mark at the side of the breast. Juveniles are similar to nonbreeding adults but with a brown scaled pattern to the upperparts.

General Body Features: A small and delicately built seabird with a thin, pointed bill; long, pointed wings; a shallowly forked tail; and short legs.

Special Features of the Body: Shorebirds are designed, or adapted, to survive in open habitats. Their brown, rust, black, and white plumage makes them less conspicuous to predators. Their bi-coloration, dark on the back and lighter on the belly, further camouflages them from predators. Their light bellies blend in against the light sky when seen from below. When observed from above, by a falcon for example, their dark backs blend in with the beach or mudflat below.

Special Features of the Head and Sensory Organs: Their bills are highly adapted tools for finding food. Some species will probe for invertebrates in mud or water, poking their bills up and down in rapid succession like a sewing machine until they feel something to eat. Others have bills perfectly adapted to swishing through the water to filter food from the water column.

Dentition: BEAK/LAMELLAE/GIZZARD

Special Features of the Limbs and Digits: Shorebirds have long legs for wading. Their long toes give them the stability they need for their seemingly endless walking and running along the water's edge and in soft mud.

Any Special Internal Anatomy: Not only used for finding food, bills are used for preening as well. A special oil gland located at the base of their tails helps to keep their feathers dry. The birds spread the oil from this gland with their bills or the backs of their heads when preening themselves. The oil repels water from the feathers, keeping them warm and dry.

Sexual Dimorphisms: Sexes show similar aspects in all plumages, unlike *C. n. niger* in which definitive-alternate female's dark head contrasts with markedly paler throat and breast. **Male in pair is always larger.**

Differences Between Juvenile Stage and Adult: Black Terns in Juvenile and Basic plumage are separable from these and other North American terns by small size, moderately dark underparts, gray rump and tail, and diagnostic dark smudges on sides of breast in front of wings.

Behavior:

Diurnal, Nocturnal, or Crepuscular: Diurnal

Activity: Black Terns are among the most social of terns. When arriving on the breeding grounds, they perform group courtship flights high (up to 600 feet) in the air, ascending quickly with rapid, exaggerated wingbeats, then chasing each other in shallow swoops and dives with wings crooked, calling excitedly the whole time. Usually, these displays involve just a few to a dozen birds, but up to 300 birds may display together in courtship flights, which may last as long as 20 minutes. In some cases, Black Terns arrive on the breeding grounds already paired. Once they are paired, Black Terns do not display high in the air as often, but they begin courtship feeding. In this display, males fly slowly with a fish or insect in the bill, the female following. When the female perches, the male places the prey in her bill. On the ground, males court females by raising the neck and bill and dropping the wings, then dropping the head and raising the tail. The female sometimes mirrors these postures in return. Once the female lays eggs, most courtship ceases. After eggs hatch, some pairs begin their displays again. Black Terns appear to be monogamous in their mating system. Both males and females chase other Black Terns away from the nest vicinity, but conflicts are less common than in tern species that nest in dense colonies. Black Terns nest in loose groups, usually a few dozen pairs spaced about 30 feet apart, but some nests can be as close as 3 feet apart. Juveniles migrate at night with their parents toward wintering areas and remain in those areas during their first year of life, rather than returning northward in their first spring. During the nonbreeding season, Black Terns are highly social, occurring in flocks of a few to many thousands. They often roost along shorelines with other seabirds, especially other terns. They readily rest on pieces of flotsam and jetsam (and sometimes on the backs of resting sea turtles) at sea, but they rarely sit on the water's surface.

Locomotion: Agile flyer. Forages low over land or water with relatively slow wingbeats. More rapid direct flight in air. Stronger downbeat than recovery gives lighter, more erratic appearance to flight than in *Sterna* terns. Flocks may fly in horizontal arc, perhaps mainly on migration.

Communication and Perception: A clipped kik is the most commonly heard call. Nesting birds make longer kyew, kyew-dik, and kyew-ki-dik calls.

Home Range: Nests semicolonially, grouped in favorable areas. Nests are usually 5–20 m apart but sometimes within 1 m. Birds from many or all clusters in marsh or even from different wetlands may behave as single “colony” in flock behavior.

Degree of Sociality: Usually forages, roosts, and migrates in flocks of a few to 100+ birds, occasionally up to tens of thousands. In nonbreeding season, may flock with a variety of *Sterna* terns or gulls.

Level of Aggression: Less frequent and intense than in many *Sterna* terns, perhaps because marsh nests are naturally separated. Most territorial interactions occur early in nest establishment. Male is most active. In aggressive posture, body is horizontal to ground, legs bent, wings held slightly away from body, and plumage somewhat ruffled. Bill is pointed at intruder with neck extended (if intruder is on ground) or pointed slightly up with neck retracted (if intruder is in air). Accompanied by Agonistic Call. Uncommon physical combat, in which birds charge and jab with bills with wings held in V over back, uttering rattling krrr.

Migration: Gathers at favored feeding sites after young fledge, then migrates singly or in small groups, mainly inland through the U.S. Large flocks may form (into thousands), particularly in coastal or marine habitat south of breeding range, probably where food is concentrated.

Predators:

Predators: Great Horned Owl, Black-crowned Night-Heron, Great Blue Heron, Mink, Raccoon, Northern Harrier, Norway Rats, Raptors, Bitterns, Gulls, Crows, Blackbirds, Turtles, Waterfowl, Muskrat, and Common Raven.

Anti-Predator Defenses: Potential predators or unaccustomed noises cause Alarm Posture, similar to Erect Posture, and all birds may fly up explosively, giving Alarm Calls. Black Terns often mob potential predators, swooping down silently then pulling up with harsh rattling krrr, sometimes striking target. May defecate in flight with “unpleasant accuracy”

Diet and Nutrition:

Adult Diet: Black Terns eat mostly small fish and insects. They feed by coursing slowly above marsh vegetation and open water, watching for prey, which they capture by swooping, then taking the prey in the bill. Black Terns don't dive deeply into the water to capture prey the way other tern species do. They also capture flying insects, chasing after them in swift and erratic pursuit, much like a swallow or nighthawk. On occasion, they feed over fields on insects stirred up by tractors. During the breeding season, Black Terns eat grasshoppers, crickets, locusts, flies, ants, damselflies, dragonflies, mayflies, caddisflies,

beetles, moths, spiders, crayfish, fish, tree frogs, and small lizards. During the nonbreeding season, they continue to eat insects and other small creatures onshore, but in offshore waters they prey almost entirely on small fish such as anchovies, sardines, and silverside minnows.

Juvenile Diet: NONE

Special Adaptations for Getting Prey: Circles low (1–3 m) over foraging areas with slow, shallow wingbeats and bill pointed down, often in flocks where food is concentrated. May hover briefly before sudden drop or swoop to surface, then dips bill into water or picks insects off vegetation. Sometimes hunts from perch over water.

Reproduction:

Mode of Reproduction: Monogamous

Mating System: Monogamous

Mating Season: April to June

Courtship: Ground courtship is conducted at a favored perch or at nest, often following Fish Flight. Male (and sometimes female) adopts Erect Posture, with fore-body raised so body is at a 30- to 45-degree angle, plumage sleeked, neck extended and bill raised slightly, carpal joints held away from body. After 5–10 s, relaxes and may adopt Stoop Posture (legs bent and head held low with body and tail tilted upward and no wing droop). Any food item is transferred, and Erect Postures may be resumed momentarily. Stoop Posture (evidently nonthreatening) is used mutually by pair throughout nesting but especially before clutch completion and in calling young toward or away from nest.

Territoriality: Territory is defended to about 2 m from nest and maintained with supplanting attacks and chases of nearby terns. Pairs habituate to close neighbors. Temporary feeding territories are established between fledging and independence of juveniles.

Mating: Copulation is usually preceded by courtship feeding, usually at nest. Minnows are evidently the favored food. Male sidles up with Copulation Rattle with frequency increasing up to 1/s. Females hunches or Stoops, begging or Gurgling, and male mounts. Copulation bout lasts 20 s to 1.5 min, with several vent contacts.

Nesting: Male and female select the nest site together. This is usually well away from shore, in an area of shallow, still water sheltered from wind and waves, where the water's surface is about half-covered in cattails, bulrushes, or other emergent vegetation. They often use areas with dead, floating vegetation on which to place the nest. Some nests are set on muskrat feeding platforms or lodges. Both male and female arrange dead vegetation from the nest area into a shallow mound with a central bowl on top of floating vegetation. Nests average about 6.9 inches across and 1.6 inches tall, with interior cup about 3.5 inches across.

Egg-Laying: Egg Shape: Oval to Long Oval Egg Length: 33.7mm Egg Width: 24.3mm Egg Mass: 11.0g Egg Color: Variable, from light buff to dark olive. Incubation Period: 21 days.

Hatching and Incubation/Gestation: Covered in cinnamon to gray down with a pale belly and dark throat. Eyes open, able to lift head and vocalize soon after hatching.

Development: Semiprecocial hatchling has eyes open and can raise head unsteadily. In 40 min can churr, raise head, and gape. Fully dry at 2 h 45 min.

Parental Care: Adults tuck and brood chick similar to egg for about 18 h after hatching. Chicks are brooded under belly for first 2 d, then underwing. Older chicks may sleep against parent's breast. First meal 45–120 min after hatching. Feeding parent flies direct to nest calling kyew. Drops momentarily to feed small chicks, but often feeds older chicks from air (usually starting after 5–10d). BOTH PARENTS FEED.

Lifespan: Around 8 years old.

Conservation:

Official Federal Status: Least Concern

Special Statutes in Individual States: NONE

Threats: According to the North American Breeding Bird Survey, Black Tern populations declined by an estimated 1.4% per year between 1966 and 2015, resulting in a cumulative decline of 51% over that period. Partners in Flight estimates a total breeding population of 850,000 (including the Eurasian range) and rates the species a 13 out of 20 on the Continental Concern Score, placing it on the Yellow Watch List for species with declining populations. The North American Waterbird Conservation Plan estimates a population of 100,000–500,000 breeding birds in North America. This species is difficult to monitor, as changing water levels often force nesting Black Terns to relocate from year to year or even during a single nesting season. The causes of population declines are not well understood but include drainage or conversion of wetlands and reduction of insect populations by agricultural pesticide use or other contributors to poor water quality. In Central American wintering areas, Black Terns may have been affected by sharp declines in prey species, especially small fish. Key to the conservation of this species is protection and restoration of freshwater wetlands from the Great Lakes region through the

prairie provinces of Canada, where declines have been severe since the 1960s. Recommendations for wetland management include keeping water levels stable and maintaining a mosaic of emergent vegetation and open areas of water. In some places, Black Terns have nested successfully on artificial nest platforms, and have benefited from predator exclosures. Climate change forecasts suggest warmer temperatures throughout the breeding areas, with stronger storms and periods of drought, all of which could harm nesting habitat and nesting success in Black Terns.

Conservation Efforts: ^^^^^^

Extra Facts:

1. The Black Tern and two Old World species, the White-winged Tern and Whiskered Tern, are known as “marsh terns” for their habit of breeding in freshwater marshes. All three are in the genus *Chlidonias*. On several occasions, stray White-winged Terns have spent the summer in North America and nested with Black Terns, in at least one case producing hybrid offspring.
2. The Black Tern is very social. It breeds in loose colonies and usually forages, roosts, and migrates in flocks of a few to more than 100 birds, occasionally up to tens of thousands.
3. The oldest recorded Black Tern was at least 11 years, 3 months old. It had been banded in Wisconsin and was refound in Louisiana.

Notable Species:

1. *C. n. surinamensis* - Breeds across s. Canada and n. half of United States; winters in s. Mexico. In alternate plumage, underparts black or blackish gray; in basic and juvenile plumages, smudge at side of breast wider, darker; coloration similar on female and male.
2. *C. n. Niger* - Breeds from Spain and Norway east to w. Mongolia; winters in Africa.