

Let's Talk Loons

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Common loons protect their young chicks by carrying them on their back. (Photo credit: Roberta Olenick/All Canada Photos/Getty Images)

The echoing call of a common loon across a misty lake is a haunting, ethereal sound. Few who have heard it can soon forget it. Recognizable by their distinctive black and white coloration, loons are common sights during the late spring through early fall months on lakes across the northeastern states and portions of the Upper Midwest.

Natural History

Fossil evidence indicates that the loon hasn't changed from its current form for at least one million years. It is one of the most primitive bird species on Earth. Loons first appeared around 25 million years ago. This ancestral bird measured six feet from beak to tail, as compared to today's loons that typically are 30 inches from head to tail.

Loons are commonly misidentified as waterfowl. However, waterfowl typically inhabit only freshwater ecosystems. In contrast, loons, which are called "water birds," inhabit both freshwater and marine ecosystems. Also, unlike waterfowl such as ducks and geese, loons are not game birds and cannot be hunted. There are five species of loon: the common loon, Pacific loon, Arctic loon, yellow-billed loon, and red-throated loon. Of these, the

common loon is the most prolific. The species appears across the northern portions of North America during the summer and along the Pacific, Atlantic, and Gulf coasts during the winter. In the United States, northern Minnesota, Wisconsin, and Michigan boast large concentrations of common loons in the summer, as does upstate New York, Maine, New Hampshire, and Vermont farther east.

Loons typically arrive in their northern territories as soon as the ice covering their lake habitats melts, which in most years occurs during mid to late April. By late May, loon pairs have begun to nest. They typically build their nests just along the water's edge as the birds have difficulty walking on land. One month later, their eggs are ready to hatch. Loons typically lay two eggs per nesting attempt. After hatching, the chicks remain in the nest for about a day before their parents move them to a more-secure nursery area, such as a secluded shoreline. During this time you may see an adult loon carrying a chick on its back. This behavior helps the chick conserve energy, keep warm, and avoid predators. The adult loons care for their offspring for the first eight weeks of their lives. After this time, the chicks are able to dive and catch their own food.

In late summer, the adult loons start to form pre-migratory flocks to begin their migration south in late August. Their offspring stay in their northern habitat for a bit longer and typically remain on the lake until it nearly ices-over. After their migration, and upon their arrival in their wintering habitat, the young loons settle in and won't make the trip back north until they are around three years old. When the young loons finally make their way back north, they will return to their nesting lake or nearby. They likely will not gain their own nesting territory until they are six years old.

Loons that have established a nesting territory will return to the same lake year after year. Though loons typically breed with the same partner from one year to the next, they are not so much "married" to each other as they are married to the lake. Each year rival loons attempt to make claims on another bird's territory. The aggressive encounters can lead to severe injury or even death for the losing loon.

Environmental Threats

Loons most often are found on lakes that are less than 50 acres in size and have irregular shapes. They prefer lakes with irregular shapes, as they provide the most protected shoreline habitats. Loons also thrive more readily in lakes with clean and clear water, as this aids in their ability to see and dive for food. Loons are expert divers and typically eat up to two pounds of fish or crustaceans every day.

Undisturbed shorelines are particularly important for nesting activities. Development and human activities along a lake's edge can stress breeding loons and ultimately lead to nest abandonment. Too many disturbances can cause loons to abandon a lake entirely. In addition, polluted water can seriously inhibit their ability to catch food.

In addition to protecting loons' breeding and wintering habitats, it is also important to protect the areas they use as stopovers during their migratory flights. Loons face many threats as they make their way from one habitat to another.

"In recent years, thousands of loons have succumbed to avian botulism in the Great Lakes," Kevin Kenow, a loon research with the USGS, said. "While most of the common loon mortality on the Great Lakes affects loons that breed in Canada, most of Wisconsin's loons use Lake Michigan and Lake Erie during migration and are also at risk."

What is causing these massive die-offs and disease outbreaks? It appears that some culprits are non-native species, such as the zebra mussel. Zebra mussels are efficient filter-feeders, and their large numbers mean they clear a lot of plankton out of the water column in the Great Lakes. This removal of plankton leads to clearer water, which allows more sunlight to penetrate further into the lake. The increase in sunlight leads to algal blooms on the bottom of the lakes. As the algae dies off, anaerobic conditions develop, which causes type-E botulism bacteria to flourish. Zebra mussels pick up the bacteria as they filter-feed. The bacteria is next transmitted to round gobies, a non-native fish species, when they eat the mussels. And loons contract type-E botulism when they eat the bacteria-contaminated fish. The neurotoxins produced by type-E botulism cause weakness and disorientation in the birds, which hampers their ability to fly or stand upright. Currently, type-E botulism kills 3,000 – 4,000 adult common loons each fall.

Future Conservation

As is the case with many migratory animals, studying loons is not an easy task. There are many hurdles that resource managers face when developing conservation plans for this avian species.

"One hurdle is understanding how the dynamics of a loon population, say in north-central Wisconsin, is impacted by threats posed at several points throughout the loon's annual cycle," Kenow said. "It is a challenge to link population fluctuations to a single issue or event, and often these fluctuations may be linked to multiple stressors."

"Resource managers are then faced with mitigating the impacts of incidents remote from the breeding grounds without the knowledge of linkages among breeding populations, concentrations of birds during migration, and wintering populations."

Though loons are not the easiest species to study, scientists like Kevin Kenow remain up to the challenge.

"I've always been fascinated by loons," Kenow said. "When opportunities came along to collaborate on studies to look at migration, causes and timing of mortality of loon chicks, effects of dietary mercury on loon health, use of Lake Michigan during migration with respect to avian botulism, I felt privileged and get tremendous satisfaction working with them."

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