

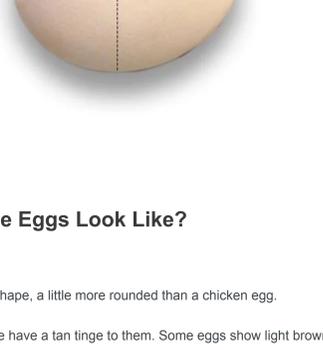
Bald Eagle Eggs: Appearance, Egg-Laying, Incubation, and Egg-Hatching

Ready to learn a few interesting facts about **Bald Eagle** eggs?

This article goes over the appearance, egg-laying, incubation, egg hatching, and other interesting facts about the eggs of the Bald Eagle.

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What do Bald Eagle Eggs Look Like?

Shape and Color

Bald eagle eggs have an oval shape, a little more rounded than a chicken egg.

The color is dull white, but some have a tan tinge to them. Some eggs show light brown blotches.

Some eggs, especially those that have been incubated for several weeks, may show unusual brown and even dark blotches that are not necessarily the natural egg color but have been soiled by the adults' soiled feet and body fluids.

The size of the eggs varies with latitude. In general Bald Eagles in the southern region of North America are smaller than birds in the northern region and Alaska.

The egg size follows this pattern, with Bald Eagle eggs in the south being smaller than those in the north.

Egg Measurements

	Egg Length	Egg Breadth
Range	5.8 to 8.4 cm (2.3 to 3.3")	4.7 to 6.3 cm (2 to 2.4")
Average	7 – 7.6 cm (2.7 – 3")	5.3 – 5.6 cm (2 – 2.2")

Weight

As would be expected, Bald Eagle eggs increase in weight from the south to the north. Bald Eagle eggs' weight range goes roughly from 108 to 131 grams (4 – 4.6 oz).

Eggshell Thickness

Measurements of Bald Eagle eggs taken before 1947 showed an average of 0.6 mm in thickness. This is about the thickness of healthy bald eagle eggs these days.

Problems with DDT

In the lower 48 states, Bald Eagles went through a period of severe population decline between 1969 and 1979. This decline led the species to a status of "endangered of extinction." **Eggshell thickness** was at the center of the Bald Eagle population decline.

By the end of World War II, the pesticide DDT was touted as a great solution for mosquito control. DDT was widely used with much regulation. DDT found its way to bodies of water where fish, the Bald Eagle's main food item, lives.

America's national bird ate the contaminated fish throughout the year.

When the time to breed came along every year during the next decade, Bald Eagles were laying eggs with shells so thin that eggs would break just with the incubating parents' gentle weight.

DDT's chemicals interfered with the eagles' internal physiology and ability to produce eggs with shells strong enough to support incubation.

During severe population decline due to DDT, Bald Eagles were laying eggs with a shell thickness of about 0.5 mm.

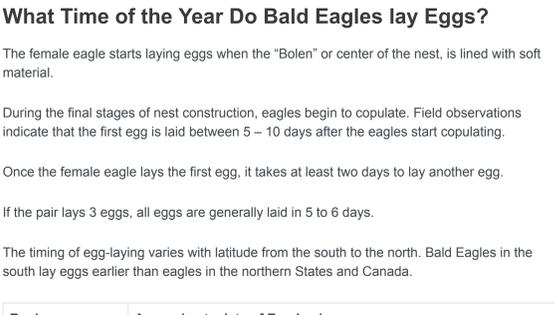
The Bald Eagle population crashed. By 1963, there were only 417 mating pairs in the lower 48 states.

The Bald Eagle was listed as endangered under the Endangered Species Act.

Urgent conservation measures led to the banning of DDT and prompted conservation efforts that reversed the declining trend. In the late 1960s, the eagle was listed as endangered of extinction under the "Endangered Species Act."

Conservation measures yielded positive results. There are now approximately 70,000 Bald Eagles in the lower 48 states. This population size met the species' recovery criteria, which led to its removal from the Endangered Species Act on August 9, 2007.

The Bald Eagle still faces challenges, but overall is doing well. Eggshell thickness these days resembles those of the times before the use of DDT.



Bald Eagle egg with the index of an adult man for comparison. Notice the rounder shape when compared to a chicken egg. Photo: Jeff B./Flickr/CC by 2.0

What Time of the Year Do Bald Eagles lay Eggs?

The female eagle starts laying eggs when the "Bolen" or center of the nest, is lined with soft material.

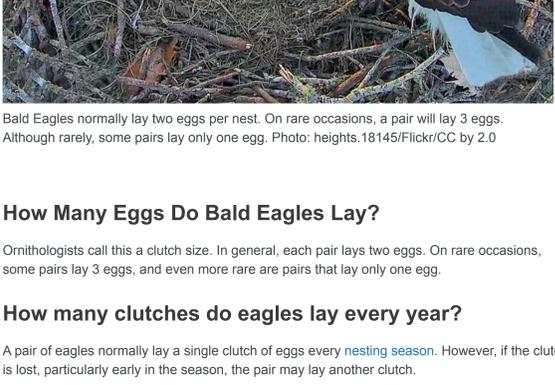
During the final stages of nest construction, eagles begin to copulate. Field observations indicate that the first egg is laid between 5 – 10 days after the eagles start copulating.

Once the female eagle lays the first egg, it takes at least two days to lay another egg.

If the pair lays 3 eggs, all eggs are generally laid in 5 to 6 days.

The timing of egg-laying varies with latitude from the south to the north. Bald Eagles in the south lay eggs earlier than eagles in the northern States and Canada.

Region	Approximate date of Egg Laying
Florida	Egg laying may start as early as October and as late as April. Most incubations are initiated from December through January.
Chesapeake Bay, Maryland.	Egg laying starts in December. Most birds are incubating by the last week of January through the end of February.
Province of Saskatchewan, Canada.	It appears most of the egg laying occurs in the second half of April.
Yellowstone ecosystem, Wyoming.	Eagles laid eggs from early March through mid-April. Birds that nested at higher elevations started to lay eggs later than the month of March.
Arizona.	Eagles start to lay eggs in January through late mid-February.
Country of Mexico.	Eagles appear to initiate egg laying from late December through early January.
Alaska and Yukon Territory.	The egg-laying period extends from late April through the end of May, peaking in the second week of May.



Bald Eagles normally lay two eggs per nest. On rare occasions, a pair will lay 3 eggs. Although rarely, some pairs lay only one egg. Photo: heights.18145/Flickr/CC by 2.0

How Many Eggs Do Bald Eagles Lay?

Ornithologists call this a clutch size. In general, each pair lays two eggs. On rare occasions, some pairs lay 3 eggs, and even more rare are pairs that lay only one egg.

How many clutches do eagles lay every year?

A pair of eagles normally lay a single clutch of eggs every **nesting season**. However, if the clutch is lost, particularly early in the season, the pair may lay another clutch.

In northern and colder parts of the bald eagle range, adult eagles may not lay a new clutch if they lose it because the breeding season is narrower in time, and the onset of cold weather could jeopardize the survival of the eaglets.

Who incubates the eggs?

Unlike other birds that wait until the clutch's last egg is laid before starting incubation, the female Bald Eagle starts incubating the first egg upon laying it and continues incubating until she lays the last egg.

As in **other eagles**, the female Bald Eagle does most of the egg incubation. She spends the nights and most of the day sitting on the eggs while the male brings food to her.

The female takes breaks, usually in the afternoon, leaving the male incubating the eggs.

Even though the male brings food to the nest, the female also goes foraging for food during her breaks.

When both adults leave the nest, they often cover up the eggs with branches and leaves to keep them from being seen by predators.

Video Cameras of nesting Bald Eagles show how careful the adults are with their eggs. Both parents are very gentle and take their time to position themselves to incubate the eggs properly.

They have been observed to clench their feet to avoid accidentally puncturing the egg with their sharp claws.

Both the male and female eagles develop brood patches during the incubation period.

What is a brood Patch? A brood patch is a bare or featherless area on a bird's belly. This bare patch is well supplied with blood vessels that help transfer body heat onto the eggs during incubation. Most birds develop brood patches during the incubation period.

How long does it take for a Bald Eagle egg to hatch?

Bald Eagle eggs take about 35 days of incubation to hatch. In the warmer temperatures of southern states, the incubation period is slightly shorter than in the northern states.

Do Bald Eagle Eggs Hatch All at Once?

No, because the female eagle starts incubating after she lays the first eggs. This gives the first egg a head start.

The first egg laid hatches first. The other eggs will hatch in about the same number of days that the female eagle took to lay the second and third eggs.

Generally, eggs hatch from 2 to 3 days apart.

The chick is fed soon after it hatches and develops a size advantage over the chicks hatching in subsequent days.

What animals eat Bald Eagle eggs?

Field observations indicate that the most common predators of bald eagle eggs are birds such as ravens, crows, hawks, and magpies.

Bald Eagles seldom lose their eggs to predators, as one adult is on the nest nearly 94% of the time. They may lose eggs to predators during the few times both parents leave the nest unattended.

Raccoons have been observed making quick night attacks on incubating eagles. Raccoons may be more interested in grabbing a small eaglet and running away with it than stealing a hard-to-handle egg in the eagle's presence.

Black bears and bobcats have been known to take either eggs or eaglets from bald eagle nests.

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