	Usual nest height		
Species	in feet	Concealment	Remarks
Louisiana waterthrush	0	Roots, logs, banks	Near Water
Ovenbird	0	Dead leaves	Usually in dry soil
Whip-poor-will	0	Dead leaves, brush	Deep woods, ravines
Brown thrasher	0-7	Thickets	Prefers thorny vines
Carolina wren	0-10	Cavities, thickets	Often in a building
Rufous-sided towhee	0-3	Grass, forbs	Brushy openings or deep woods
Song sparrow	0-6	Grass, thickets	Edges of woods
Yellowthroat	0-2	Grass, vines	Moist locations
American goldfinch	5-15		Forks of shrubs, saplings, vines
American redstart	5-15		Forks of shrubs, saplings, vines
Cardinal	3-15	Thickets	Prefers vine tangles
Gray catbird	2-15	Thickets	Prefers vine tangles
Chipping sparrow	1-4	Thickets	Often near building
Indigo bunting	1-3	Thickets	Brushy areas in, near woods
Yellow -breasted chat	3-10	Thickets	Often in thorny vines
Yellow warbler	2-10		Shrubs, saplings
Red-eyed vireo	2-15		Suspended from forks
Robin	2-15		Often on a building
Wood thrush	4-15	Thickets	In forks or on a limb
Black capped chickadee	8+	Cavities	Often in old woodpecker hole, bird box
Downy woodpecker	6-30	Cavities	Dead tree or dead part of live tree
Screech owl	6-30	Cavities	Woodpecker hole, tree cavity, building, bird box
Tufted titmouse	8+	Cavities	Often in old woodpecker hole, bird box
White-breasted nuthatch	2-60	Cavities	Stump, snag, old woodpecker hole, bird box
Northern oriole	20	None	Prefers broad-crowned trees
Blue Jay	10-15		May prefer conifers
Broad-winged hawk	20-80	None	Builds in a large crotch
Crow	20-80	None	Usually in a large crotch
Eastern wood pewee	20-60	None	Often on edge of clearing
Great crested flycatcher	6-15	Cavities	Tree or stump, woodpecker hole, bird box
Scarlet tanager	16-55+	None	Usually in mature woods

Typical Nesting Habits of Selected Non-Game Forest-Dwelling Birds

How to Observe More Birds on Your Forest Land

People been enthusiastic bird-watchers since the beginning of time. Birds have inspired songs, legends, and works of art.

Birds are an important part of a woodland scene. Visually, birds add color, lively motion, and a wide variety of songs and sounds. Ecologically, they help to spread seeds, keep insect populations in check, and provide food for other animals. Different species of birds have different habitat requirements, which is why many species can inhabit a small area.

The biologists advise managing habitat for birds that are conspicuous for their boldness, color, song, or size. Thirty-one such species and their nesting habits are listed in the table below. The nesting habits of this group are representative of common woodland birds in the Upper Great Lakes States.

What are the most likely spots for a rendezvous between birds and people? Places where people ordinarily go, such as secondary roads, trails, and streams near recreation sites are good choices. Most birds are very tolerant of human activity. Many make their homes in edge habitat, the borders between habitats of different types. In many cases, human activities have helped to create these borders. Generally, the more complex the mix of types, the more diverse the bird species in an area.

The best time to find birds at home is during the breeding season when colors are at their peak. The breeding season is also something to keep in mind when timing forest management activities. Birds establish limited territories during this period, and most species will use the same habitat for nesting and escape cover.

A variety of vegetative structure is the key to manipulating songbird habitat. Forests with herbaceous plants on the ground, shrubs and vines, and trees of different heights, sizes, and shapes will provide nesting spots for more species of birds. Variety among sizes and shapes of the plants seem more important than variety among the species of plants.

In managing bird habitat it's best to aim for a natural look. Adding nest boxes, plants, or supplemental habitat is useful when natural habitat is not immediately available, as when trees are too young to provide nesting cavities or large branches. Wildlife biologists suggest that trails are the key to bringing people and birds together. If properly planned, trails can enhance the local scenery, improve habitat, and provide access for a variety of purposes.

Of the three types of trails—walking, guided, and special-use (horseback, trail bikes, etc.)—the walking trail is most useful for bird-watching. On a walking trail, people can pursue their own interests at their own pace. A walking trail can be less rigorous in design than other kinds of trails.

Following are some specific guidelines for developing bird habitat:

Planning Trails

- Know the characteristics of the property and plan the layout so that the trail passes by or through the most interesting sites, except "fragile" sites that might be subject to damage.
- 2. Make sure the trail is safe as well as exciting.
- Follow a closed-loop design, beginning and ending at the same point.
- 4. Try to maintain a one-way traffic flow.
- Avoid long, straight stretches. Trails with curves and bends are longer, add an element of surprise and anticipation, and seem more

natural. Straight stretches should not exceed 100 feet.

Choosing Sites

- Concentrate management on the more moist and fertile sites.
 Swamps and marshes and other wet sites are often a center of activity for birds. Vegetation grows rapidly and lushly near water.
- Drier sites are highly valuable, too, especially if they support a rich layer of low-lying vegetation. Some birds such as blue jays and ovenbirds prefer dry woodlands. I t's best to include both dry and wet sites along a birding trail.

Managing Plants

- 1. Favor the most vigorous species of the required growth forms.
- Maintain variety among plants that have one or more of three characteristics: a) form thickets (most shrubs); b) have showy flowers or foliage; and c) bear nuts or fleshy fruits. Try to establish mixtures of conifer and deciduous plants, and leave some overmature, dying, or dead trees standing unless they are hazardous.
- Encourage herbaceous vegetation such as native grasses and weeds. This provides homes for insects (summer food) and an abundance of seeds (winter food).

Establishing Growth Stages

- Maintain a moderate to dense understory among all stages of forest growth.
- 2. Break up large single-layer stands that have sparse understories.
- Poletimber (young trees with diameters of 5-11 inches) is usually abundant. If other tree size classes are scarce, increase them in this order:
 - -vines, shrubs, seedlings
 - -sawtimber
 - -saplings
 - -herbaceous growth
- Mix or intersperse the growth stages. This is important because many birds inhabit the edges between different stages.

Planning Stands

A "stand" is any group of trees that is sufficiently uniform to be distinguished from adjacent groups.

- Mix the habitat conditions on a smaller scale than usual for managing timber or game animals. During the breeding season many species of birds stay within a halfacre of land.
- 2. Make stand margins as irregular as possible, to increase the edge

edges. Curving or waving the stand border further increases the amount of edge, and looks more natural than straight edges.

 Route the trails to enter and leave stands at narrow angles. Trail users will sense a gradual transition instead of an abrupt change between stands. They will have more opportunity to see bird activity along stand edges.

Maintaining Habitat

- Cut or girdle frequently to maintain early stages of forest growth. Attempt to incorporate commercial timber harvesting to make projects affordable.
- 2. Cut in the fall or winter to cause the least disturbance to birds.
- Maintain an overstory canopy closure of between about 50 – 70 percent.
- 4. Use crown thinning rather than low thinning to open the canopy.
- 5. Keep livestock out. Grazing is harmful to bird habitat and forest regeneration, except in a limited amount where undergrowth is undesirably thick.

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