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Nesting Status of the Cooper's Hawk in Iowa: 1988-1996

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The Cooper's Hawk was once considered a common nesting species in Iowa. Organochlorine pesticides and their residues, along with habitat loss contributed to its decline throughout the Midwest after the 1940's. This species was classified as endangered in Iowa in 1984, but recent trends in nests found indicate that the population of these hawks has increased. Since April 1988, 53 nests have been discovered in Iowa. Due to the apparent population growth, this species was removed from Iowa's endangered species list in 1994.

INDEX DESCRIPTORS: Cooper's hawk, endangered species, nesting status.

The Cooper's Hawk (*Accipiter cooperii*) nests throughout the United States, parts of southern Canada, and northern Mexico (Palmer 1988). As late as 1933 the Cooper's Hawk was considered a fairly common nesting raptor in Iowa and was found statewide (Anderson 1907, Bailey 1918, DuMont 1933, Roosa and Stravers 1989). However, after the introduction of organochlorine biocides and their residues in the late 1940's its numbers declined throughout its range (Henny and Wight 1972, Hickey and Anderson 1968, Pattee et al. 1985, Snyder et al. 1973). These pesticides along with the elimination of more than 40% of Iowa's woodlands (Thomson and Hertel 1981) probably contributed to its decline in Iowa where it became listed as an uncommon permanent resident (Grant 1963, Brown 1971). In 1977 it was listed as a threatened species in the state (Roosa 1977), and then as an endangered species by the Iowa Department of Natural Resources in 1984 (Daryl Howell, pers. comm.). Roosa and Stravers (1989) listed only 16 published and six unpublished nest records between the 1930's and 1987.

METHODS

Intensive nest searching was done during the 1988 and 1989 nesting seasons. Portions of historic nesting areas (Stephens State Forest [Lucas Co.], Effigy Mounds National Monument [Allamakee Co.], and Yellow River State Forest [Allamakee Co.]) were intensively searched for nesting Cooper's Hawks. A flyer was distributed with all spring 1989 turkey hunting licenses requesting information from hunters that observed Cooper's Hawk breeding behavior (i.e., warning calls, nest building). A similar request for information was published in the *Des Moines Register* (Stone 1989). Many birders, falconers, and other potential observers were informed of this project. They aided in the location of nesting sites in the state.

Historic nesting areas, as well as some areas with reported territorial hawks, were searched on foot. Recordings of conspecific vocalizations of the Cooper's Hawk warning calls were used as they have been shown to be effective in locating territorial birds (Rosenfield et al. 1985, Rosenfield and Andersen 1988). Recordings of Great Horned Owl (*Bubo virginiana*) calls were also used as they have also been shown to be effective in eliciting responses from nesting

Cooper's Hawks (Fuller and Mosher 1987). On days with adverse weather conditions, (i.e., high winds, heavy rain) taped calls were not used and the woods were searched for stick nests considered potential active Cooper's Hawk nests. If a bird was not seen on or near the nest, the tree was marked with fluorescent flagging and revisited later to determine usage. Literature searches and personal inquiries were conducted to determine nesting in Iowa between 1990 and 1996.

RESULTS

Along with a previously undocumented nest from 1987, 22 nests were discovered by myself and other individuals during the 1988 and 1989 nesting seasons. Since April 1990, 31 more nests have been discovered, many cited in the field reports section of *Iowa Bird Life* (Fig. 1).

ALLAMAKEE COUNTY: (1) 1987, private property, Sec 27 T96N R3W, nest with young (Rick Trudo, pers. comm.). (2) 1988, private property, Sec 33 T96N R3W, nest with three young (pers. obs.). (3) 1988, Yellow River State Forest, nest with four young (pers. obs.). (4) 1989, Yellow River State Forest, nest with adult incubating (pers. obs.). (5) 1989, Yellow River State Forest, nest with adult incubating (pers. obs.). (6) 1989, Effigy Mounds National Monument, nest building (pers. obs.). (7) 1994, Yellow River State Forest, nest with four young (Tom Deckert, pers. comm.). (8) 1996, Effigy Mounds National Monument, nest with territorial adults (Chris Edwards, pers. comm.; Kent 1996). APPANOOSE COUNTY: (1) 1990, south of Moulton, nest (S. J. Dinsmore 1990). (2) 1990, Rathbun Lake, nest with territorial adult (Ray Cummins, pers. comm.). BLACK HAWK COUNTY: 1990, Hartman Reserve Nature Center, nest with at least one nestling (James Reidy, pers. comm.). BOONE COUNTY: (1) 1989, Holst State Forest Preserve, nest with three young (pers. obs.). (2) 1989, State 4-H Camp, nest with adult incubating (Marty Wimmer, pers. comm.). (3) 1991, State 4-H Camp, nest with adult incubating (Stephen J. Dinsmore, pers. comm.; Kent et al. 1991). CLARKE COUNTY: 1989, private property, Sec 10 T73N R25W, nest with adult incubating (pers. obs.). CLAYTON COUNTY: (1) 1988, Pike's Peak State Park, nest with three young (pers. obs.). (2) 1989, private property, Sec 30 T91N R1W, nest with territorial adults (Jerry Kaufman, pers. comm.). (3) 1989, private property, Sec 1 T91N R5W, nest with adult incubating (Bill

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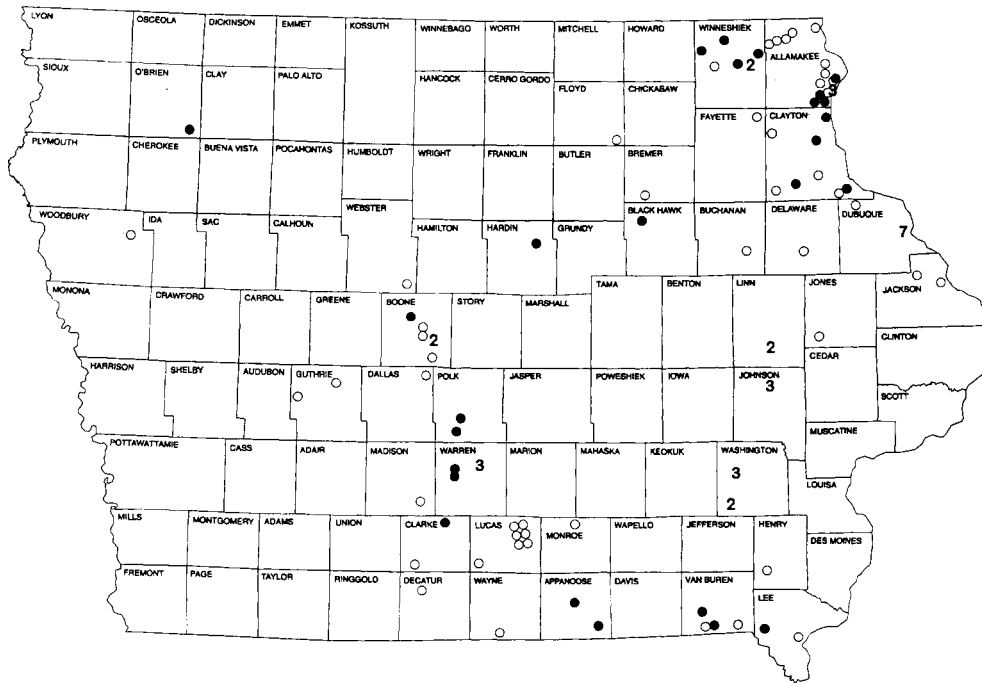


Fig. 1. Distribution of Cooper's Hawk nests, 1988–1996 (dots; numbers indicate multiple nests), and localities where Cooper's Hawks were reported exhibiting nesting or breeding behavior but nest not located, 1988–1989 (open dots).

Wilhelm, pers. comm.). (4) 1996, near Garnavillo, nest (Dinsmore 1996). DUBUQUE COUNTY: (1) 1989, Loras College campus, nest with territorial adults (Joe Kapler, pers. comm.). (2) 1990, Loras College campus, nest with three young (Joe Kapler, pers. comm.). (3) 1991, Loras College campus, nest with five young (Joe Kapler, pers. comm.). (4) 1992, Loras College campus, nest with five young (Joe Kapler, pers. comm.). (5) 1993, Loras College campus, nest with two young (Joe Kapler, pers. comm.). (6) 1994, Loras College campus, nest with three young (Joe Kapler, pers. comm.). (7) 1995, Loras College campus, nest with four young (Joe Kapler, pers. comm.). HARDIN COUNTY: 1989, Hardin County Conservation Board Headquarters, nest with three young (pers. obs.). JOHNSON COUNTY: (1) 1993, Macbride Nature Recreation Area, nest with young (pers. obs.). (2) 1995, Macbride Nature Recreation Area, nest with four young (pers. obs.). (3) 1996, Macbride Nature Recreation Area, nest with two young (Brian Wiebler, pers. comm.). LEE COUNTY: 1989, Shimek State Forest, nest with territorial adults (Mike Stegman, pers. comm.). LINN COUNTY: (1) 1995, Indian Creek Nature Center, nest with two young (Dale Fye, pers. comm.; J. J. Dinsmore 1995). (2) 1996, Indian Creek Nature Center, nest with at least two young (Dale Fye, pers. comm.). O'BRIEN COUNTY: 1996, Waterman Creek Prairie Wildlife Area, nest with adult incubating, (Darwin Koenig, pers. comm.; Kent 1996). POLK COUNTY: (1) 1992, Brown's Woods, nest with two young (Jim Sinclair, pers. comm.; J. J. Dinsmore 1992). (2) 1993, Jester Park, nest (Bery Engebretsen, pers. comm.; J. J. Dinsmore 1993). VAN BUREN COUNTY: (1) 1988, Lacey-Keosauqua State Park, nest with two young (pers. obs.). (2) 1989, private property, Sec 11 T67N R10W, nest (Linn Smith, pers. comm.). WARREN COUNTY: (1) 1988, Woodland Mounds County Park, nest with four young (pers. obs.). (2) 1990, Woodland Mounds County Park, nest with at least one young (Jim Sinclair, pers. comm.; S. J. Dinsmore 1990). (3) 1995, Woodland Mounds County Park, nest with adult incubating (Jim Sinclair, pers. comm.; Kent 1995). (4) 1996, Lake Ahquabi

State Park, nest with adult incubating (Jim Sinclair, pers. comm.; Kent 1996). (5) 1996, Lake Ahquabi State Park, nest with adult incubating (Jim Sinclair, pers. comm.; Kent 1996). WASHINGTON COUNTY: (1) 1991, Britton Timber, nest (Don Conry, pers. comm.). (2) 1993, private property, Sec 8 T77N R8W, nest with at least one young (Lefty Wilson, pers. comm.). (3) 1994, private property, Sec 8 T77N R8W, nest with at least one young (Lefty Wilson, pers. comm.). (4) 1995, private property, Sec 8 T77N R8W, nest with at least one young (Lefty Wilson, pers. comm.). (5) 1995, Britton Timber, nest with territorial adults (Lefty Wilson, pers. comm.). WINNEBIEK COUNTY: (1) 1988, Bluffton Fir Stand State Preserve, nest with four young (pers. obs.). (2) 1988, Cardinal Marsh State Wildlife Area, nest with adult incubating (pers. obs.). (4) 1989, Coon Creek State Wildlife Area, nest with three young (Darwin Koenig, pers. comm.). (5) 1989, Coon Creek State Wildlife Area, nest with two young (Darwin Koenig, pers. comm.). (6) 1990, Decorah, nest (J. J. Dinsmore 1990).

Cooper's Hawks were reported exhibiting nesting behavior in 51 other areas throughout the state in 1988 and 1989, but no nests were discovered (Fig. 1).

DISCUSSION

Based on a comparison of the number of sightings of territorial birds and the number of nests discovered to those of recent historic records, it appears that the Cooper's Hawk is nesting more frequently in Iowa since its recent decline. A study in Wisconsin also found the Cooper's Hawk to have rebounded from earlier declines and to be statewide in distribution (Rosenfield and Anderson 1983). They found no factor limiting its breeding in that state and the bird was delisted from its threatened status. Likewise, the Iowa Department of Natural Resources delisted the hawk from its endangered species list in 1994 (Daryl Howell, pers. comm.).

Most of the nests were found in extensive upland forests (pers. obs.). Further intensive searching of certain areas, i.e., Yellow River State Forest, Shimek State Forest, may reveal how densely Cooper's Hawks are nesting and whether they are nesting randomly or utilizing all potential nesting habitat. This would further our understanding of their actual nesting status in Iowa.

The nesting of the Cooper's Hawk on the Loras College campus in Dubuque suggests that the hawk can and will adjust to fragmented woodland and suburban areas in Iowa. In highly fragmented forests and suburban areas of Wisconsin, Rosenfield et al. (1996) found nesting Cooper's Hawks to have high nesting densities, large clutch sizes and a large number of "bandable young".

The future success of Cooper's Hawk nesting in Iowa is dependent on the preservation of the nesting habitat to which they are primarily adapted (typically upland oak-hickory woodlands), along with the bird's continued adjustment to suburban nest sites.

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LITERATURE CITED

- ANDERSON, R. M. 1907. The birds of Iowa. Proceedings of the Davenport Academy of Science 11:125-417.
- BAILEY, B. H. 1918. The raptorial birds of Iowa. Iowa Geological Survey Bulletin No. 6 238 p.
- BROWN, W. H. 1971. An annotated list of the birds of Iowa. Iowa State Journal of Science. 45:387-469.
- DINSMORE, J. J. 1990. Field reports—Summer 1990. Iowa Bird Life 60: 100-107.
- DINSMORE, J. J. 1992. Field reports—Summer 1992. Iowa Bird Life 62: 104-112.
- DINSMORE, J. J. 1993. Field reports—Summer 1993. Iowa Bird Life 63: 93-100.
- DINSMORE, J. J. 1995. Field reports—Summer 1995. Iowa Bird Life 65: 95-101.
- DINSMORE, J. J. 1996. Field reports—Summer 1996. Iowa Bird Life 66: 129-136.
- DINSMORE, S. J. 1990. Field reports—Spring 1990. Iowa Bird Life 60: 64-74.
- DUMONT, P. A. 1933. A revised list of the birds of Iowa. Iowa City: University of Iowa Studies of Natural History, 15:1-171.
- FULLER, M. R. and J. A. MOSHER. 1987. Raptor survey techniques. Pages 37-65. *In* Raptor management techniques manual. B. A. Giron Pendleton, B. A. Millsap, K. W. Cline, and D. M. Bird, eds. National Wildlife Federation, Washington, D. C.
- GRANT, M. L. 1963. A checklist of Iowa birds, coded with status symbols. Iowa Bird Life 33:50-62.
- HENNY, C. J. and H. M. WIGHT. 1972. Population ecology and environmental pollution: Red-tailed and Cooper's Hawks. Pages 229-250. *In* Population ecology of migratory birds. C. J. Henny and H. M. Wight, eds. U. S. Fish and Wildlife Service, Wildlife Research Report 2.
- HICKEY, J. J. and D. W. ANDERSON. 1968. Chlorinated hydrocarbons and eggshell changes in raptorial and fish eating birds. Science 162:271-273.
- KENT, T. H. 1995. Field reports—Spring 1995. Iowa Bird Life 65:69-79.
- KENT, T. H. 1996. Field reports—Spring 1996. Iowa Bird Life 66:99-109.
- KENT, T. H., J. L. FULLER and C. J. BENDORF. 1991. Field reports—Spring 1991. Iowa Bird Life 61:88-98.
- PALMER, R. S. 1988. Handbook of North American birds. Volume 4, Diurnal Raptors Part I. Yale University Press, New Haven.
- PATTEE, O. H., M. R. FULLER and T. E. KAISER. 1985. Environmental contaminants in eastern Cooper's Hawk eggs. Journal of Wildlife Management 49:1040-1044.
- ROOSA, D. M. 1977. Endangered Iowa birds. Iowa Preserve Board Special Report 4. Des Moines, IA: State of Iowa. 25 p.
- ROOSA, D. M. and J. W. STRAVERS. 1989. Nesting of raptors uncommon in Iowa: summary and new records. Journal of the Iowa Academy of Science 96:41-49.
- ROSENFELD, R. N. and R. K. ANDERSEN. 1983. Status of the Cooper's Hawk breeding in Wisconsin. Wisconsin Department of Natural Resources. Unpublished Report, Study No. 208.
- ROSENFELD, R. N. and R. K. ANDERSEN. 1988. Effect of broadcast calls for detecting breeding Cooper's Hawks. Wildlife Society Bulletin 16:210-212.
- ROSENFELD, R. N., J. BIELEFELDT, J. L. AFFELDT, and D. J. BECKMANN. 1996. Urban nesting biology of Cooper's Hawks in Wisconsin. Pages 41-44. *In* Raptors in human landscapes. D. M. Bird, D. E. Varland, and J. J. Negro, eds. Academic Press, San Diego.
- ROSENFELD, R. N., J. BIELEFELDT, R. K. ANDERSEN and W. A. SMITH. 1985. Taped calls as an aid in locating Cooper's Hawk nests. Wildlife Society Bulletin 13:62-63.
- SNYDER, N. F. R., H. A. SNYDER, J. L. LINCER and R. T. REYNOLDS. 1973. Organochlorines, heavy metals, and the biology of North American accipiters. BioScience 23:300-305.
- STONE, L. 1989. In the open. Des Moines Register. 1989 April 13: 3S.
- THOMSON, G. W. and H. G. HERTEL. 1981. The forest resources of Iowa in 1980. Proceedings of the Iowa Academy of Science 88:2-6.