ATLAS of the Breeding Birds of Wisconsin

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This Atlas project is the largest natural history survey ever conducted in Wisconsin. A milestone in Wisconsin ornithology, the *Atlas of the Breeding Birds of Wisconsin* is the most comprehensive guide to birds that nest in this state.

To obtain breeding bird data more than 1,600 field observers spent almost 70,000 hours in the field, drove more than a half-million miles, and then submitted more than 160,000 valid bird records from 1995–2000.

The backbone of this book consists of 214, two-page species accounts, each providing information on a species':

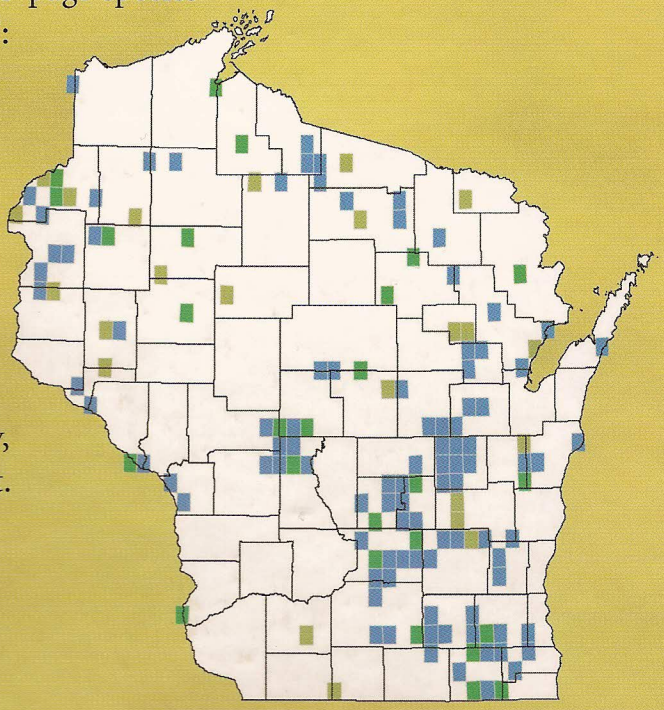
- geographic range
- habitat preference
- breeding biology
- history
- conservation concerns
- population trends

Another 23 less common species are covered in additional accounts.

Chapters on Atlas methodology, results, history, habitats, and conservation provide valuable insight.

The book contains over 1,400:

- color photographs
- maps
- figures
- tables



Atlas Breeding Distribution for Black Tern

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Purple Martin *(Progne subis)*

Ken Damro

Photographer Jack Bartholmai

Nestlings in nest hole

This jewel of a bird is as beautiful in flight as it is in song. Viewed by some as "America's most wanted bird," it is North America's largest swallow and only species of martin. Dependent almost entirely on humans for nesting east of the Mississippi, it is no wonder this species is responsible for a lucrative bird products industry and at least two popular periodicals. Although few other avian species have been so exploited and thoroughly studied, many questions remain about the Purple Martin's life history and behavior.

Purple Martins are documented as abundant Neotropical migrants and common summer residents in Wisconsin (Robbins 1991). Many birders in Wisconsin now view this status as too positive. Migrants generally appear in early April to early May and depart in mid-July to mid-September (Robbins 1991). They have been known to succumb to long periods of cold or dreary weather in spring and have been seen "piling up" in a single nesting compartment presumably for warmth. According to Atlas data, the large majority of nesting Purple Martins reside in the southeastern and eastcentral regions of the state. Atlas data indicate intermittent, yet fair numbers of nesting Purple Martins along Wisconsin's western edge. BBS distribution data used by Robbins (1991) parallel these findings. Atlas results showed breeding evidence in 22% of the priority blocks and in 27% of the quads. Only the counties of Adams, Iowa, Pepin, Richland, and Vernon registered no Atlas records.

As illustrated by Atlas findings, Purple Martins nest in a variety of open habitat, often near water and always near people. They utilize a variety of home-made and manufactured multi-compartment nest boxes and gourds involving various styles and compositions. People now provide almost all nest sites that martins use in eastern North America (Brown 1997). Purple Martins have a long history of association with humans. Turner and Rose (1989) even found historical accounts of Purple Martins associated with pre-settlement Native American observers. Attracting Purple Martins has changed since those pre-settlement times, illustrated by Atlas worker H. Pugh's comments: "Pole-mounted 10-hole martin condo on Root River in Racine Harbor between the two old Coast Guard buildings. This group has grown in size for the past two years since we put up the house. We're planning to add another house next year to accommodate them."

Atlas workers witnessed Purple Martins hauling nest material as early as 13 May and as late as 4 July. The majority of Atlas reports (59%) confirmed breeding as occupied nest, with the first report on 22 April and the last on 7 August. Purple Martins are single-brooded and usually lay four or five eggs per clutch (Robbins 1991). Eggs hatch after approximately 16 d of incubation by the female (Turner and Rose 1989). Both parents feed young that fledge at about 28 d (Turner and Rose 1989). Robbins (1991) documented early and late egg dates as 9 May and 29 June, respectively, while Atlas workers reported only three nests with eggs, all in late May. Atlas workers documented nests with young as early as 31 May and as late as 1 August and recorded fledged young from 3 June to 3 August.

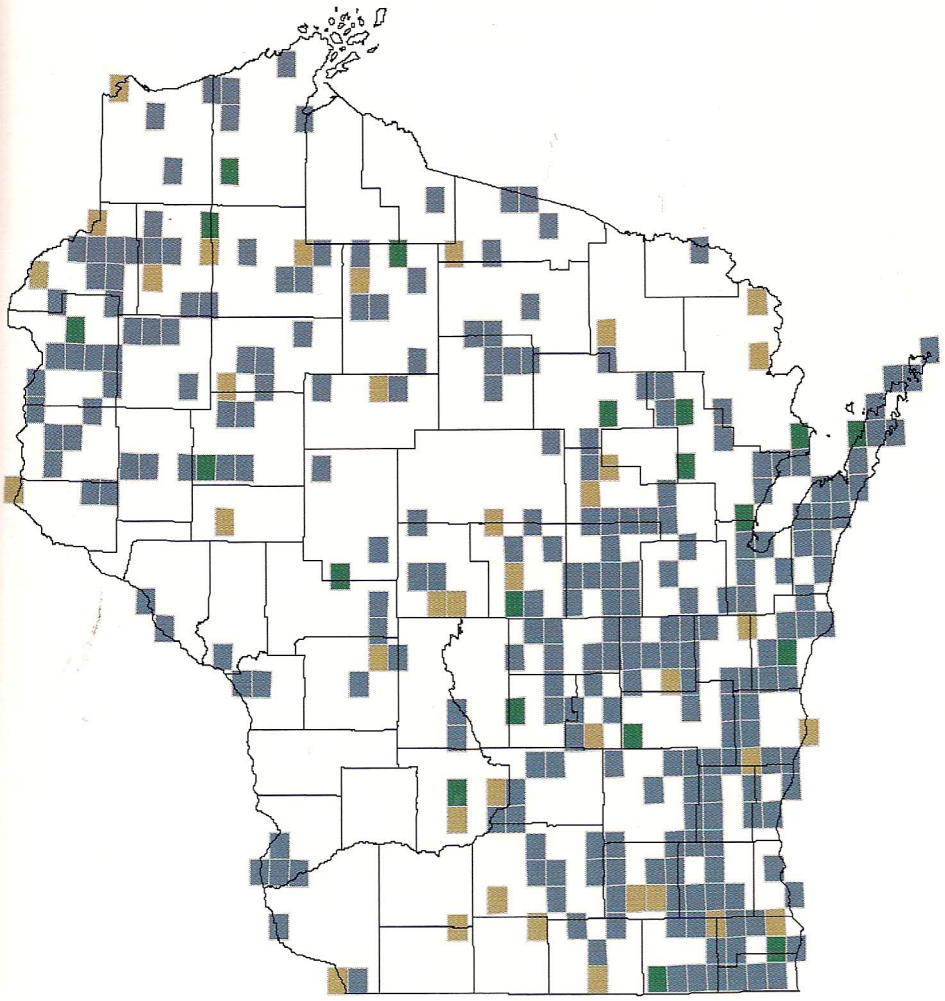
The BBS shows statewide Purple Martin trends as declining. During 1966 to 2002 Purple Martins declined 4.8% annually. During 1980 to 2002 a more startling annual decline is estimated at 8.4% (Sauer et al. 2003). Purple Martins statewide have succumbed to nest competition from non-native European Starlings and House Sparrows. Several predators have given Purple Martins their share of grief. Two of the martin's aerial predators, Sharp-shinned Hawk and Merlin, are summer residents of northern Wisconsin. Merlins and martins reside along northern lakes and hunt over open water. Owls are probably the most common and significant predators, taking both adults and nestlings; owls, hunting mostly at night, can destory entire colonies by landing on the houses and removing martins from the nest cavities (Brown 1997). Despite such apparent declining trends, on 22 April 2000 Atlas worker D. Nikolai reported a colony in Calumet Co. of 250 or more pairs that have nested there since the 1960s. Nikolai has banded 500 young and adults during the past 10 yr at the site.

As northern Wisconsin forests mature, certain predator species prosper, while other species, including their prey, may decline concurrently. The fact that this rather tame species of martin is abundant in southeastern and eastcentral regions of the state might be explained partially by the human population there. Presumably, the more people in a given region, the more Purple Martin "apartments" offered. Reproductive success can be increased by offering houses with larger cavities (at least 15 × 30 cm), making nests harder for owls or other avian predators to reach, installing snake guards on poles, reducing ectoparasite populations by thoroughly applying chemicals to nests or replacement of existing nesting material with fresh grass, modifying entrance holes to exclude starlings, and installing porch dividers to prevent older nestlings from entering adjacent nests and stealing food from younger broods (Brown 1997).

Using our knowledge, we can try to attract and cater to this beautiful but declining species and promote its abundance, while beautifying our yards and gardens.

Species Sponsored by Helen J. Pugh

Purple Martin



Breeding Status	# of Quads	% of Total (1132)
Confirmed	245	21.64
Probable	19	1.68
Possible	38	3.36
Total	**302**	**26.68**

Habitat	# of Records
Forest Upland	5
Forest Lowland	2
Shrub Upland	3
Shrub Lowland	3
Open Upland Agriculture	8
Open Upland Native	
Open Upland Uncropped	2
Open Lowland Agriculture	5
Open Lowland Meadow	
Open Lowland Bog	1
Open Lowland Uncropped	
Open Lowland Marsh	2
Open Lowland Lake	40
Open Lowland River	5
Urban	184
Total	**260**