

Bluebird Habitat Selection in a Rural Setting

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Eastern Bluebirds and Purple Martins have nested on my property since the early 1980s. When I retired in 2000 I trained under wildlife biologist Allen Jackson from Millville, New Jersey to band these two species. Since then I have banded over 740 bluebirds and 6700 martins. Over the years of banding young bluebirds, I have made some interesting observations on fledging success as it relates to habitat selection in a rural setting.

My friend Ed Sheppard and I monitor a very successful bluebird trail with nestboxes located in or just outside the township of Greenwich, Cumberland County, New Jersey. Greenwich Township (www.historicgreenwichnj.org) is a rural, agricultural area of approximately 19 square miles which is bounded on the south by the Cohansey River, on the west by the Delaware Bay, and on the north by Stow Creek. The township has many acres of salt marsh as well as freshwater streams and ponds. We are somewhat unique for a New Jersey Township in that we have no housing developments and no industrial facilities. Agricultural practices here can be broken down into grain farming and/or nursery farming. This environment presents ideal habitat for many species of birds and other wildlife.

When you look at the number of young bluebirds fledged in this area during the 2012 season, it becomes obvious that the habitat is ideal for Eastern Bluebirds. A total of 59 nestboxes were monitored in 2012 with 326 bluebirds fledged (banded) for an average (fledged/available nest boxes) of 5.53 per nest box. Even more impressive is the number fledged on the largest trail located on three nursery farms. On these three farms, 29 nest boxes fledged 193 young for an average of 6.66 per box.

In trying to analyze the 2012 numbers to see what appears to work and what doesn't, I started by separating the locations into three general categories: Nursery Farms, Grain Farms, and Individual "Backyards." I then looked at each of these three categories in more detail.

Nurseries have been our most productive locations for fledging young bluebirds (6.66/box). Rivendell Nursery (www.rivendellnursery.com), owned by Ted Kiefer, has been an excellent site for bluebird production. These nurseries consist of plantings of shrubbery and trees in large blocks with access lanes

running throughout. Many of the shrubs and trees flower in the spring, attracting insects which provide food for the birds. In the fall many produce berries that also provide food during late fall and winter. Examples of these plants are crabapple, hawthorn, dogwood, and holly.

In addition the rows of nursery stock are irrigated with drip irrigation, keeping the soil moist during summer drought, which appears to attract crawling insects and worms, again providing a source of food. Another important factor is that the height of plants in the nursery ranges from 2 feet for small evergreens up to 10–12 feet for shade and ornamental trees. This allows us to locate the nestboxes so that they cannot be easily seen from each other. The Google Earth image below shows one of the nurseries. The yellow dots exemplify the box location pattern we use.



With this type of block layout we locate nestboxes on alternating sides of the blocks to give each nesting pair the territory they require. For example, we can place a box on the front corner of the first block then jump over to the next road and place a box on the back corner of that or the next block. On this particular farm the blocks range from 180 to 220 yards long and from 100 to 150 yards wide.

Grain farms have proven to be much less productive than the other two categories. The largest trail is on

a grain farm of about 100 acres devoted to growing soybeans, wheat, and/or corn. Based on the nature of grain farming (large contiguous acres with no lanes) it is necessary to locate nestboxes along or at the end of hedgerows or in water drainage contours (when available). Hedgerows present a significant problem with competitors, primarily House Sparrows. The sparrows seem to thrive in this environment of grain fields and hedgerows of brush. These areas also provide cover for predators that discover the nestbox location. The drainage contours are a better location but keeping the surrounding grassy areas mowed is not always easy. When corn is grown it appears that bluebirds do not accept houses as readily as when wheat or soybeans are grown. This may be due to the height of the corn and less visibility of the surrounding area from the nestbox. On grain farms we averaged only 2.85 bluebirds fledged per box.

The remaining category, Individual Backyards, have also been productive. These locations may consist of a single box or up to 3–4 boxes for larger properties. In all cases these boxes are monitored religiously by the home owners, and competitors and predators are very well controlled. The individuals keep their nestboxes in good repair and regularly mow the surrounding area. Most “backyards” in our trail tend to be large because of building code requirements and the agricultural nature of the entire township. Statistics for 2012 indicate that the average for this category was 5.64 per nest box.

In each of these three categories the houses were all NABS-style boxes and mounting poles were provided with predator guards, most of which are 4-inch PVC pipe. All nestboxes had either hinged sides or tops for easy access and all nests were removed after the young had fledged.

To have a successful bluebird trail with good fledging rates, location is an extremely important factor. In the area where I live there are many wild plants to provide berries in the winter, but the concentration of cultivated berry-producing plants in a nursery appears to be a strong attractant. My experience with grain farms indicates that you can have a successful bluebird trail but much effort is required to control competitors and predators. Mentoring of home owners by providing guidance on proper nestbox design and location along with information on bluebird habits and needs can also produce very good fledging rates.

As a side note, I found it interesting that two



Nest in my yard with a clutch of six white eggs.



A 13-day-old with its new federal band ready to go back into the nestbox.

nestboxes (one on Rivendell Nursery, one in my backyard) have hatched white bluebird eggs for two years in a row. This may be an indication of nestbox fidelity in bluebirds (although I can't verify that the same hen has laid in both years).

Ken Glaspey retired from the DuPont Company in 2000 where he was a Research Manager in Information Science. He is licensed to band Eastern Bluebirds and Purple Martins and has had both species on his property since the early 1980s. He is a member of NABS, New Jersey Bluebird Society, N.J. Audubon, and the National Wildlife Federation. In addition to birding his hobbies include fishing, gardening, and photography.

