

How to Monitor a Bluebird Route

Introduction

Monitoring a bluebird route is key to Prescott's conservation mission. Only monitors can ensure that bluebirds have the best possible breeding conditions. Monitors and banders collect the data that are important to understanding bluebird biology. Take your job seriously! The successful recovery of western bluebirds in the Willamette Valley depends on it.

Before the Breeding Season (March)

Know your bander	Make contact with your bander at the start of the season to develop strategies for improving your route. If you are a new monitor, your bander can help you learn the route and resolve problems that may arise.
Review material	Please review the information in the brochure, <i>Enjoying Bluebirds More</i> that is included in the pocket of this manual.
Collect equipment and forms	See <i>Tools and Terminology</i> for a list of tools and equipment to take into the field each week. Computer-generated forms listing each nest box on each route are printed and distributed to monitors at the spring training session. Each form includes location information and a unique seven-digit number assigned to the nest box (see <i>Route Details</i>). Take these sheets when you check the route and make detailed notes on them about each box.
Check boxes	By April 1 when the breeding season starts, check your route and make sure all the boxes have correct numbers on them, are cleaned out, and in good repair.
Mount new boxes	This is the time to put up new boxes and contact your bander for new box numbers. Always obtain permission from landowners before placing new nest boxes on their property. You may place boxes on any utility pole without special permission (see <i>About Nest Boxes</i>).
Involve homeowners	Contact homeowners with a note or phone call to introduce yourself and let them know you are starting weekly visits. It is not necessary to call each week after making initial contact. Also let homeowners know when bluebirds are using their nest boxes.
Carry outreach materials	Keep some outreach materials on hand when you monitor the route, such as PBRP business cards, newsletters, brochures, and informational materials to give homeowners or other interested parties.

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During the Breeding Season (April 1 to August 15)

You may have heard that if a human touches the nest, eggs, or nestlings, adult birds abandon the nest. This is not true. Songbirds have a poor sense of smell. If you don't lift them off the nest or harass them, bluebirds will tolerate your visits.

Typical tasks

The following are typical tasks each monitor performs each week.

1. Beginning April 1, take your monitoring forms and tools, place your *Bluebird Recovery Project Volunteer* sign in the window or on the dashboard of your car, and drive your route to check each nest box.

NOTE: It is important to monitor boxes weekly. If you are unable to monitor the route for any reason (sickness, vacation, etc.), contact your bander.

2. Leave all gates the way you found them. If a locked gate prevents access, make a note on the monitoring form, and call the homeowner to clarify their wishes.

Review and observe

3. Before approaching a nest box, review your record from the last visit. Observe which species is on or near the nest box (see *Nesting Activity* for identification details).

Approach the box

4. Approach and tap gently on the side of the box to allow any bird resting inside to leave before you open the door. Some monitors recommend talking, whistling, or singing as you approach the box to reduce startling nesting birds.

5. Lift the door slowly and carefully observe the inside of the box.

If nesting material is present:

Identify

1. Are there just a few pieces of grass (bluebird or swallow), sticks (wren), moss and lichens (chickadee), a half-finished nest, or a complete nest?

Check nest with mirror

2. Use a small hand mirror to view the inside of the nest.

NOTE: Resist the temptation to pull down the nest edge and peek in.

3. Make notes of what you find.

If a live bird is present:

Do not disturb

1. Gently close the door and move a few feet away. If the bird remains in the nest box, do not disturb it.

2. Record your observations and continue the route.

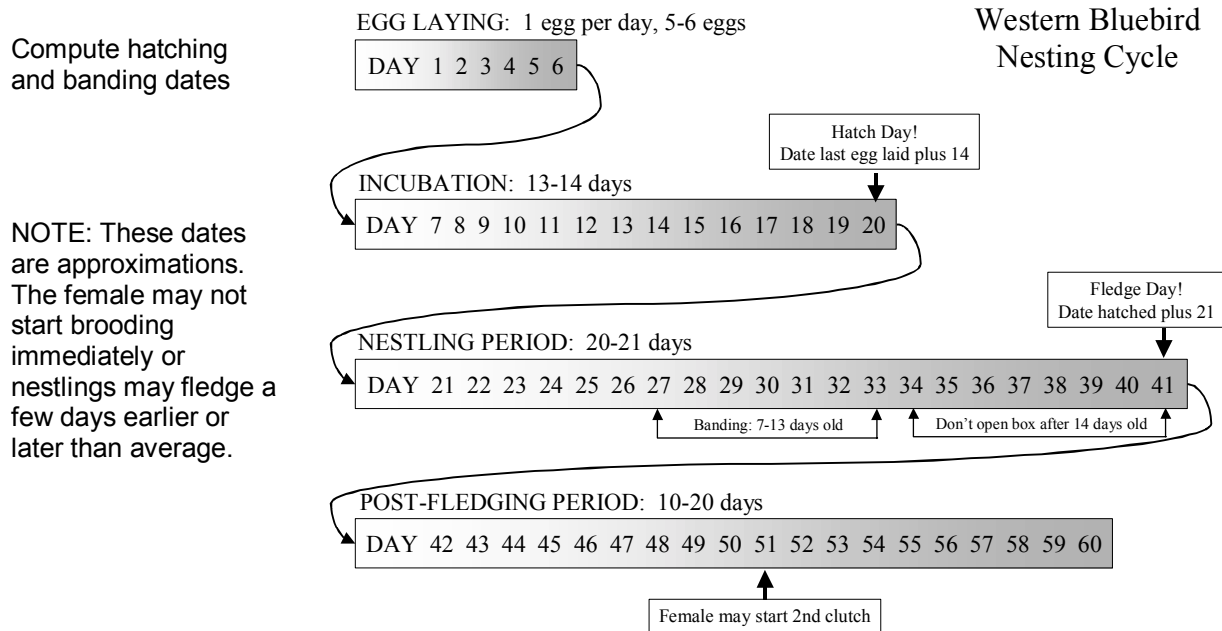
Never lift birds from a nest

NOTE: Never lift or remove a bluebird from the nest. A female may be laying an egg and may abandon the nest completely if disturbed.

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If eggs are present:

- Check temperature
1. Touch the eggs and note if they are warm or cold without disturbing the nest. Warm eggs indicate the female is incubating, cold eggs may indicate she is in the egg-laying phase and has not yet started incubating the clutch (see *Nesting Activity* for details). **NOTE:** If the eggs remain cold at the next visit, the nest may be abandoned and need to be removed. **Consult with your bander before removing any bluebird nest.**
- Note number, color, and species
2. Using a mirror, count the eggs, determine their color, and note this information on the monitoring form. **NOTE:** Bluebirds typically lay five or six pale blue (sometimes white) eggs, one egg per day before starting the brooding cycle. If you are unsure of the species, step at least 30 feet away and observe the adult birds returning to the nest.
- Bluebird eggs? Call bander
3. When you find bluebird eggs, notify your bander to discuss an estimated hatch date and to schedule a projected banding date. The following graphic shows the typical western bluebird nesting cycle.



If sparrow or starling eggs are present:

- Clear the box
1. Carefully check the nest and eggs to be sure they belong to a house sparrow or starling before removing them. Both species have large messy nests.
 2. When sure of the identification, put the nest and eggs in a plastic bag and take them away from the area for disposal.
 3. Call your bander if you need help to trap adult sparrows and starlings and see *Predator and Competitor Control* for more information.

NOTE: Leave all other bird species undisturbed. Only house sparrows and starlings may legally be destroyed because they are non-native invasive species.

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If bluebird nestlings are present:

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| Note temp, number, age, and observe adults | 1. Touch the nestlings to determine if they are warm and dry. Refer to <i>Troubleshooting</i> at the end of this section if the nestlings are cold and unresponsive. |
| | 2. Use your hand mirror to count the nestlings and estimate age (see <i>Nesting Activity</i>). |
| | 3. Observe the adults to be sure both are present and feeding the nestlings. |
| Give worms to bluebirds | 4. Put 10-15 mealworms in a feeding station, such as a plastic lid nailed to the top of the box or on a nearby post. Puncture the lid to allow for good drainage in rainy weather. NOTE: Feeding mealworms at each visit helps the bander to trap adult bluebirds later. See the <i>Supplemental Feeding</i> section for more information about mealworms and Prescott policy. |
| Clean hands and tools | 5. Clean your hands with sanitary wipes or sanitizing liquid between nest boxes to prevent spreading disease from nest to nest. This is an important aspect of monitoring activity. Contact the research coordinator if you have questions. |
| Make notes and call bander | 6. Make careful notes of what you observe and contact your bander to set a date for banding and to discuss any other problems that may arise. Also see “ <i>Troubleshooting</i> ” at the end of this section. |

If other species' nestlings are present:

1. Use your hand mirror to count and estimate age and make careful notes of what you observe.
2. Remove and destroy house sparrow and European starling nests and nestlings (see *Nesting Activity*).
NOTE: Federal law protects chickadees, nuthatches, wrens, woodpeckers, and swallows. Do not interfere with these or other native species.

Banding and Fledging

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| Seven to 13 days old | Prescott banders place leg bands on western bluebirds when the nestlings are in the range of seven to thirteen days old. Your bander also captures the adult birds using a wire trap and live mealworms as bait. Adults are banded if not previously banded and all band numbers are noted in the bander's records. |
| Avoid premature fledging | Never open a nest box where nestlings are 14 days old or older as they may prematurely fledge.

Nestlings fledge at about 21 days and do not return to the nest box. The parents continue to feed them for several weeks after they leave the nest box. |
| Multiple clutches | There may be a second or third clutch by the same bluebird pair in the same nest box. Monitors continue checking each nest box weekly until the last clutch fledges, which may be as late as September 1. |

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If bluebird nestlings have fledged:

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| Examine nest | 1. To determine how many nestlings successfully fledged (three weeks after hatching), remove and examine the used nest. |
| Note dead nestlings | 2. Make careful note of the band numbers of any dead nestlings you find. |
| Clean box | 3. Put the nest in a plastic bag for disposal away from the nest box and scrape out the bottom of the box. |
| Sanitize | 4. Sanitize your hands and the scraper when finished. |
| Report to bander | 5. Report to your bander the band numbers of all dead birds. |

After the Breeding Season

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| Clean boxes | 1. Remove all old nests and put them in a garbage bag for disposal away from the route.
2. Scrape the bottom of the boxes clean and sanitize your scraper after each use. |
| Complete nesting report | 3. Using your PBRP Nest Box Monitoring Forms, complete the Bluebird Nesting Report Form (see <i>Sample Forms</i> for guidelines).
NOTE: When reporting mealworms fed on the Bluebird Nesting Report Form, be sure to write “Yes” only for those clutches given mealworms daily by you or the homeowners. Write “No” if mealworms were offered only once a week when you checked the box.
4. Retain your PBRP Nest Box Monitoring Forms and a copy of the Bluebird Nesting Report Form for your own records. |
| Send report to bander | 5. Send the original of the Bluebird Nesting Report Form to your bander by September 15. |
| Attend fall wrap-up | 6. You are strongly encouraged to attend the short wrap-up meeting held in September to discuss breeding season events, get research updates, and plan for the next year. This is the only time when all Prescott volunteers have a chance to get together. |

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Troubleshooting

This section contains information about how monitors deal with problems that arise during the breeding season. Remember your bander is a great resource. Also refer to the “Bluebird Troubleshooting Chart” in the centerfold area in the brochure, *Enjoying Bluebirds More*, which is included in the pocket of your training manual.

If a live swallow is in an empty nest box:

The depth of bluebird nest boxes and the weakness of swallow feet sometimes create problems, and swallows become trapped and die in empty nest boxes.

1. Leave the door open to allow it to exit. If the swallow seems unable to leave, gently place it on top of the nest box.
2. After the bird leaves, check the inside of the box below the exit hole to see if there are horizontal grooves in the wood. These grooves assist swallows to climb out of the box.
3. If there are no grooves, use a nail to scratch some horizontal lines at half-inch intervals in the wood or consider replacing the box with a new one.

If a dead adult bluebird is in a nest box:

1. Remove the dead bird. You may want to wear disposable rubber gloves.
2. Check for a band and record the full band number, four digits followed by a hyphen and five more digits.
3. Place the bird in a Ziploc bag, label the bag with the date, the box number, and your name, and store it in an ice chest.
4. Contact the research coordinator immediately for possible necropsy. (See *Introduction* for contact information.)
NOTE: We are not conducting necropsies of dead nestlings at this time.

If bluebird eggs are cold:

1. Check your records to identify the nesting stage. One to seven cold eggs in the nest may indicate that brooding has not yet begun. If there are more eggs now than at your last visit, the female may still be in the laying stage.
2. Make a note of the number of eggs on the monitoring form and project the date when brooding may begin.
3. Leave the nest in place, move away from the nest box, and observe any bluebird activity to determine if both adults are present.
4. Make notes of what you see and continue the route. Do not assume that the nest is abandoned if you don't see adults, as they may be off foraging for food or water.

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5. At your next visit if the eggs remain cold, try to determine if the nest is abandoned by looking for adults or any evidence of predation (see *Predator and Competitor Control*).
6. Leave the nest in place and call your bander to discuss what you find.
NOTE: Never remove a bluebird nest without discussing it with your bander.

If prolonged spring weather threatens hatchlings:

Cold rainy spells typical to Oregon springtime make food foraging difficult for adult bluebirds. If the male has difficulty finding enough food, the female may leave the nestlings to help him forage. Nestlings cannot maintain their own body temperatures if they are less than eight days old and become hypothermic if the female stays away too long. They are then unable to respond when an adult returns with food. You may have to warm and feed the nestlings to keep them alive.

1. Put out mealworms for the adults and observe their reactions.
2. If the adults eat instead of feeding the nestlings and the nestlings are noisy and responsive, try feeding them directly using a pair of tweezers. Be sure to squeeze each mealworm to soften it and then drop the worm into each nestling's beak.
3. After feeding a couple worms to each nestling, leave more in the feeding station and let the adults take over.
4. If the nestlings are sluggish or cold to the touch, remove them from the box, hold them in your hands or place them in a clean paper towel inside a wool hat, and warm them in your car. You can blow on them or hold them inside your shirt until they revive and are ready to take worms.

NOTE: Always soften a mealworm before feeding a young bird by squeezing the worm or pinching off the head, making it easier to consume and digest.

If adult bluebird(s) are missing and nestlings are present:

1. Observe the nesting site to determine whether the adults are temporarily away or if one of them has disappeared. It is possible for a single adult to feed and fledge nestlings successfully later in the season when the weather is warm and insects plentiful.
2. Approach the box carefully and examine the ground in the vicinity to determine if predation has occurred. Look for feathers, scratches on the box, a tilted or open box, etc. Gather any evidence you find and place it in a plastic bag.
3. Open the box and use your mirror to check and count the nestlings.
4. Feel the nestlings to determine if they are warm/cold, wet/dry.

If bluebird nestlings are cold or wet:

1. Carefully remove the cold birds and determine if they are alive or dead by observing a heartbeat or any small movements.

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2. Place dead birds in a garbage bag for disposal away from the site.
3. Place the live birds in a clean dry nest if you have one or make a temporary nest with paper towels and place it with the birds inside a wool hat.
4. Breathe warm air on the nestlings and hold them close to your body to revive them while watching for the adults to return to the nest box.
 - If the adult birds are present and the nestlings are lively, check that the nest is dry before placing them back in the nest box.
 - If the nest is wet, remove the old nest from the box, put a new, dry nest in it, and place the birds in the nest. The adults will continue to feed the nestlings.
5. To assist the adults through cold spring nights, place a hand warmer under or next to the nest, wedging it between the nest and box bottom and sidewall. Be sure it does not directly touch the nestlings.

If bluebird nestlings are dead:

1. Double check that no birds are still alive and only then, remove the nest from the box with the dead birds in it.
NOTE: We are not conducting necropsies of dead nestlings at this time.
2. Make a note of the failed nest and the number of dead birds on your monitoring form.
3. Check if the nestlings were banded and make careful note of the band numbers.
4. Place the nest and dead birds in a garbage bag for disposal away from the site.
5. Scrape out the nest box, sanitize the scraper, and try to determine why the nest failed (see *Predator and Competitor Control*). Watch for the adult birds. They may be present and try again in the clean box or they may have abandoned the location for some unknown reason.
6. Inspect the box for damage, look for evidence of predation in the vicinity, and make notes of what you find.
7. Report the failed nest, all band numbers, and other evidence to your bander.
8. Discuss options with your bander, such as placement of a predator guard on the box if you suspect predation or removal and relocation of the nest box if the adult birds are not present.