

HOODED MERGANSER - LOPHODYTES CUCULLATUS

Taxonomy: Kingdom: Animalia Phylum: Chordata Class: Aves Order: Anseriformes Family: Anatidae Genus: Lophodytes
Species: L. cucullatus

Habitat:

Biomes: Hooded Mergansers breed in forested wetlands throughout the eastern half of North America and the Pacific Northwest, and may also nest in treeless wetlands where people have put up nest boxes. They are most common in forests around the Great Lakes. Their habitat ranges from spruce-fir forest in the Northwest to pine-hardwood forest and cottonwood-elder riparian forest in the Midwest, to oak-cypress-tupelo forest in the Southeast. Families of newly hatched ducklings forage in shallow water such as marshes, small lakes, ponds, beaver wetlands, swamps, and forested rivers—and rest on exposed rocks, logs, or sandbars. They winter in these habitats as well as on shallow freshwater and brackish bays, estuaries, and tidal creeks, where they often concentrate along the edge of ice. During migration they stop in a wider range of habitats, including open waters of rivers and lakes, brackish coastal bays, tidal creeks, and seasonally flooded forest.

Distribution:

In US: Breeds throughout the east and Pacific Northwest (Figure 1); most common in forested regions around the Great Lakes. Northern breeding limit in Canada poorly defined (Godfrey 1986). In Ontario, breeding commonly occurs only in southern regions, occasionally to 50°N, but possibly as far north as the Albany River

In Other Countries: NONE

Holistic Description: “Hooded” is something of an understatement for this extravagantly crested little duck. Adult males are a sight to behold, with sharp black-and-white patterns set off by chestnut flanks. Females get their own distinctive elegance from their cinnamon crest. Hooded Mergansers are fairly common on small ponds and rivers, where they dive for fish, crayfish, and other food, seizing it in their thin, serrated bills. They nest in tree cavities; the ducklings depart with a bold leap to the forest floor when only one day old.

Species Richness: NO SUBSPECIES

Population Dynamic: Hooded Mergansers are one of the rarest Anseriformes in North America.

Evolution and Systematics:

Evolution: Late Pleistocene (0.6 Megannum [Ma]) and Holocene (10,000 yr) records for this species are known from several states including: Florida, Illinois, Kansas, Oklahoma, S. Dakota, Tennessee, Utah, and Virginia

Systematics: No recognized subspecies. Genetic analysis suggests eastern and western breeding ranges split ca. 57,000 years ago (range 10,000 – 357,000) and have been disjunct for 16,000; but DNA haplotypes do not sort geographically; authors suggest juvenile dispersal and adult (male-mediated) emigration maintain gene flow between breeding populations

Number of Species: NONE

Number of Genera: NONE

Physical Characteristics:

Size and Length: Length: 15.8-19.3 in (40-49 cm) Weight: 16.0-31.0 oz (453-879 g)

Wingspan: 23.6-26.0 in (60-66 cm)

Coloration: Adult male Hooded Mergansers are black above, with a white breast and rich chestnut flanks. The black head has a large white patch that varies in size when the crest is raised or lowered, but is always prominent. Females and immature are gray and brown, with warm tawny-cinnamon tones on the head.

General Body Features: NONE

Special Features of the Body: NONE

Special Features of the Head and Sensory Organs: A slender, serrated bill helps Hooded Mergansers capture aquatic insects, fish, and crayfish. Prey is usually swallowed whole.

AND

The hooded merganser has a nictitating membrane (a transparent eyelid) that protects the species' eyes and enables it to see better while diving underwater.

Dentition: Duck bills have plates or lamellae, fine transverse ridges on the cutting edges that let water escape from the bill when prey is brought to the surface. In mergansers, these plates have been modified to produce a saw-toothed effect. These aren't true teeth, lacking in birds, but they are very toothlike, analogous to the teeth of barracudas, needlefish and dolphins, other fish-catching vertebrates.

Special Features of the Limbs and Digits: Like all ducks, the hooded merganser's feet are thin and flat, making it easier for them to paddle through the water.

Any Special Internal Anatomy: NONE

Sexual Dimorphisms: The hooded merganser is a sexually dimorphic species, meaning males and females differ in appearance. The female has a brown body, with a white underside and a light brown crest extending from the back of the head. The male has a similar appearance during non breeding season (although his eyes are yellow while the female's are brown). During breeding season, however, the male's plumage changes color: The head, back and neck become black, with white stripes near the chest and tail, and the bird develops a white crest on the back of the head that can be extended to attract mates.

Differences Between Juvenile Stage and Adult: The juvenile looks like the female, as does the male in non-breeding plumage, although his crest is browner.

Behavior:

Diurnal, Nocturnal, or Crepuscular: Diurnal

Activity: Little information available. Behavior and habitats used during breeding are difficult to sample and pre-breeding females are sensitive to disturbance; 35 h of time/activity budget data gathered on pre-breeding birds in Missouri found birds spent approximately 45% of their time foraging, 15% swimming, 17% resting, 16% preening, stretching and bathing, and 7% courting, being alert, or involved in aggressive interactions (LHF).

AND

Unlike dabbling ducks, Hooded Mergansers swim low in the water. Their legs are far back on their bodies, which helps in diving but makes them awkward on land. They take flight by running across the water, flying with fast wingbeats and never gliding until they are about to land (by skidding to a stop on the water). Hooded Mergansers are usually in pairs or small groups of up to 40 birds. They court in groups of one or more females and several males. The males raise their crests, expanding the white patch, often while shaking their heads. Their most elaborate display is head-throwing, in which they jerk their heads backwards to touch their backs, with crests raised, while giving a frog like croak. Females court by bobbing their heads and giving a hoarse gack. Once a female begins incubating eggs her mate abandons her, and it's not known if they reunite the following season. Incubating females may use a broken-wing display to protect eggs or nestlings from raccoons, mink, black rat snakes, black bears, pine martens, European Starlings, Northern Flickers, Red-headed Woodpeckers, and Red-bellied Woodpeckers.

Locomotion: Highly aquatic, awkward on land. Generally avoid walking; females will lead broods overland at least 1.2 km to water from upland nest sites or when moving between wetlands. Take flight by running across water. Rapid, ceaseless wingbeats in flight, only glide when landing. Birds landing at high speed; with feet extended forward, "ski" across water surface to a stop. In contrast to dabbling ducks, swimming mergansers present a low profile. Well-adapted for diving with legs placed relatively far back under the body; birds propel themselves underwater using palmate feet and lobed hallux, while holding wings close to the body.

Communication and Perception: Hooded Mergansers are usually silent, but they call during courtship and around nest sites. A courting male makes a deep, rolling sound like the call of a pickerel frog, earning it the nickname of "frog-duck" in Georgia. Females give a hoarse gack call during courtship. When females call in flight or to newly hatched ducklings, they use a rough croo-croo-crook similar to that of many sea ducks.

Home Range: NONE

Degree of Sociality: Most commonly observed in pairs or groups of < 40 individuals during migration and winter, unless at winter roosts

Level of Aggression: Male-male chasing commonly observed at 1 winter roost, but aggressive interactions between paired males comprised < 1% of the activities of pre-breeding birds.

Migration: Most are short to intermediate distance migrants depending on breeding and wintering latitudes; birds potentially resident in southern portions of range, but recent analysis of band recoveries suggests many southern breeders and fledglings may move north after breeding. Some birds winter as far as ice permits.

Predators:

Predators: Incubating females reported killed by raccoons, mink, and black rat snakes. Eggs reported eaten by previously listed species, black bear, pine marten, European Starling, Northern Flicker, and Red-headed and Red-bellied woodpecker. Black rat snakes account for one-third of all depredated nests.

Anti-Predator Defenses: Upon being disturbed at a nest as early as mid-incubation, at later incubation stages, or with ducklings, females will perform Broken Wing Distraction Display, propelling herself across the water with her wings in an attempt to lure the predator away, sometimes uttering a hoarse guttural *gaack*.

Diet and Nutrition:

Adult Diet: Primarily aquatic insects, fish, and crustaceans (particularly crayfish). Hooded Mergansers eat small fish, aquatic insects, crustaceans (especially crayfish), amphibians, vegetation, and mollusks—their diet is broader than in other

mergansers, which eat fish almost exclusively. Hooded Mergansers dive in clear, shallow forest ponds, rivers, and streams and locate prey by sight, with eyes that are specially adapted to seeing underwater. They propel themselves with their feet and use their slender, serrated bills to grasp their prey. Ducklings can dive for food right after leaving the nest, at one day old, though their dives are short and shallow during their first week. They also feed by swimming with just their heads underwater.

Juvenile Diet: ^^^^

Special Adaptations for Getting Prey: Slender bill with serrated edge used for grasping and handling mobile prey.

Reproduction:

Mode of Reproduction: Only monogamy reported.

Mating System: NONE

Mating Season: Mid-March to Early July

Courtship: Males have elaborate courtship behaviors which include Crest-raising, Head-shaking, Head-throws with Turn-the-back-of-the-head, Head-pumping, Upward-stretch, Upward-stretch with Wing-flap, and ritualized Drinking. Crest-raising may occur separately or in conjunction with Head-shaking which together are often performed 3–4 times as a precursor to Head-throws. Head-throws, the most elaborate display, are usually performed with the male parallel to the intended female. With crest raised, males bring their head abruptly backward touching their back. A rolling frog-like crraaa-crrrooooo call is given as the head is returned to the upright position and turned away from the intended female. Sometimes after a Head-shake, no Head-throw is given, instead males extend their neck, open their bill and give a hollow pop call. Pumping involves an upward and outward motion of the head, with the bill tracing ellipses in space. Upward-stretch is a head shaking stretch performed with crest raised and appears to have evolved through ritualization of daily comfort movements. This behavior is sometimes accompanied with Wing-flaps. Drinking is a ritualized behavior that can be distinguished from normal drinking motions by the strongly depressed crest and almost vertical orientation of the bill. Female courtship displays include Bobbing, where the head moves up and down in rapid, jerky motion with bill pointed downward, uttering a hoarse gack. More common is Head-pumping in response to the same behavior by males.

Territoriality: NONE

Mating: Copulation occurs on the water. Sequences begin with Drinking displays by both sexes as the male swims around the female with depressed crest. Following several repetitions of this display, a female solicits copulations by assuming a prone posture, holding her head just above and laying her tail flat on the water surface. The male immediately begins making jerky back and forth movements with his head, frequently followed by Drinking movements and commonly an Upward-stretch, with or without Wing-flapping. Abruptly, the male performs a Water-twitch (or Jab) by dipping his bill in the water while laterally shaking his head. This behavior is performed up to 8 times before the male suddenly stops, performs an Upward-stretch, with or without Wing-flaps, Preens-behind-the-wing on the side directed toward the female, and begins swimming in jerky movements toward the female. Rather than swim directly toward the female, males zigzag or tack, alternately presenting both sides of his erect crest. Once reaching the female, the male attempts to mount, raising his crest and Flicking-the-wing while treading. In 5 cases observed, the male successfully mounted twice. Mounting lasts at least 10 s with the male grasping the female's nape.

Nesting: The female chooses the nest site, and may start scouting for next year's tree cavity at the end of each breeding season. Nest cavities can be in live or dead trees and are usually close to water. Cavities are typically 10–50 feet off the ground, up to about 90 feet. Hooded Mergansers nest readily in boxes, preferring those with wood shavings or nest material from previous uses. They prefer cavities with 3–5 inch openings. The female makes a shallow bowl in the material already present in the cavity, gradually adding down from her belly after she starts laying eggs.

Egg-Laying: Clutch Size: 5-13 eggs

Number of Broods: 1 brood Egg Length: 1.7-2.4 in (4.3-6.2 cm) Egg Width: 1.5-2.1 in (3.9-5.4 cm) Incubation Period: 26-41 days Nestling Period: 1 day Egg Description: White, nearly spherical, and unusually thick shelled.

Hatching and Incubation/Gestation: Well-developed and downy, with brown backs, yellowish or reddish cheeks, white underparts, and grayish spots on wings and tail. Ducklings precocial, down-covered at hatch. Brown on back and upper breast; cheeks buffy or rufous; throat, lower breast, and belly white. A grayish spot on each side of back caudal and medial to trailing edge of wing, and at base of each side of tail. Trailing edge of inner wing grayish white or buffy.

Development: NONE

Parental Care: Only females provide care for ducklings. Young remain in the nest approximately 24 h after hatching, presumably brooded by female during that time. Brooding by the female after leaving the nest has not been reported. 5wk after hatching, parents leave the baby.

Lifespan: 11-12 years old

Conservation:

Official Federal Status: Least Concern

Special Statuses in Individual States: NONE

Threats: Hooded Mergansers are fairly common and their populations are stable and possibly increased between 1966 and 2015, according to the North American Breeding Bird Survey. The species rates a 9 out of 20 on the Continental Concern Score. Hooded Merganser are not on the 2016 State of North America's Birds Watch List. These elegant little ducks are found in many parts of the U.S. in Canada throughout the year. In the early twentieth century, Hooded Mergansers were overhunted, but hunting pressure has declined markedly since then: hunters take about 95,000 Hooded Mergansers per year in the U.S., out of roughly 15 million ducks shot each year. Even before the twentieth century, humans cleared and altered many forests where Hooded Mergansers nest, in the process reducing or displacing breeding birds from regions of their original range. As with all birds that nest in tree holes, dead trees are important habitat components and landowners can improve Hooded Merganser habitat by leaving dead trees standing on their property. In addition, Hooded Mergansers take readily to nest boxes of the appropriate size, and programs in Missouri, Maine, Iowa, and Oregon have helped local populations increase.

Conservation Efforts: ^^^^

Extra Facts:

Along with Wood Ducks and other cavity-nesting ducks, Hooded Mergansers often lay their eggs in other females' nests. This is called "brood parasitism" and is similar to the practice of Brown-headed Cowbirds, except that the ducks only lay eggs in nests of their own species. Female Hooded Mergansers can lay up to about 13 eggs in a clutch, but nests have been found with up to 44 eggs in them.

Hooded Mergansers find their prey underwater by sight. They can actually change the refractive properties of their eyes to improve their underwater vision. In addition, they have an extra eyelid, called a "nictitating membrane," which is transparent and helps protect the eye during swimming, like a pair of goggles.

Hooded Merganser ducklings leave their nest cavity within 24 hours of hatching. First, their mother checks the area around the nest and calls to the nestlings from ground level. From inside the nest, the little fluffballs scramble up to the entrance hole and then flutter to the ground, which may be 50 feet or more below them. In some cases they have to walk half a mile or more with their mother to the nearest body of water.

On the bird family tree, Hooded Mergansers (genus *Lophodytes*) lie between goldeneyes (*Bucephala*) and the other North American mergansers (*Mergus*). They share many courtship behaviors and calls with both of those groups.

The Hooded Merganser is the second-smallest of the six living species of mergansers (only the Smew of Eurasia is smaller) and is the only one restricted to North America.

The oldest recorded Hooded Merganser was a male and at least 14 years, 6 months old when he was shot in Mississippi in 2009. He had been banded in Minnesota in 1995.