



THE RATIONALE FOR BITTNER BLUEBIRD BOX DESIGNS (Begun in 1986).

- * **TWO ENTRANCES** --- This trait was based on the idea that bluebirds might prefer a more open box because they do not always nest in a cavity. Mountain Bluebirds have occasionally nested in locations such as a shelf on the inside of a farm building with an open door or window.
- * **SLOPING AND/OR HIDDEN ENTRANCES** --- This trait was based on the idea that bluebirds might accept or prefer such entrances, while swallows might shun them. Mountain Bluebirds have nested in locations where they had to approach the nest from below--for example, a horizontal pipe with a hole in the bottom which was part of a farm implement. Swallows like to sit in the entrance and watch the sky, which is difficult with a hidden entrance. In addition, raccoons are deterred by the slope and long reach down to a nest.

HOW DO THE RESULTS FIT THE RATIONALE?

- * **TWO ENTRANCES** --- My bluebirds prefer the two-entrance 'bluebird boxes' over raccoon-proofed standard boxes such as that shown on page 1. However, no testing has been done to show whether it is the double entrances or some other factor which attracts the bluebirds.
- * **SLOPING AND/OR HIDDEN ENTRANCES** --- While bluebirds accept these entrances, swallows much prefer the design shown on page 1. Raccoon predation has been eliminated.

ADVICE FOR BEGINNING BLUEBIRDERS.

BOX PAIRING: Where Tree Swallows are common, two boxes should be provided at each site. If only single boxes are provided, swallows will probably take over most of them, especially if the sites are too close together. With two boxes, one is usually available to bluebirds.

BOX STYLES: At each site, one box should be a design preferred by bluebirds, and the other box a design preferred by swallows. The enclosed plans offer such a choice. On my trail, bluebirds prefer the 'bluebird boxes' by a factor of three, and swallows prefer the 'swallow boxes' by a factor of six. These preferences help reduce the probability of having swallows in both boxes.

BOX SPACING: The two boxes at each site should be about five to ten yards apart. If the boxes are too far apart, swallows might occupy both of them.

SITE SPACING: I prefer a spacing of 300 to 400 yards for Mountain Bluebirds. A spacing of less than 200 yards will increase the number of swallows per mile of trail, but will not likely help the bluebirds. Bluebirds defend a larger territory than swallows, and will seldom nest within 200 yards of another bluebird. Having the sites too close together, and thereby increasing the number of swallows, might actually reduce the number of bluebirds per mile of trail.

cont'd over



HABITAT: Bluebirds prefer areas with short or no vegetation. Bare fields, grazed pastures and mowed grass allow bluebirds to see insects on the ground. There should be trees in the area to provide shelter for young bluebirds after they leave the nest. Ten yards from an isolated tree, or 100 yards from trees and bush, are good locations for nestboxes. If the boxes are along fencelines, they can be as much as a quarter mile from trees; young birds can make their way along the fence to the trees when they first leave the nest.

AVIAN PREDATORS: Boxes should be at least a half mile from towns and farm yards to reduce the risk from House Sparrows; they will kill bluebirds and swallows, and take over the boxes. Boxes should be at least 50 yards from bush to reduce the threat of House Wren predation; wrens will sometimes ruin a bluebird nesting by pecking the eggs. Predators such as crows and magpies cannot reach into the nest area of Bittner boxes.

EFFICIENT BLUEBIRDING: In areas where small predators such as snakes, mice or weasels are a problem, special mounting poles, baffles or guards are needed to protect the boxes. This greatly increases the effort needed to establish a bluebird trail.

In other areas where these small predators are not a major problem, but larger predators such as raccoons are a problem, constructing raccoon-resistant nestboxes and mounting them on existing fence posts is a simpler and more efficient way to establish a bluebird trail. The effort saved on mounting can be used to build extra boxes.

Boxes based on the enclosed Tree Swallow design and boxes which are prototypes of the enclosed bluebird design have proven to be raccoon resistant. With over 1000 box years of experience, there has been no raccoon predation since 1990, even though previously there was raccoon predation in standard boxes. The boxes are mounted on fence posts without any other predator guards.

TROUBLE SHOOTING:

1) Bluebird/Swallow ratio too low:

- Move the sites farther apart to increase the percentage of sites with bluebirds.
- Choose sites with better bluebird habitat.
- Use paired nestboxes.

2) Swallows occupied both boxes of a box pair:

- Move the boxes closer together to make use of swallow territoriality.
- Move the sites farther apart to reduce the number of sites without bluebirds.
- Use a 'bluebird box' and a 'swallow box' at each site.

3) Raccoon predation has occurred:

- Use a smooth metal mounting pole, and/or
- Use a pole-mounted baffle or box-mounted guard, or
- Use Bittner boxes to deter mammalian predators larger than weasels.