

American Kestrel Northeast Region 6th Annual Nest Box Program Report – 2023



Photos from one nest box taken May 2, June 12 & July 22: 9 eggs to 3 new eggs to 5 young (story on p. 6)

by Steve Eisenhauer
sceisenhauer@gmail.com



www.natlands.org

Harold Peek Preserve, 1400 S. 2nd Street, Millville, NJ 08332

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My 2023 kestrel nesting season had a box with 14 eggs and another with at least 8 (above) that produced three young.

Top 10 American Kestrel nest box program states in northeast region

Data is from kestrel nest box program managers in 10 northeast states from Virginia to Maine. The following 2023 banding-age nestling counts are limited to contributors who provided data from both 2022 and 2023:

2022 banding-age nestling count: 4,712 2023 banding-age nestling count: 5,259 one-year % increase: 12%

1. **Pennsylvania: 2,102** (up 2% from 2,060 in 2022)
 - 48 by Emily H. Thomas and Don Watts in northwest PA (down 35% from 74 in 2022)
 - 507 by PA Game Commission, SE Region, led by Lauren Ferreri & Dan Mummert (up 21% from 418 in 2022)
 - 728 by Central PA Conservancy, led by Steve Eisenhauer (up 13% from 646 in 2022)
 - 90 by Shaver's Creek Environmental Center, led by Jon Kauffman (up 3% from 87 in 2022)
 - 36 by Jim Moffett in Chester & Berks Counties (down 18% from 44 in 2022)
 - 113 by Hawk Mt. Sanctuary in Berks County, led by JF Therrien (down 4% from 118 in 2022)
 - 112 by Hershey Area Raptor Partnership, led by McKelvie, Holzman & Hess (up 49% from 75 in 2022)
 - 83 by PA Game Commission, NC Region, led by Mario Giazzon (down from 101 in 2022 but numerous occupied boxes were missed this year)
 - 385 by the Paul Karner Memorial Banding Team in Bucks & Northampton counties as follows:
 - 234 by Devich Farbotnik in Bucks County (down 15% from 273 in 2022)
 - 84 by Kevin Kelly in Northampton County (down 44% from Paul Karner's 149 in 2022)
 - 67 by Jere Schade in Bucks County (down 12% from 75 in 2022)
2. **Virginia: 1,415** (up 33% from 1,064 in 2022)
 - 307 by Lance & Jill Morrow in Shenandoah Valley (up 3% from 298 in 2022)
 - 916 by Alan Williams and associates (up 47% from 621 in 2022)
 - 192 by Highland County Kestrel Project, led by Patti Reum (up 32% from 145 in 2022)
3. **New Jersey: 491** (up 12% from 440 in 2022)
 - 66 by Friends of Hopewell Valley Open Space (same number as in 2022)
 - 18 by Raritan Headwaters and Morris County Parks (up 64% from 11 in 2022)
 - 153 by Natural Lands in southern NJ, led by Steve Eisenhauer (up 10% from 139 in 2022)
 - 152 by NJDEP/ENSP in central and northern NJ, led by Bill Pitts
 - 21 by Duke Farms in central NJ, data from Clifford Berek
 - 81 by John Smallwood in Sussex and Warren Counties (up 76% from 46 in 2022)
4. **Connecticut: 331** (up 4% from 319 in 2021)
 - 178 Northeast CT Kestrel Project, led by Tom Sayers (up 7% from 167 in 2022)
 - 145 Northwest and Northcentral CT Project, by Art Gingert and Mike Dudek (down 2% from 147 in 2022)
 - 8 by Larry Fischer (up 60% from 5 in 2022)
5. **New Hampshire: 327** (up 19% from 275 in 2022)
 - 310 by Steve Wheeler (up 17% from 266 in 2021) – 10 boxes fledged before he got to them
 - 17 by Phil Brown of Harris Center for Conservation Education (new entry)
6. **New York: 320** (up 45% from 221 in 2022)
 - 230 by Mark Manske in northern NY (up 44% from 160 in 2022 when a family illness prevented a full count)
 - 57 by Manske associate in western NY (up 159% from 22 in 2022)
 - 7 by Manske associate in Washington Co. (down 12% from 8 in 2022)
 - 26 NY Iroquois NWR and nearby WMAs, by Carl Zenger (down 16% from 31 in 2022)
7. **Vermont: 162** (up 4% from 155 in 2022)
 - 110 by Brian Lowe (down 13% from 127 in 2022)
 - 48 by VT Institute of Natural Science (up 100% from 24 in 2022)
 - 4 by Manske associate (equal number to 2022 count)
8. **Maine: 37** (down 46% from 69 in 2022) Maine Nest Box Monitoring Project count not received this year
 - 37 by St. Albans Kestrel Nest Box Project, led by Marek Plater (down 46% from 69 in 2022)
9. **Massachusetts: 58** (down 28% from 81 in 2022)
 - 12 by Joey Mason (down 52% from 25 in 2022)
 - 0 by Mike Maurer (down from 5 in 2022)
 - 33 by Kestrel Land Trust (down 21% from 42 in 2022)
 - 13 by Arcadia Wildlife Sanctuary with Kestrel Land Trust assistance (up 44% from 9 in 2022)
10. **Delaware: 33** (up 18% from 28 in 2022) by Jordan Brown with Delaware Division of Fish & Wildlife

- **New York City kestrel update for 2023:** data from Chris Soucy
The Raptor Trust (Bird Rehabilitation Center): located in northern NJ but receives kestrels mostly from NYC. **49** L & HY (nestling, juvenile, hatch-year) kestrels received from NYC (up from 32 in 2022). **47** 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.
- **Maryland:** Andy Brown of the Maryland Bird Conservation Program reports they have a Farmland Raptor Program, and they will soon provide kestrel data from their nest boxes.

In memoriam

Paul Karner, a giant in the effort to help American Kestrels recover from their population decline, passed early in 2023. I had a few memorable telephone conversations with Paul, and he emailed and mailed me valuable information drawn from his decades of kestrel nest box work. His obituary found in the below link notes: "His main passion was the American Kestrel". Jere Schade, who knew Paul well and helped him with his nest boxes, requested that in his memory a Paul Karner Memorial Banding Team be established to manage Paul's boxes and the other boxes Jere helps with, so we've done this for the Bucks and Northampton County, Pennsylvania kestrel nest boxes. And I've reprinted below the 43-year-old listing of the Top Ten Karetakers in the U.S. that appeared in the Kestrel Karetaker Newsletter (from a copy sent to me by Paul).

I recognize four other names on this list. Seth Benz dropped me a message about how well he knew Paul Karner, and how fondly he remembers him. Roger Jones passed in 2020. His work promoting kestrel protection is legendary, and an inspiration to many now active with kestrel nest boxes in his adopted state of Virginia. William Highhouse's northwest Pennsylvania kestrel nest box program, that he started in 1971, is still active. Highhouse credits the work of his associate, Don Watts in a 1989 article in Pennsylvania Birds. Watts continues to help Emily Thomas (a professor at Penn State University - DuBois) manage this 52-year-old program. Doug Keran published an interesting report on raptor mortality in 1981, noting the oldest banded kestrel recovered at that time was just short of 10-years-old.

Obituary link: [Paul Karner Obituary \(1946 - 2023\) - Bangor, PA - The Express Times \(lehighvalleylive.com\)](https://www.express-times.com/story/news/obituaries/2023/04/15/paul-karner-obituary-1946-2023-bangor-pa-the-express-times-lehighvalleylive.com)

THE TOP TEN KARETAKERS IN 1980							
Name	Area	Young fledged	Male	Female	Unknown	Active boxes	Active boxes, no fledglings
John Lemon	N. Ont.	79	39	31	9	21	1
Roger Jones	N. Va.	79	34	32	13	23	3
Seth Benz	E. C. Pa.	66	29	29	8	17	1
Don & Sheila Fowler	S. Ont.	55	29	26	-	18	4
Paul Karner	E.C. Pa.	48	22	26	-	18	5
Don & Elaine Mease	E.C. Pa.	48	16	23	9	11	1
Tom Wilmers	N. W. Va.	41	23	18	-	12	2
Marshall Field	S. Ont.	41	21	20	-	20	7
Doug Keran	N. Minn.	33	12	21	-	10	?
Wm. Highhouse	NW. Pa.	24	6	10	8	6	0
Top Ten totals		514	231	236	47	156	24
Other Kestrel Karetakers		70	20	19	31	34	15
Grand Total		584	251	255	78	190	39

Kestrels drown in livestock watering tanks

A distraught farm owner contacted me this summer to let me know she found four banded kestrels dead in one of her cattle watering tanks. Their band numbers confirmed I had banded them in one of her three successful kestrel nest boxes. Her husband quickly constructed and installed the recommended wood floats in all their watering tanks. This is the third report I have received of kestrels drowned, or almost drowned, in my kestrel boxes in the last two years. Assuming others are drowning but not being reported I did a quick internet search on the issue:

- The Barn Owl Trust in Great Britain notes: “It’s a sad fact that around 6% of all reported Barn Owl deaths are birds found dead in farm cattle troughs and similar steep sided deep water containers.” The Trust provides details on simple wood floats placed in tanks that allow birds to drink without drowning. See link: [Barn Owl Hazards: Water troughs - The Barn Owl Trust](#)
- Craig and Powers¹ (1976) reported: “. . . we discovered the partially decomposed remains of seven American Kestrels (*Falco sparverius*), and two unidentified passerines at the bottom of an empty livestock watering tank.” They recommend: “This cause of death could be reduced simply by floating a large block of wood in the tank; this could facilitate escape from the water for trapped animals.”

Band-holding hoops

In the 2022 Annual Report I noted my use of all-thread rod to hold American Kestrel 3B bands. But I occasionally observe the more creative hoops other banders use to hold different size bands. Steve Wheeler in New Hampshire sent me the below photos and a description of the hoop design he uses for his kestrel bands:

*I use something a bander showed me years ago - a simple palm sized bent spring wire clipped band holder made of stainless-steel wire. Mine is sized for about 35 bands. To use it you open the clip, go down about 35 bands on the BBL issued wire string, insert the straight clip wire up through that band series to the last band, close the clip and then pull out the fine wire back through the band series. Bands are "loaded" in sequence in about thirty seconds. Using it is a one-handed operation: open the clip and with your thumb push up the next band ready to use. **Steve Wheeler***



¹ Craig TH, LR Powers. 1976. Raptor mortality due to drowning in a livestock watering tank. *The Condor* 78(3):412-414.

Wheeler's design prompted me to switch from my threaded rods to a design like his. In 2023 I occasionally banded over 80 kestrel young/day, so a larger hoop better fits my needs. I purchased a 3' length of 3/16" diameter smooth zinc-coated steel rod from the local hardware store (cost: \$4.00) and wrapped it around a suitable size tree (about 27" circumference) in my backyard, and finished the work with a vise and pliers. My band-holding hoop is 9.5" in diameter and holds 100+ kestrel 3B bands. It fits in my banding bag and holds enough bands for my busiest banding days. 3/16" diameter rod works well for this size hoop, but for smaller diameters I recommend using 1/8" rod since smaller hoops are difficult to hook and unhook with the greater stiffness of 3/16" diameter rod. If you want stainless steel rod you might need to purchase it from an internet source. I purchased 3' through Amazon for \$10.00.

Possible interpretation of 14-egg nest

One of my Pennsylvania kestrel nest boxes this year had a 14-egg count, which likely means three clutches since kestrels occasionally lay 6-egg clutches but never, to my knowledge, seven or more in a clutch. This box is particularly interesting since 180 yards away another of my kestrel boxes produced four kestrel young from a 5-egg clutch. My interpretation of the cover page photos is: two different females laid clutches that added up to 9 eggs, then both abandoned the box, after which a starling started building a nest on top of the egg pile. Then one of the previous female kestrels, or another female, took over the box again to lay five eggs that produced five chicks. The starlings did the kestrels a favor since the nest material created a buffer from the abandoned eggs which were mostly crushed, creating a gooey mess below the starling nest material.

Egg dumping – also known as intraspecific brood parasitism – has been regularly reported with some waterfowl species, especially wood ducks, and also songbirds, but is not typically associated with American Kestrels. My interpretation of this 14-egg-nest is an educated guess.

Squirrel-proof nest boxes for kestrels

For screech owls in New Jersey, I use a squirrel-proof tree-mounted nest box design borrowed from an inventor whose name I can't recall. Many screech owls have nested and roosted in these boxes, and I have never found a squirrel in one if I mount it so squirrels can't jump directly into the entrance hole. I don't have a need to use this design for kestrels in New Jersey since my utility pole mounted kestrel boxes are mounted away from woodland and patches of trees. But in Pennsylvania the larger and bolder fox squirrels are present, and they are less fearful of large hawks, so they travel far across open fields and along roadways to use utility pole mounted kestrel boxes (but not my steel pipe mounted boxes). Two feet of aluminum wrap on utility poles usually keeps the fox squirrels away, but the following two situations prompted me to try my squirrel-proof design with kestrels in Pennsylvania:

1. A large pasture with good kestrel habitat was across a lonely rural road from a large woodland. I didn't have permission from the pasture landowner to mount a box so I installed a squirrel-proof box on a tree on the woodland edge across from the pasture, after securing permission from the woodland owner. After two years of starling use (I removed the eggs) a kestrel pair moved in and produced four young in 2023.
2. One of my conventional kestrel nest boxes on a fire tower along a woodland/hayfield boundary produced kestrel young the first two years it was up. But in the third year fox squirrels climbed 30 feet up the fire tower and nested in the box. I replaced the box with a squirrel-proof design box. Kestrels moved back in and produced five kestrel young in 2023.



175 gram adult female kestrel

I rarely band adult kestrels, and only when they stay in a nest box when I open it to band their young. This happened twice in the 2023 season. One of these bandings was eye-opening, with the adult female weighing in at 175 grams, which is about 60 grams over their average weight (the adult female average weight of those banded in New Jersey and Pennsylvania in the 2018 to 2021 period was 116 grams). I weighed her twice to make sure my measurement was correct. This weight is in the same range as the normally much larger European Kestrel (*Falco tinnunculus*) with its female range of 154–314 g and a 184 gram average weight.

Kestrel nestling successfully fostered in Connecticut



Male kestrel “foundling” being banded.

Photo by Mackenzie Hunter

Case summary by Art Gingert

A 5-6 day old kestrel nestling from Pine Plains, New York, was brought on July 5, 2023 to the avian rehabilitation facility at the Sharon Audubon Center in Sharon, Connecticut. The nestling with minor injuries was found sheltering under a porch recliner, near a dead sibling, with no nest site anywhere evident, including any snag or fallen tree. The nestling was stabilized, hydrated, fed, and spent two nights in the clinic.

This lucky nestling was fostered to a brood of three young kestrels (6-7 days old) in a nest box in Litchfield, Connecticut on July 7. Its acceptance by siblings and condition were monitored, and nail polish on one of its talons helped identify the fostered nestling. All four healthy nestlings were banded on July 20 and fledged successfully.

NOTE: All banding, marking, and sampling conducted under a federally authorized Bird Banding Permit issued by the U.S. Geological Survey.

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

americankestrel.online