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# Y LAKEHURST BLUEBIRDS



A different sort of "bird" tests a catapult launch at the Navy Lakehurst research facility./Naval Air Engineering Center



Navy Lakehurst's hangers 5 and 6 are a perfect backdrop for bluebird hanger 1, the original nest box placed on the installation./John Joyce

Naval Air Engineering Station Lakehurst, more abruptly known as Navy Lakehurst, serves as a research facility for carrier aircraft launch and recovery equipment. It also serves as a research facility for the production of smaller flyers: eastern bluebirds.

The installation occupies 7,430 acres within the 1.1 million-acre Pinelands National Reserve in southern and central New Jersey. Our 4,100 acres of forest and 1,700 acres of grasslands surround two separate airfield complexes in a landscape that provides excellent habitat for bluebirds. Many of Navy

In 2002, the bluebird occupancy rate for our 93 boxes was an astounding 83 percent.

Lakehurst's old fields from the airship era are now scattered with trees and shrubs, adding to already abundant edge habitats.

As Navy Lakehurst's Natural/Cultural Resources Manager, it is my duty to protect and enhance the installation's natural resources. So, in 1990, when a colleague, Bill Hanley, told me about the bluebird nest box program at nearby Collier's Mills Wildlife Management Area, we went to see it. Tom Mulvey, the program manager, showed us around. Convinced that there was room for another "tenant activity" at our facility,

by **John Joyce**,  
Naval Air Engineering  
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Bluebird nest boxes with front openings offer easy access for monitoring and cleaning./John Joyce



A Peterson-style nest box reduces the female's nest building burden. Note air vent placement and predator guard with cap./John Joyce

Eastern bluebird/James Leupold,  
U.S. Fish and Wildlife Service





Recently hatched bluebirds rest securely in their substitute tree cavity./John Joyce

I took note of what Tom had accomplished, did further research, and then initiated the Navy Lakehurst eastern bluebird nest box program in 1991. We started with 21 boxes; today, we have 93.

We typically install the boxes on a pole with its entrance hole facing the nearest cover, rather than a particular direction as some suggest. We want fledglings, which may spend their first hours on the ground, to have the shortest route to a safe harbor. We use standard square-bottom boxes and Peterson-style boxes, which have narrow bottoms designed to lessen the female's nest-building burden and conserve her energy for rearing hatchlings. To access boxes for cleaning, we've tried front, side, and top openings, as well as fold-out bottoms. Top openings are the least efficient.

While the program was intended to benefit bluebirds, other species compete for the same space. Pugnacious tree swallows are the second most frequent user of our boxes, often driving off bluebirds. However, we've observed several incidents of unusually aggressive bluebirds evicting established nesting tree swallows. House wrens occasionally make use of a box, particularly when it's placed close to the forest edge. Early in the nesting season, black-capped chickadees also will compete for the nesting space.

A team of trained employee volunteers conducts weekly checks during the breeding season, tallying all nesting attempts. They track nest success by species and the number of eggs, hatchlings, and fledglings. They also note predation. Predators include pine

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and rat snakes, raccoons, and opossums, and bees and mice have displaced adult bluebirds on numerous occasions. The volunteers clean the boxes after each nesting.

As the program grew so did the intensity and sophistication of our predator control efforts. At first, we used only hole guards that doubled the entrance's depth to deter avian predators. We installed umbrella-type pole guards on most boxes through the mid



The look of this male tree swallow tells would-be nest-box intruders to fuhgeddaboutit./© Blaine Rothauer

1990s to exclude pole-climbing mammals. Because mice and snakes could still get through the small opening above the pole-guard mounting bracket, we developed a custom-cut cap that fits over the pole and slides down to cover the opening.

Over the past 13 years, a total of 2,804 bluebirds have fledged from Navy Lakehurst boxes. From 1998 to 2001, consecutive fledgling records were set with 251, 278, 323, and 395, with the number of boxes increasing only by five. The bluebird occupancy rate (at least one yearly nesting in a box) has averaged 69 percent—the State's 10-year average from

1991 to 2001 was only 23 percent. In 2002, the bluebird occupancy rate for our 93 boxes was an astounding 83 percent. Our data also show that 897 tree swallows and 299 house wrens fledged.

As bluebird habitat continues to disappear in the East, we at Navy Lakehurst are pleased to know that we are doing our part to help sustain the population of this adaptable little bird.



A tree swallow's feng shuied nest./John Joyce

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