

# CASPIAN TERN - HYDROPROGNE CASPIA

**Taxonomy:** Kingdom: Animalia Phylum: Chordata Class: Aves Order: Charadriiformes Family: Laridae Genus: Hydroprogne Species: H. caspia

**Habitat:**

**Biomes:** Breeds in wide variety of habitats along water, such as salt marshes, barrier islands, dredge spoil islands, freshwater lake islands, and river islands. During migration and winter found along coastlines, large rivers and lakes. Roosts on islands and isolated spits.

**Distribution:**

**In US:** Their breeding habitat is large lakes and ocean coasts in North America (including the Great Lakes), and locally in Europe (mainly around the Baltic Sea and Black Sea), Asia, Africa, and Australasia (Australia and New Zealand). North American birds migrate to southern coasts, the West Indies and northernmost South America.

**In Other Countries:** Sweden, Finland, Estonia, Russia, Iran, Caspian Sea, Mongolia, Siberia, China, Red Sea, Pakistan, Sri Lanka, New Zealand, Tunisia, Nigeria, Namibia, and South Africa

**Holistic Description:** As large as a big gull, the Caspian Tern is the largest tern in the world. Its large coral red bill makes it one of the most easily identified terns throughout its worldwide range.

**Species Richness:** NO SUBSPECIES

**Population Dynamic:**

**Evolution and Systematics:**

**Evolution:** No records. Excavations on southwestern shores of Buena Vista Lake, Kern Co., CA, in 1933–1934 exposed skeletal remains of a Caspian Tern not >500 yr old.

**Systematics:** This cosmopolitan species varies only modestly across its expansive breeding range and exhibits no clear trends in size or plumage. Breeders in North America average slightly smaller than breeders in Europe, the Middle East, Africa, and Australia.

**Number of Species:** NO SUBSPECIES

**Number of Genera:** NO SUBSPECIES

**Physical Characteristics:**

**Size and Length:** Length: 18.5-21.3 in (47-54 cm) Weight: 18.7-27.6 oz (530-782 g)

**Wingspan:** 49.6-50.4 in (126-128 cm)

**Coloration:** Large, gull-like tern. Black cap. Body white. Bill large, thick, and brilliant red with dark tip. Adult birds have black legs, and a long thick red-orange bill with a small black tip. They have a white head with a black cap and white neck, belly and tail. The upper wings and back are pale grey; the underwings are pale with dark primary feathers. In flight, the tail is less forked than other terns and wing tips black on the underside. In winter, the black cap is still present (unlike many other terns), but with some white streaking on the forehead.

**General Body Features:** Largest tern in the world. Tail has a shallow fork. Big-thick red bill, thick neck, crested head, and large head looks smoothly rounded odd.

**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:** The red colouring of the iris reduces ultraviolet sensitivity, which in any case is an adaptation more suited to terrestrial feeders like the gulls, and this protects the eye from UV damage. 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. SALT GLAND

**Sexual Dimorphisms:** Males slightly but not significantly lighter in weight than females. Substantial overlap in all characters; sexes cannot be distinguished by external measurements, though male appears to have longer culmen than female

Differences Between Juvenile Stage and Adult: Juvenile has blackish crown, black edging to back feathers.

### **Behavior:**

Diurnal, Nocturnal, or Crepuscular: Diurnal

Activity: Flies over water with bill pointing down; plunges into water to catch fish. They feed mainly on fish, which they dive for, hovering high over the water and then plunging. They also occasionally eat large insects, the young and eggs of other birds and rodents. They may fly up to 60 km (37 mi) from the breeding colony to catch fish; they often fish on freshwater lakes as well as at sea. Breeding is in spring and summer, with one to three pale blue green eggs, with heavy brown spotting, being laid. They nest either together in colonies, or singly in mixed colonies of other tern and gull species. The nest is on the ground among gravel and sand, or sometimes on vegetation; incubation lasts for 26–28 days. The chicks are variable in plumage pattern, from pale creamy to darker grey-brown; this variation assists adults in recognizing their own chicks when returning to the colony from feeding trips. Fledging occurs after 35–45 days.

Locomotion: Gait is less free than that of other terns; tends to waddle in walk and lurch in run. Carriage usually is horizontal with stocky outline, but upright when alert or displaying. More gull-like and heavier than that of other terns. Has broad expansive wings and soars and wheels more than other terns. Deep powerful wing beats produce graceful flight that is strong and swift. In normal flight, about 3 wing beats/s; in courtship flight, about 4 wing beats/s. When foraging, flies with bill pointing downward, hovers for a moment, then plunges and usually completely submerges. Settles freely on water, often feeding in gull-like fashion and riding buoyantly. Diving ability develops at about 60–62 d of age, when primary feathers strengthen.

Communication and Perception: The call is a loud heron-like croak. Call a raspy "kowk." Juvenile begging call a high pitched whistling; heard frequently during migration and in winter.

Home Range: During breeding season, exhibits territorial behavior and aggressively defends nest site. Territories are small, roughly 0.5–1.5 m in diameter. Size of area defended may be affected by habitat quality; birds nesting on limited, high-quality sites in Great Lakes—e.g., ridges—may tolerate shorter nearest-neighbor distances. May have greater tolerance for other species than for conspecifics.

Degree of Sociality: Not highly gregarious, except in breeding season, when many nest in large, densely packed colonies, and when roosting. In other seasons, often occurs alone or in groups of 2–5.

Level of Aggression: Much more aggressive than most terns, both in colony and at roost sites, but physical contact between conspecifics is rare. Alarm Calls, threats, and attack flights usually are sufficient to avoid more overt contact. Most disputes take place on the ground. Participants often are very vocal; sometimes open bill rhythmically, without calling, as a threat. Opponents often grip each other by bill and hold for several seconds, and occasionally fly up, but quickly separate. Adults attack and kill strange chicks, including conspecifics, if they wander onto territory.

Migration: Partial, medium-distance migrant. Along Gulf and Pacific coasts, some year round residents; most immature remain on wintering grounds throughout year; extent of migration not known.

### **Predators:**

Predators: Gulls, Great Horned Owl, Common Raven, Cats, Dogs, Striped Skunk, Raccoon, Red Fox, Coyote, Northern Pike, Western Diamondback Rattlesnake, Bald Eagle.

Anti-Predator Defenses: At approach of intruder, gives Alarm Call. If sitting, responds to mild threats, such as gull flying too close, by raising crest and giving Gakking Call. In colonies of normal density, enough terns are present to mob and stave off intruders such as Herring, Western, and Glaucous-winged gulls. Individuals nesting on colony edges, however, appear less able to defend chicks from predation.

### **Diet and Nutrition:**

Adult Diet: Almost entirely fish; occasionally crayfish and insects. Alewife, Rainbow smelt, Yellow Perch, Rock Bass. Data from pellet and stomach content analyses, and observations of fish dropped at nests and prey transfers from adults to mates and chicks, suggest that Caspian Tern's diet consists primarily or exclusively of fish; occasionally takes crayfish and insects.

Juvenile Diet: ^^^^

Special Adaptations for Getting Prey: Circles slowly with bill pointing down; sights fish, hovers, and usually completely submerges; in shallow water, may dive with little or no submergence. Resurfaces 1-2 s after dive, flies toward breeding place with faster wing beats; may swallow first fish and bring only second or third back to breeding place.

### **Reproduction:**

Mode of Reproduction: Monogamous

Mating System: Generally monogamous; in n. Lake Michigan, color-banded pairs remained together at least through breeding season.

Mating Season: April to June

**Courtship:** When attempting to obtain mate, unpaired males and females display the following sequence of behavior: Male captures fish and flies toward group of terns on ground, giving Fish Call and performing Fish-Bending display, often several times in succession. Unpaired females on ground respond by taking flight and following male as he performs Fish Flight, also known as Low Flight: circling and flying low over colony. Observations of marked terns indicate that other males and paired females whose mates are not present also join chase. After passing over standing birds up to a dozen or more times, fish carrier often lands near them, joined by pursuers. Alternatively, male lands next to lone individual standing on edge of group. Carrying fish crosswise in bill, he approaches her and makes bowing movement with head. Female responds by ignoring male, attempting to steal fish, or initiating precopulatory behavior.

**Territoriality:** Early in nesting season, colonial breeders vigorously defend circular nesting territories against neighbors. Incubating bird opens bill full gape and directs it at intruder, sometimes uttering hoarse call; usually does not leave nest. If intruder comes closer, defending bird continues with open bill, bends wings, and directs elbows outward; may also crouch, lower head, and stretch neck. Defending bird chases intruder while flapping wings. If dispute is with neighbor, sometimes contestants lock bills and tug at each other while flapping wings. Disputes are not “won”; contestants break off after a few squabbling moments and return to nests.

**Mating:** Often follow courtship-feeding at prebreeding roost or nest territory; also initiated at other times by either male or female. When male initiates, approaches in Forward-Erect Position, not unlike Aggressive Upright Posture, but body plumage less ruffled, and also crest is less raised. Male typically carries fish and bows with whole cap raised. When receptive, female accepts by begging. Male flies or jumps up on female's back and stretches head and bill toward female's head. May hold this position for up to 5 min. Female opens bill wide and snaps at male's bill while moving her head sideways. Female sometimes raises tail before male lowers his. At this point male usually releases fish and female eats it. During cloacal contact, male pecks feathers on nape of female's neck, and female moves head sideways actively, still snapping at male's bill. Male flaps wings and treads on back of female to maintain balance. When female initiates, she begs from onset, and male responds with Forward-Erect Position and mild bowing before mounting. After cloacal contact, observed rhythmic contractions of female's cloaca for 1–2 s.

**Nesting:** A scrape in ground. Lined often with dried vegetation, small pebbles, broken shells or other debris. May have elaborate rim of sticks. Nesting colonies occur on island beaches, often near colonies of other bird species.

**Egg-Laying:** Clutch Size: 1-3 eggs Number of Broods: 1 brood Egg Length: 2.3-2.9 in (5.8-7.3 cm) Egg Width: 1.6-1.9 in (4.2-4.8 cm) Incubation Period: 25-28 days Nestling Period: 1-2 days Egg Description: Buff, sparingly marked with dark spots and sometimes large irregular blotches.

**Hatching and Incubation/Gestation:** Eyes open. Covered with down and able to leave nest (usually after several days).

**Development:** Semiprecocial; eyes open; covered with down; capable of limited mobility. Newly hatched chicks are seminidifugous; after down dries, chicks are capable of leaving nest cup within 3–6 h, but typically remain in nest for at least 1–2 d.

**Parental Care:** Shared by both parents; in Lavaca Bay, TX, female brooded more than male. For first 5–7 d, depending on weather, chicks are brooded almost continuously. When 1 parent arrives with food, chick pokes head out of breast feathers or scapulars to be fed. Parents recognize own chicks by at least 2 d of age, possibly earlier, and aggressively reject and sometimes kill foreign chicks. Parents begin feeding fish to chicks 0–1 d old. Typically, parent arrives with fish carried crosswise in bill, and chick seizes fish by head and swallows it headfirst.

**Lifespan:** Around 12 years old.

#### **Conservation:**

**Official Federal Status:** Least Concern

**Special Statutes in Individual States:** NONE

**Threats:** There is little information on Caspian Tern populations trends, but the species appears to be stable overall, according to the North American Breeding Bird Survey. In some areas, numbers may be increasing, where birds use man-made dredge spoil islands and dikes for breeding. In other areas, the species is listed as rare or vulnerable because of the scattered nature of breeding colonies. Caspian Tern are declining in Europe. The North American Waterbird Conservation Plan estimates a continental population of between 66,000-70,000 breeders, and lists it a Species of Low Concern. It rates a 10 out of 20 on the Continental Concern Score. Caspian Tern is not on the 2016 State of North America's Birds Watch List. Beach nesting areas vulnerable to disturbance and predation.

**Conservation Efforts:** ^^^^

#### **Extra Facts:**

1. The Caspian Tern aggressively defends its breeding colony. It will pursue, attack, and chase potential predatory birds, and can cause bloody wounds on the heads of people who invade the colony. The entire colony will take flight, however, when a Bald Eagle flies overhead, exposing the chicks to predation from gulls.
2. The world's largest breeding colony is on a small, artificial island in the Columbia River between Oregon and Washington, home to more than 6,000 breeding pairs each year.
3. Young Caspian Terns appear to have a difficult time learning to catch fish efficiently. They stay with their parents for long periods of time, and are fed by them even on the wintering grounds. Many young terns do not return to the nesting grounds for several years, remaining instead on the wintering areas.
4. The oldest recorded wild Caspian Tern was at least 29 years, 7 months old when it was found in Louisiana in 1989. It had been banded in Michigan in 1959. The average life span of Great Lakes Caspian Terns is estimated to be 12 years.
5. The Caspian Tern is the largest tern (60cm) and is nearly as long as the Kelp Gull (62 cm), however at least 6 cm of its length is in the tail.

**Notable Species:** NONE