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Symphony in the Flint Hills Field Journal

2012 – The Prairie: Its Seasons and Rhythms (Laurie J. Hamilton, Editor)

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William H. Busby

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## **Recommended Citation**

Busby, William H. (2012). "Year-round and Migratory Birds of the Flint Hills," *Symphony in the Flint Hills Field Journal*. https://newprairiepress.org/sfh/2012/prairie/3

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The Field Journals are made possible in part with funding from the Fred C. and Mary R. Koch Foundation.

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UPLAND SANDPIPER

All Illustrations courtesy Audubon Royal Octavo Edition, 1839

## Year-round and Migratory Birds of the Flint Hills

The Flint Hills support a wide diversity of birds with some 250 species having been recorded. They range in size from the Ruby-throated Hummingbird (3 grams) to the 10-kg Wild Turkey. Birds tend to specialize by habitat, and each habitat---be it tallgrass prairie, shrublands, riparian forest, cropland, or farmstead---supports its own assemblage of bird species.

Grassland birds occupy the dominant habitat, the tallgrass prairie, of the Flint Hills. Although the Flint Hills provide "home" to approximately 60 species, each species prefers certain site characteristics and seasons. Their preferred choices vary widely from species to species. Some use short grass, others tall grass. Some prefer a dense layer of dead grass or litter, while others seek out recently-burned prairie. And spring, summer, fall and winter seasons host a different set of birds. While these grassland birds are welladapted to the prairie environment, the Flint Hills and the tallgrass prairie region as a whole support no endemics (species restricted to an area). The tallgrass prairie in central North America is relatively young by ecosystem standards having developed since the last glacial period (Wisconsin) about 10,000 years ago. Most of the plant and animal species present today spread to the region from elsewhere in North America as the glaciers receded. And, insufficient time has elapsed for the evolution of many new species. Most grassland birds in the Great Plains have ranges that extend well beyond the region. Common Flint Hills birds, such as the Eastern Meadowlark and Grasshopper Sparrow, can be found across much of the continental U.S.

Unlike most kinds of wildlife which remain throughout the year, prairie birds tend to come and go throughout the year. Most grassland wildlife survives unfavorable periods by retreating underground. Except for the Burrowing Owl, this is not a practice that grassland birds employ. Instead, most take advantage of their mobility and migrate from the area for some part of the year.

The seasonal timing and length of time spent annually in the Flint Hills varies widely among species. At one extreme are neo-tropical migrants that pass through in spring enroute to northern breeding areas. In fall, they will fly south to wintering areas in Central or South America. These transients comprise nearly half of the species recorded in the Flint Hills. Such "short-timers," which range from colorful warblers to White Pelicans, may stop to spend a few days or weeks to feed and rest in between flights through the region.

Most species make overnight flights of modest distance. Others are capable of non-stop flights of many hundreds to several thousands of miles, and may overfly the entire Flint Hills without stopping. This latter group includes a variety of shorebirds that winter in South America and nest in the Arctic--a lifestyle that requires flying the length of the New World and back each year. An example is the now-extinct Eskimo Curlew, a large shorebird with a long, curved bill that visited Kansas during spring migration when enroute from wintering areas in Chile and Argentina to breeding grounds in the Northwest Territories. Based on the limited information available, Eskimo Curlews were regular visitors to the prairies of eastern Kansas where they are believed to have fed heavily in upland prairie on invertebrate food such as grasshopper egg pods. Known as dough birds in North America for their pleasing taste, their numbers were rapidly depleted by market hunters in the late 1800s. Two other migratory shorebirds that traverse the Flint Hills each year and stop to feed in the prairie are the American Golden-Plover and Buff-breasted Sandpiper. Flocks of both shorebirds can be seen for a brief period in the spring as they fly low over the prairie or forage in recently-burned pastures. A second group of birds are summer residents that breed in the Flint Hills in spring and summer, and then migrate south for the winter. This is a diverse group that comprises the most abundant grassland breeders:

Upland Sandpiper, Eastern and

Western Meadowlark, Dickcissel, and Grasshopper Sparrow. Most arrive



DICKCISSEL

in the spring and nest between April and July. Nests are constructed on the ground or in standing grass and the young are fed a high-protein diet of insects. Upland Sandpipers, often seen perched on fence posts, arrive in March and April and are the first of this group to leave, departing in July for the pampas region of South America.

The Dickcissel, resembling a miniature meadowlark, breeds in great abundance in the tallgrass prairie. Males sing incessantly to advertise territories and attract several females depending on site quality. After breeding, Dickcissels form large flocks that migrate to northern South America where they often roost in the millions and are considered a pest in agricultural areas. Eastern and Western Meadowlarks are close relatives that populate the Flint Hills. Given their physical similarity, meadowlarks are best distinguished from one another by song. The Eastern Meadowlark is the common prairienesting species in the region. The Western Meadowlark, the State Bird of Kansas, breeds locally in the northern Flint Hills, where it favors agricultural areas and uplands with short grass. In winter, most meadowlarks migrate

south. However, small numbers of both species remain all winter. The Grasshopper Sparrow, named for its subtle insect-like trill, is one of about 18 kinds of sparrow found in the region and is our most common breeding, grassland sparrow. It builds a nest of grass on the ground and may re-nest after the first brood is raised. It is a short-distance migrant, wintering in the southern United States.

Year-round residents comprise a small subset of the birds found in the Flint Hills. Most breeding birds elect to move south for the winter. The Greater Prairie-Chicken is perhaps the best-known permanent resident. A true bird of the prairie, prairie chickens were formerly widespread and common in the tallgrass prairie region. While prairie chickens prosper in areas with some cropland due to the winter food supply, this bird requires large areas of grassland. It also needs different types of prairie habitat through the year–sparsely vegetated hilltops for

male displays (leks) in the spring, dense nesting cover for incubating hens and winter cover, and more open grassland for feeding chicks. Because of its sensitivity to prairie size and condition, the Greater Prairie-Chicken is considered an indicator species for tallgrass prairie. If prairie chickens are thriving in an area, chances are other grassland birds are also doing well. Other year-round residents include the Bobwhite Quail, which frequents grassland bordering shrubs and woodland, the Loggerhead Shrike, and the Brown-headed Cowbird. The cowbird, which is easily confused with other blackbirds, is named for its association with grazing animals, where it feeds on insects or other food flushed up by animal activity. The cowbird evolved in North America with roaming herds of grazing animals such as bison. Females do not tend their own nest but instead are nest parasites, meaning that the female lays her eggs in the nests of

other bird species, abandoning them to be raised by the host parents. Before she lays an egg, the female cowbird removes one of

SHORT-EARED OWL

the host bird's eggs from the nest. With the expansion of livestock and open, agricultural habitats, cowbird populations expanded and are now abundant across much of North America. With this expansion, the Brown-headed Cowbird encountered new host species that had little or no experience with nest parasitism which then contributed to the decline of many other bird species. Finally, winter residents are a hardy, select group. The prairie's open, grassy

As the seasons change, birds are on the move in the Flint Hills. Each season hosts a different selection of bird species.

expanses offer little shelter from severe weather and few birds elect to tough it out. Winter residents are chiefly bird species that breed well north of Kansas and move south in the cold season for a milder winter. Individuals of some wintering species loyally return to the same spot each winter. Many others, especially flocking species, wander during winter as dictated by food availability and weather. Birds of prey include the Northern Harrier, a medium-sized hawk that flies slowly over open fields, hunting for mice; the Rough-legged Hawk, a large light and dark hawk that is often confused with

its more common relative, the Redtailed Hawk; and the Short-eared Owl. a medium-sized owl that can be seen flying low over open grasslands at dusk. Sparrows and sparrow-like species make up a big part of the winter bird lineup. American Tree Sparrows and Dark-eyed Juncos often forage in single or mixedspecies flocks, seeking out seeds on the ground in grassland and woodland edge. Their abundance appears to vary from winter to winter, which likely reflects the fact that they do not consistently return to the same places each winter. Flocks of Horned Larks can be found feeding on the ground in open, un-vegetated areas such as roads and cropland. Small numbers of Horned Larks breed in the Flint Hills, but winter numbers are much higher. Redwinged Blackbirds, found most often in agricultural landscapes, are well-known for their huge swirling flocks of tightlypacked birds. Over a million birds may roost together during cold weather at favored sites such as wetlands.

As the seasons change, birds are on the move in the Flint Hills. Each season hosts a different selection of bird species. Veteran birdwatchers are tuned into these seasonal cycles and know which species to expect at different times of year and just when to plan a trip to find target birds of interest. The Flint Hills remain a stronghold for grassland birds. With less than

five percent of the original tallgrass prairie remaining today, little habitat remains for tallgrass prairie birds. Some prairie birds, such as the Dickcissel, have adapted to agricultural lands and remain abundant. Others, such as the Greater Prairie-Chicken, remain dependent on prairie landscapes and have declined to the point where strong conservation measures are needed if the species is to avoid the endangered species list. As a group grassland birds have shown the sharpest declines of any group in North America. The causes for this disturbing trend include habitat loss and degradation. Grasslands

throughout the continent continue to be lost due to urbanization, agricultural expansion, forest succession, and other land use changes. In addition, the ability of existing grasslands to support healthy bird populations has been reduced as a result of increasingly intensive agricultural use. The Flint Hills, where native grasslands are maintained with sustainable livestock production practices, can provide a good model for grassland bird conservation now and into the future.

William H. Busby is an Associate Scientist with the Kansas Biological Survey and a Courtesy Associate Professor in the Department of Ecology and Evolutionary Biology at the University of Kansas. In the first capacity, he serves as zoologist with the Kansas Natural Heritage Inventory and conducts research on animals of conservation concern, particularly grassland birds and endangered species. He has over twenty years of field experience in vertebrate ecology of the Great Plains, and has authored more than fifty scientific publications including the Kansas Breeding Bird Atlas.