



# CONSERVE WILDLIFE

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FOUNDATION OF NEW JERSEY

## 2011 EAGLECAM NEST UPDATES

The Duke Farms pair has been nesting on Duke Farms property since 2005 and have raised and fledged eleven chicks.

### **FEBRUARY 28, 2011**

Welcome back to another eagle cam season!

As of this afternoon the Duke Farms eagle pair is incubating! Now that the pair has an egg one of the two eagles will be sitting on the eggs incubating. The adults have what are called brood patches, which appear during nesting season and is an area on the birds breast that is featherless. The brood patch is well supplied with blood vessels at the surface so that the birds can transfer heat to the eggs when incubating. They will take turns incubating and we'll see one bird replace the other in what is called a "nest exchange". Eagles lay their eggs 2-3 days apart and can lay up to three eggs. Hatching can be expected in 35 days.

### **MARCH 7, 2011**

Two eggs are visible on March 7th while one of the adults takes a break from incubating.

The Duke Farms pair now has three eggs.

Here is the timeline of when we can expect hatching to occur.

1st egg

Laid: 2/28/11

Possible hatch: 4/4/11

2nd egg

Laid: 3/3/11

Possible hatch: 4/7/11

3rd egg

Laid: 3/6/11

Possible hatch: 4/10/11

During incubation an adult will remain on the eggs most of the time. They do this not only to keep the eggs warm but to protect them from predators. You might also see the birds “rolling” the eggs. The eggs are rolled so that the embryo doesn’t stick to the egg shell and to make sure that all parts of the egg are warmed by the brood patch.

Eagles in NJ: There are currently 65 pairs of eagles incubating in New Jersey. A record high of over 100 eagle nests are being monitored this season.

### **MARCH 14, 2011**

The pair continues to incubate. Some eagle cam viewers have asked why sometimes there aren’t any eagles seen at the nest. Not to worry the eagles might be off the eggs for a few minutes and not in view of the camera, but they are close by keeping any eye on the eggs.

Both adults in this pair are New Jersey banded birds. During a nest exchange it is a good time to see the bands on their legs. They each have a silver federal band on one leg and a green band on the other leg. The green band signifies their NJ origin. They were raised in a New Jersey nest and when they were approximately six weeks old banded by ENSP and CWF biologists.

Since green bands are only used on New Jersey birds it enables us to keep track of where New Jersey birds are migrating, nesting and wintering. Each green band has a specific letter and number which tells when the bird was banded and at which nest. So far we have not been able to read the band on the Duke Farms pair, but if the band can be read we’ll know where and when this bird was banded.

### **MARCH 22, 2011**

The pair is now in their fourth week of incubation. We’ve had some rainy weather and more to come. During the rain you can see that the eagle sits tight on the eggs to keep them warm. Eagles have 7,000 feathers and layers of these feathers trap air to insulate birds against cold and protect them from rain.

The Duke Farms pair has been using this nest since 2005. In 2008 the camera was setup in an adjacent sycamore tree 60 feet away from the nest and positioned to angle in from a slightly higher elevation. The camera is manageable remotely to pan, tilt and zoom.

The nest tree is in a sycamore and the nest is about 6 feet wide and located ~ 80-85 feet high in the tree. Eagles in NJ most commonly nest in live deciduous and coniferous trees, but they will also nest on man made structures. There are currently eagles nesting on a cell phone tower and on power line towers. A pair will often use the same nest for many years adding sticks to the nest each season, which is why the nests can get quite large. Eagles will take sticks off of the ground and even break branches. Several volunteer nest monitors have reported seeing eagles jumping up and down on branches to break them

off. The eagles line the bowl of the nest where the eggs will be laid with softer material such as grass.

### **MARCH 30, 2011**

The eagles are now in the fifth week of incubation and the first egg is due to hatch next Monday. The pair incubated through a spring snow storm last week! The eggs will hatch in the order in which they were laid. The hatching process can take 24 hours or more. The eaglets use their egg tooth (a pointed bump on the top of the beak) to break (called pipping) through the shell. The photo to the right shows a newly hatched eaglet and an egg that is starting to pip from the Blackwater National Wildlife Refuge eagle cam in Maryland. The eaglet then continues to peck at the shell until it has a hole in the shell large enough to break through and free itself. A good way to tell if the egg is hatching is to watch the parent's behavior. They will be off the eggs and looking down at the eggs more than normal.

Recently hatched eaglets will have a grayish-white down covering their bodies. The eaglet will not need to be fed right away since it has absorbed the yolk before hatching. When the adults feed the chick they will shred off pieces of meat from the prey and coax the eaglet to eat by putting the food in their beak. Feeding sessions will be the best time to see the new eaglet. A large portion of the time the chick will be under the adult being kept warm while the adult continues to incubate the other eggs.

### **APRIL 7, 2011**

The first chick has hatched! The chick was confirmed this morning. The parents have been feeding the chick. The second egg is estimated to begin hatching today.

### **APRIL 12, 2011**

The second chick hatched on April 9th. The third egg has not yet hatched and the adult continues to incubate. A great time to see both chicks is during a feeding session. Even at this young age the oldest chick is a bit aggressive towards its sibling during feeding. It sometimes puts its wing on top of the younger chick or pecks at it. This is common among chicks, but the younger chick has learned to wait its turn and both are getting plenty of food. Eagles are opportunistic predators. Their diet varies throughout the year. Their most common food source is fish, then freshwater turtles, muskrat, waterfowl, and even carrion (dead animals).

What food have you noticed in the nest? Join the discussion on Facebook!

### **APRIL 19, 2011**

By the end of this week the chicks will be two weeks old, they hatched April 7th and 9th. One egg wasn't viable but is still in the nest. Most likely it will eventually get buried in the bottom of the nest. Both chicks are getting plenty of food since the parents are

bringing a nice supply to the nest. When the chicks put their heads up after eating you can see that their crops are full. The crop is an expanded, muscular pouch near the throat. It is a part of the digestive tract and used to temporarily store food.

The adults made it through the severe storm this past weekend. They had to sit tight on the chicks to keep them from getting wet and cold. Those of you who saw the bird during the heavy rain probably agree that the bird looked miserable sitting there getting drenched!

The adults will continue to brood the young chicks not only to keep them warm but also protect them from predators. The curious chicks can often be seen peeking out from under the adult's chest and looking around. As the chicks become more mobile they'll start exploring the nest. You might have noticed that the adults sometimes cover the chicks with grass. They do this to protect them from the weather or predators. Right now the chicks have their first of two coats of down which they'll have until their feathers appear. The second coat of down will be darker and woollier than the first.

#### **APRIL 28, 2011**

The eaglets are doing fine and getting big quickly! The photo to the right shows the nest from further away and you can see how much space the chicks are now occupying in the nest. The oldest chick is three weeks old today and the youngest will be three weeks old on Saturday. They spend a lot of time eating and sleeping in the nest but are also starting to move around the nest. On sunny, warm days the chicks find the shady spots in the nest or sometimes the adults will spread their wings to provide shade for the chicks.

Right now the chicks are very awkward when moving around the nest. Their big yellow feet look huge compared to the rest of their body. Both feet and bill will grow to adult size first, giving them that slightly awkward appearance until their bodies catch up. The bald eagle's rate of growth is faster than any other North American bird, eagle chicks add one pound to their body weight every four or five days.

#### **MAY 4, 2011**

Several cam viewers have asked what happened to the remaining egg in the nest. It had a crack in it and the female moved it to the side of the nest and most likely it was thrown out at some point. One way the eagles keep the nest clean is to defecate over the edge of the nest. If you haven't yet seen the chick's projectile "poop" it's quite a sight.

The eaglets are just starting to get their blood feathers or pin feathers. In the photo to the right you can see a dark line along the edge of their wings, those are the pin feathers. The raptor's new feathers come out wrapped in a sheath that is filled with blood and the blood feeds the feathers so they grow. Eventually, once the feather is fully developed, the sheath will fall off or the eaglet will pull it off, and the feather will unfurl.

Another question which cam viewers have asked is “when will the eaglets start to feed themselves?” At around six weeks of age they’ll start tearing at the food and start to feed themselves.

#### **MAY 11, 2011**

The chicks are now five weeks old. They are starting to get darker as pin feathers cover more of their bodies and they lose their second coat of down.

In one of the earlier updates I had stated that both of the adults in the Duke Farms pair were NJ banded birds. It turns out that only the male has NJ bands. In 2009 & 2010 it was documented that both birds were banded. This means that there is a new female in the pair this season. We don’t know what happened to the previous female. Eagles do mate for life, but if one of the birds disappears due to death or injury the remaining bird will take a new mate.

NJ EAGLES: 97 EAGLE CHICKS HAVE BEEN REPORTED IN NESTS THROUGHOUT THE STATE SO FAR THIS SEASON.

#### **MAY 20TH, 2011**

The banding took place this morning and both chicks are male and healthy!

The eaglets are now six weeks old and the banding team will visit the Duke Farms nest today. The banding team will take get started approximately between 10:00-10:45. Currently there is some rain in the area. If the rain is too heavy the banding could be delayed or rescheduled. There will be a live webcast and someone will be explaining what is happening so be sure to have your sound turned on. If you are unable to view the banding live the video of the banding will be posted on the website.

Endangered and Nongame Species Program Principal Zoologist, Mick Valent will climb the nest tree. Once Mick is in tied-in at the nest, he will use a long pole with a hook to gently make the eaglets walk toward him. He will then place a hood on their head to calm them down and vet wrap on their feet to keep them from hurting themselves or one of the biologists. He will place one eaglet at a time in a duffel bag and lower it to the ground with a secure rope to the waiting banding team. Each eaglet will be lowered to the ground in this manner and returned when finished.

Once the eaglet is on the ground it is weighed. Blood samples are taken from the bird; the blood sample will be tested for pesticides and other contaminants. We will take measurements to determine the sex and age of the bird, although in this case, the age is already known by all webcam viewers. A leg band will be placed on each leg: a silver federal band with an individual, engraved number, and a green band signifying its NJ origin. Since green bands are only used on NJ birds, they enable us to track where NJ birds are migrating, nesting and wintering.

Some webcam viewers have asked whether banding the chicks will cause the parents to abandon the nest. The answer is no. Eagle biologists have been banding young eagles for more than 30 years and the adults never abandon the nest or chicks. Further, the same adults maintain their residence in the nest area year round and continue to use the same nests annually. We are careful to not visit nests the first year they are established, so the adults will make a solid and disturbance-free connection to the nest site. We time nest visits for when the nestlings are six weeks of age, a time when they are not as strong or active and will not attempt to jump from the nest. All precautions are taken with the health and well being of the eagles in mind, and completing the work as quickly as possible.

### **MAY 31, 2011**

The chicks will be eight weeks old at the end of this week and are almost fully feathered. Cam viewers have been concerned about the chicks during this hot weather. They thermoregulate, which means that they control their temperature by panting with their mouth open or through heat loss through the unfeathered legs and feet. They do not need to drink as they derive water from their food. You'll also notice that they stay in the shade when possible on these hot days.

The chicks can be seen stretching their wings, flapping and hopping around the nest. These activities help to strengthen the muscles they'll soon need for flight. When they do this you can see that they still have some downy feathers underneath. Over the next few weeks the chicks will start to "branch," which means they'll hop from the nest to the branches of the nest tree. The next step will be taking short flights to nearby branches and trees as they gain strength and courage. Eagles fledge between 11 and 12 weeks of age, but will remain in the area of the nest tree for several weeks after fledging, while they practice flight and learn to hunt.

### **DATA FROM THE BANDING ON MAY 20, 2011**

Nestling 1 (AKA E1) was banded with green color band D/37 on the right leg. He weighed 3.85 kg (8.49 lb), and measurements such as bill depth (30.3 mm) and average tarsal (leg) width (15.45 mm) indicate he is male. He had a full crop, which means he ate shortly before banding this morning (and that added to his total weight).

Nestling 2 (AKA E2) was banded with green color band D/38 on the left leg. He weighed 3.15 kg (6.95 lb). A measure of one of his primary feathers indicated he hatched after the first nestling, and his other measurements were also a bit smaller than the first. His bill depth of 28.7 mm and tarsal width of 13.9 mm also indicate he is male.

Females are slightly larger, which would show up in larger bill and leg measurements even at this young age.

Biologists took a blood sample from each bird, which will be analyzed to determine the exposure of young eagles to environmental contaminants such as pesticides and other

chemicals, and heavy metals such as lead and mercury. The health check they got today, however, reflects very healthy and robust eaglets!

Thanks to the banding crew:

- ▶ Mick Valent, biologist (and climber) with the Endangered and Nongame Species Program, New Jersey Division of Fish and Wildlife.
- ▶ Kathy Clark, biologist with the Endangered and Nongame Species Program, New Jersey Division of Fish and Wildlife.
- ▶ Dr. Erica Miller, staff veterinarian at Tri-State Bird Rescue & Research in Newark, DE.
- ▶ Robert Somes, biologist with the Endangered and Nongame Species Program, New Jersey Division of Fish and Wildlife.

The Duke Farms staff made the live webcast possible and are great stewards of the eagle nest!

### **JUNE 13, 2011**

The chicks are starting to feed themselves though they are also still taking food from the parents. At almost ten weeks of age they are very active in the nest and will be taking their first flights in the next few weeks. Often it can look like there is just one chick in the nest. The second chick is there it just can't be seen because it is perched on the edge of the nest behind the tree branch.

NJ EAGLES: SIXTEEN EAGLE CHICKS HAVE FLEDGED FROM NJ NESTS THIS SEASON AND MANY MORE WILL TAKE THEIR FIRST FLIGHT OVER THE NEXT MONTH.

### **JUNE 28, 2011**

The youngest chick took his first flight this past Saturday the 25th, but has still been coming back to the nest. The older chick should be fledging very soon.

### **JULY 6, 2011**

The oldest chick fledged early in the morning of July 2nd. Now that both chicks are fledged the nest will be empty much of the time. This morning one of the adults brought food into the nest and one of the chicks was there eating. The plan is to keep the camera running until at least mid-August.

We are very pleased that there are so many people who are excited about the Duke Farms nest and look forward to the 2012 season.