

# East Cascades Bird Alliance Bluebird Monitoring & Banding Project

This document is designed to be an introductory instruction manual for volunteers for the East Cascades Bird Alliance bluebird monitoring and banding project. The focus area for this project is a network of 29 bluebird nesting boxes located on Forest Service land near Sisters, between Tumalo Reservoir and Three Creek Butte. The boxes are monitored weekly from May through July each year. Observations are recorded, and when eggs hatch and nestlings reach the right size, they are banded according to federal guidelines. This manual provides step-by-step instructions for monitoring, identifying nests, and assisting with banding efforts.

## Equipment Needed

- Binoculars
- Camera or smartphone
- Water
- Sunscreen
- Sunhat
- Spare nest box parts
- Long pants for bushwhacking
- (Optional) Cornell Lab Ebird app for bird observations

## Monitoring Instructions

1. Plan your route. There are two box routes: one with 15 boxes and another with 14. All boxes are mapped on the Cornell Nestwatch app and marked with brass tags.

2. Approach each box quietly. Pause about 30 feet away to observe bird activity with binoculars.
3. Look for signs of damage or predator activity around the box.
4. Knock before opening the box to alert any adult birds inside.
5. Identify the nest type. Use nest materials and structure to determine species.
6. Record clutch progress (nest building, number of eggs, presence of hatchlings).
7. Take photos of nestlings and share them with the bander to determine timing for banding.

## Nest Types

### Bluebirds

Mountain and Western Bluebirds create cup-shaped nests from grass, pine needles, and juniper bark. Once the nest bottom is formed, the nest is complete and eggs will likely appear by the next weekly check.



Figure 1. Bluebird nest examples

### House Wrens

House Wrens build messy stick nests that often fill the cavity. Males may build several. Sticks may protrude from the entrance hole. Remove these nests if no eggs are present.





Figure 2. House Wren nest examples

### Mountain Chickadees

Chickadees build soft mats of moss and fur with a small cup for eggs. They often use only part of the box.



Figure 3. Mountain Chickadee nest examples

### Swallows

Tree and Barn Swallows create nests similar to bluebirds but lined with feathers, making them easy to identify.





Figure 4. Swallow nest examples

### Chipmunks and Mice

Rodents may use nest boxes, filling them with leaves, fur, or other soft materials. These nests contain no eggs and should be removed.



Figure 5. Rodent nest examples

### Monitoring Clutches of Bluebirds

Bluebirds usually lay one egg per day until reaching a clutch of 4–6 eggs. After an incubation period of 11–14 days, all eggs typically hatch within 1–2 days. The ideal banding window is when nestlings are 8–12 days old. Photograph nestlings each visit to help the bander determine their age.



Reference: North American Bluebird Society Nestling Growth Chart

(<https://www.nabluebirdsociety.org/PDF/EABL%20Nesting%20Growth%20Chart.pdf>)

### Bluebird Eggs

Examples of bluebird clutches at different stages.



Figure 6. Bluebird clutches at different stages

### Bluebird Hatchlings

Examples of newly hatched bluebird nestlings. Interestingly, even though the eggs may be laid over a period of 4-6 days, after the 11-14 day incubation period, all the hatchlings will usually hatch in 1-2 days.

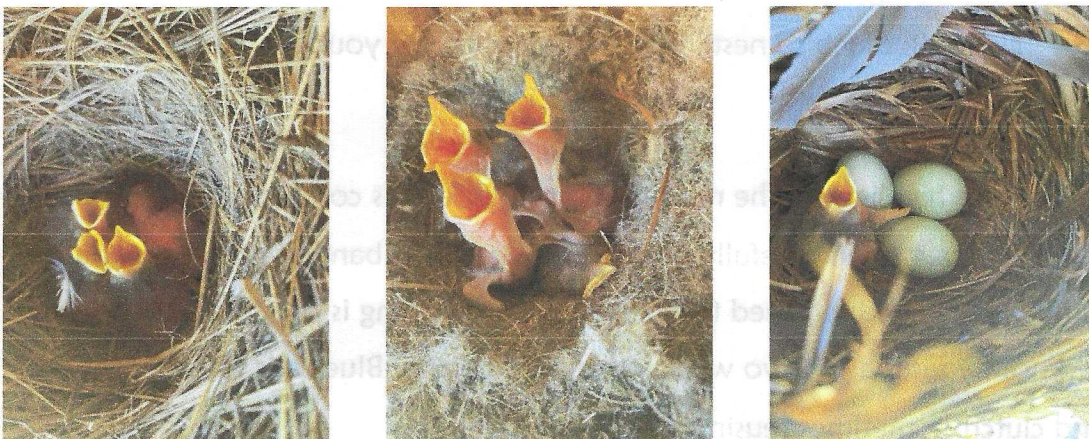




Figure 7. Newly hatched bluebird nestlings

### Nestling Growth Sequence

The following sequence shows bluebird nestling development from youngest to oldest.



Figure 8. Bluebird nestling development from youngest to oldest

### Banding

Banding is the highlight of the monitoring project and is conducted by a licensed bander. Each nestling is carefully placed in a cloth bag, banded with a numbered aluminum band, and returned to the nest. Once banding is complete, the box should not be visited for two weeks to allow fledging. Bluebirds often attempt a second clutch, sometimes reusing nest material.





Figure 9. The banding process

### End of Season

At the end of the monitoring season, note any repairs needed for next year. By the third week of April, clean out all nest boxes in preparation for the next season.

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