

# MERRIT BLUEBIRD NEST BOX MONITORING PROJECT

## The story so far

In the 1990s, Al Serfas, a school teacher from Vancouver, started putting up nest boxes in the Merritt area in order to assist bluebirds. A definite passion project, it grew to over 400 boxes and helped thousands of birds over the years.

Unfortunately, it became so large that Al was unable to manage the boxes or monitor the bluebirds and so in 2018, we at VARC stepped in to manage the program and establish the following goals.

- Establish a solid net box check protocol
- Collect accurate data
- Engage the local community
- Commence a banding program (2019)
- Provide feedback to all stakeholders
- Expand to include Geolocator / RFID

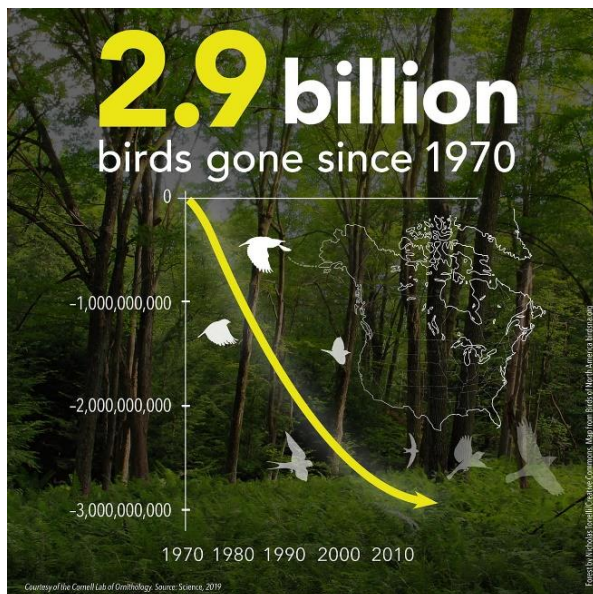


We have divided the boxes into 20 different routes and we have volunteers from the Merritt area that monitor the boxes every 10 days throughout the summer.

As the nestlings get to between 10-20 days old we put bands on them. Each year we use a different color so that we can identify returning birds even without recapturing them.

The following overview of results is not intended to be scientific or to draw any specific conclusions. It is being made available to keep the Merritt Community up to date with our results.

## Why do bluebirds need help?



Birds all over the world are in trouble, primarily because of human activities. In North America we have lost 2.9 billion birds since 1970 and, as that trend continues it becomes unsustainable.

Bluebirds are no exception and, in fact, fall into the category of birds that have experienced precipitous declines. Those birds are called insectivores because they rely on insects for their diet.

Increased farming/urbanization that includes the removal of trees and introduction of pesticides are the main reasons for this decline.

On top of that, free roaming cats and birds hitting our windows have contributed significantly to the decline of all our species.

- Increased farming/urbanization
- Lack of natural tree cavities
- Increased use of pesticides
- Free roaming cats (27 million birds lost each day in NA)
- Window strikes ( 1 billion birds each year in NA)
- Nest box competitors (House Sparrows / European Starlings / House Wrens)

While the introduction of bird boxes cannot solve all these problems, it at least provides more breeding opportunities to assist the species in maintaining adequate numbers to survive.

### **Merritt Project**

When we took over the project in 2018 there were 377 boxes. Some were dilapidated and some were not ideally located so we reduced that number in 2019 and then started rebuilding with new boxes and specific locations.

### **Monitoring – 2018 to 2022**

<b>Year</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>	<b>2021</b>	<b>2022</b>
<b># boxes</b>	377	243	306	433	460

All our boxes are GPS located and by plotting them on a map and monitoring their results, we have been able to identify the best locations and positioning of the boxes. For example, the ideal placement of bluebird boxes in 300 meters apart. If, however, we put boxes in pairs ( 5'-10' apart) one will be used by a bluebird and the other by a different species.

## Western Bluebird – 2018 to 2022

Year	WEBL 2018	WEBL 2019	WEBL 2020	WEBL 2021	WEBL 2022
Total # boxes used	7	8	5	6	10
% of total boxes	1.90%	3.42%	1.63%	1.39%	2.17%
# of birds fledged	9	36	19	23	29
# banded		17	20	23	19

Western Bluebirds are not as numerous as Mountain Bluebirds in the Merritt area as they are at the extreme of their range. They do, however, also benefit from the nest boxes and we do include them in our banding program.





## Mountain Bluebird – 2018 to 2022

Year	MOBL 2018	MOBL 2019	MOBL 2020	MOBL 2021	MOBL 2022
Total # boxes used	46	42	55	102	102
% of total boxes	12.20%	17.95%	17.97%	23.56%	22.17%
# of birds fledged	65	114	142	326	383
# banded		96	146	329	351

NOTE: The improvement between 2018 and 2019 numbers for both species was more a result of improved monitoring by our volunteers. Obviously 2018 was our first year and was somewhat a test year to get our processes and protocols up to speed.

### Overview of Western Bluebirds

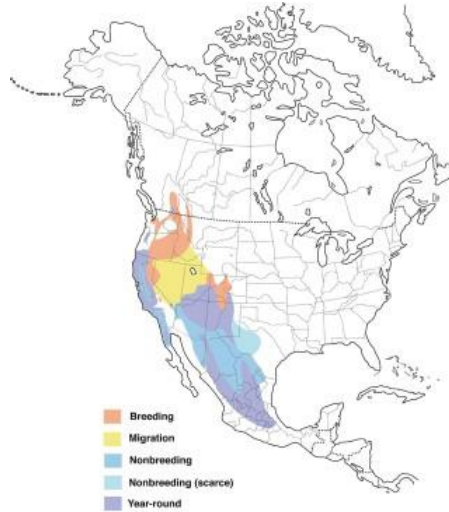
- Small thrushes
- Open woodlands /edge habitat
- Insectivores (summer)
- Omnivores (winter)
- Serious declines in Pacific NW & BC
- Efforts to re-establish populations
- Nest boxes



# Species Profile – Western Bluebird

## ✚ Range Map

- Resident / Medium-distance migrants
- Some year-round further south
- Some altitudinal migrants
- Often diurnal migrants



- Cavity nesters
- Holes in trees / nest boxes
- Socially monogamous
- Both care for young
- Seek mating outside pair bond
- Offspring often not related to male
- Clutch size – 2-8 eggs
- Broods – 1-3
- Incubation – 12-17 days
- Nestling period – 18-25 days



## Overview of Mountain Bluebirds

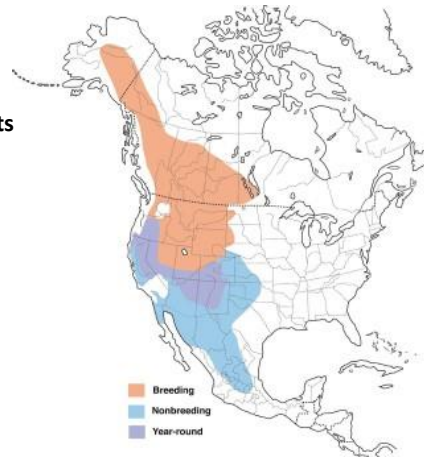
- Also small thrushes
- Open woodlands /edge habitat
- Insectivores (summer)
- Omnivores (winter)
- Travel in flocks – winter
- Aerial insectivores
- Often hover above ground
- Highly aggressive



## Species Profile – Mountain Bluebird

### Range Map

- Resident / Medium-distance migrants
- Most migratory Bluebird
- Some year-round further south
- Some altitudinal migrants
- Also often diurnal migrants



### Nesting behaviour

- Cavity nesters
- Holes in trees / nest boxes
- Also cliffs / buildings
- Female selects site / builds nest
- Both care for young
- Clutch size – 4-8 eggs
- Broods – 1-2
- Incubation – 13-17 days
- Nestling period – 18-21 days

