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BIRDS OF POLK COUNTY
IOWA

BY

PHILIP A. DUMONT



DES MOINES AUDUBON SOCIETY

DES MOINES, IOWA

1931

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*A list of 289 species of birds known to have
occurred within Polk County, Iowa,
together with dates of migration*



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MAP OF POLK COUNTY, IOWA



Polk County is located in south-central Iowa, with Des Moines at approximately $41^{\circ} 36'$ north latitude and $93^{\circ} 37'$ west longitude. This city is about the same latitude as Providence, R. I., Cleveland, Ohio, Chicago, Ill., and Ogden, Utah.

All of the principal localities mentioned in this paper are shown on this map, together with the larger streams and rivers.

THE BIRDS OF POLK COUNTY, IOWA

INTRODUCTION

The bird life of Polk County, Iowa, has been studied rather continuously since the inception in 1881 of a systematic study of bird migration in the Mississippi Valley by Professor W. W. Cooke.

It is my wish to assemble the scattered references to bird life in this area and to record the present status of all species for comparison with former abundance.

Location

Polk County is located in south central Iowa, midway between the Mississippi and Missouri River valleys. This county was covered by the upper Iowa drift and by the Wisconsin drift sheet. The latter deposited great quantities of clay and gravel and formed the country into a series of rolling hills or moraines. The only wooded lands are in the river bottoms and along the streams, and contain oaks, hickories and walnuts, all typical of the Upper Austral Zone.

Physical Features

Of an area about twenty-four miles square, almost ninety percent is in farm land of which two-thirds is under cultivation. At the present time there are practically no waste lands being reclaimed by drainage. The abnormal trend of 1918, placing all possible acreage under cultivation is now being reversed by allowing unprofitable land to lie idle or by reforestation of such tracts.

The Des Moines and Raccoon Rivers which enter the county from the north and west have as their junction point the city of Des Moines in the center of the county. These, with the smaller streams, Beaver and Walnut Creek in the west and Four Mile Creek and Skunk River in the east, flow in a southeasterly direction across the county.

During the years of 1884 and 1885 when Dr. Charles R. Keyes was securing his collection of birds at Des Moines there were extensive marshes around the city. A large area north of the location of Des Moines University was a favorite place

for migrating ducks, geese, cranes, curlews and smaller shore birds. Now very few ponds or sloughs are to be found. Fisher's Lake, a shallow pond of about a half mile in length, has been entirely dry since 1930.

With the steady growth of Des Moines, a city of fifty-four square miles, there has been a constant decrease in suitable nesting and feeding grounds for game birds and wild fowl.

Undoubtedly the paving of roads in all parts of the state has had its definite effect in placing nearly every lake or hunting ground easily within driving distance. This certainly has made it possible for bird observers to visit the larger lakes for studying water birds of all types.

Atmospheric Conditions

The normal ranges of temperature at Des Moines are typical of those found in the middle west with a mean annual temperature of 50 degrees (average over a period of fifty years). While extremes of 110 degrees and -30 degrees have been recorded, these temperatures are infrequently approached.

It is generally believed that winters are now much milder than thirty years ago. The facts prove this to a certain extent. The average temperatures during the winter months (December, January and February) of the years from 1891 to 1900 was 23.9 degrees and the average temperature for the same months from 1921 to 1930 was 25.9 degrees.

The recent somewhat milder winters may have had their effect on the increase of the Carolinian species in our county. However, it seems more probable that this northward movement is not alone dependent upon a series of several mild winters but upon the normal increase of the specie and its ability to find a suitable nesting cover in the cleared areas and an abundance of food.

The annual rainfall at Des Moines is about 32 inches (average for fifty years) and the snowfall averages almost exactly the same amount; although, during the past ten-year period there has been an average deficiency of almost two inches of rain and five inches of snow annually.

Ornithological Development

In 1832 Fort Des Moines, the first white settlement in Polk County, located at the junction of the Raccoon and Des Moines Rivers, was established as a United States garrison. Twenty-eight years before this time Lewis and Clarke were starting on their expedition up the Missouri River and in 1843 John James Audubon journeyed up the same river.

In 1881 and '82 Professor W. W. Cooke secured the assistance of ornithologists in the Mississippi Valley region for a study of bird migration. By 1884 this survey was well organized with twenty-six observers reporting from various places in Iowa.

During 1883, '84, and '85 the migration at Des Moines was recorded by Charles Rollin Keyes and Ulysses S. Grant and in the fall of 1885 and for all of the next year the work was continued by James B. Green. Dates of earliest arrival, maximum abundance and latest departure were supplied to the Biological Survey.

Publications

Professor Cooke's report "Bird Migration in the Mississippi Valley in the Years 1884 and 1885" was published in 1888. Migration data on no less than 95 species of birds at Des Moines was contained in this bulletin.

In 1889 Charles R. Keyes and Dr. H. S. Williams published "A Preliminary Annotated Catalogue of the Birds of Iowa" based upon their notes and specimens secured at Des Moines. In the introduction the authors say, "The dates of arrival and departure are based entirely upon studies conducted in the vicinity of Des Moines. Although possessed of extended notes from other parts of the state upon the appearance in the spring and the departure in the fall of the various species of birds, the notes from Des Moines have been used exclusively because of its central location in Iowa, and therefore, representing nearly a mean for the arrival and departure over the whole state." This paper contains references to 234 species of birds in Polk County.

The first and only complete report on "The Birds of Iowa" was published in 1907 by Rudolph M. Anderson. This state list enumerated 354 species occurring in Iowa and 25 included

in a hypothetical list. Besides numerous references to Polk County birds, as given by Cooke and Keyes and Williams, several records are included by A. I. Johnson who listed 147 species of birds observed since 1890 at Des Moines.

During 1909 Lester P. Fagen's "Summer-Resident Birds of Polk County, Iowa" was published. In this paper Fagen records 101 species of birds which were known to nest within Polk County. Based on earlier reports the Wood Duck, Great Blue Heron, Bald Eagle and Passenger Pigeon were included and several others were recorded which have not since been found as breeding species within the county, namely: Green-winged Teal, Little Blue Heron, Prairie Chicken, Ruffed Grouse, Turkey Vulture, Osprey, Rusty Blackbird, Swamp Sparrow, White-eyed Vireo, Black and White Warbler, Prairie Warbler, Chestnut-sided Warbler, Red-breasted Nuthatch and Wilson's Thrush.

"The Raptorial Birds of Iowa" by Bert Heald Bailey published in 1918 is a fine contribution to the knowledge of Iowa hawks and owls particularly from the standpoint of their economic relations to agriculture. Bailey records 19 species of hawks and owls as occurring in Polk County and 10 species as breeding.

In 1926 "The One Hundred Most Common Birds of Polk County, Iowa" was written by Philip A. DuMont based on continuous observations in Des Moines from 1917 on. Migration data and common names of many of the birds were given, as well as numerous supplementary lists including additional species, a field check-list for Iowa and a list of the largest number of birds recorded locally in one day.

A few articles relative to bird life in Polk County were contained in the Iowa Ornithologist and the Western Ornithologist, publications of the former Iowa Ornithological Association between 1894 and 1898. These references are given in the text and also listed in the Bibliography at the end of the paper.

Other notes cited in the Bibliography are to be found in the Auk, quarterly journal of the American Ornithologists' Union; the Wilson Bulletin of the Wilson Ornithological Club; the Iowa Ornithologist and Bird Life, quarterlies of the Iowa Ornithologists' Union; and Bird-Lore, official organ of the National Association of Audubon Societies.

Bird students fortunate enough to live in Des Moines have access to the Iowa State Library and the Des Moines Public Library both of which contain very fine volumes on ornithology giving colored plates and descriptions of birds.

Areas for Bird Study

During the forty-two years since Keyes and Williams published their observations on Polk County birds tremendous changes in the nature of the local bird life have taken place. While it was formerly possible to see flocks of Sandhill Cranes, White Pelicans, Long-billed Curlews, Ruffed Grouse and Prairie Chickens, now these birds are only occasionally met with in any part of Iowa. Even in recent years the number of hawks and owls appears to be greatly reduced.

At the same time there has been a marked increase in the number of certain smaller birds, particularly species of the Carolinian fauna which seem to be more numerous than formerly. The Cardinal, found for the first time at Des Moines in 1885, has continued its northward movement until it is now found in central Minnesota. The Mockingbird, Carolina Wren and Tufted Titmouse have all occurred in greater numbers during recent years.

Numerous localities within Polk County mentioned by earlier ornithologists and also in this paper may well be described a little more in detail. All of the bottom-land along the north bank of the Des Moines River, extending from Union Park to Sixth Avenue in Des Moines, has very appropriately been called Birdland Drive. Formerly this woods was inundated each year, but now dykes have been built and a great deal of the woodland cleared for recreation centers. Birdland has always been an excellent place to find migrating warblers, and the Wood Thrush, American Redstart, and Broad-winged Hawk have been found as breeding birds.

A similar tract of bottom-land on the opposite side of the river extends from Ninth Street west to the grounds of Broadlawns Hospital and south for almost half a mile. The several sections of this woods have been known as Crocker Woods, Douglas Woods, and Chautauqua Park. In recent years the latter two have become residential sections. At the present time Crocker Woods is one of the best places left near Des Moines in which to study birds, and all possible action

should be taken to have this area recognized as a sanctuary and thus preserved in its natural wildness.

Mr. A. T. Watson has made the most of his intensive field observations in Crocker Woods and so furnishes a greater mass of comparative migration data than we have from any other locality. The Acadian Flycatcher, Crested Flycatcher, Wood Thrush, Red-shouldered Hawk and Broad-winged Hawk all are found breeding regularly here.

The Broadlawns Hospital grounds along the Des Moines River from Sixteenth to about Twentieth Street has always been one of the best places for observing migrating warblers. One spring no less than eighteen species of these warblers were seen by Kenneth Nelson, during a half hour period. The Bell's Vireo nests here in numbers, as also does the Wood Pewee, Yellow Warbler and Indigo Bunting.

The Alder Flycatcher is confined more to the sandbar willows as are found across the river by Waukonsa Park.

An excellent place for studying ducks, gulls, and terns is at Riverview Lake. The Coot, Scaup Duck, Ruddy Duck, Ring-necked Duck and Mallard usually are to be found here in numbers and the Mergansers, Ring-billed Gull and Black Tern are often met with.

One of the largest tracts of woods, north along the Des Moines River is near Camp Douglas, about five miles north of the city. Across on the east side of the river, Morning Star, an extensive area of weeds and brush is excellent for fall migrating sparrows.

Beaver Creek which empties into the Des Moines River about two miles above Camp Douglas, flows through a wide flat valley from the northwest. Camp Dodge, the Iowa National Guard Reservation, is located along this valley and is twelve miles distant from Des Moines. The rifle-range, which is the property of the Federal Government, is in the middle of a large woods near the Des Moines River three miles east of the camp. Protection is given to all birds under Federal regulation.

East of the Des Moines River and about four or five miles southeast of Camp Dodge Fisher's Lake used to be. This lake, about a mile long, was formerly the channel of the river, but with the changing of its course was cut off. During the winter of 1925 and '26 Fisher's Lake was dry and since then

more and more of the shallow lake had been exposed until 1931, when almost the entire lake bottom was planted in corn. This lake was always an excellent place for ducks, geese, and the mud flats attracted many shore birds.

The country west of Camp Dodge becomes a series of rolling hills more typical of that in the western part of the state. Formerly most of the valleys between these hills were marshes or sloughs excellent for breeding ducks and migrating wild fowl. A few of these remain and one, Brenton's Slough, four miles west of Camp Dodge, near the county line on the west has been visited frequently by bird students. The Ingersoll Gun Club has had control of Brenton's Slough for several years, and through their efforts a great deal of wild rice has been planted and a few species of ducks encouraged to stay and breed. There are not sufficiently large mud flats to encourage shore birds and waders, but rails, gallinules, grebes, herons and bitterns are found in some numbers. The marshy meadows round about are excellent for the marsh wrens, Short-eared Owl, Marsh Hawk and blackbirds. The Henslow's, Savannah, Leconte's, Nelson's, Song and Swamp Sparrows are all found here as migrants.

The Polk County Game Farm is at Clive, seven miles west of Des Moines. Propagation of game birds is carried on here and as a result Great Horned Owls and Rough-legged Hawks are attracted in winter.

Extensive woods of black walnut and oak are found west of Des Moines and around Valley Junction along Walnut Creek and the Raccoon River. The former flows from the northwest, with tributaries near the town of Urbandale, past Clive and empties into the Raccoon River about a mile east of Valley Junction. Ashworth Park, located near here, is one of the few municipal parks preserved in natural state, a stipulation made by its donor. Scarlet Tanagers breed in this woods and Purple Finches, Tree Sparrows, Goldfinches and Juncos are found in the brushy bottom-land nearby.

The Brown Woods, two or three miles south of Valley Junction, is another excellent place for bird observation. Oaks grow almost down to the banks of the Raccoon River where they are replaced by the willows. Practically no clearing has been done and buck-brush is very abundant. The Oven-bird has been found to breed here regularly and the Blue-gray

Gnatcatcher, Blue-winged Warbler and Scarlet Tanager have all been found as breeding birds. The Wood Pewee, Crested Flycatcher, American Redstart and Wood Thrush are here found in numbers.

Elbert State Park, a tract of over two hundred acres, is located southwest along the Raccoon River near Commerce. It is possible that the Turkey Vulture may be found here as a breeding bird.

The Water Works Park, a tract of over thirteen hundred acres, extending for a distance of almost seven miles along both sides of the Raccoon River, is the largest protected area in this county. The numerous reservoirs and lakes are the only waters within Polk County on which wild fowl are permanently protected. During milder winters some of the reservoirs do not freeze and as a result wintering ducks are frequently noted. Many feeding tables for small birds and Quail shelters have been provided. The planting of fruit-bearing bushes has been another large part of creating a real bird sanctuary here. All members of the Des Moines Audubon Society are admitted to this sanctuary upon presentation of their membership cards. A large sand pit located near the Water Works Park, on southwest Eighteenth Street, is referred to in this paper as Gray's Lake. The origin of the name is not clear in the mind of the author as the lake is the result of the dredging by the Des Moines Sand Company. A number of rarer birds have been seen here, namely: White Pelican, Caspian Tern, Bonaparte's Gull, Double-crested Cormorant and Least Tern.

Donald MacRae Park is a short distance east of Gray's Lake. For many years there has been a large crow roost in this park. Another lake is found at Avon, seven miles southeast of Des Moines. This is a sandy bottomed lake with some marshy area suitable for bitterns and rails.

The Four Mile Creek, east of Des Moines, flows south almost through the middle of the county and into the Des Moines River a little north of Avon. The woodlands along this stream are extensive, but rather open, fine for nesting species but rather unsatisfactory as a locality for studying migrating birds, because the flocks can spread over the whole area without restriction.

In the northeast the Skunk River crosses the corner of the county. Some years ago the channel of this stream was straightened and now it is of little interest with regard to wild fowl.

Only a remnant of the large marshes formerly found in Highland Park, north Des Moines, has existed. At East Fourteenth Street and Euclid Avenue there has been a marsh of about twenty acres in extent, and within fifty yards of one of the principal highways. During the present year even this slough has dried up. It was a common sight here in the spring to see great rafts of Coots, many of the species of ducks, and occasionally some geese, almost in the residential section. Rails, the Least Bittern, Yellow-headed Blackbird, Marsh Wren, Nelson's Sparrow, Terns, and some of the shore birds have all been found around this marsh.

Collections

The collection of several hundred skins made by Charles R. Keyes at Des Moines between 1881 and 1886 is now in the Department of Biology, Iowa State College, Ames. This collection has been examined by the author and the specimens listed in this paper.

The collection at the State Historical Museum, Des Moines, contains several habitat groups of local birds. Professor Joseph Steppan, taxidermist of the museum, has developed small traveling habitat cases for use in Iowa schools. Recently Mr. James R. Harlan has been securing additional specimens for these cases. Professor Steppan has kindly allowed the author to examine this material.

In 1930 Mr. D. J. Bullock brought his private collection from Ames to Des Moines. It is now on display at the Washington Irving Junior High School and contains many specimens from Story County and from California and Texas. Recently Mr. Bullock has secured a few specimens from the Polk County Game Farm at Clive, west of Des Moines, and is at present adding more local birds. He has very kindly allowed the author to use records of all his Polk County specimens.

Mr. C. H. Schroeder has a small private collection of mounted birds at his home in West Des Moines. He is very well informed on bird life in Polk County since 1890. Much

valuable information concerning former abundance of water birds, breeding areas, and records of some of the rarer birds were furnished by him.

Field Work

Within the past few years field observation in bird study has definitely become more popular, and the possibility now of overlooking rare birds in our area is considerably lessened with the increased number of observers.

Mr. Lester P. Fagen was one of the best and most active bird students in the history of ornithology in this county. He has generously sent a record of all birds he found between 1895 and 1910 in Polk County. Several species on this list constitute our only record for the county, namely: Old-squaw, Little Blue Heron, Duck Hawk, Pine Grosbeak and Lark Bunting.

Mr. Arthur T. Watson, a very accurate field observer, has allowed the use of his notes which cover a period of years from 1902 to 1904 and from 1922 to the present time. Mr. Watson's records add several species to our county list not found by any other observer: American Egret, Yellow-crowned Night Heron, Avocet, Ruddy Turnstone and Arctic Three-toed Woodpecker.

Kenneth R. Nelson, another well trained ornithologist, supplied much migration data since 1922.

The intensive field work by members of the Des Moines Audubon Society, which was organized through the efforts of Mrs. Henry Frankel and Mr. A. J. Palas in 1923, has been largely responsible for the mass of dates on which to make these summaries. One of the regularly scheduled field trips each year is the Christmas Census sponsored by Bird-Lore. Tables showing comparative abundance of the species found at that time are included in the text. The following people mentioned in this paper by surnames only have contributed notes, and acknowledgment is made herewith by the author: Mrs. R. G. Brenner, Mr. and Mrs. Harold A. Bruner, Mr. Letson Balliet, Mr. D. J. Bullock, Mr. Charles S. Denman, Mrs. W. G. DuMont, Mr. Lester P. Fagen, Mrs. D. W. Fletcher, Mrs. Henry Frankel, Mr. J. R. Harlan, Miss Kate LaMar, Miss Olivia McCabe, Mr. Kenneth R. Nelson, Mr. and Mrs. Arthur J. Palas, Mrs. F. W. Rice, Dr. Luther S. Ross, Mr. C. H. Schroe-

der, Mr. and Mrs. John E. Stewart, Miss Mary K. St. George, Mr. Arthur T. Watson, and Mrs. Toni Wendelburg.

The author is indebted to Mrs. John E. Stewart for her continued encouragement in the preparation of this paper and he wishes particularly to thank Miss Helen Ann Hovde for her great help in the preparation of the manuscript.

Scope of the Work

In this paper the author gives the status of each specie, if found recently in Polk County, together with a statement of former abundance as recorded by Keyes and Williams prior to 1889. In addition records from Cooke, Anderson, Fagen, and Bailey are given. Under each specie found at all regularly within the county there has been given a summary of migration data based on observations mostly within the last ten years.

For species that migrate north in the spring and return in the fall the extreme range of arrival and departure dates for both spring and fall is given, and for birds which stay and breed in this region, only the extreme dates of arrival in the spring and departure in the fall are stated. The name of the observer in each case has been included in parentheses after the date.

There are included in this list 289 species of birds that have been found in Polk County, as well as 17 others of a hypothetical nature that have been placed in brackets because: (1) although they have appeared in adjoining counties they have not yet been found here, (2) straggling species whose occurrence here needs to be substantiated by specimens, and (3) species so difficult to identify in the field that specimens are needed.

The nomenclature is that of the American Ornithologists' Union Check List, Fourth Edition, 1931. This edition incorporates a rather striking rearrangement in the order of certain families and in the recommendation of more descriptive common names all of which have been followed in the present paper.

LIST OF SPECIES

COMMON LOON, *Gavia immer immer* (Brunnich).

Uncommon migrant. Keyes and Williams, 1889, p. 114: Migratory, rather common. Cooke, 1884-85, p. 54: One at Des Moines, April 21, 1885. Reported by Fagen as rare. Observed in the spring of 1919 (Malone). One seen on the Des Moines River, May 13, 1924 (DuMont). One in winter plumage killed near the Polk County Game Farm, Clive, September or October 1930 now in the collection of the State Historical Museum. One on Gray's Lake, April 7, 1931 (Stewart) and on April 25, 1931 (Palas).

[PACIFIC LOON, *Gavia arctica pacifica* (Lawrence).

Lester P. Fagen sent the following record of the Black-throated Loon: December 1902, Des Moines River below mouth of Beaver Creek two individuals only seen, twice on successive days.

F. Seymour Hersey (1917 pp. 283-290) has shown that all records of *G. a. arctica* Linnaeus in the Mississippi Valley refer to *G. a. pacifica* (Lawrence). In this case the author does not consider a slight identification sufficient evidence on which to base an addition to the records of this species in the state.]

RED-THROATED LOON, *Gavia stellata* (Pontoppidan).

Anderson, 1907, p. 152, gives the following record for Polk County: I mounted one which must have been a straggler. Although the party who shot it said there were others, he might have been mistaken. (Johnson).

HOLBOELL'S GREBE, *Colymbus grisegena holboelli* (Reinhardt).

A rare spring migrant. One seen, April 7, 1927 (Watson); a male observed at Brenton's Slough, four miles west of Camp Dodge, June 6, 1929 (Watson, Nelson and DuMont). See DuMont, 1929, pp. 191-192.

HORNED GREBE, *Colymbus auritus* Linnaeus.

Uncommon migrant. Keyes and Williams, 1889, p. 114: A rather common migrant.

Spring: April 3, 1927 (Nelson) to May 1, 1927 (reported on the field trip of the Iowa Ornithologists' Union).

EARED GREBE, *Colymbus nigricollis californicus* (Heermann).

Rare migrant. An adult in breeding plumage seen on the reservoir in the Water Works park, Des Moines, April 17, 1931 (Stewart); one at Gray's Lake, April 26, 1931 (Stewart, Roberts, LaMar, Palas, and McCabe); and again on May 12, 1931 (Stewart).

PIED-BILLED GREBE, *Podilymbus podiceps podiceps* (Linnaeus).

A common summer resident. Keyes and Williams, 1889, p. 114: Common summer resident; breeds in the "sloughs", . . . on June 2,

1885, a fine set of eggs was taken in a grassy marsh near Des Moines. February 23, 1930 (Stewart and LaMar) to October 12, 1929 (McCabe).

Seven young seen on the Gun Club Pond, Des Moines, June 18, 1922 (McCabe).

WHITE PELICAN, *Pelecanus erythrorhynchos* Gmelin.

A fairly rare migrant. Keyes and Williams, 1889, pp. 115-116: Spring and fall migrant; abundant. Green, Biol. Sur. records: September 30, 1885, a large flock of White Pelicans went over the city. This bird was formerly (before 1890) quite a common migrant (Schroeder). Observed only once between 1900 and 1907 (Fagen). A male collected by C. A. Lockhard, eleven miles north of Des Moines, September 7, 1916. It is in the collection of the State Historical Museum. One seen September 25, 1925 (Watson). One, April 26, 1931 (Stewart, LaMar, and McCabe).

DOUBLE-CRESTED CORMORANT, *Phalacrocorax auritus auritus* (Lesson).

Uncommon migrant. Keyes and Williams, 1889, p. 115: Spring and fall migrant; common.

A female secured by C. C. Stiles September 29, 1928, is in the collection at the Iowa Historical Museum. A flock of seven was observed along the Des Moines River, October 13, 1922 (Watson). One collected by Virgil Ware near Camp Douglas, October 13, 1922. It was mounted by K. R. Nelson and is now in his collection. This bird may have been shot from the flock seen by Watson. Two birds were found at Gray's Lake from April 24 (Palas) to June 13, 1931 (Stewart). The watchman there reported "a thousand" present about April 23, 1931. Two at Gray's Lake September 18, 1931 (Stewart and DuMont). Three, October 16, 1931 (Stewart). A crippled bird found October 12, 1931 in East Des Moines, is now in the collection of the State Fish and Game Commission.

GREAT BLUE HERON, *Ardea herodias herodias* Linnaeus.

Fairly common migrant. May breed. Keyes and Williams, 1889, p. 119: Migratory; common.

Spring: April 2, 1929 (Stewart).

Fall: September 6, 1931 (DuMont) to October 21, 1931 (Watson).

Summer records: Four young birds seen August 11, 1930 at Fisher's Lake (Stewart); August 4, 1929 (McCabe).

AMERICAN EGRET, *Casmerodius albus egretta* (Gmelin).

A single bird seen August 17, 1930, along the Des Moines River near Waukonsa Park (Watson); also seen along the river by two other groups of observers that day both north and south of the city.

SNOWY EGRET, *Egretta thula thula* (Molina).

Keyes and Williams, 1889, p. 120: Very rare. Has been taken at Des Moines and Floyd County in August. Fagen reports this specie

as seen several times along Beaver Creek and Raccoon River, last time about 1908.

LITTLE BLUE HERON, *Florida caerulea caerulea* (Linnaeus).

The only record of this specie is by Fagen who reported it for both 1905 and 1906.

EASTERN GREEN HERON, *Butorides virescens virescens* (Linnaeus).

Common breeder. Keyes and Williams, 1889, p. 120: Common summer resident, arriving the last of April. Four specimens from Des Moines, are in the museum of Iowa State College and one in the collection of the State Historical Museum.

April 11, 1928 (Stewart) to September 23, 1929 (Watson and Nelson).

BLACK-CROWNED NIGHT HERON, *Nycticorax nycticorax hoactli* (Gmelin).

Migrant; not common; probably a rare breeder. Keyes and Williams, 1889, p. 120: Summer resident.

Spring: April 9, 1927 (Nelson).

Fall: September 7, 1931 (DuMont, Stewart, LaMar) to September 25, 1929 (Stewart).

Summer Records: One seen at Brenton's Slough, June 9, 1929 (Nelson and DuMont); one juvenile at Gray's Lake, August 2, 1931 (Stewart).

YELLOW-CROWNED NIGHT HERON, *Nyctanassa violacea violacea* (Linnaeus).

One adult seen May 28, 1927 and May 30, 1927 (Watson). This southern heron is only an accidental wanderer in our area.

AMERICAN BITTERN, *Botaurus lentiginosus* (Montagu).

Fairly common breeder. Keyes and Williams, 1889, p. 119: Migratory; common in southern and central Iowa. Keyes, Biol. Sur. records: April 22, 1885. Fagen, 1909, p. 213: Its season in Iowa is from May to November.

April 19, 1928 (McCabe) to October 18, 1931 (Stewart).

EASTERN LEAST BITTERN, *Ixobrychus exilis exilis* (Gmelin).

Fairly common breeder. Keyes and Williams, 1889, p. 119: Common summer resident; breeds in the "sloughs". Cooke, 1884-85, p. 81: A nest with eggs was found at Des Moines, Iowa, May 26, 1885. A specimen in Keyes Collection, Iowa State College.

Earliest spring arrival, May 13, 1928 (McCabe).

WHISTLING SWAN, *Cygnus columbianus* (Ord).

Keyes and Williams, 1889, p. 119: Rare migrant. Anderson, 1907, p. 191 records this specie for Polk County on Johnson's record as being a migrant. There are two specimens, killed about 1912 near Fisher's Lake north of Des Moines, now in the collection of the State

Historical Museum. Schroeder has one specimen killed in 1902 along the Raccoon River near Van Meter, Dallas County.

TRUMPETER SWAN, *Cygnus buccinator* Richardson.

Keyes and Williams, 1889, p. 119 recorded this specie as migratory, not common.

COMMON CANADA GOOSE, *Branta canadensis canadensis* (Linnaeus).

Fairly common migrant. Keyes and Williams, 1889, p. 118: Migratory; common. Green, Biol. Sur. records: February 24, 1886. Keyes, Biol. Sur. records: March 22 and 27, 1884; March 19, 1885.

Spring: March 7, 1901 (Watson) to April 4, 1924 (McCabe).

Fall: October 8, 1929 (Stewart) to October 26, 1919 (McCabe) and October 26, 1925 (Watson).

HUTCHIN'S GOOSE, *Branta canadensis hutchinsi* (Richardson).

A rare migrant. Keyes and Williams, 1889, p. 118: Migratory; not uncommon. Anderson, 1907, p. 188, gives the following: Polk County—have one specimen killed at Twin Lakes, Iowa, now in the collection of the State Historical Department (Johnson). A single bird seen with three Blue Geese at Brenton's Slough, March 30, 1930 (Stewart). All four birds appeared to be the same size.

AMERICAN BRANT, *Branta bernicla hrota* (Muller).

Fagen says that this bird was common in the '80's and early '90's. Reported March 8, 1925 (Watson); April 23, 1927, a flock of twenty-four birds was seen flying up the Des Moines River and positively identified (Watson and Nelson); October 26, 1925 (Watson).

The author is aware of the lack of acceptable records of this specie in the Mississippi Valley area, but because Mr. Watson is so familiar with this bird along the Atlantic Coast, accepts his records as unquestionable.

WHITE-FRONTED GOOSE, *Anser albifrons albifrons* (Scopoli).

Keyes and Williams, 1889, p. 118: Abundant during both spring and fall migration. Keyes, Biol. Sur. records: One observed April 1, 1885; next observed on April 11, 1885.—Generally common but two observed this season.

There are no recent observations.

LESSER SNOW GOOSE, *Chen hyperborea hyperborea* (Pallas).

Fairly rare migrant. Keyes and Williams, 1889, p. 118: Not uncommon during periods of migration. Anderson, 1907, p. 182, gives: Polk County—migrant (Johnson). Schroeder has seen this species once only in Polk County. One observed October 12, 1927, at 20th Street and Euclid Avenue (Watson). Jack Walton, Des Moines, a local aviator, ran down and captured a Snow Goose October 27, 1929. He was arrested and fined for hunting from an airplane. One specimen from Story County in the Bullock Collection.

BLUE GOOSE, *Chen caerulescens* (Linnaeus).

Fairly rare migrant. One male picked up dead along the shore of Fisher's Lake, May 5, 1927 (Watson and Nelson); one seen October 8, 1927, at 20th Street and Euclid Avenue (Watson); three observed at Brenton's Slough, March 30, 1930 (Stewart, LaMar and Palas).

COMMON MALLARD, *Anas platyrhynchos platyrhynchos* Linnaeus.

Common migrant. A few remaining to breed. Keyes and Williams, 1889, p. 116; Spring and fall migrant; very abundant. Arrives from the south about the middle of March, returning again the first of October and remaining until the first of December. A specimen from Des Moines in the collection of Iowa State College.

Reported regularly in March. Casual dates: February 24, 1886 (Green, Biol. Sur. records); December 1, 1884 (Keyes, Biol. Sur. records). Bird-Lore Christmas Census: December 26, 1924, one; December 22, 1929, two; December 26, 1927, two; December 26, 1930, ten. Ten birds wintered at the Water Works park 1930-31 (Stewart).

RED-LEGGED BLACK DUCK, *Anas rubripes rubripes* Brewster.

Uncommon migrant. Keyes and Williams, 1889, p. 116: Migratory; not common. A female collected by John Gillespie at Des Moines is in the collection of the State Historical Museum.

March 28, 1927 (Watson); April 18, 1927 (Watson); May 9, 1929 (Watson); May 3, 1928 (Stewart).

GADWALL, *Chaulelasmus streperus* (Linnaeus).

Fairly common migrant. Keyes and Williams, 1889, p. 116: Spring and fall migrant; rather common. Cooke, 1884-85, p. 65: In the fall of 1884 the first migrant was seen at Des Moines, Iowa, October 28, and the last November 10. In the spring of 1885 it was reported . . . from Des Moines . . . April 1.

March 28, 1927 (Watson); four seen April 9, 1927 (Nelson); April 18, 1927 and 1929 (Watson); April 24, 1931 (Palas).

BALDPATE, *Mareca americana* (Gmelin).

Common migrant. Keyes and Williams, 1889, p. 117: Migratory; common. Has been observed during the summer.

Spring: March 22, 1930 (LaMar) to May 29, 1928 (Watson).

AMERICAN PINTAIL, *Dafila acuta tzitzihoo* (Vieillot).

Common migrant; may breed. Keyes and Williams, 1889, p. 117: Spring and fall migrant; abundant; appears the second week in March and remains until the middle of April, returning again in October. Keyes, Biol. Sur. records: October 15, to November 15, 1884; March 13, to April 9, 1885.

February 26, 1930 (Stewart) to October 20, 1931 (Watson).

Summer records: June 10, 1928 at East 14th Street and Euclid Avenue (Nelson); June 6, 1929 at Brenton's Slough (Watson,

Nelson and DuMont); August 25, 1929 at Fisher's Lake (Stewart). A straggler on the Des Moines River, September 6, 1931 (Stewart and DuMont).

GREEN-WINGED TEAL, *Nettion carolinense* (Gmelin).

Common migrant; no recent breeding record. Keyes and Williams, 1889, p. 117: Abundant migrant. Breeds about the grassy marshes. Cooke, 1884-85, p. 66: In the fall of 1884 the bulk arrived at Des Moines, Iowa, October 25 and the last left there November 17. In the spring of 1885 . . . Des Moines, Iowa, March 18. Keyes, Biol. Sur. records: April 9, 1885 (last date); September 10 to November 4, 1885.

Recent dates range from March 22, 1930 (Stewart and LaMar) to June 7, 1926 (Watson). Earliest fall arrival, September 6, 1931 (Palas). Two birds wintered at the reservoir in Water Works park, Des Moines, December 1930 to April 5, 1931 (Stewart). Fagen, 1909, p. 213 recorded this specie as breeding within the county, but there are no recent records.

BLUE-WINGED TEAL, *Querquedula discors* (Linnaeus).

Very common migrant; fairly common breeder. Keyes and Williams, 1889, p. 117: Abundant spring and fall migrant, and common summer resident; breeds in the "sloughs". Cooke, 1884-85, p. 67: In the fall of 1884, at Des Moines, Iowa, the last was seen November 10. In the spring of 1885 . . . April 4.

Spring: March 3, 1928 (Palas).

Fall: August 30, 1931 (Stewart and DuMont).

SHOVELLER, *Spatula clypeata* (Linnaeus).

Common migrant; a few remaining to breed. Keyes and Williams, 1889, p. 117: Migratory; rather common. Keyes, Biol. Sur. records: October 28, to November 15, 1884; April 1, 1885.

Earliest spring arrival, March 19, 1927 (Nelson). The first fall migrants seen September 22, 1929 (LaMar).

WOOD DUCK, *Aix sponsa* (Linnaeus).

Rare. Keyes and Williams, 1889, p. 117: Abundant migrant; rather common summer resident. Cooke, 1884-85, p. 70: In the fall of 1884 the first migrant was reported from Des Moines, October 18. The bulk arrived there October 25, and the last was seen November 10. Keyes, Biol. Sur. records: March 19, 1885, four seen, next seen March 23. May breed.

There are two males and a female from Des Moines in the collection at the State Historical Museum. Wendelburg reported this specie June 1924, and July 1927, near Herrold. Probably these were breeding birds. Three seen September 20, 1931 at Brenton's Slough (Field trip of the Des Moines Audubon Society); one seen along the Des Moines River, September 23, 1931 (Watson and DuMont); two males at the same place, October 5, 1931 (Watson).

REDHEAD, *Nyroca americana* (Eyton).

Uncommon migrant. Keyes and Williams, 1889, p. 117: Spring and fall migrant; abundant. Cooke, 1884-85, p. 70: In the fall of 1884 the first Redhead was seen at Des Moines, October 10, and the last November 15.

Spring: March 26, 1927 (Nelson) to May 24, 1931 (Palas).

RING-NECKED DUCK, *Nyroca collaris* (Donovan).

Common migrant. Keyes and Williams, 1889, p. 118: Spring and fall migrant; observed from the middle of March to the middle of April, and from the middle of October to the middle of November. Sometimes winters about the rapids in the streams. Cooke, 1884-85, p. 72: In the spring of 1885 the first was seen at Des Moines, Iowa, March 19. . . . The last was seen at Des Moines, April 9.

Spring: March 9, 1930 (Stewart) to May 24, 1931 (Palas).

CANVAS-BACK, *Nyroca valisineria* (Wilson).

Uncommon migrant. Keyes and Williams, 1889, p. 117: Not as abundant as the last species but rather common.

Spring: March 29, 1927 (Nelson) to April 29, 1931 (Palas).

GREATER SCAUP DUCK, *Nyroca marila* (Linnaeus).

Uncommon migrant. Keyes and Williams, 1889, p. 117: Migratory; not common. There is one male in the collection of the State Historical Museum.

February 24, 1927 (Watson) to April 9, 1929 (Watson).

No doubt this specie is often overlooked due to the difficulty of distinguishing it from the Lesser Scaup.

LESSER SCAUP DUCK, *Nyroca affinis* (Eyton).

Abundant migrant; no breeding records. Keyes and Williams, 1889, p. 118: Migratory; rather common. Earliest spring date: March 19, 1927 (Nelson). Four birds seen June 12, 1929 at Brenton's Slough were evidently either late stragglers or non-breeding birds.

AMERICAN GOLDEN-EYE, *Glaucionetta clangula americana* (Bonaparte).

Uncommon migrant. Keyes and Williams, 1889, p. 118: Migrant; rare. Anderson, 1907, p. 176 records it seen in Polk County by Johnson. Fagen reported it as rare. One male seen on the Des Moines River, March 31, 1924 (DuMont); observed April 26, 1931 (Stewart and LaMar); May 3, 1931 (Stewart).

BUFFLE-HEAD, *Charitonetta albeola* (Linnaeus).

Uncommon migrant. Keyes and Williams, 1889, p. 118: Spring and fall migrant; common. Keyes, Biol. Sur. records: March 24 to April 3, 1885.

One seen at East 14th Street and Euclid Avenue during the spring of 1926 (Palas). One female seen April 29, 1927 (Nelson). One female on Beaver Creek, April 12, 1930 (Stewart).

OLD-SQUAW, *Clangula hyemalis* (Linnaeus).

Casual winter visitor. Fagen reports one specimen taken November 1903, near mouth of Beaver Creek. This specie was taken recently in Boone County.

RUDDY DUCK, *Erismatura jamaicensis rubida* (Wilson).

Fairly common migrant; occasionally remaining until June. Keyes and Williams, 1889, p. 118: Migratory; not very common. There is a female in the collection of the State Historical Museum.

Earliest spring arrival: March 28, 1927, remaining four weeks (McCabe). Latest spring dates: June 14, 1927, one at East 14th Street and Euclid Avenue and June 12, 1929, one at Brenton's Slough (Nelson and DuMont).

Fall: September 26, 1931 (Stewart).

HOODED MERGANSER, *Lophodytes cucullatus* (Linnaeus).

Uncommon migrant. Keyes and Williams, 1889, p. 116: Spring and fall migrant; rather common. Cooke, 1884-85, p. 61: In the fall of 1884 the first migrant appeared at Des Moines, Iowa, October 24 and the last was seen November 17. . . . In the spring of 1885 was seen at . . . Des Moines, Iowa, April 9. Schroeder informs me he had collected several at Des Moines before 1900. A male and female in the collection at the State Historical Museum from Des Moines by William O. Smouse. Reported by Fagen and Palas. A pair observed by Miss Olivia McCabe on a small pool of water near the Gun Club, Des Moines, June 21, 1923. J. R. Harlan reports this specie as a fairly common migrant in late October or early November. At least a hundred birds were seen by him while descending the Des Moines River from Boone to Des Moines.

AMERICAN MERGANSER, *Mergus merganser americanus* Cassin.

Uncommon migrant. Keyes and Williams, 1889, p. 116: Rather common migrant. Cooke, 1884-85, p. 61: Noted at Des Moines, Iowa, April 4 [1885]. Reported by Fagen, Palas, and St. George. Recorded on the Bird-Lore Christmas Census: December 22, 1929, three; December 26, 1930, three. A single female wintered on a reservoir in Water Works park from December 1930 to April 11, 1931 (Stewart et al.).

RED-BREASTED MERGANSER, *Mergus serrator* Linnaeus.

Uncommon migrant. Reported by Fagen. A flock of seven seen on Riverview Lake, April 1, 1924 (DuMont); April 12, 1924 (Nelson); three on the Des Moines River May 9, 1929 (Watson); two females on Avon Lake May 3, 1931 (Stewart); one killed April 3, 1931 on Beaver Creek (Harlan).

TURKEY VULTURE, *Cathartes aura septentrionalis* Wied.

Uncommon summer resident; may breed. Keyes and Williams, 1889, p. 126: Common summer resident, arriving early in April

and remaining until November. Fagen, 1909, p. 211: Thirty years ago the Turkey Vulture was as common a resident of Polk County as is the Crow today. Bailey, 1918, p. 48 records this specie for Polk County. Green, Biol. Sur. records: April 21, 1886, two.

Eight observed February 28, 1931, an extremely warm day (Palas); latest fall date, September 30, 1929 (Stewart).

SWALLOW-TAILED KITE, *Elanoides forficatus forficatus* (Linnaeus).

Keyes and Williams, 1889, p. 126: Summer resident; common in some localities, rare in others. Arrives in April and departs in September. A specimen in the Bullock Collection taken in Jasper County. There are no recent records.

EASTERN GOSHAWK, *Astur atricapillus atricapillus* (Wilson).

Rare winter visitor. Keyes and Williams, 1889, p. 127: Rare; observed only during the winter. Reported by Fagen. September 25, 1931 (Watson and Nelson); October 18, 1924 (Watson); November 11, 1925 (Watson); April 30, 1927 (Nelson and Watson).

The Western Goshawk, *A. a. striatulus* Ridgeway, may occur in Polk County.

SHARP-SHINNED HAWK, *Accipiter velox velox* (Wilson).

Fairly common migrant; a few are permanent residents and breed. Keyes and Williams, 1889, p. 126: Very common during migratory periods, but not noticed often during the summer. Recorded by Fagen, 1909, p. 210, as a yearly resident and by Bailey, 1918, p. 71, as a breeding bird.

COOPER'S HAWK, *Accipiter cooperi* (Bonaparte).

Fairly common migrant; uncommon permanent resident; breeds. Keyes and Williams, 1889, p. 126: Summer resident; rather common. Arrives about the first of April and remains until October. Fagen, 1909, p. 210: During April of 1856 or 1857 a great migratory flight of these hawks was noted, in which hundreds of thousands of the birds were seen to pass over northwest Des Moines in a single day. Recorded on the Bird-Lore Christmas Census for 1924, 1925, 1926, 1927, 1928, and 1929.

EASTERN RED-TAILED HAWK, *Buteo borealis borealis* (Gmelin).

Common permanent resident; breeds. Keyes and Williams, 1889, p. 127: Resident; common. Both Fagen, 1909, p. 210, and Bailey, 1918, p. 99, record this as a breeding specie for Polk County.

KRIDER'S HAWK, *Buteo borealis krideri* Hoopes.

Rare. Letson Balliet, 1891, p. 109, gives the following: It is not as common in this section (Des Moines) as the Red-tailed, but can be occasionally met with. . . . I have never shot a Krider's Hawk but have collected two sets of their eggs, one in 1883, the other 1889. I made a positive identification of both sets.

The only recent record is of a single bird seen August 29, 1931, at Brenton's Slough (Stewart).

WESTERN RED-TAILED HAWK, *Buteo borealis calurus* Cassin.

Anderson, 1907, p. 248: Polk County—rare summer resident; nests. I found but one nest in Iowa. That was in a quite large piece of timber southeast of here near the Des Moines River. Shot one of the birds. This was about 1898 (Johnson). Bailey, 1918, p. 111, records this specie for Polk County.

There are no recent records.

HARLAN'S HAWK, *Buteo borealis harlani* (Audubon).

Possibly a fairly common migrant. There is one specimen taken near Clive during October, 1930, now in the Bullock Collection, Des Moines. This specimen shows the typical black streaking on the reddish black tail.

NORTHERN RED-SHOULDERED HAWK, *Buteo lineatus lineatus* (Gmelin).

Common permanent resident; breeds. Keyes and Williams, 1889, p. 127: Rather common resident in some localities; rare in others. Fagen, 1909, p. 210, records this as a breeding specie and Bailey, 1918, p. 116, notes it as occurring in Polk County. There is one specimen in the collection of the State Historical Museum. Recorded on the Bird-Lore Christmas Census for 1925, 1926, 1927, 1928, and 1929.

BROAD-WINGED HAWK, *Buteo platypterus platypterus* (Vieillot).

Common summer resident; breeds. At least one pair has been found to be permanent residents. Keyes and Williams, 1889, p. 127: Not uncommon from April to October. There is one specimen in the collection of the State Historical Museum. Reported on the Bird-Lore Census for 1925 and 1928. Watson furnishes the following nesting data: In 1928 rebuilding of the nest was started March 12. This nesting site was in a Carolina poplar (*Populus deltoides*), about forty-five feet from the ground and had been used for at least four years. The female was on the nest March 29; young birds were noted April 29, and had left the nest between June 4 and 7. Bailey, 1918, p. 130-131, records the Iowa Broad-winged Hawk, *B. p. iowensis* Bailey for Polk County. This darker race is now considered a melanistic phase of a Broad-wing.

SWAINSON'S HAWK, *Buteo swainsoni* Bonaparte.

Fairly common migrant; may breed. Keyes and Williams, 1889, p. 127: Rather common; breeds in central Iowa.

Spring: March 9, 1930 (Stewart) to April 30, 1927 (Watson and Nelson).

AMERICAN ROUGH-LEGGED HAWK, *Buteo lagopus s. johannis* (Gmelin).

Uncommon winter visitor. Keyes and Williams, 1889, p. 127: Not uncommon; usually noted from October to March in the field and

more open woodland. A specimen, in the light phase, collected about 1895 northwest of Highland Park, Des Moines is now in the Schroeder Collection. One, in the dark phase, taken during the winter of 1930-31 at the Game Farm near Clive, is in the Bullock Collection, Des Moines. One seen along the Polk City road, four miles north of Des Moines, during the fall of 1927 (Palas). Birds in both light and dark phases seen during the winter of 1930-31 at Brenton's Slough and the Game Farm (Stewart). Recorded on the Bird-Lore Christmas Census for 1928 and 1930. Three birds seen April 5, 1931, at Brenton's Slough (LaMar) is the latest record.

FERRUGINOUS ROUGH-LEG, *Buteo regalis* (Gray).

One record only. A pair of these birds were observed at Brenton's Slough, four miles west of Camp Dodge, June 6, 1929 (Watson, Nelson, and DuMont). They were first seen in this same locality by Mr. and Mrs. J. E. Stewart on May 5, 1929. See DuMont, 1929, No. 4.

GOLDEN EAGLE, *Aquila chrysaetos canadensis* (Linnaeus).

Rare straggler. Keyes and Williams, 1889, p. 127: Rare; a fine specimen of this specie was shot near Des Moines several years ago. Frank W. Sheldon, 1891, p. 78: I received a fine Golden Eagle on the 23rd inst. shot on the Skunk River, about 12 miles from here—Des Moines. . . . Measures 7 feet, 2 inches in extent; tail 15½ inches. Fagen reported this specie for 1901, 1902, and 1905. One seen, October 15, 1927 (Watson).

SOUTHERN BALD EAGLE, *Haliaeetus leucocephalus leucocephalus* (Linnaeus).

Uncommon spring and fall migrant. Keyes and Williams, 1889, p. 127: Rare. Recorded by Fagen, 1909, p. 210, and Bailey, 1918, p. 149, for Polk County.

Spring: April 15, 1927 (Watson).

Fall: September 9, 1924 (Watson) to September 24, 1929 (Watson).

MARSH HAWK, *Circus hudsonius* (Linnaeus).

Common migrant; a fairly common breeder, a few remaining through the winter. Keyes and Williams, 1889, p. 126: Resident; abundant in some localities, rare in others. Recorded by Fagen, 1909, p. 209, and Bailey, 1918, p. 63, as a breeding specie in Polk County. A nest with five eggs was found at Brenton's Slough, June 14, 1931. All of the eggs were hatched by June 28th. (Stewart). A male, now in the Bullock Collection, was taken during the winter of 1930-31.

OSPREY, *Pandion haliaetus carolinensis* (Gmelin).

Uncommon spring and fall migrant. Keyes and Williams, 1889, p. 128: Rare summer resident. This bird is occasionally shot on the Des Moines River a few miles above Des Moines city. Fagen, 1909,

p. 211, records this specie as a resident remaining from April to November.

Spring: April 15, 1927 (Watson); April 15, 1928, (Wendelburg and McCabe).

Fall: September 26, 1919 (McCabe); September 23, 1931 (Watson and DuMont); September 25, 1931 (Watson and Nelson).

[PRAIRIE FALCON, *Falco mexicanus* Schlegel.

There is one specimen from Story County in the Bullock Collection.]

DUCK HAWK, *Falco peregrinus anatum* Bonaparte.

Fagen furnishes the only record; Rare. Found one nest near mouth of Beaver Creek in 1906. There are recent records of this specie in Boone and Dallas Counties.

EASTERN PIGEON HAWK, *Falco columbarius columbarius* Linnaeus.

Uncommon migrant. Keyes and Williams, 1889, p. 128: Usually noticed during the spring and fall migration. Not common. Recorded by Bailey, 1918, p. 164, for Polk County.

Spring: April 23, 1927 (Nelson) to June 3, 1926 (Watson).

Fall: September 11, 1931 (Watson and DuMont).

EASTERN SPARROW HAWK, *Falco sparverius sparverius* Linnaeus.

Common summer resident; a few are permanent residents. Keyes and Williams, 1889, p. 128: Summer resident; common from March until October. Fagen, 1909, p. 211, and Bailey, 1918, p. 171, both record this as a breeding bird. One female in the Bullock Collection, Des Moines. Recorded on the Bird-Lore Christmas Census for 1924, 1925, 1927, 1928.

EASTERN RUFFED GROUSE, *Bonasa umbellus umbellus* (Linnaeus).

Now extinct in Polk County. Keyes and Williams, 1889, p. 124: Resident; common in some localities, rare in others. At Des Moines and in some other localities it is seldom seen. Fagen writes: Ruffed Grouse more common 1890 to 1907. Schroeder says: common until about 1900.

There are four males and two females from Polk County in the State Historical Museum.

GREATER PRAIRIE CHICKEN, *Tympanuchus cupido americanus* (Reichenbach).

Keyes and Williams, 1889, p. 125: Resident; abundant, usually noticed more frequently during the fall and winter than at other seasons of the year. Cooke, 1884-85, p. 106: In the fall of 1885, at Des Moines, Iowa, Pinnated Grouse were moving south in large numbers October 17. Keyes, Biol. Sur. records: January 17, 1884; March 13 to 23, 1884. Fagen reports common 1890 to 1907. Schroeder says formerly common until 1900. Observed March 18, 1903 (Watson).

There are two males and six females now in the collection of the

State Historical Museum, collected near Mitchellville by Professor Joseph Steppan. One in the collection of Iowa State College was taken at Des Moines, April 6, 1882. Probably now extinct within our area, although occasionally recorded in Boone County during a severe winter.

PRAIRIE SHARP-TAILED GROUSE, *Pedioecetes phasianellus campestris*
Ridgway.

Fagen wrote: one killed by a neighbor in winter of 1907 and 1908. May have been *P. p. columbianus* (Ord).

A specimen of *P. p. campestris* Ridgeway, collected at Des Moines, about 1850 by W. E. Moore, is now in the collection of the American Museum of Natural History in New York City.

EASTERN BOB-WHITE, *Colinus virginianus virginianus* (Linnaeus).

Common permanent resident. Keyes and Williams, 1889, p. 124: Common resident; formerly more abundant than now. Two females in the Keyes Collection, Iowa State College. A nest with seventeen eggs found May 15, 1927 (Watson).

Due to permanent protection this bird is on the increase in central Iowa. The following shows the abundance of this specie as recorded on the Bird-Lore Christmas Census:

1924	1925	1926	1927	1928	1929	1930
<u>30</u>	<u>69</u>	<u>60</u>	<u>68</u>	<u>46</u>	<u>67</u>	<u>79</u>

RING-NECKED PHEASANT, *Phasianus colchicus torquatus* Gmelin.

An introduced specie as yet not common. April 30, 1925 (Nelson); May 28, 1927, a pair noticed near Walnut Creek in West Des Moines (Watson). Eighteen reported on the Bird-Lore Christmas Census, 1930; twenty-five or thirty seen at Brenton's Slough, January 1, 1931 (Watson).

EASTERN TURKEY, *Meleagris gallopavo silvestris* Vieillot.

Keyes and Williams, 1889, p. 125: Resident; formerly very abundant; but becoming less common each year. A few are occasionally taken in the heavily timbered districts along the streams. A single bird was seen during the summer of 1876 by Mr. Charles S. Denman, near 37th and Grand Avenue, then a wooded tract.

This specie is now extinct in Polk County.

WHOOING CRANE, *Grus americana* (Linnaeus).

Keyes and Williams, 1889, p. 120: Not uncommon during migration. Anderson, 1907, p. 204: Polk County—rare (Johnson).

This specie is now so rare it could hardly be expected in our area again.

[LITTLE BROWN CRANE, *Grus canadensis canadensis* (Linnaeus).]

Lester P. Fagen says: Seen fall of 1905 near Valley Junction, accidental, two individuals.

Because of the slight difference in size between this specie and the Sandhill Crane, sight identifications are not sufficient on which to base an addition to the few records for the state.]

SANDHILL CRANE, *Grus canadensis tabida* (Peters).

Rare migrant. Keyes and Williams, 1889, p. 120: Abundant migrant, arriving about the middle of March, and on the return again in October. Keyes, Biol. Sur. record, March 21, to 29, 1884: April 1, 1885, a flock of one hundred and fifty. Common in the marshes in North Des Moines during migration, 1880-1890 (Schroeder). Common in migratory flights, 1898-1906; some seen about every year; northwest Des Moines a favorite stopping place (Fagen).

April 16, 1928, one seen at Waukonsa Park on the Des Moines River (McCabe). April, 1929, a bird, probably of this specie, observed along the Des Moines River—red crown-patch noted (Watson).

KING RAIL, *Rallus elegans elegans* Audubon.

Fairly common migrant; uncommon breeder. Keyes and Williams, 1889, p. 120-121: Not uncommon during migration. Anderson, 1907, p. 207: common summer resident—Polk (Johnson).

April 27, 1930 (Stewart) to September 11, 1927 (Stewart). Young birds noted as early as May 28, 1924 (McCabe).

VIRGINIA RAIL, *Rallus limicola limicola* Vieillot.

Fairly common migrant; uncommon breeder. Keyes and Williams, 1889, p. 121: Rather common during migration; breeds in grassy marshes. April 27, 1930 (Stewart) to September 11, 1927 (Stewart).

SORA, *Porzana carolina* (Linnaeus).

Common breeder. Keyes and Williams, 1889, p. 121: Migratory; common. Arrives the last of April. Cooke, 1884-85, p. 87: In the spring of 1885 a Sora rail was reported from . . . Des Moines, Iowa, April 22. Anderson, 1907, p. 207: A. I. Johnson reports the Sora as a common summer resident and nesting in Polk County. There is one specimen in the Bullock Collection.

April 16, 1927 (Nelson) to October 4, 1931 (Stewart).

YELLOW RAIL, *Coturnicops noveboracensis* (Gmelin).

Rare. Keyes and Williams, 1889, p. 121: Occasionally observed in migration.

One seen in the marsh at East 14th Street and Euclid Avenue, Des Moines, May 4, 1925 (Watson). Two specimens from Story County in the Bullock Collection.

[PURPLE GALLINULE, *Ionornis martinica* (Linnaeus).]

A single observation is furnished by Mrs. F. W. Rice of Des Moines: During the spring of 1915 while leading the class in bird study from Drake University we found this bird caught in a fence near Beaver Creek and were able to observe it at some length. I identified it as a Purple Gallinule and Dr. Luther S. Ross later checked over my observations. There had been a period of severe storms.

A record of this rare southern specie should be based on a specimen.]

FLORIDA GALLINULE, *Gallinula chloropus cachinnans* Bangs.

Fairly common migrant; uncommon breeder. Keyes and Williams, 1889, p. 121: Common summer resident, breeding the last of May. Cooke, 1884-85, p. 88: In 1885 but one record of the Florida Gallinule was received; its arrival at Des Moines, Iowa, May 26.

April 25, 1929 (Watson) to September 7, 1931 (Stewart).

AMERICAN COOT, *Fulica americana americana* Gmelin.

Very common migrant; fairly common breeder. Keyes and Williams, 1889, p. 121: Abundant during migration; breeds. Fagen, 1909, p. 212, records this specie as a breeding bird in Polk County, arriving early in March and staying until late October or November. One female in the Keyes Collection, Iowa State College.

February 26, 1930 (Stewart) to October 26, 1926 (Watson).

SEMIPALMATED PLOVER, *Charadrius semipalmatus* Bonaparte.

Fairly common migrant.

Spring: April 20, 1930 (Stewart and LaMar) to June 5, 1926 (Watson).

Fall: July 4, 1925 (Watson) to September 13, 1925 (Watson).

KILLDEER, *Oxyechus vociferus vociferus* (Linnaeus).

Very common migrant and common breeder. Keyes and Williams, 1889, p. 124: Abundant migrant and common summer resident. Arrives the middle of March. Green, Biol. Sur. records: October 24, 1885, flock of twenty-five last seen. Fagen, 1904, p. 212: It nests in swampy meadows, arriving in March and not leaving until late November.

February 23, 1930, (Stewart and LaMar) to October 30, 1927 (McCabe). A nest with six eggs was discovered May 8, 1925 (Watson). An adult with young seen May 30, 1930, at Brenton's Slough (Stewart).

AMERICAN GOLDEN PLOVER, *Pluvialis dominica dominica* (Muller).

Uncommon migrant. Keyes and Williams, 1889, p. 124: Spring and fall migrant; abundant. Arrives the first week in April. Has been taken in Des Moines as late as June 6. Cooke, 1884-85, p. 99: In the spring of 1885 . . . they came to Des Moines, Iowa, April 16. Fagen reported a flock of two hundred and seventy-two in the fall of 1903. Schroeder says rather an abundant migrant in the marshes of North Des Moines about 1900.

Recent records: May 15, 1927 (Watson); October 26, 1925 (Watson). This specie now appears to be gradually increasing in numbers throughout the state.

BLACK-BELLIED PLOVER, *Squatarola squatarola* (Linnaeus).

Keyes and Williams, 1889, p. 124: Spring and fall migrant; rare. There are no recent records.

RUDDY TURNSTONE, *Arenaria interpres morinella* (Linnaeus).

Rare. One male seen flying up the Des Moines River near Camp Douglas, June 5, 1926 (Watson).

AMERICAN WOODCOCK, *Philohela minor* (Gmelin).

Transient in irregular numbers; not common; likely breeds. Keyes and Williams, 1889, p. 122: Summer resident; not uncommon in the woodlands bordering the water courses. Fagen, 1909, p. 212, recorded this specie twice only. Schroeder reports killing ten about 1895 on Walnut Creek. None were seen the next day. Never considered common by hunters.

Recent records: May 1, 1924 (Palas); May 18, 1929, one seen Broadlawns Hospital grounds, Des Moines (Watson); June 1920, one found dead in backyard (Watson); August 9, 1930, one observed Brenner's garden, Des Moines (Stewart and Brenner); September 7, and October 20, 1919 (McCabe); October 20, 1927 (Watson); October 25, 1930 (Stewart).

WILSON'S SNIFE, *Capella delicata* (Ord).

Common migrant; rare breeder. Keyes and Williams, 1889, p. 122: Spring and fall migrant; abundant. There is one specimen in the collection of the State Historical Museum.

Spring: March 22, 1930 (Stewart and LaMar).

Fall: August 24, 1924 (Watson) to October 26, 1930 (Stewart and LaMar). A nest with four eggs found May 15, 1927, near East 14th Street and Euclid Avenue, Des Moines (Watson). A single bird, flushed from the same field, June 3, 1929 (Watson and DuMont). One at Fisher's Lake August 10, 1930 (McCabe).

Winter records: One, December 26, 1930 (Bird-Lore Christmas Census); one, February 8, 1931 (Palas).

LONG-BILLED CURLEW, *Numenius americanus americanus* Bechstein.

Keyes and Williams, 1889, p. 123: Migratory; rather common. Seen fairly commonly and regularly in North Des Moines, or Highland Park about 1890. All of the area north of the present location of Des Moines University was a great marsh and a wonderful snipe shooting ground before 1900 (Schroeder). The occurrence of this specie in our area now is highly improbable.

ESKIMO CURLEW, *Phaeopus borealis* (Forster).

The only record of this rare specie is of a pair shot by C. H. Schroeder about 1893. They were among a flock of Long-billed Curlew in the marshes of North Des Moines. The specimens were presented to the Iowa State Historical Society but cannot now be found.

This specie is probably now extinct.

UPLAND PLOVER, *Bartramia longicauda* (Bechstein).

Uncommon migrant; fairly rare breeder. Keyes and Williams, 1889, p. 123: Summer resident; abundant; frequenting the prairies. Arrives the middle of April. Nidification commences about the middle of May.

April 16, 1927 (Watson) to August 16, 1931 (Stewart). A pair seen near Granger May 30, 1929 (DuMont).

SPOTTED SANDPIPER, *Actitis macularia* (Linnaeus).

Common migrant and breeder. Keyes and Williams, 1889, p. 123: Common summer resident, arriving the middle of April. Nests on the sandbars along the streams. Fagen, 1909, p. 212, recorded this specie as found commonly from April to late October. There is one specimen in the collection of the State Historical Museum.

April 12, 1928 (Wendelburg) to September 25, 1931 (Watson, Nelson and DuMont).

EASTERN SOLITARY SANDPIPER, *Tringa solitaria solitaria* Wilson.

Common migrant. Keyes and Williams, 1889, p. 123: Migratory; common, arrives the middle of April. Two specimens in the Keyes Collection, Iowa State College and one in the collection of the State Historical Museum.

Spring: April 12, 1925 (DuMont) to June 3, 1929 (Watson, Nelson and DuMont).

Fall: August 10, 1930 (McCabe) to September 24, 1924 (Watson).

WESTERN WILLET, *Catoptrophorus semipalmatus inornatus* (Brewster).

Fairly rare migrant. Keyes and Williams, 1889, p. 123: Migratory; not uncommon about the "sloughs". One seen at East 14th Street and Euclid Avenue, Des Moines, May 4, 1926 (DuMont), and at the same place, May 16 and 18, 1927 (Watson).

GREATER YELLOW-LEGS, *Totanus melanoleucus* (Gmelin).

Common migrant. Keyes and Williams, 1889, p. 123: Migratory; common during April and September. Cooke, 1884-85, p. 95: In the spring of 1885, it appeared at . . . Des Moines, Iowa, April 16.

Spring: April 6, 1930 (Stewart) to May 29, 1927 (Watson).

Fall: July 4, 1925 (Watson) to August 23, 1927 (Watson).

LESSER YELLOW-LEGS, *Totanus flavipes* (Gmelin).

Very common migrant. Keyes and Williams, 1889, p. 123: Migratory; common. One specimen in the Keyes Collection, Iowa State College and two in the collection of the State Historical Museum.

Spring: March 31, 1928 (Stewart) to May 16, 1926 (DuMont).

Fall: July 4, 1925 (Watson) and July 4, 1931 (Stewart) to September 25, 1931 (Watson and Nelson).

PECTORAL SANDPIPER, *Pisobia melanotos* (Vieillot).

Common migrant. Keyes and Williams, 1889, p. 122: Migratory; abundant. There is one specimen in the collection of the State Historical Museum.

Spring: March 22, 1930 (Stewart and LaMar) to May 25, 1924.

Fall: August 4, 1929 (McCabe) to September 22, 1929 (LaMar).

A female in the Keyes Collection, Iowa State College, taken at Des Moines, March 31, 1884 is wrongly identified as a White-rumped Sandpiper, *Tringa fuscicollis*. Both Cooke, 1884-85, p. 93, and Keyes and Williams, 1889, p. 122, have published this incorrect record.

WHITE-RUMPED SANDPIPER, *Pisobia fuscicollis* (Vieillot).

Fairly common migrant.

Spring: May 23, 1931 (Stewart) to June 3, 1926 (Watson).

Fall: July 4, 1925 (Watson) to August 18, 1927 (Watson).

BAIRD'S SANDPIPER, *Pisobia bairdi* (Coues).

Fairly common spring migrant; rare in the fall. There is one specimen in the collection of the State Historical Museum.

Spring: April 19, 1931 (McCabe) to May 25, 1924 (DuMont).

Fall: August 10, 1930 (McCabe).

LEAST SANDPIPER, *Pisobia minutilla* (Vieillot).

Fairly common migrant. Keyes and Williams, 1889, p. 122: Migratory; abundant. There are two specimens in the collection of the State Historical Museum.

Spring: April 16, 1928 (Wendelburg) to May 20, 1928 (Stewart and LaMar).

Fall: August 4, 1929 (McCabe) to August 18, 1927 (Watson).

RED-BACKED SANDPIPER, *Pelidna alpina sakhalina* (Vieillot).

Uncommon migrant. Anderson, 1907, p. 219: Polk County—rare (Johnson). There are two specimens in the State Historical Museum's Collection. J. R. Harlan who collected the specimens reported that the flock from which they were secured contained over one hundred birds.

Observed once by Olivia McCabe. Several seen May 1, 1927 (Wendelburg).

EASTERN DOWITCHER, *Limnodromus griseus griseus* (Gmelin).

LONG-BILLED DOWITCHER, *Limnodromus griseus scolopaceus* (Say).

Uncommon migrant. Keyes and Williams, 1889, p. 122 under *Machorhamphus griseus* gives; not uncommon during migratory periods. Anderson, 1907, p. 216 records *L. g. griseus* as common in Polk County (Johnson). Four observed, August 11, 1930, at Fisher's Lake (Stewart), three in dull plumage one still showing much red.

August 18, 1930 Brenton's Slough (McCabe); one at Brenton's Slough, September 20, 1931 (field trip of the Des Moines Audubon Society).

The range of these two subspecies given in the A. O. U. Check-List, Fourth Edition, shows that either form might occur in central Iowa although *L. g. scolopaceus* (Say) would be expected to be the more numerous.

STILT SANDPIPER, *Micropalama himantopus* (Bonaparte).

Rare migrant. Fagen has one fall record, October 1904, and Watson found it May 17, 1925 and May 5, 1927.

SEMPALMATED SANDPIPER, *Ereunetes pusillus* (Linnaeus).

Fairly common migrant. Keyes and Williams, 1889, p. 122: Spring and fall migrant; rather common.

Spring: May 1, 1926 (Nelson) to June 6, 1928 and 1929 (Watson, Nelson and DuMont).

Fall: August 4, 1929 (McCabe) to August 25, 1928 (Stewart).

Because the Western Sandpiper, *Ereunetes maurii* Cabanis, which may be a rare migrant in Polk County, is confused with the Semipalmated Sandpiper a specimen must be taken to be identified.

BUFF-BREASTED SANDPIPER, *Tryngites subruficollis* (Vieillot).

Rare migrant. There are four records only for the county; April 30, 1927 (Watson and Nelson); May 5, 1927 at 20th Street and Euclid Avenue (Watson); May 20, 1923 and May 14, 1924 (Nelson).

MARbled GODWIT, *Limosa fedoa* (Linnaeus).

Rare. Keyes and Williams, 1889, p. 123: Not very common. Frequent prairie ponds during migratory periods. Schroeder reports a Godwit seen about 1890 in North Des Moines. Its turned up bill was noted and the bird appeared to be as large as the Long-billed Curlew with which it was associated. Reported recently from Boone County.

HUDSONIAN GODWIT, *Limosa haemastica* (Linnaeus).

Rare migrant. A male, nearly in breeding plumage was secured by J. R. Harlan May 3, 1931 on Beaver Creek, north of Des Moines. It is now in the collection of the State Historical Museum. Harlan reports seeing three others during the spring of 1929 in the same locality.

[SANDERLING, *Crocethia alba* (Pallas).]

One bird seen in Dallas County in 1928 (DuMont). It may be found in Polk County.]

AVOCET, *Recurvirostra americana* Gmelin.

* The only record of this specie is two birds seen May 27, 1927, by Watson in a flooded field north of 20th Street and Euclid Avenue, Des Moines.

WILSON'S PHALAROPE, *Steganopus tricolor* Vieillot.

Fairly common migrant. Keyes and Williams, 1889, p. 121: Common during migration in some localities; hardly seen in others. Recorded by Charles R. Keyes, Biol. Sur. records, as a breeding bird in the vicinity of Des Moines, 1884.

Spring: May 8, 1925 (Nelson) to May 30, 1927 (Watson).

[NORTHERN PHALAROPE, *Lobipes lobatus* (Linnaeus).]

This specie has recently been recorded in Boone County and may be expected here.]

HERRING GULL, *Larus argentatus smithsonianus* Coues.

Uncommon migrant. Keyes and Williams, 1889, p. 114-115: Common spring and fall migrant arriving about the last of March and passing southward again about the third week in October.

Spring: March 9, 1927 (Watson) to April 29, 1931 (Palas).

RING-BILLED GULL, *Larus delawarensis* Ord.

Fairly common migrant. Three birds seen on the Des Moines River during the spring of 1925 (Palas). One seen at Gray's Lake, near the Water Works park, Des Moines, April 7, 1931 (Stewart); three at Gray's Lake, May 3, 1931 (Stewart and LaMar); ten at Gray's Lake, September 24, 1931 (Stewart). Several specimens in the Bullock Collection, Des Moines, from Story County.

FRANKLIN'S GULL, *Larus pipixcan* Wagler.

Fairly common migrant. Keyes and Williams, 1889, p. 115: Migratory; rather common.

A flock of at least five hundred seen flying over a pond at East 14th Street and Euclid Avenue, Des Moines, March 1929 (Bullock). One April 27, 1931 at Gray's Lake (Stewart); several at the same place April 29, 1931 (Stewart).

BONAPARTE'S GULL, *Larus philadelphia* (Ord).

Rare migrant. Two seen September 25, 1931 at Gray's Lake (Watson, Nelson and DuMont). A specimen from Story County is in the Bullock Collection, Des Moines.

FORSTER'S TERN, *Sterna forsteri* Nuttall.COMMON TERN, *Sterna hirundo hirundo* Linnaeus.

A fairly common migrant. Keyes and Williams, 1889, p. 115 under *Sterna forsteri* gives: Migratory; common. In central Iowa this specie arrives about the first of May and is to be seen gliding gracefully over the rivers and small lakes in search of food. There is a specimen of *Sterna forsteri* taken at Des Moines during May 1931 now in the collection of the State Historical Museum.

The present status of these two has not been determined due to the difficulty of distinguishing between them in the field. Both might occur as migrants but *Sterna forsteri* should prove to be the more numerous.

Spring: April 19, 1930 (Stewart) to May 30, 1925 (Watson).

Fall record: September 26, 1931 (Stewart).

LEAST TERN, *Sterna antillarum antillarum* (Lesson).

Fairly common migrant; possibly a summer resident. Anderson, 1907, p. 159: Rare (Johnson). There is one specimen in the collection of the State Historical Museum.

Spring: May 27, 1929 (Stewart, McCabe, and DuMont) to June 16, 1922 (Nelson).

Fall: August 2, 1931 (Stewart) to August 17, 1931 (Stewart).

CASPIAN TERN, *Hydroporhne caspia imperator* (Coues).

Rare migrant. One observed at Gray's Lake, June 7, 1931 (Stewart). Four at the same place September 24, 1931 (Stewart).

BLACK TERN, *Chlidonias nigra surinamensis* (Gmelin).

A common migrant. Keyes and Williams, 1889, p. 115: Spring and fall migrant. There is one specimen in the collection of the State Historical Museum.

Spring: April 22, 1928 (Palas) to June 14, 1927 (DuMont).

Fall: August 2, 1931 (Stewart) to August 30, 1931 (Stewart and DuMont). Although numerous stragglers have been noted as late as the middle of June no actual breeding records are known.

EASTERN MOURNING DOVE, *Zenaidura macroura carolinensis* (Linnaeus).

Abundant summer resident. Keyes and Williams, 1889, p. 125: Common summer resident found from the first week in April until November. One specimen in the Bullock Collection, Des Moines, and one in the collection of the State Historical Museum.

March 8, 1930 (Stewart) to October 28, 1924 (Watson).

Winter records: January 7, 1926 (Watson); a flock of fifteen wintered along Beaver Creek, 1930 and '31. Nests with two eggs noted April 30 and September 13, 1925 (Watson). Young birds observed April 22, 1928 (Wendelburg).

[Mr. Clifford H. Pangburn, 1922, p. 566, recorded an Eastern Ground Dove, *Columbigallina passerina passerina* (Linnaeus), observed at Des

Moines, June 10, 1922. This record is not included in the range of the specie as given in the A. O. U. Check-List and a specimen would be necessary to add this southern straggler to our state list.]

PASSENGER PIGEON, *Ectopistes migratorius* (Linnaeus).

This specie, now considered extinct, is known to have been very common at one time throughout the entire state. These numbers undoubtedly had been greatly reduced by 1880, as is shown by the fact that C. H. Schroeder, who, being well acquainted with bird life in the county since that time, had never seen the bird in life. In a letter of August 5, 1931, Charles R. Keyes stated that the last wild pigeon was killed at Des Moines in 1887.

[In a letter from Lester P. Fagen, the following record is given: I saw a flock of twenty-five or thirty, the fall of 1899, feeding on the berries of some hawthorne trees, in a pasture between 30th Street and Beaver Avenue, north of Hickman Avenue, in northwest Des Moines. I was very near them for an hour or more. They finally flew into the heavy timber north of the pasture.

In view of the doubt cast upon all records of the Passenger Pigeon in any numbers after 1890, it seems best to include this observation on a hypothetical basis.]

YELLOW-BILLED CUCKOO, *Coccyzus americanus americanus* (Linnaeus).

Fairly common summer resident. Keyes and Williams, 1889, p. 131: Summer resident; rather common, arriving the first week in May and remaining until the first of October. One specimen in the Keyes Collection, Iowa State College. There is a male, a female, nest, and eggs taken at Des Moines in the collection of the State Historical Museum.

April 21, 1925 (Watson) to October 8, 1927 (Watson).

BLACK-BILLED CUCKOO, *Coccyzus erythrophthalmus* (Wilson).

Fairly common summer resident. Keyes and Williams, 1889, p. 131: Summer resident; not as common as *C. americanus*. A male in the Keyes collection, Iowa State College.

May 11, 1922 (DuMont) to September 24, 1928 (LaMar).

BARN OWL, *Tyto alba pratincola* (Bonaparte).

Rare resident. Keyes and Williams, 1889, p. 128: Rare. Very seldom seen in central Iowa. Fagen, 1909, p. 209, and Bailey, 1918, p. 180, record this specie as resident and breeding in Polk County. About 1895 Schroeder found six nests in one day in trees and open barns. He considered the specie rare after 1900. There is a male, a female, and a set of four eggs in the collection of the State Historical Museum. Another bird, secured during the fall of 1929 in North Des Moines, is in the same collection. One secured during the winter of 1930-31 from the Game Farm, Clive, now is in the Bullock Collection, Des Moines.

EASTERN SCREECH OWL, *Otus asio naevius* (Gmelin).

Common permanent resident. Keyes and Williams, 1889, p. 130: Resident; common. Perhaps the most familiar of our owls. The eggs are laid in April. Recorded by Fagen, 1909, p. 209, and Bailey, 1918, p. 210, as a breeding specie in Polk County. A specimen in the red phase and one in the gray taken in West Des Moines now in the Bullock Collection. Recorded each year on the Bird-Lore Christmas Census.

GREAT HORNED OWL, *Bubo virginianus virginianus* (Gmelin).

Uncommon permanent resident. Keyes and Williams, 1889, p. 130: Resident; common in the heavy timber bordering the streams. Recorded by Fagen, 1909, p. 209, and Bailey, 1918, p. 218, as a breeding specie. Considered fairly common by Bullock. At least twenty seen during the winter of 1930-31. One specimen secured at the Game Farm, Clive, now in the Bullock Collection, Des Moines. A specimen which probably was the Montana Horned Owl, *B. v. occidentalis* Stone, has been taken in Boone County and may be found in Polk.

SNOWY OWL, *Nyctea nyctea* (Linnaeus).

Rare winter visitor. Keyes and Williams, 1889, p. 130: Rather rare winter visitant in central and southern Iowa. Fagen reported it once only. About 1895 Schroeder followed one of these birds all day and finally collected it. Another, seen in 1925, was not secured. Nelson reports one found by Tom Bowers and Virgil Wares January 1923 at Camp Douglas, near the Des Moines River. One in the Water Works park during the winter of 1925 and '26 was seen by Mr. Charles S. Denman. A specimen killed January 30, 1931 on Walnut Creek, in East Des Moines, was mounted by J. R. Harlan.

NORTHERN BARRED OWL, *Strix varia varia* Barton.

Common permanent resident. Keyes and Williams, 1889, p. 129: Resident; common. Frequents the heavy timber along the streams; nesting commences about the middle of April. Bailey, 1918, p. 196, records this specie as breeding in Polk County. One taken during the winter of 1930-31 at the Game Farm, Clive, now in the Bullock Collection, Des Moines. Recorded on the Bird-Lore Christmas Census for 1924, 1925, 1926, 1927, 1928, 1929, and 1930.

[GREAT GRAY OWL, *Scotiaptex nebulosa nebulosa* (Forster).]

The only record is given by A. J. Palas and John Woodmansee in the Bird-Lore Christmas Census, 1923, p. 36: The Great Gray Owls, (4) were observed at a distance of 50 yards, in good light with 8 x glasses, and color markings on breast as well as color of eyes were carefully observed.

The above observations were made December 24, 1922, south along the Des Moines River near Levey. The occurrence of this rare bird in Iowa would need to be substantiated by a specimen to be accepted as a state record.]

LONG-EARED OWL, *Asio wilsonianus* (Lesson).

Not a common resident. Keyes and Williams, 1889, p. 128: Resident; apparently not as common as some of the other species of Iowa *Bubonidae*. Recorded by Bailey, 1918, p. 185. One specimen in the Keyes Collection at Iowa State College, one in the State Historical Museum from Des Moines.

Recent records: February 26, 1931 (Stewart); March 30, 1930 (La-Mar); May 1, 1923 (DuMont); May 20, 1923 (Nelson); June 16, 1926 (Watson); August 25, 1922 (Nelson); October 3, 1927 (Nelson).

SHORT-EARED OWL, *Asio flammeus flammeus* (Pontoppidan).

Winter resident and uncommon migrant. Keyes and Williams, 1889, p. 129: Resident; rather common. Usually noted flying over fields and marshy meadows in search of food. During the winter often resorts to woodland. Nests in May on an open prairie. There is a specimen, secured February 2, 1931 at Brenton's Slough, now in the collection of the State Historical Museum. Reported by Fagen, Nelson and Palas. Recorded on the Bird-Lore Christmas Census for 1926 and 1930. Recent dates: Eight seen at Brenton's Slough, January 2, 1931 (Stewart); February 24, 1922 (DuMont); March 30, 1930 (Stewart).

SAW-WHET OWL, *Cryotglaux acadica acadica* (Gmelin).

Occasional winter visitor. Keyes and Williams, 1889, p. 129: Not common. Taken occasionally in the autumn. One seen January 29, 1922 (McCabe); one in the Water Works park, December 31, 1930 (Palas and Russell Clark).

EASTERN WHIP-POOR-WILL, *Antrostomus vociferus vociferus* (Wilson).

Uncommon resident. Keyes and Williams, 1889, p. 133: Summer resident; common in woodlands, where it lays its eggs on the ground among dry leaves. Fagen, 1909, p. 207, recorded this specie as arriving late in April and leaving about the first of October.

April 5, 1927 (Watson) to August 30, 1930 (Stewart). Several pairs of these birds are to be found regularly in the woods northeast of Camp Dodge.

EASTERN NIGHTHAWK, *Chordeiles minor minor* (Forster).

Common summer resident. Keyes and Williams, 1889, p. 133: Summer resident; abundant from the first week in May until the first of October. Cooke, 1884-85, p. 137: In the fall of 1884 the last Nighthawk was seen . . . at Des Moines, Iowa, September 15.

April 26, 1925 (Watson) to October 7, 1931 (Watson).

The Sennett's Nighthawk, *C. m. sennetti* Coues, has been taken in Boone County.

CHIMNEY SWIFT, *Chaetura pelagica* (Linnaeus).

Common summer resident. Keyes and Williams, 1889, p. 133: Summer resident; abundant from the third week in April until the middle

of September. Breeds about the tenth of June. There is a male in the Keyes Collection, Iowa State College.

April 15, 1930 (McCabe) to October 15, 1927 and October 15, 1931 (Watson). On September 23, 1929 at Des Moines, Watson and Nelson observed a southward flight containing hundreds of these birds.

RUBY-THROATED HUMMING-BIRD, *Archilochus colubris* (Linnaeus).

Common summer resident. Keyes and Williams, 1889, p. 134: Summer resident; common from the second week in May until the last of September.

May 2, 1923 (Mrs. W. G. DuMont) and May 2, 1926 (P. A. DuMont) to October 6, 1925 (Watson).

EASTERN BELTED KINGFISHER, *Megasceryle alcyon alcyon* (Linnaeus).

Common summer resident; occasional winter resident. Keyes and Williams, 1889, p. 131: Summer resident. Common from March to November. Its eggs are usually laid the last week in May. There are two specimens from Des Moines in the Bullock Collection.

March 1, 1927 (LaMar) to October 28, 1924 (Watson).

Winter dates: December 26, 1924, December 26, 1926, December 26, 1927, December 22, 1929, and December 26, 1930 (Bird-Lore Christmas Census); one present all winter 1930-31 in Water Works park (Palas); February 22, 1931 (LaMar).

NORTHERN FLICKER, *Colaptes auratus luteus* Bangs.

Abundant summer resident and uncommon winter resident. Keyes and Williams, 1889, p. 133: Resident; abundant. There is a specimen in the Keyes Collection, Iowa State College, four males and a female in the Bullock Collection, Des Moines, and two birds with nest and eggs in the collection of the State Historical Museum.

The relative abundance of this specie as recorded on the Bird-Lore Christmas Census is as follows:

1924	1925	1926	1927	1928	1929	1930
1	6	15	16	9	7	21

RED-SHAFTED FLICKER, *Colaptes cafer collaris* Vigors.

Casual. Fagen reported this specie as accidental—seen twice at Beaver Avenue and Urbandale, 1905 or 1906. McCabe found one during July 1924 in North Des Moines. Two birds recorded on the Bird-Lore Christmas Census December 25, 1928. These records may refer to intermediates between this specie and *C. a. luteus* Bangs as intergradation is common in Nebraska.

NORTHERN PILEATED WOODPECKER, *Ceophloeus pileatus abieticola* Bangs.

Keyes and Williams, 1889, p. 132: Resident; not uncommon in the heavy timber along the water courses, rare in other localities. It is becoming more and more rare each year and will soon disappear with the heavy forest tracts. Anderson, 1907, p. 276, gives: Polk

County—rare summer resident (Johnson). Schroeder said he had seen this bird several times before 1900. Fagen found one in the heavy timber along the Des Moines River about 1902 or 1903. Nelson reported that Andy Harkins of Des Moines found a Pileated Woodpecker north of Waukonsa Park during February 1923.

RED-BELLIED WOODPECKER, *Centurus carolinus* (Linnaeus).

Fairly common permanent resident. Keyes and Williams, 1889, p. 133: Resident; rather common. Seen most abundantly in the spring and fall. There are two males in the Keyes Collection, Iowa State College, and a male and female in the Bullock Collection, Des Moines.

The relative abundance of this specie as recorded on the Bird-Lore Christmas Census is as follows:

1924	1925	1926	1927	1928	1929	1930
<u>3</u>	<u>6</u>	<u>6</u>	<u>17</u>	<u>11</u>	<u>9</u>	<u>19</u>

RED-HEADED WOODPECKER, *Melanerpes erythrocephalus* (Linnaeus).

Abundant summer resident. Irregular and at times common winter resident. Keyes and Williams, 1889, p. 132: Summer resident; quite common. Arrives about the first week in May and remains until the middle of September. Breeds the first week in June. Occasionally winters. There are two specimens in the Keyes Collection, Iowa State College, and three with nest and eggs in the State Historical Museum.

Normal date of spring arrival about April 26 although some years the bulk do not arrive until May. Relative abundance of this specie as recorded on the Bird-Lore Christmas Census:

1924	1925	1926	1927	1928	1929	1930
<u>6</u>	<u>7</u>	<u>0</u>	<u>50</u>	<u>59</u>	<u>1</u>	<u>16</u>

YELLOW-BELLIED SAPSUCKER, *Sphyrapicus varius varius* (Linnaeus).

Common spring and fall migrant; uncommon summer resident. Keyes and Williams, 1889, p. 132: Summer resident; rather common, arriving the second week in April. Fagen, 1909, p. 208, recorded this specie as a common summer resident arriving in March and departing in November. There is one specimen in the Keyes Collection, Iowa State College, and one in the collection of the State Historical Museum.

March 13, 1923 (Fletcher) to October 17, 1923 (McCabe).

Winter records: February 1, 1925 (Nelson) and February 11, 1931 (Palas).

EASTERN Hairy WOODPECKER, *Dryobates villosus villosus* (Linnaeus).

Fairly common permanent resident. Keyes and Williams, 1889, p. 132: Resident; rather common. The eggs are laid about the last of April. A female, taken at Des Moines, in the Bullock Collection, and another specimen in the collection of the State Historical Museum.

Birds about two weeks old were found May 16, 1928 (Wendelburg).

Relative abundance of this specie as recorded on the Bird-Lore Christmas Census is as follows:

1924	1925	1926	1927	1928	1929	1930
<u>17</u>	<u>40</u>	<u>37</u>	<u>37</u>	<u>37</u>	<u>45</u>	<u>40</u>

NORTHERN DOWNY WOODPECKER, *Dryobates pubescens medianus*
(Swainson).

Common permanent resident. Keyes and Williams, 1889, p. 132: Resident; common. There are three males in the Keyes Collection, Iowa State College, and two males and one female in the Bullock Collection, all from Des Moines.

Relative abundance of this specie as recorded on the Bird-Lore Christmas Census is as follows:

1924	1925	1926	1927	1928	1929	1930
<u>30</u>	<u>87</u>	<u>71</u>	<u>77</u>	<u>89</u>	<u>59</u>	<u>75</u>

ARCTIC THREE-TOED WOODPECKER, *Picoides arcticus* (Swainson).

Rare winter visitor. The only record is of one seen February 18, 1924 in Crocker Woods, Des Moines, by Miss Anna K. Barnard and A. T. Watson.

EASTERN KINGBIRD, *Tyrannus tyrannus* (Linnaeus).

Common summer resident. Keyes and Williams, 1889, p. 134: Summer resident; common from the last week in April until the third week in September. Fagen, 1909, p. 206, records this specie as departing in October. One specimen in the Keyes Collection, Iowa State College; one in the Bullock Collection, Des Moines, and three birds with nest and eggs in the collection of the State Historical Museum.

April 25, 1925 (DuMont) to October 4, 1931 (Watson).

ARKANSAS KINGBIRD, *Tyrannus verticalis* Say.

Rare migrant. Fagen considered this specie rare in Polk County. Reported by Miss Mary K. St. George. One seen near Commerce May 18, 1924 (DuMont); one near 20th Street and Euclid Avenue, May 19, 1927 (Nelson).

NORTHERN CRESTED FLYCATCHER, *Myiarchus crinitus boreus* Bangs.

Common summer resident. Keyes and Williams, 1889, p. 134: Summer resident; common from the first of May to the third week in September. Fagen, 1909, p. 206: Their season with us is from May until early October. There are two specimens in the Keyes Collection, Iowa State College, and two in the Bullock Collection, Des Moines.

April 28, 1925 (Watson, Nelson and DuMont) to September 17, 1931 (Watson).

EASTERN PHOEBE, *Sayornis phoebe* (Latham).

Common summer resident. Keyes and Williams, 1889, p. 134: Summer resident; abundant. Arrives the third week in March and commences nesting about the middle of April. There is a female in the Keyes Collection, Iowa State College.

March 14, 1928 (Wendelburg) to October 27, 1929 (LaMar).

YELLOW-BELLIED FLYCATCHER, *Empidonax flaviventris* (Baird and Baird).

Uncommon spring and fall migrant. Keyes and Williams, 1889, p. 135: Migratory; not common. Appears the first week in May.

Spring: May 1, 1923 (Wendelburg) to May 26, 1924 (McCabe).

Fall: September 5, 1924 (Watson) to September 30, 1929 (Watson).

ACADIAN FLYCATCHER, *Empidonax virescens* (Vieillot).

Uncommon summer resident. Keyes and Williams, 1889, p. 135: Summer resident; not common. Several nests have been taken near Des Moines during the past few years.

Earliest arrival: May 1, 1927 (McCabe). This specie was found nesting during the first week of June, 1929 and 1930, in Crocker Woods, Des Moines.

ALDER FLYCATCHER, *Empidonax trailli trailli* (Audubon).

Fairly common summer resident. Keyes and Williams, 1889, p. 135: Migratory; common. Appears the second week in May, frequenting the willows along the stream. Breeds in the northern portions of the state. There is a male in the Keyes Collection, Iowa State College, and one in the Bullock Collection, Des Moines.

May 4, 1928 (Palas) to September 23, 1929 (Watson and Nelson). Nests of this specie have been found during June 1930 and 1931 in the willows bordering streams and marshes.

LEAST FLYCATCHER, *Empidonax minimus* (Baird and Baird).

Common migrant; uncommon summer resident. Keyes and Williams, 1889, p. 135: Migratory; common. Arrives the first week in May. Fagen, 1909, p. 207 records this specie as a summer resident. There are two males in the Keyes Collection, Iowa State College.

April 28, 1928 (Wendelburg) to September 28, 1929 (Stewart) and September 28, 1930 (LaMar).

EASTERN WOOD PEWEE, *Myiochanes virens* (Linnaeus).

Common summer resident. Keyes and Williams, 1889, p. 135: Summer resident; common from the 10th of May until September. Green, Biol. Sur. records: September 18, 1885. There are three specimens in the Keyes Collection, Iowa State College, and one in the Bullock Collection, Des Moines.

April 18, 1915 (McCabe) and April 18, 1924 (DuMont) to October 1, 1931 (Watson).

OLIVE-SIDED FLYCATCHER, *Nuttallornis mesoleucus* (Lichtenstein).

Uncommon late spring and fall migrant. Keyes and Williams, 1889, p. 135: Rare; observed only in the spring.

Spring: May 1, 1928 (Wendelburg) to June 10, 1928 (DuMont).

Fall: September 4, 1930 (Stewart) to September 30, 1929 (Stewart).

Otocoris alpestris (subspecie?).

It is certain that during the winter months Horned Larks other than the Prairie Horned Lark, *O. a. praticola* Henshaw, occasionally occur in Polk County. Whether these observations refer to the Northern Horned Lark, *O. a. alpestris* (Linnaeus) or to the Hoyt's Horned Lark, *O. a. hoyti* Bishop has not been determined.

Fagen says that large flocks of what seemed to be true *alpestris*, were seen about 1906, near Beaver Avenue and Hickman. Identified by larger size and darker color. Palas reported seeing Horned Larks during April 1923 southeast of Des Moines. A few Horned Larks seen on three different occasions in February 1930 (Stewart and LaMar).

PRAIRIE HORNED LARK, *Otocoris alpestris praticola* Henshaw.

Fairly common permanent resident. Keyes and Williams, 1889, p. 136: Resident; common. There are six specimens in the Keyes Collection, Iowa State College. Fourteen were reported on the Bird-Lore Christmas Census, December 26, 1927.

TREE SWALLOW, *Iridoprocne bicolor* (Vieillot).

Common migrant. May breed occasionally. Keyes and Williams, 1889, p. 148: Summer resident; rather common. Arrives about the first of May and departs about the middle of September. Fagen, 1909, p. 203, records this specie as a summer resident. Anderson, 1907, p. 335; Polk County—common summer resident; nests (Johnson). There are two specimens in the collection of the State Historical Museum.

April 7, 1929 (LaMar) to October 2, 1925 and October 2, 1931 (Watson).

A pair seen building in a dead tree in North Des Moines during June, 1928; however, the nest was later abandoned.

BANK SWALLOW, *Riparia riparia riparia* (Linnaeus).

Common summer resident. Keyes and Williams, 1889, p. 148: Summer resident; breeds abundantly in all parts of the state. U. S. Grant, Biol. Sur. records: two on April 14, 1883; thirty, April 21, 1883.

April 19, 1919 and 1931 (McCabe) and April 19, 1924 (DuMont) to September 24, 1924 (Watson).

ROUGH-WINGED SWALLOW, *Stelgidopteryx ruficollis serripennis* (Audubon).

Common summer resident. Keyes and Williams, 1889, p. 148: Summer resident; abundant, arriving about the middle of April. In cen-

tral Iowa, especially Polk and the contiguous counties, this specie is quite abundant, almost to the exclusion of the Bank Swallow. Cooke, 1884-85, p. 231: In the fall of 1884 the last Rough-winged Swallow was seen at Des Moines, Iowa, August 19. Keyes, Biol. Sur. records: April 22, 1883; August 29, 1884. There is one specimen in the Keyes Collection, Iowa State College, one in the Bullock Collection, Des Moines, and one in the collection of the State Historical Museum.

April 19, 1931 (LaMar) to September 6, 1931 (Stewart, LaMar and DuMont). This specie seems to be as equally numerous in Polk County as the Bank Swallow.

BARN SWALLOW, *Hirundo erythrogaster* Boddaert.

Common summer resident. Keyes and Williams, 1889, p. 147: Summer resident; common, but apparently somewhat irregular in its distribution. Arrives the middle of April and remains until the middle of September. There is one male in the Keyes Collection, Iowa State College.

April 16, 1927 (Nelson) to October 16, 1931 (Watson).

NORTHERN CLIFF SWALLOW, *Petrochelidon albifrons albifrons* (Rafinesque).

Common migrant; uncommon summer resident. Fagen, 1909, p. 202, considered this the best known of all the swallows and says: In some localities beneath the eaves of every barn are found long rows of these peculiar gourd-shaped nests of mud, with the opening through the neck, and lined with feathers and straw. Often they are placed so close together that a single mud wall forms the dividing partition. Keyes and Williams, 1889, p. 147: Summer resident; abundant from the first week in May until September. Green, Biol. Sur. records: Twenty-five seen April 24, 1886. There is a specimen in the collection of the State Historical Museum.

April 27, 1927 (McCabe) to September 25, 1931 (Watson and Nelson). On September 7, 1931, a flock estimated to contain three thousand birds was seen at Brenton's Slough (Stewart, LaMar and DuMont).

Summer dates: A pair at Brenton's Slough, June 5, 1928 (Stewart, McCabe, and DuMont); a pair found nesting near Ankeny, June 1, 1929 (Watson); August 9, 1931 (Stewart) may have been the earliest date for south bound fall migrants.

PURPLE MARTIN, *Progne subis subis* (Linnaeus).

Common summer resident. Keyes and Williams, 1889, p. 147: Summer resident; abundant. In central Iowa it usually arrives the last week in March and departs before the middle of September. Cooke, 1884-85, p. 225: The bulk left Des Moines, Iowa, September 1, and the last was seen September 11. There are two males in the Keyes collection, Iowa State College, and one in the collection of the State Historical Musum.

March 22, 1929 (Watson) to September 2, 1922, when a flock of over three hundred were seen (McCabe).

NORTHERN BLUE JAY, *Cyanocitta cristata cristata* (Linnaeus).

Common permanent resident. Keyes and Williams, 1889, p. 136: Resident; abundant. There are two males in the Keyes Collection, Iowa State College, one in the Bullock Collection, Des Moines, and two birds with nest and eggs in the collection of the State Historical Museum.

The relative abundance of this specie as recorded on the Bird-Lore Christmas Census is as follows:

1924	1925	1926	1927	1928	1929	1930
72	88	52	105	114	21	73

In the fall of both 1929 and '30 very pronounced migrations southward were observed with a corresponding decrease in the number of wintering birds.

AMERICAN MAGPIE, *Pica pica hudsonia* (Sabine).

Very rare winter visitor. Only one record. During the winter of 1924 Mr. George Findley of Grimes saw seven of these birds. They were seen two times and one was collected.

EASTERN CROW, *Corvus brachyrhynchos brachyrhynchos* Brehm.

Common permanent resident. Keyes and Williams, 1889, p. 136: Resident; abundant. The eggs are laid the first week of April. There are two birds with nest and eggs in the collection of the State Historical Museum. A crow roost is located in south Des Moines near Donald MacRae Park. On December 26, 1926 Palas estimated that the flock contained twenty-seven hundred birds.

BLACK-CAPPED CHICKADEE, *Penthestes atricapillus atricapillus* (Linnaeus).

Very common permanent resident. Keyes and Williams, 1889, p. 159: Resident; abundant. There are two specimens in the Keyes Collection, Iowa State College, two in the Bullock Collection, Des Moines, and two in the State Historical Museum.

The abundance of this specie is shown by the Bird-Lore Christmas Census:

1924	1925	1926	1927	1928	1929	1930
168	496	410	462	279	256	253

LONG-TAILED CHICKADEE, *Penthestes atricapillus septentrionalis* (Harris).

Anderson, 1907, p. 375: Common resident; nests. I have no specimen now. They are a trifle larger than the common form which also occurs in Polk County, and have a longer tail. I looked them up at the time and they corresponded to the description given by Coues (Johnson). There is one specimen from Des Moines in the Schroeder Collection (tail 2.74 inches). This specie is reported by Fagen. There are no recent records.

TUFTED TITMOUSE, *Baeolophus bicolor* (Linnaeus).

Common permanent resident. Keyes and Williams, 1889, p. 159. Northern Iowa, rare; central Iowa; not common. Fagen did not record this specie as breeding in Polk County. There are two specimens in the Bullock Collection, Des Moines.

The abundance of this specie as a resident is shown on the Bird-Lore Christmas Census:

1924	1925	1926	1927	1928	1929	1930
53	60	112	128	132	77	89

WHITE-BREASTED NUTHATCH, *Sitta carolinensis carolinensis* Latham.

Common permanent resident. Keyes and Williams, 1889, p. 158: Resident; common. There are two specimens in the Keyes Collection, Iowa State College, two in the Bullock Collection, Des Moines, and one in the collection of the State Historical Museum.

The relative abundance of this specie as shown on the Bird-Lore Christmas Census is as follows:

1924	1925	1926	1927	1928	1929	1930
55	74	86	135	79	95	106

RED-BREASTED NUTHATCH, *Sitta canadensis* Linnaeus.

Uncommon migrant, and uncommon winter resident. Keyes and Williams, 1889, p. 158: Migratory; rare. Fagen, 1909, p. 198, included this as a summer resident in Polk County. One specimen collected September 23, 1931 (DuMont) is in the Bullock Collection, Des Moines.

September 2, 1925 (Watson) to February 11, 1930 (Stewart). Two, December 26, 1924; seven, December 26, 1926 (Bird-Lore Christmas Census).

BROWN CREEPER, *Certhia familiaris americana* Bonaparte.

Common migrant and fairly common winter resident. Keyes and Williams, 1889, p. 158: Migratory, common; and resident from September to the last of April. Anderson, 1907, p. 372: A. I. Johnson reports the Brown Creeper as a summer resident, nesting, in Polk County. There are two specimens in the Keyes Collection, Iowa State College, and two in the Bullock Collection, Des Moines. Recently recorded during all months except June, July, and August. The relative abundance of this specie as a winter resident is shown by the Bird-Lore Christmas Census:

1924	1925	1926	1927	1928	1929	1930
6	6	24	11	19	22	14

WESTERN HOUSE WREN, *Troglodytes aedon parkmani* Audubon.

Abundant summer resident; breeds. Keyes and Williams, 1889, p. 157: Summer resident; common; arriving in April and departing

about the middle of September. There are two specimens in the collection of the State Historical Museum.

April 10, 1928 (Palas) to October 21, 1931 (Watson).

The Eastern House Wren, *T. a. aedon* Vieillot, or more probably intermediates between this form and *T. a. parkmani* Audubon are found in Iowa and specimens closely approaching *T. a. aedon* Vieillot have been taken as far west as Lincoln, Nebraska (Zimmer). The normal western limit of the Eastern House Wren according to the A. O. U. Check-List, Fourth Edition, is to Michigan.

EASTERN WINTER WREN, *Nannus hiemalis hiemalis* (Vieillot).

Fairly common migrant; uncommon winter resident. Keyes and Williams, 1889, p. 157: Migratory; not common.

Spring: March 27, 1927 (Wendelburg) to May 14, 1928 (Watson).

Fall: September 20, 1925 (Watson) to October 26, 1919 (McCabe).

Winter: December 26, 1926 (Wendelburg); January 1, 1926 (Nelson); January 1, 1927 (Watson).

One seen June 3, 1926 (Watson) must be considered as of casual occurrence.

BEWICK'S WREN, *Thryomanes bewicki bewicki* (Audubon).

Fairly rare migrant; rare summer resident and breeder.

April 26, 1925 (Watson); September 24, 1924 (Watson).

In June, 1931, Mrs. Fletcher found the bird building in her mailbox, East Des Moines. On June 13th the nest was being rebuilt in another box. Of the seven eggs laid only one hatched before the nest was deserted on July 4 (Stewart and McCabe).

CAROLINA WREN, *Thryothorus ludovicianus ludovicianus* (Latham).

Uncommon and irregular resident; may breed. This specie has been recorded during all months except July. During a four month's period, February to May, Watson observed this specie twenty-one times.

The relative abundance of this specie as recorded on the Bird-Lore Christmas Census is as follows:

1925	1926	1927	1928	1929
1	None	3	2	3

PRAIRIE MARSH WREN, *Telmatodytes palustris dissaeptus* (Bangs).

Common migrant; fairly common summer resident; breeds. Keyes and Williams, 1889, p. 158: Migratory; common. Appears about the first week in May, about the prairie sloughs, where it breeds. Fagen, 1909, p. 200: One nest is built for the rearing of the brood, and while the eggs are being laid and hatched, the male builds from four to seven dummy nests near the real one in more conspicuous places to delude the molester.

April 28, 1925 (Nelson) to October 14, 1930 (Stewart).

SHORT-BILLED MARSH WREN, *Cistothorus stellaris* (Naumann).

Uncommon migrant; rare summer resident. Keyes and Williams, 1889, p. 158: Summer resident; rather common. Breeds in the prairie sloughs. Fagen, 1909, p. 200: The short-billed marsh wren is much rarer than the long-billed specie, erratic in its habits, some years being found in several marshes about Des Moines, and other years in none of them.

April 14, 1927 (Wendelburg) to October 15, 1931 (Watson).

[COMMON ROCK WREN, *Salpinctes obsoletus obsoletus* (Say).

Keyes and Williams, 1889, p. 157: Not common. Lester P. Fagen reported finding this western specie nesting at Des Moines, June 30, 1902.

This specie has been reported in the western part of the state, but a specimen would be desirable to establish it as a breeding bird this far east.]

EASTERN MOCKINGBIRD, *Mimus polyglottos polyglottos* (Linnaeus).

Occasional summer resident; at times fairly numerous; breeds. Anderson, 1907, p. 366: Have mounted one or two killed near here; very rare (Johnson). One April 19, 1925 (Watson); June 16, 1922 (Nelson).

In 1929 this specie seen several times during June. One nest was found on June 4, south of Valley Junction (Watson, Nelson and DuMont). Later Mr. W. A. Kinnard reported that the nest had four eggs all of which hatched.

CATBIRD, *Dumetella carolinensis* (Linnaeus).

Abundant summer resident; breeds. Keyes and Williams, 1889, p. 157: Summer resident; abundant from the last of April to October. Nests in orchards and thickets. There is one specimen in the Keyes Collection, Iowa State College and two in the collection of the State Historical Museum.

April 8, 1922 (Nelson) to October 14, 1931 (Watson).

BROWN THRASHER, *Toxostoma rufum* (Linnaeus).

Very common summer resident; casual winter resident. Keyes and Williams, 1889, p. 157: Summer resident; abundant from April to the last of September. Nests in hedges and brush-heaps, about the 10th of May. There are two specimens in the Keyes Collection, Iowa State College, and two in the collection of the State Historical Museum.

March 29, 1930 (LaMar) to October 21, 1931 (Watson).

Winter dates: December 26, 1928 (Bird-Lore Christmas Census). One stayed in Mrs. Brenner's yard until this date. December 22, 1929 (Bird-Lore Christmas Census). One bird seen almost daily in Mrs. Stewart's garden the winter of 1929-30.

EASTERN ROBIN, *Turdus migratorius migratorius* Linnaeus.

Abundant summer resident; occasionally wintering. Keyes and Williams, 1889, p. 160-61: Summer resident, abundant. Our most familiar specie, and one of the earliest harbingers of spring, often appearing in February and remaining until November. Commences nesting about the middle of April. There are two specimens in the Keyes Collection, Iowa State College, and four in the collection of the State Historical Museum.

Average date of spring arrival, March 4, and average date of fall departure, October 25. Wintering birds are recorded on the Bird-Lore Christmas Census for 1924, 1926, 1928, 1929 and 1930.

WOOD THRUSH, *Hylocichla mustelina* (Gmelin).

Common summer resident; breeds. Keyes and Williams, 1889, p. 160: Abundant summer resident. Appears about the first of May, and remains until September.

April 16, 1928 (Wendelburg) to October 3, 1929 (Watson).

EASTERN HERMIT THRUSH, *Hylocichla guttata faxoni* Bangs and Penard.

Fairly common migrant. Keyes and Williams, 1889, p. 160: Migratory; rather common; arriving about the middle of April. Cooke, 1884-85, p. 287: At Des Moines, Iowa, they have been seen in the breeding season, but no nests have been found. There are two specimens in the Keyes Collection, Iowa State College.

Spring: April 7, 1927 (Watson) to May 3, 1931 (LaMar).

Fall: October 1, 1929 (Stewart) to October 26, 1919 (McCabe).

OLIVE-BACKED THRUSH, *Hylocichla ustulata swainsoni* (Tschudi).

Fairly common migrant. Keyes and Williams, 1889, p. 160: Migratory; abundant; sojourning two or three weeks on both spring and fall migrations. There are two specimens in the Keyes collection, Iowa State College.

Spring: May 1, 1925 (Watson) and May 1, 1928 (Wendelburg) to June 5, 1930 (Stewart).

Fall: September 4, 1930 (Stewart) to October 10, 1931 (Stewart).

Casual date: April 21, 1925 (Nelson).

GRAY-CHEEKED THRUSH, *Hylocichla minima aliciae* (Baird).

Fairly common spring migrant; rare in the fall. Keyes and Williams, 1889, p. 160: Migratory; common. Arrives the first week in May, and remains about three weeks. There is one specimen in the Keyes Collection, Iowa State College.

Spring: May 3, 1925 (Nelson) to May 30, 1926 (Watson).

Fall: September 6, 1931 (Stewart) to September 17, 1931 (Stewart).

Casual date: April 17, 1925 (Watson).

WILLOW THRUSH, *Hylocichla fuscescens salicicola* Ridgway.

Fairly common spring migrant; rare in the fall. No recent breeding record. Keyes and Williams, 1889, p. 160, under Wilson's Thrush: Migrant and summer resident. Several nests have been taken at Des Moines which are thought to belong to this specie. Fagen, 1909, p. 198 records this as a breeding specie. There is one specimen in the collection of the State Historical Museum. Recorded in late April, through May and one September date.

All of the earlier writers have called this bird the Wilson Thrush or Veery. According to the A. O. U. Check List, Fourth Edition, 1931, the westward range of the Veery, *H. f. fuscescens* (Stephens) is only to Michigan and Indiana.

EASTERN BLUEBIRD, *Sialia sialis sialis* (Linnaeus).

Abundant summer resident. Keyes and Williams, 1889, p. 161: Abundant. One of the first of our summer residents to put in an appearance in the spring . . . sometimes even preceding the Robin. Nesting frequently begins early in April, and two or three broods are raised in a season. There are four specimens in the Keyes Collection, Iowa State College, and four in the collection of the State Historical Museum.

February 3, 1927 (Watson) to November 28, 1920 (McCabe). There are no records during December or January.

BLUE-GRAY GNATCATCHER, *Poliophtila caerulea caerulea* (Linnaeus).

An uncommon migrant. Keyes and Williams, 1889, p. 159: Summer resident; rather common. Arrives the middle of April and remains until the last of September. Keyes, Biol. Sur. records: April 19, 1886; August 26, 1884. There are two specimens in the Keyes Collection, Iowa State College.

Spring: April 22, 1927 (Nelson and Watson) to May 30, 1923 (Nelson).

Fall: September 23, 1929 (Watson and Nelson).

EASTERN GOLDEN-CROWNED KINGLET, *Regulus satrapa satrapa* Lichtenstein.

Common migrant. Keyes and Williams, 1889, p. 159: Common spring and fall migrant. In the spring arrives a few days earlier than *R. calendula*, and in the fall remains later. There is one specimen in the Keyes Collection, Iowa State College.

Spring: March 14, 1925 (Nelson) to May 3, 1931 (Palas).

Fall: September 27, 1931 (Watson) to November 3, 1923 (McCabe and Fletcher).

Winter: Three, December 26, 1928 (Bird-Lore Christmas Census).

EASTERN RUBY-CROWNED KINGLET, *Corthylio calendula calendula* (Linnaeus).

Very common migrant. Keyes and Williams, 1889, p. 159: Spring and fall migrant; abundant; arriving about the 10th of April and so-

journing three or four weeks. There are three specimens in the Keyes Collection, Iowa State College.

Spring: March 10, 1922 (Nelson) to May 12, 1928 (McCabe).

Fall: September 8, 1930 (Stewart) to October 30, 1927 (Stewart).

Casual date: December 26, 1923 (McCabe and Fletcher).

AMERICAN PIPIT, *Anthus spinoletta rubescens* (Tunstall).

Keyes and Williams, 1889, p. 156: Migratory; common, arriving about the middle of April. Keyes, Biol. Sur. records: One, April 18, 1885. There is one specimen taken at Des Moines, April 18, 1885 in the Keyes Collection, Iowa State College.

There are no recent records.

BOHEMIAN WAXWING, *Bombycilla garrula pallidiceps* Reichenow.

Fairly rare winter visitor. Keyes and Williams, 1889, p. 149: Winter visitant; rather rare. In 1922 a flock of these birds was seen in Des Moines February 27 (Mrs. W. G. DuMont), when two birds were seen feeding on asparagus berries. On March 5 (DuMont) a flock of twenty-two was found on lower Beaver Road feeding in a larger field of asparagus where they remained until April 3 (Nelson).

Mr. A. J. Palas gave me an account of a flock of five or six thousand individuals seen March 18, 1923, along Walnut Creek, south of Grand Avenue feeding on the hackberry trees and wild hemp. He made this estimate by counting the number of birds on one branch, counting the branches of a tree, and then the number of trees which total he cut in half to be conservative. (See Roberts, 1931, p. 8.)

Another small invasion occurred in 1931 when a flock of ninety-nine was seen on January 5 (Stewart) and regularly in the garden from then on until March 15. A flock of thirty-four seen March 15, 1931 (McCabe).

CEDAR WAXWING, *Bombycilla cedrorum* Vieillot.

A common but erratic wanderer; rarely breeds. Keyes and Williams, 1889, p. 149: Spring and fall migrant; abundant, and resident in small numbers throughout the year. About 1900 Schroeder found three nests at Kingman's berry farm then located at 28th Street and Cottage Grove Avenue, Des Moines. One full set of eggs was taken. There are three specimens in the Keyes Collection, Iowa State College, and three in the collection of the State Historical Museum.

Generally abundant during June. Recently recorded during each month except July, August and November. A pair found June 1929 nesting in West Des Moines (DuMont); young birds were being fed July 15, 1931 Water Works park (Stewart).

NORTHERN SHRIKE, *Lanius borealis borealis* Vieillot.

Uncommon winter visitor. Keyes and Williams, 1889, p. 149: Winter resident. Not uncommon from the last of October to March. Keyes, Biol. Sur. records: January 12, 1884; February 23, 1884; March 15, 1884; two, November 8, 1884; February 21, 1885. Reported by Fagen

and Palas. Watson has the following records: February 3, 1902; January 1, 1903; March 26, 1927; March 27, 1928.

MIGRANT SHRIKE, *Lanius ludovicianus migrans* Palmer.

Common summer resident. Keyes and Williams, 1889, p. 149 under White-rumped Shrike: Summer resident; rather common. Fagen, 1909, p. 201 under Loggerhead Shrike: arriving here the last of February or the first of March, its nest is often built and eggs laid before March 25th, while May Day has found the second nest built and eggs incubating.

March 15, 1929 (Watson) to October 26, 1930 (Stewart, LaMar and McCabe). The bulk of this specie has disappeared in the fall by the first of September.

The confusion in the names of this specie in literature is the result of changing nomenclature.

[The White-rumped Shrike, *L. l. excubitorides* Swainson, reported by Keyes and Williams, Fagen and Wendelburg may be found as a straggler from the west or as a rare summer resident. However, the intergradation of the White-rumped and Migrant Shrikes in western Iowa and in Nebraska makes it unlikely that this western subspecie can be accurately identified in the field.]

STARLING, *Sturnus vulgaris vulgaris* Linnaeus.

This introduced specie was first noted at Des Moines in its westward invasion March 21, 1929 when Mr. and Mrs. Alexander W. Lee saw one pair. See DuMont, 1929, p. 245. It seems quite certain that this hardy specie will become very abundant within a few years.

WHITE-EYED VIREO, *Vireo griseus griseus* (Boddaert).

Uncommon migrant; no breeding record. Fagen, 1909, p. 201 records this specie as a breeding bird arriving late in April or early in May.

Spring: April 23, 1924 (Wendelburg) to May 22, 1928 (Watson).

Fall: August 29, 1926 (Watson) to September 13, 1925 (Watson).

BELL'S VIREO, *Vireo belli belli* Audubon.

Fairly common summer resident. Keyes and Williams, 1889, p. 151: Summer resident; common. There is one specimen in the Keyes Collection, Iowa State College.

April 28, 1925 (Nelson) to September 7, 1931 (Palas).

YELLOW-THROATED VIREO, *Vireo flavifrons* Vieillot.

Common migrant; rare summer resident. Keyes and Williams, 1889, p. 150: Spring and fall migrant; common. Also summer resident. It appears about the first week in May and departs about the first of September. At Des Moines it is a very rare summer resident—only one nest having been taken. This one was discovered on the 25th of June, 1881. There are two specimens in the Keyes Collection, Iowa State College.

May 3, 1925 (Nelson and DuMont) to September 22, 1931 (Watson).

Summer dates: Four birds, seen at Des Moines, June 14, 1928 (DuMont); a pair found in Crocker Woods, Des Moines, June 8, 1930 (Stewart).

BLUE-HEADED VIREO, *Vireo solitarius solitarius* (Wilson).

Common migrant. Keyes and Williams, 1889, p. 151: Migratory; common. Arrives about the first week in May and passes southward the first of September.

Spring: April 19, 1919 (Malone) to May 30, 1918 (Malone).

Fall: September 7, 1931 (Stewart, LaMar and DuMont) to October 15, 1931 (Watson).

RED-EYED VIREO, *Vireo olivaceus* (Linnaeus).

Abundant migrant; fairly common summer resident. Keyes and Williams, 1889, p. 150: Summer resident, rather common. Breeds in June. There are three males in the Keyes Collection, Iowa State College.

April 23, 1925 (Fletcher) to October 4, 1930 (Stewart).

PHILADELPHIA VIREO, *Vireo philadelphicus* (Cassin).

Fairly common spring and fall migrant. Keyes and Williams, 1889, p. 150: Migratory; common; arriving the second week in May. It first appears in scattered companies, moving in leisurely flights through the tops of the trees along the water courses, and associated with various species of warblers. In the fall it appears about the first of September. Cooke, 1884-85, p. 234: The first record from Des Moines, Iowa, was May 14 and the last was seen there May 20. There are four specimens from Des Moines in the Keyes Collection, Iowa State College, two males and one female taken May 14, 1885, and one male August 31, 1886.

There are eleven recent records in the spring ranging from April 28, 1929 (Watson) to May 20, 1928 (McCabe) with the largest number of observations about the middle of May. In the fall there are nine observations ranging from September 2, 1930 (Stewart) to October 8, 1931 (Watson).

EASTERN WARBLER VIREO, *Vireo gilvus gilvus* (Vieillot).

Very common summer resident. Keyes and Williams, 1889, p. 150: Common migrant and summer resident. Arrives about the first week in May and remains until September. There are three specimens in the Keyes Collection, Iowa State College.

April 24, 1925 (Watson) to September 23, 1931 (Watson and DuMont).

BLACK AND WHITE WARBLER, *Mniotilta varia* (Linnaeus).

Common migrant. Keyes and Williams, 1889, p. 151: Migratory, quite common; often arriving about the middle of April, and sojourning until the middle of May. In the fall it appears from the first

to the third week in September. At Des Moines this specie has been observed in June and July, and consequently may be regarded as a summer resident, though not a common one. Fagen, 1909, p. 200, recorded this specie as breeding. There are three specimens in the Keyes Collection, Iowa State College.

Spring: April 24, 1927 (Wendelburg) to May 23, 1926 (DuMont).

Fall: August 21, 1930 (Stewart) to October 22, 1927 (Nelson).

PROTHONOTARY WARBLER, *Protonotaria citrea* (Boddaert).

Occasional straggler; possibly a summer resident. Keyes and Williams, 1889, p. 151: Summer resident; not uncommon especially in the eastern part of the state. Arrives the last week in April. There are only four recent records: May 15, 1921 (McCabe); May 18, 1927 and 1929 (Watson); June 15, 1915 (McCabe).

In view of the recent northward extension of range of this specie up both the Mississippi and Missouri Rivers, consequently in Polk County it may be looked for more often along the Des Moines and Raccoon Rivers.

WORM-EATING WARBLER, *Helmitheros vermivorus* (Gmelin).

Rare migrant. Keyes and Williams, 1889, p. 152: Migratory; not uncommon. In the spring arrives about the last of April and in the fall about the 10th of September.

One observed May 25, 1915 (McCabe); one seen in the woods at Camp Dodge, September 10, 1925 (Palas); September 13, 1930 (Wendelburg).

This southern warbler is of casual occurrence in central Iowa.

GOLDEN-WINGED WARBLER, *Vermivora chrysoptera* (Linnaeus).

Uncommon migrant; no breeding records.

May 8, 1924 (Palas); May 17 and 18, 1929 (Watson); May 23, 1931 (LaMar); May 24 and 25, 1930 (Stewart); September 17, 1931 (Watson).

BLUE-WINGED WARBLER, *Vermivora pinus* (Linnaeus).

Uncommon migrant; fairly rare summer resident. Keyes and Williams, 1889, p. 152: Common migrant and in part, summer resident. Arrives the first week in May and remains until September. At Prospect Park, near Des Moines, a nest of this specie was discovered on the 11th of June, 1884. Keyes, Biol. Sur. records: May 3, 1886; August 29, 1884. There are three specimens in the Keyes Collection, Iowa State College.

May 5, 1928 (Nelson) to September 5, 1931 (Watson).

Summer records: A pair found May 24, 1930 at Valley Junction and the nest was found June 8 (Stewart); one found June 6, 1929, in the same locality may have been one of a breeding pair (Watson, Nelson and DuMont).

TENNESSEE WARBLER, *Vermivora peregrina* (Wilson).

Very common migrant. Keyes and Williams, 1889, p. 153: Migratory; abundant. Arrives the first and sojourns until the third week in May, passing southward again in September. There are eight males and two females in the Keyes Collection, Iowa State College.

Spring: April 22, 1925 (Watson) to June 4, 1928 (Nelson).

Fall: August 29, 1925 (Watson) to October 20, 1930 (Stewart).

ORANGE-CROWNED WARBLER, *Vermivora celata celata* (Say).

Uncommon migrant. Keyes and Williams, 1889, p. 152-53: Spring and fall migrant; rather common. Arrives the first of May, and remains until the middle of the month; passes southward again the first week in September. It frequents rather open woodland, and seems to be extremely partial to the hawthorn trees. Keyes, Biol. Sur. records: May 2, 1885. There are five specimens in the Keyes Collection, Iowa State College.

Spring: May 2, 1928 (Stewart) to June 6, 1929 (DuMont, specimen collected).

Fall: September 27, 1930 (Stewart) to October 4, 1929 (Watson).

NASHVILLE WARBLER, *Vermivora ruficapilla ruficapilla* (Wilson).

Very common migrant. Keyes and Williams, 1889, p. 152: Spring and fall migrant; abundant. Arrives about the first and remains until the third week in May; passes southward in September. It is usually noticed in flocks of forty or fifty, moving leisurely through the tops of the large trees along the streams. There are two specimens in the Keyes Collection, Iowa State College.

Spring: May 1, 1928 (Wendelburg) to May 25, 1924 (McCabe).

Fall: August 22, 1930 (Stewart) to October 15, 1930 (Stewart).

NORTHERN PARULA WARBLER, *Compsothlypis americana pusilla* (Wilson).

Fairly common migrant. Keyes and Williams, 1889, p. 153. Rather common; observed only in migrations. Arrives the first week in May and passes southward the second week in September.

Spring: May 17, 1929 (Watson) to May 21, 1925 (Nelson).

Fall: September 11, 1930 (Stewart) to September 22, 1931 (Watson and DuMont).

EASTERN YELLOW WARBLER, *Dendroica aestiva aestiva* (Gmelin).

Abundant migrant; very common summer resident. Keyes and Williams, 1889, p. 153: Summer resident; abundant; arrives the first of May and departs the first of September. Nests about the third week in May, in low bushes. There are eight specimens in the Keyes Collection, Iowa State College, one in the Bullock Collection, Des Moines, and four in the collection of the State Historical Museum.

April 24, 1927 (Wendelburg) to September 13, 1925 (Watson) and September 13, 1930 (Wendelburg).

MAGNOLIA WARBLER, *Dendroica magnolia* (Wilson).

Very common migrant. Keyes and Williams, 1889, p. 154: Spring and fall migrant; common. Arrives the first and remains until the third week in May; in the fall it is seen from the last week in August, to the middle of September. Keyes, Biol. Sur. records: August 26, 1884. Cooke, 1884-85, p. 249: In the fall of 1884 the last Black and Yellow Warbler was reported from Des Moines, Iowa, August 26. There are two specimens in the Keyes Collection, Iowa State College, and one in the Bullock Collection, Des Moines.

Spring: April 26, 1925 (Watson) to June 2, 1925 (Nelson).

Fall: September 2, 1930 (Stewart) to October 24, 1931 (Watson).

CAPE MAY WARBLER, *Dendroica tigrina* (Gmelin).

Fairly rare migrant, Keyes and Williams, 1889, p. 153: Migratory; not common. Arrives the second week in May, and returns in September. There is one specimen taken May 14, 1885 at Des Moines now in the Keyes Collection, Iowa State College.

There are only three recent records: May 4, 1931 (Stewart); May 17, 1929 (Watson); May 20, 1928 (Stewart).

BLACK-THROATED BLUE WARBLER, *Dendroica caerulescens caerulescens* (Gmelin).

Fairly rare migrant. Keyes and Williams, 1889, p. 153: Migratory; not common.

Spring: May 17, 1929 (Watson) to May 31, 1925 (Nelson).

Fall: September 25, 1931 (Watson and Nelson) to September 30, 1931 (Watson).

MYRTLE WARBLER, *Dendroica coronata* (Linnaeus.)

Abundant migrant. Keyes and Williams, 1889, p. 153: Abundant spring and fall migrant, appearing about the middle of April and remaining three or four weeks; in the fall its sojourn is shorter, from the middle to the last of October. Cooke: 1884-85, p. 247: In the fall of 1884 the first was noted from Des Moines, Iowa, October 18; the bulk October 21, and the last October 25. There are five specimens in the Keyes Collection, Iowa State College, three in the Bullock Collection, Des Moines, and one in the collection of the State Historical Museum.

Spring: April 6, 1922 (DuMont) to May 27, 1915 (McCabe).

Fall: September 13, 1930 (Wendelburg) to October 28, 1924 (Watson).

BLACK-THROATED GREEN WARBLER, *Dendroica virens virens* (Gmelin).

Common migrant. Keyes and Williams, 1889, p. 154: Common spring and fall migrant, arriving the first of May and returning in September. There is one specimen in the Keyes Collection, Iowa State College.

Spring: April 27, 1929 (Watson) to May 30, 1925 (Watson).

Fall: August 21, 1930 (Stewart) to September 13, 1930 (Wendelburg).

CERULEAN WARBLER, *Dendroica cerulea* (Wilson).

Uncommon migrant; perhaps a rare summer resident. Keyes and Williams, 1889, p. 154: Migratory; not common, at least as far as personal observation goes.

Spring: May 19, 1923 (Nelson) to May 26, 1928 (Nelson).

Fall: August 29, 1926 (Watson) to September 6, 1930 (Stewart).

This specie is found breeding regularly in Boone County, forty miles north of Des Moines.

BLACKBURNIAN WARBLER, *Dendroica fusca* (Muller).

Fairly common migrant. Keyes and Williams, 1889, p. 154: Migratory; not common. Arrives the first week in May.

Spring: April 30, 1927 (Watson) to May 31, 1925 (Watson).

Fall: August 22, 1930 (Stewart) to October 3, 1929 (Watson).

SYCAMORE WARBLER, *Dendroica dominica albilora* Ridgway.

This is a rare straggler from the South which may occur more often than our records indicate. There are only two records: May 29, 1927 (Watson) and August 29, 1926 (Watson).

CHESTNUT-SIDED WARBLER, *Dendroica pensylvanica* (Linnaeus).

Common migrant. No recent breeding records. Keyes and Williams, 1889, p. 154: Migratory; abundant; arriving the first week in May, and departing before the middle of September. Also a summer resident, not uncommon. Keyes, Biol. Sur. records: May 7, 1886. Fagen, 1909, p. 200 records this as a breeding bird. There are two specimens in the Keyes Collection, Iowa State College, and one in the Bullock Collection, Des Moines.

Spring: May 15, 1925 (Watson) to May 28, 1924 (McCabe).

Fall: September 5, 1931 (Bullock) to September 13, 1930 (Wendelburg) and September 13, 1931 (Stewart, LaMar and DuMont).

BAY-BREASTED WARBLER, *Dendroica castanea* (Wilson).

Uncommon migrant. Keyes and Williams, 1889, p. 154: Migratory; not common. Arrives the first week in May.

Spring: May 8, 1919 (Malone) to May 30, 1924 (Nelson).

Fall: September 13, 1930 (Wendelburg) to September 17, 1931 (Watson).

BLACK-POLL WARBLER, *Dendroica striata* (Forster).

Abundant migrant. Keyes and Williams, 1889, p. 154: Common migrant from the first to the middle of May. It is usually seen among the lower branches of the trees in dark, damp woodland. There are four specimens in the Keyes Collection, Iowa State College.

Spring: May 1, 1927 (Nelson) to May 31, 1925 (Watson).

Fall: September 11, 1931 (Watson and DuMont) to October 13, 1925, (Watson).

NORTHERN PINE WARBLER, *Dendroica pinus pinus* (Wilson).

Rare migrant. A bird positively identified as this specie by Mrs. Stewart was found about the middle of September 1929 by some children at the Park Avenue School near Fort Des Moines. The specimen was not preserved but the faint streaking below, double white wing-bars, and white patches in outer tail feathers were all noted.

[Mrs. Toni Wendelburg gives the following observations: May 4, 1931, May 16, 1930, August 30, 1931, September 11, 1931. Due to the difficulty of distinguishing this specie in the field it seems advisable to base central Iowa records on specimens alone.]

NORTHERN PRAIRIE WARBLER, *Dendroica discolor discolor* (Vieillot).

Uncommon migrant. Fagen, 1909, p. 200: The prairie warbler is probably the smallest warbler that nests here, and has a quaint and curious song, for which it is most noted. Found usually in shrub dotted pastures or brushy light woods; it builds an elaborate and beautiful nest in a small tree or low bush.

May 1, 1927 (Nelson); May 14, 1923 (Nelson); May 28, 1915 (McCabe); September 13, 1930 (Wendelburg).

WESTERN PALM WARBLER, *Dendroica palmarum palmarum* (Gmelin).

Very common spring migrant, not common in the fall. Keyes and Williams, 1889, p. 154: Migratory; abundant. Appears about the 20th of April and remains until the 10th of May. There are two specimens in the Bullock Collection, Des Moines.

Spring: On April 26, 1923 (Nelson), 1924 (Nelson), 1925 (Watson), 1927 (Watson), 1928 (Watson), 1931 (Palas) to May 12, 1922 (Nelson) and May 12, 1929 (McCabe).

Fall: September 3, 1926 (Watson) to October 1, 1931 (Watson).

OVEN-BIRD, *Seiurus aurocapillus* (Linnaeus).

Common migrant; uncommon summer resident. Keyes and Williams, 1889, p. 155: Summer resident; common, arriving about the first of May and remaining until the middle of September. Breeds about the third week in May, in hilly woodland where at this season of the year it seldom fails to attract notice by its loud, impetuous cries. Fagen, 1909, p. 200 records the Oven-bird as a summer resident remaining until October. There are two specimens in the Keyes Collection, Iowa State College.

May 2, 1926 (DuMont) to October 14, 1931 (Watson).

One bird flushed from nest, May 24, 1930, near Valley Junction; two Cowbird eggs removed from this nest May 30 (Stewart).

GRINNELL'S WATER-THRUSH, *Seiurus noveboracensis notabilis* Ridgway.

Fairly common migrant; no recent breeding records. Keyes and Williams, 1889, p. 155: Summer resident; not common. Arrives early in May. Usually observed in dark, marshy woodlands. A few miles north of Des Moines a female of this specie was taken in June

1884; it was feeding young just from the nest. There is one specimen in the Bullock Collection, Des Moines, and one in the collection of the State Historical Museum.

Spring: May 1, 1923 (Nelson) to June 6, 1928 (Nelson).

Fall: August 26, 1931 (Watson) to September 25, 1931 (Watson and Nelson).

The Northern Water-Thrush, *S. n. noveboracensis* (Gmelin), has been taken in eastern Iowa and may be collected in this county. It is hardly possible to distinguish this specie from Grinnell's Water-Thrush in the field.

LOUISIANA WATER-THRUSH, *Seiurus motacilla* (Vieillot).

Fairly common migrant. No recent breeding record. Keyes and Williams, 1889, p. 155: Migratory; common; arriving about the middle of April, and passing southward in September . . . a few remain through the summer and breed. Keyes, Biol. Sur. records: April 18, 1885. There are three specimens in the Keyes Collection, Iowa State College.

Spring: April 18, 1926 (DuMont) to May 25, 1924 (Stewart).

Fall: One date, September 12, 1927 (Nelson).

KENTUCKY WARBLER, *Oporornis formosus* (Wilson).

Rare migrant. This southern specie has been recorded on only three occasions: May 17, 1925 (Watson); May 21, 1927 (Watson and Nelson); September 13, 1925 (Watson).

CONNECTICUT WARBLER, *Oporornis agilis* (Wilson).

Fairly common migrant.

Spring: May 5, 1920 (Malone) to May 31, 1925 (Watson).

Fall: August 29, 1926 (Watson) to October 1, 1931 (Watson).

MOURNING WARBLER, *Oporornis philadelphia* (Wilson).

Fairly common migrant. Keyes and Williams, 1889, p. 155: Migratory; rather common in the underbrush and willows on the lowlands along the streams. Sojourns in the spring until the third week in May. Keyes, Biol. Sur. records: May 15, 1885. There are two specimens in the Keyes Collection, Iowa State College.

Spring: May 17, 1927 (Watson) to May 30, 1928 (Nelson).

Fall: August 24, 1931 (Stewart) to October 15, 1931 (Watson).

One positively identified on October 30, 1927 (Stewart), a late straggler.

NORTHERN YELLOW-THROAT, *Geothlypis trichas brachidactyla* (Swainson).

Common summer resident. Keyes and Williams, 1889, p. 155: Summer resident, common. Arrives the last of April and remains until September. Keyes, Biol. Sur. records: September 18, 1885. There are three specimens in the Keyes Collection, Iowa State College.

May 1, 1927 (Nelson) to October 20, 1931 (Watson).

YELLOW-BREASTED CHAT, *Icteria virens virens* (Linnaeus).

Fairly rare migrant. Keyes and Williams, 1889, p. 156: Summer resident; rather common; arriving the first week in May. Cooke, 1884-85, p. 260: In the spring of 1885 at Des Moines, Iowa, May 11. Fagen, 1909, p. 201 records this as a breeding specie with us from May first to September first. Keyes, Biol. Sur. records: May 11, 1885.

There are only two other records: May 25, 1903 (Watson) and May 19, 1927 (Watson).

[HOODED WARBLER, *Wilsonia citrina* (Boddaert).

Keyes and Williams, 1889, p. 156: Not common. There are no other records of this southern specie in the county. A specimen would be desirable on which to base its occurrence here.]

WILSON'S WARBLER, *Wilsonia pusilla pusilla* (Wilson).

Common migrant. Keyes and Williams, 1889, p. 156: Migratory; common. Arrives the first, and sojourns until the third week in May; passes southward the second week in September. It is usually noticed in the underbrush in open woodland along the streams. Keyes, Biol. Sur. records: May 6, 1885. There are three specimens in the Keyes Collection, Iowa State College.

Spring: May 6, 1927 (Watson) to May 31, 1925 (Watson).

Fall: August 22, 1931 (Stewart) to October 3, 1930 (Stewart).

CANADA WARBLER, *Wilsonia canadensis* (Linnaeus).

Common migrant. Keyes and Williams, 1889, p. 156: Spring and fall migrant; not common.

Spring: May 15, 1920 (Malone) to May 26, 1926 (Watson) and May 26, 1928 (Nelson).

Fall: August 21, 1931 (Stewart) to September 30, 1929 (Stewart).

AMERICAN REDSTART, *Setophaga ruticilla* (Linnaeus).

Common summer resident; breeds. Keyes and Williams, 1889, p. 156: Summer resident; common; arriving the first week in May, and departing the second week in September. Nidification commences the first of June. There are two specimens in the Keyes Collection, Iowa State College, and one in the Bullock Collection, Des Moines.

April 26, 1931 (Palas) to October 14, 1930 (Stewart).

ENGLISH SPARROW, *Passer domesticus domesticus* (Linnaeus).

This is the most abundant bird in Polk County. A permanent resident breeding in great numbers. It was first recorded in this county in 1884 by Charles R. Keyes. There is one specimen in the Keyes Collection, Iowa State College and one in the collection of the State Historical Museum.

BOBOLINK, *Dolichonyx oryzivorus* (Linnaeus).

Fairly common migrant; uncommon breeder. Keyes and Williams, 1889, p. 136: Summer resident; common throughout central and northern Iowa. Arrives about the first of May. Fagen, 1909, p. 204 records this as one of the rare birds in Polk County. There is one specimen in the Keyes Collection, Iowa State College.

April 11, 1922 (DuMont) to September 14, 1929 (LaMar and Stewart). Fall migrants have been noted as early as August 24, 1930 (Stewart), and a flock of twenty-five was seen September 7, 1931 (Stewart and DuMont).

This specie was practically exterminated as a breeding bird in Polk County due primarily to the draining of marsh lands and the cutting of meadows and hayfields during nesting season. Now with more land lying idle providing suitable nesting areas this bird is slowly increasing as a summer resident.

EASTERN MEADOWLARK, *Sturnella magna magna* (Linnaeus).

Common summer resident. Keyes and Williams, 1889, p. 137: Summer resident; abundant, arriving the middle of March. Cooke, 1884-85, p. 166: At Des Moines, Iowa, the bulk left October 20, and the last was seen November 9.

February 21, 1923 (Mrs. W. G. DuMont) to October 11, 1931 (Stewart).

WESTERN MEADOWLARK, *Sturnella neglecta* Audubon.

Fairly common summer resident. Fagen's first record of this bird in Polk County was in 1907.

March 4, 1927 (Wendelburg) to October 15, 1931 (Watson).

One winter date: January 28, 1925 (Watson).

YELLOW-HEADED BLACKBIRD, *Xanthocephalus xanthocephalus* (Bonaparte).

Common migrant; fairly common breeder. Keyes and Williams, 1889, p. 137: Summer resident; not common in eastern portion of this state; abundant in central and northern portions. Arrives the third week in April and commences breeding about a month later. One male in the Keyes Collection, Iowa State College.

April 14, 1928 (Wendelburg) to August 30, 1931 (Stewart and DuMont). This specie nests only in marshes which contain water throughout the summer. In 1931, a dry summer, they remained only until June 28.

EASTERN RED-WING, *Agelaius phoeniceus phoeniceus* (Linnaeus).

Abundant summer resident; occasional winter resident. Keyes and Williams, 1889, p. 137: Summer resident; abundant. Arrives about the middle of March and departs about the middle of November. There are four specimens in the Keyes Collection, Iowa State College, and three specimens with nest and eggs in the collection of the State Historical Museum.

Flocks have been noted February 23 (LaMar) and February 26, 1930 (Stewart) but the bulk arrive in March. In the fall the last flocks were noted October 26, 1930 (LaMar) and November 11, 1929 (LaMar). Recorded on the Bird-Lore Christmas Census for 1928, 1929, 1930.

A critical study of specimens from central Iowa taken throughout the year would probably show *A. p. phoeniceus* (Linnaeus) as a common summer resident, the Giant Red-wing, *A. p. arctolegus* Oberholser, as an abundant migrant and occasional winter resident, and the Thick-billed Red-wing, *A. p. fortis* Ridgway, as an occasional straggler.

ORCHARD ORIOLE, *Icterus spurius* (Linnaeus).

Uncommon and irregular summer resident. Keyes and Williams, 1889, p. 138: Summer resident; common. Arrives the first week in May and remains until September. Fagen, 1909, p. 205: Its season with us is from May first until September. The orchard oriole is becoming more rare in the near vicinity of Des Moines.

Earliest spring arrival, May 1, 1927 (Wendelburg).

In the past few years this specie has become a rare breeding bird, possibly being driven out by the Bronzed Grackle.

BALTIMORE ORIOLE, *Icterus galbula* (Linnaeus).

Common summer resident. Keyes and Williams, 1889, p. 138: Summer resident; common from the first of May until September. There is one specimen in the Keyes Collection, Iowa State College, and three birds with nest and eggs in the collection of the State Historical Museum.

April 22, 1924 (Wendelburg) to September 17, 1928 (Stewart).

[BULLOCK'S ORIOLE, *Icterus bullocki* (Swainson).]

Lester P. Fagen sent me the following record: Found in 1904 and '05. Nest taken near Des Moines River and Beaver Creek, in large elm tree in 1904. One pair seen next year near 30th and Adams Street.

This specie breeds in eastern South Dakota, central Nebraska, and has been taken in New York and Maine. See A. O. U. Check-List. As there are no previous records of this bird in Iowa a specimen would be necessary on which to base the record.]

RUSTY BLACKBIRD, *Euphagus carolinus* (Muller).

Fairly common spring and fall migrant. Keyes and Williams, 1889, p. 138: Spring and fall migrant; abundant from the middle of March to the middle of May, and from the middle of October to the middle of November. Fagen, 1909, p. 205 recorded this specie as a summer resident. There are six specimens in the Keyes Collection, Iowa State College, two in the Bullock Collection, Des Moines, and one in the collection of the State Historical Museum.

Spring: February 26, 1930 (Stewart) to May 8, 1927 (McCabe).

Fall: October 2, 1927 (LaMar) to October 25, 1930 (Stewart).

One winter record: January 1, 1925 (Nelson).

BREWER'S BLACKBIRD, *Euphagus cyanocephalus* (Wagler).

Uncommon migrant. Reported by Fagen and Palas.

Spring: March 15, 1929, a flock of over two hundred (Watson) to April 26, 1927 (Watson and Nelson).

This specie has been reported as increasing in Minnesota and spreading eastward into Wisconsin. It may be found to be a fairly common early spring and late fall migrant in Polk County.

BRONZED GRACKLE, *Quiscalus quiscula aeneus* Ridgway.

Abundant summer resident; uncommon winter resident. Keyes and Williams, 1889, p. 138: Summer resident; abundant from the middle of March to the middle of November. Cooke, 1884-85, p. 176: In the fall of 1884 the bulk left Des Moines, Iowa, November 8, and the last was seen November 10. Two specimens in the Keyes Collection, Iowa State College.

February 23, 1930 (LaMar) to October 30, 1931 (DuMont).

This specie was recorded on the Bird-Lore Christmas Census for 1923, 1925, 1926, and 1927. Wendelburg reported two birds present throughout the winter of 1925 and 1927.

EASTERN COWBIRD, *Molothrus ater ater* (Boddaert).

Very common summer resident. Keyes and Williams, 1889, p. 136: Summer resident; abundant. Arrives from the middle of March to April and remains until October. There are two males in the Keyes Collection, Iowa State College, two in the Bullock Collection, Des Moines, and three in the collection of the State Historical Museum.

March 15, 1925 (Watson) to October 27, 1929 (LaMar).

SCARLET TANAGER, *Piranga erythromelas* Vieillot.

A fairly common summer resident, somewhat restricted in breeding. Keyes and Williams, 1889, p. 146: Summer resident; common. In central Iowa it arrives about the last of April and remains until the middle of September. There is a male in mottled plumage in the Keyes Collection, Iowa State College.

April 26, 1925 (Watson) to September 30, 1931 (Watson).

This specie has recently been reported as breeding in the woods south of Valley Junction, Woodland Cemetery, Greenwood Park, Linden Heights, 30th Street and Urbandale, and the Four Mile Creek region.

SUMMER TANAGER, *Piranga rubra rubra* (Linnaeus).

Keyes and Williams, 1889, p. 146: Rare. During the season of 1880 this specie was observed at Des Moines, and three nests with eggs taken, but since then has not been noticed in the vicinity. Keyes, Biol. Survey records: May 3, 1884; four seen, May 2, 1885; next seen, May 5 and became common on May 11; breeds. Fagen reports a pair nesting two or three summers between 1903 and '06 north of

Hickman Avenue near 30th Street. There was a male in the Keyes Collection, Iowa State College, taken at Des Moines, May 23, 1883, which cannot now be found.

EASTERN CARDINAL, *Richmondia cardinalis cardinalis* (Linnaeus).

Common permanent resident. Keyes and Williams, 1889, p. 145: Not common. Only occasionally seen in central Iowa. Green, Biol. Sur. records: Saw one Cardinal Grosbeak, a male in full plumage, October 29, 1885. This is the first authentic record for this county. Fagen, 1909, p. 204 says: I have the boldness to prophesy that in the next ten years it will be frequently found nesting in Polk County. Fagen's first record was in 1903. Watson first recorded this specie February 24, 1902. There are two males in the Bullock Collection, Des Moines, and a male and female in the collection of the State Historical Museum.

The rapidity of increase is shown on the Bird-Lore Christmas Census:

1923	1924	1925	1926	1927	1928	1929	1930
36	54	91	106	113	129	149	109

ROSE-BREASTED GROSBEAK, *Hedymeles ludovicianus* (Linnaeus).

Common summer resident. Keyes and Williams, 1889, p. 146: Summer resident; common, arriving the last of April and remaining until the last of September. There are three specimens in the Keyes Collection, Iowa State College, and a male, a female, nest and eggs in the collection of the State Historical Museum.

April 18, 1925 (Wendelburg) to October 9, 1930 (Stewart).

[EASTERN BLUE GROSBEAK, *Guiraca caerulea caerulea* (Linnaeus).

Miss Olivia McCabe furnishes the following record: One seen by Mrs. D. W. Fletcher at East 38th Street and University Avenue, May 24 to 28, 1924. Large in size; conspicuous chestnut markings on wings; blue darker, more purple than that of Indigo Bunting.

Although this bird breeds in Nebraska, Missouri and southern Illinois, a specimen must be taken to add it to the Iowa list.]

INDIGO BUNTING, *Paesserina cyanea* (Linnaeus).

Common summer resident. Keyes and Williams, 1889, p. 146: Summer resident; common from the first week in May until September. Fagen, 1909, p. 204, considered this bird one of the rarer summer residents. There are four specimens in the Keyes Collection, Iowa State College, one in the Bullock Collection, Des Moines, and two males in the collection of the State Historical Museum.

May 1, 1928 (Wendelburg) to October 14, 1931 (Watson).

DICKCISSEL, *Spiza americana* (Gmelin).

Very common summer resident. Keyes and Williams, 1889, p. 146: Summer resident; abundant from the last of April until October.

Cooke, 1884-85, p. 221: In the fall of 1884 the last Black-throated Bunting left Des Moines, Iowa, August 29. There is one male in the Keyes Collection, Iowa State College, one in the Bullock Collection, Des Moines, and one in the collection of the State Historical Museum. Nestlings have been found as late as August 24, 1930 (Stewart).

May 3, 1925 (Nelson) to September 6, 1930 (LaMar).

EASTERN EVENING GROSBEAK, *Hesperiphona vespertina vespertina*
(Cooper).

Cooke, 1884-85, p. 178: During the whole of the winter of 1883-84 they were very common along the Mississippi River. . . . They were reported . . . from Des Moines and Coralville. At Des Moines the bulk left the first week in March, and the last was seen March 23. This specie is also reported by Fagen.

There are no recent records.

EASTERN PURPLE FINCH, *Carpodacus purpureus purpureus* (Gmelin).

Common but very erratic migrant. Keyes and Williams, 1889, pp. 140-41: Spring and fall migrant; abundant. In central Iowa it usually appears about the last of February, and remains until May; the fall sojourn is from the middle of October to the middle of December. There are three specimens in the Keyes Collection, Iowa State College, and two in the collection of the State Historical Museum. This specie has been recorded in Polk County every month except August. Most abundant September to November and March to April. The relative abundance of this specie as recorded on the Bird-Lore Christmas Census is as follows:

1924	1925	1926	1927	1928	1929	1930
46	37	3	16	16	54	41

CANADIAN PINE GROSBEAK, *Pinicola enucleator leucura* (Muller).

The only record is furnished by Fagen: Four or five individuals seen in a pine grove near Beaver Creek and Beaver Avenue during the winter of 1904.

COMMON REDPOLL, *Acanthis linaria linaria* (Linnaeus).

Fairly rare winter visitor. Keyes and Williams, 1889, p. 141: Winter visitant; irregular, but usually abundant during the sojourn. Keyes, Biol. Sur. records: Common January 1884; February 2, 1884; February 23, 1884; March 6, 1884; a flock of two hundred, March 8, 1884. There are two specimens in the Keyes Collection, Iowa State College.

Earliest winter arrival: December 26, 1927 (Palas); latest winter departure: April 10, 1920 (H. E. Malone).

NORTHERN PINE SISKIN, *Spinus pinus pinus* (Wilson).

Fairly rare winter visitor. Keyes and Williams, 1889, p. 141: Winter visitant; not common. Reported by Fagen and Palas. Observed

December 22, 1927 (Nelson); a flock of twelve, October 22, 1929 (Palas—see 1929, p. 24).

EASTERN GOLDFINCH, *Spinus tristis tristis* (Linnaeus).

Common permanent resident; less abundant during the winter. Keyes and Williams, 1889, p. 141: Resident; abundant. There are two specimens in the Keyes Collection, Iowa State College. Stewart reported birds spotted with yellow the second week in April. Watson found a nest with four eggs on September 7, 1924. The eggs were hatched the next day and the birds successfully raised.

The relative abundance of this specie as shown on the Bird-Lore Christmas Census is as follows:

1924	1925	1926	1927	1928	1929	1930
<u>28</u>	<u>28</u>	<u>35</u>	<u>102</u>	<u>42</u>	<u>79</u>	<u>166</u>

RED CROSSBILL, *Loxia curvirostra pusilla* Gloger.

Rare winter visitor. Keyes and Williams, 1889, p. 141: An irregular winter visitor. Generally seen from the middle of October to the first week in May. Fagen reports this specie as common during the winters of 1900 and 1906. There is one specimen in the Keyes Collection, Iowa State College. The only recent record is of a pair observed April 2, 1922 in Crocker Woods, Des Moines (DuMont).

WHITE-WINGED CROSSBILL, *Loxia leucoptera* Gmelin.

Keyes and Williams, 1889, p. 141: Rare, usually noticed only in midwinter. Lester P. Fagen has two records of this specie but no dates recorded. There are no recent observations.

RED-EYED TOWHEE, *Pipilo erythrophthalmus erythrophthalmus* (Linnaeus).

Common summer resident. Keyes and Williams, 1889, p. 145: Summer resident; common; arriving the last week in March and departing in October. There is a male in the Keyes Collection, Iowa State College and another in the Bullock Collection, Des Moines.

March 12, 1927 (McCabe; Watson) to October 28, 1924 (Watson). Mrs. Henry Frankel reported a Towhee and a Carolina Wren at her feeding table quite regularly from December 8, 1926 to January 22, 1927.

[Miss Olivia McCabe reports an Arctic Towhee, *Pipilo maculatus arcticus* (Swainson) March 19, 1905 in Goode Park, Des Moines. This bird showed the conspicuous black and white stripes on the back.

To add this bird to our state list a specimen must be secured.]

LARK BUNTING, *Calamospiza melanocorys* Stejneger.

Lester P. Fagen recorded finding a pair nesting near the Army Post, Fort Des Moines, in June 1904. Although this specie has been found frequently in the northwestern part of the state, this is probably the farthest southeast that it has been found breeding.

EASTERN SAVANNAH SPARROW, *Passerculus sandwichensis savanna*
(Wilson).

Common migrant. Keyes and Williams, 1889, p. 142: Migratory; common. Arrives early in April. Doubtless breeds within the limits of the state. Has been observed during the summer in the prairie sloughs of Polk County.

Spring: March 31, 1928 (Watson and Nelson) to May 20, 1923 and 1924 (Nelson).

Fall: September 7, 1931 (Stewart, LaMar and DuMont) to October 18, 1931 (Stewart).

WESTERN GRASSHOPPER SPARROW, *Ammodramus savannarum bimaculatus*
Swainson.

Common summer resident. Keyes and Williams, 1889, p. 142: Summer resident; common from the middle of April until October. Breeds in the fields and prairies. Cooke, 1884-85, p. 190: In the spring of 1885 the first at . . . Des Moines, Iowa, April 13. . . . In the fall the last . . . October 24. There are four specimens in the Keyes Collection, Iowa State College.

April 26, 1924 (Nelson) to October 3, 1927 (Watson). A nest with five eggs found May 25, 1930, at Glendale Cemetery, Des Moines (Stewart).

According to the A. O. U. Check-List, Fourth Edition, *A. s. bimaculatus* Swainson should be the breeding form in central Iowa, although what appeared to be typical specimens of *A. s. australis* Maynard, have been taken in Eastern Nebraska (Zimmer).

BAIRD'S SPARROW, *Ammodramus bairdi* (Audubon).

Rare migrant. There are only three records for the county. April 23, 1927 (Nelson); April 29, 1925 and 1927 (Nelson). It is very difficult to distinguish this specie from the Savannah Sparrow in the field except by its song.

LECONTE'S SPARROW, *Passerherbulus caudacutus* (Latham).

Uncommon migrant. Keyes and Williams, 1889, p. 142: Rather common. Seen usually in the spring, in the grass of sloughs near woodland. Anderson, 1907, p. 318: Polk County—a specimen taken April 19, 1886, now in Iowa Agricultural museum at Ames. (W. A. Bryan, Iowa Orn., 1. 1, 1894, p. 5.)

Spring: March 31, 1928 (Watson and Nelson) to May 3, 1929 (Watson).

Fall: September 20, 1931 (Palas and DuMont) and September 22, 1931 (Watson).

WESTERN HENSLOW'S SPARROW, *Passerherbulus henslowi henslowi*
(Audubon).

Uncommon migrant. Keyes and Williams, 1889, p. 142: Summer resident; common. Arrives about the same time as the last [Grasshopper Sparrow] with which it is associated.

Spring: May 5, 1929 (Watson).

Fall: September 7, 1931 (DuMont) to October 19, 1925 (Watson).

NELSON'S SPARROW, *Ammospiza caudacuta nelsoni* (Allen).

Uncommon migrant. There is only one spring record, May 27, 1929 (Stewart, McCabe and DuMont).

Fall records: August 30, 1931 (DuMont); September 7, 1931 (Stewart, LaMar and DuMont); September 20, 1931 (Field trip of the Des Moines Audubon Society); September 22, 1931 (Watson); October 10, 1931 (Stewart); October 14, 1931 (Watson); October 17, 1931 (Stewart); October 18, 1931 (Stewart).

EASTERN VESPER SPARROW, *Poocetes gramineus gramineus* (Gmelin).

Common migrant; fairly common summer resident. Keyes and Williams, 1889, p. 142: Common migrant, arriving the first week in April. Doubtless also a summer resident. One specimen in the Keyes Collection, Iowa State College; three in the Bullock Collection, Des Moines, and one in the collection of the State Historical Museum.

March 31, 1922 (DuMont) and March 31, 1928 (Watson and Nelson) to October 15, 1928 (Mrs. W. G. DuMont). A late straggler was recorded on the Bird-Lore Christmas Census, December 26, 1928.

EASTERN LARK SPARROW, *Chondestes grammacus grammacus* (Say).

Common summer resident. Keyes and Williams, 1889, p. 142: Summer resident; common from the middle of April until October. Green, Biol. Sur. records: April 14, 1886. Cooke, 1884-85, p. 193: In the spring of 1885 it reached Des Moines, Iowa, April 18. There is one specimen in the Keyes Collection, Iowa State College, and two in the Bullock Collection, Des Moines.

April 19, 1925 (DuMont). December 1, 1927 (McCabe) is a casual date.

[BACHMAN'S SPARROW, *Aimophila aestivalis bachmani* (Audubon).

Anderson, 1907, p. 406, places the following record in the Hypothetical List: Keyes and Williams (Birds of Iowa, 1889, p. 144) enter the species in their list upon the strength of a set of five eggs taken near Des Moines, June 2, 1884, from a nest on the ground in a clover field. The bird was seen twice, but was not secured.

The range of this specie as given in the A. O. U. Check-List, Fourth Edition, 1931: Breeds in the Upper and Lower Austral Zones in central Illinois, (locally to southern Iowa) . . .

The author follows Anderson in reporting this specie on a hypothetical basis until a specimen is secured.]

SLATE-COLORED JUNCO, *Junco hyemalis hyemalis* (Linnaeus).

Abundant winter resident. Keyes and Williams, 1889, p. 143: Spring and fall migrant; abundant. Many remain from October to April. There are two specimens in the Keyes Collection, Iowa State College; one in the Bullock Collection, Des Moines.

Earliest fall arrival: September 27, 1930 (Stewart). Latest spring departure; May 15, 1928 (Watson).

The relative abundance of this specie as recorded on the Bird-Lore Christmas Census is as follows:

1924	1925	1926	1927	1928	1929	1930
361	333	263	317	353	320	269

[MONTANA JUNCO, *Junco oreganus montanus* Ridgway.

The status of the occasional Juncos as found in central Iowa, other than the common Slate-colored Junco, has not been satisfactorily determined, due primarily to lack of specimens.

The several recent observations of pink-sided, brownish-backed, black-headed birds have been called *J. o. montanus*, although no specimens were taken. The range of this specie as contained in the A. O. U. Check-List, Fourth Edition, 1931: Winters . . . East casually to Kansas Illinois, Indiana, Massachusetts and Maryland.

One bird reported September 30, 1929 (Stewart); January 1, 1925 (Nelson); March 20, 1928 (Watson); April 16, 1928 (Nelson); April 24, 1927 (Watson).]

[Fagen wrote that he observed a flock of 8 or 10 Gray-headed Juncos, *Junco caniceps* (Woodhouse), during the spring of 1904, seen northwest of Des Moines, near Camp Dodge. There were several Slate-colored Juncos also in the flock. Mr. Fagen said he was sure of the identification, although no specimens were taken.]

EASTERN TREE SPARROW, *Spizella arborea arborea* (Wilson).

Very common winter resident. Keyes and Williams, 1889, p. 143: Abundant migrant and common winter resident from October until April. There are two specimens in the Keyes Collection, Iowa State College, two in the Bullock Collection, Des Moines, and one in the collection of the State Historical Museum. Earliest fall arrival: October 8, 1923 (McCabe); latest spring departure, April 30, 1929 (Watson).

EASTERN CHIPPING SPARROW, *Spizella passerina passerina* (Bechstein).

Abundant summer resident. Keyes and Williams, 1889, p. 143: Summer resident; very common from March until the middle of October. There are four specimens in the Keyes Collection, Iowa State College.

March 21, 1928 and March 21, 1931 (Palas) to October 28, 1931 (Watson).

Casual dates: One recorded on the Bird-Lore Christmas Census, December 26, 1926 (Palas); March 7, 1921 (Mrs. W. G. DuMont).

CLAY-COLORED SPARROW, *Spizella pallida* (Swainson).

Uncommon migrant. Keyes and Williams, 1889, p. 143: Migratory; common. Arrives early in May and frequents open woodland. Cooke, 1884-85, p. 201: At Des Moines, Iowa, a male was shot May 10, [1884]. This specimen is in the Keyes Collection, Iowa State College. Reported by Fagen and Palas.

Spring: April 28, 1925 (Nelson) to May 8, 1931 (Stewart).

EASTERN FIELD SPARROW, *Spizella pusilla pusilla* (Wilson).

Abundant summer resident. Keyes and Williams, 1889, p. 143: Summer resident; common from early in April to October. There are three specimens in the Keyes Collection, Iowa State College.

March 15, 1925 (DuMont) to October 28, 1931 (Watson).

One casual date: two birds reported on the Bird-Lore Christmas Census, December 26, 1926.

HARRIS'S SPARROW, *Zonotrichia querula* (Nuttall).

Common migrant and not infrequent winter resident. Keyes and Williams, 1889, p. 143: Migratory; common. In central Iowa it appears the third week in April and sojourns until the middle of May. In the fall it usually is noticed from the middle of to the last of October. Cooke, 1884-85, p. 194: In migration in the spring of 1885 it was seen at . . . Des Moines, Iowa, April 25. . . . The last was seen May 13. There are two males (March 14 and April 25, 1885) in the Keyes Collection, Iowa State College, and three specimens in the Bullock Collection, Des Moines.

Spring: April 2, 1927 (Wendelburg) to May 18, 1926 (McCabe).

Fall: September 20, 1931 (Stewart) to November 11, 1925 (Watson).

Winter dates are: January 1, 1927 (Watson); January 4, 1925 (Watson); February 5, 1927 (Watson); March 17, 1929 (Mrs. W. G. DuMont); March 18, 1903 (Watson).

WHITE-CROWNED SPARROW, *Zonotrichia leucophrys leucophrys* (Forster).

Fairly common migrant. Keyes and Williams, 1889, p. 143: Migratory; rather common.

Spring: April 16, 1924 (Nelson) to May 24, 1924 (Watson).

Fall: October 1, 1929 (Stewart) to October 28, 1924 (Watson).

GAMBEL'S SPARROW, *Zonotrichia leucophrys gambeli* (Nuttall).

Uncommon migrant. This specie may occur in some numbers but due to the difficulty of distinguishing from the White-crowned Sparrow it may be easily overlooked.

Spring: May 2 and 3, 1931 (Palas).

Fall: October 11, 1930 (Stewart); six observed October 26, 1930 (Stewart and LaMar).

WHITE-THROATED SPARROW, *Zonotrichia albicollis* (Gmelin).

Abundant migrant. Keyes and Williams, 1889, p. 143: Migratory; abundant from the middle of April to the middle of May, and from the middle to the last of October. There are three specimens in the Keyes Collection, Iowa State College.

Spring: March 14, 1901 (Watson) and March 29, 1925 (Nelson and DuMont) to June 3, 1929 (Watson).

Fall: September 12, 1929 (Stewart) to November 11, 1925 (Watson) and November 11, 1927 (LaMar).

One winter record: February 20, 1925 (McCabe).

EASTERN FOX SPARROW, *Passerella iliaca iliaca* (Merrem).

Common migrant. Keyes and Williams, 1889, p. 145: Spring and fall migrant; abundant. Arrives the last week in March and remains about a month. In the fall it is noted from the first to the last week in October. There are five specimens in the Keyes Collection, Iowa State College and one in the collection of the State Historical Museum.

Spring: March 11, 1929 (Watson) to May 12, 1927 (Nelson).

Fall: September 27, 1930 (Stewart) to November 17, 1927 (Stewart). One winter record: January 4, 1931 (LaMar and McCabe).

LINCOLN'S SPARROW, *Melospiza lincolni lincolni* (Audubon).

Common migrant. Keyes and Williams, 1889, p. 145: Migratory; common from the 20th of April to the middle of May, and from the middle to the last of October. Cooke, 1884-85, p. 210: In the fall of 1884 the bulk of migrants reached Des Moines, Iowa, October 25. One female collected September 23, 1931 (DuMont) now in the Bullock Collection.

Spring: April 13, 1928 (Watson) to May 15, 1924 (McCabe).

Fall: September 20, 1931 (Stewart and DuMont) to October 21, 1931 (Watson).

Recorded on the Bird-Lore Christmas Census December 26, 1926.

SWAMP SPARROW, *Melospiza georgiana* (Latham).

Common migrant. Keyes and Williams, 1889, p. 145: Common spring and fall migrant, arriving about the middle of April and in the autumn in September. Fagen, 1909, p. 203 records this specie as a common summer resident from the first of April until late October. There is a male in the Keyes Collection, Iowa State College.

Spring: March 16, 1927 (Watson) to May 12, 1928 (Palas).

Fall: September 20, 1931 (Stewart and DuMont) to November 11, 1925 (Watson).

EASTERN SONG SPARROW, *Melospiza melodia melodia* (Wilson).

Very common migrant; fairly common permanent resident. Keyes and Williams, 1889, p. 145: Migratory; abundant. Resident in small numbers through the summer. Fagen, 1909, p. 203 records this specie as arriving early in March and leaving in November. There is a female in the Keyes Collection, Iowa State College, a specimen in the Bullock Collection, Des Moines, and one in the collection of the State Historical Museum. The bulk of the spring migrants arrive between March 10 and 30, and in the fall depart in October.

The relative abundance of this specie as recorded on the Bird-Lore Christmas Census is as follows:

1924	1925	1926	1927	1928	1929	1930
11	17	38	15	14	17	39

It is possible that a critical study of specimens taken in Central Iowa would show the Mississippi Song Sparrow, *M. m. beata* Bangs, to be the breeding and resident form with *M. m. melodia* Wilson, as a common migrant.

LAPLAND LONGSPUR, *Calcarius lapponicus lapponicus* (Linnaeus).

Fairly rare winter visitor. Keyes and Williams, 1889, p. 141: Winter visitor; abundant. Fagen says: A small flock with Snow Buntings seen January 14, 1905 west of Beaver Avenue and Urbandale. Palas reported this specie south of Huxley the winter of 1923.

SMITH'S LONGSPUR, *Calcarius pictus* (Swainson).

Keyes and Williams, 1889, p. 142: Migratory; common. Appears about the middle of April in companies of fifty or more; frequents old stubble fields. Cooke, 1884-85, p. 186: At Des Moines, Iowa, about fifty were seen April 18, [1885]. Anderson, 1907, p. 314: One specimen secured at Des Moines, April 18, 1885, is now in Iowa Agricultural museum, Ames (W. A. Bryan); another specimen taken at Des Moines, on same date, by Prof. C. C. Nutting is in the University museum, No. 1473 (Anderson). There is a male and a female taken April 18, 1885 at Des Moines, Iowa, now in the Keyes Collection, Iowa State College. There are no recent observations.

EASTERN SNOW BUNTING, *Plectrophenax nivalis nivalis* (Linnaeus).

Keyes and Williams, 1889, p. 141: Winter sojourner; confined almost exclusively to fields and prairies. Letson Balliet reported capturing four Snow Buntings about 1890 at Des Moines. Fagen reports small flocks during the winters of 1903, 1904 and 1906 northwest of Des Moines. There are no recent records.

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