*A feisty juvenile osprey shows off its band. Photo: J. Morton Galetto.*

## Number, Please!

*Banding birds offers many discoveries, including insights into the science, management, and conservation of avian species.*

By J. Morton Galetto

It was in the mid-eighties that I began banding birds, more specifically osprey. People often ask me how the birds are caught prior to putting the identification ring on a leg? When I explain this is done before they fledge they feel foolish for asking. But people do tag adult raptors at banding stations in the fall. Personally I prefer to do

the job before they know the many uses for their talons!

Today birds are tagged based on special permits given to master banders who band, or who supervise sub-permittees like me. The data recorded at the time includes the band's letters and numbers, date, bander's name, species, age, and location of the banding. Depending on a study's purpose there could many other statistics recorded by a scientist or his assistant/s. The result is that each bird has its own unique identification number.

The basic data in both the United States and Canada are maintained by The United States Geological Service Bird Banding Laboratory in Patuxent, Laurel, Maryland, a central repository for banding records since 1920. They distribute about one million bands to participating scientists each year.

The history of banding birds predates the USGS Bird Banding Laboratory database by over 2200 years. Early records show that Roman officers marked individual birds as early as 218-201 B.C. They tied knots on threads attached to a swallow's legs, which served as an encryption to inform comrades in the field how many days later an attack would commence.

Later Marco Polo wrote on his travels c. 1275 – 1295, "Each bird belonging to the sovereign and his Barons has a tablet of silver on its feet, with its name and that of the owner inscribed so that whoever caught it can be returned to him."

During the reign of King Henry IV of France (1589 to 1610) his falcon flew 1350 miles from Fontainebleau, France to Malta, having been identified by its metal band (William Smiley, 1838).

Father of German protohistory John George Keysler (aka Johann Georg Keyssler) published "Travels" in 1760, in which he described the taking of a heron in 1728, which had a silver band on its leg engraved with the name of Duke Ferdinand, grandfather of the present elector, showing the bird had carried the band over 60 years. The bird would have been banded in 1669 or before.

In these banding examples ownership and messages were the intended intent. However they ultimately provide insight into what is the main purpose of many bands today – individual identification, studies of dispersal and migration, behavior, life-span, survival rate, reproductive success, and population growth.

Bird banding and tagging continued to evolve. Systematic bird banding began in Europe by 1866, where colored threads helped to track migrant birds. John J. Audubon is usually acknowledged as the first American bird bander. His activities took place along Perkiomen Creek, near Philadelphia, where he was able to identify an eastern phoebe's seasonal return to the previous year's nesting location. This kind of information gives insight into nesting site fidelity.

American geneticist and ornithologist Leon J. Cole addressed the Michigan Academy of Science in 1901, suggesting that the same method of tagging fish could be used on birds' legs. In 1908 Cole presented a paper to the American Ornithologists' Union on tagging birds to study their movements.

In June of 1902 scientist Dr. Paul Bartsch of the Smithsonian Institution tagged 23 black-crowned night herons at a colony near Washington DC with bands that were inscribed, "Return to the Smithsonian Institution." He received a report three months later from a bird shot 55 miles from its banding site. The following year he banded 75 more heron. In 1905 one of these birds was reported having been found dead in Cuba, making it the first long distance migrant identified in America.

Canadian ornithologist and architect P.A. Traverner is the person who initiated the distribution of hand-made aluminum bands to correspondents. In 1904 he proposed to the Michigan Ornithological Club a scientific vision he had for leg bands to reveal the exact ages of different plumages, length of bird's life, individual migration routes, and distances travelled; these were "but some of the problems that must be attacked."

These early efforts grew into what today is a massive amount of knowledge gained about birds' travels: exactly what P.A. Traverner envisioned.

By 1920 the federal government oversaw banding activities. Frederick C. Lincoln was in charge of the endeavor for 26 years, serving at first at the Bureau of Biological Survey and later at the US Fish and Wildlife Service.

Prior to various electronic trackers – i.e. satellite, dataloggers and those that ping cell towers - only bands were able to give us definitive insight into migratory routes and distances travelled. Bands still remain the least expensive and most widely used method of tracking birds. Even a bird equipped with electronic gear will also be fitted with a band. A future story will be

devoted to some of the recent innovations in electronic trackers.)

Another component of banding is the harvest of game birds, which is reliant on analysis of banding information. Hunting regulations depend on monitoring changes in waterfowl populations. Banding data assess productivity and survival along with vulnerability of the age/sex classes associated with hunting pressure.

The importance of a central repository for curation, archiving, and dissemination of data from banding and marked birds can’t be stressed enough. In these times when the North American birding populations have dropped 25% from 1970 to 2019, the service that the Bird Banding Laboratory provides is key to effective science, management, and conservation of avian species.

*This peregrine at Forsythe US National Wildlife Refuge dared our columnist to take a picture of its band. She obliged and reported it to the Endangered and Nongame Species Program. Photo: J. Morton Galetto.*

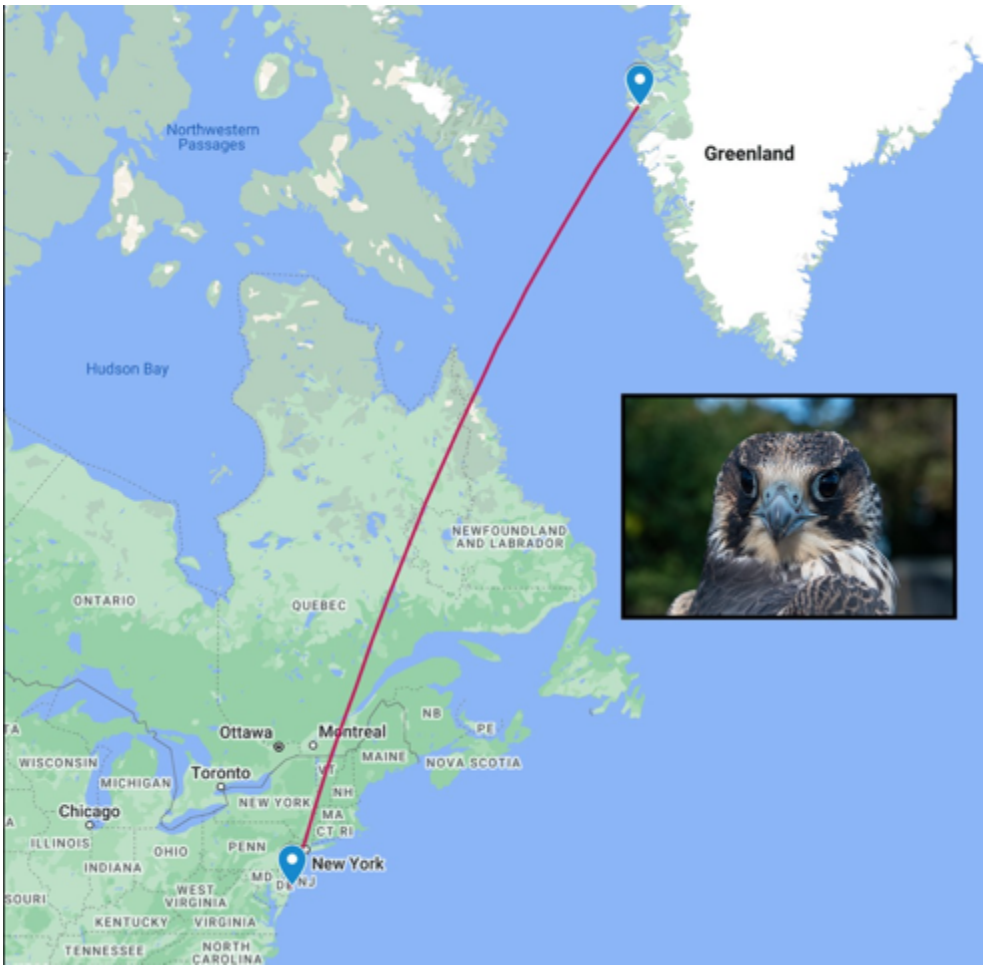
Over the years, if I find an injured or dead bird I report it to the Laboratory. The form asks for the band or color marking number, the species if known, and whether the band

was removed, left on the bird, or obtained by a photograph. Other information is the status of the bird (alive, dead, injured), the date of encounter, and the location discovered. In the 1980s and 90s I received a certificate of appreciation for my reports, but now such data are electronically recorded and acknowledged. The acknowledgement tells you the species and sex if known, who the bander was and where they were/are from, when they banded, and where. If the bird was banded as a juvenile, you can learn its age. The location might give you insight into where the bird has travelled.


*Many scientists have installed cameras on nesting platforms and in boxes, like this osprey platform at Terrapin Cove on the Maurice River. Higher resolution cameras can often capture banding numbers like the one on this osprey, banded by our columnist. Photo: Hugh Richard's nesting cam.*

In Cape May there has been a Raptor Banding Project since 1967. Biologists capture, band, and release migrating birds of prey. In November of 2022 they reported having tagged 155,000 raptors since their inception. If they are exceptionally lucky they capture an already banded bird – a recapture.

Ornithologist Clay Sutton told me a story years ago about one of the most famous of these. In the summer of 1989 volunteer Chris Shultz was banding peregrines at nesting sites in Greenland. That fall Shultz came to Cape May in October and caught a peregrine with a band number that seemed familiar. It turned out that it was the same bird that he had caught three months earlier! Clay joked that he imagined American cartoonist Gary Larsen depicting the bander with the peregrine in hand and the falcon thinking, “I fly 2,200 miles and here’s the same dolt again!”




A social media post by Cape May Raptor Banding Project shows the presumed route of a peregrine recaptured by Chris Shultz. The Project is a small volunteer-run non-profit, accepts donations - http://capemayraptors.org/donate/. Photo of peregrine: Charlotte Catalano.

A couple of years ago my husband and I were out banding on the Maurice River. A couple who recognized us flagged us down from their craft to tell us an osprey was swimming in the river. It is not unusual for osprey to get into predicaments on their first flights and simply become exhausted. They helped us locate the bird a few bends away, struggling to get ashore. We scooped him

out of the water, boarded him, and looked up his tag number. As things turned out we had banded him a few weeks earlier and were able to return him to his rightful nest about a mile away. Never was a bird so happy to see a bander for a second time, or so one would assume!

**Sources**

USGS.gov, Bird Banding Laboratory.

History of Bird Banding, Harold B. Wood, The Auk, April 1945, Vol. 62 - Pages 256-265 – found in Searchable Ornithological Research Archive (SORA).

Clay Sutton as well as the Cape may Raptor Banding Project Facebook page, The Chris Shultz peregrine story.