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LIVING

OUR CHANGING SEASONS
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Grassland-habitat species in decline

Karl Egressy, special to The Examiner

A grasshopper sparrow (main photo) on the Carden Plain, near Kirkfield, a wonderful area for grass and shrubland species; the upland sandpiper (above), one of the few grassland species that appears to be increasing in number.

Many of the bird songs that once filled the spring mornings and evenings of our childhoods are beginning to fall eerily silent. According to new research from the National Audubon Society, populations of some of the most common birds in eastern North America are suffering precipitous declines. Twenty different common bird species have fallen by at least half since 1967. These include such familiar birds as eastern meadowlark, whip-poor-will, evening grosbeak, common tern, and even the ruffed grouse. Habitat loss is considered to be a major factor in all of these declines.

Data from Christmas bird counts and breeding bird surveys were analyzed together to compile the list. Christmas bird counts are carried out by thousands of volunteers Christmas across North and Central America and involve an all-day census of early-winter bird populations. The results of these efforts are compiled into the longest running database in ornithology.

Breeding bird surveys are standardized morning counts of breeding birds along roadsides that are conducted mostly in June. About 100 BBS routes are done each year in Ontario. Volunteers survey their route by car, starting 30 minutes before sunrise. Birds are identified mostly by song at 50 stops located 0.8 kilometres apart. I have been doing a route between Lasswade and Havelock since 1994. Of 37 species of grassland birds that are reasonably well monitored by the BBS, 32 are showing some form of decline. Only five appear to be increasing.

Declines have been most noticeable in birds that depend on grassland habitat. Four decades of data are enough to prove that the declines are real and not merely cyclical or temporary. They also appear to be continuing unabated. The term “grassland” is used to describe a treeless area comprising mainly herbaceous vegetation, and with no more than a minor shrub and tree component. A grassland can be an old field no longer being farmed, a hay meadow, or even a native prairie remnant.

Some of the reasons for the decline of grassland birds include loss of farmland to industrial and housing development, farm intensification, the abandonment of farms on marginal lands with the fields subsequently reverting back to woodland habitat, the decline of hayfield area, and increased hay cropping during the June/early July nesting season. In Ontario, the loss of this habitat type has been particularly noticeable on the Canadian Shield, where abandoned farmland has now once again become forest in many cases.

In Europe, too, declines have been noted in grassland birds. Research indicates that between 1980 and 2005, numbers of common farmland birds across Europe dropped by an average of 44 per cent. The information was gathered over the last 25 years through 20 national breeding bird surveys. The main cause appears to be the intensification of agricultural practices.

Also known as high-input farming, intensification includes practices such as creating much larger, “industrial” farm sizes, with deep drainage, large-scale irrigation, heavy pesticide use and the planting of huge monocultures. Throughout Europe and North America, these practices are leading to the degradation of agricultural and semi-natural habitats, causing declines in bird diversity and population levels across huge areas.

It is therefore clear that the decline of grassland birds is being driven primarily by factors originating in Canada and the U.S. Grassland birds are habitat specialists, requiring grasslands year round. This makes them vulnerable to grassland habitat loss on their breeding, migration and wintering ranges. The vast majority of grassland birds winter no further south than the southern U.S. or northern Mexico. Only a few, such as the bobolink and upland sandpiper, are neotropical migrants.

Let’s take a closer look at some local species affected by the decline and what specific factors are most responsible. The eastern meadowlark, for example, has declined by 72 per cent in 40 years. It has gone from a continental population of 24 million in 1967 to 6.9 million now. The meadowlark population continues to decline at a rate of about three per cent a year. Like many grassland birds, meadowlarks are threatened by changing agricultural practices.

Another species that is experiencing a major population crash is the grasshopper sparrow. Its numbers have dropped by 65 per cent since 1967 and continue to decline by close to 4 per cent annually. The decline is partly due to the fact that woody vegetation is invading grasslands in much of eastern North America, thereby making the habitat unsuitable for this species. In addition, hayfields where the birds nest are often mowed during the breeding season which destroys the nests.

In the case of the bobolink, a familiar black, white and yellow bird of hayfields, breeding bird survey results are indicating a mean annual decline of about two per cent. One reason is that small fields, which formerly produced a variety of crops (including pasture, hay, and small grains) have given way to large monocultures that are of little benefit to bobolinks or other grassland birds. Not only has this species suffered from a drop in the overall acreage of hayfields, but even in those hayfields that still exist, a dramatic shift away from timothy grass and timothy/clover mixtures (favoured by bobolinks) to alfalfa (much less favoured) is having a negative impact .

The age of the hayfield also has an influence. Bobolinks prefer hayfields that are at least eight years old. Because of a shift towards much shorter rotational times, older hayfields are becoming less and less common.

Loss of grassland habitats is leading to the decline of many other well-known birds of the Kawarthas, as well. The percentage after the name indicates the average annual decline across their North American range: northern harrier (-1.3), killdeer (-0.5), horned lark (-2.2) and savannah sparrow (-0.8) Two species that appear to be increasing, at least on a continental scale, are the upland sandpiper (+0.7) and sedge wren (+1.9). Upland sandpipers are still relatively easy to find in the Kawarthas.

A new sense of urgency for strong conservation measures has arisen because of the recent push for biofuels such as ethanol. There is a real danger that even more land may be converted from grassland habitat to cropland in order to grow corn for ethanol production.

Guidelines for grasslands management have been recommended by numerous researchers. Some useful recommendations for local landowners include:

- Large patches of habitat should be created or maintained, whenever possible.
- Hay should be cropped every two to three years to prevent encroachment of shrubs and trees.
- Hay cutting should occur after the middle of July (and preferably in August) to avoid nest mortality.
- Crop residue should be maintained on the soil surface to help sustain insect populations which provide food for birds.
- The number and types of field operations that destroy nests and birds should be minimized.

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