

Birds of the Central Carolinas

Birds of the Central Carolinas

**Including Ornithological Records and
Firsthand Accounts from the Civil War Era to Today**

Written by Donald W. Seriff

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Mecklenburg Audubon Society

The Mecklenburg Audubon Society was founded in 1940. The Society has been a leader in education and conservation in the Charlotte region for over 75 years.



Mecklenburg County Park and Recreation Department

The Mecklenburg County Park and Recreation Department was established in 1974. The Department manages over 22,000 acres of parks, greenways, and nature preserves in the county.



In Memory Of David Bicknell Wright

Dean of the Charlotte-Area Birders
Ornithologist, Mentor, Friend

Dedication

This book is dedicated to the thousands of birders who have spent countless days exploring the Carolina Piedmont, seeking out our local birds, and who then took the extra step needed to share their discoveries with others.

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Foreword

Across the over 500-mile stretch from the Appalachian Mountains in the west to the barrier islands of the outer banks in the east and south to the low-country marshes of Hilton Head Island, the two Carolinas boast a rich and diverse avifauna—466 species on the official North Carolina state list and 433 in South Carolina—and an equally impressive history of ornithological studies and conservation efforts. While some, principally Ohioans, may dispute North Carolina’s “First in Flight” claim with regards to the Orville brothers, none can dispute the primacy and importance of the pioneering efforts, in the early years of the 20th century, of ornithologists and conservationists in both states working to protect birds in those days of wanton slaughter by market hunters and suppliers for the fashion industry.

It was an honor to be asked to write a foreword to Don Serif’s remarkable *Birds of the Central Carolinas*. (I suspect that in the process I may wear out my Thesaurus looking for superlatives to describe the book.) Serif’s volume, focused on the birds of the early 21st century Piedmont region of the Carolinas, is an admirable addition to the long, unbroken arc of ornithological research in the area stretching back almost a century and a half.

I spent 18 years teaching Ornithology at UNC Charlotte, studying Barred Owls and Ospreys in the Carolina Piedmont and enjoying the camaraderie of the vibrant birding community in the Charlotte area. I was president of the Mecklenburg Audubon Society when Don proposed the first ever county-based breeding bird atlas in the Carolinas, a project that was the first step towards his authoring this book. We (Mecklenburg Audubon) enthusiastically supported the project from its initial stages as a breeding-bird atlas through the transition to the book you now hold in your hands. It is thus deeply rewarding to offer my thoughts on the final product.

Breeding bird atlases provide an essential benchmark by which to monitor changes in avian populations in the face of the dramatic changes our species is imposing on the environment—both local changes in ecosystems and habitats affected by the our rapidly growing population as well as changes resulting from our perturbation of



Illustration circa 1890: the Carolina Parakeet.

global meteorological cycles. We need to understand the natural world around us deeply and keep our finger on its pulse. From canaries in cages warning of toxic gases in coal mines to Ospreys and Bald Eagles alerting us to the dangers of reckless application of DDT in salt marshes, birds have long served as delicate sentinels to the health of our environment. The detailed species accounts in this book provide vital, baseline information on the biology and population trends of the regional avifauna. We will need this information going forward if we are to be good shepherds of our environment.

With the results of the four-year breeding-bird atlas surveys as its core, the book offers much more. The introduction includes a fascinating review of bird studies in the Piedmont region, richly illustrated with original material dating back to the 1700s. Each of the 312 species accounts includes beautiful illustrations by Leigh Anne Carter and locally sourced photographs. Given the long history of bird studies in the region, Seriff was able to tap into an impressive database of observations going back over 100 years from banding records, Christmas and Spring Bird Counts, Breeding Bird Surveys, and field notes from many of the birders who spent thousands of hours in the field and not only meticulously recorded their observations, but had the presence of mind to share these records. He has mined deep into this rich motherlode of field observations in compiling the body of the book, so each species account not only offers a description of the species' status and biology in the first decades of the 21st century, but also traces changes in the species distribution and abundance over the course of much of the 20th. (Don't miss the fascinating account of the extinct Passenger Pigeon—one of two extinct species that were once enormously abundant in the Carolinas.)

The book is by no means a sterile compilation of information on what birds are found where. Seriff has charmingly quoted directly from field notes and observations of many of the birders and ornithologists who have contributed to our knowledge of the Piedmont avifauna. From *The Charlotte Observer* report of one Mr. John Ferris feeding a “splendid turkey”—perhaps one of the last indigenous turkeys hunted in Mecklenburg County—to his boarders in 1874 to Frank Bragg's lovely 2010 description of flushing two coveys of Northern Bobwhite from a field planted in native grasses, coreopsis and partridge peas and his conclusion that “...just maybe, the hard work of planting natives, treating for fire ants and praying is working,” the book has a richly warm and personable feeling. Leafing through the species accounts, I smiled as I read the field descriptions of rare birds seen on Christmas Bird Counts and remembered the excitement of hearing about them at the “count-down” parties hosted on the shores of Lake Norman by David Wright, the “dean of Charlotte area birders,” to whose memory the book is dedicated.

It is hard to imagine how many hours of work, from digging deep into historic archives to organizing thousands of field notes from dozens of field birders to managing the five-year atlas project, were invested in this project. One thing that is certain is that the effort paid off in a book that is both beautifully crafted and an invaluable resource for ornithology and conservation in the Carolinas.

Rob Bierregaard
21 December 2017
Wynnewood, PA

Preface

The year 2018 has been designated the “Year of the Bird” by a consortium of conservation organizations in honor of the 100th anniversary of the signing of the historic Migratory Bird Treaty Act. *Birds of the Central Carolinas*, published in early 2018, presents a first-of-its-kind summary of the status and distribution of birds in the Carolina Piedmont before and after this vital piece of conservation legislation, and it provides details about the effects that this law and other state and federal laws had on bird conservation in the Carolinas.

A surprisingly rich diversity of birds has been recorded in the Central Carolinas. About 75% of all bird species ever documented in all of North and South Carolina have been found here. This diversity exists despite the fact that this region has undergone a century of rapid development and that it has no high elevation mountain habitat and no coastal or open ocean habitat. The rolling hills, forests, lakes, rocky streams, fields, parks, and greenways of the Central Carolinas are, quite simply, a wonderfully fun and productive place to spend time searching for birds.

The purpose of this work is to provide a comprehensive summary of our knowledge of birds in the Piedmont, both past and present. This work presents a compilation of the ornithological records of the region that includes species observation dates, observation details, historical context, firsthand accounts, research results, and current conservation concerns. Notes and citations are furnished in the Appendix for notable records and sources of information presented in each species account.

This book is the result of the combined efforts of thousands of birders who have enjoyed watching birds in the Piedmont over the past 150 years. These observations provide us an extraordinarily detailed account of bird life here and how it has changed during that time. Fortunately, many of these birders shared their sightings in local, state, and national publications and with state or federal agencies. In addition, several birders maintained detailed accounts of their sightings in personal journals or field

notebooks. Together, these sources have resulted in a treasure trove of bird observations available for reference. No single observer, no matter how experienced or how skilled, could hope to achieve the level of understanding of local bird life that a group of birders can provide when sharing their data over a long period of time. This book is a testimony to the efforts of each of these curious and inspired observers of our natural world.

A special effort has been made in this book to share original accounts of bird sightings and birding experiences of local observers, both past and present. Memorable quotes, stories, newspaper accounts, and other anecdotal



Nestling screech-owl eating a Rough Green Snake fed to it by an adult.

accounts are included along with scientific data and peer-reviewed records. The objective is to help readers gain a deeper insight into the field work that has occurred here by communicating the observations, excitement, and thoughts of the birders in their own words. The intent is for this document to be useful as both a scientific reference and an educational reference and for it to help inform conservation efforts in this rapidly developing region of the Carolinas. It is written in the hope that, ultimately, it will help protect our local birds and bird habitats, which are such a vital component of our living natural heritage.

I am deeply indebted to Leigh Anne Carter—without whom this book would not have become a reality. Her superb illustrations add a very appealing element to each species profile. Her skills in design, layout, data entry, proofreading, and editing, and her incredible patience and perseverance made her an invaluable asset throughout this long process.

I want to extend a special “thank you” to each of the photographers who donated their amazing photographs. I believe it is both unusual and noteworthy that each bird photograph used is actually one taken of a bird in this region. These photographic contributions are quite impressive.

The board and members of the Mecklenburg Audubon Society provided funding and encouragement for both this book and the Mecklenburg County Breeding Bird Atlas. Special thanks to Rob Bierregaard for writing the Foreword. Presidents Jill Palmer, Ken Kneidel, and especially Jim Guyton also played vital roles in making this book a reality. Audubon Society members devoted hundreds of hours in the field collecting much of this data. Thank you to all.

Thank you to Kent Fiala, webmaster of the Carolina Bird Club website and developer of the searchable online Chat database. Thank you to Harry LeGrand and Tom Howard for their website *Birds of North Carolina: Their Distribution and Abundance*. Thank you to staff

at The Cornell Lab of Ornithology for managing eBird. Thank you to Will Cook for managing the online forum *carolinabirds*. Thank you to Judy Walker for managing the Mecklenburg Audubon listserv. Each of these tools was extremely useful in my research. Thank you to Leigh Anne Carter, Kent Fiala, and Melissa Elder for assistance with editing.

Thank you also to Jim Garges, Director of the Mecklenburg County Park and Recreation Department, and Chris Matthews, Director of the Nature Preserves and Natural Resources Division, for recognizing the importance of our local biological research efforts and for providing patronage of these projects. Mark Wimer and Allison Sussman with the USGS Patuxent Wildlife Research Center provided critical support for the Mecklenburg County Breeding Bird Atlas by allowing the use of the USGS online data collection portal “BBA Explorer.” This portal helped make the tedious job of data entry and data verification actually fun. Many thanks.

Finally, my lovely wife, Kim, and our children, Suzannah and Liam Seriff, provided extraordinary encouragement and support throughout the duration of this project. Without your patience and assistance, this book would never have been completed. A very heartfelt thank you!

Despite what seemed like an endless series of editing and review, there are bound to be mistakes, omissions, and errors in any work of this breadth and size. I accept full responsibility for each of these and would like to be informed of them as they are discovered.

This book should be used as a catalyst for future research, monitoring regional trends, and extension of our existing level of knowledge. Immediately after publication, there will be new birds sighted, changes in status, revisions to arrival and departure dates, and changes in peak counts. Have fun making new records and breaking the old ones. Now, I would like to encourage you to go find the birds and help tell their remarkable tales!



INTRODUCTION

“With the progress of my researches in Chester County, it became evident that the Piedmont Belt was an exceptionally inviting field—a veritable *terra incognita* of surprising richness,—and that years of continuous effort should be devoted to its investigation.”

—Leverett Loomis, *The Auk*, January 1889

Scope

All birds that are of regular occurrence in the Piedmont of both North and South Carolina are described here in detail. In addition, this book provides records of all birds ever documented in the Central Carolina region (*Figure 1*). This includes birds that are of accidental, casual, or very rare occurrence in the region. For our purposes, the Central Carolina region includes 11 counties in North Carolina—Catawba, Iredell, Lincoln, Cleveland, Gaston, Rowan, Stanly, Cabarrus, Anson, Union, and Mecklenburg—and three counties in South Carolina: Lancaster, Chester, and York. The combined geographical extent of this core study area totals almost 7,000 square miles.

Special emphasis is placed on Mecklenburg County and the City of Charlotte, which lie at the heart of the Central Carolina region. Over the past century, Mecklenburg County has been the focus of the greatest amount of bird study within the region, and Charlotte is the fastest growing urban area in both Carolinas. Natural habitat within the county has been lost at an alarming rate in recent years, and this development is spreading outward to surrounding counties in the region. The area of Mecklenburg County is approximately 546 square miles, and it is expected to be “built out” in the very near future. Impacts to the avifauna which have been documented in Mecklenburg County can be expected to occur in other parts of the region as development continues.

Full species accounts are provided for 312 species of

birds that have been documented in the Central Carolinas and also within the boundaries of Mecklenburg County, the core of the region. The Supplementary Bird List beginning on page 519 provides details of an additional 36 species of birds that have been seen somewhere in the region, but which have not been confirmed in Mecklenburg County. A table listing 40 additional additional “ultra-rarities” is found on page 535.

Physiographic Setting

The Central Carolina region is situated in the center of the Carolina Piedmont. According to Dr. Allen Tullos of Emory University, the region is described as follows:

Along the southern shoulder of the Piedmont Plateau that stretches from New York to Alabama, the Carolina Piedmont runs some 250 miles from Danville, Virginia, to the far edge of South Carolina. Seventy-five to a hundred miles wide, this region of smooth-rolling hills and rocky-bottomed rivers expands from the Appalachians towards the geological fall line cities of Raleigh, Fayetteville, Columbia, and Augusta. Beyond lies the Atlantic Coastal Plain.

The Central Carolina region is almost exclusively Piedmont in character with the influence of the Mountains creeping in along the western boundary and a touch of

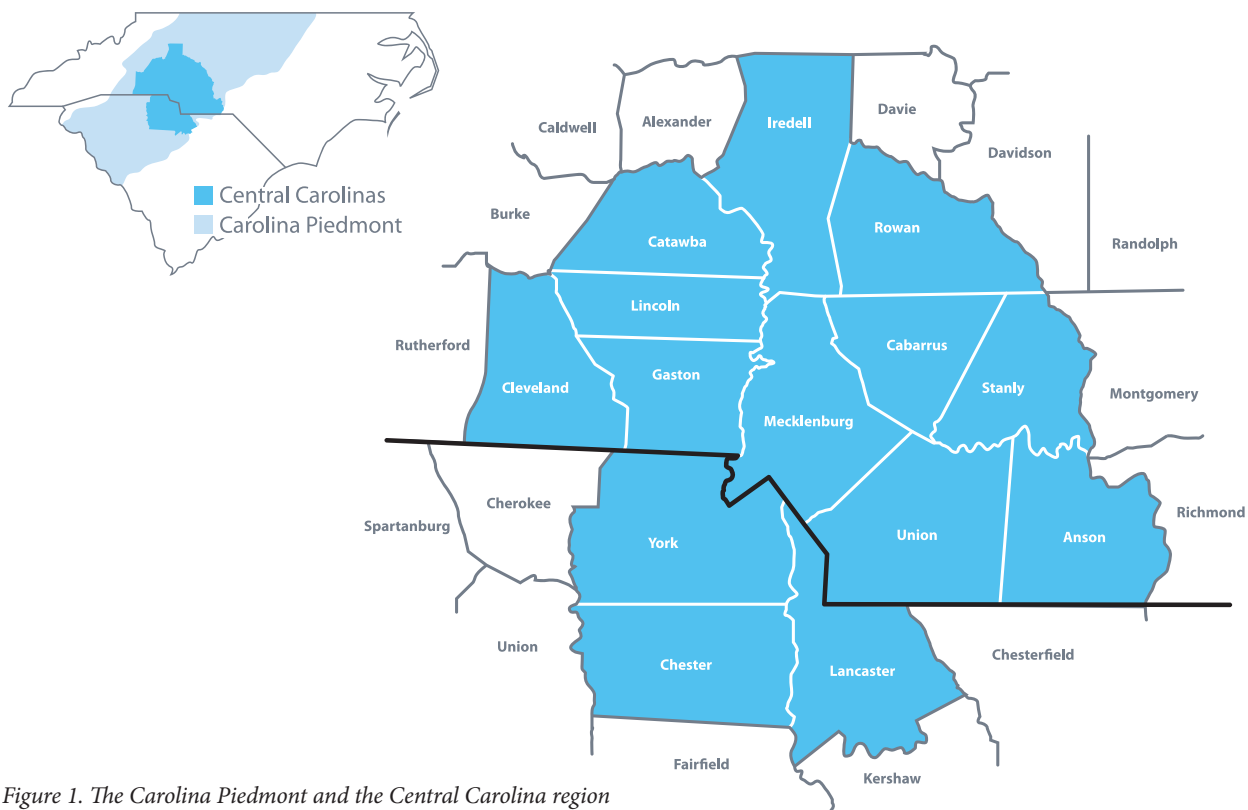


Figure 1. The Carolina Piedmont and the Central Carolina region

Sandhills influence along the southeastern edge.

Three major river systems flow through the region, and each has been dammed at various points creating a number of large lakes with excellent birding habitat. The Catawba River flows out of North Carolina's mountains, through Lake Hickory in Catawba County, and south to Lake Wateree near the town of Great Falls in Chester County, SC. The Yadkin–Pee Dee River system, which includes the Rocky River, flows from High Rock Lake near the town of Yadkin, NC, down through Blewett Falls Lake east of Wadesboro, and south past the town of Cheraw, SC. The Broad River basin drains most of Rutherford and Cleveland counties in North Carolina and flows south, creating much of the western boundary of York, Chester, and Fairfield counties in South Carolina.

Major lakes of the Catawba River basin found in the region include: Lake Hickory, Lookout Shoals, Lake Norman (the largest in North Carolina), Mountain Island Lake, and Lake Wylie (see map on page 543). Primary lakes along the Yadkin–Pee Dee River corridor include High Rock Lake, Tuckertown Reservoir, Badin Lake, Lake Tillery, and Blewett Falls Lake. The John H. Moss Lake in Cleveland County drains into the Broad River basin. Each of these lakes is man-made and each provides habitat for many species of birds that were not present in this area prior to the turn of the twentieth century. Countless stream corridors, small man-made farm ponds, and beaver-created wetlands also provide excellent bird habitat throughout the region.

The majority of the region ranges between 400 and 800 feet above sea level; however, isolated mountain outcrops are present in several counties. A few of our breeding birds are found breeding only in these higher elevation sites. Kings Mountain and Crowders Mountain in Gaston and York counties rise to about 1,700 feet. A portion of the South Mountains extends into Cleveland County with elevations up to about 2,800 feet. Bakers Mountain in Catawba County rises to a height of about 1,780 feet. The Brushy Mountain chain extends into Alexander and Iredell counties with high points at Hickory Knob (2,500 feet) and Fox Mountain (1,760 feet). The ancient Uwharrie Mountain range extends into several of the region's counties on our eastern boundary, with the peak of Morrow Mountain at about 936 feet in Stanly County.

A variety of natural botanical communities exist in the Central Carolina region. The dominant community that was prevalent prior to European settlement is the Piedmont Oak–Hickory forest. This forest type is quite botanically diverse. Distinct variations occur where the land becomes dry on ridges and south-facing slopes, and where the land becomes more moist (mesic) on north-facing slopes and in steep ravines. The original forest has been logged and many areas have been heavily impacted by man, but this community type remains widespread. In many areas, Mixed Pine–Hardwood forests are prevalent as well. The short-leaf pine is the dominant native pine,

but loblolly pine can be found on the southern and eastern edges of the region, and it has been planted extensively. Some areas along our larger creek tributaries and along the main river channels still harbor patches of bottomland and floodplain forest habitat which are especially important to many species of birds. Cultivated and fallow fields, “old fields,” and periodically mowed utility corridors provide vital habitat for many species of birds that rely on disturbance-dependent, early successional plant communities. As habitat changes in expanding urban and suburban areas, habitat specialists are forced out, habitat generalists thrive, and other birds do their best to adapt and survive.

Ornithology in the Central Carolinas

The lives of birds and people have long been intertwined in the Piedmont. Archeological research has shown that the American Indians living here and throughout the Southeast consumed many kinds of birds and used bird bones and feathers in a variety of ways in their daily lives. The first written record of birds in the region was provided by the English explorer John Lawson in his journal *A New Voyage to Carolina*. Lawson recorded over 10 pages of information about birds, and around February 1701, he described encountering both Wood Duck and American Woodcock near what is now Charlotte. As European settlers began to colonize the area, they relied on hunting wild birds as a staple of their diet and later as a supplement to their livestock during lean times. Over the years, bird hunting became an important tradition in this part of the South, and it remains a passion of many in the region today.

Many accounts of birds published here prior to the Civil War described various hunting exploits or anecdotal tales of folklore. In 1845, *The Charlotte Journal* published the recollections of “Aunt Suzy,” a lifelong Mecklenburg County resident who told of her life during the days of the American Revolution. Aunt Suzy described regular hunting forays made to supply much needed food and noted: “There were many birds about in those days—snipes, partridges, and wild turkeys...I would hate to see the wild turkeys come home—they had to be cleaned and taken care of. We used to jerk and dry the fleshy parts.” Local folklore shared from that era include Reverend W.S. Smith of the Town of Cornelius who recalled as a boy being taught to keep “horseshoes in the fire” to keep hawks away from his family's chickens, and Louise Bennett of Mecklenburg County, who shared that she was taught “the placing of a hairpin over a lamp chimney, hanging one prong in and one prong out, will stop the screeching of a screech owl.” At the time the presence of a screech-owl was considered a bad omen.

It wasn't until the 1870s that the era of modern bird study began in the Central Carolina region, and for the most part, in the rest of the Carolinas as well. During this decade, the first careful, systematic recording of

ornithological observations and scientific collecting of specimens was begun. Leverett M. Loomis, a young man who lived in the town of Chester, was the first ornithologist active in this region (Figure 2). Loomis collected birds and published articles about the birds he discovered in this part of the Carolina Piedmont from 1876 through 1892. Like all ornithologists of his day, Loomis shot the birds he found and preserved their skins to insure proper identification. He later sent many of these specimens to museums for deposit in their permanent collections. In 1893, Loomis left South Carolina and moved to California, where he became one of the most renowned ornithologists of his day.

In the 1880s, the collecting, trading, and selling of the eggs of wild birds (oology) became a very popular pursuit throughout much of the country. C.S. Brimley, curator with the North Carolina State Museum, noted that from 1880 to 1896, bird and egg collectors “simply swarmed in those days,” and “[w]e collected birds eggs of many kinds, more especially which would bring in pecuniary compensation.” Richard B. McLaughlin of Statesville was one of the most active oologists in the Carolinas at that time (Figure 3). McLaughlin published at least 11 articles on birds and egg collecting in Iredell County between 1886 and 1888, and others on the natural history of the region for many years after. In addition to these publications, McLaughlin submitted hundreds of songbird migration records that today are part of the national collection of the USGS Bird Phenology Program, housed in Patuxent Maryland. McLaughlin later became a State Senator and prominent attorney.

Countless specimens of birds, bird eggs, and bird nests were collected throughout the region during this period. Many of these ended up in private collections that have since been lost. Some made their way to museums where they can still be examined today.

By the late 1800s, scores of bird species were in peril in the United States due primarily to overhunting for the market and the millinery trade and to impacts from the collection and trade of eggs. The sale of birds and bird feathers was a highly lucrative industry and the Carolinas

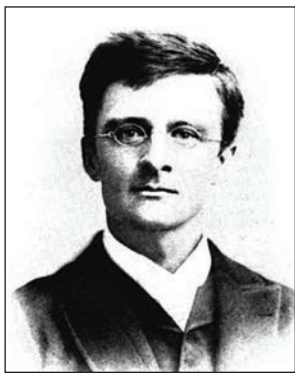


Figure 2. Leverett M. Loomis



Figure 3. NC State Senator Richard B. McLaughlin
(Courtesy of the State Archives of North Carolina)

were ground zero for much of the market hunting, especially along the coast. In 1890, *The Charlotte Observer* carried a piece that noted “[d]ead birds mean dollars to the feather dealer, and he would stifle the gush of a song in the throat of a bobolink with as little compunction as he would crush a mosquito.”

After the Civil War, “Northern Hunters” descended south for decades into the Central Carolinas each winter to take their fill of a variety of wild game birds. Trunks filled with thousands were shipped back north by rail at the end of each season. Local populations of many birds rapidly declined. As early as March 22, 1870, *The Charlotte Democrat* published an editorial titled “Birds should not be Killed” recognizing the importance of insectivorous birds (including quail) to the protection of farmer’s crops. In 1875, North Carolina passed a state law establishing a limited hunting period for quail, turkey, robins, larks, doves, and mockingbirds, in many North Carolina counties including Rowan, Anson, and Mecklenburg. However, this and other early laws were seldomed enforced.

In response to widespread bird declines, the National Audubon Society was established in 1886 by concerned citizens, scientists, and hunters, to lead bird conservation efforts across the country. The Society worked to promote new federal, state, and local laws to help protect birds from extirpation or extinction. The Society’s partner magazine *Bird Lore*, first published in 1899, was essentially missionary in its spirit and zeal and had a great impact on educating people around the country about the lives of birds and the problems they faced. Interest and involvement in bird conservation quickly spread.

The South Carolina Audubon Society was founded in 1900. By 1905, Miss Minnie McFeet, chair of the state’s education committee based in Rock Hill, had enrolled 225 teachers in Audubon’s education program. In 1902, the Audubon Society of North Carolina was founded. T. Gilbert Pearson, founder of the state’s society, wrote this note in an editorial published in *The Charlotte Observer*: “Recently, a happier day has dawned for our friends the feathered songsters, and our people are beginning to see now when it is almost too late that at the present rate of destruction we shall soon have no birds except the stuffed specimens in glass cases.”

In 1903, a Mecklenburg Branch of the Audubon Society was officially established in Charlotte (Figure 4). At the time, state and local Audubon branches in North Carolina were “unique” in that they were responsible for acting as a Game Commission. They enforced game laws and hired game wardens to accomplish the task. Within a short time, *The Charlotte Observer* reported: “Today a warrant was issued for a man who a few days ago killed a wild turkey. The warrant is issued upon affidavit of the county game warden.” However, the oversight and enforcement of game laws in North Carolina by the Audubon Society proved unpopular, and the system was later replaced in 1927 by a State Game Commission.

Around the turn of the twentieth century, newspapers throughout the Carolinas began to regularly publish articles about birds and the need for bird protection. The lives of wild birds and their value to agriculture, the economy, and everyday life, were fairly regular and, on occasion, “hot” topics. In fact, in 1910, the editors of *The Evening Chronicle* paper printed in Charlotte went so far as to boast “if there is one thing *The Chronicle* is ‘up on,’ it is bird lore.” Bird study became increasingly popular. Hundreds of school classrooms in the region and throughout both Carolinas joined as members of the Junior Audubon Club. The North Carolina Department of Public Instruction designated Webb’s *Our Bird Book* as an official text book for teaching elementary science. Bird feeding and the construction of bird houses for use at home became widespread. The Bird Study merit badge was designated a required badge for all Boys Scouts who wanted to achieve the rank of Eagle Scout, and local bird experts had to sign off on each scout’s identification of at least 40 birds before the badge could be awarded. Bird study had evolved from a scientific and collecting pursuit to a recreational and sporting activity enjoyed by people of all ages, and the collecting of specimens using guns was replaced by the identification of birds using binoculars, field guides, and cameras.

The growing popularity of birding as a hobby led to the establishment of bird clubs. *Bird Lore* magazine published many articles on the benefits of local clubs and distributed an information page on how to establish them. A variety of bird clubs for adults and children were launched in the region to help teach people about the importance of birds, to help protect local birds, and to introduce the public to bird watching. Some of these early clubs were more ephemeral than others, and it appears only the Statesville club lasted past the time of the Great Depression.

One of the earliest clubs in the region was the “Boy’s Bird Club” established in Charlotte’s Eastover neighborhood in 1914. In July 1915, the editors of *The Charlotte Observer* wrote a piece titled “Bird Club Suggested for Charlotte Now” with the first line reading: “What do you think of a bird club for Charlotte?” Less than a year later, a Charlotte Bird Club was formed with Walter Brem, a founding member of the Mecklenburg County Audubon Branch, as its first President. Bird clubs were established in the towns of Salisbury (Rowan County) and Monroe (Union County) in 1916. Charlotte’s Carnegie Library and the Woman’s Club sponsored an official Charlotte “Bird Day” on April 6, 1917, with several talks, a luncheon at the Selwyn Hotel, and a “Bird Ramble” through Independence Park led by Belle Williams, a renowned bird expert from South Carolina. Charlotte’s Myers Park Bird Club was established in 1917 with the stated objective to “learn everything possible about wild bird life and to prevent any birds from being wantonly killed.” The Statesville Audubon Club (Iredell County) was organized in April 1930 and immediately began to work with the mayor to formally designate the city as a bird sanctuary.

In addition to the activities of the various bird clubs, several prominent birders were active in the Central Carolina region between the turn of the twentieth century and World War II. Alexander Sprunt Jr., one of South Carolina’s most famous ornithologists and authors, was born in Rock Hill, SC, and attended Davidson College in Mecklenburg County just prior to World War I. His obituary notes that “birds and their nests were his first love, his interests included all animals and even plants. He began to take meticulous notes, a practice that he developed to a high degree and one that was a great asset in his adult life. As was virtually a universal custom for boys in those days, young Alex collected birds’ eggs—all part and parcel of a boy’s romantic interest.”

Elmer E. Brown and his brother Frank R. Brown were actively birding in Rowan County, Mecklenburg County, and elsewhere in the state, off and on, from 1921 until World War II. The two were trained in the art of bird watching while in high school by E.M. Hoffman at the

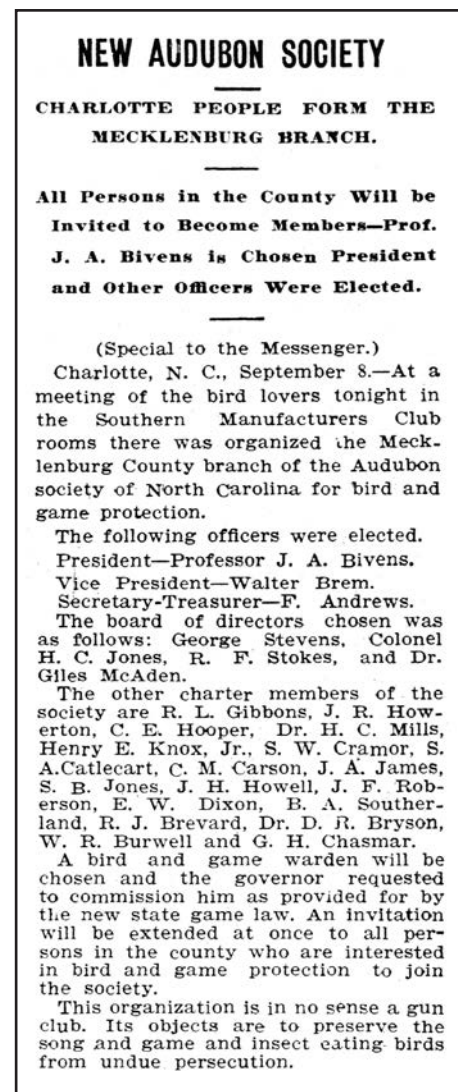


Figure 4. The Mecklenburg Branch of the Audubon Society, 1903. (Courtesy of the PLMC)

Salisbury YMCA. C.S. Brimley, co-author of *Birds of North Carolina*, noted that Elmer Brown “has furnished me more bird records of late years than any other person” for the book’s second edition in 1942. Brown later became a Professor of Biology at Davidson College, where he worked his entire career.

One of the most prolific birders in the Central Carolinas before World War II, was Reverend William B. McIlwaine Jr. of Charlotte (*Figure 5*). McIlwaine was a dedicated man of God. He was also an avid birder, bird photographer, a citizen scientist, a writer, an educator, and a very successful and dedicated “nest finder.” McIlwaine recorded detailed field notes of his bird walks through Charlotte from 1926 to 1931. In 1926, he wrote: “This spring has been my best. I have learned a lot. I have been out more, and I have fine success. Once I thought there were few birds around Charlotte. Now I know it was because I did not look for them. They are here, everywhere. And this comes near being true of all life. Surely ‘we see what we are looking for.’ ”

McIlwaine was the first person to conduct Christmas Bird Counts in the region, beginning in 1928, though the results of these counts went unpublished. He also submitted local migration records for several years to the Bureau of Biological Survey, and he shared and published scores of his bird discoveries. Many of McIlwaine’s firsthand accounts are used to enhance the species accounts presented in this book.

Charles Grier Sellers Jr. (*Figure 6*) grew up in Charlotte, learned his birds as a scout, and was active birding in this area before leaving for Harvard, where he birded under the tutelage of Ludlow Griscom. Sellers actively contributed bird migration records from this region to the Bureau of Biological Survey for several years. He is also credited with suggesting the establishment of the Mecklenburg Audubon Club in 1940, which is still active today. Sellers became a nationally famous historian and political activist at The University of California, Berkeley in the 1960s, and he has continued birding well into his nineties.

The North Carolina Bird Club was founded in Raleigh in 1937. Eleven years later (1948), at a meeting held at Morrow Mountain in Stanly County, the club merged with several South Carolina groups to become the Carolina Bird Club: the Ornithological Society of the Carolinas. For the past 80 years, this organization—and the many local affiliate bird clubs that it spawned—has been largely responsible for inspiring Carolina birders to explore a variety of habitats for birds and to share their bird sightings. Thousands of birders in the Central Carolinas have been active with this group since the club was founded. The Mecklenburg Audubon Club and a revitalized Salisbury Bird Club both formed in 1940, shortly after the state club became active. The Hickory Bird Club formed in 1941, the Rex Brasher Bird Club formed in Concord in 1942, the Stanly Bird Club formed around 1947, the Catesby Bird Club was founded in

High Point around 1949, and the Gaston County Bird Club formed in 1952. The Carolina Bird Club provided a network for birders in local clubs in both states to communicate and get together for regular bird activities across the Carolinas.

The Chat, the ornithological journal of the Carolinas, is without question the Carolina Bird Club’s most important contribution to the field of ornithology (*Figure 7*). The journal provided an opportunity for birders throughout both Carolinas to submit their bird observations to a single source for review and addition to the permanent ornithological record. Birders from both Carolinas published sightings, articles, field notes, photographs, summaries of research, and more in *The Chat* for eight decades. Thousands of bird records from the Central Carolina region were carefully reviewed and published in its pages.

Early Observers: Listed below are short biographical sketches of several of the birders who were most active in sharing their research, personal records, or local club records from the Central Carolina region during the first 50 years of the Carolina Bird Club (1937–1987). They are listed alphabetically by surname. Scores of their observations are included in the Species Account section beginning on page 24.

Dr. Richard D. Brown was hired as Curator of the Zoological Museum at UNC Charlotte in 1975 and worked at the University for many years in several capacities, including as an Assistant Professor of Biology and lecturer. His ornithology classes conducted tower kill surveys in the region and prepared study skins for the museum’s bird collections. These study skins provided many voucher specimens of rare birds in the region. Brown founded the Carolina Raptor Center, was its first Executive Director, and established the Center’s first research project raising and releasing (hacking) Osprey on Lake Norman.

B. Rhett Chamberlain was active from World War II until the early 1960s. He published many articles on birds in the Charlotte area, was an editor of the field notes section of *The Chat*, and he compiled the Spring Bird Counts for the Carolinas for many years. He was selected to serve on the first official North Carolina Bird Records Committee. His brother was E. Burnham Chamberlain, South Carolina’s famous ornithologist.

Elizabeth Clarkson was an active birder in the region from 1930 until 1986. She helped found the Mecklenburg Audubon Club and published many articles in *The Chat* as well as four editions of an annotated checklist of the birds of Mecklenburg County. She and her husband Eddie established Wing Haven gardens, a sanctuary for wild birds in Charlotte. They later established a non-profit foundation to run the gardens and donated everything to the city. Elizabeth Clarkson is considered the “First Lady” of Charlotte birding and was renowned throughout the region for her willingness to inspire, educate, and excite others about birds. The Clarksons’ work was highlighted

in a special interview conducted by Dick Cavett, which has been used as an orientation video for the more than 11,000 visitors that enjoy the birds and gardens each year.

William G. Cobey (Bill) and Florapearl A. Cobey (Flo) earned advanced degrees from Duke University in 1953 and moved to Charlotte in 1955. Bill Cobey ran a medical practice as a local obstetrician, and Flo Cobey worked as a professor in the chemistry department at Queens College, where she later became chair. Both were immediately active in birding with the Mecklenburg Audubon Club and the Carolina Bird Club upon their arrival in Charlotte, and they remained active through their retirement years. Bill Cobey was known for his bird photography, and many of his photographs were selected to illustrate the first edition of *Birds of the Carolinas*. Flo Cobey was an active field birder who especially loved to visit Creech's Pond near what is today Carowinds. She recorded copious field notes from the 1950s onward. Both were active as leaders on the board of the local bird club for many years.

J. Lockhart Gaddy was not a birder, but he had a lifelong interest in wildlife. He established a goose refuge at his farm near Ansonville in Anson County. Gaddy's Wild Goose Refuge harbored thousands of geese and a variety of ducks each winter from the 1930s until the 1970s. His personal endeavor helped spark interest in the creation of Pee Dee National Wildlife Refuge, which today lies adjacent to the original Gaddy refuge land. Pee Dee is one of the best birding spots in the Central Carolinas.

H. Lee Jones grew up in Charlotte and was inspired to become a birder at the early age of nine. By the age of 14, he had an impressive life list including a Magnificent Frigatebird seen at Garden City and a Western Tanager

that had showed up at a feeder in his neighborhood in the Eastover section of Charlotte. His early enthusiasm was spurred on by several Mecklenburg Audubon and Carolina Bird Club members, and he soon left town to attend NC State University to study birds. Jones went on to earn his Ph.D. at UCLA in California and became a prominent West Coast ornithologist. He later worked as an environmental consultant and authored the field guide *Birds of Belize*.

Sarah McKee Nooe began teaching biology at Queens College in Charlotte in 1934 where she worked until retirement. She was very interested in wildflowers and birds, and spent much of her time working on landscaping the campus at Queens and recording the birds found there. She helped to found the Mecklenburg Audubon Club and was active in the Carolina Bird Club. She was the compiler of the Statesville Christmas Bird Count for many years and submitted bird records to *The Chat*. She was the only founding member of the Mecklenburg Audubon Club able to attend the club's 50th anniversary in 1990.

Joseph (Joe) R. Norwood and Rebekah (Becky) Norwood spent 40 years birding the Central Carolinas and beyond. During that time, they were both active in several local bird clubs and in the Carolina Bird Club, serving in many capacities. Joe Norwood played a critical role as the President of the Mecklenburg Audubon Club during a turbulent 10-year period in the 1960s, when the future of the club was in some doubt. Becky played multiple roles helping the club transition into its current form—the Mecklenburg Audubon Society. Both of the Norwoods were known for being a great help to beginning birders. Joe was the local Charlotte field trip coordinator



Figure 5. (top) William B. McIlwaine Jr.

Figure 6. (bottom) Charlie Sellers visiting Charlotte in 2012.

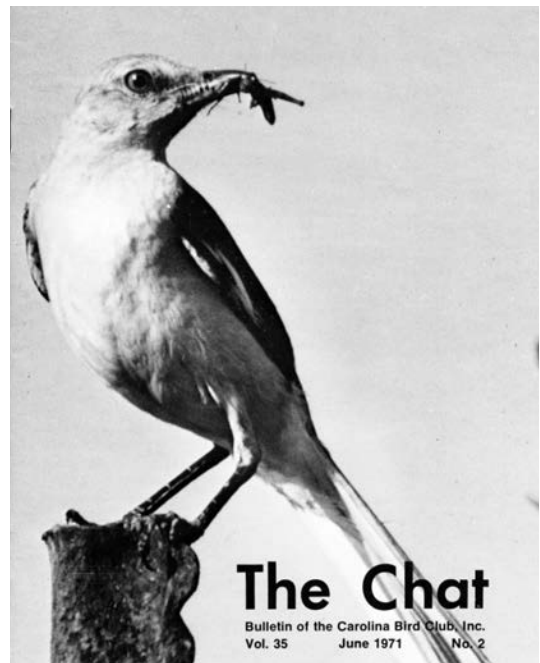


Figure 7. The Chat cover, Volume 3 Number 2 June 1971, with cover photo by John Trott.

and bird count compiler for many years. Upon Joe's death in 1994, the Audubon newsletter noted "He helped many a neophyte birder become adept at identification, and instilled a great love for our feathered friends."

Watson M. Perrygo conducted a scientific expedition in North Carolina in 1939 and in South Carolina in 1940 to collect birds for the United States National Museum. The Perrygo Expedition was funded by the Smithsonian Institution, and the group conducted field investigations of birds in Catawba County, Iredell County, and Anson County, in addition to other areas of both states. "Considerable collecting was done near the Pee Dee River 11 miles east of Wadesboro," and collecting was done during several seasons. Many birds were observed, and many voucher specimens were collected from the Central Carolina region. The expedition's results were published in a paper issued by the Smithsonian Institution in 1941 titled "Notes on the Birds of North Carolina" written by Alexander Wetmore.

H. Douglas (Doug) Pratt grew up birding in the Steele Creek area of Mecklenburg County, attended South Mecklenburg High School, and graduated from Davidson College in 1966. In his early years, he was active in the Mecklenburg Audubon Club and Carolina Bird Club, and he published several articles and many bird records from North Carolina. He later attended Louisiana State University and earned his Ph.D. in ornithology. Pratt published several scientific papers in ornithological journals and wrote several species accounts for *The Birds of North America*, but he is perhaps best known for his professional illustrations of birds. He has illustrated all or parts of many famous field guides including the National Geographic Society's field guide, *A Field Guide to the Birds of Hawaii and the Tropical Pacific*, *The Hawaiian Honeycreepers*, and more.

Marcus (Mark) B. Simpson Jr. is perhaps the most prolific author of ornithological notes and articles to emerge from the Central Carolina region. He penned more than 60 items published in *The Chat*, *The North Carolina Historical Review*, and the *Journal of the Elisha Mitchell Society*, beginning in 1963 and continuing to today. Simpson specialized in researching and writing about the birds of the North Carolina mountains and authored the book *Birds of the Blue Ridge Mountains*, published by UNC Press in 1992. Simpson accomplished all this as a hobby while becoming an accomplished medical doctor with a specialty in pathology and laboratory medicine. He and Doug Pratt attended Davidson College and birded together during their formative years.

Maurice Stimson helped start the Statesville Audubon Club in 1930, led walks, and gave bird talks in the region for many years. Many of the club's bird outings were featured in the *Statesville Record and Landmark* newspaper before and after World War II. During the war, Stimson assisted Statesville's favorite daughter, Ms. Grace Anderson, in heading up the statewide effort to designate an official North Carolina State Bird, and after the war he

was appointed Special Collector for the Natural History Museum at Davidson College.

John Trott grew up in New London in Stanly County. He started birding in the Boy Scouts and later became one of "Roxie's Boys," a group of boys taught birding by Roxie Laybourne, founder of forensic ornithology, while she lived in North Carolina. Trott recorded observations all along the Yadkin River and around Morrow Mountain, and he was the founder of the Stanly Bird Club. He later became a famous naturalist, educator, and nature photographer and authored the book *The Virginia Naturalist*. Many of Trott's photographs were featured in the first edition of the book *Birds of the Carolinas*.

David Bicknell Wright can rightly be considered as the "Dean of the Mecklenburg Birders." He grew up in a local birding family and was active birding in the Central Carolinas since he was a young boy. He participated in his first Charlotte Christmas Bird Count in 1964 and participated in Charlotte area Christmas and Spring Bird Counts until his death in 2016. Over the years, Wright was one of the birders who helped transform the pastime of "bird watching" into the active sport of birding as it is known today. He scoured a multitude of habitats around the Charlotte area turning up a variety of local first records and rarities. He helped pioneer birding at local sewage treatment plants and "birding by boat" on the big lakes. Wright kept very detailed field notes recording his sightings and published many in *The Chat*. He spent much of his retirement adding to his 700+ North American bird life list.

Recent Observers: The following observers have conducted recent research in the region or have contributed a substantial number of field observations or photographs of birds from the region over the past 30 years. This period may be considered as the advent of the digital age of birding. Each is listed alphabetically by surname. In some instances, affiliations or primary county of field work are noted.

Dr. Lawrence S. Barden (UNC Charlotte)
Allen Bryan
Dr. R.O. Bierregaard (UNC Charlotte)
John Bonestell
Leigh Anne Carter
Robin Carter
Ron Clark
Laura Fogo (Pee Dee NWR)
Jan and Phil Fowler (Cabarrus County)
Sue Gardner
Rob Gilson
Dr. Bill Hilton Jr. (Hilton Pond Center, York County)
Dennis Kent (Colonel Francis Beatty Park)
Dr. Ken Kneidel
Alan Kneidel
Lenny Lampel
Jeff Lemons
Dwayne Martin (Catawba County)

Doug McNair
Kevin Metcalf
Faye Metzl (Lancaster County)
Betty O'Leary (Lincoln County, Carolina Raptor Center)
Blayne and Anne Olsen (Union County)
Lori Owenby (Catawba County)
Jill Palmer (Mecklenburg Audubon)
Monroe Pannell (Catawba County)
Steve Patterson (Lancaster County)
Taylor Piephoff
Jeff Robinson (Cleveland County)
Dr. William Rogers (Winthrop University)
Tom and Tammy Sanders
Dr. Todd Scarlet (USC Lancaster)
Don Seriff
Marek Smith
Dr. Mark Stanback (Davidson College)
Will Stuart (Pee Dee NWR)
Chris Talkington
Steve Tracy (Gaston County)
Ron and Garnet Underwood (Iredell, Alexander County)
Rob Van Epps
Heathy Walker (Mecklenburg Audubon)
Judy Walker (Mecklenburg Audubon)
Marcia Wright

Primary Sources

Observations of birds cited in this publication were compiled from a great variety of published and non-published sources. Tens of thousands of pages were examined, and over half a million dated bird sightings were reviewed. The primary sources searched are listed below. A select list of sources is provided in the Notes and in the Select Bibliography section.

1. Books:

Birds of North Carolina (1919, 1942, 1959)
Birds of the Carolinas (1980, 2006)
Birds of South Carolina (1910)
South Carolina Bird Life (1949, 1970)
Status and Distribution of South Carolina Birds (1989)
Supplement to Status and Distribution of SC Birds (1993)
South Carolina Breeding Bird Atlas (2003)

2. Journals/Periodicals:

The Auk, Volume 1–62 (1884–1945)
The Chat, Volume 1 (1937) – Volume 80 (2016)
Bird Lore, Volume 1 (1899) – Volume 48 (1946)
Journal of the Elisha Mitchell Scientific Society (North Carolina Academy of Science), 1883–2017
Bird Lore (Carolina Region), Volume 41 No. 6 (1939) – Volume 48 No. 6 (1946)
Audubon Field Notes, Volume 1 (1947) – Volume 24 (1970)
American Birds, Volume 25 (1971) – Volume 48 No. 1 (1994)

NAS Field Notes, Volume 48 No. 2 (1994) – Volume 52 (1998)
North American Birds, Volume 53 (1999) – Volume 68 (2015)
Mecklenburg Audubon Society Newsletter, 1970–2017

3. Museum Collections: Compiled over 700 records of specimens collected from the region which are housed in permanent collections at 77 different local, regional, and national museums.

North Carolina Museum of Natural Sciences: Accessed ornithological collections, Brimley Card Catalog, NC Bird Atlas Nest Record Cards, and reviewed thousands of pages in the Brimley Memorial Library.

4. United States Geological Survey: Obtained datasets of records from the region from each of these programs.

North American Bird Phenology Program
Bird Banding Laboratory
Breeding Bird Survey
Breeding Bird Atlas Explorer

5. Unpublished Reports, Field Notes, Personal Journals, etc.:

Dr. William B. McIlwaine Jr.
Elizabeth Barnhill Clarkson
Dr. Florapearl Cobey
Pete Hogaboom (Ducks Unlimited nestbox data)
David Bicknell Wright
Carolina Raptor Center patient data
Mecklenburg County Park and Recreation Department (MCPRD), avian project reports
UNC Charlotte Biology Department, unpublished Masters Theses

6. Digital Sources

Carolina Bird Club website: Chat database, *Birds of North Carolina: Their Distribution and Abundance*
National Audubon Society: Christmas Bird Count database
Mecklenburg Audubon Society Lights Out program: specimen collection database
Electronic Mailing Lists: carolinabirds, MAS-L (Mecklenburg Audubon Society)
eBird.org

Bird Surveys

Various surveys of birds have been conducted in the Central Carolina region for more than a century. Most have been conducted by volunteer citizen scientists, and the end result is a large data set of bird sightings collected over many years and in various seasons. The most recent comprehensive bird survey conducted in the region is the Mecklenburg County Breeding Bird Atlas. The results of this Atlas project are described in detail beginning on page 16.

1. Collecting: Systematic scientific collecting has been conducted in the region since 1876. Collecting of bird specimens and eggs largely ended by 1940; however, the collecting of tower kills, window kills, and road-killed specimens, etc., continues today. In recent years, most specimens collected in the region have been sent to ornithologists at the North Carolina Museum of Natural Sciences in Raleigh. They prepare the specimens and either add them to the museum's permanent collections, use them as study skins for education, or share them with other museums around the country. It is important to note that State and Federal permits are required when collecting and transporting bird specimens.

2. Banding: Bird banding has been conducted regularly in the region since about 1940. John L. Beal of Gastonia, William J. Anderson Jr. of Charlotte, William H. Hon of Charlotte, and Mr. William Neely of Chester were some of the earliest banders who were active here. Most banding has involved songbirds, but there have been several periods where banders were active banding game birds including dove, quail, geese, and ducks. In addition, the Carolina Raptor Center has banded and released a variety of raptors. Monitoring Avian Productivity and Survivorship (MAPS) songbird banding stations were operated by the MCPRD at Cowan's Ford Wildlife Refuge and by the U.S. Fish and Wildlife Service at Pee Dee National Wildlife Refuge, for almost a decade. These stations were part of a national monitoring program focused on researching avian productivity and survivorship.

Without question, the most active bird banding station in this region, and in either of the Carolinas, is the station run by Dr. Bill Hilton Jr. at Hilton Pond Center for Piedmont Natural History in York County. Hilton began banding birds there in June 1982, and is still active today. He has banded 126 species of birds and more than 67,000 individuals at the Center through January 2018. His highest counts include banding more than 2,000 each of Yellow-rumped Warblers, White-throated Sparrows, Chipping Sparrows, and Northern Cardinals; 3,000+ Pine Siskins; nearly 6,000 Ruby-throated Hummingbirds; more than 8,600 Purple Finches; 10,000+ House Finches; and more than 11,000 American Goldfinches. The four "winter finches" comprise nearly half of all birds banded during 36 years of work.

3. Christmas Bird Counts: Christmas Bird Counts (CBC) have been conducted in the Central Carolinas since 1928. That year, counts were conducted in Taylorsville (Alexander County) and Charlotte, but the Charlotte count was not published. Counts have been conducted in the region annually since 1936 (Figure 8). A number of counts were published locally, but were never included in the National Audubon Society's online Christmas Bird Count database. When combined, these CBCs provide a historical dataset of thousands of records for reference from the Central Carolina region.

This long-term CBC data set has been useful for helping biologists achieve a more clear understanding of

the current status of birds that winter here and the effect that rapid development is having on many species of birds in this growing region. Staff from the MCPRD worked with Dr. Larry Barden's UNC Charlotte Conservation Biology class to analyze and graph trends from the long-running Charlotte CBC. A comparison table of the two longest running CBCs in the region is provided in the Appendix for easy reference. A second table highlighting the changes in the top 50 most common species counted on the Charlotte CBC during the early years and recent years is provided in the Appendix as well.

4. Spring Bird Counts: Spring Bird Counts (SBC) have been conducted in the Central Carolinas since 1940 (Figure 9). The first counts were conducted in the town of Davidson and Iredell County that year, and the results were published in *The Chat*. Spring Bird Counts have been conducted at many locations in the region since. In Mecklenburg County alone, a total of 50 years of spring count data has been collected. The data from many of these counts were published in *The Chat*, but the results of many counts were only published in the Mecklenburg Audubon Society Newsletter or were never published at all. Volunteers contributed over 6,000 party-hours in the field contributing more than 12,000 observations in the Central Carolina region.

This long-term SBC data set has been useful for helping biologists achieve a more clear understanding of the status of birds that are found here each spring. A historical comparison of the results of two 20-year periods of the Charlotte SBC is presented in the Appendix for easy reference.

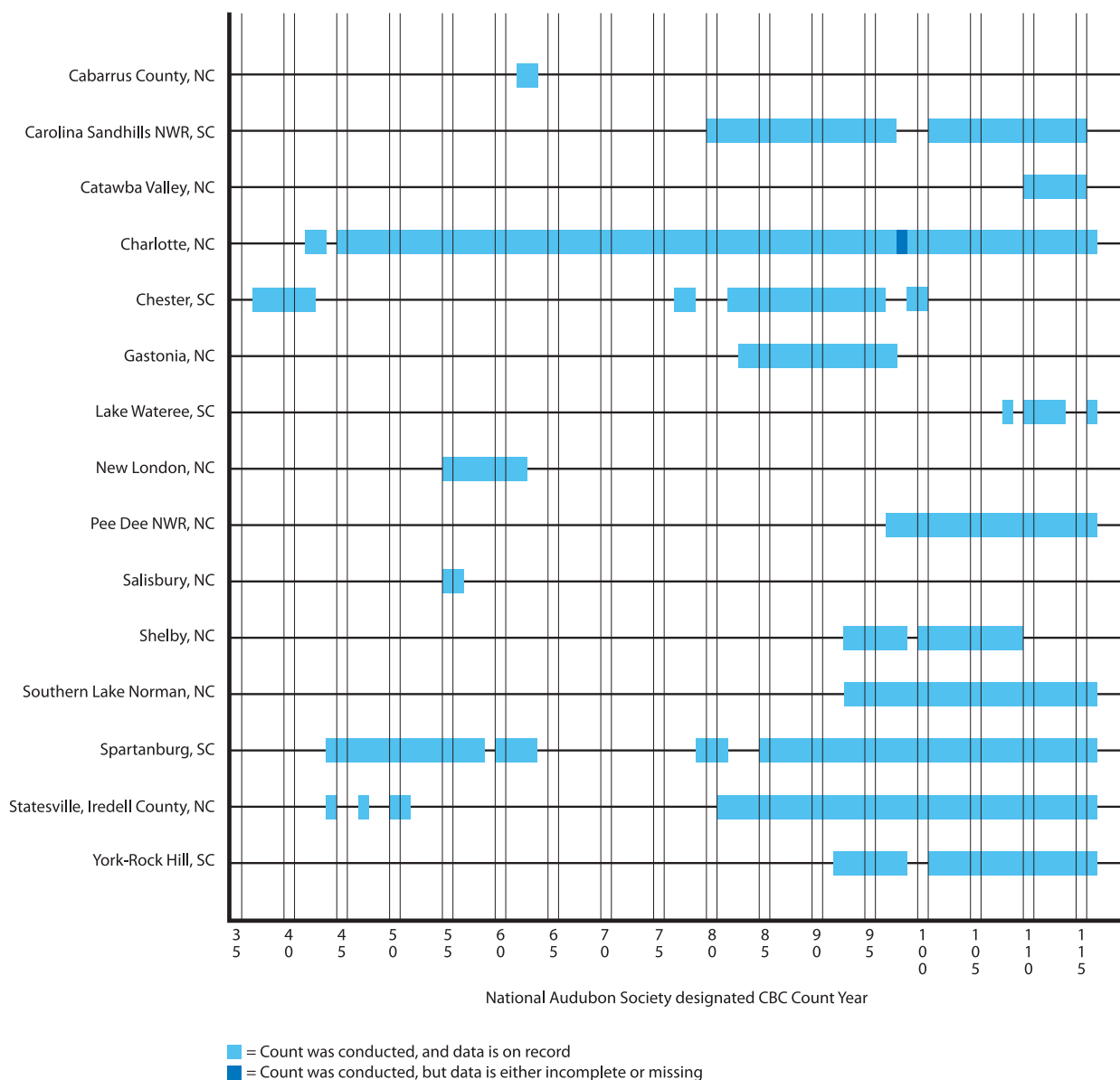
5. USGS Breeding Bird Survey: USGS Breeding Bird Surveys have been the primary source for information on trends in populations of breeding birds in the Central Carolinas. Almost 20 BBS routes have been run in counties throughout the region, and some of these routes have been run for 25 seasons or more (Figure 10). The trend data derived from these surveys is vital for reference when discussing conservation needs and prioritizing conservation efforts. Populations of many breeding species, especially habitat specialists that require early successional habitat or large unfragmented forest habitat, are in decline in this region. BBS trend data are referenced in many species accounts. Visit the USGS Breeding Bird Survey website for full BBS route details:

www.pwrc.usgs.gov

6. Other Bird Surveys: Numerous other bird surveys have been conducted in the region. Brief descriptions of several of these are provided below. Full details are available from the MCPRD.

a) Point Count Monitoring was conducted during both spring migration and breeding season. Volunteers and MCPRD staff performed counts at 191 points established in nine nature preserves, three greenways, and one park. Counts were conducted on 303 days over a combined 10-

Figure 8. Christmas Bird Counts (CBC) Conducted in the Central Carolinas*



Notes:
 One CBC was conducted in Taylorsville, Alexander County, on Count Year 28 (December 27, 1927)
 Spartanburg's Gabriel Cannon conducted six CBCs in Count Years 16–17 and Count Years 19–22 (1915–1916, 1918–1922)
 Charlotte's William McIlwaine, Jr. conducted two CBCs in Count Year 29 (1928) and Count Year 30 (1929)
 *Some counts were not published in *The Chat*, but data is on file at the MCPRD

year period. Data were collected on a total of 144 species of birds and 30,960 individuals.

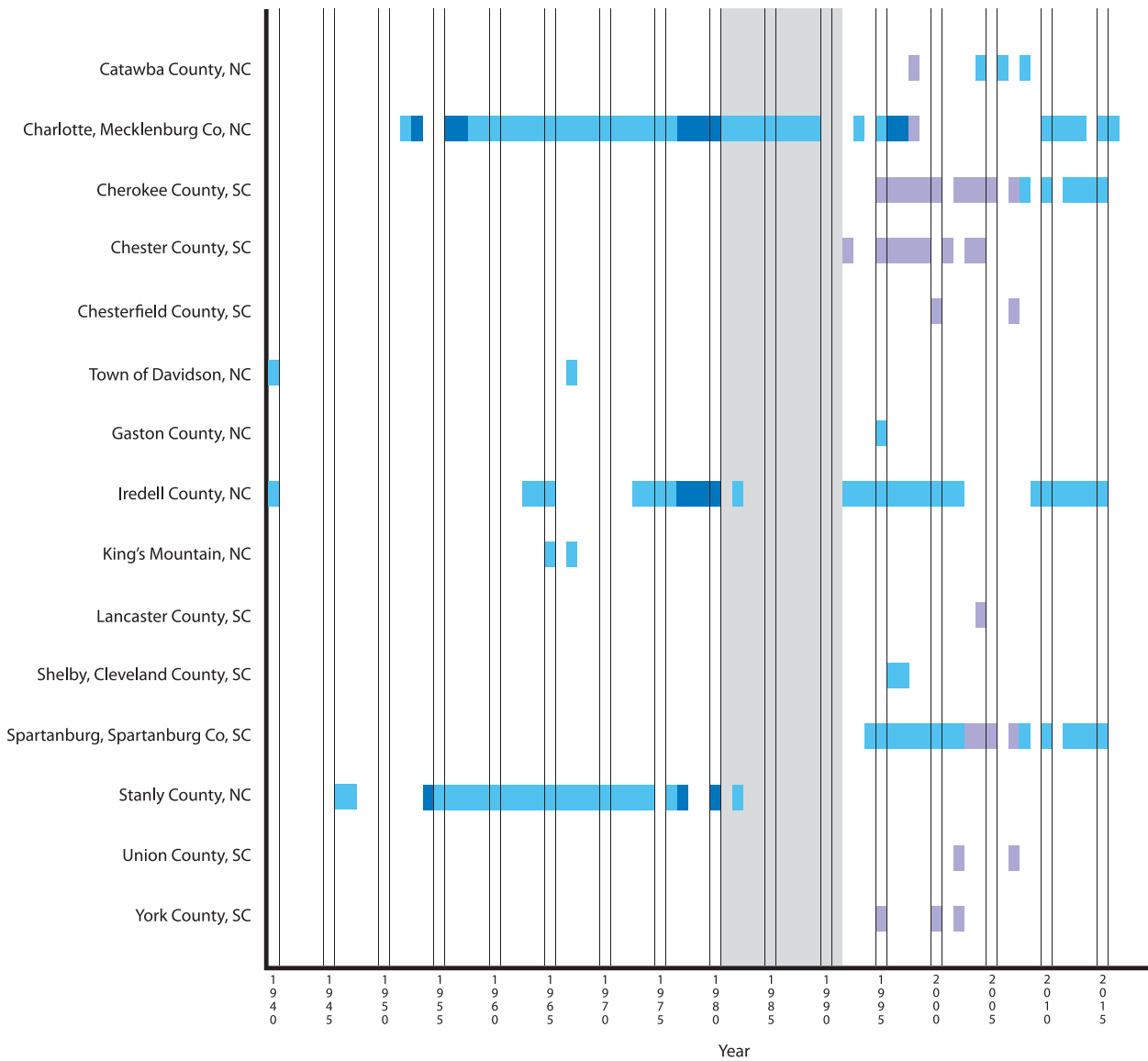
b) A Nest Success Study was implemented in a large early successional habitat patch, in part to determine nest success and productivity, measure nest predation, and determine rates of nest parasitism. MCPRD staff and volunteers identified and monitored 534 nests of 24 bird species. Results indicated high mortality rates for many species.

c) Colonial Waterbird Nest Monitoring was conducted from 2001 to 2009 at Great Blue Heron and Yellow-

crowned Night-Heron nest sites. Locations were georeferenced, number of nests, and number of young (when possible) were counted. MCPRD staff assisted NC state biologists with aerial surveys and ground-truthing along the Yadkin–Pee Dee corridor.

d) A Nest Box Monitoring program was implemented to assist 14 target species. Over 500 volunteers have contributed to the project by building, installing or monitoring nest boxes. Since its inception, the project has been refined to target three species: the Prothonotary Warbler, Brown-headed Nuthatch, and American Kestrel.

Figure 9. Spring Bird Counts Conducted in the Central Carolinas*



■ = Count followed North American Migration Count protocol, represented on graph if SBC was not done that year
■ = Count was conducted, and data is on record
■ = Count was conducted, but data is either incomplete or missing
■ = SBC data was not published in *The Chat* during these years

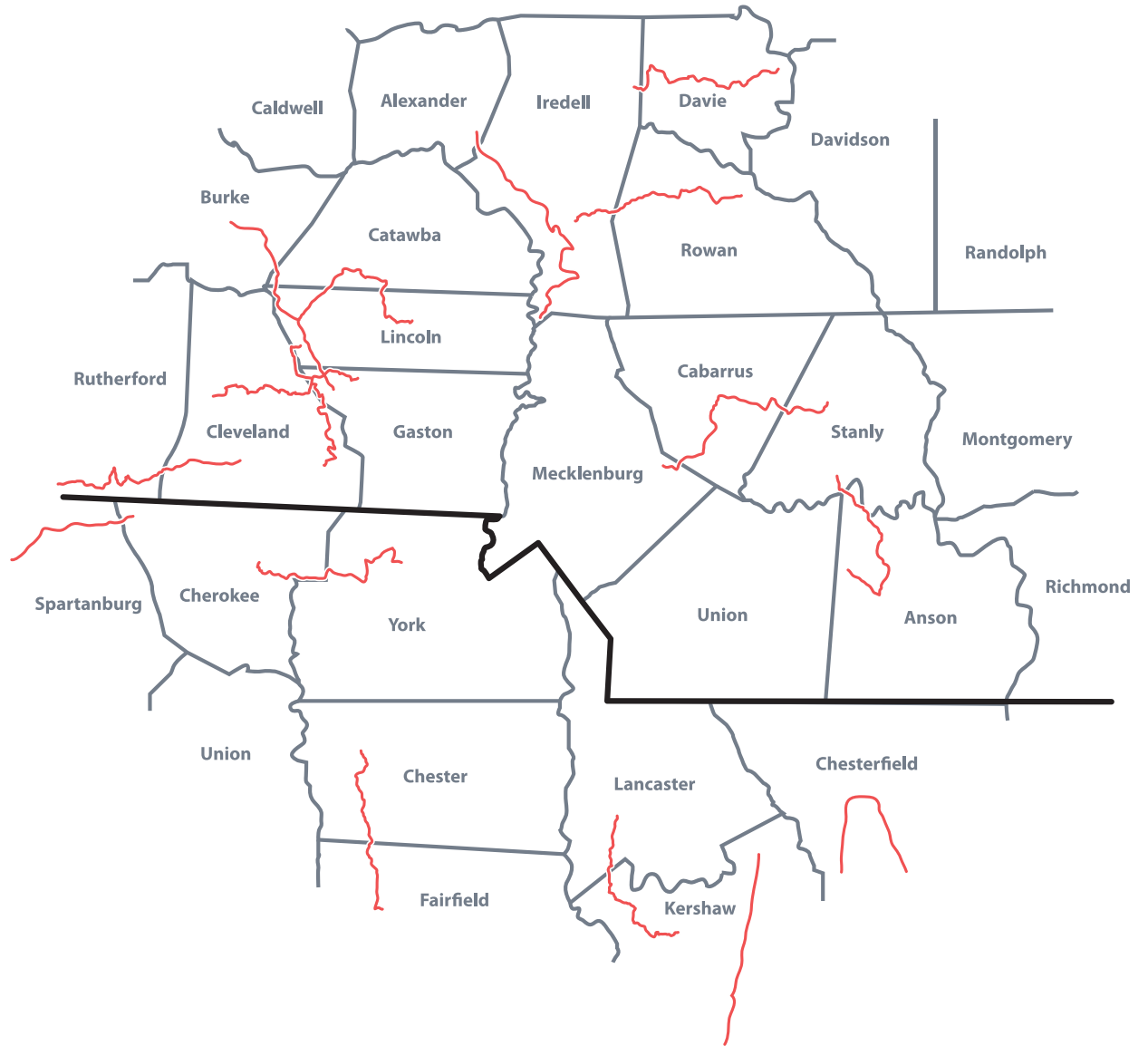
*Some counts were not published in *The Chat*, but data is on file at the MCPRD

e) Bird Banding Stations were operated at Cowan's Ford Wildlife Refuge, Pee Dee National Wildlife Refuge, and Reedy Creek Nature Preserve between 1999 and 2009. The two refuge stations followed the national MAPS banding protocol established by the Institute for Bird Populations. Feather samples of some migrants were collected for a Neotropical Migrant Conservation Genetics Project conducted at UCLA.

f) A Winter Waterfowl Survey was conducted from 2000 to 2010 with a total of 39 species and more than 35,000 individuals recorded on lakes in the region.

g) The Great Backyard Bird Count, a family-oriented bird survey conducted each winter, has been a popular citizen science project in the region, since it was begun in 1998. Charlotte ranked first, second, or third in the nation a total of 11 times during the first 15 years of the project in the number of backyard bird checklists submitted.

Figure 10. USGS Breeding Bird Survey Routes



State Designated Important Bird Areas (IBA)

Important Bird Areas are sites identified as being vital for bird conservation in the state based on a variety of standardized scientifically defensible criteria. Audubon North Carolina has officially designated three sites in the Central Carolina Region as North Carolina Important Bird Areas. The South Mountain's IBA is found in Burke, Rutherford, and Cleveland counties. The Pee Dee National Wildlife Refuge IBA covers eastern Anson County and a small part of western Richmond County. The Catawba River–Mountain Island Lake Watershed IBA covers parts of Lincoln, Gaston, and Mecklenburg counties. Two South Carolina IBA's lie fully within the Central Carolina region: the Katawba Valley Heritage Tract along the Catawba River in Chester and Lancaster counties, and Hilton Pond in York County. Nearby, Croft State Park in Spartanburg County and also Carolinas Sandhills National Wildlife Refuge and Sandhills State Forest in Chesterfield County are listed as IBAs as well.





BREEDING BIRD ATLAS

In Charlotte, in the spring of 1928, William McIlwaine wrote:

“Nesting is the order with the birds to-day. Now the art of nest-finding is vastly more than standing still with eyes squinted and mouth open and your head about to topple off its pedestal. Such is bird identification. To find the nests means that, at times, yes, but also to roam the fields and court the brambles and get over on your head to see up under. And it takes a lot of time. My small boy, aged four, said to me, ‘Daddy, I tell you what I don’t think is right. A person ought not to be a preacher and a bird man at the same time.’ And he was surely right. You cannot do much of both. And I have seen very little of nesting this year.”

Despite his lamentation, in just a few short years, McIlwaine had located and recorded detailed information on the nests of more than 50 species of birds in the city of Charlotte.

Mecklenburg County Breeding Bird Atlas (BBA)

A “Breeding Bird Atlas” (BBA) is a study designed to map and monitor the breeding status of birds in a specific geographic region. Atlas projects are implemented by trained biologists with the assistance of “citizen scientist” birders as volunteers. The final product of a BBA is a comprehensive data set, and a series of maps illustrating the geographic distribution of each species of breeding bird.

The Mecklenburg County BBA study is a collaboration between the Mecklenburg Audubon Society and the Mecklenburg County Park and Recreation Department with vital assistance provided by staff hosting the USGS North American BBA Explorer website. The study is the first county-level BBA ever conducted in the Carolinas. It followed a standardized protocol recommended by the North American Ornithological Atlas Committee (NORAC). The project was officially initiated in 2011 and ended in 2015. The results of the Mecklenburg County Breeding Bird Atlas provide an essential scientific baseline of the status and distribution of the breeding birds of Mecklenburg County, so that future comparisons can be made.

Mecklenburg County is situated at the core of the Central Carolinas and lies at the heart of the most rapidly developing urban area in both states. Changes in the breeding status and distribution of birds similar to those documented during this Mecklenburg County study, may be expected to impact adjacent counties or emanate outward from other rapidly developing urban areas in the region.

Some of the results of the BBA have been summarized and are presented below in table format for easy reference. Individual BBA maps and species-specific findings for each bird species recorded breeding in Mecklenburg County are provided in the Species Accounts section. These BBA maps graphically illustrate the distribution of each species in the county. Educational handouts summarizing BBA results about “Lost Birds,” “Imperiled Breeding Birds,” “Vulnerable Breeding Birds,” and “New Breeding Birds” in Mecklenburg County are provided in the Appendix.

1. Atlas Methods: Methods for conducting breeding bird atlas surveys have been standardized and refined by the

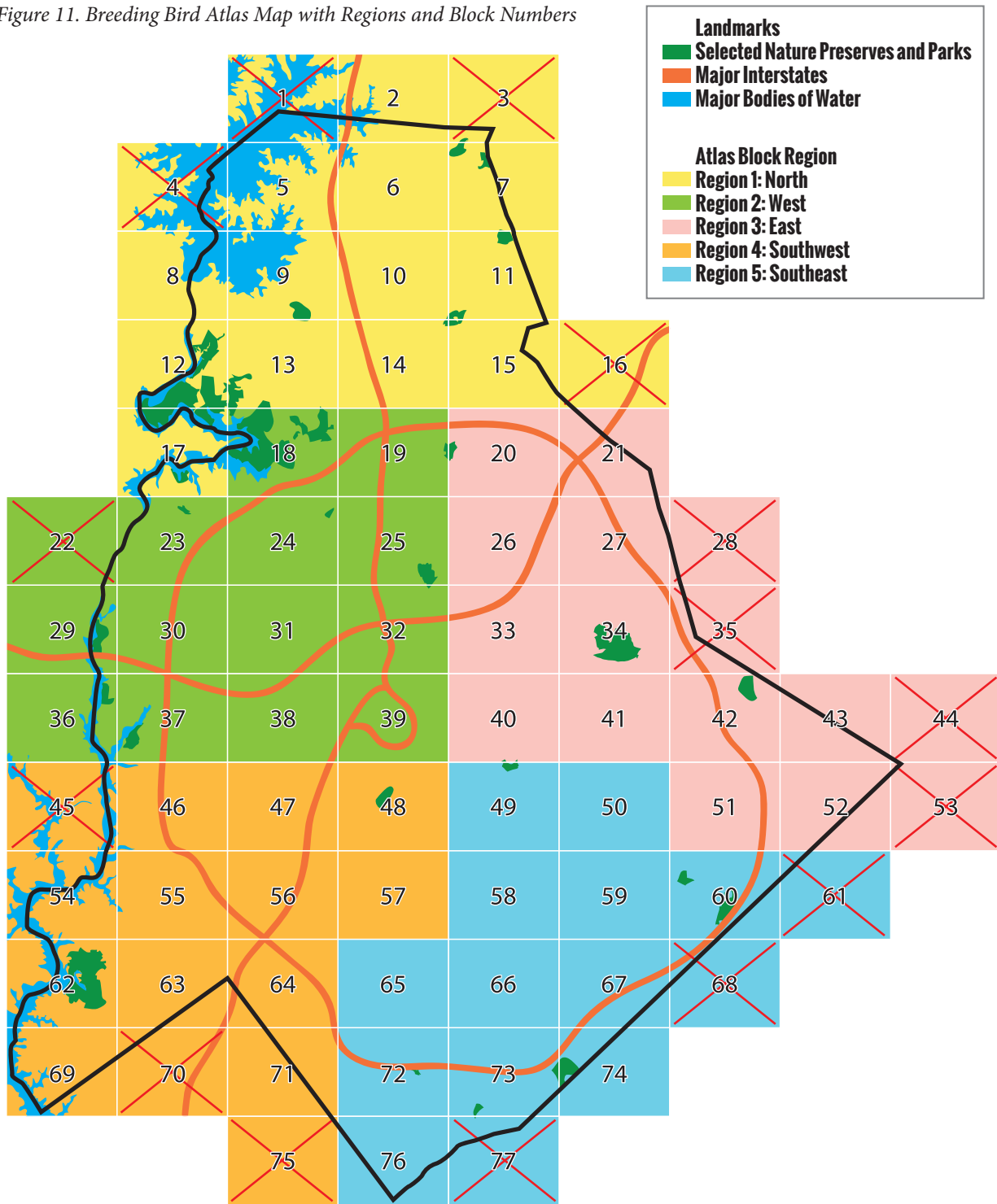


North American Ornithological Atlas Committee. The Mecklenburg County BBA methods largely conformed to established NORAC committee protocols and to protocols recommended and established by the USGS North American BBA Explorer program.

The grid base selected for the survey was the 1:24,000, 7.5-minute, U.S. Geological Survey topographic quadrangle map. It is commonly used as the base map in BBA surveys. Eighteen topographic quadrangles cover portions of Mecklenburg County. A standard mapping grid of one-sixth of a USGS 7.5-minute topographic quadrangle was overlain on a map of Mecklenburg County dividing the county into 77 survey blocks. Each survey block was approximately 10 square miles in extent and each was assigned an individual block number. A total of 62 of the blocks were selected to be surveyed (Figure 11). The remaining 15 blocks contained fractions of the county too small to be surveyed.

2. Block Coverage: A “Regional Coordinator” was assigned to each of five survey regions: North, West, East, Southwest, and Southeast. Each Regional Coordinator assigned volunteer observers to manage one or more atlas blocks within their region. These “Blockheads,” as they were affectionately called, were responsible for coordinating other volunteers in their block and for fully surveying each block to determine the presence of breeding birds. They reviewed street maps and satellite maps to familiarize themselves with their block in advance of conducting their field work. Blockheads were asked to make a special effort to identify and visit all

Figure 11. Breeding Bird Atlas Map with Regions and Block Numbers



undeveloped natural areas within each of their assigned blocks. Volunteers were instructed to never enter private property without prior permission.

The primary goal of each Blockhead was to find as many species of birds breeding within the block as possible. Their secondary goal was to collect the highest level of breeding evidence for each bird species. A grand total of 20 hours of field effort per block was the goal over the entire study period. Evidence of breeding only needed to

be confirmed once for each species, in each survey block, during the study. A range of “Safe Dates” was provided for counting each species in an attempt to insure that lingering migrants were not counted.

A series of training workshops was developed by a Training Coordinator and was offered to interested Atlas volunteers. Each workshop covered the basics of birding ethics, requesting access, safety, pre-planning, and specifics on how to properly collect data and conduct

the survey. Each volunteer received a detailed 30-page observer handbook.

Volunteers entered data on field checklist cards and the information was later entered into the Mecklenburg County BBA database on the national “BBA Explorer” website, hosted by the United States Geological Survey. Breeding data from casual observations and incidental sightings were collected, filed, and later entered online as well. All data were reviewed and verified by both the Regional Coordinators and the Project Coordinator before final acceptance. A significant amount of time was spent on both data verification and on following up on reports of locally rare species to insure that accurate information was properly entered. The data set is available for reference at: <http://www.pwrc.usgs.gov/bba/>

3. Breeding Data: Volunteers used the following codes to record the various breeding behaviors they detected.

a) OBSERVED – not breeding evidence (used within Safe Dates): Species (male or female) was observed in a block during its breeding season, but no evidence of breeding was seen. Also used for a bird that is not in suitable nesting habitat. This code could be used for a wide range of species “passing through” the block such as vultures or raptors, or a colonial nesting species not at the nesting colony.

b) POSSIBLE – possible breeding evidence (used within Safe Dates): Species (male or female) was seen or heard in suitable nesting habitat during its breeding season.

c) PROBABLE – probable breeding evidence (used within Safe Dates except for “C” which could be used anytime.)

P – Pair observed in suitable habitat during its breeding season.

S – Permanent territory presumed through song at same location on at least two occasions seven days or more apart.

T – Permanent territory presumed through defense of territory (chasing individuals of the same species).

C – Courtship behavior or copulation. Can use outside Safe Dates (except for ducks). Especially for raptors, woodcock, and hummingbird courtship rituals.

N – Visiting probable nest-site.

A – Agitated behavior or anxiety calls from adult.

B – Nest building by wrens or excavation of holes by woodpeckers.

d) CONFIRMED – confirmed evidence of breeding (could be used outside of Safe Dates).

CN – Carrying nesting material, such as sticks or other material. Don’t use for wrens, crows, or colonial nesting species.

NB – Nest building at the actual nest-site.

PE – Physiological evidence of breeding (e.g. [brood] patch or egg in oviduct based on bird in hand. Only to be used by experienced bird banders on local birds during the nesting season).

DD – Distraction display or injury feigning.

UN – Used nests or eggshells found.

PY – Precocial young. Flightless young of precocial species restricted to the natal area by dependence on adults or limited ability.

FL – Recently fledged young (either precocial or altricial) incapable of sustained flight, restricted to natal area by dependence on adults or limited mobility.

ON – Occupied nest: adults entering or leaving a nest site in circumstances indicating occupied nest. To be used for nests which are too high (e.g. the tops of trees) or enclosed (e.g. chimneys) for the contents to be seen.

CF – Carrying food: adult carrying food for the young.

FY – Adult feeding recently fledged young.

FS – Adult carrying fecal sac.

NE – Nest with egg(s).

NY – Nest with young seen or heard.

4. Species Maps: Data for each BBA map were exported from USGS BBA Explorer and reviewed and accessioned using MS Access, MS Excel, and ArcMap (ESRI ArcGIS) software. Each map generated was later enhanced in Adobe Illustrator for easier viewing. Each map uses color to illustrate the highest level of breeding evidence obtained for that species in each of the 62 survey blocks. A BBA map is included in the species account of each breeding bird.

5. Atlas Results

a) Effort: Surveys were conducted in 100% of the blocks. Overall, survey effort (time in the field) dramatically exceeded the established goal of 20 hours per block (1,240 total hours) by a stunning 112.25% (2,631 total hours). Effort was well dispersed in blocks throughout the county and each region exceeded its target effort: North (180%), West (156%), East (228%), Southwest (195%), Southeast (309%). A total of 56 blocks received at least the minimum of 20 hours of effort (*Figure 12*). Seven blocks received less than 20 hours of effort. One volunteer spent over 300 hours surveying a single block and three others spent more than 100 hours each surveying individual blocks.

Nearly 7,000 breeding records were collected and submitted for review. Over 1,500 local breeding records recorded prior to the survey were also collected and compiled. Many of these are shared in the species accounts to help provide historical context.

Over 250 people volunteered their time or provided information for the Atlas project. In addition to field effort, volunteers contributed at least 500 hours of time involved with training, steering committee meetings, data entry, and other project administration.

b) Breeding Birds Documented: Breeding evidence was obtained for a total of 115 species of birds. There were 105 species with Confirmed breeding as the highest level of evidence and five species had Probable as their highest level of evidence. Five other species had Possible or Observed codes entered as the highest level of breeding evidence. No evidence of breeding was obtained for another four “historic” species that were documented as breeding birds in Mecklenburg County prior to 1990. Species from these last two groups have been included on the “Lost” bird list found in the Appendix. Most blocks surveyed had between 50 and 60 breeding birds documented (Figure 13).

Sixty-seven of the 110 breeding species documented with Confirmed or Probable as the highest level of evidence were found in each of the five survey regions; however, this does not necessarily mean that the species is a widespread breeding bird within the county. Evidence of breeding for 43 of the 110 breeding species was documented in four or fewer survey regions. Thirty-nine of these 43 species were thinly distributed across the county, being found in eight or fewer survey blocks. Atlas

maps for each of the 110 breeding birds are provided in the individual species accounts.

c) Breeding Bird Atlas Findings: Each species of breeding bird recorded in Mecklenburg County was characterized using one of the following metrics and is presented in one of the three charts on the following pages (Figures 14, 15, and 16). Note: Possible codes recorded were not included in these findings.

- Nearly Ubiquitous: Probable or Confirmed code recorded in 41–62 survey blocks
- Widespread: Probable or Confirmed code recorded in 31–40 survey blocks
- Fairly Widespread: Probable or Confirmed code recorded in 21–30 survey blocks
- Somewhat Local: Probable or Confirmed code recorded in 10–20 survey blocks
- Local: Probable or Confirmed code recorded in 4–9 survey blocks
- Very Local: Probable or Confirmed code recorded in 1–3 survey blocks

Figure 12. Hours of Effort per Block

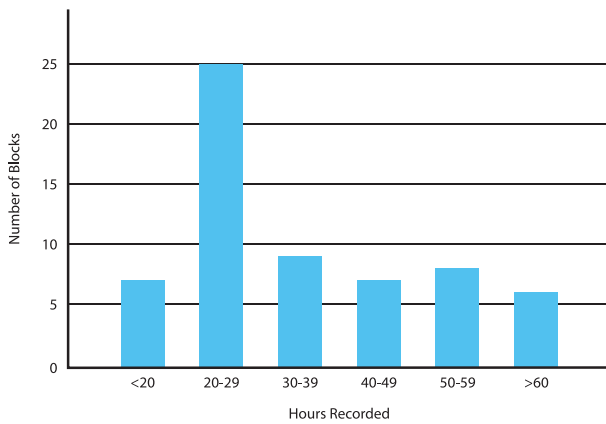


Figure 13. Species per Block

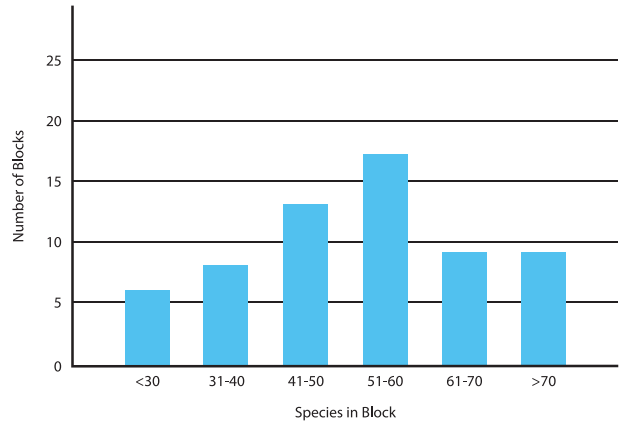


Figure 14. Nearly Ubiquitous and Widespread Breeding Birds

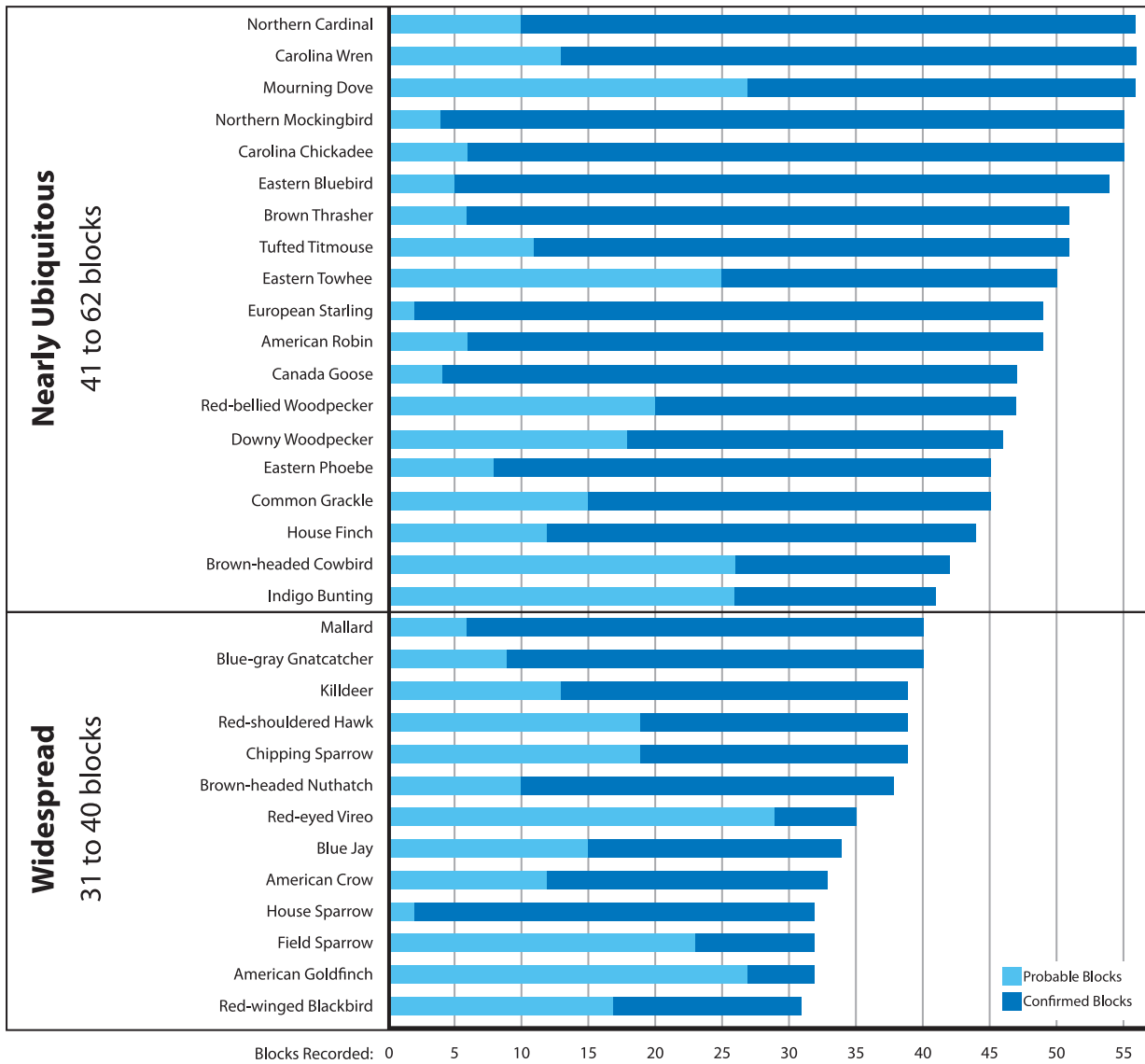
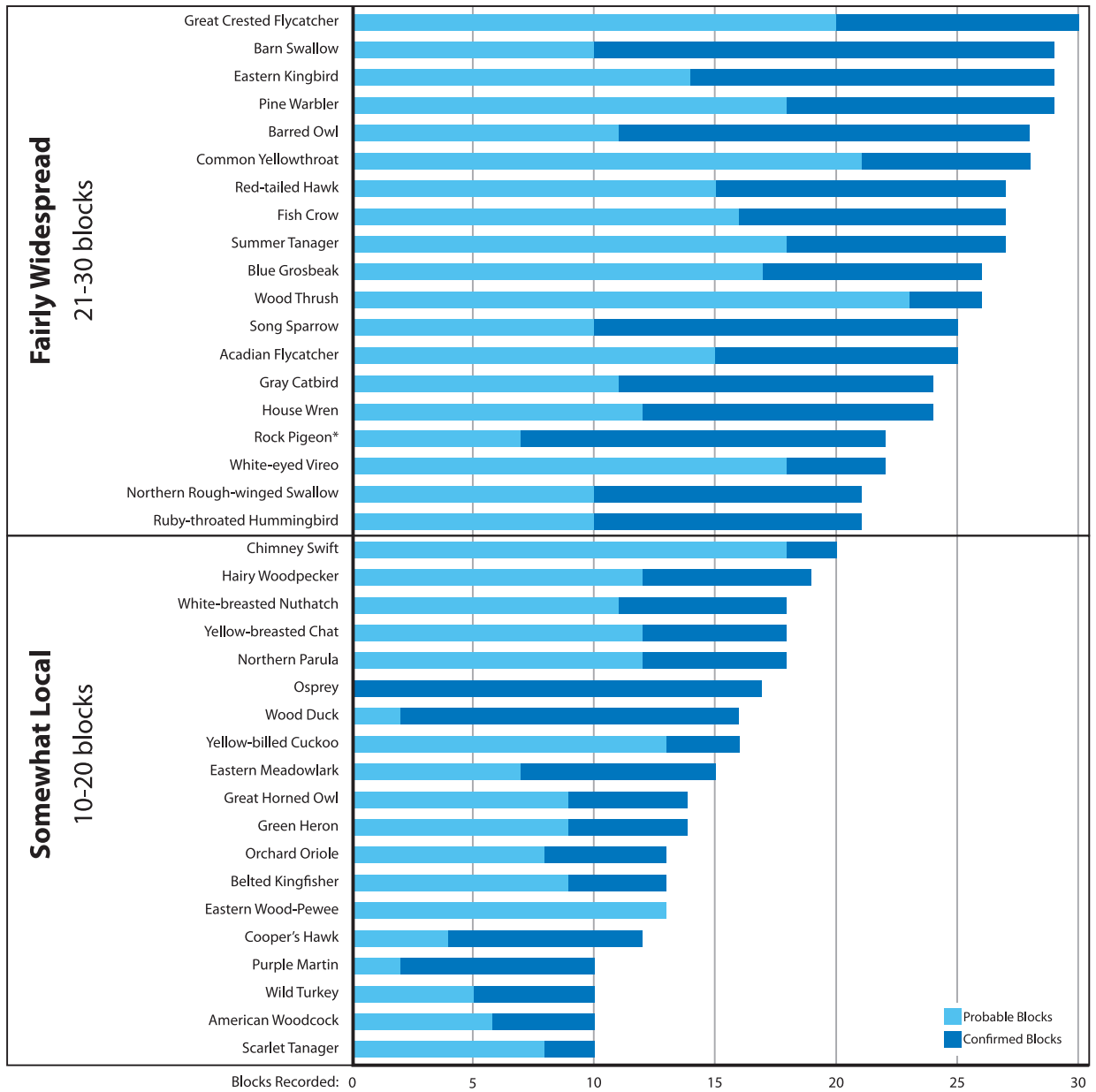
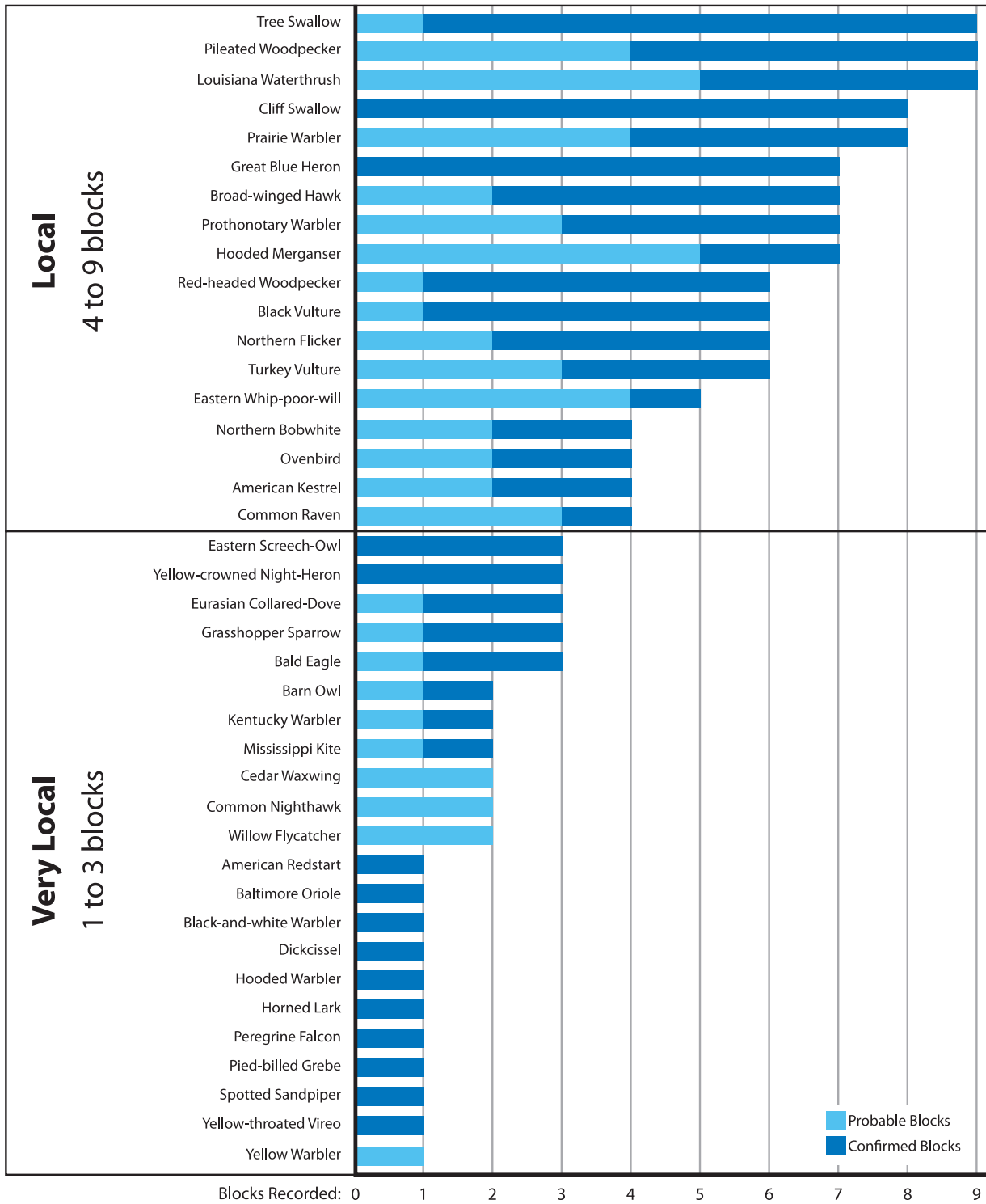


Figure 15. Fairly Widespread and Somewhat Local Breeding Birds



*The presence of Rock Pigeon is believed to be underrepresented by this Atlas survey.

Figure 16. Local and Very Local Breeding Birds





SPECIES ACCOUNTS

Explanatory Matter

A total of 348 species of birds have been found in the Central Carolinas. Individual accounts of 312 species are presented in this section. An additional 36 species are addressed in the Supplementary Bird List beginning on page 519.

Documentation

The occurrence of 327 (94%) of these 348 species is supported by one or more of the following three types of physical evidence:

- 1) A voucher specimen collected from the region and housed in a museum collection: 176 species (51%)
- 2) A voucher photograph of the bird taken in the region: 318 species (91%)
- 3) An audio recording of the bird recorded in the region: 6 species (2%)

An additional 8 species (2%) were captured, examined, and identified in hand by a competent authority. (a “lost” museum specimen, a banded bird, hunter record, tower kill, un-salvageable specimen, rehabilitated bird, etc.)

The occurrence of 15 species (4%) are supported only by sight records.

Arrangement

The taxonomic sequence of avian orders, families, and species, and all common and scientific names, conform to the *56th Supplement to the American Ornithologists’ Union Check-list of North American Birds*, published in 2015.

Components

- 1) Common name
- 2) Scientific name
- 3) Vernacular (folk) name (Only a handful of these names are in use today. They are provided for historic reference and interest.)
- 4) Seasonality: Adapted from Post and Gauthreaux (1989)
 - Resident: found in all or part of the region year round
 - Breeder: breeding confirmed in all or part of the region, but species is not found here all year
 - Migrant: periodically moves in and out of the region, is not known to breed here
 - Winter Resident/Visitor: spends all or part of the winter in the region
- 5) Occurrence and Abundance Categories: Adapted from Post and Gauthreaux (1989) and LeGrand and Howard (2017).

For species of irregular occurrence that are not recorded annually:

- Accidental: 1–2 records for the region
- Casual: 2–5 records for the region
- Very Rare: 6–9 records for the region

For regularly occurring species that are recorded annually:

- Rare: often missed by a person in a given season, but 10 or more records from the region
- Uncommon: can be missed in a given day, but can usually be found if searching for several days
- Fairly Common: usually seen in a given day, but mostly under 5 individuals
- Common: usually seen in moderate numbers, often 5–20, in a given day
- Very Common: usually seen in large numbers, often 20–100, in a given day
- Abundant: usually seen in very large numbers, often over 100 in a given day, at the appropriate time of year and in the appropriate habitat.

6) Seasonal Abundance Graph: A graph is provided for each species to help the reader quickly determine the typical level of abundance and relative occurrence of each bird throughout the year. Although these graphs are derived from actual records of each species reported from within the region, each graph should be considered only as a general approximation of the actual occurrence and abundance of each bird. (*Figure 1a and 1b*)

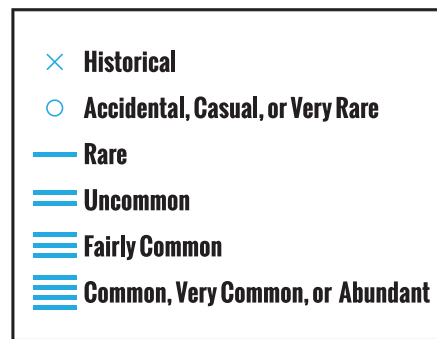


Figure 1a. (above) Abundance levels

Figure 1b. (below) Seasonal abundance graph example



7) Habitat (very general): derived from a variety of sources including *The Land Manager's Guide to the Birds of the South* by Paul B. Hamel.

8) Narrative: This section describes the pertinent records associated with this species in the region. No attempt has been made to include all known records of each species from the region. When available, historical records and breeding details are provided. The name of the county is provided for the first use of a specific city, town, or location. It is not included thereafter. Notes for select records, quotes, etc. in the species narrative are provided

on page 562. **Anecdotal accounts are shared to help provide historical context and personal narrative. They should not be assumed to reflect current scientific knowledge, policies, or practices.**

9) Original scientific illustration

10) Photographs of the bird taken within the region

11) Quick Reference Icons. (Figure 2) Also on Quick Index.

12) Mecklenburg County Breeding Bird Atlas Maps (Figure 3) Also on Quick Index.














	Voucher Specimen Record: A specimen of this species was collected in the region and deposited in a curated collection.
	Specimen Examined: A specimen of this species was examined in the region in hand by a competent authority and released, discarded, or lost.
	Banded Bird Record: A specimen of this species was captured, banded, and released in the region.
	Photographic Record: A photograph of this species was taken in Mecklenburg County.
	Outlined Photographic Record: A photograph of this species has been taken in the region, but not in Mecklenburg County.
	Sight Record: A dated sight record exists for this species in the Central Carolina region.
	Red Sight Record: The only evidence of this species in the Central Carolina region is a sight record.
	Christmas Bird Count Record: Species has been recorded on a Christmas Bird Count in the region.
	Spring Bird Count Record: Species has been recorded on a Spring Bird Count in the region.
	Nest Record: This species has been recorded nesting in the region.
	Orange Nest Record: Mecklenburg County Breeding Bird Atlas designated Vulnerable. See page 554.
	Red Nest Record: Mecklenburg County Breeding Bird Atlas designated Imperiled. See page 553.
	Outlined Nest Record: This species has been recorded nesting in the region, but not in Mecklenburg County.
	Blue Nest Record: Former Breeder. Mecklenburg County BBA designated Lost. See page 552.

Figure 2. Quick Reference Icons

Note: many locations mentioned in the species accounts are presented in maps on pages 542–543 of the Appendix.

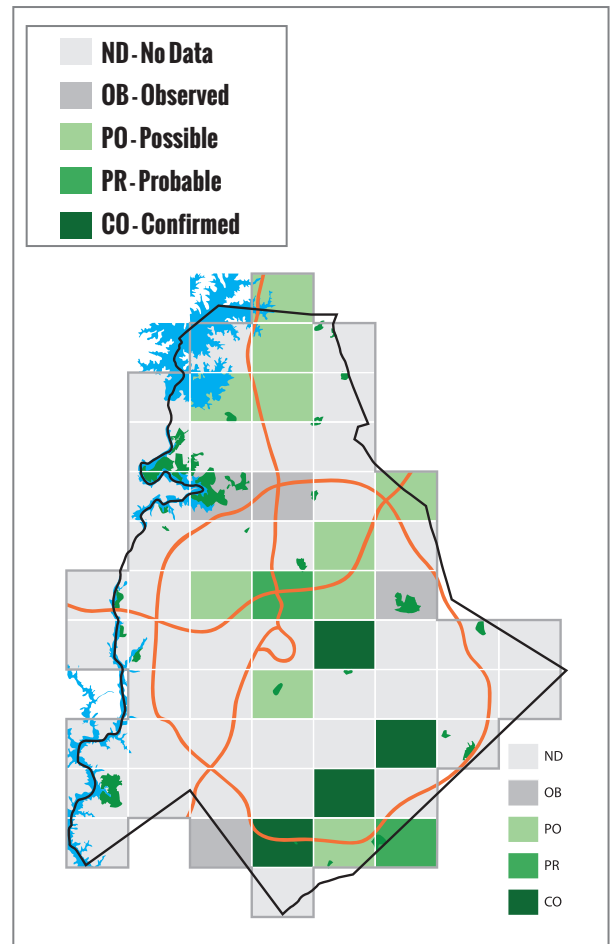


Figure 3. Breeding Bird Atlas Key and a BBA Map example