

October 20, 2010

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Bobolinks at the Conestogo Wind Farm

Even though Bobolinks have just been recently listed as a Threatened species, they were recorded and mapped on all 2007 and 2010 surveys because they are a Partners in Flight priority grassland species. This memo summarizes the presence of Bobolinks and Bobolink habitat in and around the Conestogo Wind Farm.

Surveys and Results

1) Overview of Bobolinks in the original Conestogo study area

The original study area was much larger than the current wind farm footprint. On each survey about 240 km of roads were surveyed to cover the entire study area. To keep the data and summary of results more manageable the study area was divided into three subcomponents: Southwest Arthur, Southeast Arthur and Peepabun [north east of Arthur]. The current wind farm footprint comprises a small subset of the Southwest Arthur sector.

In order to determine a relative comparison of the density of Bobolinks at different projects and within projects, a density is calculated as the number of Bobolinks observed per 100 km of roads driven. The Southwest Arthur sector had the lowest density of the three Conestogo sectors with 20.5 birds / 100 km. This compares to 73 birds / 100 km in the Peepabun sector and 143 birds / 100 km in the Southeast Arthur sector. In other words, the Peepabun sector had 3.5 times as many and the Southeast sector had 7 times as many Bobolinks as the Southwest sector. The reason for this is that the Southwest sector is mostly planted in corn, beans and wheat whereas the other sectors had a relatively higher presence of hay fields, abandoned fields and lightly grazed pastures.

2) Roadside area searches and point counts [2007]

On June 7 and July 1, 2007, area searches were conducted along all of the roads in the Southwest Arthur sector. At locations with habitat for species of concern [e.g. grassland habitat], ten-minute point counts were conducted.

A review of the point counts in the Southwest sector showed that six of those point counts were conducted in or close to the current wind farm footprint. Point Count [PC] # 23 was in the footprint on Sideroad 17. PC # 21 was on Sideroad 16 and PC # 24 was on Sixteenth Line which are roads bordering the concession in which the turbine footprint lies. The other three nearby PCs were within 5 km of the turbine footprint [see map].

No Bobolinks were recorded at any of the six PCs on the June 7 survey. On the July 1, survey 8 Bobolinks were observed at three of the six PCs. A likely reason for the change in numbers is that the Bobolinks were nesting in hayfields and those hayfields were cut in the interval between the two surveys causing the Bobolinks to move into other potential breeding, albeit probably sub prime, habitat. Two birds were noted at PC # 20, 3 birds at PC # 21 and 3 birds at PC # 22. Even though Bobolinks moved closer to where the turbines will be located, the distance is still quite substantial and far enough away that the Bobolinks will not be impacted. PC # 21 is about 1300 metres from the closest turbine [#1], PC # 22 is 1900 metres from the closest turbine [# 1] and PC # 20 is 2350 metres from the closest turbine [# 7].

3) Evening roadside surveys [2010]

On June 20 and 26, 2010, evening surveys were conducted targeting Chimney Swift, Common Nighthawk and Whip-poor-will. The surveys ran from 2 hours before sunset to 1.5 hours after sunset along the closest roads bordering the wind farm footprint [Sixteenth Line, Sideroad 16, Fourteenth Line and Wellington Road 12] and the one road running through the wind farm footprint [Sideroad 17]. The methodology was to slowly drive the roads surrounding and through the current wind farm footprint with periodic stops at locations that had a good view of the wind farm footprint so that any foraging Chimney Swifts and Common Nighthawks would be seen. At dusk, stops were made close to woodlots to listen for Whip-poor-wills. During the area search and the fixed-point watches, all other species were recorded as well. Bobolinks were heard and seen at two locations near the intersection of the Sixteenth Line and Sideroad 16. One Bobolink was observed in a small hayfield on the southeast corner of the intersection and two individuals were observed in a small pasture on the northeast corner of the same intersection. The hayfield, which is the closest Bobolink habitat to a turbine site [#1], is about 1500 metres. This is far enough away that the turbines will not impact any Bobolinks that attempt to nest in this field in the future. [The cutting of the hay will impact them, but not the turbines].

4) Species at Risk surveys in woodlands close to turbine locations [2010]

On July 3, 2010, the woodlots close to turbines # 6, 7 and 10 were surveyed for Species at Risk. These surveys involved walking across fields from Sideroad 17 to the woodland closest to turbines # 6 and # 7 and from the Fourteenth Line to the woodland patches close to turbine # 10. All species observed or heard in all habitats on the walk to and from the road and in the woodlots were recorded. One Bobolink was heard and observed in a hay field on the south side of the vegetated creek valley on the walk into turbine # 6. The survey crew estimated from the mapping provided by Genivar that the distance from the proposed turbine to the alfalfa field is about 300 metres. The 300 metre distance and the visual separation created by the vegetated creek is enough that any Bobolinks nesting in the hay field in future years, assuming that the field will still be in hay, will not likely be impacted. [They will be impacted severely, however, if they do nest in this field by the first cut of hay which takes place at the peak nesting period].

5) Crops and land use in fields where turbines will be located

The landowners of the fields where turbines will be placed were interviewed in October 2010 to determine what crops they had planted in 2010 and what crops they were planning to plant in future years. The reason for determining what crop types will be planted in future years is that Bobolinks do not breed in corn, soybeans, grain crops such as wheat, oats, millet and rye or in densely grazed pasture. Bobolinks do nest in hay fields, fields at an early stage of abandonment and in lightly grazed pasture although those that nest in hay fields are seldom successful since the first cut of hay occurs about the time that nesting is at its peak [i.e. during incubation or prior to fledging].

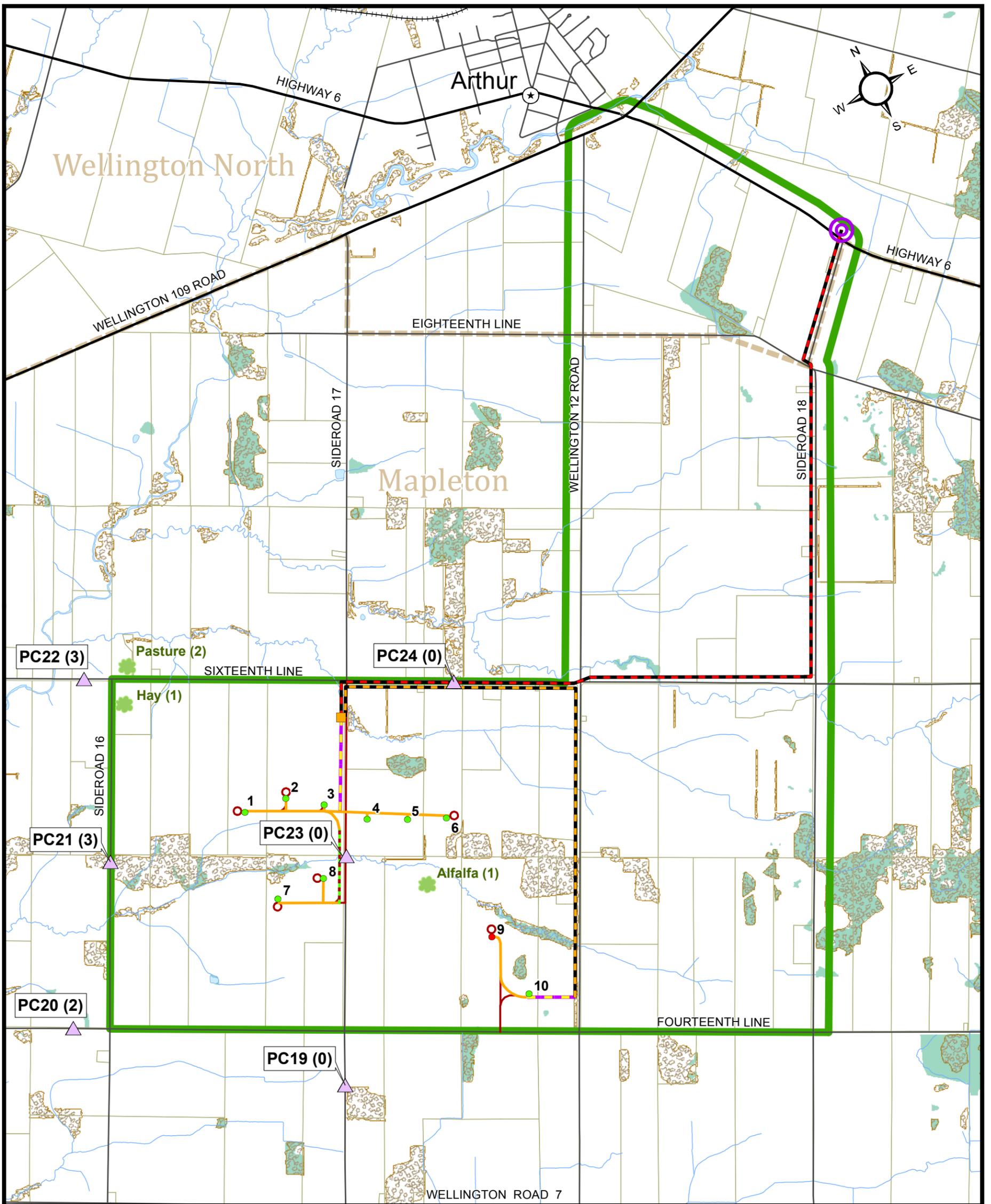
The following table shows what crops were planted in 2010, what crops will be planted in 2011 and what crops are likely to be planted in future years. None of the crops that will be or likely to be planted provide suitable breeding habitat for Bobolinks.

Turbine #	Crop planted in 2010	Intended crop for 2011	Likely crop types in future years
1	Soybean	Corn or soybean	Corn, soy, spring/fall wheat
2	Soybean	Corn or soybean	Corn, soy, spring/fall wheat
3	Soybean	Corn or soybean	Corn, soy, spring/fall wheat
4	Millet	Soybean	Soybean or millet
5	Spring wheat	Soybean	Soy or spring wheat
6	Soybean	Millet or wheat	Soy, millet or wheat
7	Spring wheat	Corn	Corn, soy, spring/fall wheat
8	Spring wheat	Corn	Corn, soy, spring/fall wheat
9	Soybean	Corn	Corn, soy, spring/fall wheat
10	Corn	Soybean	Corn, soy, spring/fall wheat

Conclusion

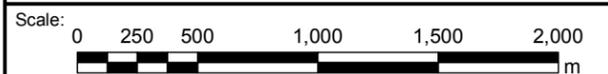
A review of the avifaunal surveys conducted in 2007 and 2010 shows that very few Bobolinks were found near the turbine site locations (8 birds in 2007 and 4 birds in 2010). The closest Bobolink habitat to a turbine was about 300 metres and other suitable habitat was greater than 1500 metres from any of the turbines. Interviews with the landowners indicate that the crop types that attract Bobolinks will not be planted in the fields where the turbines will be placed. Hence, the Conestogo Wind Farm will not have an impact on local Bobolinks.

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Avian Specialist



Legend

- Proposed Siemens 2.221 MW Wind Turbine
- Proposed Siemens 2.3 MW Wind Turbine
- ▲ Point Count Location (# of Bobolink Sightings)
- Crop Type (# of Bobolink Sightings)
- ★ Town / Village
- 34.5 kV / 44 kV Transformer
- 44 kV Overhead Electrical Line
- Proposed 34.5 kV Overhead Electrical Line
- Proposed 34.5 kV Underground Electrical Collector
- Permanent Access Road, Crane Path and UG Electric Collector
- Crane Path with UG Electric Collector
- Permanent Access Road
- ◎ Point of Interconnection
- Road
- Railway
- ~ Watercourse
- Waterbody
- Wetland
- Wooded Area
- Parcel / Lot
- Municipal Lower Tier Boundary
- Conestogo Study Area



Project:
CONESTOGO WIND FARM

Title:
Project Layout and Bobolink Sightings

Project No.: **MA-09-0213-MA** Date: **October 18, 2010**

Revision No.: Drawing No.: **1**