It's for the birds: Historical bird files give insight into climate change

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On Nov. 1, 1933, Mrs. Bruce Reid recorded seeing both a male and female ivory-billed woodpecker in Texas. And on May 28, 1938, Oscar McKinley Bryans observed a ruby-throated hummingbird in Michigan, noting that the birds were most common when apple trees were blooming.

These are just two of more than 6 million personal observations scribbled and preserved on notecards in government files. The cards record more than a century of information about bird migration, a veritable treasure trove for climate-change researchers because they will help them unravel the effects of climate change on bird behavior, said Jessica Zelt, coordinator of the North American Bird Phenology Program at the USGS Patuxent Wildlife Research Center.

That is -- once the cards are transcribed and put into a scientific database.

And that's where citizens across the country come in - the program needs help from birders and others across the nation to transcribe those cards into usable scientific information.

"These cards, once transcribed, will provide over 90 years of data, an unprecedented amount of information describing bird distributions, migration timing, and migration pathways and how they are changing," said Zelt. "There is no other program that has the same historical depth of information that can help us understand the effect that global climate

change has on bird populations across the country. When combined with current information, scientists will better understand how birds are responding to climate change and how to develop tools to help manage that change, especially for at-risk species."

The millions of hand-scribbled cards sit in row upon row of federal green filing cabinets of ancient vintage in a modest and fittingly old office dating from before WWII. The cards contain almost all of what was known of bird distribution and natural history from the Second World War back to the later part of the 19th century, said USGS senior scientist Chan Robbins, who kept track of the cards' whereabouts in attics and basements during the intervening years.

"When I go through the files, it is just amazing some of the stories that are recorded there," said Jessica Zelt, who is an avid birder herself. "For example, one of our online participants recently wrote to tell me she had transcribed a migration card on purple martins by American ornithologist Margaret Morse Nice from 1926. It is exciting to see people today being linked to a piece of birding history."

Participants recorded their name, locality and year, along with arrival and departure dates, date of abundance, and whether it was a species common in that area. Personal observations on the cards often caught the enthusiastic joy of a birder sighting a rare bird.

The collection, said Zelt, includes information on about 900 species, including some sightings of rare, extinct, or nearly extinct birds, such as the giant albatross, ivory-billed woodpecker and Carolina parakeet, birds whose very names make the hearts of avid birders go pitter-patter.

The BPP is joining efforts with the USA National Phenology Network (www.usanpn.org), which has just kicked off a national program to recruit citizen scientists and professional researchers to monitor plant

and animal life cycles, or phenology. The two efforts will complement each other flawlessly, with the BPP combining its expertise on historical bird data with the USA-NPN's ongoing work to document changes in flowering, fruiting, migrations, reproduction, hibernation, and other plant and animal phenological events.

The BPP was started in 1880 by Wells W. Cooke, who wanted to broaden knowledge and understanding of migration. Eventually, famed scientist C. Hart Merriam expanded the volunteer network to include the entire United States, Canada and part of the West Indies. By the late 1880s the program had 3000 volunteers. Although the program was actively maintained by the federal government, in 1970 the program closed, until it re-opened again last year.

This program relies heavily on the participation of citizen scientists, said Zelt. "We currently house 6 million cards, which need to be scanned onto our website and then converted, solely by volunteers, into our database. Birders who want to concentrate on one particular group of birds can select that group or even a particular species. And if you live in the Baltimore-Washington area and would like to help the volunteer crew work with the historic files, you are welcome to do so."

More information: To date, dedicated volunteers have scanned about 184,000 cards on hooded orioles, barred owls, spotted owls, scarlet tanagers, American redstarts, rose-breasted grosbeak and many other species. That leaves about 5,816,000 cards to go. So if you would like to get involved with this program, please go to "Become a Participant" at www.pwrc.usgs.gov/bpp/BecomeAParticipant.cfm .

Source: United States Geological Survey