



EAGLET GROWTH AND DEVELOPMENT

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The growth and development of a Bald Eaglet from hatch to [fledge](#) takes about 10-13 weeks. Along a [spectrum](#) of morphological and behavioral states from least developed (“[altricial](#)”) to most developed (“[precocial](#)”), raptors fall near the minimally developed end. **Altricial hatchlings** have few or no feathers, closed eyes, little to no mobility, no ability to thermoregulate, and need parental care to survive and grow. **Precocial hatchlings** have a full layer of down feathers, open eyes, mobility and thermoregulating ability, ability to feed themselves, and are soon able to leave the nest. **Raptors** are considered “[semi-altricial](#)”: at hatch they have a thin layer of down but are unable to thermoregulate, their eyes are open or partly open although not yet able to focus or follow movements, they have some mobility, and they are entirely dependent on parents to survive and grow.

Thanks to the work of Gary Bortolotti and Jon M. Gerrard in Saskatchewan in the 1970s and 1980s, we have reliable information on the development of eagle nestlings from hatch to [fledge](#), including [weight](#) and [growth](#) of the critical [beak](#), [feet](#), and [wing feathers](#). ([Click here for References](#).) Beak and feet grow faster than other body parts because they are essential tools for survival and take several weeks to be fully developed. The “gangly” and “clownish” look of young eaglets is largely due to the [disproportionate growth of feet and beaks](#).

Hatched with thin [natal down](#), eaglets gain a thicker [second set of down](#) starting a week or so after hatching, and soon thereafter their [body \(contour\) feathers](#) begin to grow. These feathers will become the [juvinal](#) (first-year) eagle’s smooth covering by the time it fledges. They take several weeks to reach full length, especially the wing feathers which are not yet fully grown until after [fledge](#).

Steadily emerging [behaviors](#) reflect the growth of the eaglet’s skeleton, muscles, feathers, and neurological systems. As the days go by the eaglet develops the ability to [hold up its head](#), maintain its [balance](#), [focus](#) on and follow the parents with its eyes, [reach out](#) and eventually [lunge for food](#) from the parent’s [beak](#) and finally [pull bites of food](#) off a fish by itself. Especially with the emergence of [contour feathers](#), an eaglet engages in near constant [preening](#), using its [beak](#) to remove the protective sheaths around the feathers and help the vanes unfurl and its barbs lock together.

It swiftly gains [mobility](#), from [pulling itself](#) by its wings and [pushing with its legs](#) through the soft nest materials, to [standing](#) and [walking](#) on its [hocks](#), stepping backwards toward the edge of the nest and [tipping up onto its toes](#) to expel wastes over the side, ultimately graduating to [standing tall on its toes](#) and walking around like its parents.

As wing feathers begin to grow the eaglet [waves its arms](#) and extends them overhead in a [full body stretch](#) (which falconers call “warbling”), then builds its [breast muscles](#) with vigorous [flapping](#), [flap-hopping](#), and finally catching the air to [hover](#) above the nest. Inbetween all this activity, an eaglet spends many hours [sleeping](#) and [resting](#), apparently doing nothing but [growing](#).

The pages here follow the daily growth and development of the two eaglets at the [Bluff City nest in Tennessee](#) in 2019, through an online camera operated by East Tennessee State University (ETSU). BC14 hatched on 11 March at 10:32 a.m., and BC15 hatched a day and a half later, 12 March by about 11:00 p.m. Photos and videos here are from the Bluff City cam and are used by permission.

Heartfelt thanks to [Michelle France](#), camera operator and keen observer at the ETSU nests, and to my long-time eagle-watching partner [Donna Young](#) for her careful observations of Bald Eagle behavior and eaglet development over the years, and her contributions to the descriptions on these pages.

- [Daily Photo Gallery and Weekly Commentary](#)
- [References](#)
- (More pages devoted to specific features – feathers, feet, [beak](#), behaviors, etc. – will be added as they are developed.)

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