Exploring Ontario hay management options and their effectiveness at balancing the farming industry and the ecological needs of grassland birds

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Introduction
- Grassland bird species populations in Ontario have declined in the last decade; Bobolinks -88% in last 40 years, currently “threatened”
- Ontario farmers have opportunities to design and establish suitable grassland habitat through seed mixes of their forage stands
- Forage harvests coincide with life cycles (reproduction and rearing of juveniles) of grassland birds

Objectives
I. Examine forage samples & analyze for nutritional value over growing season to determine forage quality profile*
II. Determine habitat requirements of Bobolink by conducting field observations at fields performing delayed haying practices
III. Provide preliminary management options for Bobolink friendly haying practices that combine optimal forage quality and successful Bobolink reproduction

Methods:
- Collect, examine, and analyze forage samples over growing season at 2 Sites: x2, 2.25ft² samples per week, per site
- Determine forage species composition and growth patterns over study period
- Monitor field observations of bobolink nesting behaviour (quantity, activities, etc.)
- Ground truthed 1-10 km radius for forage fields and crop land at both study sites using GPS-enabled Toughbook tablet & Ontario Agricultural Resource Inventory- AgRI ¹
- AgRI 2014 used to identify potential habitat clusters for Bobolinks throughout a 1-10km radius of both sites (using SWOOP 2010-2014)
- Ontario AgRI maps created to assess occurrence of bird habitat in 2014

Conclusions, Management Practice Options (MPOs), and Future Suggestions:
- MPO of delayed haying without economic incentive will most likely be insufficient for farmers to adopt- hay quality declines too rapidly
- At Delhi, nesting predominated in the center of the field. Mowing half the field was not of benefit for the nesting bobolink
- At Oro, nesting also predominated in the center of the field but mowing was done around the perimeter first which benefited the birds
- Nests were abandoned after partial mowing that included the middle portions of a field
- Targeting incentive programs should be focused on Oro for MPOs- they have higher clusters of hay fields within 5-10km of site and they meet the three major site conditions for Bobolinks (grass abundance, grass diversity, and abundance of alfalfa²/³)
- The forage and pastureland surrounding the 13 other study sites should be captured using AgRI for 1-10km range to assess their potential as a prime area for management options

Results:
- Oro-Medonte site: 76% grass composition, <3% grass species present, 20% Alfalfa
- Delhi site: 46.5% grass composition, <3% grass species present, 6.5% Alfalfa
- Within a 5-10 km range of both sites Oro-Medonte had considerably more forage fields present as potential habitat

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* Still waiting on results from laboratory

References:
1. Stewart Sweeney et al. 2013 AgRI, OMAFRA
2. Delta Waterfowl, 2014
3. Couching Conservancy, 2011

* ¹ Species Composition Oro, 2014

* ² Species Composition Norfolk, 2014

* ³ Species Composition Oro-Medonte, 2014