LONG-TAILED DUCK - CLANGULA HYEMALIS

Taxonomy: Kingdom: Animalia Phylum: Chordata Class: Aves Order: Anseriformes Family: Anatidae Genus: Clangula Leach, 1819 Species: C. hyemalis

Habitat:

Biomes: Breeds in ponds, streams, and other arctic wetlands. Winters on open ocean or on large freshwater lakes.

Temperature: Easily handle temperatures as low as -15 degrees Fahrenheit.

Distribution:

In US: Extensive portions of subarctic and arctic areas of Alaska and n. Canada. Isolated breeding area confirmed in nw. British Columbia. Sporadic breeding areas throughout Alaska, which includes coastal areas of Bristol Bay, Yukon-Kuskokwim Delta, Nunivak I., St. Lawrence I., Seward Peninsula, and entire Arctic Coastal Plain of Alaska.

In Other Countries: Circumpolar. All of coastal Greenland, except far, Iceland, n. Scandinavia, Bear I., Svalbard, north coast of continental arctic Russia, and most offshore islands.

Holistic Description: Formerly known as Oldsquaw, the Long-tailed Duck breeds in the Arctic and winters along both coasts of North America. It is distinctive among ducks in plumage, molt sequences, foraging behavior, and vocalizations

Species Richness: Within tribe Mergini, Long-tailed Duck more closely related to goldeneyes and merganser group than to scoters, Harlequin Duck, and eiders, based on a tree derived from 137 morphological and plumage characters.

Population Dynamic: In Alaska, in traditional survey area, trends in population estimates stable 1957–1963, increased about 5%/yr during 1964–1972 and decreased about 6%/yr 1972–1977. From 1996 to 2000, 4.6% yearly increase reported in breeding population in Alaska and a yearly decrease of 1.7% for the w. Canadian boreal region. These estimates combine for a 1.4% overall annual increase for the 1996–2000 period.

Evolution and Systematics:

Evolution: Specimens from late Pleistocene found in Denmark, Azerbaijan , Oregon, Florida, and Utah. Holocene specimen, possibly a male, which includes preserved feathers, found in n. Ellesmere I.. Most common duck fossil ranging in age from late Illinoian to late Holocene found on the Old Crow Flats, n. Yukon. Found in a variety of archaeological sites in Alaska and arctic Canada.

Systematics: No hybrids, check species richness, NONE.

Number of Species: LOOK AT SPECIES RICHNESS

Number of Genera: LOOK AT SPECIES RICHNESS

Physical Characteristics:

Size and Length:

Male

Length: 15.8-18.5 in (40-47 cm)

Weight: 22.9-38.8 oz (650-1100 g)

Wingspan: 27.9-28.4 in (71-72 cm)

Female

Length: 15.0-16.9 in (38-43 cm)

Weight: 17.6-33.5 oz (500-950 g)

Wingspan: UP

Coloration: **Male Description:** Summer plumage: Black head, chest, and wings. Gray face patch surrounding eyes. Upper back feathers long, and buffy with black centers. Central tail feathers very long. Winter plumage: White head and neck. Gray patch around the eyes. Large black spot extending from cheek down sides of neck. Black band across lower neck and breast. Back black. Long, gray upper back feathers. Long, black central tail feathers. Eyes dull yellow-brown. **Female Description:** Summer plumage: Mostly dark head and neck, with white around eyes, extending in a thin line toward the ear. Back and breast are variably brown or gray. Eyes brown. Winter plumage: White head and neck. Round dark brown cheek patch. White belly. Variably brownish gray crown, breast, and back. **Immature Description:** Juvenile has dark brown head, white or pale brownish gray face, white belly, and brownish gray upperparts, breast, and upper belly. Immature resembles adult of same sex.

General Body Features: Surface diver. NONE, USE GENERAL

Special Features of the Body: NONE, USE GENERAL

Special Features of the Head and Sensory Organs: BILL: In hatchlings, dark gray to bluish gray, with well-spaced grayish-pink lamellae below the tomia of the upper mandible. In winter, male dark gray-blue to black, with pink (sometimes yellowish) subterminal band, nail dark gray to black. In summer, breeding male's pink band can disappear, and bill becomes

all dark gray to black, while non breeding male retains pink band. Young male develops pink band with acquisition of Alternate I plumage in fall, although usually not as distinct. Female and young: dark gray to dark blue-gray, nonbreeding female retains a grayer bill. IRIS: Hatchlings, dark brown-black. Male, dull yellow-brown; female and young, brown.
Dentition: Lamellae and Gizzard
Special Features of the Limbs and Digits: Legs And Feet: Hatchlings, dark olive-gray to bluish gray. Adults, light bluish gray along joints, dark-gray webs.
Any Special Internal Anatomy: NONE, USE GENERAL
Sexual Dimorphisms: Check coloration section of this identification sheet.
Differences Between Juvenile Stage and Adult: Check coloration section of this identification sheet.
Behavior:
Diurnal, Nocturnal, or Crepuscular: Diurnal
Activity: Little quantitative information. For a pair on w.-central Greenland breeding grounds, male: 20% feeding, 24% resting, 41% alert, 11% swimming, 4% preening, 0.4% flying, and >0.1% copulation; female: 18% feeding, 32% resting, 33% alert, 9% swimming, 8% preening, 0.5% flying, and >0.1% copulation; female spent more time resting and less time alert than male (Reynolds 1987b). Forage mostly in morning; resting and alert behavior mostly after noon
AND
Dives for food. Picks food items off bottom or in water column in both fresh and salt water. Based on diet, many prey items consumed in epibenthic zone, just off bottom or from the bottom (Sanger and Jones 1984). As diet items reflect most abundant species, likely focuses on areas with high biomass. Able to dive to impressive depths; probably deepest diver among waterfowl; e.g., recovered from nets and hooks set up to 66 m deep in Lake Michigan
Locomotion:
Walking, Hopping, Climbing, Etc
Like most sea ducks, not particularly adept at walking, but able to get around on nesting grounds. Broods move frequently on land when changing ponds.
Flight
An erratic flyer. Usually flies low over water, veering up and down in a variety of patterns. Average air speed 80 km (Speirs 1945, Palmer 1976). Like all sea ducks, uses feet to scoot along water before taking flight. Once airborne a strong and swift flyer, and reasonably agile in flight. Has a peculiar wing beat with wings barely brought above body on the upswing but quite low on the downstroke
Swimming And Diving
Strong swimmer, clocked at 10 m/min when foraging (Kondratyev 1999). This speed is closer to that of mergansers (15 m/min) than to those of scoters (1.5–2.5 m/min) or goldeneyes (3 m/min; Kondratyev 1999). Strong and deep diver. Diving preceded by a small jump (Salomonsen 1950). Partially extends wings and spreads tail before diving; maintains head and neck outstretched while diving (Snell 1985). Flaps partially folded wings for propulsion; apparently does not use feet for propulsion, unlike other sea ducks (Snell 1985). Ascent is quick and actively swims to surface, again unlike other sea ducks, which return passively to the surface (Snell 1985). Flocks members often dive successively in long line or dive and resurface synchronously. Sits high on water with tail on water surface. Tail raised to ≥45° when alarmed
Home Range: Territorial on breeding grounds; male defends small pond or portion of larger water body. Once a male is removed from a breeding pond, a new pair will occupy the site, although the lone female often remains on the pond. When female is removed from territory, male abandons territory. Pursuit flights seen on breeding grounds usually involve male chasing away intruding female, while intruding females' mate follows; sometimes involves a lone male intruding on a pair's territory with the paired male chasing the intruder. Male generally initiates encounters with others, will always threaten adults, only occasionally subadults. Ignores other species on territory. No information on size of territories. No evidence of territories in winter.
Degree of Sociality: Variable over the year. Breeding pairs occupy territories, although females will nest in groups outside of male territory. Brood amalgamation occurs but has not been well studied. Males can form large congregations while molting. Can be highly social in winter months, but often found in small flocks (mean = 2; Hirsch 1980). Occasionally forms mixed flocks with other species (Salomonsen 1950). Roosts in large groups in winter, especially at night
Level of Aggression: Physical contact rare. During intense courtship, males may bite and nip each other
Migration: Short- to medium-distance complete migrant, although resident populations may exist in Alaska and Hudson Bay. Concentrates in the thousands at traditional locations on coast before major migrations north (Palmer 1976, Veit and Petersen 1993). Both sexes migrate together (Woodby and Divoky 1982). Some fly overland in n. Alaska, especially during extensive ice cover; also known to cross the Brooks Range (Richardson and Johnson 1981, Woodby and Divoky 1982, Johnson and

Herter 1989). Large flocks seen in spring among ice leads in Arctic, before inland breeding areas are available for nesting (McLaren and Alliston 1985). In spring, flocks circle to high altitudes in afternoon and move north

Predators:

Predators: Northern Harrier (Circus cyaneus) observed killing an adult male on n. Manitoba breeding grounds. Wintering Snowy Owls (Nyctea scandiaca) will take adults. Herring Gulls (Larus argentatus) can kill wintering adults. Of potential avian nest predators, Parasitic Jaegers (Stercorarius parasiticus) take many clutches. Foxes, both red (Vulpes fulva) and arctic (Alopex lagopus), will take nest contents and likely some adults as well. Northern pike (Esox lucius) take ducklings

Anti-Predator Defenses: Adults, if given sufficient warning, fly away in response to a predator; only dive if surprised by predator

Diet and Nutrition:

Adult Diet: Diet at sea mainly mollusks (including mussels, clams, periwinkles) and crustaceans (including amphipods and isopods); also a few small fish. In summer on breeding territory eats mostly aquatic insects, also crustaceans, mollusks, fish eggs, and some plant material including grasses and pondweeds.

Juvenile Diet: Mostly aquatic invertebrates, including insects and crustaceans. Also some bivalves, fish, fish eggs, and plant matter.

Special Adaptations for Getting Prey: Dives for food. Picks food items off bottom or in water column in both fresh and salt water. Based on diet, many prey items consumed in epibenthic zone, just off bottom or from the bottom (Sanger and Jones 1984). As diet items reflect most abundant species, likely focuses on areas with high biomass. Able to dive to impressive depths; probably deepest diver among waterfowl; e.g., recovered from nets and hooks set up to 66 m deep in Lake Michigan.

Reproduction:

Mode of Reproduction: Monogamous

Mating System: Serial and/or long-term monogamy. Site fidelity of male and female to breeding grounds suggests long-term monogamy is possible (Alison 1975a). Pair formation in winter not based on territory, so mate choice based on individual choice and/or competition.

Mating Season: Mid-March to Late May

Courtship: Most common male display is Lateral Head-Shaking, where head is shaken vigorously; often accompanied with ahr-ahr-ahroulit vocalizations. Bill-Tossing (also called Head-Lifting by Myres [Myres 1959b]), where head is thrown back and then brought forward, also used often in courtship; also accompanied by ahr-ahr-ahroulit vocalizations. Porpoising, similar to Splash-Bathing, involved repeated dips of head and neck underwater and then rearing up; wings not flapped in this display.

Territoriality: Look at HOME RANGE

Mating: Pair moves away from flock before copulating. No specific sequences; male precopulatory behaviors include Bill-Tossing, Lateral Head-Shaking, Porpoising, Breast Display and Neck-Stretch (see above). Female exhibits Inciting (or Chin-Lift), Hunch, Splash-Bathing, Neck-Stretch, and Prone. Female does not appear to initiate precopulatory displays, but detailed observations of copulation events are rare. Female lies low on the water and male grasps feathers on neck of female while mounting. Copulate as early as late winter or spring on wintering grounds (Alison 1975a). Postcopulatory behaviors include Bill-Tossing, Neck-Stretch, Porpoising, Lateral Head-Shaking and Wing-Flapping. Male performs 1–4 postcopulatory displays. Porpoising most common female postcopulatory display, followed by Lateral Head-Shaking. Female performs 1–5 postcopulatory displays.

Nesting: Shallow scrape in the ground, lined with willow and birch leaves and then with down. Placed at the water's edge, often on islands or peninsulas, close to other Long-tailed Duck nests.

Egg-Laying: Clutch Size: 6-9 eggs Number of Broods: 1 brood Egg Length: 1.9-2.4 in (4.8-6 cm) Egg Width: 1.4-1.6 in (3.6-4 cm) Incubation Period: 24-29 days Nestling Period: 1-2 days Egg Description: Pale gray to olive.

Hatching and Incubation/Gestation: Downy and eyes open. Leave nest soon after they dry. Feed themselves immediately.

Development: Ducklings able to feed after hatching. Not proficient divers at first. Pick at material brought to the surface when female dives (Alison 1975a). Will walk to different ponds. Able to thermoregulate within 1 d from hatching and maintain homeothermy to –10°C (Steen and Gabrielsen 1986). Good insulation and high oxidative capacity of leg muscles and liver allow ducklings to thermoregulate effectively

Parental Care: Young feed themselves after hatching. Females will lead broods to new ponds when food resources are depleted on occupied pond.

Lifespan:15.3 year

Conservation:

Official Federal Status: Vulnerable

Special Statuses in Individual States: NONE
Threats: There is little information on Long-tailed Duck population trends; numbers are difficult to census because of the species' offshore wintering areas. Long-tailed Duck rates a 12 out of 20 on the Continental Concern Score, and is on the 2014 State of the Birds Report as a Common Bird in Steep Decline. These ducks are not widely hunted. Entanglement in fishing nets killed tens of thousands of Long-tailed Ducks in the 1950s, especially in the Great Lakes; recent statistics and trends on by-catch of Long-tailed Duck have not been compiled.
Conservation Efforts:^^^^
Extra Facts:
The Long-tailed Duck is one of the deepest diving ducks, and can dive as deep as 60 meters (200 feet) to forage.
Of all diving ducks, the Long-tailed Duck spends the most time under water relative to time on the surface. When it is foraging it is submerged three to four times as much as it is on top of the water.
Unlike most ducks, which molt twice per year, the Long-tailed Duck has three distinct plumages each year, achieved in a complex series of overlapping partial molts. The Definitive Basic Plumage is never worn in its entirety, as portions of Alternate are retained through the summer and elements of the Supplemental are acquired before all of Basic Plumage is obtained. Therefore change in plumage seems continuous from April to October.
Unlike other waterfowl, the Long-tailed Duck wears its "breeding" or Alternate Plumage only in the winter. It gets its "nonbreeding" or Basic Plumage in the spring and wears it for the breeding season. Most other ducks wear the nonbreeding plumage only for a short period in the late summer.
The oldest recorded Long-tailed Duck was a female, and at least 17 years, 1 month old when she was found in Alaska, the same state where she had been banded.