

One Hundred Years of Bird Banding in North America¹

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1902 - Paul Bartsch Bands Birds

"There are still many unsolved problems about bird life, among which are the age that birds attain, the exact time at which some birds acquire their adult dress, and the changes which occur in this with years. Little, too, is known about the laws and routes of bird migration, and much less about the final disposition of the untold thousands which are annually produced" (Bartsch 1904).

With these problems in mind, Dr. Paul Bartsch of the Smithsonian Institution initiated systematic, scientific bird banding in North America in 1902. Bartsch banded 23 Black-crowned Night-Herons (*Nycticorax nycticorax*) at Washington, DC using serially numbered leg bands with the year and a "Return to Smithsonian Institution" address inscribed on them. Bartsch had his first band recovery in September, 1902 and he published his work in 1904 (Bartsch 1904).

Others soon followed Bartsch. In 1905, James Henry Fleming banded the first bird in Canada, an American Robin at his home at Toronto, Ontario. His bands were inscribed with the address "Notify The Auk. N.Y.", and were supplied by noted Canadian ornithologist P. A. Taverner who was an early proponent of bird banding. Another Canadian, Jack Miner, began banding waterfowl in 1909 at his Kingsville, Ontario sanctuary.

Back in the United States, Leon Cole of the University of Wisconsin promoted bird banding and founded the American Bird Banding Association in 1909. The Association oversaw bird banding until the U.S. (1920) and Canadian (1923) federal bird banding offices were established following the 1916 Migratory Birds Convention.

1920 - Frederick Lincoln Expands the Banding Program

Among the many who helped form the North American

bird banding program, Frederick C. Lincoln was the most influential. Lincoln joined the U.S. Biological Survey in 1920 and was put in charge of organizing the U.S. banding office. He stayed in charge for 26 years and left a remarkable legacy of accomplishment. An effective administrator, he developed numbering schemes and record keeping procedures. He recruited banders, established standards, and fostered international cooperation. A prolific writer, he produced scores of journal articles, books, manuals and communications related to banding. Also a visionary, he promoted banding as a tool of science, and he developed the "Lincoln Index" population model and the Flyways concept. Frederick C. Lincoln arguably can be credited with laying the foundation for today's North American bird banding program.

2002 - Today's Banding Program

The North American bird banding program has expanded greatly from its small start in 1902 when one person with simple objectives banded one species at one location. Today, the program stretches from the Canadian Arctic to the tropics of Latin America, from Newfoundland to the far Pacific islands, and beyond to places like Siberia, Greenland, and Antarctica. Wherever North American birds go, bird banding is there.

Virtually all species are, or have been, banded. Currently, 1,200,000 birds are banded, and 85,000 recovered, each year. More than 63,000,000 birds have been banded since the beginning of the program, and 3,500,000 have been recovered and reported to the banding offices. Millions more have been recaptured or resighted by banders.

These banders include federal and state conservation agencies; university associates; amateur ornithologists; bird observatories; environmental centers; non-governmental organizations; environmental consulting firms, and other private sector businesses. Currently, more than 6,100 banders are operating in the United States and Canada.

Today's banders augment traditional capture and banding methods with advanced technology. Most use auxiliary marking techniques such as colored leg bands, coded neck collars and radio transmitters. Many take blood and feather samples for assays and DNA analysis, and many use sophisticated statistical models to

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analyze their data. Some use satellite transmitters track birds in real time over long distances.

Migration was the focus of the earliest banding studies. Migration studies continue, but today banding has much broader application. Data from banded birds are used to: study avian behavior and ecology; monitor populations; restore endangered species; assess the effects of environmental disturbances; set hunting regulations; educate people about the environment; and to address concerns about human health, safety and economy such as West Nile disease, bird hazards at airports and crop depredations. Results from banding studies support national and international conservation programs such as the North American Waterfowl Management Plan, and Partners in Flight.

The North American bird banding program is jointly supported by the U.S. Geological Survey's Bird Banding Laboratory and the Canadian Wildlife Service's Bird Banding Office. Each office functions as a service and administrative center for banders, issuing permits and bands; supplying forms, instructional materials and technical advice; coordinating the use of auxiliary markers such as neck collars and radio transmitters; serving as the repository for banding records and the clearing house for reports of banded birds; disseminating data to researchers and managers; and assisting in the development and coordination of banding projects. Informal partners in the management of the North American bird banding program include the U.S. Fish and Wildlife Service, state/provincial Waterfowl Fly-

way Councils, and regional and national banding organizations.

Tomorrow's Program

Tomorrow's bird banding program will differ from today's as technology advances and new research and management needs develop. But as the banding program evolves, the past, present and foreseeable future will remain linked by one fundamental element: that band that uniquely identifies the individual bird and leads to knowledge of its movement, survival and behavior.

The knowledge gained from the first 100 years of bird banding in North America has led to remarkable accomplishments in ornithology and the conservation of birds. Few, if any, other tools available to the ornithologist have been as productive.

May there be another 100 years of bird banding in North America, for as Bartsch said in the beginning, "There are still many unsolved problems about bird life...." (Bartsch 1904).

Literature Cited

- Bartsch, P. 1904. **Notes on the herons of the District of Columbia.** Smithsonian Miscellaneous Collections. Pub. No. 1419. 45:104-111.