

RED-THROATED LOON - GAVIA STELLATA

Taxonomy: Kingdom: Animalia Phylum: Chordata Class: Aves Order: Gaviiformes Family: Gaviidae Genus: Gavia Species: G. stellata

Habitat:

Biomes: Red-throated Loons breed in rugged tundra and taiga wetlands in both lowlands and highlands, up to about 3,500 feet elevation. Their ability to spring into flight without first pattering on the water (as other loons have to do) permits them to use small ponds for nesting. They do use larger lakes in places where larger loons are absent. In migration, they fly along ocean shorelines and also along the shores of large lakes (such as the Great Lakes), but their precise migration routes are not known. Foul weather sometimes grounds migrants in places where they would not otherwise land, such as rivers and small lakes in interior North America. Wintering birds are found only in shallower marine waters near land, and in major estuaries and sounds. They are very rarely seen far out to sea.

Distribution:

In US: This species breeds primarily in coastal areas of Canada and Alaska. It winters primarily along the Atlantic and Pacific Coasts, rarely south to southern Baja, southern Florida, and the Gulf Coast.

In Other Countries: Norway, Greenland, Iceland, United Kingdom

Holistic Description: Red-throated Loons are among the finest fish hunters in North America, and perhaps the most graceful of all loons. They are smaller and more slender than other loons, with a smaller bill that they characteristically hold tipped slightly upward. In summer, they are a soft gray with neat stripes and a russet patch on the neck. Like other loons they dive for fish from the surface, but may also hunt from the air. They fly swiftly and are able to stall, pivot, and drop with almost falconlike precision.

Species Richness: NONE

Population Dynamic: Although the red-throated loon is not a globally threatened species, as it has a large population and a significant range, there are populations which appear to be declining.

Evolution and Systematics:

Evolution: Like that of Common Loon. Earliest loons were extinct genus Colymboides from Eocene to early Miocene. Genus Gavia appeared during Miocene, and in 3 size classes by early Pliocene.

Systematics: The name G. s. squamata, given to breeders on Spitsbergen and Franz Josef Land and based on minor differences in pattern and color (lighter and grayer) on back of neck and upperparts, is not recognized as valid because these differences are not found on all individuals in range given for subspecies and yet are found on birds elsewhere

Number of Species: CHECK SPECIES AND SPECIES RICHNESS

Number of Genera: CHECK SPECIES AND SPECIES RICHNESS

Physical Characteristics:

Size and Length:

Male

Length: 25.2-26.8 in (64-68 cm)

Weight: 44.1-86.8 oz (1250-2460 g)

Female

Length: 22.1-25.4 in (56-64.4 cm)

Wingspan: 35.4-36.6 in (90-93 cm)

Coloration: Breeding adults are grayish brown above, pale below, with pale gray neck, rusty throat patch, and thin black-and-white stripes on back of neck and sides of breast. Nonbreeding adults are blackish above and white below, with a sharp border along the neck and a mostly white face with a black gab. Immatures are grayish brown above, pale below.

General Body Features: Small loon with a long and slender bill often held slightly raised. Breeding adults have a red throat patch and a plain gray head.

Special Features of the Body: NONE

Special Features of the Head and Sensory Organs: NONE

Dentition: BEAK

Special Features of the Limbs and Digits: NONE

Any Special Internal Anatomy: NONE

Sexual Dimorphisms: NONE

Differences Between Juvenile Stage and Adult: CHECK COLORATION

Behavior:

Diurnal, Nocturnal, or Crepuscular: Diurnal

Activity: Red-throated Loons are monogamous, but little is known about the longevity of their bonds or where and how pairs form. Pairs use displays to defend territories (chiefly the nesting pond and nest vicinity) against intruders, including humans. Adults may raise or lower the neck, splash-dive, slap the water with their feet (recalling a beaver tail-slap), to warn intruders, or may rush across the water with wings partly open and head extended, in threat. Pairs are often observed in what researchers call a “plesiosaur posture,” in which they raise the body out of the water, extend the neck, raise the wings, and tip the bill downward. A similar display known as the “penguin posture” involves raising the body vertically, stretching out the neck, and pointing the head and bill downward. Males and females perform these displays typically at other Red-throated Loons who intrude on their territory. Both parents tend and feed the young. After the young birds are several weeks old, they sometimes move to a different pond or lake. Adults and young move toward coastlines in preparation for migration, which occurs at least partly at night. Daytime movements of many thousands are often seen along marine coasts. When foraging over the ocean, this species is highly mobile and may dive for prey, much like the Northern Gannet, which occupies a similar niche in winter, though gannets can consume larger prey and forage farther from shore.

Locomotion: Rarely walks, although young documented walking or shuffling from natal pond to adjacent, larger lakes. Rearward placement of legs permits older chicks and adults only a shuffling push. Frequently grounded during migration on wet roadways, which they apparently mistake for lakes; once there, they cannot take off. Foot-propelled; strokes alternate at surface, synchronous underwater.

Communication and Perception: Red-throated Loons are mostly quiet in fall and winter but sometimes vocalize on calm days in late winter and early spring, mostly a rapid, quacking. On the breeding grounds they also make a remarkable variety of wails, coos, croaks, and a prehistoric-sounding gayorworrk, dubbed the “plesiosaur call” by researchers.

Home Range: NONE

Degree of Sociality: Before breeding season, large flocks congregate on rivers, open lakes, and open water leads in ocean awaiting open water on nesting ponds.

Level of Aggression: BELOW

Short-Neck Posture. Neck bent and head held low to water; performed by female when submissive.

Raised-Neck Posture. Neck stretched and held high. Used by resident male at initial encounter following territory intrusion.

Flattening Raised-Neck Posture. Body low, head and neck outstretched and partially submerged.

Plesiosaur Posture. See Figure 3B . Front of body raised out of water, neck forward, head down at 45° angle; at higher intensity, one or both wings lifted and half extended, tips may be in water. Given side by side by pair members in straight line or zig-zag. Two pairs may engage simultaneously, moving toward each other until they meet at territorial boundary.

Penguin Posture. Figure 3A . Body nearly vertical, neck stretched, head and bill pointed downward, feet treading water. May be performed alone by resident or by ≥ 2 birds side by side; territorial.

Rushing. Head extended forward, wings flapping and half extended; runs across water for short distance. Aggressive, defensive.

Splash Dive. Short-duration dive, with foot kicks sufficiently forceful to make loud slapping noise and throw up large sprays of water. Described in nearly every account, beginning with Van Oordt and Huxley 1922 . Directed toward intruders, from conspecifics to humans.

Migration: Complete medium-distance migrant. Not known to overwinter on breeding lakes. Moves to freshwater breeding ponds in summer; otherwise marine. Subadults remain at sea throughout year. Rare in summer in most wintering areas. British birds banded as chicks migrate farther south the first winter than in subsequent years, and a higher percentage return to natal locales with each passing year.

Predators:

Predators: Eggs and Chicks: arctic fox, parasitic jaeger, pomarine jaeger, herring, glaucous gulls, great skua, greater black-backed gull, lesser black-backed gull.

Anti-Predator Defenses: Chicks dive to bottom and stir up sediment to hide, then surface near shore usually among emergent vegetation. In water, young flatten when adults give Wail (see Sounds: vocalizations, above) in response to flying or vocalizing avian predators or when threatened by approaching adults with raised necks; may swim toward shore; if on land, they do not flee.

Diet and Nutrition:

Adult Diet: Red-throated Loons eat a variety of fish, leeches, copepods, crustaceans, mollusks, squid, polychaete worms, and aquatic insects. Among fish they eat herring, capelin, brook trout, stickleback, sculpin, tomcod, arctic char, cod, and sandlance. When breeding, they forage away from nesting areas and nursery ponds, usually in larger lakes and rivers, often in estuaries. Red-throated Loons hunt prey by diving underwater, swimming by kicking with the legs and then grasping prey

with the bill. They often locate prey first by dipping their head underwater and looking around as they rest on the water's surface.

Juvenile Diet: NONE

Special Adaptations for Getting Prey: Captures fish by grasping in bill, orienting head first to swallow. Except for largest, ingests most prey underwater. Does not regurgitate or cast pellets. Digestive tract is like that of Common Loon, including sharp, chitinous denticles on tongue and roof of mouth to assist in holding and ingesting fish; a large glandular proventriculus to break down protein is followed by a muscular gizzard containing pea-sized stones for grinding bones and chitinous material.

Reproduction:

Mode of Reproduction: Monogamous

Mating System: Monogamous, but mate can be replaced if lost early in breeding season.

Mating Season: March to May

Courtship: NONE

Territoriality: Defends nesting territories; defense unreported for nonbreeders.

Mating: Occurs on land. Female goes ashore, head held low, pointing inland; male, head high, alternately approaches and retreats several times before he follows onto land. Male mounts, stands half upright, feet placed on female's back. Establishes cloacal contact for 5–22 s. Female keeps head low or extends neck horizontally forward

Nesting: Males select the nest site, usually in wetlands at the edge of a shallow, small pond or on a small island in the pond. In the high arctic, they nest on larger ponds. Nests are always built on vegetation, not on rocks. Both male and female build the nest, either on the shoreline or in shallow water near it. Nests are mounds of moss, decayed vegetation, grasses, sedges, and mud, sometimes lined with dry grass, gathered from the immediate vicinity of the nest and formed with the feet and body. In some cases, no nest material is used, just a depression in the vegetation. Nests average about 18 inches across and about 3 inches above waterline; the interior depression averages 9.5 inches across and 1.6 inches deep.

Egg-Laying: Clutch Size: 1-2 eggs Number of Broods: 1 brood Egg Length: 2.7-3.0 in (6.82-7.67 cm) Egg Width: 1.7-1.8 in (4.41-4.55 cm) Incubation Period: 24-31 days Egg Description: Elongated, with variable color ranging from brown to olive, with blotches or speckles.

Hatching and Incubation/Gestation: Downy and active; capable of swimming within 12 to 24 hours. Semiprecocial, but chicks depend on parents for food. Chicks are dry and active shortly after hatching.

Development: Logarithmic Development and GROWTH

Parental Care: Varies among pairs, but usually at least 1 parent remains with chicks for first 2 wk after hatching. Adults tend to brood very young chicks during disturbance by humans, but this behavior varies increasingly as chicks age.

Lifespan: Up to 23 years in the wild.

Conservation:

Official Federal Status: Least Concern

Special Statutes in Individual States: NONE

Threats: Red-throated Loons occur across North America, Europe, and eastern Asia. Partners in Flight estimates a global breeding population of 260,000. The group rates the species a 10 out of 20 on the Continental Concern Score, indicating it is a species of low conservation concern. In the late twentieth century, scientists recorded long-term population declines of about 50%, in some cases possibly due to lake acidification. These declines appear to have stabilized. Oil spills, hunting (in northern Canada and parts of Europe), degradation of marine habitats, industrial activity in breeding areas, overfishing of prey, and entanglement in fishing nets all pose threats to Red-throated Loons.

Conservation Efforts: ^^^^

Extra Facts:

- The slight Red-throated Loon, unlike other loons, does not need to patter on the water's surface on a long takeoff. It can take flight directly from land if necessary.
- Birds' digestive tracts have many different ways of handling the difficult-to-digest parts of prey. Owls regurgitate pellets of fur and bones, but loons grind up their food in two digestive organs called the proventriculus and gizzard. The proventriculus starts digesting proteins, and then the gizzard grinds up the hard parts using pea-sized pebbles the loons have swallowed.
- The Red-throated Loon is the only loon that regularly forages far from its breeding territory, returning from distant lakes or the sea with fish for the young.
- Unlike other loons, the Red-throated Loon does not carry its young on its back.