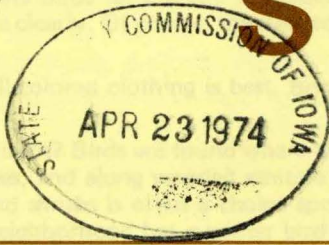


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# IOWA

# BIRD

# STUDY



## BIRD STUDY FOR SCHOOLS

Would you like to know more about birds? Perhaps these hints on how to study birds will help you.

What equipment do we need? Field glasses or binoculars are fun to own and use, but you can have fun without them. A good field guide or book is very important. Such a book will have colored pictures of nearly every bird. It will tell you what markings or behavior to look for. Roger Tory Peterson's "Field Guide to the Birds" Richard Pough's "The Audubon Bird Guide", and the Golden Nature Guide "Birds", by Dr. Zim and Dr. Gabrielson are excellent guides.

A small pocket mirror is a handy gadget to have on a bird walk. Reflected sunlight can be used as a pointer to locate birds for a group of students. Light from the mirror will show color of feathers more clearly. Of course, the sudden flash of light may frighten the bird you are watching.

What shall we wear? Dull-colored clothing is best. Birds may be frightened by flashy colors.

Where shall we look for birds? Birds are found where there is food and shelter. Brushy fencerows, along marsh edges, and along wooded streams are good places to look. A city park that has both trees and shrubs is often a choice spot, especially in spring and fall. Perhaps someone in your neighborhood has a winter bird feeder. Winter birds will gather there.

When shall we go? Early morning is best in spring and summer. Late afternoon is best in the fall. Anytime of the day is good in wintertime. Those are "meal times" for most birds. They sing and move about more at those times. A windless day is best. Moving leaves and branches hide bird movements. Wind noise drowns out bird songs.

Let's pretend that the pupils in your schoolroom are ready to take a bird walk. The quickest way to learn to recognize birds is to go with someone who already knows them. If there is someone in your neighborhood who knows birds you should ask them to go with you and first few times. A boy scout who has earned a merit badge in bird study should be able to recognize most common birds. Perhaps you can find someone whose hobby is bird feeding or bird study. These people will usually be glad to help you and they can save you much time and many mistakes. I will be your leader this time. Next time your teacher or someone else can lead you.

It is best if there are only 10 or 12 or even less in one group. A larger number is all right if we do not move around too much or make too much noise. We have agreed that any one who spoils our fun by loud talking, horseplay, or unnecessary movements must leave the group and return to the schoolroom.

We have already talked about why we're studying birds. We have learned that birds are valuable to man and other living things. We want to be able to recognize them. We want to learn more about them and their habits. Then we can fit birds into our plans for better use of all our natural resources.

As we draw near to likely-looking spots (where birds can find shelter, food and water) let's stand very quietly and listen for at least three or four minutes. How many different bird sounds can you hear? Start a bird list with all those you recognize, such as the crow, mourning dove, English sparrow, blue jay, etc.



A bird list is an important part of your days study. Your list will be sort of a score card to measure your success. Probably you will hear four or five songs that you do not recognize. Let's walk slowly toward the nearest of these mysterious sounds. If we can, we'll circle slowly to get the sun behind us. This makes it easier for us to see the bird and harder for the bird to see us. Slow and easy does it! The group stays close together, no one talks, and every movement is slow. If the bird stops singing or gets restless, we stop. There he is!

This is close enough for now. If the bird is singing it is probably a male. Does anyone know him? Let's compare his size with that of some bird we know well. What color is he? Can you see any unusual marks? Is the tail and bill long or short? Someone make some notes on his appearance and song. Someone else look through the field guide for his picture. Let's not try to move closer until we know his name or need a better look. Our next movement may mean our last look at this fellow.

One at a time, and softly, let's take turns trying to imitate his song or call. If he hears a fairly good imitation, he may come toward us. His jealousy of other male birds of his kind may overcome his fear of us. Do not move if you want him to come close to you.

If it is nesting season, "squeaking" may bring birds closer to us. Make a squealing sound by kissing the back of your hand or whistling through your teeth. Only one at a time now, and softly. The noise should sound like a baby bird in trouble.

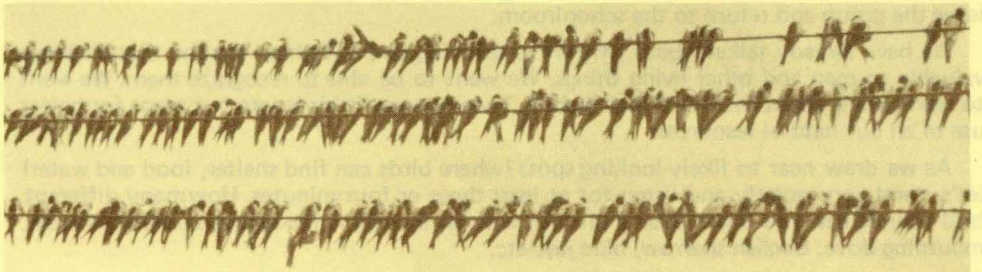
If we cannot find our mystery bird's picture and description in our field guide in a few minutes, we'll try to get a little closer and get a better look. Move very slowly and quietly. Stand still when he stops singing. Look, listen, and use your field guide - - these are the secrets of learning to know birds.

If we still don't know his name, let's try to decide to which family or group our mystery bird belongs. Then we can use the index of our field guide to find names and pictures of birds in that group.

Here is a simple table which may give you some hints as to a strange bird's family. The table is not sure-fire. For example, most birds look "dark above and light below", but not all birds perch quietly. Flycatchers usually do, but not always. A bird may fit the description for several families and not belong to any of them. Maybe you think our table isn't much good. Why doesn't your class work out a better one?

Habits and behavior are good clues to a bird's family. Warblers usually will be seen looking for insects on branches and under leaves. Swallows are insect eaters, too, but they usually catch their food as they swoop through the air. So do flycatchers. Creepers and nuthatches hunt insects as they climb up and down trunks and main branches. Finches, sparrows, and grosbeaks are seed eaters. We'll usually find them looking for seeds on the ground, on weeds, and on trees and shrubs. As you study birds more, their habits and manners often tell you their name, even before you can see their color.

Many families of birds have been left out of our table. Only commonest families of roadside and woods birds are listed.





## BIRD FAMILY DESCRIPTIONS

SIZE	DESCRIPTION	FAMILY
Very small	Tiny, greenish gray above, light below	Kinglets
Smaller than a sparrow	Yellow, black or brown markings, slender bill.	Warblers
Smaller than a sparrow	Restless, brown. Tail sticks up. Loud singers.	Wrens
Smaller than a sparrow	Brown. Climbs up tree trunks. Slender curved bill.	Creepers
Smaller than a sparrow	Dark above. Comes down tree trunks head-first. Bill long, slants upwards.	Nuthatches
Sparrow size	Gray, long tails, seldom still, may hang upside down.	Chickadees & Titmice
Sparrow size	Sparrow-like. Short, stout bill.	Sparrows (Many kinds)
Sparrow size	Dark above, light below, graceful flight.	Swallows
Robin and smaller	Gray or black above, light below. Sits quietly on perch (often dead branches).	Flycatchers
Robin and smaller	Short, stout bill. Usually bright colored	Finches or or grosbeaks
Robin size	Long tails, good singers.	Mockers (brown thrashers, catbird, mocking bird).
Robin size	Spotted breasts. Found in dense cover (usually).	Thrushes



## CHECK LIST OF IOWA BIRDS

The following is a list of birds that to date have been recorded for the State of Iowa. All are represented by specimens. It is a generally accepted rule that no species of birds shall be admitted to a state list unless a specimen has been taken and is either preserved in some collection or has been critically examined by a competent ornithologist.

The common name given is according to the nomenclature form the fifth edition of the American Ornithologists' Union check list and supplements to this check list that have been made in recent years.

On this list the status is simply the over-all picture of the species in this state. Some listed as migrant may remain throughout the year and some listed as migrant may also nest in the state in small numbers. In this paper the status is meant only to give the over-all concept of the species in this area.

The purpose of this paper is to make available a complete list of the birds of Iowa and to give the relative abundance of each species.

### Legend for Bird Status

A . . . . .	Accidental	RPR . . . . .	Rare permanent resident
C . . . . .	Common	RSR . . . . .	Rare summer resident
E . . . . .	Extinct	RSV . . . . .	Rare summer visitor
R . . . . .	Rare	RWM . . . . .	Rare winter migrant
CM . . . . .	Common migrant	RWV . . . . .	Rare winter visitor
IS . . . . .	Introduced Species	USR . . . . .	Uncommon summer resident
PE . . . . .	Probably extinct	UWV . . . . .	Uncommon winter visitor
PR . . . . .	Permanent resident	AMSR . . . . .	Abundant migrant and summer resident
RM . . . . .	Rare migrant	CMSR . . . . .	Common migrant and summer resident
RR . . . . .	Rare resident	ISCR . . . . .	Introduced species - common resident
UM . . . . .	Uncommon migrant	RMSR . . . . .	Rare migrant and summer resident
VR . . . . .	Very rare	UMSR . . . . .	Uncommon migrant and summer resident
WV . . . . .	Winter visitor	AMCWR . . . . .	Abundant migrant and common winter resident
APR . . . . .	Abundant permanent resident	WMRPR . . . . .	Winter migrant and rare permanent resident
ASR . . . . .	Abundant summer resident		
CPR . . . . .	Common permanent resident		
CSR . . . . .	Common summer resident		
CWR . . . . .	Common winter resident		
CWV . . . . .	Common winter visitor		
UR . . . . .	Uncommon resident		

### IOWA BIRDS

Common Names	Status	Common Names	Status
Common Loon . . . . .	RM	Glossy Ibis . . . . .	RV
Lesser Loon . . . . .	UM	White-faced Ibis . . . . .	RV
Artic Loon . . . . .	A	Mute Swan . . . . .	A
Red-throated Loon . . . . .	RM	Whistling Swan . . . . .	UM
Red-necked Grebe . . . . .	RM	Trumpeter Swan . . . . .	A
Horned Grebe . . . . .	UM	Canada Goose . . . . .	CM
Eared Grebe . . . . .	UMSR	Lesser Canada Goose . . . . .	UM
Western Grebe . . . . .	RM	Huthin's Goose . . . . .	UM
Pied-billed Grebe . . . . .	CSR	White-fronted Goose . . . . .	CM
White Pelican . . . . .	CM	Lesser Snow Goose . . . . .	CM
Eastern Brown Pelican . . . . .	A	Ross Goose . . . . .	VR
Double-crested Cormorant . . . . .	CM	Blue Goose . . . . .	CM
Anhinga . . . . .	A	Mallard . . . . .	CMSR
Magnificent Frigate-Bird . . . . .	A	Black Duck . . . . .	CM
Great Blue Heron . . . . .	CMSR	Gadwall . . . . .	CM
Ward's Heron . . . . .	R	Pintail . . . . .	CM
Eastern Green Heron . . . . .	CMSR	Green-winged Teal . . . . .	CM
Little Blue Heron . . . . .	RSV	Blue-winged Teal . . . . .	CMSR
Cattle Egret . . . . .	A	Cinnamon Teal . . . . .	RM
Common Egret . . . . .	CSR	European Widgeon . . . . .	A
Snowy Egret . . . . .	RSV	American Widgeon . . . . .	CM
Black-crowned Night Heron . . . . .	CMSR	Shoveler . . . . .	CM
Yellow-crowned Night Heron . . . . .	RSR	Wood Duck . . . . .	CMSR
Eastern Least Bittern . . . . .	CMSR	Redhead . . . . .	CMSR
American Bittern . . . . .	CMSR	Ring-necked Duck . . . . .	CM
Wood Ibis . . . . .	RV	Canvasback . . . . .	CM



Common Names	Status
Greater Scaup	RM
Lesser Scaup	CM
Common Goldeneye	CM
Oldsquaw	RM
Bufflehead	CM
Western Harlequin Duck	A
Common Eider	A
King Eider	A
White-winged Scoter	UM
Surf Scoter	UM
Common Scoter	RM
Ruddy Duck	CMSR
Hooded Merganser	CM
Common Merganser	CM
Red-breasted Merganser	UM
Turkey Vulture	CSR
Black Vulture	A
Swallow-tailed Kite	VR
Mississippi Kite	VR
Goshawk	UM
Sharp-shinned Hawk	CM
Cooper's Hawk	CMSR
Eastern Red-tailed Hawk	CPR
Krider's Hawk	UR
Western Red-tailed Hawk	CM
Harlan's Hawk	UM
Northern Red-shouldered Hawk	CPR
Broad-winged Hawk	CM
Swainson's Hawk	UR
Rough-legged Hawk	CWV
Ferruginous Hawk	RM
Harris' Hawk	A
Golden Eagle	UM
Northern Bald Eagle	UM
Southern Bald Eagle	UM
Marsh Hawk	CMSR
Osprey	UM
Prairie Falcon	RM
Peregrine Falcon	RSR
Eastern Pigeon Hawk	UM
Richardson's Pigeon Hawk	RV
Western Pigeon Hawk	UV
Eastern Sparrow Hawk	CPR
Eastern Ruffed Grouse	CPR
Greater Prairie Chicken	RWM
Sharp-tailed Grouse	RWM
Bobwhite	CR
Ring-necked Pheasant	ISCR
Reeve's Pheasant	IS
Gray Partridge	IS
Eastern Turkey	E&IS
Rio Grande Turkey	IS
Merriam's Turkey	IS

Common Names	Status
Chukar	IS
Whooping Crane	A
Little Brown Crane	RM
Sandhill Crane	RM
King Rail	UM
Virginia Rail	CMSR
Sora Rail	CMSR
Yellow Rail	UMSR
Black Rail	RM
Common Gallinule	UMSR
American Coot	CMSR
Semipalmated Plover	CM
Piping Plover	RMSR
Belted Piping Plover	RM
Killdeer	CMSR
American Golden Plover	CM
Black-bellied Plover	UM
Ruddy Turnstone	RM
American Woodcock	UMSR
Common Snipe	CM
Long-billed Curlew	RM
Whimbrel	RV
Eskimo Curlew	PE
Upland Plover	CSR
Spotted Sandpiper	CSR
Solitary Sandpiper	CM
Willet	RM
Greater Yellow-legs	CM
Lesser Yellow-legs	CM
Knot	RV
Pectoral Sandpiper	CM
White-rumped Sandpiper	CM
Baird's Sandpiper	CM
Least Sandpiper	CM
Dunlin	CM
Short-billed Dowitcher	RM
Long-billed Dowitcher	CM
Stilt Sandpiper	CM
Semipalmated Sandpiper	CM
Western Sandpiper	RM
Buff-breasted Sandpiper	RM
Marbled Godwit	RM
Hudsonian Godwit	UM
Ruff	A
Sanderling	UM
American Avocet	RM
Black-necked Stilt	RV
Wilson's Phalarope	CM
Northern Phalarope	RM
Parasitic Jaeger	RV
Long-tailed Jaeger	A
Glaucous Gull	A
Herring Gull	CM



Common Names	Status	Common Names	Status
Ring-billed Gull . . . . .	CM	Eastern Phoebe . . . . .	CSR
Franklin's Gull . . . . .	CM	Say's Phoebe . . . . .	RSR
Bonaparte's Gull . . . . .	UM	Yellow-bellied Flycatcher . . . . .	USR
Black-legged Kittiwake . . . . .	A	Acadian Flycatcher . . . . .	USR
Sabine's Gull . . . . .	RV	Traill's Flycatcher . . . . .	CSR
Forster's Tern . . . . .	CM	Least Flycatcher . . . . .	CSR
Common Tern . . . . .	UM	Eastern Wood Pewee . . . . .	CSR
Interior Least Tern . . . . .	USR	Olive-sided Flycatcher . . . . .	UM
Caspian Tern . . . . .	UM	Hoyt's Horned Lark . . . . .	CWR
Black Tern . . . . .	CMSR	Northern Horned Lark . . . . .	UWR
Thick-billed Murre . . . . .	A	Prairie Horned Lark . . . . .	CSR
Rock Dove . . . . .	IS	Tree Swallow . . . . .	CMSR
Eastern Mourning Dove . . . . .	CR	Bank Swallow . . . . .	CSR
Western Mourning Dove . . . . .	CR	Rough-winged Swallow . . . . .	CSR
Passenger Pigeon . . . . .	E	Barn Swallow . . . . .	CSR
Louisiana Parakeet . . . . .	E	Northern Cliff Swallow . . . . .	CSR
Yellow-billed Cuckoo . . . . .	CSR	Purple Martin . . . . .	CSR
Black-billed Cuckoo . . . . .	CSR	Northern Blue Jay . . . . .	CPR
Groove-billed Ani . . . . .	A	Black-billed Magpie . . . . .	UWV
Barn Owl . . . . .	UR	Common Raven . . . . .	RV
Eastern Screech Owl . . . . .	CR	Common Crow . . . . .	CR
Aiken's Screech Owl . . . . .	R	Clark's Nutcracker . . . . .	A
Great Horned Owl . . . . .	CR	Black-capped Chickadee . . . . .	CPR
Artic Horned Owl . . . . .	WV	Long-tailed Chickadee . . . . .	CWR
Montana Horned Owl . . . . .	WV	Carolina Chickadee . . . . .	A
Snowy Owl . . . . .	WV	Tufted Titmouse . . . . .	CR
Western Burrowing Owl . . . . .	RSR	White-breasted Nuthatch . . . . .	CPR
Northern Barred Owl . . . . .	CR	Red-breasted Nuthatch . . . . .	UWV
Great Gray Owl . . . . .	RV	Brown Creeper . . . . .	CM
Long-eared Owl . . . . .	CWV	Western House Wren . . . . .	CSR
Short-eared Owl . . . . .	CWV	Eastern Winter Wren . . . . .	CM
Saw-whet Owl . . . . .	UWV	Bewick's Wren . . . . .	RSR
Eastern Whip-poor-will . . . . .	CSR	Carolina Wren . . . . .	USR
Chuck-Will's-Widow . . . . .	RSR	Prairie Marsh Wren . . . . .	CSR
Nuttall's Poor-will . . . . .	RV	Short-billed Marsh Wren . . . . .	USR
Eastern Nighthawk . . . . .	CSR	Rock Wren . . . . .	RSR
Sennett's Nighthawk . . . . .	CM	Mockingbird . . . . .	UR
Chimney Swift . . . . .	CSR	Catbird . . . . .	CSR
Ruby-throated Hummingbird . . . . .	CSR	Brown Thrasher . . . . .	CSR
Eastern Belted Kingfisher . . . . .	CSR	Sage Thrasher . . . . .	RV
Yellow-shafted Flicker . . . . .	CSR	Robin . . . . .	ASR
Red-shafted Flicker . . . . .	R	Wood Thrush . . . . .	CSR
Northern Pileated Woodpecker . . . . .	RR	Hermit Thrush . . . . .	UM
Red-bellied Woodpecker . . . . .	CR	Russett-backed Swainson's Thrush . . . . .	A
Red-headed Woodpecker . . . . .	CR	Olive-backed Swainson's Thrush . . . . .	CM
Lewis' Woodpecker . . . . .	RV	Gray-cheeked Thrush . . . . .	CM
Yellow-bellied Sapsucker . . . . .	CM	Veery . . . . .	UM
Eastern Hairy Woodpecker . . . . .	CR	Eastern Bluebird . . . . .	CSR
Northern Downy Woodpecker . . . . .	CR	Mountain Bluebird . . . . .	A
Northern Three-toed Woodpecker . . . . .	RV	Townsend's Solitaire . . . . .	RV
Eastern Kingbird . . . . .	CSR	Blue-gray Gnatcatcher . . . . .	USR
Western Kingbird . . . . .	USR	Golden-crowned Kinglet . . . . .	CM
Great Crested Flycatcher . . . . .	CSR	Ruby-crowned Kinglet . . . . .	CM



Common Names	Status
Water Pipit . . . . .	UM
Sprague's Pipit . . . . .	R
Bohemian Waxwing . . . . .	UM
Cedar Waxwing . . . . .	CMSR
Northern Shrike . . . . .	UWV
Northwestern Shrike . . . . .	CWR
Migrant Shrike . . . . .	CSR
Starling . . . . .	ISCR
White-eyed Vireo . . . . .	USR
Bell's Vireo . . . . .	USR
Yellow-throated Vireo . . . . .	CM
Solitary Vireo . . . . .	CM
Red-eyed Vireo . . . . .	CM
Philadelphia Vireo . . . . .	UM
Warbling Vireo . . . . .	CSR
Black and White Warbler . . . . .	CM
Prothonotary Warbler . . . . .	USR
Worm-eating Warbler . . . . .	RSR
Golden-winged Warbler . . . . .	RM
Blue-winged Warbler . . . . .	UMSR
Tennessee Warbler . . . . .	CM
Orange Crowned Warbler . . . . .	CM
Nashville Warbler . . . . .	CM
Parula Warbler . . . . .	UM
Yellow Warbler . . . . .	ASR
Magnolia Warbler . . . . .	CM
Cape May Warbler . . . . .	RM
Black-throated Blue Warbler . . . . .	RM
Myrtle Warbler . . . . .	CM
Black-throated Green Warbler . . . . .	UM
Cerulean Warbler . . . . .	USR
Blackburnian Warbler . . . . .	CM
Yellow-throated Warbler . . . . .	RSR
Chestnut-sided Warbler . . . . .	CM
Bay-breasted Warbler . . . . .	RM
Blackpoll Warbler . . . . .	CM
Pine Warbler . . . . .	UM
Prairie Warbler . . . . .	RM
Western Palm Warbler . . . . .	CM
Ovenbird . . . . .	CMSR
Northern Waterthrush . . . . .	UM
Grinnell's Waterthrush . . . . .	CM
Louisiana Waterthrush . . . . .	USR
Kentucky Warbler . . . . .	RSR
Connecticut Warbler . . . . .	UM
Mourning Warbler . . . . .	UM
Yellow-throat . . . . .	CSR
Yellow-breasted Chat . . . . .	USR
Hooded Warbler . . . . .	RM
Wilson's Warbler . . . . .	CM
Canada Warbler . . . . .	CM
American Redstart . . . . .	CM
House Sparrow . . . . .	ISCR

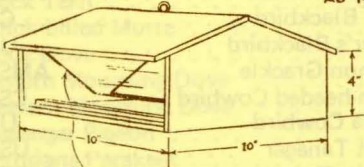
Common Names	Status
Bobolink . . . . .	CMSR
Eastern Meadowlark . . . . .	CSR
Western Meadowlark . . . . .	CSR
Yellow-headed Blackbird . . . . .	CSR
Eastern Redwinged Blackbird . . . . .	USR
Giant Red-wing . . . . .	CMSR
Thick-billed Red-wing . . . . .	CM
Orchard Oriole . . . . .	USR
Baltimore Oriole . . . . .	CSR
Rusty Blackbird . . . . .	CM
Brewer's Blackbird . . . . .	UM
Common Grackle . . . . .	AMSR
Brown-headed Cowbird . . . . .	CSR
Nevada Cowbird . . . . .	UM
Scarlet Tanager . . . . .	USR
Summer Tanager . . . . .	RSR
Cardinal . . . . .	CPR
Rose-breasted Grosbeak . . . . .	CMSR
Blue Grosbeak . . . . .	RV
Indigo Bunting . . . . .	CMSR
Laxuli Bunting . . . . .	A
Dickcissel . . . . .	ASR
Evening Grosbeak . . . . .	RWV
Purple Finch . . . . .	CWV
Pine Grosbeak . . . . .	RWV
Gray-crowned Rosy Finch . . . . .	A
Common Redpoll . . . . .	UWV
Greater Redpoll . . . . .	RWV
Pine Siskin . . . . .	UM
American Goldfinch . . . . .	CSR
Red Crossbill . . . . .	RWV
Bendire's Crossbill . . . . .	RWV
White-winged Crossbill . . . . .	RWV
Eastern Rufous-sided Towhee . . . . .	CMSR
Western Rufous-sided Towhee . . . . .	UM
Lark Bunting . . . . .	RM
Eastern Savannah Sparrow . . . . .	CM
Nevada Savannah Sparrow . . . . .	RM
Eastern Grasshopper Sparrow . . . . .	USR
Western Grasshopper Sparrow . . . . .	CSR
Leconte's Sparrow . . . . .	UM
Henslow's Sparrow . . . . .	UM
Sharp-tailed Sparrow . . . . .	UM
Vesper Sparrow . . . . .	CM
Lark Sparrow . . . . .	USR
Slate-colored Junco . . . . .	AMCWR
Cassiar Junco . . . . .	RWV
Oregon Junco . . . . .	RWV
Eastern Tree Sparrow . . . . .	CWR
Western Tree Sparrow . . . . .	CM
Chipping Sparrow . . . . .	CSR
Clay Colored Sparrow . . . . .	CM
Eastern Field Sparrow . . . . .	CSR



Common Names	Status
Western Field Sparrow . . . . .	CM
Harris' Sparrow . . . . .	CM
White-crowned Sparrow . . . . .	CM
Gamble's Sparrow . . . . .	CM
White-throated Sparrow . . . . .	CM
Fox Sparrow . . . . .	CM
Lincoln's Sparrow . . . . .	CM

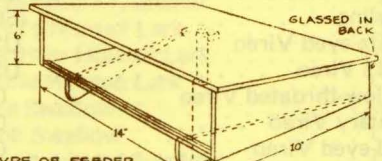
Common Names	Status
Swamp Sparrow . . . . .	CM
Song Sparrow . . . . .	CM
McCown's Longspur . . . . .	RM
Lapland Longspur . . . . .	CWR
Smith's Longspur . . . . .	RM
Chestnut-collared Longspur . . . . .	RM
Snow Bunting . . . . .	UWV

HINGED OR REMOVABLE TOP FOR EASE OF FILLING



GLASS GRAIN HOLDER

THIS IS A LARGE CAPACITY FEEDER AND IS VERY HANDY SINCE IT DOESN'T REQUIRE AS MUCH ATTENTION.

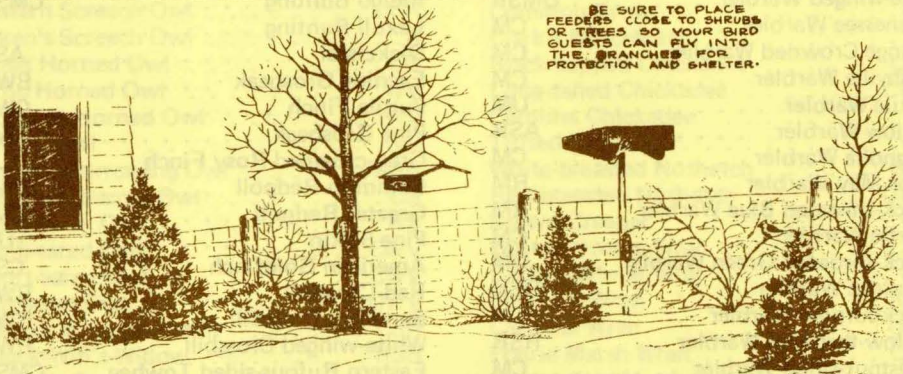


THIS TYPE OF FEEDER IS PROBABLY THE MOST PRACTICAL SINCE IT MOVES WITH THE WIND ~ SNOW DOES NOT DRIFT IN ~ CAN BE USED FOR MOST OF OUR SMALL FEATHERED FRIENDS

DIMENSIONS ON THESE FEEDERS ARE ONLY APPROXIMATE ~ MANY VARIATIONS CAN BE MADE.

## OPERATION TID-BITS

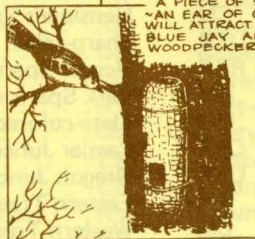
BE SURE TO PLACE FEEDERS CLOSE TO SHRUBS OR TREES SO YOUR BIRD GUESTS CAN FLY INTO THE BRANCHES FOR PROTECTION AND SHELTER.



FILL HOLES IN A SMALL SECTION OF LOG WITH SUET MIXED WITH GRAIN OR SUNFLOWER SEEDS ~ SMALL SHALLOW CANS FILLED WITH THE SAME AND TACKED ON TREES IS ALSO GOOD.



A PIECE OF SURT ~AN EAR OF CORN WILL ATTRACT THE BLUE JAY AND WOODPECKERS.



FOR THE SEED EATERS A MIXTURE OF SUNFLOWER SEEDS ~CRACKED CORN AND PEANUT HEARTS IS VERY GOOD.





## IOWA BIRD MIGRATION CALENDAR

*A bulletin giving the average dates of arrival of various birds calculated for Iowa has been prepared by Bob Moorman, Extension Wildlife Conservationist at Iowa State.*

Gadwall . . . . .	March 15 . . . . .	November 4
American Pintail . . . . .	March 5 . . . . .	November 16
Green-Winged Teal . . . . .	March 12 . . . . .	November 8
Blue-Winged Teal . . . . .	March 18 . . . . .	November 4
Wood Duck . . . . .	March 20 . . . . .	October 26
Redhead . . . . .	March 18 . . . . .	October 25
Canvas-Back . . . . .	March 18 . . . . .	November 3
Lesser Scaup Duck . . . . .	March 9 . . . . .	November 21
Buffle-Head . . . . .	March 25 . . . . .	November 6
Ruddy Duck . . . . .	April 5 . . . . .	October 28
American Merganser . . . . .	March 20 . . . . .	November 12
Turkey Vulture . . . . .	April 1 . . . . .	October 18
Eastern Red-Tailed Hawk . . . . .	March 12 . . . . .	November 16
Red-Shouldered Hawk . . . . .	March 14 . . . . .	October 16
Broadwinged Hawk . . . . .	March 24 . . . . .	October 28
Swainson's Hawk . . . . .	April 14 . . . . .	September 25
Rough-Legged Hawk . . . . .	October 16 . . . . .	March 25
Marsh Hawk . . . . .	March 1 . . . . .	November 14
Eastern Sparrow Hawk . . . . .	March 14 . . . . .	October 12
King Rail . . . . .	April 17 . . . . .	September 25
Virginia Rail . . . . .	April 24 . . . . .	October 15
American Coot . . . . .	March 25 . . . . .	November 20
Killdeer . . . . .	March 10 . . . . .	November 4
American Woodcock . . . . .	April 9 . . . . .	October 28
Wilson's Snipe . . . . .	March 25 . . . . .	November 25
Upland Plover . . . . .	April 16 . . . . .	August 31
Eastern Solitary Sandpiper . . . . .	April 23 . . . . .	October 10
Greater Yellowlegs . . . . .	April 10 . . . . .	September 25
Herring Gull . . . . .	April 4 . . . . .	November 12
Bonaparte's Gull . . . . .	May 1 . . . . .	October 4
Common Tern . . . . .	April 28 . . . . .	September 20
Mourning Dove . . . . .	March 24 . . . . .	October 25
Yellow-Billed Cuckoo . . . . .	May 16 . . . . .	September 25
Black-Billed Cuckoo . . . . .	May 12 . . . . .	September 22
Barn Owl . . . . .	Partially migratory	
Eastern Screech Owl . . . . .	Permanent resident	
Great Horned Owl . . . . .	Permanent resident	
Northern Barred Owl . . . . .	Permanent resident	
Long-Eared Owl . . . . .	Partially migratory	
Short-Eared Owl . . . . .	Permanent resident	
Eastern Whip-poor-will . . . . .	April 26 . . . . .	September 18
Eastern Nighthawk . . . . .	May 3 . . . . .	September 25
Chimney Swift . . . . .	April 18 . . . . .	September 16
Ruby-Throated Hummingbird . . . . .	May 7 . . . . .	October 1
Eastern Belted Kingfisher . . . . .	March 27 . . . . .	November 18
Northern Flicker . . . . .	March 20 . . . . .	October 22
Red-Bellied Woodpecker . . . . .	Permanent resident	
Red-Headed Woodpecker . . . . .	May 1 . . . . .	November 20
Yellow-Bellied Sapsucker . . . . .	April 3 . . . . .	October 15



Eastern Hairy Woodpecker . . .	Permanent resident	
Northern Downy Woodpecker . . .	Permanent resident	
Arkansas Kingbird . . . . .	May 8 . . . . .	September 8
Northern Crested Flycatcher . . . . .	May 8 . . . . .	September 15
Eastern Phoebe . . . . .	March 18 . . . . .	October 14
Eastern Wood Pewee . . . . .	May 7 . . . . .	October 1
Prairie Horned Lark . . . . .	Partially migratory	
Tree Swallow . . . . .	April 5 . . . . .	October 1
Bank Swallow . . . . .	April 20 . . . . .	September 21
Rough-Winged Swallow . . . . .	April 19 . . . . .	September 4
Barn Swallow . . . . .	April 20 . . . . .	September 24
Cliff Swallow . . . . .	April 24 . . . . .	September 18
Purple Martin . . . . .	April 8 . . . . .	September 3
Northern Blue Jay . . . . .	Permanent resident	
Black-Capped Chickadee . . . . .	Permanent resident	
Tufted Titmouse . . . . .	Permanent resident	
White-Breasted Nuthatch . . . . .	Permanent resident	
Eastern Bluebird . . . . .	March 8 . . . . .	October 30
Blue-Gray Gnatcatcher . . . . .	April 15 . . . . .	September 1
Golden-Crowned Kinglet . . . . .	April 2 . . . . .	October 16
Ruby-Crowned Kinglet . . . . .	April 10 . . . . .	October 8
Cedar Waxwing . . . . .	March 7 . . . . .	October 12
Migrant Shrike . . . . .	March 28 . . . . .	October 26
Red-Eyed Vireo . . . . .	May 6 . . . . .	September 21
Black and White Warbler . . . . .	April 27 . . . . .	September 24
Tennessee Warbler . . . . .	May 10 . . . . .	September 17
Nashville Warbler . . . . .	May 6 . . . . .	October 2
Eastern Yellow Warbler . . . . .	May 3 . . . . .	September 12
Magnolia Warbler . . . . .	May 12 . . . . .	September 14
Myrtle Warbler . . . . .	April 20 . . . . .	September 10
Ovenbird . . . . .	May 5 . . . . .	September 25
Grinnells Water Thrush . . . . .	May 7 . . . . .	September 15
Louisiana Water Thrush . . . . .	April 23 . . . . .	September 1
Northern Yellow-Throat . . . . .	May 7 . . . . .	September 29
American Redstart . . . . .	May 8 . . . . .	September 25
Bobolink . . . . .	May 1 . . . . .	September 28
Eastern Meadowlark . . . . .	March 10 . . . . .	October 20
Western Meadowlark . . . . .	March 12 . . . . .	October 18
Yellow-Headed Blackbird . . . . .	April 14 . . . . .	October 9
Red-Wing Blackbird . . . . .	March 12 . . . . .	November 17
Orchard Oriole . . . . .	May 10 . . . . .	August 2
Baltimore Oriole . . . . .	May 1 . . . . .	September 7
Rusty Blackbird . . . . .	March 21 . . . . .	October 17
Bronzed Grackle . . . . .	March 14 . . . . .	November 11
Eastern Cowbird . . . . .	April 10 . . . . .	August 24
Scarlet Tanager . . . . .	May 8 . . . . .	September 15
Eastern Cardinal . . . . .	Permanent resident	
Rose-Breasted Grosbeak . . . . .	May 1 . . . . .	September 21
Indigo Bunting . . . . .	May 6 . . . . .	September 27
Dickcissel . . . . .	May 16 . . . . .	September 6
Eastern Purple Finch . . . . .	March 24 . . . . .	October 16
Pine Grosbeak . . . . .	November 2 . . . . .	March 30
Common Red Poll . . . . .	October 22 . . . . .	April 12
Northern Pine Siskin . . . . .	April 24 . . . . .	October 16



Eastern Goldfinch . . . . .	Permanent resident	
Red Crossbill . . . . .	Irregular winter visitant	
White-Winged Crossbill . . . . .	Irregular winter visitant	
Red-Eyed Towhee . . . . .	April 14 . . . . .	October 17
Grasshopper Sparrow . . . . .	April 28 . . . . .	September 27
Eastern Vesper Sparrow . . . . .	April 2 . . . . .	October 23
Eastern Lark Sparrow . . . . .	April 21 . . . . .	July 30
Slate-Colored Junco . . . . .	Winter Visitant	
Tree Sparrow . . . . .	March 30 . . . . .	October 24
Eastern Chipping Sparrow . . . . .	April 1 . . . . .	October 18
Clay-Colored Sparrow . . . . .	April 18 . . . . .	October 12
Field Sparrow . . . . .	April 11 . . . . .	October 12
Harris' Sparrow . . . . .	May 9 . . . . .	October 7
White-Crowned Sparrow . . . . .	May 6 . . . . .	October 9
White-Throated Sparrow . . . . .	April 26 . . . . .	September 30
Eastern Fox Sparrow . . . . .	April 6 . . . . .	October 10
Song Sparrow . . . . .	March 20 . . . . .	November 9
Lapland Longspur . . . . .	October 23 . . . . .	March 18
Eastern Snow Bunting . . . . .	November 6 . . . . .	March 10
Brown Creeper . . . . .	Permanent resident	
Western House Wren . . . . .	April 26 . . . . .	October 5
Eastern Winter Wren . . . . .	April 4 . . . . .	September 30
Short-Billed Marsh Wren . . . . .	May 6 . . . . .	September 25
Catbird . . . . .	May 1 . . . . .	October 3
Brown Thrasher . . . . .	April 16 . . . . .	October 2
Eastern Robin . . . . .	March 8 . . . . .	November 12
Wood Thrush . . . . .	May 3 . . . . .	September 22
Eastern Hermit Thrush . . . . .	April 10 . . . . .	October 10
Olive-Backed Thrush . . . . .	May 10 . . . . .	September 24

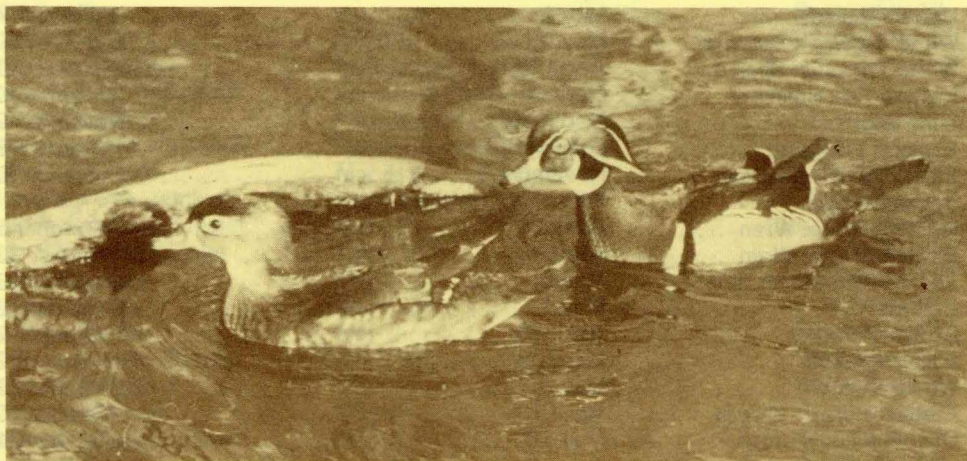




## CONSTRUCTION AND INSTALLATION OF WOOD DUCK NESTING BOXES

Indisputably the drake wood duck is the most beautiful of all our ducks. It is an important species in Iowa being one of our few species of breeding waterfowl and forming an important part of the hunter's bag in some sections of the state.

Wood ducks also suffer heavy predation in their natural nest sites especially from raccoon and fox squirrel. By installation of nest boxes of proper design both coon and squirrel predation can be eliminated. By providing more and safer nesting sites, the production of young can be increased.



The natural nesting site of the wood duck is a fairly large natural cavity in the trunk or large branch of a tree. It has no special preference for any particular kind of tree and not much choice as to its location, but it would probably prefer to find a hollow tree near some body of water. It is often forced to select a tree a long distance from water, even in dooryards and city parks. The size and depth of these natural cavities vary greatly and be anywhere from 3 to 50 feet from the ground. If it cannot find a natural cavity that suits its taste it will occasionally occupy the hole of one of the larger woodpeckers or of a fox squirrel.

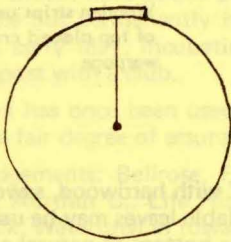
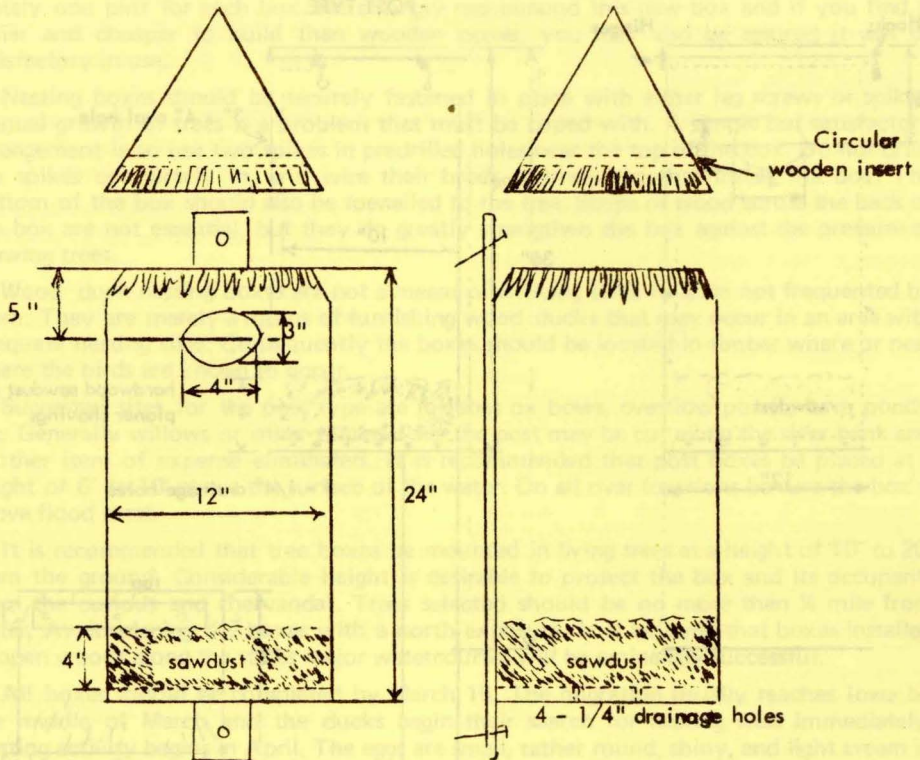
The box designs shown will be found to meet the requirements of the ducks. One design is modified for post mounting in marshes and ponds. The other is designed for tree mounting.

Wooden boxes are generally made from one inch rough lumber free from knot holes and cracks. Rough native lumber may often be obtained for this purpose at low cost. The more durable the lumber is, the better for the purpose. Any holes or cracks which occur in the lumber must be covered, for the ducks will not use boxes permitting light to enter near the bottom. Ducklings climb to the entrance hole with sharp toe nails to leave the nest. Consequently rough lumber should be used. If dressed lumber must be used attach a strip of screen wire or hardware cloth to the inside of the front to permit them to climb out.

The entrance hole is centered on the front of the box from four to six inches from the top depending on the design. A four inch round hole was formerly used on wood duck nest boxes. This may still be satisfactory for boxes mounted on poles or posts completely surrounded by water. An oval hole 3" x 4" will exclude raccoon from the box and still allow entrance to the ducks. It is recommended that this oval hole be used on all wood duck boxes. Be sure the small diameter of the hole is vertical and the large horizontal.



## Wood Duck Nesting Box - Tree Type



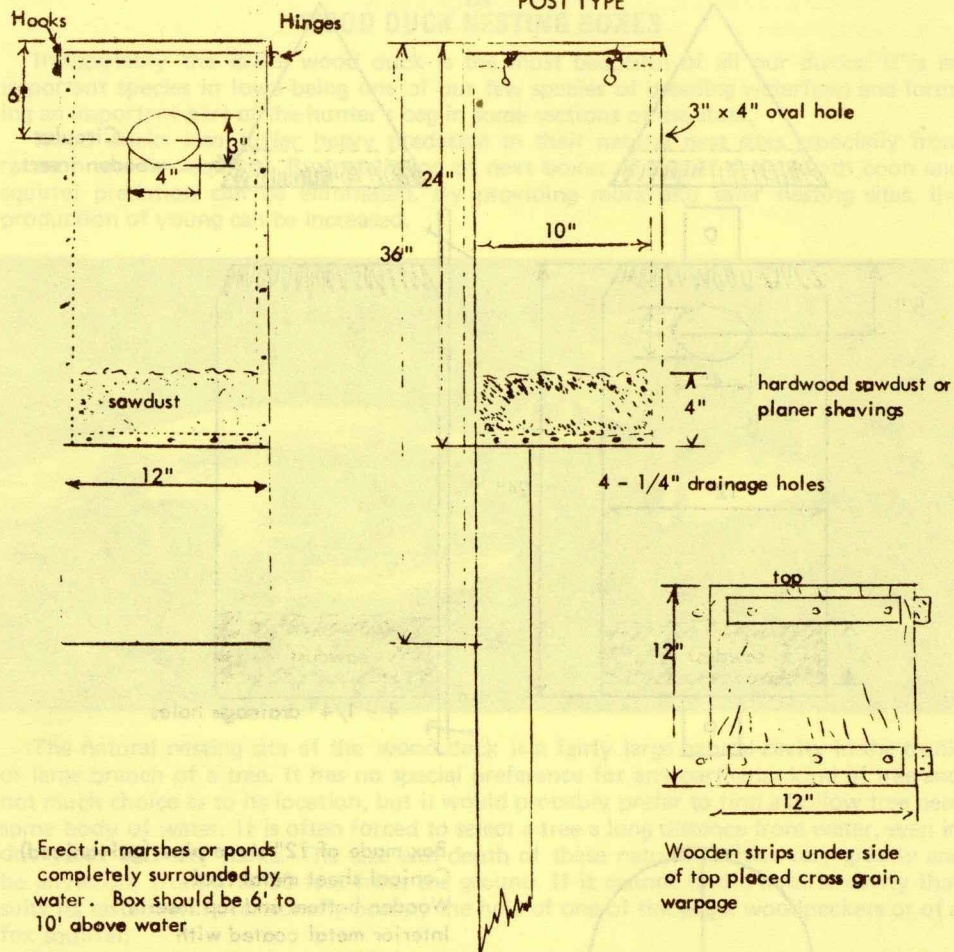
Box made of 12" stove pipe (galvanized)  
 Conical sheet metal roof.  
 Wooden bottom and top insert.  
 Interior metal coated with  
 automobile undercoater  
 Roof attached with self-tapping  
 sheet metal screws.

By permission as described by  
 Frank Bellrose, Illinois Natural History Survey  
 Scale  $1/8" = 1"$

Authorities disagree on painting. This is a point which apparently makes very little difference to the birds so long as the paint used is a dull, drab, natural appearing color. Board nesting boxes may be left unpainted if desired but some form of paint or wood sealer will aid in preventing rotting and warpage and add to their life expectancy. All metal or metal covered boxes should be painted an olive drab or "dead grass" color. Painting undoubtedly makes metal houses more attractive to the ducks.



## WOOD DUCK NESTING BOX POST TYPE



Erect in marshes or ponds completely surrounded by water. Box should be 6' to 10' above water

Scale  $1/8" = 1"$

Fill the bottom of the box to a depth of about 4" with hardwood, sawdust or coarse hardwood planer shavings. If neither of these are available leaves may be used, but leaves are less attractive than the wood particles which line the bottom of natural cavities.

At least four  $1/4"$  drain holes should be drilled in the bottom of each box to prevent the accumulation of undue amounts of moisture.

Squirrels are difficult to exclude from boxes. Three features must be incorporated in wooden boxes to keep them out. These are: metal cone or pyramid on roof; roof overhang at front; and metal facing on front and sides.

Also included in the drawings is a new type metal box developed by Frank Bellrose of the Illinois Natural History Survey. This box is made from 12" stove pipe with a wooden bottom and a conical sheet metal roof. The cone roof is designed to prevent predators from entering. In order to enable the young to climb out the interior of the metal is covered with automobile undercoating about  $1/8"$  thick. A garage will spray it on, but it



is much cheaper to buy the undercoating and dab it on with a brush. It takes approximately one pint for each box. We strongly recommend this new box and if you find it easier and cheaper to build than wooden boxes, you may also be assured it will be satisfactory in use.

Nesting boxes should be securely fastened in place with either lag screws or spikes. Annual growth of trees is a problem that must be coped with. A simple but satisfactory arrangement is to use two spikes in predrilled holes near the top of the box. Do not drive the spikes completely in, and wire their heads securely together inside the box. The bottom of the box should also be toenailed to the tree. Strips of wood across the back of the box are not essential, but they do greatly strengthen the box against the pressure of growing trees.

Wood duck nesting boxes are not a means of enticing birds to areas not frequented by them. They are merely a means of furnishing wood ducks that may occur in an area with adequate nesting sites. Consequently the boxes should be located in timber where or near where the birds are known to occur.

Suggested sites for the post type are marshes or bays, overflow ponds, farm ponds, etc. Generally willows or other material for the post may be cut along the river bank and another item of expense eliminated. It is recommended that post boxes be placed at a height of 6' to 10' above the surface of the water. On all river locations be sure the box is above flood crest.

It is recommended that tree boxes be mounted in living trees at a height of 10' to 20' from the ground. Considerable height is desirable to protect the box and its occupants from the curious and the vandal. Trees selected should be no more than ¼ mile from water. Avoid placing the boxes with a north exposure. It is believed that boxes installed in open woods along the states major watercourses will be eminently successful.

All boxes should be completed by March 15. The migration usually reaches Iowa by the middle of March and the ducks begin their search for nesting sites immediately. Nesting activity begins in April. The eggs are small, rather round, shiny, and light cream in color. A full clutch usually contains from 8 to 15 eggs. The nest cavity hollowed out in the wood chips will also contain much down from the female's breast.

The boxes shown have hooks and hinges on the lid for inspection, cleaning, etc. You may secure the lids permanently if you wish. Should you desire to check the boxes for occupancy in early May, incubating females may be flushed by rapping sharply on the tree trunk or post with a club.

After a box has once been used successfully additional boxes may be installed in the vicinity with a fair degree of assurance of occupancy.

Acknowledgements: Bellrose, Frank C.; Wood Duck Housing Project: Ill. Nat. Hist. Survey, Bent, Aurthur C.; Life Histories of N. A. Wild Fowl; U.S. Museum of Nat. Hist. Musgrove, Jack; Waterfowl in Iowa; Iowa Conservation Commission, Sieh, James G.; Lake Odessa Nesting Box Data, Iowa Conservation Commission Quarterly Biology Reports.





## TAILOR-MADE BIRD HOUSES

Ken Morrison of the National Audubon Society sent us a colorful little book, "The Picture Primer of Attracting Birds". It was published in 1952 by the Riverside Press of Cambridge, Massachusetts.

Written by C. Russell Mason and illustrated in color by Bob Hines, the little book is an excellent source of information for winter and summer bird feeding, and for attracting birds in all seasons. It also includes a brief section on birdhouse building specifications.

Many hobby-built birdhouses are not designed for any specific bird, and dimensions of such shelters can be quite critical. A house intended for songbirds may be taken over by sparrows or other species if not built to certain specifications.

Species	Floor in Inches	Depth in Inches	Entrance Diameter in Inches	Center of Entrance Above Floor In Inches	Height Above Ground In Feet
House wren	4X4	5 to 7	1*	3½ to 5½	5 to 10
Carolina wren, Bewick's wren	4X4	5 to 7	11/8 to 13/8	3½ to 5½	5 to 10
Prothonotary warbler	4X4	8 to 10	1 1/8	6 to 8	3 to 5
Chickadee	4X4	8 to 10	1 1/8	6 to 8	5 to 15
Nuthatch, Downy woodpecker, Titmice	4X4	8 to 10	1 1/4	6 to 8	5 to 15
Bluebird Tree swallow, violet-green swallow	4X5	7 to 9	1 1/2	5½ to 7½	4 to 15
Crested flycatcher Ash-throated flycatcher	6X6	8 to 10	2	6 to 8	8 to 20
Hairy woodpecker, Golden-fronted woodpecker	6X6	13 to 15	1 3/4 to 2	9 to 12	8 to 20
Red-headed woodpecker	7X7	16 to 18	2 to 2 1/2	12 to 14	12 to 20
Flickers, Saw-whet owl	7X7	16 to 18	3	12 to 14	12 to 20
Screech owl, Sparrow hawk	8X10	13 to 15	3 1/4	9 to 12	12 to 20
Hooded merganser	10X10	15 to 18	5	10 to 13	4 to 6
Wood duck	10X10	15 to 18	5	10 to 13	4 to 20
Golden-eye	10X10	15 to 18	7	10 to 13	4 to 20
Martin	6X6	6	2 1/2	2½	15 to 25

\*Or may use rectangular slot one inch high, three inches long.

All houses for woodpeckers, owls, sparrow hawks, and ducks should have two inches of wood chips or sawdust on the floor.

*This booklet has been prepared by the*

Iowa Conservation Commission  
300 4th Street  
Des Moines, Iowa 50319



TAILOR MADE BIRD HOUSES

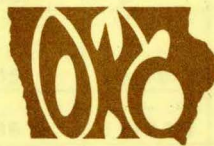
Ken Mathews, of the National Audubon Society, writes an excellent book, "The Future Pleasure of Attracting Birds". It was published in 1967 by the Riverside Press of Cambridge, Massachusetts.

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Many hobby-built birdhouses are not designed for any specific bird, and dimensions of such shelters can be quite critical. A house intended for songbirds may be unusable by species or other species if not built to certain specifications.

Species	Place to Place	Depth in Inches	Entrance Diameter in Inches	Depth of Entrance Above Floor to Inset	Height Above Ground in Feet
Blue Jay	10-12	3-4	2 1/2	1 1/2 to 2	5-10
Cardinal	10-12	3-4	2 1/2	1 1/2 to 2	5-10
Chipping Sparrow	10-12	3-4	2 1/2	1 1/2 to 2	5-10
Downy Woodpecker	10-12	3-4	2 1/2	1 1/2 to 2	5-10
Field Sparrow	10-12	3-4	2 1/2	1 1/2 to 2	5-10
Goldfinch	10-12	3-4	2 1/2	1 1/2 to 2	5-10
House Wren	10-12	3-4	2 1/2	1 1/2 to 2	5-10
Junco	10-12	3-4	2 1/2	1 1/2 to 2	5-10
Lincoln Sparrow	10-12	3-4	2 1/2	1 1/2 to 2	5-10
Mockingbird	10-12	3-4	2 1/2	1 1/2 to 2	5-10
Robin	10-12	3-4	2 1/2	1 1/2 to 2	5-10
Starling	10-12	3-4	2 1/2	1 1/2 to 2	5-10
Tree Sparrow	10-12	3-4	2 1/2	1 1/2 to 2	5-10
Veery	10-12	3-4	2 1/2	1 1/2 to 2	5-10
White-throated Sparrow	10-12	3-4	2 1/2	1 1/2 to 2	5-10
Winter Wren	10-12	3-4	2 1/2	1 1/2 to 2	5-10
Yankee Sparrow	10-12	3-4	2 1/2	1 1/2 to 2	5-10

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