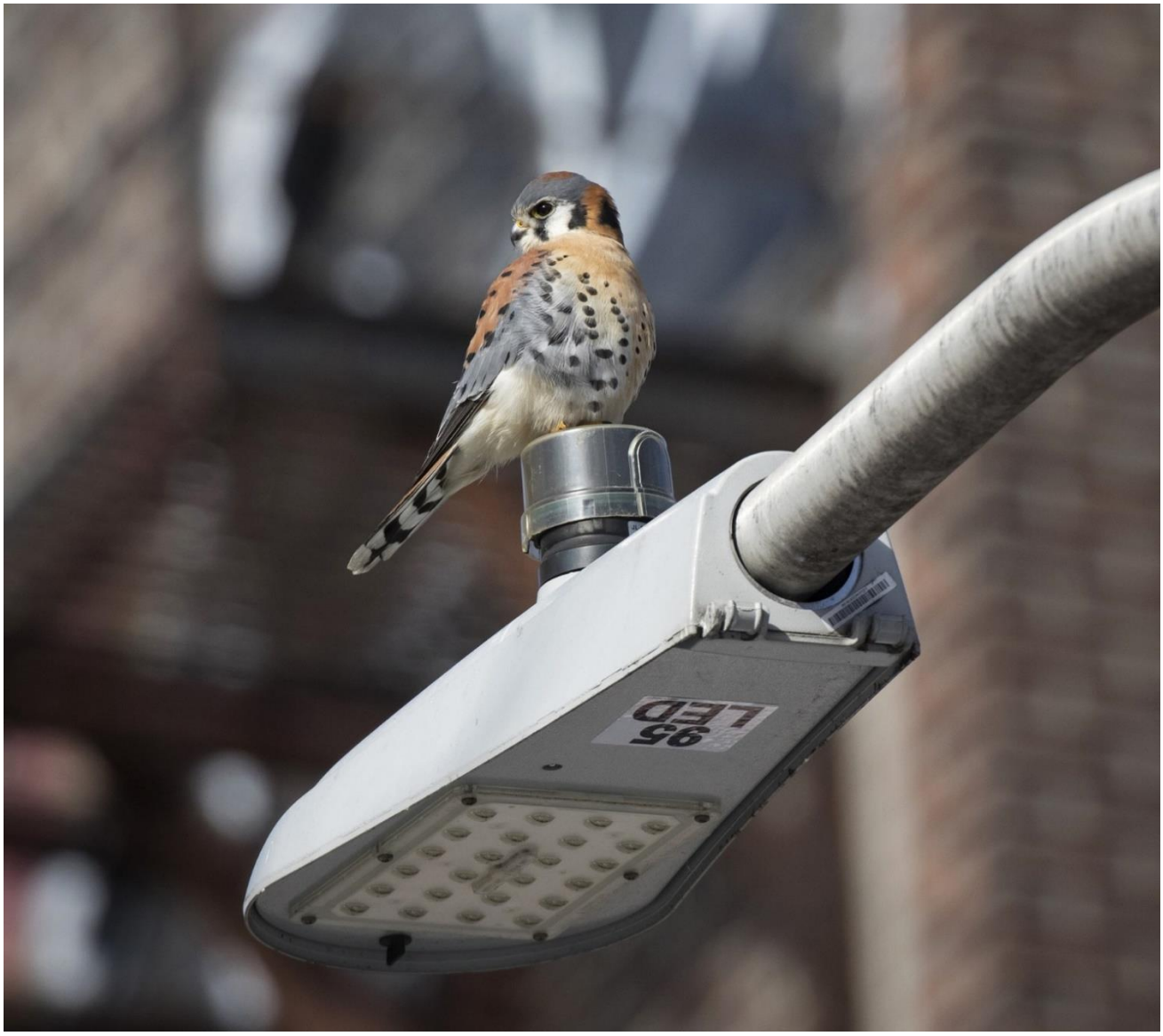
American Kestrel Northeast Region
7th Annual Nest Box Program Report – 2024



New York City male kestrel photo by Francois Portmann [BIRDS - Francois Portmann Photography (fotoportmann.com)](fotoportmann.com)

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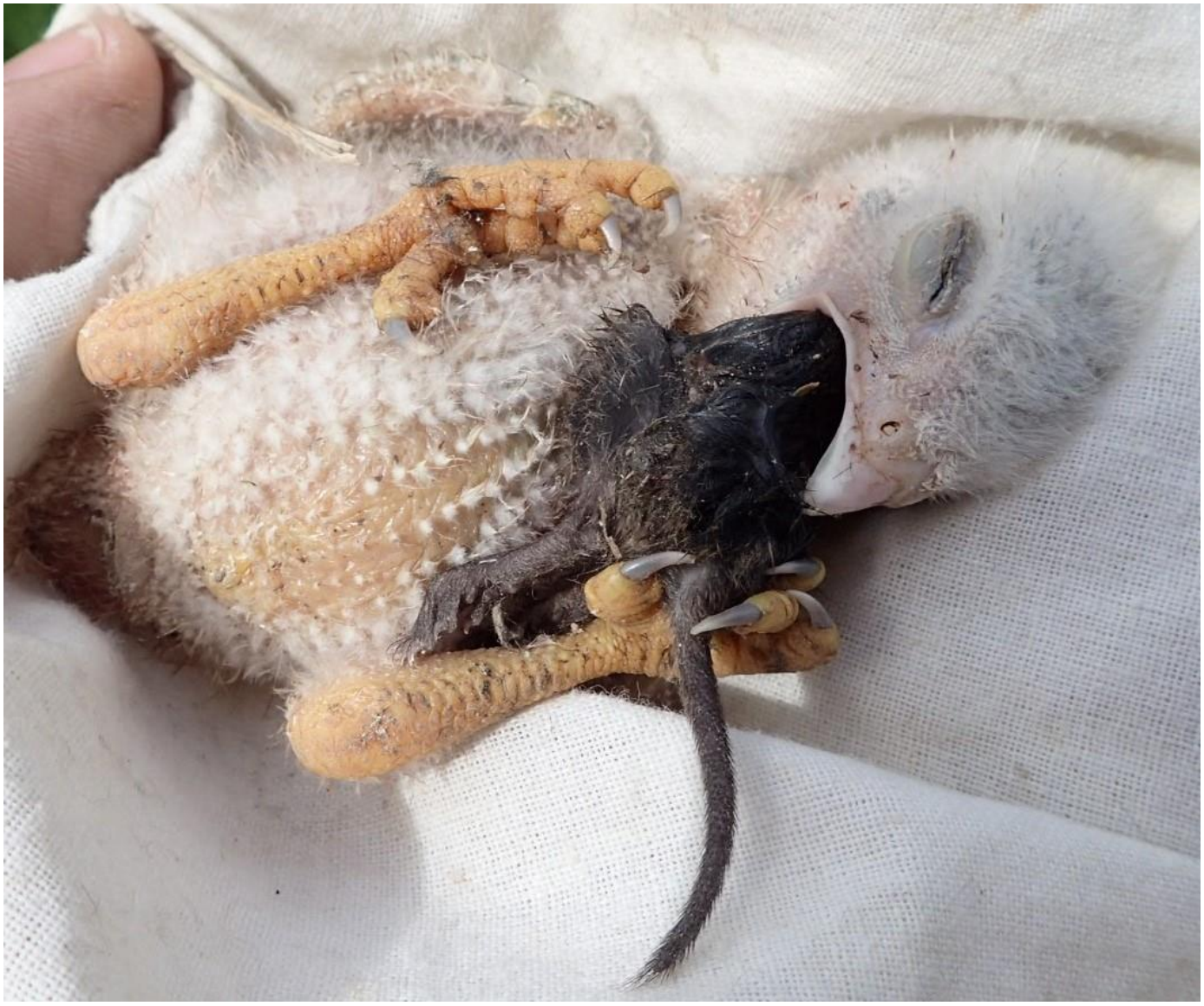


At 56 grams (including rodent's weight) this young kestrel – the runt of the litter – seemed to be showing off to its much heavier and older siblings. It closed and opened its eyes while swallowing, and had the meal most of the way down by the time I put it back in the box

11 American Kestrel nest box program states in northeast region

Data is from kestrel nest box program managers in the northeast states from Virginia to Maine. The following 2024 banding-age nestling counts are limited to contributors who provided data from both 2023 and 2024, although new entries for 2024 are also included:

2023 banding-age nestling count: **5,193** (PA Game Commission NE Region not included)
2024 banding-age nestling count: **5,854** one-year increase: **13%**

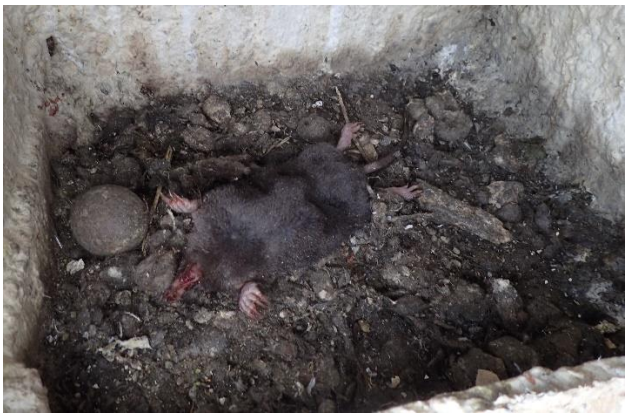
1. **Pennsylvania: 2,569** (up 24% from 2,071 in 2023: includes Musser 2024 count)
   88 by Emily H. Thomas and Don Watts in northwest PA (up 83% from 48 in 2023)
   466 (nestlings recorded) by PA Game Commission, SE Region, led by Dan Mummert (down 9% from 507 in 2023 but counts may be incomplete due to staff and volunteer shortages)
   817 by Central PA Conservancy, led by Steve Eisenhauer (up 12% from 728 in 2023)
   101 by Shaver's Creek Environmental Center, led by Jon Kauffman (up 12% from 90 in 2023)
   38 by Steve Eisenhauer in Lancaster County (1st year program)
   28 by Jim Moffett in Chester & Berks Counties (down 22% from 36 in 2023)
   45 by Claudia Winters at and near Natural Lands eastern PA preserves (1st year program)
   117 by Jeff Musser in Lancaster County (new entry from existing program)
   157 by Hawk Mt. Sanctuary in Berks County, led by JF Therrien (up 39% from 113 in 2023)
   109 by Hershey Area Raptor Partnership, led by McKelvie, Holzman & Hess (down 3% from 112 in 2023)
   No nestling count from NC Region of PA Game Commission, led by Mario Giazzon: 30 active nest boxes but only banded at 11 of them in 2024
   603 by the Paul Karner Memorial Banding Team in Bucks & Northampton counties as follows:
      290 by Devich Farbotnik in Bucks County (up 24% from 234 in 2023)
      226 by Kevin Kelly in Northampton County (up 269% from 84: an incomplete count in 2023)
      87 by Jere Schade in Bucks County (up 30% from 67 in 2023)
2. **Virginia: 1,365** (down 4% from 1,415 in 2023)
   260 by Lance & Jill Morrow in Shenandoah Valley (down 15% from 307 in 2023)
   853 by Alan Williams and associates (down 7% from 916 in 2022)
   252 by Highland County Kestrel Project, led by Patti Reum (up 31% from 192 in 2023)
3. **New Jersey: 564** (up 15% from 491 in 2023)
   81 by Friends of Hopewell Valley Open Space (up 23% from 66 in 2023)
   42 by Raritan Headwaters and Morris County Parks (up 133% from 18 in 2023)
   171 by Natural Lands in southern NJ, led by Steve Eisenhauer (up 12% from 153 in 2023)
   171 by NJDEP/ENSP in central and northern NJ, led by Bill Pitts (up 12% from 152 in 2023)
   23 by Duke Farms in central NJ, data from Charles Barreca (up 10% from 21 in 2023)
   76 by John Smallwood in Sussex and Warren Counties (down 6% from 81 in 2023)
4. **Connecticut: 368** (up 11% from 331 in 2023)
   178 Northeast CT Kestrel Project, led by Tom Sayers (same as 2023)
   186 Northwest and Northcentral CT Project, by Art Gingert and Mike Dudek (up 28% from 145 in 2023)
   4 by Larry Fischer (down 50% from 8 in 2022)
5. **New Hampshire: 322** (down 2% from 327 in 2023)
   297 by Steve Wheeler (down 4% from 310 in 2023)
   25 by Phil Brown of Harris Center for Conservation Education (up 35% from 17 in 2023)
6. **New York: 292** (down 9% from 320 in 2023)
   235 by Mark Manske in northern NY (up 2% from 230 in 2023)
   35 by Manske associate in western NY (down 39% from 57 in 2023)
   5 by Manske associate in Crown Point, but none in Washington Co.
   17 at NY Iroquois NWR and nearby WMAs, by Carl Zenger (down 35% from 26 in 2023)
7. **Vermont: 148** (down 9% from 162 in 2023)
   86 by Brian Lowe (down 22% from 110 in 2023)
   57 by VT Institute of Natural Science (up 19% from 48 in 2023)
   5 by Manske associate (up 25% from 4 in 2023)
8. **Maryland: 98** (new entry for 2024) by Andrew Brown of Maryland Farmland Raptor Program

9. **Massachusetts: 129** (up 14% from 58 in 2023: not including new entry)
   36 by Joey Mason (up 200% from 12 in 2023)
   63 by Berkshire County, led by Ben Nickley (new entry)
   24 by Kestrel Land Trust (down 27% from 33 in 2023)
   6 by Arcadia Wildlife Sanctuary with Kestrel Land Trust assistance (down 54% from 13 in 2023)
10. **Maine: 51** (up 46% from 36 in 2023)
    15 by Maine Natural History Observatory, Logan Parker
    36 by St. Albans Kestrel Nest Box Project, led by Marek Plater (down 3% from 37 in 2023)
11. **Delaware: 11** (down 67% from 33 in 2023) by Jordan Brown with Delaware Division of Fish & Wildlife

- **New York City kestrel update for 2023**: data from Chris Soucy, Executive Director
  The Raptor Trust (Bird Rehabilitation Center): located in northern NJ but receives kestrels mostly from NYC. **56** fledgling and juvenile kestrels received from NYC boroughs (up from 49 in 2023). **52** were released. Although it may sound odd to say we're pleased to hear more young kestrels needed rehabilitation this year, it indicates more kestrels may have bred in NYC this year. Our wish is for a better indicator of the NYC kestrel population, but this is the most reliable one we have at this time.

Assistance requested: alternative explanations needed for below-noted nesting

April 30 photo on left shows male with 9 eggs. May 25 photo above shows female in same nest box on recently-hatched young (note broken eggshells at lower right).



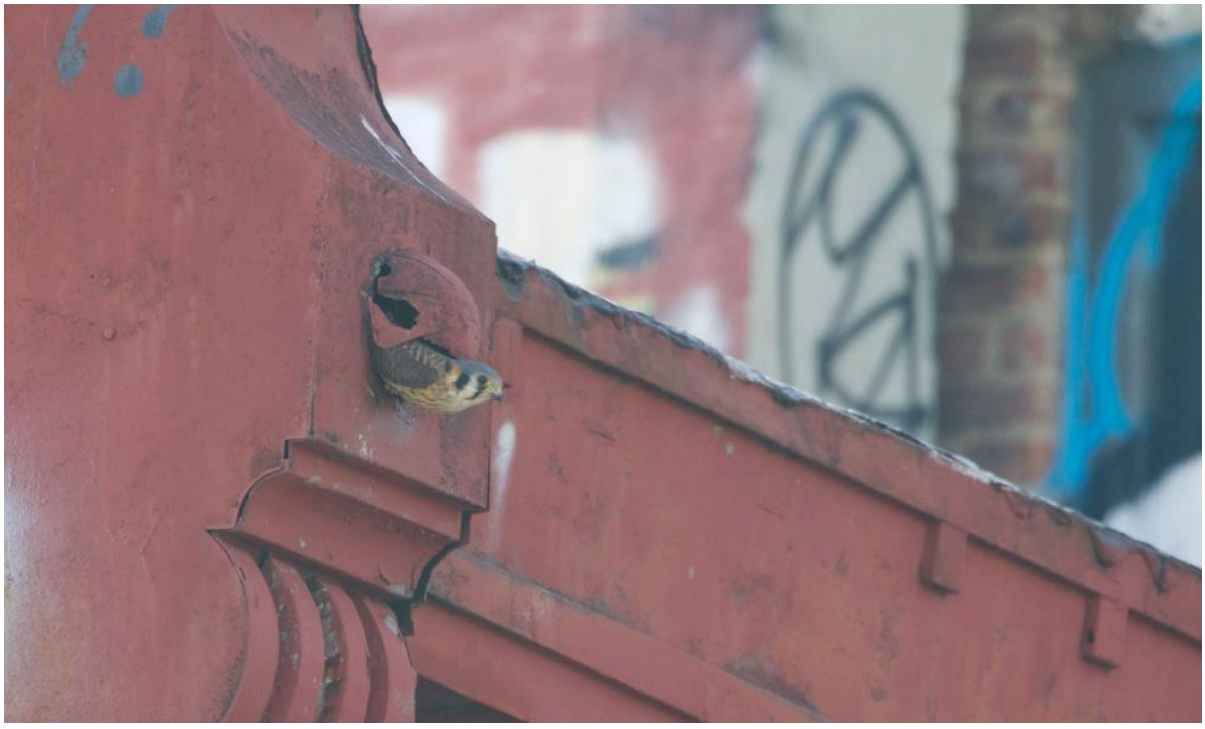
June 1 photo on left shows 8 young. On June 12 all 8 young were banded at weights from 100 to 136 grams and ages from 18 to 21 days old. Under the 8 young: one unhatched egg and a dead mole seen above.

Six-egg kestrel clutches that produce 6 young are uncommon. A 9-egg clutch like this one is likely the product of more than one female. However, the close ages of the young suggest this clutch could possibly have come from one female. Another question is how 8 eggs were incubated to hatching by kestrels with brood patches sized for 4 to 6-egg clutches.

Particularly interesting kestrel band recoveries

I rarely capture adults in my nest boxes, primarily because I manage over 300 kestrel boxes in a wide geographic area from central PA to southern NJ and simply don't have enough time. However, I appreciate banders who recover banded adults in boxes or through approved trapping methods. Some band recoveries reported by northeast program banders that help us better understand kestrel activity are noted below.

- On Tue, May 7, 2024, Alan Williams in northern Virginia identified a male kestrel in one of his new nest boxes with a band from one of my boxes just south of State College, PA. He notes: "It might be the longest translocation between box programs I have had."
- Also in northern Virginia, Lance Morrow made me aware that they had one of my Pennsylvania-raised female kestrels: "She has been nesting in the same box for the 2nd year in a row. She seems happy here! Produced 5 nestlings this year . . . "
- Emily Hope Thomas in northwestern PA reported:
  I had an L-F banded on 6/3/23 that was found dead in a barn in Carnegie, Georgia on 1/31/24
  I had an L-F banded on 6/15/19 that was found dead 42 miles WNW away (Erie, PA) on 8/17/19
  I recovered an AHY-F incubating in one of my boxes on 4/24/21 that had been banded as an L-F on 7/10/17 near Ashford Hollow, NY by Richard Wells
- Bill Pitts of NJDEP reports that a kestrel young I banded in central PA was found dead in South Carolina



Kestrel nesting in rusted-out building cornice in New York City (photo by Jean Shum)

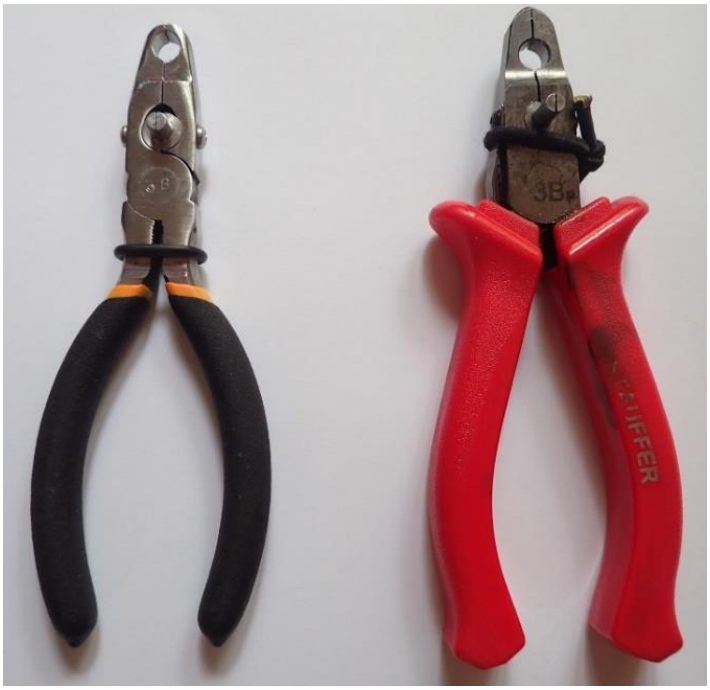
Bees in nest boxes

Until the last two years, when honey bees moved into my kestrel or screech owl boxes I waited until they moved out before removing their combs. Typically, the winter season resulted in their demise or movement elsewhere, although one hive in a central PA box did survive through the winter cold. If a hive was discovered early in breeding season, I would install another nest box nearby. But in the past two years a better solution arose. At two different central Pennsylvania locations I checked with local farmers and found licensed beekeepers willing to move colonies in four boxes to more appropriate maintained boxes. No charge.

Banding pliers and band size review

My own banding permits cover American Kestrels, Barn Owls and Eastern Screech Owls. I use butt-end bands for all three species, although many banders prefer lock-on bands for screech and barn owls. I've always used Stauffer-Henley 3B pliers for kestrels but use a M-Tech (see: Bird Banding Pliers – M-Tech Design & Fabrication (m-tech-design.com)) 7A pliers for barn owls. Impressed with this 7A pliers, I purchased M-Tech's 3B pliers to see how it works. It has a rubber tensioner that allows pre-loading bands, making the banding process easier. The Stauffer pliers has a spring tensioner that I found to provide inadequate tension so I added a short length of thin paracord (see below photo). After trying out both pliers, I'm sticking with my more familiar Stauffer-Henley for 3B bands although I will keep the M-Tech in my banding bag as a spare. I banded over 1,000 kestrels this season and never had a pliers-related issue or – with the extra tension added – had a dropped band while getting birds into position for banding.

Band size for kestrels is always a question when purchasing banding pliers. 3, 3B and 3A are the three approved sizes, with 3 the smallest, 3B the middle and 3A the largest. Like other banders I keep a leg gauge in my bag to determine the size needed for each bird and species. But almost all the kestrels I band are nestlings (only two this year were adults) and most older nestlings weigh more than adults. When held in the hand, unless they are underweight they usually feel fleshy and fat compared to the feel of muscle and bones found when holding adults. So my leg gauge can potentially be less accurate when measuring nestling leg sizes compared to the adult. In New Jersey we exclusively use the middle 3B size for American Kestrel young although we always make sure the bands spin easily on the leg after banding. If too tight, which I haven't yet experienced, the 3B band would be removed and bird would go unbanded if a 3A band and pliers are not available.



Utility pole mount discussion

I sensed something strange while leaning my ladder against a roadside utility pole on May 26, 2024 to band kestrel young in a Pennsylvania kestrel box. I had checked the box two weeks previously, saw the young had just hatched so calculated they would now be of banding age. The strange sense increased as I safety-strapped my ladder to the pole and noticed the utility pole was brand new with fresh dirt at its base. But the nest box was still at the same height and orientation and the young appeared to be in good health. Utility workers who had just replaced the pole had apparently seen or been told about the nestlings in the box and had switched the poles after setting aside and then reinstalling the box on the new pole without interrupting the nesting process. I banded the five young. This experience reinforced lessons learned about utility pole mounted nest boxes:

1. **Overview: utility pole right-of-way (ROW) kestrel nest box installations**

   Utility companies typically do not want boxes on their poles, on other line support structures or anywhere on the ground within high-voltage powerline ROWs. Public safety is a concern if people climb ladders near electric lines or use ladders that can twist around a pole, potentially causing falls and injury. Pole maintenance issues are another concern. The Florida Fish and Wildlife Commission website about kestrel nest box mounts notes: "Installing kestrel boxes on utility poles requires permission from the utility company or private landowner." This good advice needs clarification. Boxes on poles located along private access lanes or in privately-owned

fields always require landowner permission. With boxes on poles along public road ROWs landowner permission is also recommended since ownership under the utility lines usually remains under private ownership. Utility company permission should also be considered.

Pole ownership can be complex, since electric, cable TV, internet and phone lines may hang on the same poles. Many kestrel nest box managers install boxes on these poles, usually with but sometimes without permission. Since bucket lift trucks, rather than climbing spikes, are used by utility company staff to service lines and equipment on roadside poles, utility companies often ignore small nest boxes installed on these poles since they don't interfere with pole maintenance until pole replacement is required.

Although I mount most of my boxes on telescoping steel poles along private fence lines, 18% of my 2024 kestrel-occupied boxes are on public road utility poles and an additional 27% are on private access lane or field utility poles. One central Pennsylvania citizen advised me not to install boxes on roadside utility poles, and I heeded his advice in this area. I almost always secure landowner permission to install boxes on utility poles. On the few occasions where permission has not been secured I install a weatherproof placard on the box bottom that details the kestrel program, my name and phone number (a lesson learned from Paul Karner, who installed his information, legible from ground level, on all his Pennsylvania kestrel boxes).

For safety, and easy installation/removal of nest boxes on utility poles, I nail at a 45° angle a 4" (20D) nail where the box will be installed, with at least 2" sticking out. My boxes for these installations have 45° 5/8" holes drilled into boards screwed to the side or back, depending on where the access door is located (access is facilitated if the access does not stick out from the pole). I can then simply hang the boxes on these nails, make sure they're level front to back, and then tighten the three screws on the 6" length of board sticking below the box bottom. The 45° hole angle keeps water from dripping into the box. I use Torx head screws, which strip out less easily than other head types. This is the screw-head type utility company workers have available if they need to remove a box (they'll be less likely to smash or pry it off the pole if it's easily removed). I never nail boxes onto poles or structures.

2. <u>My 2024 kestrel-occupied box results as of July 12, 2024 (for discussion purposes only)</u>

Utility pole vs. steel pipe mounts with young/box production noted: failed boxes factored in as zeros[1]

Program	# & % private land utility[2]	# & % on public road utility[3]	# & % steel pipe
Central PA	63 of 179 (35%) 4.4/box	26 of 179 (15%) 4.6/box	90 of 179 (50%) 4.3/box
Southern NJ	3 of 41 (7%) 4.0/box	3 of 41 (7%) 4.3/box	35 of 41 (85%) 4.0/box
PA: Lancaster	0 of 9	4 of 9 (44%) 4.3/box	5 of 9 (56%) 4.0/box

3. <u>Of relevance to discussion</u>

- Discussions about utility pole nest box mounting on roadway ROWs and private land easement areas call attention to the wide utility ROWs associated with high-voltage transmission lines. As described in a 2/9/21 Georgia DNR publication about the southeastern subspecies of American Kestrel (*Falco sparverius paulus*):

  Kestrels will regularly nest and roost in nest boxes and buildings as well as hollow crossmember pipes on power poles where they often displace European starlings (Sturnus vulgaris). The kestrels are insulated from excessive heat by the nest material the starlings brought into the pipes, allowing them to incubate eggs and rear young in these metal structures. About 85% of Georgia's southeastern kestrel population depends on these powerline structures at present for nest sites. . . . . Based on extensive work conducted by Georgia DNR it is believed two powerlines host about 450 breeding pairs. One powerline runs from Plant Mitchell in

[1] Nearly all boxes are mounted at approximately 10 feet height unless predator issues dictate a higher height.

[2] Private land utility poles are those along farm or home access lanes or in a field at least 50 feet from a public road. Percentages are of the kestrel-occupied boxes in a program region, not of the total installed boxes.

[3] Public road utility poles are defined as those within 50 feet of a public roadway.

Dougherty County through Tifton and Douglas and terminates in Offerman in Pierce County. The second line runs from Harris County east through Talbot, and Crawford counties and ends in Bibb County.

These populations have shown significant declines as the hollow crossarm structures are slowly replaced with newer structures that lack suitable nesting sites. Wood duck nest boxes, hung about 20 feet above the ground, have been used in an attempt to offset loss of these - nesting sites. This effort has resulted in highly variable nesting success, due largely to predation. Nest box programs have also been instituted on Ft. Benning, Ft. Gordon, and to a much lesser extent on Ft. Stewart and various WMAs near existing populations. More recently 20 nest box structures were hung approximately 80-100 feet above the ground by cooperating power companies. These "high" boxes have had consistently high occupancy and presumably very high nesting success. This technique may secure the future of this species if it can be implemented more widely.

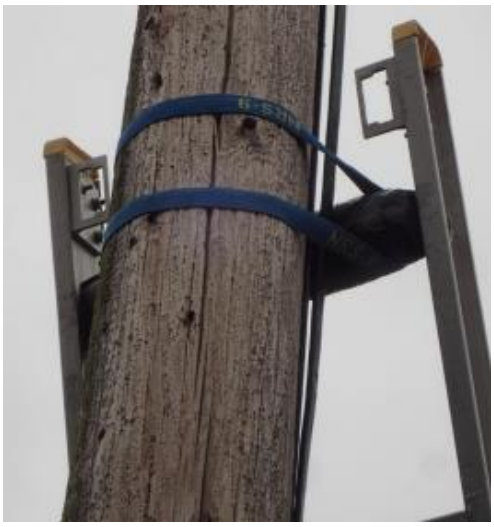
Note that the southeastern subspecies' primary prey of lizards, small snakes and large insects differs from the primary prey of the larger, more northern kestrel species.

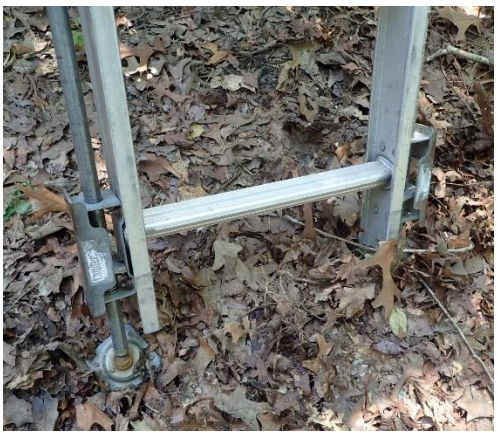
- My own experience with utility companies and powerline ROWs includes the following:
  - My attempts to attract kestrels to wide powerline ROWs in southern NJ have been unsuccessful. Boxes on steel pipe mounts were installed on the edges of ROWs, not under the active high-voltage lines. Permissions were secured from landowners since powerline companies typically have easements that allow them to install lines on the involved private properties and to keep vegetation cut low. All of these ROW New Jersey boxes were removed after five unsuccessful years. In central PA one of my most successful kestrel boxes is along a fence line on grazing land under a wide powerline ROW. The box is only up 8 feet since utility companies don't want elevated poles or structures under their lines. The support post is wood and the box roof is PVC rather than my normal steel pipe mount and aluminum roof since steel pipe mounts near high tension electric lines can get "hot" in humid weather: a lesson learned from an earlier experience.
  - Utility companies are generally open to positive publicity associated with government and nonprofit group partnerships in protecting declining and rare bird species, but they also need to cover liability concerns and are therefore less likely to enter into formal or informal agreements with private individuals.

4. <u>Ladder safety and box mounting suggestions</u>

Ladder safety is a particular concern when ladders are used on rough terrain and near electric lines. Lightweight aluminum ladders are fine as long as they are kept away from electric lines and they're rated for the weight of the people using them (no 250 lb. person on a ladder rated for 225 lbs.). The safety rule I see ignored the most is: the vertical position of the leaning ladder should be angled at a ratio of 1:4. The base of a 10-foot ladder should be 2.5 feet away from the pole or structure it is leaning on.

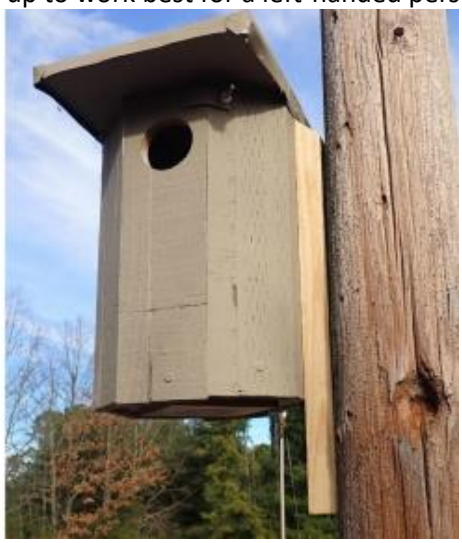
Utility company workers use devices that clamp to ladder ends so they lock on to poles, and don't "spin" if you lean to one side or the other. Since the ground under utility poles is often uneven, I highly recommend installing adjustable feet on ladder bottoms. I have both the manually adjustable and the self-adjusting feet on ladders, but prefer the manually adjustable since they are lighter in weight and more predictable. Adding close-cell foam wrapped with duct tape on the ladder's top rung helps keep the ladder top rung from slipping one way or the other. Make sure you're strapped and tightened securely as shown below**.**





Adjustable feet on ladder

When mounting boxes, affix them to poles so the access door lines up with the pole and doesn't stick out so it's difficult to look or reach into the boxes. Install them so you can reach inside with your strong hand. The front-opening box in the below photo is set up to work best for a left-handed person.



5. **<u>Advantages/disadvantages/characteristics: utility pole and steel pipe mount nest boxes</u>**
   - Utility pole mounts are cheaper, and quicker to install, inspect and maintain than my steel pipe mounted boxes. Since I build all my own boxes of scrap wood, utility pole mounts cost me about $20.00 in materials,

take 5 minutes to install and save a lot of time with inspection and maintenance tasks. My steel pipe mounted boxes cost about $100.00 for materials (two telescoping pipes, concrete, associated hardware), take two to three hours to install (more if the ground is rocky and hard, which can negate an installation), and take up more time for inspection and maintenance since they're often in pastures or fields a distance from a road.

- Utility pole mounts are more susceptible to fox squirrel use in my Pennsylvania boxes (fox squirrels will travel 100 meters or more into a field to nest in boxes but have never used my steel pipe mount boxes). Two feet of aluminum wrap on the utility poles beneath the boxes keeps squirrels out of boxes (I use brown-colored wrap that blends with the poles).
- Productivity (as measured by young/box with box failures factored in as zeros) has been slightly higher over the past seven years in my utility pole vs. steel pipe mount boxes, but this is not, so far, a statistically significant difference. I attribute this possible difference to less sway during wind events than with the steel pipe mount boxes, and the close proximity of utility lines for perching and hunting. However, this difference (if further study proves it does exist) may be negated by more young kestrels killed by immediately-adjacent roadways. I have moved boxes from roadside utility poles to fence-line steel pipe mounts after young have been found dead – due to vehicle hits – on roads beneath boxes. My preference with utility pole mount boxes is to use poles along low-speed private access roads or in fields, and not along roads with speed limits of 50 MPH or more.
- Maintenance and banding tasks with my steel pipe boxes tend to be safer, particularly when volunteers are involved, since the 1" diameter steel pipe can be telescoped down into the 1.25" pipe to 7 or 8 feet, a height easily accessible with an 6-foot stepladder. Fiberglass, rather than aluminum, stepladders are needed when working around fences charged with electricity.

This report and all previous reports are posted on the following website: americankestrel.online