



**STATUS: HIGH
CONSERVATION
PRIORITY IN IOWA**

American Woodcock *Scolopax minor*

Introduction

Perhaps because of its bazaar looks and unique behaviors, the American Woodcock has gained ardent and appreciative followers among North America's hunters and birdwatchers. Writing of this plump, compact little shorebird's memorable spring courtship flights, in which males spiral up high on twittering wings with melodious chirping and then circle back sharply to the ground to resume their unique peenting display, the great conservationist from Iowa, Aldo Leopold, concluded that such dawn and dusk "sky dances" are "a refutation of the theory that the utility of a game bird is to serve as a target, or to pose gracefully on a slice of toast."

Several features help to distinguish this forest-dwelling shorebird from its more aquatic relatives: a long bill specialized for feeding on earthworms, a stout head with large eyes set far back for rearview binocular vision, a polygynous mating system, and leaf-brown patterns that blend superbly with the forest floor. Indeed, the body and behavior of the woodcock has given it many colorful vernacular names such as "timberdoodle", "night partridge", and "bog sucker".

Widely distributed in eastern North America, woodcock are migratory, nesting in young forests and old fields from the Gulf Coast through Iowa and on northward to southern Canada. Courtship displays and nesting span a six month period beginning in mid-winter in the south and extending into June in the north. Across its northern range, woodcock appear to be the earliest migrant species to breed.



The popularity of this game bird is reflected by a rich history of its market and sport hunting, and by an extensive literature on its biology and management. Today, roughly two million American Woodcock are shot annually by about 700,000 hunters. Although its abundance has declined in recent years, particularly in its eastern range and probably owing to natural succession and human-caused loss of forests, there is no evidence that its overall range has shrunk. Further decline in numbers of woodcock may result if forest management practices increasingly favor uneven-aged stands, which do not provide suitably large areas of shrub and young forest that this species needs to breed successfully. Yet this bird's extensive use of northern coniferous forests that are being opened up by large-scale harvesting is encouraging and suggests that the species may be extending its distribution northward and westward.

Habitat Preferences

American Woodcocks prefer wet thickets, moist woods, and brush swamps. They also favor a mixture of woodlands and open fields, and often spend their days in woodlands and nights in open fields.

The preferred woodlands are mostly deciduous or mixed, with abundant young growth and moist soil, such as thickets along streams. At night woodcocks utilize open pastures, abandoned farm fields, open swamp edges, and even mowed lawns when near appropriate woodland cover.

Feeding Habits

The woodcock diet consists mostly of earthworms and insects; and earthworms are the signature food item in most places and at most times. Insects are also important, especially insect larvae that burrow in soil, such as those of many beetles, crane flies, and others.

Snails, spiders, millipedes, and other invertebrates are also eaten. In the plant kingdom, the American Woodcock will consume seeds of grasses, sedges and smartweed.

Feeding is mostly individually although loose concentrations of woodcock may occur if suitable foraging sites are limited due to dry soil, surface frost, snow cover, or unevenly distributed food resources. The woodcock's long bill with flexible upper mandible is specialized for capturing and extracting earthworms from moist soil. Individual birds likely locate surface food visually, but mechanisms to locate subsurface earthworms may be tactile and auditory. It has long been claimed that woodcock can hear its prey moving underground.

Breeding Biology

Woodcock arrive in Iowa in mid to late March. Males take up territories and begin their courtship nighttime displays soon after they arrive on the breeding grounds. This involves the male giving a series of "peent" calls on the ground and then circling to a height of about 300 feet, producing twittering sounds with its wings as he ascends and performs a "sky dance." The male then drops in a zigzag pattern to the ground, where he walks stiff-legged around the female before copulating. According to researchers, the American Woodcock appears to be promiscuous.

Nests are on the ground, usually in open woods or in overgrown fields, in areas with many dead leaves. Females build the nest, which is little more than a scrap lined with dead leaves and other fine debris. Usually 4 eggs are laid, but the number is sometimes 1 to 3, and rarely 5 or more. Only the female incubates, and the process takes about 20 to 22 days.

A few hours after hatching the downy young leave the nest. The female tends to the young and feeds them. After a few days the

young begin probing the soil, learning how to search for food. At the age of 2 weeks the young can already make short flights, fly fairly well at 3 weeks, and are independent at about 5 weeks of age.

Concerns and Limiting Factors

An early alarm over possible extinction of American Woodcock was sounded due to market shooting. As a popular game bird, the harvest from hunting has increased near the end of the 20th Century, but at the same time, daily hunting success has declined. About 700,000 hunters have harvested perhaps 2 million American Woodcock annually in the U.S. in recent years. But mortality from hunting is now generally thought to equal natural mortality from all other natural limiting factors. In addition, many researchers believe that there are a number of possible causes for the decline in woodcock populations within the bird's annual life cycle.

Two of the most serious potential negative impacts on this species are loss, fragmentation and degradation of habitat; and pesticides entering the natural environment.

Breeding sites (singing grounds) are probably not limited in many areas within the overall woodcock range, but rather, the cumulative effect of habitat alterations on populations is likely to occur during other life history activities. Loss of suitable even-aged woodlands (low variation in tree age and structure, often is initiated by large scale natural disturbances, and other wholesale changes); and draining bottomland hardwoods and swampy areas also has degraded habitat – perhaps more so in the winter range of this species than in Iowa where it breeds.

Despite some uncertainties, the consensus among avian researchers, bird conservationists and ornithologists seems to be that the quantity and probably the quality of habitat is decreasing as the rate

of change of farm land into young growth forests decreases. Habitat loss or alteration across the woodcock range still remains the primary suspected cause of region-wide declines in abundance. And the same is likely to be true in Iowa as well. One of the major expressed needs is better research related to specific limiting factors and associated population declines.

Pesticides are also of concern. In years past, American Woodcock were also found to carry dieldrin, PCBs, mercury, heptachlor epoxide, and mirex, though generally at low levels. Hunting had been closed previously for woodcock in some regions due to high levels DDT in breast muscle, resulting from long-term spraying in woodlands for insect defoliators. There is speculation that such spraying caused eggshell thinning. Population declines may be due as much too limiting factors at wintering habitats and migratory stopover habitats, as breeding habitats in Iowa. Much remains to be learned about this interesting species and its population dynamics.

Although prescribed habitat treatments can increase abundance on the local scale, there remains a long-term decrease in regional abundance. There is uncertainty whether singing ground surveys adequately track population levels, and whether they can monitor continental abundance adequately. Under the current state of knowledge, reviewing the contents of the woodland section of Part 3 of this project remains a good first step.

Habitat Management Recommendations

American Woodcock have done fairly well in Iowa during the past century. And although this species may never be abundant in our state, if many of the woodland management recommendations (especially for bottomland wooded areas) found in Part 3 are followed, woodcock should continue to survive in many of the

areas it now occupies. Many of our state's publicly owned wetlands should continue to receive the kind of management that will provide the brush and second-growth habitat that this species needs to persist; and IBAs ought to receive the same thoughtful attention.

Hunting may influence population trends, but likely not in any dramatic way. Yet inadequate knowledge about harvest effect is unfortunate because current long-term natural woodland changes over most of the range of this species is probably not beneficial. Such habitat effect may be exacerbated by the move to uneven age timber management.

The 1990 American Woodcock Management Plan is a strategic plan to organize cooperative efforts to provide sufficiently good habitat to maintain and enhance populations. Some optimism for success derives from experiences on small woodlots by individuals and organizations like the Ruffed Grouse Society, and from other management experience gained in the New England states. Techniques tried there are widely applicable across the woodcock range.