

# *Delaware Valley Eagle Alliance*

## Nature's Newsletter

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[www.dveaglealliance.org](http://www.dveaglealliance.org)

2009

### Bald Eagle Family Life



© 2009 Photograph provided by John and Yoke DiGiorgio

An eagle's family life revolves around its nest. Both male and female join to build or remodel the nest. By late winter the female will lay typically 1-3 white eggs two to three days apart. Both male and female spend time incubating the eggs. Incubation, on average, lasts 35 days. Not all the eggs are always fertile.

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#### Historic 4-Chick Bald Eagle Nest

The Delaware Valley Eagle Alliance announces the successful fledging of four bald eagle chicks from a nest along the Delaware River in Northampton County, PA.

Directors, John and Yoke DiGiorgio began recording their observations and documenting, through photography and documentary film, starting the first week in April 2009. The first chick was observed that first week in April. The fourth chick was observed and documented on April 27, 2009. PA Game Commission was notified and provided with documentary film confirming the historic event.

Clutch size in bald eagles generally varies between 1 and 3, with 2 being the most common. Reports in the literature of 4-egg clutches are very rare, with some suggesting that they

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## Historic 4-Chick Bald Eagle Nest (continued)

result from two females laying eggs in the same nest. In 1986 on the Chesapeake Bay, a 4-egg clutch was successful with no sign of an extra female. An account was never published.

The DiGiorgios have completed capturing fourteen weeks of footage documenting this historic event, from the time that the 4 chicks were first observed through several weeks after they fledged (first flight).

John DiGiorgio stated that, based on when we first observed the appearance of each of the chicks, we estimated that there was a one and a half to two week age difference between the oldest chick and the youngest chick. Chick #1 was visibly larger and more developed than the younger three and chick #4 was visibly smaller and less developed than the older three. This remained the case up until they fledged.

Feeding this 4-chick brood was a time consuming activity and involved both adults. DiGiorgio recalls filming on a particular evening in May where, over a two and a half hour time span, the adults brought in a total of five fish and fed the chicks continuously. The chicks formed a semi circle around the adult and were each fed a small portion of the fish at a time. The adult would then move to the next chick, and the next, and the next and return to the first to start again. The adults did not appear to favor one chick over another. All were fed, even the youngest. Very little aggressive behavior between the chicks was observed prior to fledging, even during feeding. Fledging occurred during the 3<sup>rd</sup> week in June with chick #1 fledging first, chicks #2 and #3 fledging two days later and finally chick #4 three days after that.

A documentary film is being developed, with the plan to premier it during EagleFest 2010 (scheduled for Saturday, January 16, 2010 in Narrowsburg, New York), an annual event that the DiGiorgios founded and organize.

The DiGiorgios are also collaborating with Dr Bryan Watts, Director, Center for Conservation Biology to co-author a research paper that documents this rare event. The paper will present an account of this nesting event in the context of current thought regarding limitations on clutch and brood size in bald eagles. Dr. Watts has monitored more than 6,000 nesting attempts by bald eagles and has never recorded a 4-chick brood. He states that "it is **truly incredible** for such an exceedingly rare event to be so well documented".



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©2009 Photograph provided by Greg Giorski

### CHICK DEVELOPMENT

- For the **first two weeks** chicks are covered in white down and depend on the adults for warmth.
- **By 2-3 weeks**, chicks are covered in gray down and are more able to regulate their temperature. When the chicks are young typically the male does most of the hunting. Chicks are not yet able to tear the prey and are fed regularly by both adults.
- **By 3-4 weeks**, flight feathers are just appearing. Chicks may eat as much as 2 lbs per meal. Growth is rapid.
- **By 5-6 weeks**, chicks are developing coordination and are more active and playful. They may grab at adults to get food.
- **By 7 weeks**, chicks are proficient at moving around the nest. The adults typically spend less in the nest and may perch on branches in the nest tree or neighboring trees.
- **By 8 weeks**, chicks are nearly adult size. Coordination is improving and body posture is more erect. Chicks are able to tear prey and feed themselves.
- **By 9-10 weeks**, chicks exercise flight muscles and learn to control lift in preparation for their first flights. This includes taking to the support branches of their nest tree.
- Fledging typically occurs between **10-12 weeks**. Chicks remain dependent on the adults for food for several weeks after fledging.
- Now called juvenile bald eagles, it will take them 4-5 years to reach full adulthood.

## Observations After Fledging

By Yoke DiGiorgio

Observing and documenting bald eagle pairs building and repairing their nests in the Delaware Valley area and raising their offspring, has been a wonderful experience. My husband John, and I are particularly interested in what happens to young eagles once they fledge (first flight). Difficult to observe and identify, we were fortunate to be able to continue to do just that as a bald eagle family along the Upper Delaware River continued to remain in the "nest tree" area.

Prior to fledging, usually about 9-10 weeks, eagle chicks will practice exercising flight muscles and learning to control lift in preparation for their first flights. This usually includes taking to the support branches of their nest. It is said to strengthen their legs and improve their balance. Although they are adult size and their tails are almost completely grown, their longest primary flight feathers are still not fully developed.

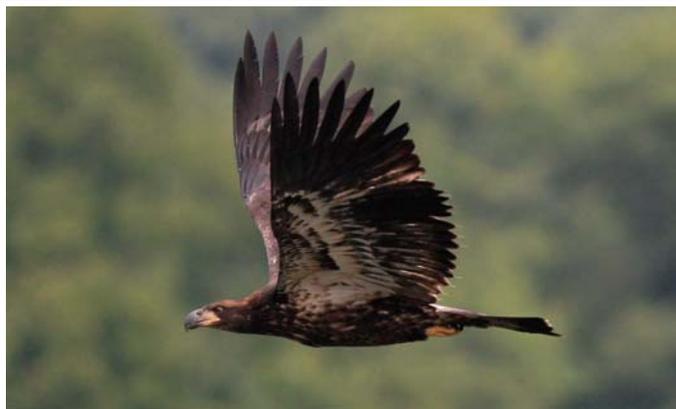
Fledging typically occurs about 10-12 weeks. It may take up to 5 weeks from the time young eagles leave the nest until their flight feathers are completely formed. The feathers are still developing at this stage. The tip of the feather develops first and the base is the last to develop. Until the feather is completely grown, the shaft or quill, which is filled with blood during growth, is soft, quite delicate, and is not firmly attached to the underlining wing bones. It will take an additional week for the blood to leave the shafts of the feathers and the feathers to become firmly attached to the underlying bone. When the wings are finally grown, they will extend to within one inch of the tip of the tail. They are now able to withstand a lot more pressure and the young eagle is ready for vigorous flight.

Some young eagles leave the nest accidentally - being blown over or falling out. Nests have also been blown out of trees during violent storms. But "our" two young eagles did not experience such an accident and were very attached to their home. In fact, some parental coaxing would be necessary to get them to leave. We began to see that the parents did not bring food to the nest, but rather perched on a nearby branch with enticement. The begging calls of the two young became screams as they darted from one edge of the nest to the other and out onto their home tree's branches.

Young eagles will typically continue to depend on the adults for food for several weeks after fledging, although feeding may take place away from the nest. It is during the 4-6 week period after fledging that they develop muscle strength, improve flying skills and learn to fish.

The moment of fledging came unexpectedly. A cool mid-July morning and a sudden gust of wind knocked the first into the air. As it is natural for eagle fledglings, it glided to one of the nearby trees it had seen its parents on in the past few months. The second followed shortly thereafter. "Our" two young eagles were 12 weeks old.

At first they remained very close to the nest and nest tree area. We watched as they practiced flying, sometimes crashing into trees and sometimes into one another. In one instance, one crashed into a branch of nearby white pine. Although the branch was substantial in size, it cracked and broke off from the force of impact. The young eagle, while sliding down, was able to grab at another branch and stop the fall. In another instance, one attempted to fly onto a branch but couldn't quite keep his or her balance and ended up hanging upside down. After what felt like quite a long time, he or she was able to let go of the branch



©2009 Photographs provided by John and Yoke DiGiorgio

and maneuver him or herself upright and flew away.

One morning we observed one of the young eagles was perched next to the adult female on her favorite roosting branch. The second flew in to join them but didn't quite make a smooth landing. He/she crashed into the adult female, knocking her off the branch. The branch shook and both young eagles struggled to maintain their balance. In the mean time, the adult female flew around the tree, back to the branch and pushing the second off, resumed her position on the branch - a definite lesson not to mess with mom. The parents remained near and continued to bring food daily, either directly to the young, being guided by their hunger calls, or to the nest to which they would quickly come from a nearby tree. The young eagles were still totally dependent on their parents for food. But every day their wings were stronger; their soaring flight took them higher and farther.

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### EAGLE FACTS

- Height: 30-31", Wing Span: 6'-7'6", Weight: to 14 lbs, Life Span: 25 - 30 years.
- Mated bald eagles are monogamous.
- Female bald eagles are larger than the males.
- Can fly 36 - 44 miles per hour.
- Can spot a fish up to 3 miles away.
- With eyes almost as big as a human's, bald eagles also have color vision.
- Snatch fish with their talons.
- Have special pads on the soles of their feet, especially designed to firmly grip a slippery wriggling fish.
- Each foot has four toes, three pointing to the front and one to the rear, ending with razor sharp black talons up to two inches long.

## Observations After Fledging

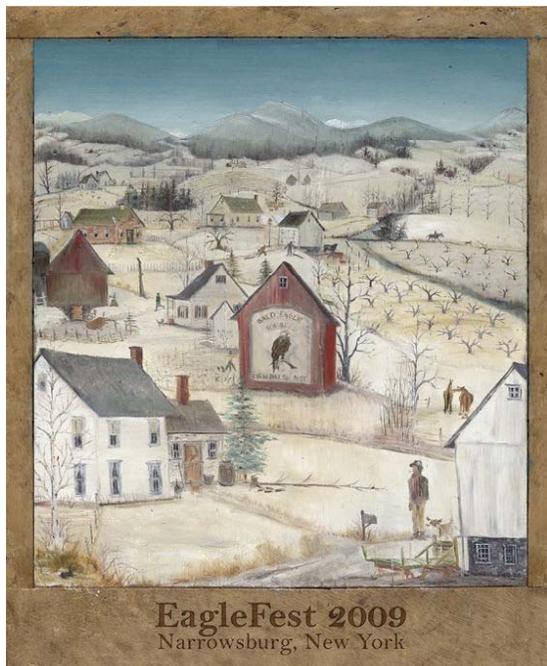
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The parents were dedicated and continued their lessons. It was mid-afternoon on a hot August day and we observed the female fly to where both young were perched on a branch along the river. She landed on the nearby shore just below them, spent ten minutes bathing herself in the water and flew back to her favorite roosting branch. Immediately thereafter, one of the young followed her example and also bathed in the river. Since that time, both young have cooled off in the river many times.

Early September, the young eagles were 18 weeks old. We observed, for the first time, that one young had a fish in its talons as he/she flew to a branch near the nest tree and began to feed. Although both young eagles had hatched within several days of one another, one was always more advanced than the other. This was true even in flying after fledging. So it did not surprise us that it took two more weeks before it appeared that the second was now also beginning to fish.

"Our" young eagles were growing into adults as planned. We were delighted to observe that even as late as 20 weeks (eight weeks after fledging), the two young eagles and the adults still joined together as a family along the shores of the Delaware River.

### FEATURED ARTIST POSTER



With a donation of \$30 (plus shipping and handling), you will receive a limited edition 16 by 20 poster created by Cheryl Korb - Featured Artist EagleFest 2009.

#### **The Delaware Valley Eagle Alliance**

**For more information contact us at:**

**[www.dveaglealliance.org](http://www.dveaglealliance.org)**

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The *Delaware Valley Eagle Alliance*  
invites you to the 9th annual EagleFest



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## **EAGLEFEST**

**NARROWSBURG, NEW YORK**

**Saturday, January 16, 2010  
9:30AM - 4:30PM**

**Live bird demonstrations, observation sites,  
guest lectures, films, poster auction, eagle art**

**(snow, rain or shine)**

#### **The Delaware Valley Eagle Alliance**

**Our mission: to increase awareness,  
understanding and promote conservation  
of our wildlife and natural environment.**

**Educational  
Events, Programs and Publications**

The *Delaware Valley Eagle Alliance* is a 501(c)(3) not-for-profit organization. All events and programs are funded by your generous donations. If you would like to make a donation, please send your "tax deductible" check, payable to the *Delaware Valley Eagle Alliance* to:

PO Box 498  
Narrowsburg, NY 12764

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