### Section 1: Grassland Birds in Ontario

Obligate grassland birds, species that nest exclusively in grassland, are an important part of Ontario's biodiversity. These migratory birds nest in Canada and the USA, and winter in the south. Over the past 50 years, grassland bird populations have declined markedly in Ontario. Bobolink, Eastern Meadowlark, and Grasshopper Sparrow populations declined by 80%, 84%, and 79%, respectively, contributing to an overall 53% decrease for grassland bird populations in North America. All three of these species are now listed as at risk.

*Bobolink and eastern meadowlark listed as Threatened in Canada and Ontario; Grasshopper sparrow listed as Special Concern in Canada and Ontario*

*Potential graphics: grassland ecosystem distribution in Ontario, Bobolink, Eastern Meadowlark, and Grasshopper Sparrow.*

### Section 2: Agricultural Grasslands are Essential

The majority of grassland bird nesting habitat in Ontario is found in grass-dominated hayfields and pastures. Because Bobolinks, Eastern Meadowlarks, and Grasshopper Sparrows build their nests directly on the ground, well hidden in the vegetation, nests are vulnerable to trampling by livestock, destruction by farm machinery, and exposure after heavy grazing and hay harvesting. To mitigate the impact of agricultural activities during the critical nesting period, understanding the differences in habitat use, timing of nesting, and response to grazing among these species is essential.

*Grassland bird population declines are due, in part, to changes in agriculture (e.g., earlier and more frequent hay cuts during nesting season) and habitat loss (conversion to row crops, development, and reforestation).*

1. *BOBO*
   1. *Typically nest in lush, grassy hayfields and pastures (prefer tall, dense vegetation)*
   2. *Have short nesting season: mid-May to late July*
   3. *Attempt to raise 1 brood of young*
   4. *Nesting cycle ~28 days (not including nest building)*
   5. *Polygamous (often >1 nesting female in each territory)*
2. *EAME*
   1. *Typically use sparser vegetation than BOBO*
   2. *Start breeding early and have a long nesting season: mid-April to mid-August (arrive in March)*
   3. *Attempt to raise 2 broods*
   4. *Nesting cycle ~30 days (not including nest building)*
   5. *Polygynous (often >1 nesting female in each territory)*
3. *GRSP*
   1. *Found in sparsest, shortest vegetation of these 3 species*
   2. *Moderately long nesting season: Mid-May to mid-August*
   3. *Attempt to raise 2 broods*
   4. *Nesting cycle ~24 days (not including nest building)*
   5. *Monogamous*

### Section 3: Challenges for Birds in Agricultural Grasslands

When hayfields are harvested during the peak nesting season, significant nest failure occurs — nests are crushed by machinery or left exposed to predators. Grazing in pastures can have similar negative impacts from trampling and exposure, but the effect varies based on the number of animals and duration of grazing. Nest failure due to predation is common in all grasslands, but when nesting birds also face threats from agricultural activities, nest success can be very low.

### Section 4: Stewardship Actions for Grassland Bird Conservation

Strategies for hayfields include delayed mowing of entire fields, cutting perimeters first and delaying mowing of field interiors, or delayed mowing of a section of a field with the most nesting birds. In pastures, rotational grazing enables targeting some areas for stewardship actions such as delayed grazing in one field and light spring grazing followed by an extended rest period in another. These actions aim to balance agricultural activities with providing grassland bird species at risk time and space to raise young in some actively-farmed areas. Targeting areas with the most nesting birds for stewardship actions will have the greatest positive impact.

1. *Hayfields*
   * + 1. *Delayed hay harvest*
          1. *Cut hayfields with the most nesting birds late or last if farm has many fields to cut*
       2. *Cut perimeter, delay cut of interior*
          1. *Cut perimeter of fields at best time for forage quality and delay cut of interior to allow birds time to raise young because grassland birds tend to avoid nesting near field edges*
       3. *Cut vegetation high to leave more vegetation uncut*
          1. *Nests will be destroyed during cut, but some species (GRSP, SAVS) may build new nests in fields cut in June or early July*
          2. *Fields need to remain undisturbed for long enough after cut to allow enough time for birds to raise young*
2. *Pastures (rotational grazing provides management opportunities that can benefit breeding grassland birds because cattle grazing is spatially and temporally controlled across paddocks and some areas can be targeted for bird stewardship actions)*
   * + 1. *Delayed grazing (nesting refuge)*
          1. *Graze pastures with the most nesting birds late or last in the rotation*

*We’ve seen some pastures are not grazed until July, which gives the birds time to raise young, except again EAME and GRSP may not have time to raise 2 broods and some BOBO will still be nesting in July*

* + - 1. *Light spring grazing*
         1. *Particularly for BOBO: graze from ~20 May (around when birds begin nesting) to first few days of June at low stocking rate (~30-40 cattle-days/ha)*
         2. *Then, leave pasture ungrazed for at least 1 month (preferably 5 to 6 weeks) to give birds time to raise young*
         3. *Some nests may be trampled, but birds will have time to build a new nest*
         4. *Probably also works well For EAME and GRSP, but birds may not be able to raise 2 broods*
      2. *Light grazing, particularly for BOBO, while most nests in area are active*
         1. *Low stocking rates of ≤ 40 cattle-days/ha (# cattle x days grazed/ area grazed).*
         2. *E.g., between 21 May and 30 June, 40 head of cattle graze a 4 ha pasture for 4 days. No other grazing occurs in this 4 ha pasture during this period. Of course, impact on the vegetation and the birds will be different on different farms because of differences in vegetation.*
         3. *Probably also works for EAME and GRSP, but we do not have the data yet*
      3. *Lengthen rest period between grazing occasions*
         1. *After grazing at normal stocking rate in spring, if pasture is rested for at least 40-45 days, then birds have time to raise 1 brood of young*

*E.g., EAME typically need a few days to build a nest, lay 5 eggs (1 per day) incubate eggs for 14 days, young remain in nest for 11 days after hatching, young walk out of nest and are unable to fly well for about 1 week.*

*Likely won’t work for BOBOs because they will likely have dispersed from fields*

\*\*Additional Information:\*\*

- Include the BECO logo.

- Include the year on the sheet.

- Provide references for statistics.

- For more information and resources, visit grasslandbirds.ca.

- Consider adding funding statements.