

Great Blue Heron Chick Development



Through the Stages...

The slender, poised profiles of foraging herons and egrets are distinctive features of wetland and shoreline ecosystems. To many observers, these conspicuous birds signify the presence of potentially diverse and healthy wetlands worthy of protection.

- Audubon Canyon Ranch

The Heron and Egret Project of Audubon Canyon Ranch monitors colony size, location and reproductive success of Great Blue Herons, Great Egrets, Snowy Egrets, Black-crowned Night-Herons, and Cattle Egrets throughout the northern San Francisco Bay area.

This is the story of one Great Blue Heron nest at the McNear Peninsula Colony next to the Petaluma River. This nest was followed as part of the Heron and Egret Project (HEP) for Audubon Canyon Ranch in 2010.

For this project, individual nests are monitored periodically throughout the nesting season. Information on timing, brood size, and chick survival is collected and results are used to determine reproductive success at colonies.

Data for each nest is broken down into stages, which allows for comparisons in the timing of nesting among all the colonies in the study area.

The goal of these slides is to aid in the identification of nest stage for Great Blue Heron and to show the development of one brood throughout an entire season.



Location of Nest #1, McNear Colony, Petaluma

McNear
Colony
Nest #1



Great Blue Heron

Length = 47"

Wingspread = 72"

Weight = 5.3 lbs.

*Shown here with a
crayfish, at
Shollenberger Park.*



GREAT BLUE HERON

- 2-5 greenish-blue eggs
- 27-28 days of incubation - adults alternate
- Both parents feed young
- After approximately 4 weeks, adults at nest only to feed
- First flight at approximately 8 weeks
- The chicks fledge at about 10-12 weeks

“POSSIBLY ACTIVE” NEST

A nest can be called “possibly active” when a single, unpaired bird is present on a nest platform early in the season. There may be courtship displays, such as stretch or snap displays or circle flights. During this period, no nest building activity is observed. This period can last anywhere from a few days to several weeks, depending upon when birds first begin to show up at a colony.



Late February, male (?) waiting on nest
“possibly active nest”

“ACTIVE NEST” (before Stage 1)

When it can be safely assumed that two adult birds have formed a pair bond, the nest is considered “active.” Courtship displays, twig exchanges, nest building, bill dueling, allo-preening (when one adult will preen its mate), and copulations may be observed.

This period can last from a few days to two weeks. As soon as egg laying and incubation begins, the nest is considered Stage 1. Prior to this, the nest is referred to as simply “active.”



March 3rd – twig exchange
“active nest”



March 3rd – twig placement in nest

NEST STAGE 1

During this stage, the female is laying eggs. Both adults take turns incubating. Eggs are laid every 2-3 days; incubation begins after the first egg is laid. The most common behavior observed during this stage is a bird laying down on the nest. About once every two hours, the incubating adult will stand and turn the eggs. At intervals of a few to several hours the incubating adult will be relieved by its mate. When this occurs, there is usually interaction between the adults, such as landing calls, stretch displays, and bill dueling. Eggs are incubated for approximately 28 days.



March 6th – Stage 1 – incubation

Based on observed behavior, it was assumed that incubation started between March 4 and March 6.

Assuming 27-28 days of incubation for the first chick, we estimated a hatching date of March 31st.

NEST STAGE 2

Stage 2 covers the period right after hatching. The small, down-covered chicks are often low in the nest and very hard to see. The adult may be brooding the chicks, or may be standing on the nest, sometimes poking in the nest. Chicks are very small and not able to thermoregulate, and are not strong enough to stand or reach up to grab the parent's bill during feedings. This stage lasts for approximately 7 days.



April 6th – Stage 2 – First appearance – 7 days old



April 8 – Stage 2 but not visible, deep in nest,
common for this period – 9 days

NEST STAGE 3

After a week or so, the chicks have developed sufficiently to thermoregulate and are strong enough to stand. They begin to lose their down, which is replaced by juvenal plumage. There is always at least one parent continuously at the nest. Nest relief occurs several times throughout the day and night and is often followed by a feeding. Food is deposited into the nest and chicks eat the food out of the bottom of the cup. Stage 3 lasts approximately 3 weeks, but is variable in length. At this particular nest, parents maintained a continuous presence much longer, extending the duration of Stage 3.



April 19th – Stage 3 – 20 days old



April 20th – Stage 3 – Mate brings stick to nest – 21 days old



April 20th – Stage 3 – 21 days – mate leaves gopher



April 20th – Stage 3 – 21 days – gopher dinner is served



April 21st – Stage 3 – *two* chicks standing – 22 days



April 23st – Stage 3 – 24 days

April 25th –
Stage 3 –
26 days





April 26th – Stage 3 – 27 days



April 26th – Stage 3 – trying wings – 27 days



April 29th – Stage 3 – 30 days



April 29th – Rivals! – 32 days



May 1st – Stage 3 – Grabbing adult's bill – 32 days



May 4th – Stage 3 – 35 days

NEST STAGE 4

At this stage, the chicks are no longer being continuously guarded by a parent, and are left unattended for long periods. This stage may begin at about 4 weeks post-hatch, but this depends upon food resources and predation risk. Adults return to the nest for feedings, and may remain at the nest for a short period after feeding. Chicks can be seen practicing for flight, by walking around the perimeter of the nest flapping their wings. At about seven weeks of age, they add jumping to wing flapping in a kind of 'jumping jack' maneuver. This stage lasts approximately 4 weeks.



May 6th – Stage 4 – alone on nest – 37 days



May 6th – Great Egret displays – herons watch



May 6th – Great Egret grabs stick from nest



May 6th – Young heron threatens egret



May 6th – Heron chick wins and Great Egret leaves



May 11th – Stage 4 – parent & chicks – 42 days – adult remains near nest after a feeding



May 13th – Stage 4 – 44 days



May 16th – Stage 4 with parent – 47 days



May 20th – Stage 4 – 51 days



May 26th – Stage 4 – exercising wings – 57 days



May 29th – Stage 4 – Snowy Egret visits – 60 days



May 31 – Stage 4 – 62 days

NEST STAGE 5

Between 8 – 12 weeks of age, the chicks are taking their first practice flights away from the nest. Once the chicks leave their nest platform, they are considered fledged under the HEP protocol, because it is difficult to assign individual chicks to nests once they are off the nest platform. However, chicks may return to the nest to rest or to be fed by their parents. Chicks can leave the nest for good around 10-12 weeks of age.



May 31st – Stage 5 – Bird OFF platform! – 62 days



June 7th – Stage 5 – 69 days – partially fledged
chicks return to the nest



June 11th – Stage 5 – back on nest to be fed – 73 days



June 11th – Stage 5 – 73 days



June 15th – Stage 5 – 77 days



June 17th – Stage 5 – 79 days



June 17th – Stage 5 – 79 days



June 17th – Stage 5 – one around for lunch – 79 days



June 19th – Stage 5 – Chick tries wings – 81 days



June 21st – Stage 5 – Chicks on nest – 83 days



June 22nd – Adult stranger appears – 84 days



June 22nd – Stage 5 – chick tries to return to nest # 1



June 22nd – Adult heron keeps chick from its nest

June 22nd – 84 days
Stage 5 – Chick in
adjacent tree.

Time to Fledge!



THE END

Photos by Len Nelson & Bob Dyer

Text by Bob Dyer and Sarah Millus

*Technical assistance by John
Kelly, Audubon Canyon Ranch*