

Late Maturing Grass - A New "Field" of Wildlife Research

By Glen Parsons



Seeding Belleisle Marsh with Comtal Timothy.



UNB student Joe Nocera, with a male bobolink at Belleisle Marsh.

The agricultural landscape provides unique habitat for many species of wildlife, including grassland birds. The most common grassland bird species that you could expect to see or hear in hayfields each summer are bobolink, savannah sparrow, and sometimes Nelson's sharp-tailed sparrow. These birds use hayfields and associated areas to build their nests, raise their young and feed on the diverse buffet of invertebrates that also inhabit the fields and surrounding area.

Each year farmers harvest many of the province's hayfields to provide a winter supply of food for their livestock. Most farmers produce early maturing, cool-season grasses in order to maximize hay quality and quantity. Farmers usually aim to harvest the early maturing hay when it reaches peak nutritional value (usually in mid to late June), which is before the flightless young birds and nestlings are able to escape. Unfortunately, this means that many nests are destroyed, and young birds killed, during the early cutting operation. Recent studies have recorded grassland bird mortality rates of over 90 per cent during early cutting operations.

Scientists throughout North America have detected recent declines in many populations of grassland birds and some believe that these declines could be attributed to the high mortality rates experienced through early harvesting of hayfields.

DNR and other Eastern Habitat Joint Venture (EHJV) partners have been

delivering habitat enhancement and research projects on Belleisle Marsh in Annapolis County since the early 1990's. Belleisle Marsh is widely used by many species of waterfowl and other wildlife and has been suggested to have the highest density of bobolink and Nelson's sharp-tailed sparrow in Nova Scotia. Approximately 212 acres of provincial Crown holdings on Belleisle Marsh are currently licensed to local farmers for agricultural purposes. All licensed land is currently in production for hay with a mandatory delayed harvest of July 1 to benefit nesting birds. However, delaying cutting of Belleisle Marsh hayfields generally results in reduction of forage quality (crude protein etc.) for livestock. This is a concern to some of the local farmers that licence the Belleisle land.

Recent research supported by the EHJV in collaboration with the University of New Brunswick, has been conducted to investigate the timing of grassland bird nesting in relation to mandatory delayed hay harvest on provincially licensed land at Belleisle Marsh. This research supports other studies and suggests that peak fledgling for many grassland birds at Belleisle occurs after July 1. The results of this study prompted a further investigation into the probable wildlife and forage benefits of cultivating late maturing (after July 1) forage grass varieties. The path of this investigation led to the offices of Agriculture and Agri-

Food Canada scientists and, as they say, the rest is history.

DNR in partnership with Agriculture and Agri-Food Canada, the University of New Brunswick, Belleisle Marsh farmers, Ducks Unlimited Canada, Canadian Wildlife Service and Wildlife Habitat Canada developed a multi-year research project to examine the effects of late maturing hay varieties on invertebrates (insects) and vertebrate biodiversity (particularly grassland birds). As a part of this project, DNR coordinated the cultivation of ~ 50 acres (40 Crown, 10 private) on Belleisle Marsh with Comtal® timothy (a late maturing variety of grass) in September 2003. We plan to seed the same 50 acres with Altaswede® red clover during Spring 2004 to provide extra nutrient and habitat value to the fields.

The objective of this project is to test the prediction that planting fields with later maturing crops (e.g. Comtal® timothy, Altaswede® red clover) will stagger harvest between stands, resulting in a dual benefit to both the producer (increased yield of peak quality hay) and biodiversity (increased species survival rates among grassland birds, other vertebrates and invertebrates). This study is unique in that it is the only study of its kind in Atlantic Canada that could provide a management model for agricultural haylands and biodiversity.

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