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Nesting Of Raptors Uncommon In Iowa: Summary and New Records

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JON STRAVERS²

The nesting status of the Turkey Vulture, Bald Eagle, Northern Harrier, Sharp-shinned Hawk, Cooper's Hawk, Red-shouldered Hawk, Broad-winged Hawk, Swainson's Hawk, Peregrine Falcon, Common Barn-Owl, Burrowing Owl, Long-eared Owl and Short-eared Owl is reviewed and previously unpublished records added. Also the potential for the Northern Saw-whet Owl and Osprey to nest in Iowa is discussed. Although several species are on the brink of extirpation as part of Iowa's nesting avifauna, the Bald Eagle has returned as a regular nester. Over 100 previously unpublished nesting reports and some management recommendations are included.

INDEX DESCRIPTORS: Iowa raptors, Iowa avifauna, endangered species, endangered Iowa birds.

Because raptors occupy a position at the top of the food chain and many need fairly remote nesting sites with substantial food bases, changes in the quality of the environment are rapidly reflected in changes in raptor populations. Because birds in general and raptors in particular serve as a warning system for environmental degradation, it should be of more than passing interest when we see populations of raptors decline. Most, if not all, species mentioned herein were formerly more common in Iowa than they are now.

During the compilation of the endangered and threatened species list of Iowa birds (Roosa, 1977, 1986), numerous unreported nesting records of raptors uncommon in Iowa became known. Sources included examination of our field data, discussions with field biologists, and responses to a questionnaire sent out early in the process of compiling the endangered species list. It became clear that these and subsequent records should be published.

This paper summarizes published and unpublished nesting records of raptors which are uncommon or rare nesters in Iowa. The more common raptors (e.g. Red-tailed Hawk and Great Horned Owl) are not included. Literature extending back to at least 1950 was examined. Records through the nesting season of 1987 are included. Arrangement of birds follows Dinsmore et al. (1984). Scientific names of plants follows Gleason and Cronquist (1963). Approximate locations of all nests are shown in the figures with each species description.

The frequent reference to "IBL" refers to Iowa Bird Life.

CATHARTIDAE

Turkey Vulture *Cathartes aura* (Linnaeus)

The Turkey Vulture was judged by Anderson (1907) to be a "tolerably common summer resident in some parts of the state", by DuMont (1933) to be a "fairly common summer resident, most numerous in the southern half of the state", by Brown (1971) to be an uncommon breeding bird, and by Dinsmore et al. (1984) as a common non-nesting summer resident, uncommon breeding bird.

Since 1940, 15 Iowa nesting records of the Turkey Vulture have been published. ALLAMAKEE COUNTY, Taylor Twp. T97N R3W, 8 June 1978, two young in cave (Koenig, 1979) incorrectly reported as along the Upper Iowa River, it was actually along Paint Creek. BOONE COUNTY, 23 June 1938, two young in nest in cavity of soft maple (*Acer saccharinum* L.) (Scott and Moorman, 1940).

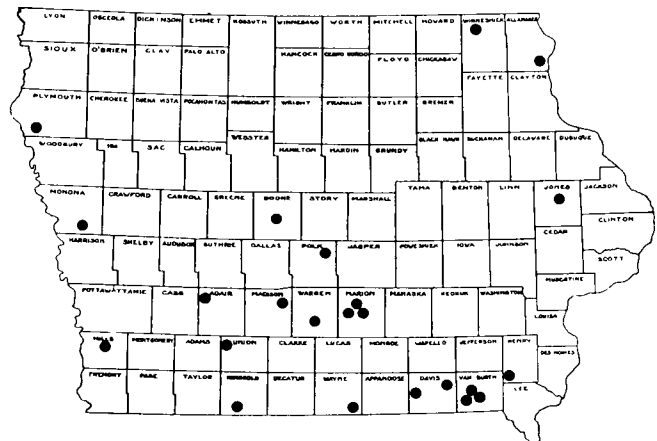


Fig. 1. Location of Turkey Vulture nests. (A single dot may represent more than one nesting attempt at the same site)

BOONE COUNTY, same site, 1939, two young hatched 1 or 2 June, disappeared 5 June (Scott and Moorman, 1940). DAVIS COUNTY, 1978, two young in nest in shed (Schaefer, 1978). HENRY COUNTY, 1958, nest containing two eggs in tree cavity, fate of nest undetermined (Ollivier, 1958). JONES COUNTY, 1960, two young in nest in cave (Vane, 1960). JONES COUNTY, 1961, same site as previous, two young (IBL 31:66; P.C. Petersen, pers. comm.). MARION COUNTY, 1976, nest with two young (IBL 46:82). MARION COUNTY, 1980, two nests at Red Rock Reservoir (IBL 50:74). MILLS COUNTY, 1978, 13-20 May and later observations, nest with two young, (IBL 48:72, 48:97). RINGGOLD COUNTY, 1987, two young fledged from nest in cavity of soft maple in Sec. 16, Middle Fork Twp., T67N R30W (information from Charles Abarr to Pat Schlarbaum, Iowa Department of Natural Resources (IDNR) nongame program). VAN BUREN COUNTY, 1940, two nests, one located in hollow stump on wooded hillside, another with two young in crevice in cliff (Trump, 1941). WAYNE COUNTY, 1981, 10 May through 11 August, nest with two young in barn 11 km. (five miles) south of Seymour (Scott, 1981).

Since 1977, 13 nesting records were known but not published. ADAIR COUNTY, June 1977, Summit Twp., T77N R33W, nest of two young in cavity in dead American Elm (*Ulmus americana* L.) (pers. obs.). ALLAMAKEE COUNTY, 18 June 1986, two young in cave in Taylor Twp., in same nest site as reported above for this county (Darwin Koenig, pers. comm.). BOONE COUNTY, 1971, Ledges State Park, T83N R26W, at least one young in tree cavity (Daryl Howell, pers. comm.). DAVIS COUNTY, 1980, Sec. 5, T69N

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R15W, Fox River Twp., in hayloft of barn, clutch of two eggs in shallow depression in hay. Nest visited three or four times throughout the nesting season; on last visit, young were approaching adult size (Greig D. Jones, pers. comm.). MADISON COUNTY, 10 July 1980, nest of two young in cavity of cottonwood (*Populus deltoides* Marsh) along North River in Crawford Twp. (pers. obs.). Nearby woodland has since been cleared and site is no longer suitable for vulture nesting. MONONA COUNTY, 1987, 6 June through 21 September, two young fledged from nest in cavity of soft maple in Spring Valley Twp., T82N R43W, near Moorhead (Don Pogensee, pers. comm.). PLYMOUTH COUNTY, 1986, nest with at least one young in cavity of cottonwood in Hillview Park, Sec. 6, T90N, R46W. PLYMOUTH COUNTY, 1987, nest with two young at same nest site as previous year (Dennis Sohl, pers. comm.). POLK COUNTY, 1980, Sec. 13, Elkhart Twp., T81N R23W, two young in cavity in tree on 6 August, (nest record files of IDNR). UNION COUNTY, 1985, Sec. 6, Spaulding Twp., T73N R31W, 2 July, nest with one young in house due to be razed, kept in captivity and fledged in August, later accidentally killed (Beth Brown, pers. comm.). VAN BUREN COUNTY, June, 1979, nest with two young in crevice of sandstone outcrop in Lacey-Keosauqua State Park, Des Moines Twp. Sec. 2, T68N R10W (pers. obs., accompanied by James H. Peck). WARREN COUNTY, 1981, nest with one young in hollow tree, Sec. 26, White Oak Twp. T75N R24W (files of IDNR). WINNESHIEK COUNTY, 1972, nest with two downy young in cave in Burr Oak Twp., T100N R9W on 6 June (pers. obs.).

Nests of the Turkey Vulture are undoubtedly more common than our records indicate. Some of the more stable nest sites (e.g., caves) should be visited annually by qualified field biologists.

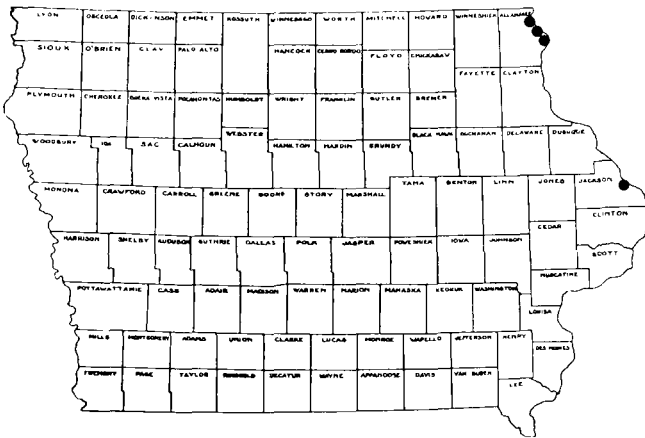


Fig. 2 Location of Bald Eagle nests.

ACCIPITRIDAE

Bald Eagle *Haliaeetus leucocephalus* (Linnaeus)

Anderson (1907) considered the Bald Eagle as being formerly common in and frequently nested in favorable localities. Orr (1937) felt the last valid nesting occurred in 1864, but DuMont (1934) stated it nested in Iowa in 1905. Although there have been unsubstantiated nesting reports in Iowa since, it seems the first validated nesting this century was in 1977 in Allamakee County when IDNR Biologist Jim Ripple discovered eagles nesting along the Mississippi River. Two young were produced the first year. Since this first nesting, eagles have nested each year with an increase to three nests in 1985 and four in 1986. Three sites are located in Allamakee County, and one in Jackson

County. A single young was produced in 1980, an unsuccessful nest attempt occurred in 1981, three young were produced in one nest in 1985. Three nests produced five young in 1986. In 1987, four known nests produced five young (information furnished to Jim Ripple by John Lyons).

These nestings were not altogether unexpected as nesting had occurred for several years near Reno, Minnesota, and in Illinois, across the river from Sabula, Iowa. With proper management such as restricting human visitation to certain areas during the nesting season and erecting nesting platforms, there are no obvious ecological reasons why eagles should not nest on our large reservoirs on interior Iowa streams.

Northern Harrier *Circus cyaneus* (Linnaeus)

Anderson (1907) called this species a common summer resident in most parts of the state. DuMont (1933) termed it a fairly common summer resident. Brown (1971) said it was an uncommon permanent resident and noted that the number of nesting birds had decreased markedly. Dinsmore et al. (1984) called it a rare nester.

Since 1957 there have been four published nesting records for the Northern Harrier in Iowa. HOWARD COUNTY, 1981, Hayden Prairie (IBL 51:65). JOHNSON COUNTY, 1957 (Kent and Vane, 1957). JOHNSON COUNTY, 1977 (Halmi, 1977). KOSSUTH COUNTY, 25 May 1985, female flushed from nest with two eggs (Fleskes and Clark, 1985).

We discovered eight unpublished nesting records. APPANOOSE COUNTY, Sec. 4, Independence Twp., T70N R19W, May, 1976, Ron George and Dale Humburg, (wildlife biologists with the IDNR), flushed an incubating female Northern Harrier from a nest. The nest, containing five eggs, was located in a successional area that previously had been a pasture and was dominated by smooth brome (*Bromus inermis* Leys.) with invading woody species such as American Elm and Wild Plum. The maximum height of the herbaceous layer at the time of nesting was approximately 10 cm. (four inches). The tract in which the nest was found had been burned in April of 1973 and 1974. The nest, rechecked about two weeks later, was empty with no sign of the eggs having hatched. DECATUR COUNTY, 1987, nest with five young on Little River Wildlife Area Sec. 19, T69N R25W (Mel Moe, pers. comm.). EMMET COUNTY, 1984, two juveniles and two adults seen in extensive grassland in Twelve Mile Lake Twp., T98N R34W in July (Bob Moats, pers. comm.). HOWARD COUNTY, 1984, successful nesting at Hayden Praire (Scaufenbuel, 1985). HOWARD COUNTY, 1985, Bob Moats (pers. comm.)

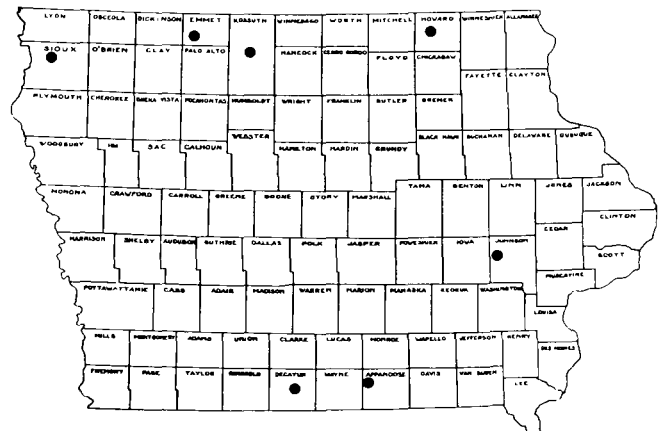


Fig. 3 Location of Northern Harrier nests.

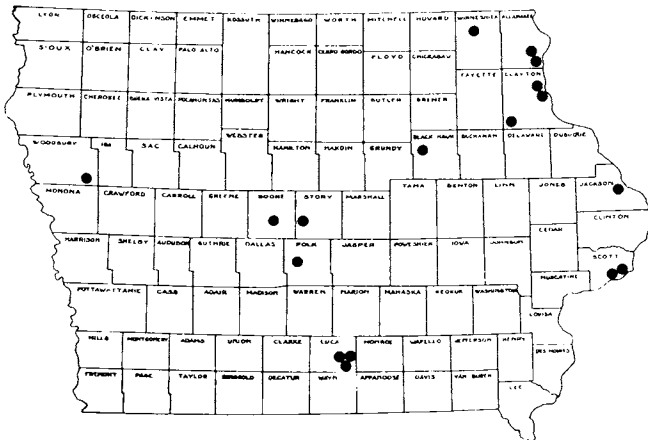


Fig. 4 Location of Cooper's Hawk nests.

observed two juveniles and two adults at Hayden Prairie. HOWARD COUNTY, 1987, nest with two eggs on 30 April in native prairie in Sec. 33, T100N R13W (Jim Ripple, pers. comm.). JOHNSON COUNTY, 1987, adult flushed from nest in native prairie, Sec. 5, T80N R8W (Dennis Schlicht, pers. comm.). SIOUX COUNTY, T97N R46W, Sec. 15, Rock Twp., 1967, Jerry Abma (pers. comm.) reported finding a Northern Harrier nest with eggs on a low prairie area on his family farm. Both adults were present and defended the territory. The fate of the nest was undetermined.

This species is undoubtedly more common than the 12 nest records in 30 years indicate. Extreme caution must be exercised when reseaching ground-nesting raptors as predators will follow human footpaths to the nest. There must be absolute minimum disturbance to the nests of these rare species.

Sharp-shinned Hawk *Accipiter striatus* Vieillot

Anderson (1907), DuMont (1933), and Brown (1971) all stated this species was an uncommon permanent resident, but Dinsmore et al. (1984) gave no nesting status.

Bailey (1918) stated "... a comparatively small number remain here to nest," and presented a map showing nesting in 10 counties in Iowa. Bartsch (1897) considered the Sharp-shinned Hawk common, as did Keyes (1897), and Fenton (1923) reported a nest near Charles City in 1917.

There have been June and July sightings in IOWA COUNTY (IBL 51:100), JOHNSON COUNTY (IBL 52:89, IBL 44:72), LEE COUNTY (IBL 56:114), and SCOTT COUNTY (Morrissey, 1968a). Also, two immature birds, scarcely capable of sustained flight, were seen in the Loess Hills in MONONA COUNTY in 1978 (Steve Duecker, pers. comm.).

This species may nest in the Loess Hills of western Iowa or in the pine plantings of northeast Iowa.

Cooper's Hawk *Accipiter cooperii* (Bonaparte)

Anderson (1907) listed the Cooper's Hawk as a common summer resident in all parts of the state. DuMont (1933) felt it was a fairly common summer resident throughout Iowa. Both Grant (1963) and Brown (1971) said it was an uncommon permanent resident, and Dinsmore et al. (1984) termed it a rare nester.

The preferred habitat for the Cooper's Hawk is upland dry forests, usually with medium-aged to young oak stands. It is very secretive and may not defend its territory, especially early in the incubation cycle.

There are 16 published nest records since the 1930's. ALLAMAKEE COUNTY, Yellow River Forest, 14 June 1985, nest with two young (Darwin Koenig, pers. comm.; IBL 55:90). ALLAMAKEE COUNTY, 16 July 1987, upland oak woodland, Fairview Twp., T96N R3W, four young in nest in white oak (Darwin Koenig, pers. comm.; IBL 57:119). CLAYTON COUNTY, 1977, two adults with flying young near Marquette (IBL 47:100). CLAYTON COUNTY, 16 July 1987, two adults and at least two fledglings, Pikes Peak State Park, Mendon Twp., T95N R3W (Darwin Koenig, pers. comm.; IBL 57:119). JACKSON COUNTY, 1987, upland woods, nest in black cherry (*Prunus serotina* Ehrh.) adult incubating on 30 May and 4 June, eggshell fragments and sheathing tail feathers on ground on 27 June, fate of nest undetermined (Darwin Koenig, pers. comm.; IBL 57:119). LUCAS COUNTY, 1980, Stephens State Forest, nest with four young (Crim, 1981). LUCAS COUNTY, 12-13 April 1987 and later observations, Sec. 5, Cedar Twp. T72N R20W, nest in shagbark hickory (*Carya ovata* (Mill.) K. Koch.), nest destroyed, eggshell fragments collected (IBL 57:81; Doug Reeves, pers. comm.). LUCAS COUNTY, April 12 1987, nest in bur oak (*Quercus macrocarpa* Michx.) in Sec. 8, Cedar Twp. T72N R20W, fate of nest undetermined (IBL 57:81; Doug Reeves, pers. comm.). POLK COUNTY, Sec. 24, Jefferson Twp, T80N R25W, near Saylorville Lake, 29 June, 13 - 26 July 1985, nest with two young in white oak (*Quercus alba* L.) tree in upland forest (Bery Engebretsen, pers. comm.; IBL 55:90). POLK COUNTY, 1986, two young fledged from nest in same area as in 1985, last seen on 27 July (Bery Engebretsen, pers. comm.; IBL 56:114; files of Natural Areas Inventory, IDNR). POLK COUNTY, 1987, at least two young fledged from nest at same site as previous two years (Bery Engebretsen, pers. comm.). SCOTT COUNTY, May, 1948, Credit Island in Davenport, nest in Basswood (*Tilia americana* L.) later abandoned (Morrissey, 1968a). SCOTT COUNTY, 6-16 May 1950, nest in White Oak in Duck Creek Park, Davenport, fate of nest undetermined (Morrissey, 1968a). STORY COUNTY, 1938, nest with three young on college property (Polderboer, 1939). STORY COUNTY, 1945, same site, nest noted, eggs or young not specified (Lattin and Hendrickson, 1947). WINNESHIEK COUNTY, 1987, nest in red oak (*Quercus borealis* Michx. f.) on Bluffton Fir Stand State Preserve in Sec. 9, Bluffton Twp. T99N R9W, at least three young in trees near nest on 17 July (Darwin Koenig, pers. comm.; IBL 57:119).

There have been six unpublished nestings. BLACK HAWK COUNTY, 10-24 May 1986, Hartman's Reserve, Sec. 17, T89N, R13W, Cedar Falls, adult incubating in upland woodland, fate of nest undetermined (Joe Wagner, pers. comm.). BOONE COUNTY, 1960, Sec. 17, Worth Twp. T83N R26W adult incubating in medium-aged white oak (pers. obs.). CLAYTON COUNTY, Cass Twp., T91N R6W, 1976, nine young banded from two nests (Dave Fulks, pers. comm.). MARION COUNTY, 1983, two young fledged from nest in Sec. 32, Summit Twp., T77N R19W (pers. obs.). WOODBURY COUNTY, 1978, along Maple River, Liston Twp., T86N R42W, nest with four eggs, fate of nest undetermined (Steve Duecker, pers. comm.).

Nests of this species should be sought by careful observers in dry upland forests in the Des Moines River Valley, in wooded parts of southern Iowa, the Loess Hills of western Iowa, in addition to the areas in northeast Iowa where it is most common.

Red-shouldered Hawk *Buteo lineatus* (Gmelin)

Considered by Anderson (1907) to be a "tolerably common summer resident in the southern part, rare in the northern part". DuMont (1933) called it a fairly common summer resident in the southern half of the state, uncommon or rare in the northern half. Grant (1963) called it a common permanent resident, but Brown (1971) thought it

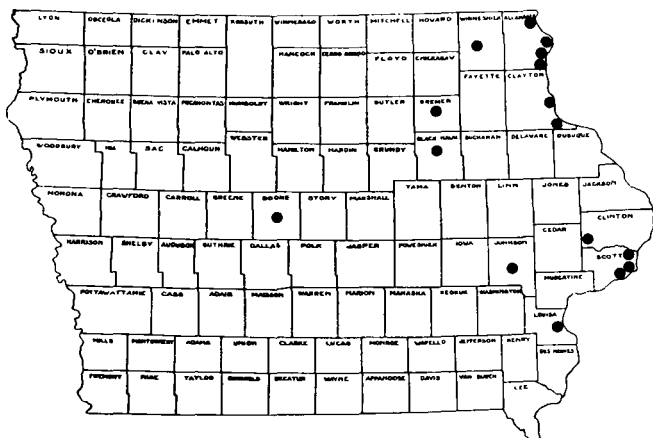


Fig. 5 Location of Red-shouldered Hawk nests.

was a rare permanent resident. Dinsmore et al. (1984) termed it a rare nester. It seems to have undergone a drastic decline in the past two decades (Brown, 1964), with possible causes being increased human use of flood-plain forests and successional changes in these woodlands.

There have been 14 published records since 1950. ALLAMAKEE COUNTY, 22 April, 1972 near mouth of Wexford Creek (cited in Bednarz, 1979). CLINTON COUNTY, near Wheatland, 1970, (IBL 41:89). JOHNSON COUNTY, city park in Iowa City, early 1970's (Kent and Kent, 1975). SCOTT COUNTY, Credit Island, 1950 (Morrissey, 1968a). SCOTT COUNTY, near Davenport, 1965 (Morrissey, 1968a). WINNESHIEK COUNTY, 1966, pair nested near Decorah (IBL 36:82). During research for a master's degree thesis, Bednarz (1979a; Bednarz and Dinsmore, 1981, 1982; IBL 48:72) located five Red-shouldered Hawk territories which yielded eight nests during 1977-1978: ALLAMAKEE COUNTY, Sec. 10, Fairview Twp. T96N R3W; Sec. 24, Iowa Twp. T100N R4W; Sec. 34, Fairview Twp. T96N R3W; CLAYTON COUNTY, Sec. 20, Buena Vista Twp., T91N R1W; Sec. 23, Clayton Twp., T94N R3W.

Research by Stravers and Bowles (1985; personal updated records) yielded 19 additional nests. ALLAMAKEE COUNTY, 1983-1986, located active nests in all those sites reported by Bednarz except the Iowa Twp. site. CLAYTON COUNTY, 1983-1986, active nests located in both nest sites reported by Bednarz. The following new nests were found: BREMER COUNTY, 1983, Sec. 26 Leroy Twp., T93N R12W, along the Wapsipinicon River, also calling adults heard in 1986, but no nest located; LOUISA COUNTY, 1983, Sec. 27 Jefferson Twp., T74N R2W, floodplain of Mississippi River, also calling adults heard in 1984 and 1985, but no nest located; SCOTT COUNTY, 1984, Sec. 17, Princeton Twp. T80N R5E floodplain of Wapsipinicon River. During this study, 1983-1986, 131 sections of floodplains of seven river systems in 54 townships in 19 counties were searched. A total of 52 sections of upland and pine forests and emergent willow forests were searched. There was no evidence of Red-shouldered Hawk nesting in over 90 percent of the area. Only one nest was found outside the Mississippi River valley and only one nest was located south of the mouth of the Wapsipinicon River.

We found four unpublished records. BOONE COUNTY, 1963, Sec. 17 Worth Twp., T38N R20W, a short distance upstream from Ledges State Park, on floodplain of Des Moines River. A nest with one young was seen at a height of about 12 m. in a soft maple (pers. obs.), with one adult bird present on 17 May. Due to habitat changes, this site is no longer suitable for nesting of Red-shouldered Hawks. BLACK HAWK COUNTY, George Wyth State Park, Sec. 7, T89N R13W, 1956-1958, (pers. obs.), floodplain of the Cedar River.

Nesting of Red-shouldered Hawks at this site was also mentioned by Konig (1973). Completion of new Highway 20 modified the habitat to the point where it is no longer utilized by this species for nesting.

Although recent studies have resulted in the location of additional nests, this species remains critically endangered in Iowa. There are a variety of sites on floodplains of interior Iowa streams which should be surveyed for nesting pairs.

Broad-winged Hawk *Buteo platypterus* (Vieillot)

DuMont (1933) reported the Broad-winged Hawk to be an uncommon spring and fall migrant and a common summer resident in certain counties. Brown (1971) felt that the species was a rare breeding bird, and Dinsmore et al. (1984) agreed that it was a rare nester.

Since 1950, eight Iowa nesting records have been published. BOONE COUNTY, 1966, no data on eggs or young, (IBL 36:82). BOONE COUNTY, 1967, Ledges State Park, no data on eggs or young (IBL 37:50). BOONE COUNTY, 1969, (cited in Brown, 1971). FREMONT COUNTY, 1986, Waubonsie State Park (IBL 56:114 no data on eggs or young). HAMILTON COUNTY, 1976, nest with three young near Boone River (IBL 46:82; Rich Straight, pers. comm.). LINN COUNTY, Palisades-Kepler State Park, 1956, nest with two eggs (Kline, 1956). POLK COUNTY, 1963, three young in nest in Des Moines (Am. Birds, 17:464). STORY COUNTY, 1967, Brookside Park in Ames, (IBL 37:50, no data on eggs or young).

Four unpublished nest reports were discovered. ALLAMAKEE COUNTY, 1976, Yellow River State Forest, incubating adult in nest in white oak in upland forest (pers. obs.). DELAWARE COUNTY, June, 1978, adult flushed from nest in mature upland woodland in Sec. 5, T90N R4W, fate of nest undetermined (pers. obs.). POT-TAWATTAMIE COUNTY, 7 July 1977, in city limits of Council Bluffs, nest with three young, discovered by A.D. Peters. WOOD-BURY COUNTY, 1978, single young in nest along Maple River, Liston Twp., T86N R42W. The nest site was subsequently destroyed (Steve Duecker, pers. comm.).

There are no apparent ecological reasons why this species is as uncommon as indicated by our records. It is not uncommon in southwest Wisconsin.

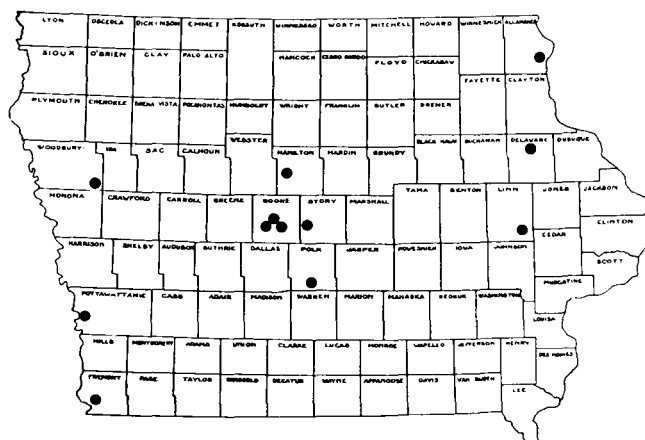


Fig. 6 Location of Broad-winged Hawk nests.

Swainson's Hawk *Buteo swainsoni* Bonaparte

Anderson (1907) listed the Swainson's Hawk as nesting from the

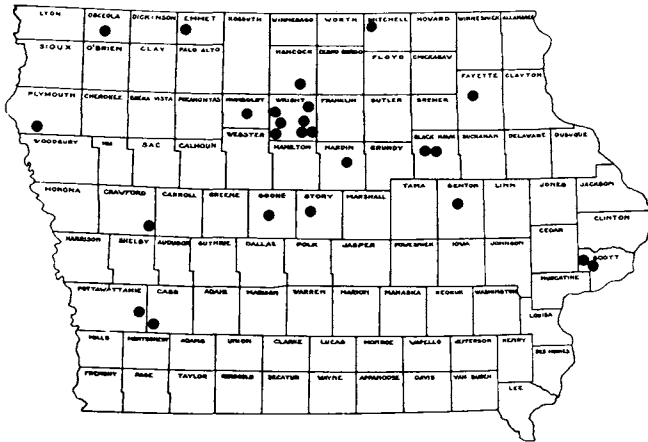


Fig. 7 Location of Swainson's Hawk nests.

central to the northern portions of the state. DuMont (1933) called it a summer resident of decidedly local distribution. Brown (1971) thought it was a rare breeding bird; Dinsmore et al. (1984) categorized it as a rare migrant and rare summer resident. This western raptor has an unusual range configuration, being common on the Great Plains, with fairly regular nesting occurrences in southeastern Minnesota (Green and Jansen, 1975), in north-central Illinois (Vernon Kleen, pers. comm.), and in northeastern Illinois (Keir, 1976). It would follow that nests should occur in eastern Iowa. It may be significant that more nests have been found in eastern and central Iowa than in the western portion of the state. These nesting centers may be part of a remnant population yet using the Mississippi River flyway.

There have been 19 published records of nesting Swainson's Hawks in Iowa since 1934. BENTON COUNTY, 1947 (Vane, 1947). BLACK HAWK COUNTY, 1977, 1979 (IBL 47:144; 49:59), 1987 (IBL 57:81; 57:120). BOONE COUNTY, 1966 (IBL 36:82). CASS COUNTY, 1956, (Carter, 1956). EMMET COUNTY, 1934 (Wolden, 1934). FAYETTE COUNTY, 1978 (IBL 48:72; Schaufenbuel, 1979). HARDIN COUNTY, 1978 (Bednarz, 1979b; IBL 48:72). HUMBOLDT COUNTY, 1959 (Carter 1959). OSCEOLA COUNTY, 1978 (IBL 48:72; 49:59). PLYMOUTH COUNTY, 8 May, 19 May 1958 (Youngworth, 1960a). POTTAWATTAMIE COUNTY, 1956 (Carter, 1956). SCOTT COUNTY, 1965, 1966 (IBL 36:82; Morrissey, 1968a). STORY COUNTY, 8 April, 6 May, 6 July, 1966 nest with three young (Knight, 1966). WRIGHT COUNTY, 1964 (Roosa, 1964), six young fledged from three nests.

The following records have either not been published or substantial new information is added to published references. BLACK HAWK COUNTY: Swainson's Hawks nested at Hartman's Reserve in Cedar Falls each 1976-1982. (Mary Duritsa, pers. comm.). The 1977 and 1979 nestings were reported (see above). In 1976, a nest was located in an oak in upland woods; in 1977, four young were produced from a nest in the immediate vicinity of the previous nest; in 1978, two young were produced from the same nest; in 1979, a new nest site nearby was chosen and at least two young fledged; in 1980, a new nest site was chosen, the birds nested, but no information is available on nest success; in 1981, adults were present, but no nest was located; in 1982, adults were present and one juvenile was seen in early August. CRAWFORD COUNTY, 16 July 1966, nest with two young in Green Ash (*Fraxinus pennsylvanica* Marsh) on edge of golf course along Hwy. 141 about 11 km. (five miles) west of Manning in Sec. 20 Iowa Twp., T82N R37W, (pers. obs.). HANCOCK COUNTY, Sec. 20, Avery Twp., T94N R23W, 20 April 1966, nest with two eggs in green ash in upland woodlot near the Iowa River, both adults present,

nesting attempt not successful (pers. obs.). MITCHELL COUNTY, 1984, young observed in nest in Walnut (*Juglans nigra* L.) in Sec. 21 Otranto Twp., T100N R18W. Adults seen each year since, but no additional nests found (Del Clausen, pers. comm.). OSCEOLA COUNTY, 1978-1982, Swainson's Hawks nested each year in the same grove of cottonwoods in Sec. 36, East Holman Twp., T99N R41W. In 1978, the nest failed due to storm and the adults were seen at the nest site through 29 September. In 1979, a new nest was partially complete by 29 April, but nesting again failed due to storm. In 1980, one dead young was found at the base of the nest tree after a storm, but a second young fledged. In 1982, the nest was again occupied (Dick Bierman, pers. comm.). WRIGHT COUNTY, 1964-1972. During studies on raptors during this period, nine Swainson's Hawk nests were located. Three were previously published (Roosa, 1964), but specific locations were not given. Information on the three published nest records follows, and locations are given for the six previously unpublished records: 1964, nest with three young in cottonwood tree in Sec. 25 Grant Twp., T92N R24W, all young fledged. 1964, nest with three eggs in green ash in Sec. 30, Iowa Twp., T92N R23W, nest destroyed by high winds. 1964, nest with three young in green ash in Sec. 31, Boone Twp., T93N R26W, all young fledged. 1965, nest with three young in cottonwood in Sec. 25 Grant Twp., T92N R24W (same site as previous year). 1965, nest with two young in American elm in Sec. 4, Blaine Twp., T91N R23W. 1965, adult incubating two eggs in American elm in Sec. 6, Pleasant Twp., T93N R23W, two young fledged. 1965, nest with three young in green ash in Sec. 31, Boone Twp. T92N R26W (same site as previous year). 1967, nest with two young in green ash in Sec 23 Liberty Twp., T92N R26W. 1972, nest with two young in dead American elm in open field in Sec. 16, Eagle Grove Twp., T91N R26W, both young fledged.

It is difficult to explain the low frequency of nest records from western Iowa, but it may simply be due to lack of observers.

FALCONIDAE

Peregrine Falcon *Falco peregrinus* Tunstall

Anderson (1907) stated the Peregrine Falcon was a rare summer resident in a very few favorable localities. Grant (1963) called it a rare summer resident in the northeast. Brown (1971) stated that it was a rare migrant. Dinsmore et al., (1984) categorized it as a rare migrant.

Published nest records for Iowa are: ALLAMAKEE COUNTY (Allert, 1939; Pierce, 1940); CLAYTON COUNTY (Allert, 1939); DUBUQUE COUNTY (Allert, 1939); LINN COUNTY (Burge,

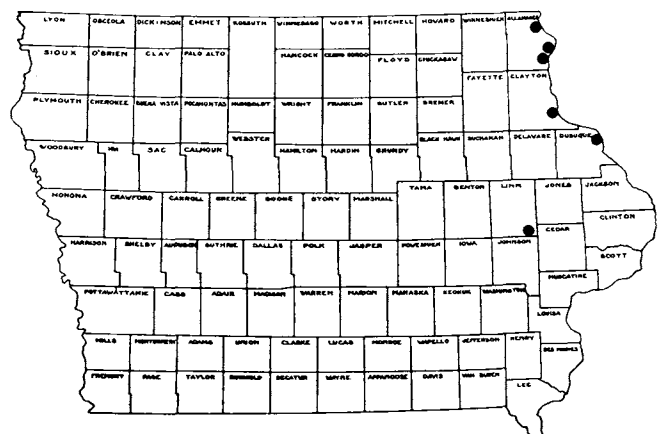


Fig. 8 Location of Peregrine Falcon nests.

1895; Bailey 1918). Both Burge and Bailey mention northeastern Johnson County and southeastern Linn County as nesting localities, but to us, only the Linn County portion looks suitable.

No nests of this falcon have been reported for over two decades. Perhaps the last nesting was in 1967, when downy young and two adults were seen in ALLAMAKEE COUNTY, north of Lansing (Steve Duecker, pers. comm.). Jack Musgrove (pers. comm.) reported seeing a nest with two eggs in ALLAMAKEE COUNTY in 1964.

The old nesting sites should be monitored for nesting pairs and protected as potential nest sites. The captive breeding program being carried out in the upper Midwest may be successful to the point where birds will spread south to Iowa.

TYTONIDAE
Common Barn-Owl *Tyto alba* (Scopoli)

Anderson (1907) termed the Common Barn-Owl a rare resident in the southern half of Iowa that very rarely appeared in the northern half. DuMont (1933) termed it rare in all parts of the state but more numerous in the south and west. Brown (1971) noted that it was statewide in distribution but that most recent records came from the east and central portions. Dinsmore et al. (1984) said that it was a rare permanent resident.

There have been 11 published Iowa records since 1950. ADAIR COUNTY, 1987, nest with 9 eggs in barn near Bridgewater, one fledged (nongame files, IDNR; IBL 57:121). CERRO GORDO COUNTY, 1952, nest with young (Knoop, 1952). CLARKE COUNTY, 6 August 1985, three young fledged from nest in barn in Sec. 4 Doyle Twp., T71N R27W (IBL 55:93, nongame files, IDNR).

CLINTON COUNTY, 19 July 1950, nest with four young (cited in Dinsmore et al., 1984). LINN COUNTY, 1960, nest with young in maple tree (cited in Dinsmore et al., 1984). MILLS COUNTY, 1979, two young fledged from nest in hollow tree in Sec. 32, T71N R41W (IBL 49:83). MONTGOMERY COUNTY, 1987, nest with three young in Sec. 14, Garfield Twp., T72N R39W, one fledged (IBL 58:20, nongame files, IDNR). SCOTT COUNTY, two nests with young (Morrissey, 1968b). WAYNE COUNTY, 25 June 1985, Sec. 7, Howard Twp., T67N R21W, nest with 11 eggs on shelled corn in grain bin, nest later destroyed (IBL 55:93, nongame files, IDNR). WOODBURY COUNTY, 1977, nest with four young in generating station in Liberty Twp., T87N R47W, (cited in Dinsmore et al., 1984).

Five nestings have apparently been unpublished. LEE COUNTY, 1 August 1982, nest with three young in hollow maple tree 5.5 km.

(2.5 mi.) north of Montrose, young later died (reported to IDNR nongame program by Les Nieland, conservation officer). LEE COUNTY, 30 June 1983, two young fledged from nest in Keokuk, Sec. 25, T65N R5W (information from Bob Cecil to Natural Areas Inventory program, IDNR). MILLS COUNTY, 5 May 1981, two young in hollow silver maple in Ingraham Twp., T73N R41W (pers obs.) SAC COUNTY, 1983 and 1984, nestlings verified near Schaller (information from Steve Dinsmore to nongame program, IDNR). WAYNE COUNTY, 9 July 1986, Sec. 9 Union Twp, T70N R21W, nest with five eggs, all hatched, three fledged, but one died soon after leaving nest (nongame files, IDNR).

Three probable nestings have occurred (not mapped). DALLAS COUNTY, 1986, three barn owls seen at Dawson grain elevator Sec. 10, Dallas Twp., T81N R29W in early September, two present on 27 October (information from Bob Myers to nongame program, IDNR). STORY COUNTY, 1986, Sec. 20, Franklin Twp., food-begging calls of three or four young heard in mid July, adult seen and another heard in June, actual nest not found. Owners saw three or four barn owls at same site in 1983 (nongame files, IDNR; IBL 56:116).

During 1982-1987, the nongame program of the Department of Natural Resources conducted a program of captive breeding and release of Common Barn-Owls. The captive breeding phase ended in 1987, at which time a total of 425 owls had been released at 43 sites in 28 counties. All released birds were banded and nest boxes erected at the site. No documented nestings of these banded birds occurred, but the restoration program induced great interest in barn owls which resulted in a great increase in reported sightings. For example, 45 sightings were verified during 1986. Placement of nest boxes at favorable locations will continue.

STRIGIDAE
Burrowing Owl *Athene cunicularia* (Molina)

Anderson (1907) considered this species common in LYON and SIOUX COUNTIES. Brown (1971) called it a rare nesting bird. Dinsmore et al. (1984) considered it a casual summer resident. Birkeland (1933) reported it nesting as far east as STORY COUNTY, and Youngworth (1958) presented a status report and commented on the decline of the species.

Since 1960, seven nesting attempts have been published. ADAIR COUNTY, 1980, nest with two young (IBL 50:76). CERRO GORDO COUNTY, 1987, adults and three young at burrow between road ditch and bean field in Sec. 2, Lincoln Twp., T97N R21W (IBL 58:20; Jim Dinsmore, pers. comm.). CHEROKEE

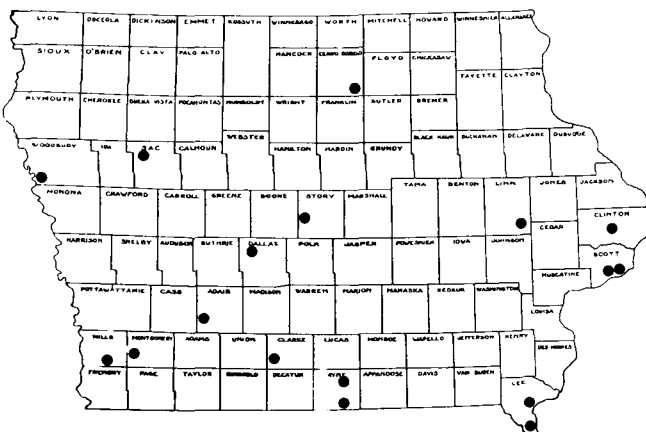


Fig. 9 Location of Common Barn-Owl nests.

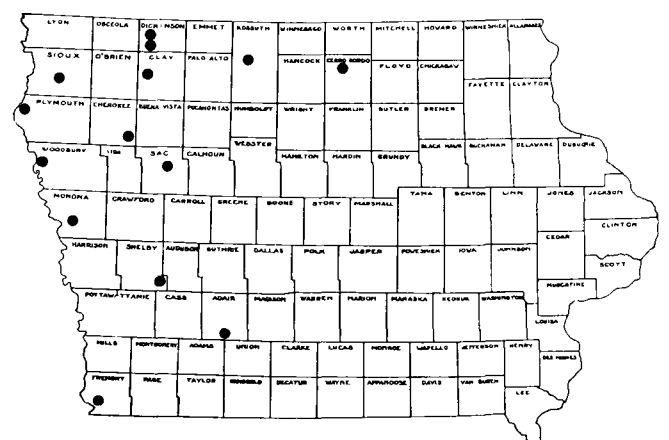


Fig. 10 Location of Burrowing Owl nests.

COUNTY, 5 June 1985 and later, Sec. 21 Pitcher Twp. adults and two young in burrow under a hoghouse (IBL 55:93, 55:126; Bierman, 1985). DICKINSON COUNTY, 1960, evidence of nesting on Caylor Prairie (Youngworth, 1960b). KOSSUTH COUNTY, 1980, Sec. 6, T96N R29W observed for several weeks using old badger den (IBL 50:76; Bob Moats, pers. comm.) no data on eggs or young. PLYMOUTH COUNTY, 1964, nest with four young near Akron (Bryant, 1964). WOODBURY COUNTY, 1966, burrow with three birds at the Sioux City airport. Birds had been present at this same site the two previous years (Hanna, 1966).

Seven nestings have not been previously published. CLAY COUNTY, 1981, adult incubating in burrow in crop field, Riverton Twp., T96N R37W, in June (Clint Fraley, pers. comm.; pers. obs.), fate of nest undetermined. DICKINSON COUNTY, 15 August 1976, Sec. 8, Lakeville Twp. T99N R37W, nest with two young in alfalfa field, successful fledging (pers. obs.). FREMONT COUNTY, 1986, pair observed several times in field near Payne Junction Sec. 34, T68N R43W, probable unsuccessful nesting (information from Barb Wilson to nongame program, IDNR). MONONA COUNTY, 1-8 June 1982, pair of adult owls in grassy corner of field in Sec. 1, Franklin Twp., T83N R45W. Adult seen taking prey to burrow, (pers. obs., accompanied by John Bowles) fate of nest unknown, but one adult was killed by a car later in the summer. The grassy corner has since been modified and is no longer suitable as nesting habitat for this species. SAC COUNTY, 1986, 4.4 km. (two miles) west of Sac City along Hwy 20, single adult observed during first week of June; pair observed at same locality on 5-6 and 8 August, three birds seen on 9 August, and during next two weeks (Wildlife Notes, IDNR, July-Sept, 1986; records of Iowa Natural Areas Inventory, IDNR). SHELBY COUNTY, summer 1984, three young and two adults seen at entrance to badger den in native prairie in Sec. 2, T78N R37W. Landowner Jim Carlsen had seen adult owls, but no young at this same site in 1982 and 1983 (nongame files, IDNR). SIOUX COUNTY, field on southeast edge of Sioux Center, T95N R45W, 2 August 1982, successful nest with two young fledged, field converted to housing site in following year (Doug Harr, field report to Iowa Natural Areas Inventory, IDNR).

The nests described above were discovered accidentally or coincidental to other projects. A systematic search of western Iowa for Burrowing Owl nests is needed.

Long-eared Owl *Asio otus* (Linnaeus)

Anderson (1907) considered the Long-eared Owl a "tolerably common resident in all parts of the state." DuMont (1933) felt that it

was an uncommon or somewhat rare resident in all parts of the state, breeding in suitable locations. Brown (1971) said that it was an uncommon winter resident, rare permanent resident. Dinsmore et al. (1984) considered it a rare nester.

Since 1940, nine reports are the only published nesting records found for Iowa. ALLAMAKEE COUNTY, 6 June 1978, single dead nestling found in pine grove (Koenig, 1979). BOONE COUNTY 28 June 1986, nest in old crow nest in Red Cedar (*Juniperus virginiana* L.) tree in Sec. 5, Douglas Twp., T82N R26W; fledgling on ground (nongame files, IDNR; IBL 56:117). DECATUR COUNTY, "early 1940's" at Lamoni (cited in Brown, 1971). LUCAS COUNTY, 4 May 1979, nest with two young (Jackson, 1979). MARION COUNTY, 1976, nest with five eggs (Voight and Moore, 1977). PAGE COUNTY, 1979, nest found in Pine grove in county park in Sec. 22, T69N R36W, eggs or young not specified (IBL 49:60). PLYMOUTH COUNTY, "early 1950's" near Akron (cited in Brown, 1971). WEBSTER COUNTY, 3 June 1987, two adults, one recently fledged young near nest in pine plantation in Sec. 34, T88N R27W, Brushy Creek Recreation Area (Doug Reeves, pers. comm.; IBL 57:121). WINNESHIEK COUNTY, 1982, nest with four young in pine grove in Sec. 25, T97N R10W, all fledged, last seen on 28 July (IBL 52:91; Russell Baldner, pers. comm.).

We found 12 records unpublished or to which substantial information is added. CALHOUN COUNTY, 8 May 1959, Sec. 35, Butler Twp., T89N R33W, nest with three young in cavity of Siberian Elm (*Ulmus pumila* L.) in farm grove, two successfully fledged (pers. obs.). CASS COUNTY, 1983, Sec. 32, T75N R37W, nest with four young, all fledged, one later killed by car (Craig Hensley, pers. comm.). CHEROKEE COUNTY, Sec. 35, Cedar Twp. T93N R40W, owls occupied Wood Duck house in cottonwood tree during the years 1978-1981 (Ed Nelson, pers. comm.). CLARKE COUNTY, 1984, nest with four young in pine grove in Sec. 15, Green Bay Twp., T71N R25W. (Beth Brown, pers. comm.). CLARKE COUNTY, 1986, same nest site as in 1984, three young seen on 23-29 May, added egg found on 29 May, nest empty on 4 July (Beth Brown, pers. comm.). MARION COUNTY, 1982, one young fledged from nest in Sec. 6, Lake Prairie Twp., T77N R18W (pers. obs.). MARION COUNTY, 1983, same site as previous year, nest with two young (pers. obs.). PAGE COUNTY, in addition to the above reported nesting from Page County, nests were found in the same grove of pines in 1980 and 1981. In 1979, three young hatched but died at about seven days; in 1980, four young fledged; in 1981, four young fledged (pers. obs.; Dan Varland, pers. comm.).

This species prefers to inhabit old crow nests in conifer stands. With the large number of such stands, it is very likely we underestimate the number of nesting pairs.

Short-eared Owl *Asio flammeus* (Pontoppidan)

Anderson (1907) felt that this species was a "tolerably common resident in most parts of the state." DuMont (1933) stated that it was a rare summer resident in the northern part. Brown (1971) considered it a rare permanent resident, and Dinsmore et al. (1984) termed it a rare nester.

Since 1950 three nestings or probable nestings have been published. BENTON COUNTY, near Dysart, nest with eggs, 1964 (discovered by Bill R. Ohde, cited in Dinsmore et al. 1984). HOWARD COUNTY, Hayden Prairie, 16 May 1981, nest with seven eggs, young seen through 4 August (J. Dunnette, pers. comm.; IBL 51:118; Baldner, 1984). JOHNSON COUNTY, 1961, adults possibly feeding young (F.W. Kent records, cited in Dinsmore et al. 1984). There is a record of nine Short-eared Owls seen on Hayden Prairie, Howard County, 15 June 1958 (Hays, 1958). Additionally, there have been at least eight other Iowa records of the Short-eared Owl in summer, most in August. An additional sighting of a single

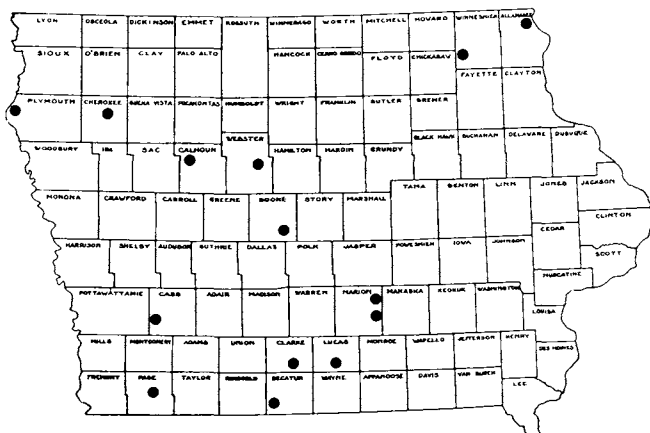


Fig. 11 Location of Long-eared Owl nests.

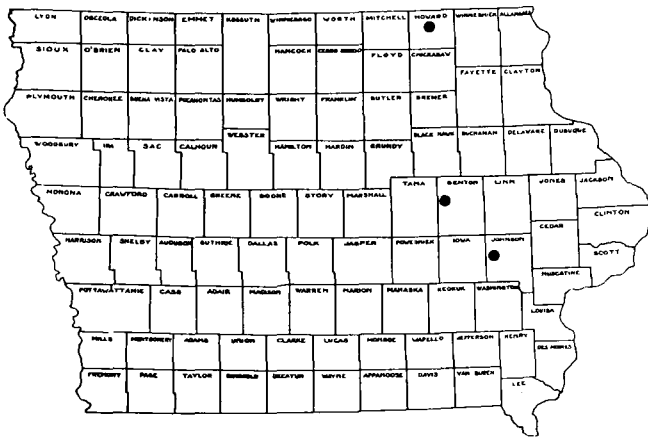


Fig. 12 Location of Short-eared Owl nests.

adult bird was 10 July 1986 at Wolters Prairie, OSCEOLA CO., NW $\frac{1}{4}$ Sec. 9, T99N R40W (pers. obs.).

Iowa's larger prairie tracts should be monitored for nesting Short-eared Owls, as the number of summer records indicates we may be overlooking nesting pairs. As with other ground nesting raptors, extreme caution should be exercised when searching for nests.

Potential nesters: There are two species which have had no valid nesting records, but which may on occasion nest in Iowa, or which should be encouraged to nest in the state.

Northern Saw-whet Owl *Aegolius acadicus* (Gmelin)

Although no validated nesting has occurred in Iowa, Anderson (1907) mentioned nesting having occurred across the river from Omaha. Also, a summer occurrence of 11 July 1967 has been reported (IBL 37:65). Normal nesting range for the species occurs south in Minnesota to near Minneapolis (Green and Janssen, 1975). There seems to be an abundance of suitable habitat in extreme northeast Iowa.

Osprey *Pandion haliaetus* (Linnaeus)

The only published report of the Osprey nesting in Iowa is an addled egg taken from a nest containing three young from along the Cedar River (Bailey, 1918). The Records Committee of the Iowa Ornithologists' Union did not consider the evidence suitable for inclusion of the Osprey as a nesting member of Iowa's avifauna.

With the increasing number of ospreys passing through Iowa on migration, and with the several large reservoirs present, this species might be encouraged to nest if nest platforms were erected. These platforms have been very successful in other parts of the United States.

DISCUSSION

The last extensive treatise on Iowa raptors was in 1918 by Bailey. Since then, the character of Iowa's raptorial avifauna has changed drastically. The following species no longer nest in Iowa or do so in greatly reduced numbers: Northern Harrier, Sharp-shinned Hawk, Red-shouldered Hawk, Peregrine Falcon, Common Barn-Owl, Burrowing Owl, Long-eared Owl, and Short-eared Owl. We have regained the regular nesting of the Bald Eagle, and, with good management of our landscape, perhaps we could encourage the Osprey to nest here.

ACKNOWLEDGEMENTS

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ADDENDUM

After submission of the manuscript, the following records came to our attention:

Turkey Vulture

MARION COUNTY, 1987, young in cave in bluff in Elk Rock State Park in Sec. 32 T77NR19W. POLK COUNTY 4 August 1986, two young in maple tree in Chichaqua Wildlife area T81NR22W. WAYNE COUNTY, 6 June 1986, 1 June 1987, fledgling seen by Mary Montgomery in Wright Twp. T70NR20W (all from non-game files, IDNR).