

Calvert Bluebird Council Nest Monitoring

2022 Annual Report

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Purpose and Objectives

The Calvert Bluebird Council, a volunteer research opportunity led by Calvert Nature Society and Calvert County Natural Resources Division, oversees the monitoring of 24 official trails with 423 boxes throughout the County. Trails have between 10-30 bluebird nest boxes, which are monitored weekly between late March/early April through August or September. The collected data are submitted at the end of the season. The data are then compiled and submitted to the MD Bluebird Society to aid in ongoing population studies across MD and the US.

Annual summaries are posted on the Calvert Nature Society web page:

https://www.calvertparks.org/bluebird_project.html

SKILLS NEEDED

- Ability to drive to assigned bluebird trail
- Ability to walk through fields, sometimes with high grasses
- Ability to carry and use a screwdriver and other small tools
- Ability to accurately record data on a standard form, primarily for nest starts, number of eggs laid, number of eggs hatched and the number of young fledged.
- Ability to use a cell phone camera
- Ability to clean out nesting materials after each successful fledging, or unsuccessful nesting. A paint scraper and old toothbrush are useful for this task
- Ability and willingness to submit the recorded data at the end of the season

VOLUNTEER DUTIES AND EXPECTATIONS

- Most trails require walking, carrying a notebook and small toolkit
- Some trails may have high grass as the season wears on, exposing monitors to ticks, chiggers and other biting insects, poison ivy and thorny plants
- In the Spring, an initial check of the boxes should be made to assess any damages over winter and clean out any late or winter nesting materials. Rubbing Ivory soap or a thin layer of Vaseline on the ceiling and top 1" of the interior walls will help deter wasps
- Boxes should be cleaned of any nesting materials at the end of the season. A paint scraper and old toothbrush are useful for this task
- Although most boxes have predator guards, snakes are occasionally found in or near a box. A small snake hook is useful to have in the toolkit
- Boxes and posts will wear out over time. Monitors may report any needs to the Trail Lead or Project Manager to obtain replacements as needed. Monitors may replace the items themselves or ask for assistance.
- While most species of birds are acceptable in bluebird houses, and indeed not allowed to be disturbed, House Sparrows are an exception. Monitors should learn to identify these nests and eggs and take

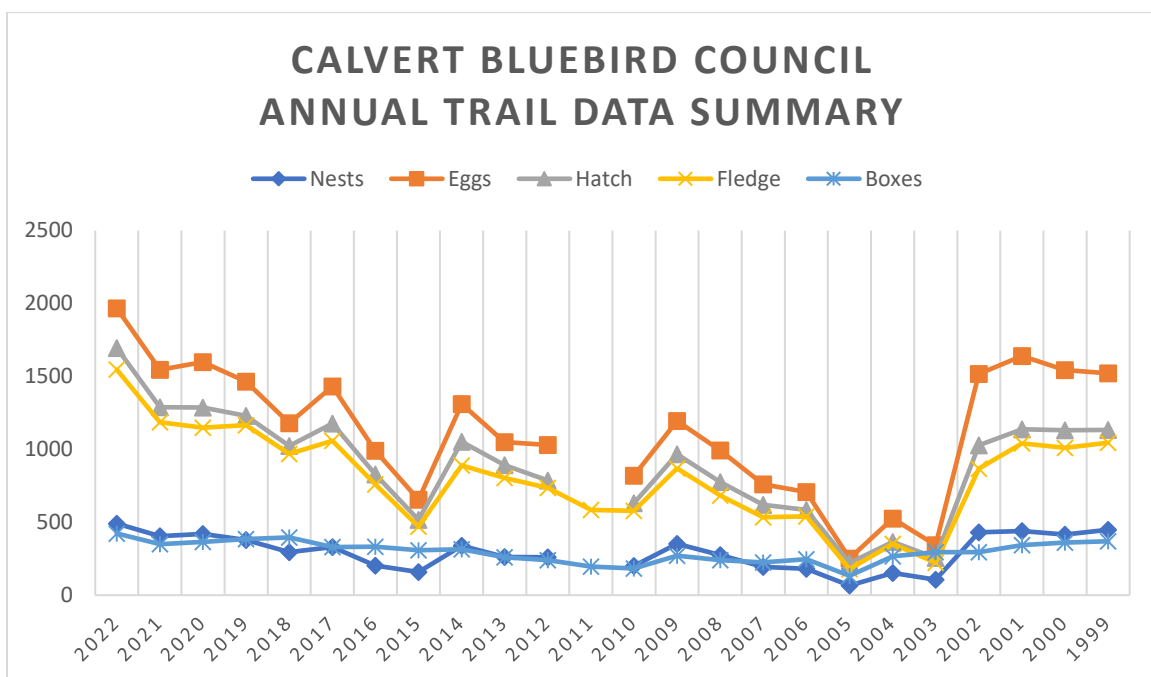
appropriate steps to help reduce these populations.

- Besides monitoring, there is occasional need to install new trails. This includes digging post holes, setting 8' 4x4 posts, and attaching predator guards and the nest boxes to the posts.
- It can often be helpful to take a quick cell phone photo of eggs and hatchlings to confirm counts later (e.g., if an egg or brood disappears, or something doesn't look right later in the record. A couple of photos also helps in counting young.)
- Volunteers are expected to enter their monitoring hours into the Calvert Stewards Portal

TRAINING AND QUALIFICATIONS

- Volunteers are trained on site, provided with a map of the trail, blank CBC monitoring forms, and the NABS Factsheet "Monitoring Bluebird Nestboxes"
- Volunteers are provided with instructions for logging hours into the Calvert Galaxy Digital Portal

SUMMARY OF 2022 ACTIVITIES



- Due to some shifting among trail monitors we added four new monitors in 2022. Maggie Silverman began monitoring the Mellomar Golf Park Trail; Kathy Earl monitored Keim; Tonyia Johnson covered the Dog Park/Horse Trail portion of Biscoe Gray; Belinda Black took over the north side (14 boxes) at Biscoe Gray and Mary Hollinger took the 11 boxes on the south side; Shelley Packard checked the boxes at Barstow Elementary with her daughter Elizabeth Kohl; Joanne and Craig Simmons took over the Gatewood trail; Saroja Raman became the monitor for the new trail at Hallowing Point Park.
- Once again, we lost the monitor at Keim due to the high grass at the property. Mary Hollinger picked it up and set up a meeting with Joyce Baki (Calvert Nature Society, President) to work out a schedule to mow the edges which has relieved much of the problem.
- We currently have 21 monitors assigned to 24 existing trails. These monitors often include their spouses, friends and other family members in their duties.
- At the request of the Park Manager, a trail was reestablished at Hallowing Point Park. 12 boxes were placed in locations around the park. Discreet locations were chosen in hopes of making boxes less visible

and prone to vandalism, a problem that plagued the trail that previously existed in that location. Additionally, interpretive signs were placed on the boxes to note the purpose of the program and penalties for tampering with boxes. Similar to the Industrial Park, which this site is adjacent to, the two-holed boxes were used.

- The signs developed for Hallowing Point Park were also printed for, and installed on several other public trails, including: Mellomar, Chesapeake Hills, Biscoe-Gray, Gatewood and Freedom Hill Horse Rescue.
- The Freedom Hill Horse Rescue property was put up for sale and it was not known if the Rescue operation, or the bluebird trail would remain. Happily, both were accepted, and that bluebird trail remains.
- The sale of Trentman's Farm was withdrawn over the winter, and that trail also remained viable.
- Of the 24 trails, all were monitored, for a total of 423 boxes - up from the 350 reported on last year.
- Due to ongoing battles with House Sparrows on a number of trails, we began experimenting with a new box design. Based on those developed by Marcia van Horn these boxes are slightly larger and have two entrance/exit holes. The design was modified slightly to work on our 4x4 posts and to closer mimic the existing box design. The idea behind these boxes is to give bluebirds an exit option if a house sparrow comes in. When out in the open, bluebirds have a much better chance of defeating the sparrow. The larger size of these boxes also helps reduce heat buildup in the summer and gives the fledglings more "elbow room" as they develop.
- Two-holed boxes were installed at the Calvert Industrial Park, Chesapeake Hills Golf Club, Freedom Hill Horse Rescue and Mellomar, and exclusively at Hallowing Point Park.
- Extensive trail maintenance was done at Jefferson Patterson, replacing old boxes, posts and guards, moving some boxes and reestablishing a few missing ones. Over the current off-season, JPPM has taken all of the boxes in to assess and refurbish as needed.
- Ward Park is back up to 23 boxes, having replaced 3 of the 5 that were removed during construction.
- For the second year, Annmarie Gardens invited us to set up a bluebird display at the Insectival festival to highlight the purpose of the bluebird trail reinstalled there in 2021.

2022 Analysis

- Total number of chicks fledged was 1547, a new record. This number broke previous record for number of fledges by more than 30% even though the number of boxes was up only 21%. This could mean that site selection for box placement is very good.
- The assumption that box placement is good is also supported by the fact that we are seeing a slightly higher percentage of use.
- Average eggs per nest was up 4.7% (4.0 from 3.82) reflecting fewer nest abandonments.
- The hatch rate increased by 3.6% (83-86%) indicating less egg loss. Most common egg loss is due to House Sparrows.
- The fledge rate remained the same at 91.5% which is exceptional. This indicates low predation, which could be indicative that the box guards are working.
- Nests per box is unchanged but fledge per nest and fledge per box were up 7.9%, again reflecting lower loss of nestlings from predation.
- The ratio of fledged chicks per box reached 3.65 the highest recorded since the project began in 1988.

2022 was a great year for Bluebirds in Calvert County.

FUTURE PLANS

- We anticipate the need for additional monitors in the upcoming season. Currently we have four individuals who have submitted volunteer requests. Jan Hurst and Dave Ekington have moved, leaving the Freedom Hill Trail open. Katelin Wells will need a replacement at Perigeax Vineyards. After monitoring the Fairgrounds for many years, Art Wittig passed away in December. Lori Sampson would like to take over that trail, and Mary Hollinger will assume the Industrial Park from her, to continue the battle against House Sparrows there.
- The owner of Spring Hill Farms, in Huntingtown, has been interested in establishing a bluebird trail there. The property has been surveyed and a trail of 18 potential boxes plotted out. Installation planned for the Spring of 2023.
- A source for predator guard materials still needs to be figured out.
- Efforts to build new houses and predator guards is ongoing.

**Calvert Bluebird Council
2022 Nest Box Data by Trail**

| TRAIL | ACLT | AMG | BISCOE GRAY/DOG PARK | CALVERT CO INDUST PARK | CHES HILLS GOLF COURSE | FAIR GROUNDS | GATEWOOD | JPPM | KINGS LANDING PARK | POPLARS FARM | MELLOMAR | RANDALL CLIFFS | | |
|--------------------------------|-------------|----------------|---|------------------------|--------------------------------------|--------------|------------------------|-------------------|--------------------------------|------------------|------------------|----------------|--|------------------------|
| VOLUNTEER | Sandy Foley | Kirsten Jabara | Belinda Black/Tonyia Johnson/Mary Hollinger | Lori Sampson | Janet Stewart/Joanne & Craig Simmons | Art Wittig | Joanne & Craig Simmons | Lindsay Hollister | Karen Anderson/ Mike Carpenter | Carolyn Anderson | Maggie Silverman | Alisha Sutton | | 2022 subtotal s |
| NESTS 2022 | 17 | 11 | 40 | 31 | 61 | 13 | 23 | 51 | 35 | 19 | 21 | 15 | | Nests 337 |
| Nest 2021 | 12 | 1 | 27 | 28 | 60 | 19 | 20 | 42 | 34 | 20 | 12 | --- | | |
| EGGS 2022 | 82 | 55 | 172 | 105 | 267 | 50 | 78 | 199 | 131 | 54 | 91 | 67 | | Eggs 1351 |
| Eggs 2021 | 51 | 4 | 100 | 98 | 264 | 63 | 59 | 168 | 132 | 68 | 31 | 71 | | |
| HATCH 2022 | 82 | 50 | 145 | 102 | 224 | 37 | 64 | 168 | 112 | 53 | 80 | 62 | | Hatch 1179 |
| Hatch 2021 | 41 | 3 | 86 | 97 | 206 | 53 | 39 | 119 | 112 | 64 | 30 | 62 | | |
| FLEDGE 2022 | 77 | 50 | 127 | 82 | 221 | 31 | 61 | 133 | 94 | 53 | 79 | 57 | | Fledge 1065 |
| Fledge 2021 | 27 | 3 | 82 | 95 | 194 | 47 | 28 | 93 | 95 | 58 | 30 | 61 | | |
| # BOXES | 22 | 11 | 32 | 25 | 27 | 14 | 16 | 34 | 24 | 13 | 32 | 22 | | Boxes 272 |
| FLEDGLINGS per BOX 2022 | 3.50 | 4.55 | 3.97 | 3.28 | 8.19 | 2.21 | 3.81 | 3.91 | 3.92 | 4.08 | 2.47 | 2.59 | | |
| F/B 2021 | 1.23 | 0.27 | 2.56 | 3.80 | 7.19 | 3.36 | 1.75 | 2.82 | 3.96 | 2.15 | 0.94 | 2.77 | | |
| NESTS/BOX 2022 | 0.77 | 1.00 | 1.25 | 1.24 | 2.26 | 0.93 | 1.44 | 1.50 | 1.46 | 1.46 | 0.66 | 0.68 | | |
| N/B 2021 | 0.55 | 0.09 | 0.84 | 1.12 | 2.22 | 1.36 | 1.25 | 1.27 | 1.42 | 0.74 | 0.38 | #VALUE! | | |

| TRAIL | WARD PARK | BARSTOW ES | CALVERTON | NORTHERN MS | HALLOWING PT PARK | BUENA VISTA | COVE PT NHT | FREEDOM HILL HORSE RESCUE | KEIM FOREST | PERIGEAX | TRENTMAN FARMS | TURNER ROAD | | |
|--------------------------------|------------------------|----------------------------|-----------------------|----------------|-------------------|---------------|-------------|---------------------------|---------------------------|---------------|----------------|-------------|---------|------------------------|
| VOLUNTEER | Alan & Regan Christian | Shelly Packard/ Betsy Kohl | Karen & Rick Moreland | Melody Galarza | Saroja Ramen | Dale Hutchins | Bob Boxwell | Janet Hurst | Kathy Earl/Mary Hollinger | Katelin Wells | Mary Hollinger | Bob Boxwell | | 2022 subtotal s |
| NESTS 2022 | 28 | 11 | 19 | 6 | 0 | 15 | 19 | 7 | 9 | 15 | 15 | 16 | 491 | Nests 154 |
| Nest 2021 | 20 | --- | 20 | 11 | --- | 23 | 8 | 11 | 6 | --- | 11 | 24 | 404 | |
| EGGS 2022 | 116 | 33 | 85 | 29 | 0 | 76 | 46 | 35 | 27 | 34 | 63 | 72 | 1967 | Eggs 616 |
| Eggs 2021 | 88 | --- | 88 | 38 | --- | 79 | 31 | 39 | 24 | --- | 45 | 94 | 1545 | |
| HATCH 2022 | 114 | 25 | 78 | 24 | 0 | 55 | 45 | 27 | 23 | 10 | 50 | 65 | 1695 | Hatch 516 |
| Hatch 2021 | 88 | --- | 72 | 33 | --- | 68 | 20 | 21 | 23 | --- | 43 | 79 | 1288 | |
| FLEDGE 2022 | 109 | 25 | 75 | 24 | 0 | 50 | 45 | 18 | 22 | 10 | 46 | 58 | 1547 | Fledge 482 |
| Fledge 2021 | 87 | --- | 71 | 28 | --- | 62 | 20 | 21 | 20 | --- | 43 | 76 | 1185 | |
| # BOXES | 23 | 9 | 20 | 5 | 12 | 12 | 13 | 10 | 8 | 11 | 15 | 13 | 423/350 | Boxes 151 |
| FLEDGLINGS per BOX 2022 | 4.74 | 2.78 | 3.75 | 4.80 | 0.00 | 4.17 | 3.46 | 1.80 | 2.75 | 0.91 | 3.07 | 4.46 | 3.66 | |
| F/B 2021 | 4.35 | 0.00 | 3.55 | 5.60 | --- | 5.17 | 1.82 | 2.10 | 2.50 | --- | 2.87 | 5.85 | 3.39 | |
| NESTS/BOX 2022 | 1.22 | 1.22 | 0.95 | 1.20 | 0.00 | 1.25 | 1.46 | 0.70 | 1.13 | 0.82 | 1.00 | 1.23 | 1.16 | |
| N/B 2021 | 1.00 | 0.00 | 1.00 | 2.20 | --- | 1.92 | 0.73 | 1.10 | 0.75 | --- | 0.73 | 1.85 | 1.15 | |

| | 2018 Totals | 2019 Totals | 2020 Totals | 2021 Totals | 2022 Totals |
|----------------|-------------|-------------|-------------|-------------|-------------|
| Nests | 296 | 378 | 420 | 404 | 491 |
| Eggs | 1180 | 1464 | 1599 | 1545 | 1967 |
| Hatch | 1024 | 1230 | 1287 | 1288 | 1695 |
| Fledge | 969 | 1167 | 1149 | 1185 | 1547 |
| Boxes * | 396 | 386 | 366 | 350 | 423 |

* +65 not report * +32 not reported

| | Boxes | Nests | Eggs | Hatchlings | Fledglings | Fledglings/Box | Nests/Box |
|------|-------|-------|------|------------|------------|----------------|-----------|
| 2022 | 423 | 491 | 1967 | 1695 | 1547 | 3.657 | 1.161 |
| 2021 | 350 | 404 | 1545 | 1288 | 1185 | 3.386 | 1.154 |
| 2020 | 345 | 410 | 1551 | 1253 | 1128 | 3.270 | 1.188 |
| 2019 | 386 | 378 | 1464 | 1230 | 1167 | 3.023 | 0.979 |
| 2018 | 396 | 296 | 1180 | 1024 | 969 | 2.447 | 0.747 |
| 2017 | 331 | 330 | 1432 | 1177 | 1058 | 3.196 | 0.997 |
| 2016 | 332 | 202 | 991 | 829 | 761 | 2.292 | 0.608 |
| 2015 | 309 | 158 | 654 | 517 | 471 | 1.524 | 0.511 |
| 2014 | 314 | 340 | 1312 | 1053 | 889 | 2.831 | 1.083 |
| 2013 | 260 | 262 | 1050 | 891 | 805 | 3.096 | 1.008 |
| 2012 | 241 | 259 | 1030 | 787 | 736 | 3.054 | 1.075 |
| 2011 | 196 | --- | --- | --- | --- | --- | --- |
| 2010 | 183 | 201 | 819 | 631 | 595 | 2.985 | 1.098 |
| 2009 | 271 | 351 | 1194 | 967 | 869 | 3.207 | 1.295 |
| 2008 | 240 | 276 | 992 | 775 | 684 | 2.850 | 1.150 |
| 2007 | 225 | 195 | 761 | 619 | 534 | 2.373 | 0.867 |
| 2006 | 246 | 181 | 707 | 584 | 540 | 2.195 | 0.736 |
| 2005 | 133 | 66 | 252 | 221 | 179 | 1.346 | 0.496 |
| 2004 | 266 | 153 | 525 | 365 | 352 | 1.323 | 0.575 |
| 2003 | 294 | 107 | 343 | 255 | 223 | 0.759 | 0.364 |
| 2002 | 294 | 432 | 1518 | 1027 | 867 | 2.949 | 1.469 |
| 2001 | 343 | 439 | 1641 | 1138 | 1041 | 3.035 | 1.280 |
| 2000 | 360 | 416 | 1544 | 1132 | 1010 | 2.806 | 1.156 |
| 1999 | 369 | 449 | 1521 | 1133 | 1045 | 2.832 | 1.217 |

Supporting Calvert County's nature parks and natural spaces



CALVERT STEWARDS

VOLUNTEER PROGRAM

A partnership between Calvert Nature Society and Calvert County Natural Resources Division

2022 Annual Report

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CALVERT STEWARDS VOLUNTEER PROGRAM
c/o Natural Resources Division
2880 Grays Road
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Volunteer Portal: <https://calvertstewards.galaxydigital.com/>

Calvert Nature Society: www.calvertparks.org

Calvert County Natural Resources Division:
www.calvertcountymd.gov/NaturalResources

