Appendix I
Waterfowl Stopover and Staging Area (Terrestrial) Survey Methods

NATURAL RESOURCE SOLUTIONS INC.
Aquatic, Terrestrial and Wetland Biologists

Memo

Project No. 1275

To: **Amy Cameron**

From: **Andrew Ryckman**

Date: **August 28, 2012**

Re: **Armow Wind Project**
Waterfowl Stopover and Staging Area (Terrestrial) Survey Methods (DRAFT)

As part of the monitoring commitments in the Natural Heritage Environmental Impact Study (EIS) for the Armow Wind Project, Natural Resource Solutions Inc. (NRSI) will be conducting terrestrial waterfowl stopover and staging area surveys to assess potential foraging or resting habitats for migrating waterfowl. These surveys will be completed for the purpose of determining significance under the Renewable Energy Approval (REA) process. These surveys are being completed as part of the EIS component of the Natural Heritage Assessment (NHA) submission for the Armow Wind Project. The NHA submission is currently going through provincial agency review.

Following available MNR guidelines, these surveys have been identified as being required in areas where meadow or thicket fields flood with sheet water during spring according to the Significant Wildlife Habitat Ecoregion 6E Criterion Schedule Addendum (OMNR 2012). To ensure a standardized, and repeatable, approach between each visit as well as multiple years, all surveys will adhere to the standardized methods outlined below.

One candidate significant terrestrial waterfowl stopover and staging area has already been surveyed for significance in 2012. An additional 2 habitats have since been identified within the project area. These habitats have been delineated on the attached figures, although individual point count locations for habitats not yet surveyed will be determined based on the first site visit and are not included in the attached figures.

Although site investigations have identified several habitats as having suitable ELC community types, field surveys may not have been completed at the correct time of year to confirm other types of required site conditions (i.e. spring field sheet water). Prior to conducting detailed wildlife surveys, NRSI biologists will evaluate the site conditions and compare them to provincial requirements. All habitats that meet provincial criteria for candidate significant waterfowl stopover and staging areas (terrestrial) will be surveyed following the methods described below. Any habitats that are determined not to have suitable site conditions will be discussed and confirmed through discussions with the Ministry of Natural Resources (MNR), and will not require additional studies.

Monitoring Locations

Based on available guidelines, including the SWHTG, 2011 Significant Wildlife Habitat 6E Ecoregion Criteria, and Natural Heritage Assessment Guide, NRSI biologists have identified several candidate significant terrestrial waterfowl stopover and staging areas. Field surveys will be conducted at each of these locations provided they meet the following criteria:

- Meadow (CUM1) or thicket (CUT1) fields flooded with sheet water during spring
- Suitable habitat within 120m of a proposed turbine, or overlapping any proposed project component

Habitat assessments for the candidate significant terrestrial waterfowl stopover and staging areas have been identified during the site investigation stage of the project, which began in September 2011. As such, an assessment of spring flooding could not be made during the site investigations as this typically occurs mid-March to May. Prior to the first survey, each habitat will be assessed for spring flooding to determine if suitable habitat exists. If suitable habitat exists, surveys will be conducted in order to determine their level of significance, following the methods outlined below.

The candidate significant habitat locations have been identified in the attached figures and can be found in different locations within the project area. Stopover counts will be conducted for each habitat from a roadside location with a suitable vantage point of the habitat. The objective of this wildlife survey is to estimate the total number of individuals of each species present in the area on a particular visit. Roadside stations are expected to be suitable for surveying this habitat type since these vantage points will readily allow for abundance and species of staging waterfowl to be identified within open fields. In the unlikely event that roadside counts will not provide a suitable vantage point, NRSI will examine other alternatives such as using adjacent properties, where possible, to adequately survey the fields for staging waterfowl.

Monitoring Frequency and Timing

NRSI will conduct terrestrial waterfowl stopover and staging surveys at each location on 3 days, occurring approximately every 14 days between mid-March to May. Each stopover count will be conducted during daylight hours, lasting for 30 minutes at each station. Despite a tentative monitoring schedule, these dates may be shifted slightly depending on weather conditions. In the event that a survey cannot be completed as planned, all attempts will be made to re-schedule this trip as quickly as possible.

Survey Methods

NRSI biologists will conduct a stopover count from the roadside or adjacent habitat where roadside stopover counts do not provide adequate viewpoints, following the guidelines outlined in the Birds and Bird Habitats guidelines (OMNR 2011). These surveys will be conducted for 30 minutes using binoculars and/or a spotting scope to allow enough time to thoroughly scan the area for indication of terrestrial waterfowl stopover and staging. Optimal weather conditions for these surveys are clear, sunny days with little to no precipitation. Surveys will be postponed and re-scheduled if poor weather conditions are encountered, specifically if high winds or heavy precipitation are noted.

Following the Birds and Bird Habitats guidelines, NRSI will record the following information during each survey:

- Level of effort (including date, start and end time, time spent, etc.),
- Weather conditions (wind speed, temperature, cloud cover, precipitation, etc.)
- Name of observer(s) conducting field work,
- Complete list of all waterfowl species detected on each visit,

- Complete list of all other wildlife species,
- Description of general behaviour at time of observation,
- Location of any foraging or resting waterfowl will be mapped,
- Description of habitats or areas scanned during the survey,
- A GPS point of the survey location will be documented on the first visit to be mapped for consistency between visits.

Additional behavior observational surveys will be conducted at features deemed significant waterfowl stopover and staging habitats. The objective of these surveys is to determine flight paths, daily use and seasonal use of the habitat.

Evaluation of Significance and Reporting

At the completion of the monitoring program, NRSI will review all data collected during the monitoring period and compare it to provincial standards for significant terrestrial waterfowl stopover and staging areas. These standards, as observed in the SWH 6E Ecoregion Criterion Schedule, include mixed species aggregations of 100 or more individuals of any of the following species:

- American black duck
- wood duck
- green-winged teal
- blue-winged teal
- mallard
- northern pintail
- northern shoveler
- American widgeon
- gadwall.

Following the review of the data collected during the terrestrial waterfowl stopover and staging field studies, NRSI will prepare a detailed memo that describes the specific methods employed and details the results of the terrestrial waterfowl stopover and staging surveys. This memo will be prepared in a way that is consistent with appropriate provincial guidelines and recommendations relating to renewable energy projects, including specific details relating to the evaluation of significance of each feature. For each feature, NRSI will also outline any potential impacts and appropriate mitigation measures (if necessary), as identified in the Natural Heritage EIS. Other appropriate information, including habitat descriptions, photos, field notes, and detailed habitat mapping, will also be included as part of the memo submission, as deemed necessary. This memo will be provided to the MNR for review and comment prior to the onset of construction activities at the Armow Wind Project.

Sincerely,

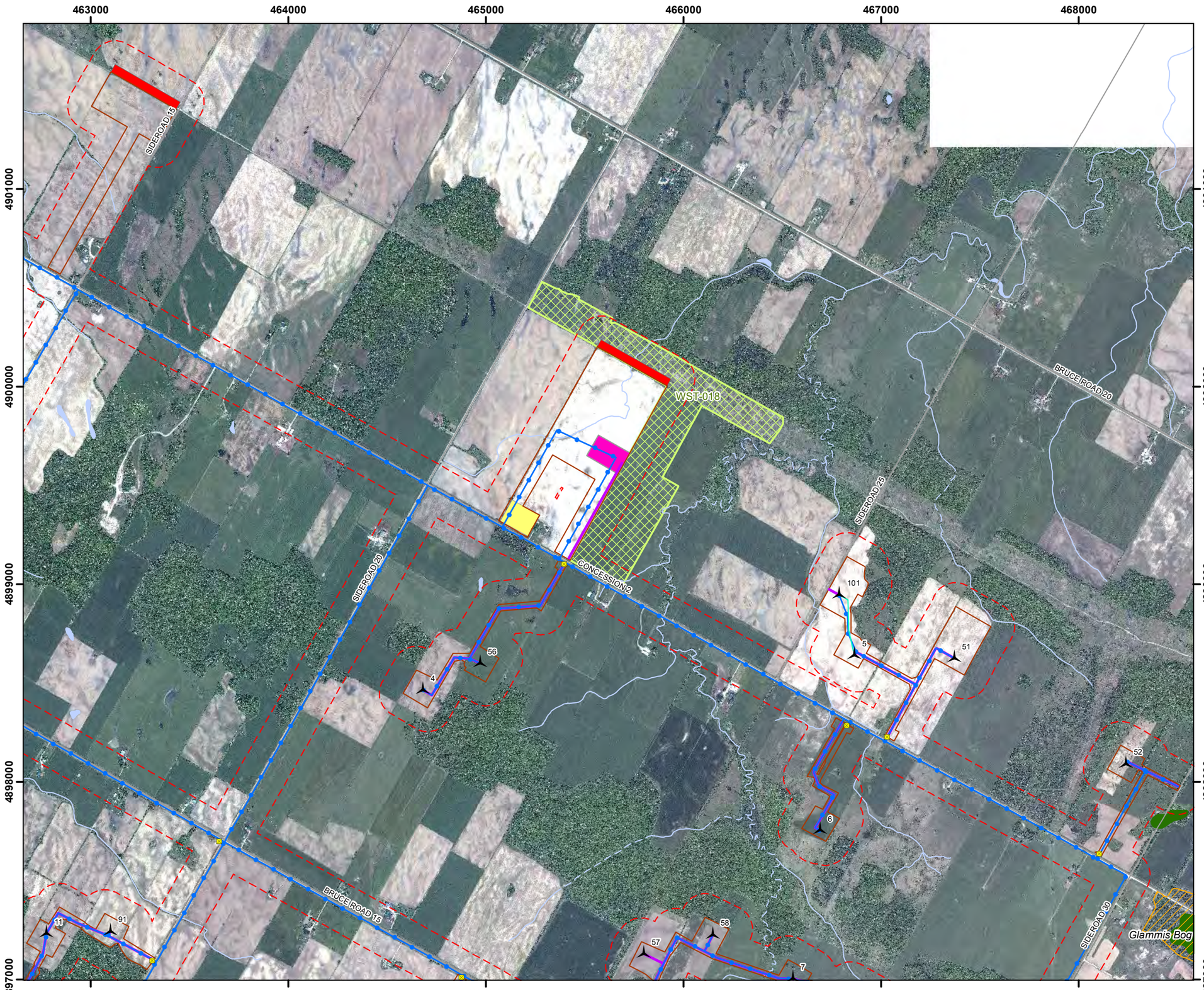


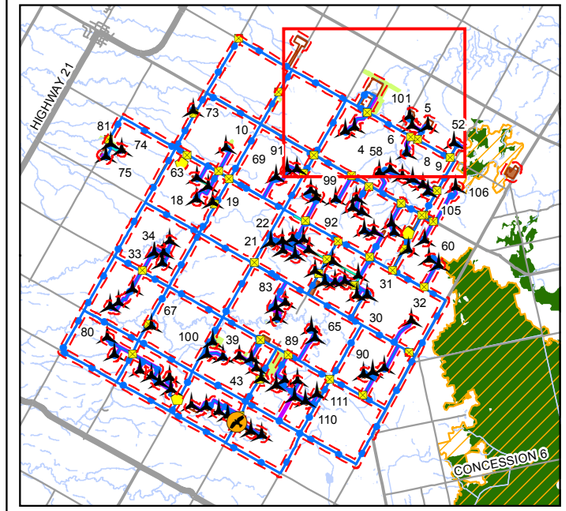
Andrew Ryckman
Terrestrial and Wetland Biologist

Map 1

Armow Wind Project

Waterfowl Stopover and Staging Area (Terrestrial) - Monitoring Locations





Legend

- Project Area (120m)
- Proposed Turbine (L12 Rev1)
- MET Tower
- Junction Box
- Crane Walk
- Cabling
- Access Road
- Disturbance Area
- Potential Operations Building
- Substation
- Staging Area
- Interconnect Area
- Highway
- Primary Road
- Secondary Road
- ANSI, Life Science
- Provincially Significant Wetland
- Waterfowl Stopover & Staging Area - Terrestrial (2012)
- Waterfowl Stopover & Staging Area - Terrestrial (2013)
- Waterfowl Monitoring Station
- Waterbody
- Watercourse (Permanent)
- Watercourse (Intermittent)

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Aquatic, Terrestrial and Wetland Biologists

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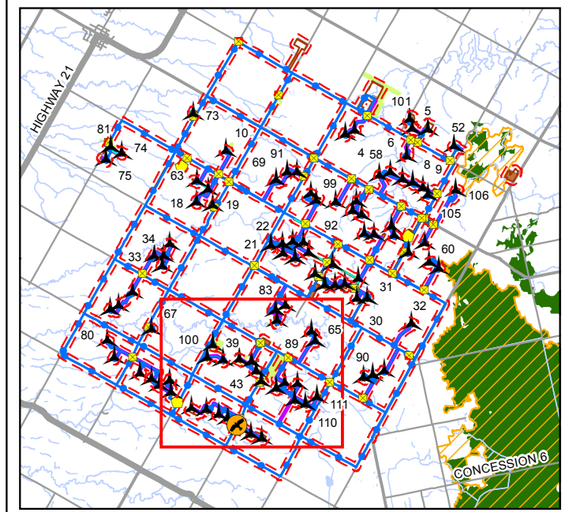
Map 2

Armow Wind Project

Waterfowl Stopover and Staging Area (Terrestrial) - Monitoring Locations

Legend

- Project Area (120m)
- Proposed Turbine (L12 Rev1)
- MET Tower
- Junction Box
- Crane Walk
- Cabling
- Access Road
- Disturbance Area
- Potential Operations Building
- Substation
- Staging Area
- Interconnect Area
- Highway
- Primary Road
- Secondary Road
- ANSI, Life Science
- Provincially Significant Wetland
- Waterfowl Stopover & Staging Area - Terrestrial (2012)
- Waterfowl Stopover & Staging Area - Terrestrial (2013)
- Waterfowl Monitoring Station
- Waterbody
- Watercourse (Permanent)
- Watercourse (Intermittent)



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Appendix II
Waterfowl Stopover and Staging Area (Aquatic) Survey Methods

NATURAL RESOURCE SOLUTIONS INC.
Aquatic, Terrestrial and Wetland Biologists

Memo

Project No. 1275

To: **Amy Cameron**

From: **Andrew Ryckman**

Date: **August 28, 2012**

Re: **Armow Wind Project**
Waterfowl Stopover and Staging Area (Aquatic) Survey Methods (DRAFT)

As part of the monitoring commitments in the Natural Heritage Environmental Impact Study (EIS) for the Armow Wind Project, Natural Resource Solutions Inc. (NRSI) will be conducting aquatic waterfowl stopover and staging area surveys to assess potential foraging or resting habitats for migrating waterfowl. These surveys will be completed for the purpose of determining significance under the Renewable Energy Approval (REA) process. These surveys are being completed as part of the EIS component of the Natural Heritage Assessment (NHA) submission for the Armow Wind Project. The NHA submission is currently going through provincial agency review.

Following available MNR guidelines, these surveys have been identified as being required in ponds, marshes, lakes, bays, coastal inlets, and watercourses used during migration, according to the Ecoregion 6E Criterion Schedule Addendum (OMNR 2012). To ensure a standardized and repeatable approach between each visit as well as multiple years, all surveys will adhere to the following standardized methods.

Although site investigations have identified several habitats as having suitable ELC community types, field surveys may not have been completed at the correct time of year to confirm other types of required site conditions (i.e. suitable permanent open water). Prior to conducting detailed wildlife surveys, NRSI biologists will evaluate the site conditions and compare them to provincial requirements. All habitats that meet provincial criteria for candidate significant waterfowl stopover and staging areas (aquatic) will be surveyed following the methods described below. Any habitats that are determined not to have suitable site conditions will be discussed and confirmed through discussions with the Ministry of Natural Resources (MNR), and will not require additional studies.

<u>Monitoring Locations</u>
Based on available guidelines, including the Significant Wildlife Habitat 6E Ecoregion Criterion Schedule (OMNR 2012), and Natural Heritage Assessment Guide (OMNR 2011), NRSI biologists have identified up to 23 candidate significant aquatic waterfowl stopover and staging areas. Field surveys will be conducted at each of these locations because they meet the following criteria:

- One of the following ELC community types: MAM1, MAM2, MAM3, MAM4, MAM5, MAM6, MAS1, MAS2, MAS3, SAS1, SAM1, SAF1, SWD1, SWD2, SWD3, SWD4, SWD5, SWD6, SWD7
- Suitable habitat within 120m of a proposed wind turbine location, or overlapping any proposed project component

The 23 candidate significant habitat locations have been identified in the attached figures and can be found throughout a large portion of the project area. Stopover counts will be conducted for each habitat from a roadside location with a suitable vantage point of the habitat. Each habitat will be evaluated for open water during the first site visit and those with unsuitable habitat will not be visited again. The objective of the wildlife survey is to estimate the total number of individuals of each species present in the area on a particular visit. Roadside stations are expected to be suitable for surveying this habitat type since these vantage points will readily allow for abundance and species of staging waterfowl to be identified within open fields. In the unlikely event that roadside counts will not provide a suitable vantage point, NRSI will examine other alternatives such as using adjacent properties, where possible, to adequately survey the fields for staging waterfowl in order to avoid disturbing staging waterfowl.

Monitoring Frequency and Timing

NRSI will conduct aquatic waterfowl stopover and staging surveys at the 23 locations on 3 days, occurring approximately every 14 days between mid-March to May. Each stopover count will be conducted during daylight hours between 8am and 5pm, lasting for 30 minutes at each station. The exact monitoring dates may be shifted slightly depending on weather conditions. In the event that a survey cannot be completed as planned, all attempts will be made to re-schedule this trip as quickly as possible.

Survey Methods

NRSI biologists will conduct a stopover count from the roadside or adjacent habitat where roadside stopover counts do not provide adequate viewpoints, following the guidelines outlined in the Birds and Bird Habitats guidelines (OMNR 2011). These surveys will be conducted for 30 minutes using binoculars and/or a spotting scope to allow enough time to thoroughly scan the area for indications of aquatic waterfowl stopover and staging. Optimal weather conditions for these surveys are clear, sunny days with little to no precipitation. Surveys will be postponed and re-scheduled if poor weather conditions are encountered, specifically if high winds or heavy precipitation are noted.

Following the Birds and Bird Habitats guidelines, NRSI will record the following information during each survey:

- Level of effort (including date, start and end time, time spent, etc.),
- Weather conditions (wind speed, temperature, cloud cover, precipitation, etc.)
- Name of observer(s) conducting field work,
- Complete list of all waterfowl species detected on each visit,
- Complete list of all other wildlife species,
- Description of general behaviour at time of observation,
- Location of any foraging or resting waterfowl will be mapped,
- Description of habitats or areas scanned during the survey,
- A GPS point of the survey location will be documented on the first visit to be mapped for consistency between visits.

Additional behaviour observational surveys will be conducted at features deemed significant waterfowl stopover and staging habitats. The objective of these surveys is to determine flight paths, daily use and seasonal use of the habitat.

Evaluation of Significance and Reporting

At the completion of the monitoring program, NRSI will review all data collected during the monitoring period and compare it to provincial standards for significant aquatic waterfowl stopover and staging areas. These standards, as observed in the SWH 6E Ecoregion Criterion Schedule, include:

- Areas with annual staging of ruddy ducks, canvasbacks, and redheads are SWH, or
- Mixed species aggregations of 100 or more individuals of any of the species identified in the SWH 6E Ecoregion Criterion Schedule:

Following the review of the data collected during the aquatic waterfowl stopover and staging field studies, NRSI will prepare a detailed memo that describes the specific methods employed and details the results of the 2013 aquatic waterfowl stopover and staging surveys. This memo will be prepared in a way that is consistent with appropriate provincial guidelines and recommendations relating to renewable energy projects, including specific details relating to the evaluation of significance of each feature. For each feature, NRSI will also outline any potential impacts and appropriate mitigation measures (if necessary), as identified in the Natural Heritage EIS. Other appropriate information, including habitat descriptions, photos, field notes, and detailed habitat mapping, will also be included as part of the memo submission, as deemed necessary. This memo will be provided to the MNR for review and comment prior to the onset of construction activities at the Armow Wind Project.

Sincerely,



Andrew Ryckman
Terrestrial and Wetland Biologist

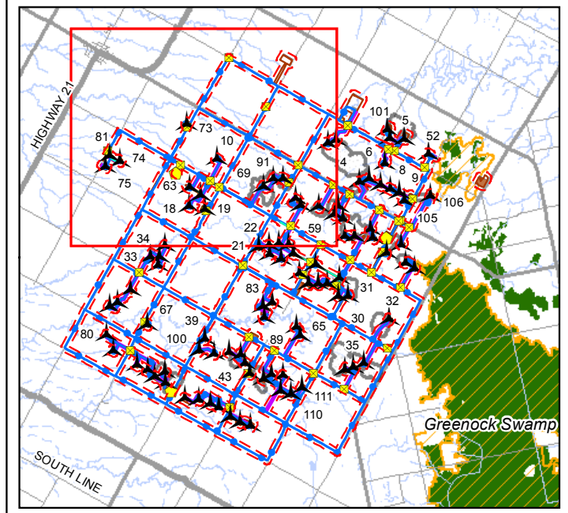
Map 1

Armow Wind Project

Waterfowl Stopover and Staging Areas (Aquatic) Monitoring Locations

Legend

- Project Area (120m)
- Proposed Turbine (L12 Rev1)
- MET Tower
- Junction Box
- Crane Walk
- Cabling
- Access Road
- Disturbance Area
- Potential Operations Building
- Substation
- Staging Area
- Interconnect Area
- Highway
- Primary Road
- Secondary Road
- ANSI, Life Science
- Provincially Significant Wetland
- Waterbody
- Watercourse (Permanent)
- Watercourse (Intermittent)
- Waterfowl Stopover and Staging Area (Aquatic) (WSA)



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Aquatic, Terrestrial and Wetland Biologists

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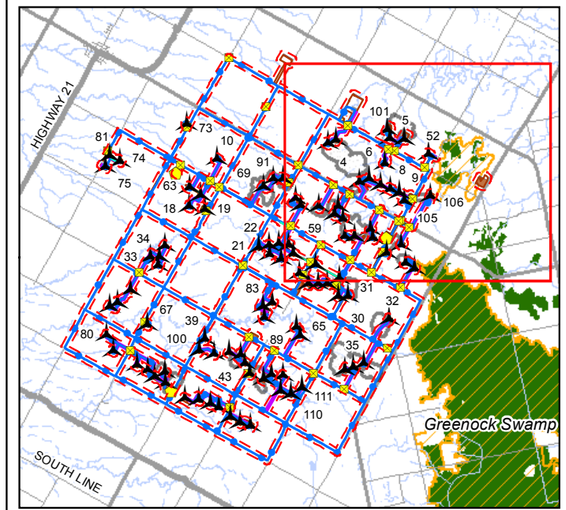
Map 2

Armow Wind Project

Waterfowl Stopover and Staging Areas (Aquatic) Monitoring Locations

Legend

- Project Area (120m)
- Proposed Turbine (L12 Rev1)
- MET Tower
- Junction Box
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- Waterfowl Stopover and Staging Area (Aquatic) (WSA)



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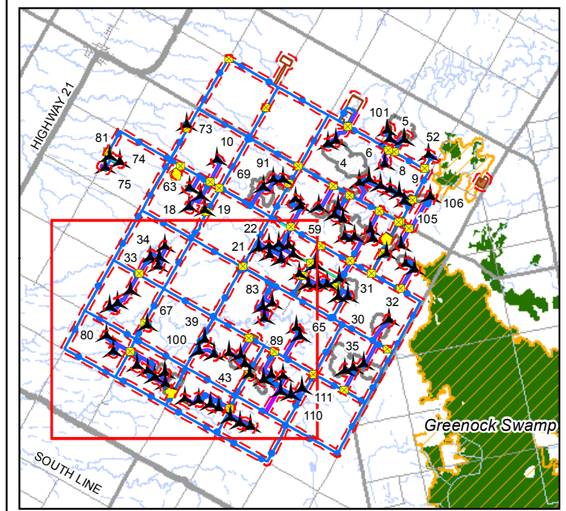
Map 3

Armow Wind Project

Waterfowl Stopover and Staging Areas (Aquatic) Monitoring Locations

Legend

- Project Area (120m)
- Proposed Turbine (L12 Rev1)
- MET Tower
- Junction Box
- Crane Walk
- Cabling
- Access Road
- Disturbance Area
- Potential Operations Building
- Substation
- Staging Area
- Interconnect Area
- Highway
- Primary Road
- Secondary Road
- ANSI, Life Science
- Provincially Significant Wetland
- Waterbody
- Watercourse (Permanent)
- Watercourse (Intermittent)
- Waterfowl Stopover and Staging Area (Aquatic) (WSA)



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Aquatic, Terrestrial and Wetland Biologists

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Date: Date: October 24, 2012

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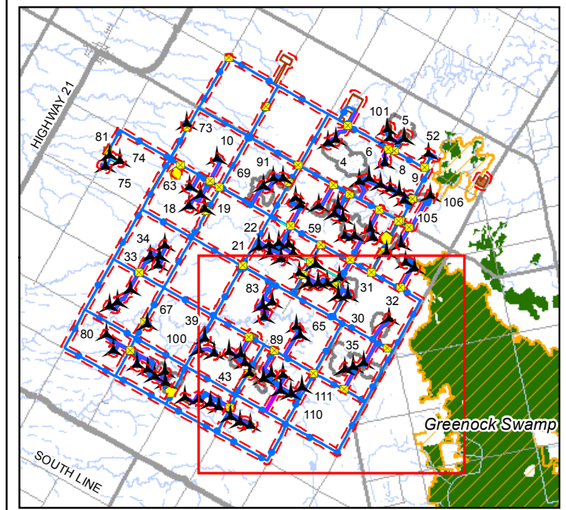
Map 4

Armow Wind Project

Waterfowl Stopover and Staging Areas (Aquatic) Monitoring Locations

Legend

- Project Area (120m)
- Proposed Turbine (L12 Rev1)
- MET Tower
- Junction Box
- Crane Walk
- Cabling
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- Disturbance Area
- Potential Operations Building
- Substation
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- Secondary Road
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- Provincially Significant Wetland
- Waterbody
- Watercourse (Permanent)
- Watercourse (Intermittent)
- Waterfowl Stopover and Staging Area (Aquatic) (WSA)



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Aquatic, Terrestrial and Wetland Biologists

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WSA-002 · WSA-004 · WSA-006 · WSA-007 · WSA-012 · WSA-013 · WSA-017 · WSA-025

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Appendix III
Shorebird Migratory Stopover Area Survey Methods

NATURAL RESOURCE SOLUTIONS INC.
Aquatic, Terrestrial and Wetland Biologists

Memo

Project No. 1275

To: **Amy Cameron**

From: **Andrew Ryckman**

Date: **August 28, 2012**

Re: **Armow Wind Project**
Shorebird Migratory Stopover Area Survey Methods (DRAFT)

As part of the monitoring commitments in the Natural Heritage Environmental Impact Study (EIS) for the Armow Wind Project, Natural Resource Solutions Inc. (NRSI) will be conducting shorebird migratory stopover area surveys to assess potential foraging or resting habitats for migrating shorebirds. These surveys will be completed for the purpose of determining significance under the Renewable Energy Approval (REA) process. These surveys are being completed as part of the EIS component of the Natural Heritage Assessment (NHA) submission for the Armow Wind Project. The NHA submission is currently going through provincial agency review.

Following available MNR guidelines, these surveys have been identified as being required along shorelines of lakes, rivers and wetlands, including beach areas, bars and seasonally flooded, muddy and un-vegetated shoreline habitats, according to the Significant Wildlife Habitat Ecoregion 6E Criterion Schedule (OMNR 2012). To ensure a standardized, and repeatable, approach between each visit as well as multiple years, all surveys will adhere to the following standardized methods.

Although site investigations have identified several habitats as having suitable ELC community types, field surveys may not have been completed at the correct time of year to confirm other types of required site conditions (i.e. seasonally flooded, un-vegetated open areas). Prior to conducting detailed wildlife surveys, NRSI biologists will evaluate the site conditions and compare them to provincial requirements. All habitats that meet provincial criteria for candidate significant shorebird migratory stopover areas will be surveyed following the methods described below. Any habitats that are determined not to have suitable site conditions will be discussed and confirmed through discussions with the Ministry of Natural Resources (MNR), and will not require additional studies.

Monitoring Locations

Based on available guidelines, including the Significant Wildlife Habitat 6E Ecoregion Criterion Schedule (OMNR 2012), and Natural Heritage Assessment Guide (OMNR 2011), NRSI biologists have identified 2 candidate significant shorebird migratory stopover areas. These locations meet the following criteria for requiring field surveys to determine level of significance:

- One of the following ELC community types: BBO1, BBO2, BBS1, BBS2, BBT1, BBT2, SDO1, SDS2, SDT1, MAM1, MAM2, MAM3, MAM4, MAM5
- Suitable habitat within 120m of a proposed wind turbine location, or overlapping any proposed project component

Habitat assessments for the 2 candidate significant shorebird migratory stopover areas have been identified during the site investigation stage of the project, which began in September 2011.

The 2 candidate significant habitat locations have been identified in the attached figures and can be found within a small portion of the project area. Stopover point count locations will be determined based on conditions at the site on the first survey and have not been included on the attached figures. Counts will be conducted within each habitat with a suitable vantage point of the habitat. The objective of this wildlife survey is to estimate the total number of individuals of each species present in the area on a particular visit. Roadside stations will be utilized for surveying this habitat type if no property access is granted. In the event that roadside counts will not provide a suitable vantage point, NRSI will examine other alternatives such as using adjacent properties, where possible, to adequately survey for shorebirds.

Monitoring Frequency and Timing

NRSI will conduct shorebird migratory stopover surveys at the 2 locations, occurring once during each of the following 10-day periods: April 21-30, May 1-10, May 11-20, May 21-30, May 31- June 9, for a total of 5 visits per habitat. Each stopover count will be conducted during daylight hours, between sunrise and 12:00pm with low wind speed and no rainfall or fog conditions. The best time to count depends on the survey area and the behaviour of the birds in this area, therefore, survey times may be altered after the first few site visits. Despite a tentative monitoring schedule, surveys will be postponed and re-scheduled if poor weather conditions are encountered, specifically if high winds or heavy precipitation are noted. In the event that a survey cannot be completed as planned, all attempts will be made to re-schedule this trip as quickly as possible.

Survey Methods

NRSI biologists will conduct a stopover count from within the habitat where property access is granted, otherwise counts will be conducted roadside or from an adjacent habitat where roadside stopover counts do not provide adequate viewpoints, following the guidelines outlined in the Birds and Bird Habitats guidelines (OMNR 2011). These surveys will be conducted for 30 minutes using binoculars and/or a spotting scope to allow enough time to thoroughly scan the area for indications of shorebird stopover areas.

Following the Birds and Bird Habitats guidelines, NRSI will record the following information during each survey:

- Level of effort (including date, start and end time, time spent, etc.),
- Weather conditions (wind speed, temperature, cloud cover, precipitation, etc.)
- Name of observer(s) conducting field work,
- Complete list of all shorebird species detected on each visit,
- Complete list of all other wildlife species,

- Description of general behaviour at time of observation,
- Location of any foraging or resting shorebirds will be mapped,
- Description of habitats or areas scanned during the survey,
- A GPS point of the survey location will be documented on the first visit to be mapped for consistency between visits.

Additional behaviour observational surveys will be conducted at features deemed significant shorebird migratory stopover areas. The objective of these surveys is to determine flight paths, daily use and seasonal use of the habitat.

Evaluation of Significance and Reporting

At the completion of the monitoring program, NRSI will review all data collected during the monitoring period and compare it to provincial standards for significant shorebird migratory stopover areas. These standards, as observed in the SWH 6E Ecoregion Criterion Schedule, include:

- any site with >100 Whimbrel used for 3 years or more is significant,
- the presence of 3 or more of listed species and >1000 shorebird use days during spring or fall migration period (shorebird use days are the accumulated number of shorebirds counted per day over the course of the fall or spring migration period).

Listed species include:

- Greater Yellowlegs
- Lesser Yellowlegs
- Marbled Godwit
- Hudsonian Godwit
- Black-bellied Plover
- American Golden-Plover
- Semipalmated Plover
- Solitary Sandpiper
- Spotted Sandpiper
- Semipalmated Sandpiper
- Pectoral Sandpiper
- White-rumped Sandpiper
- Baird's Sandpiper
- Least Sandpiper
- Purple Sandpiper
- Stilt Sandpiper
- Short-billed Dowitcher
- Red-necked Phalarope
- Whimbrel
- Ruddy Turnstone
- Sanderling
- Dunlin

Following the review of the data collected during the shorebird migratory stopover area field studies, NRSI will prepare a detailed memo that describes the specific methods employed and details the results of the surveys. This memo will be prepared in a way that is consistent with appropriate provincial guidelines and recommendations relating to renewable energy projects, including specific details relating to the evaluation of significance of each feature. For each significant feature, NRSI will also outline any potential impacts and appropriate mitigation measures (if necessary), as identified in the Natural Heritage EIS. Other appropriate information, including habitat descriptions, photos, field notes, and detailed habitat mapping, will also be included as part of the

memo submission, as deemed necessary. This memo will be provided to the MNR for review and comment prior to the onset of construction activities at the Armow Wind Project.

Sincerely,



Andrew Ryckman
Terrestrial and Wetland Biologist

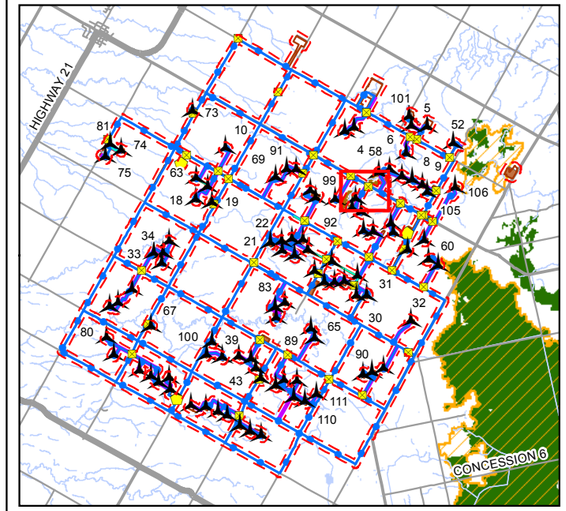
Armow Wind Project

Shorebird Migratory Stopover Area - Monitoring Locations



Legend

- Project Area (120m)
- Proposed Turbine (L12 Rev1)
- MET Tower
- Junction Box
- Crane Walk
- Cabling
- Access Road
- Disturbance Area
- Potential Operations Building
- Substation
- Staging Area
- Interconnect Area
- Highway
- Primary Road
- Secondary Road
- ANSI, Life Science
- Provincially Significant Wetland
- Waterbody
- Watercourse (Permanent)
- Watercourse (Intermittent)
- Shorebird Migratory Stopover Area (SHM)



Natural Resource Solutions Inc.
Aquatic, Terrestrial and Wetland Biologists

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Project: 1275A Date: October 24, 2012	NAD83 - UTM Zone 17 Size: 11x17" **1:5,000**

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Appendix IV
Raptor Winter Feeding and Roosting Area Survey Methods

NATURAL RESOURCE SOLUTIONS INC.
Aquatic, Terrestrial and Wetland Biologists

Memo

Project No. 1275

To: **John Boos**

From: **Andrew Ryckman**

Date: **February 3, 2012**

Re: **Armow Wind Farm**
Winter Raptor Survey Methods

As part of the monitoring program for the Armow Wind Farm, Natural Resource Solutions Inc. (NRSI) will be conducting winter raptor surveys to assess potential roosting, foraging, and resting habitats for wintering raptors. These surveys are currently being completed for the purpose of determining significance under the Renewable Energy Approval (REA) process. These surveys are being committed as part of the Environmental Impact Study (EIS) component of the Natural Heritage Assessment (NHA) submission for the Armow Wind Farm.

Following available MNR guidelines, these surveys have been identified as being required in areas where a combination of at least 20ha of combined forest and upland habitat, with the Significant Wildlife Habitat Technical Guide (SWHTG) (OMNR 2000) indicating a minimum of 15ha of upland habitat should be present. To ensure a standardized, and repeatable, approach between each visit as well as multiple years, all surveys will adhere to the following standardized methods.

Monitoring Locations

Based on available guidelines, including the SWHTG, 2011 Significant Wildlife Habitat 6E Ecoregion Criteria, and Natural Heritage Assessment Guide, NRSI biologists have identified 45 locations where winter raptor surveys will be conducted. These locations meet the following criteria for requiring field surveys to determine level of significance:

- At least 20ha of combined forest (FOD, FOM, or FOC) and upland (CUM, CUT, CUS, or CUW),
- At least 15ha of upland habitat (CUM, CUT, CUS, CUW, or low-impact agriculture or pasture),
- Suitable habitat within 120m of a proposed wind turbine or overhead line

These 45 locations have all been identified in the attached Figures and can be found throughout a large portion of the project site. These locations include 33 roadside scans and 12 walked transects. Walking transects have been conducted on properties where site access has been granted, whereas roadside counts were conducted on properties where site access was not granted and/or roadside surveys were determined to provide an adequate viewpoint of the woodland edge and field that may provide the specific roosting or foraging habitat.

In accordance with guidance provided in the Natural Heritage Assessment Guide, Appendix D, only suitable habitat within 120m of a wind turbine (measured from blade tip) or an overhead line have been considered for field studies. Suitable habitats within 120m of other project components will be considered as generalized wildlife habitat and addressed accordingly in the Environmental Impact Study.

Monitoring Frequency and Timing

Through initial discussions with MNR staff on other projects, NRSI will conduct winter raptor surveys at these 45 locations approximately every 7 days throughout January and February 2012. A small number of stations were added late in the process and will receive at least 5 weeks of survey before the end of February, but were not surveyed in early January. Exact time spent at each habitat will largely be dependent on site access, length of woodland edge, and number of birds observed, however all surveys will occur during daylight hours, approximately between 0900-1600hrs, when raptors are expected to be most visible at potential perching locations.

Based on the guidance provided by the MNR, NRSI proposes to conduct surveys approximately 7 days apart, totaling 4 visits in January and 4 visits in February. Despite a tentative monitoring schedule, these dates may be shifted slightly depending on weather conditions. In the event that a survey cannot be completed as planned, all attempts will be made to re-schedule this trip as quickly as possible.

At the end of January 2012, NRSI will review the results to determine if surveys should continue for the remaining 4 week survey period in February. In the event that none of the 6 indicator species (as identified by the Draft 2011 SWH 6E Ecoregion Criteria) are observed during any of the first 4 visits, NRSI will conclude that these habitats are not significant raptor wintering areas and will discontinue surveys at these locations for the remainder of the monitoring program. In this instance, an email notification to the MNR will be provided to deliver initial results and confirm the approach to discontinue studies. The few stations that had surveys begin later than the date described above will continue until the end of February regardless of preliminary results. At least 5 weekly visits will be conducted at each station before the end of February.

Survey Methods

Where site access is available (12 locations), NRSI biologists will conduct a standardized area search method on each visit, following the guidelines outlined in the Birds and Bird Habitats guidelines (OMNR 2011). These areas searches will follow a prescribed route along the woodland edge searching for perching raptors or other raptor activity indicative of winter foraging areas. Although these surveys are designed to focus on wintering raptors, all bird or other wildlife species observed will also be documented. Following the Birds and Bird Habitats guidelines, NRSI will record the following information during each survey:

- Level of effort (including start and end time, time spent, weather conditions, transect distance, etc.),
- Complete list of all raptor species,
- Complete list of all other wildlife species,
- Description of general behaviour at time of observation,
- Mapped observation point,
- Description of habitats covered,
- A GPS track log will be recorded on the first visit to be mapped for consistency between visits.

Where site access is unavailable and/or an appropriate vantage point of the woodland edge and field habitat is available, NRSI biologists will conduct behavioural studies from the roadside, adjacent property, or other suitable vantage point (33 locations). These surveys will be conducted for 30 minutes to allow enough time to thoroughly scan the woodland edge and field for indication of raptor perching or foraging.

Data collected will be similar to that for standardized area searches, and will include:

- Level of effort (including start and end time, time spent, weather conditions, etc.),
- Complete list of all raptor species,
- Complete list of all other wildlife species,
- Description of general behaviour at time of observation,
- Mapped observation point,
- Description of habitats or areas scanned during the survey,
- A GPS point of the survey location will be documented on the first visit to be mapped for consistency between visits.

Evaluation of Significance and Reporting

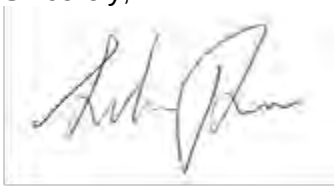
At the completion of the monitoring program in late February 2012, NRSI will review all data collected during the monitoring period and compare it to provincial standards for significant raptor wintering areas. These standards, as observed in the SWH 6E Ecoregion Criteria, include:

- One or more short-eared owls ((*Asio flammeus*), or
- At least 10 individuals and two indicator species, and
- Used regularly for a minimum of 20 days by either of the above number of birds.

Following the review of the data collected during the winter raptor field studies, NRSI will prepare a detailed memo that describes the specific methods and presents the results of the 2012 winter raptor surveys. This memo will be prepared in a way that is consistent with appropriate provincial guidelines and recommendations relating to renewable energy projects, including specific details relating to the evaluation of significance of each feature. For each feature, NRSI will also outline any potential impacts and appropriate mitigation measures (if necessary). Other appropriate information, including habitat descriptions, photos, and detailed mapping, will also be included as part of the memo submission. This memo will be provided to the MNR for review and comment.

These studies are expected to be completed concurrently with the completion of the Natural Heritage Assessment (NHA). In the event that these studies are completed before MNR approval of the NHA, the information may be directly incorporated into these reports rather than within a separate memo for MNR approval.

Sincerely,



Andrew Ryckman
Terrestrial and Wetland Biologist

Map 1

Armow Wind Farm

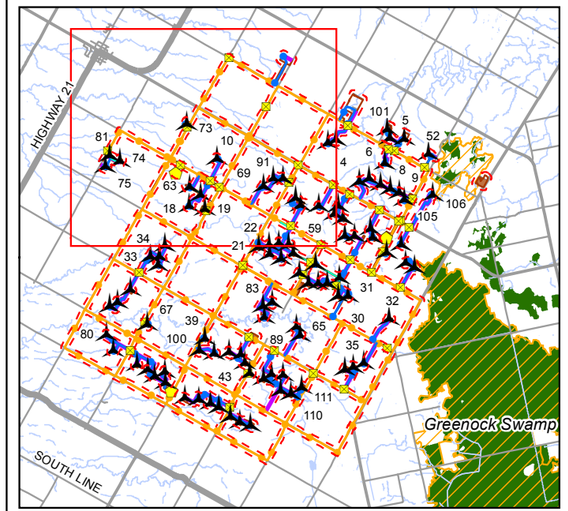
Raptor Winter Feeding and Roosting Areas - Monitoring Locations

Legend

- Project Area (120m)
- Proposed Turbine (L12 Rev1)
- MET Tower
- Junction Box
- Crane Walk
- Cabling
- Access Road
- Disturbance Area
- Potential Operations Building
- Substation
- Staging Area
- Interconnect Area
- Highway
- Primary Road
- Secondary Road
- ANSI, Life Science
- Provincially Significant Wetland
- Waterbody
- Watercourse (Permanent)
- Watercourse (Intermittent)

Raptor Winter Feeding and Roosting Monitoring Stations

- Raptor Winter Feeding and Roosting Habitat (RWA)
- Walking Transect
- Point Count Location



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Date: Date: September 12, 2012

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Map 2

Armow Wind Farm

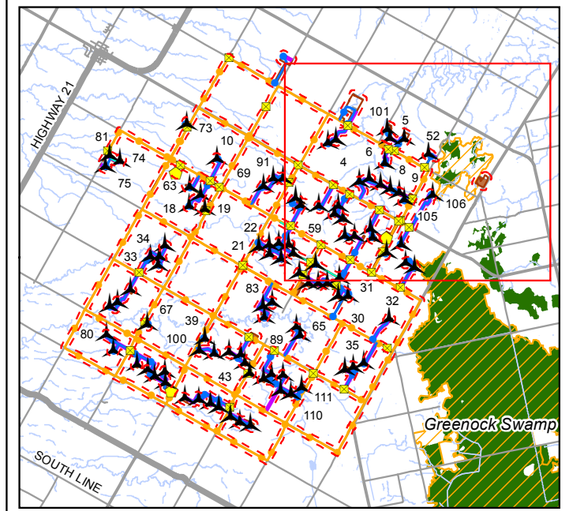
Raptor Winter Feeding and Roosting Areas - Monitoring Locations

Legend

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- Waterbody
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Raptor Winter Feeding and Roosting Monitoring Stations

- Raptor Winter Feeding and Roosting Habitat (RWA)
- Walking Transect
- Point Count Location



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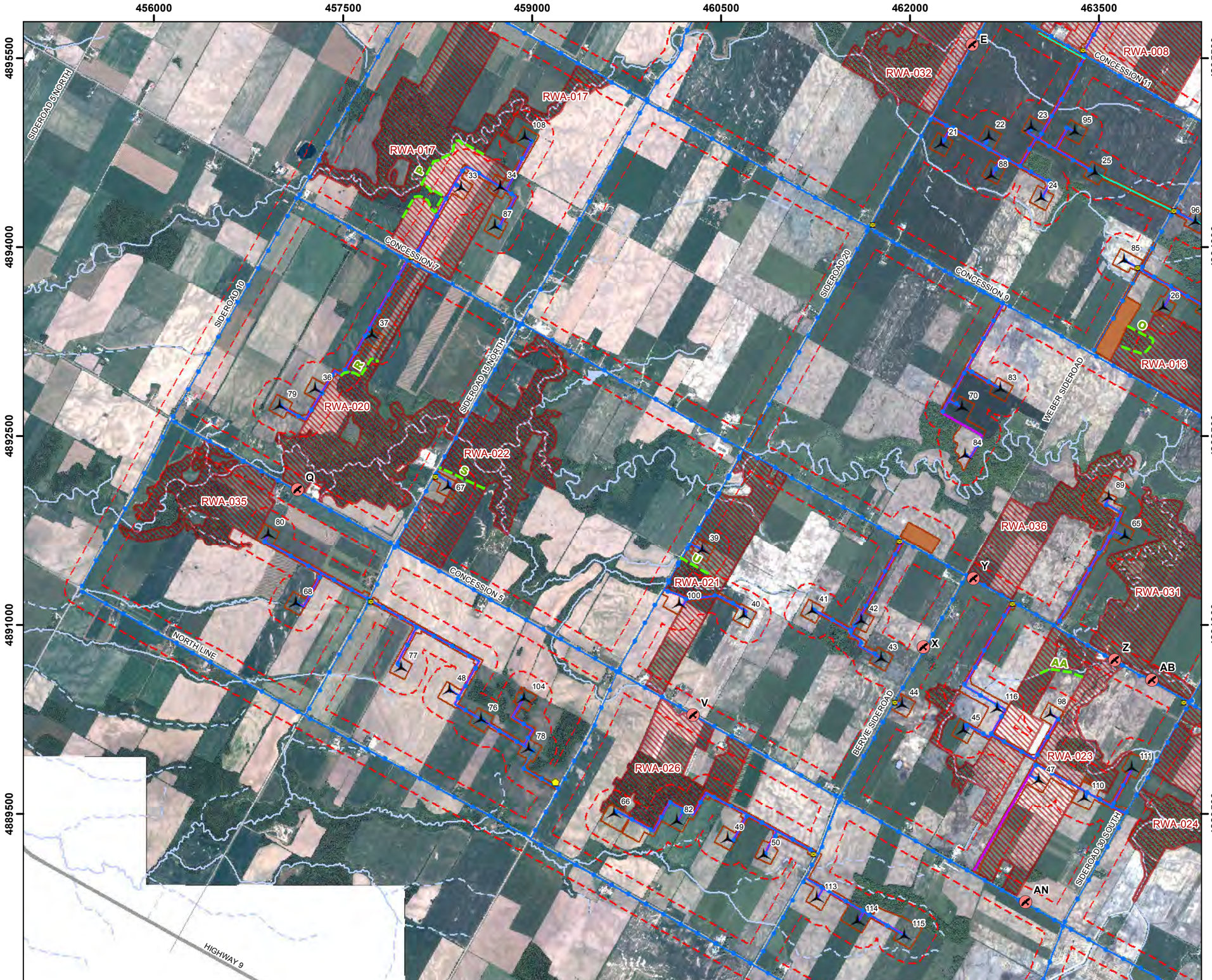
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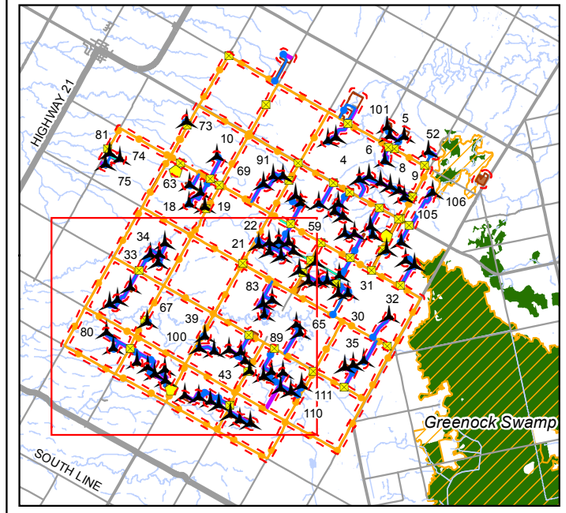
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Map 3

Armow Wind Farm

Raptor Winter Feeding and Roosting Areas - Monitoring Locations





Legend

- Project Area (120m)
- Proposed Turbine (L12 Rev1)
- MET Tower
- Junction Box
- Crane Walk
- Cabling
- Access Road
- Disturbance Area
- Potential Operations Building
- Substation
- Staging Area
- Interconnect Area
- Highway
- Primary Road
- Secondary Road
- ANSI, Life Science
- Provincially Significant Wetland
- Waterbody
- Watercourse (Permanent)
- Watercourse (Intermittent)

Raptor Winter Feeding and Roosting Monitoring Stations

- Raptor Winter Feeding and Roosting Habitat (RWA)
- Walking Transect
- Point Count Location

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Project: 1275A Date: Date: September 12, 2012	NAD83 - UTM Zone 17 Size: 11x17" **1:30,000**

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Map 4

Armow Wind Farm

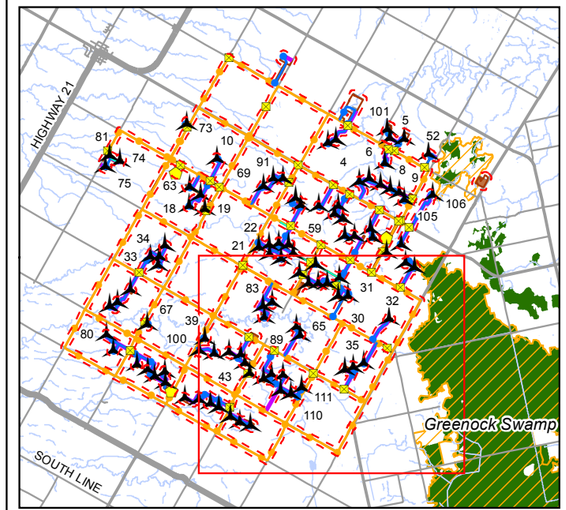
Raptor Winter Feeding and Roosting Areas - Monitoring Locations

Legend

- Project Area (120m)
- Proposed Turbine (L12 Rev1)
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- Watercourse (Intermittent)

Raptor Winter Feeding and Roosting Monitoring Stations

- Raptor Winter Feeding and Roosting Habitat (RWA)
- Walking Transect
- Point Count Location



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Project: 1275A
Date: Date: September 12, 2012

NAD83 - UTM Zone 17
Size: 11x17"
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Appendix V
Bat Maternity Colony Survey Methods

NATURAL RESOURCE SOLUTIONS INC.
Aquatic, Terrestrial and Wetland Biologists

Memo

Project No. 1275

To: **Amy Cameron**

From: **Andrew Ryckman**

Date: **August 28, 2012**

Re: **Armow Wind Project**
Bat Maternity Colony Habitat Survey Methods (DRAFT)

As part of the monitoring commitments in the Natural Heritage Environmental Impact Study (EIS) for the Armow Wind Project, Natural Resource Solutions Inc. (NRSI) will be conducting bat maternity colony habitat surveys to assess the use of candidate significant habitats by bats. These surveys will be completed for the purpose of determining significance under the Renewable Energy Approval (REA) process. These surveys are being completed as part of the EIS component of the Natural Heritage Assessment (NHA) submission for the Armow Wind Project. The NHA submission is currently going through provincial agency review.

Following the Natural Heritage Assessment guidelines and Appendix D, bat maternity colony surveys have been identified as being required in areas where woodlands are overlapped by, or are within 120m of wind turbines, including all turbine-related structures (OMNR 2011). To ensure a standardized and repeatable approach between each visit, as well as multiple years, all surveys will adhere to the following standardized methods.

Monitoring Locations

Based on available guidelines, including the Bats and Bat Habitats: Guidelines for Wind Power Projects (OMNR 2011), Significant Wildlife Habitat 6E Ecoregion Criterion Schedule (OMNR 2012), and Natural Heritage Assessment Guide (OMNR 2011), NRSI biologists have identified 7 candidate significant bat maternity colony habitats that require pre-construction surveys to determine significance. Field surveys will be conducted at these locations provided they meet the following criteria, as determined by suitable provincial guidance for significant wildlife habitat and/or renewable energy projects:

- Any of the following Community Types: Deciduous Forest (FOD), Mixed Forest (FOM), Deciduous Swamp (SWD), Mixed Swamp (SWM) that have >25cm diameter at breast height (dbh) wildlife trees.
- If snag/ cavity tree density is ≥10 snags per hectare of trees ≥25 cm dbh, then the site is a candidate for maternity colony roosts.
- The area of the habitat includes the entire woodland or the forest stand ELC Ecosite containing the maternity colonies.

Habitat assessments for these candidate significant bat maternity colony habitats were conducted during the site investigation stage of the project in late May and early June 2012. These assessments resulted in the identification of 7 candidate significant bat maternity colony habitats. These candidate significant habitat locations have been mapped in the Armow Wind Project's Natural Heritage Site Investigation Report on Figures 37-53. Further information on the habitat assessment methods followed are also included in the above mentioned report.

In order to determine the significance of the identified candidate significant habitats, bat exit surveys will be conducted in the month of June. The methods used for these surveys are discussed in the subsequent sections of this memo.

Monitoring Frequency and Timing

NRSI will conduct bat maternity colony exit surveys at the 7 candidate significant bat maternity colony habitats identified for the Armow Wind Project. The exit surveys will follow the protocols outlined in the Bat and Bat Habitats: Guidelines for Wind Power Projects (OMNR 2011). These guidelines indicate that the level of effort required for each habitat is as follows:

- a minimum of 10 snags/cavity trees will be surveyed for habitats that are ≤10ha,
- one snag/cavity tree will be surveyed for each additional hectare in habitats that are ≤30ha,
- a maximum of 30 snags/cavity trees will be surveyed for habitats that are ≥30ha

Each selected snag/cavity tree will be monitored from 30 minutes before dusk until 60 minutes after dusk in order to observe evidence of bats exiting the candidate snag/cavity tree. Each candidate roost tree will be monitored once. These surveys will be conducted in June.

Exit Survey Methods

NRSI biologists will conduct exit surveys at each of the 7 identified candidate significant bat maternity colony habitats. The level of effort required for each habitat will be determined following the criteria outlined above and each survey will be conducted for 90 minutes (30 minutes before dusk until 60 minutes after dusk).

As outlined in the Bat and Bat Habitats: Guidelines for Wind Power Projects (OMNR 2011), the specific candidate snag/cavity trees will be selected based on the following criteria (in order of importance):

- tallest snag/cavity tree,
- exhibits cavities or crevices most often originating as cracks, scars, knot holes, or woodpecker cavities,
- has the largest diameter at breast height,
- is within the highest density of snags/cavity trees (e.g. clusters of snags),
- has a large amount of loose, peeling bark,
- cavity or crevice is positioned high up in the snag/cavity tree (>10m),
- tree species that provide good cavity habitat (e.g. white pine, maple, aspen, ash, oak),
- canopy is more open (where canopy cover can be determined by the percentage of the ground covered by a vertical projection of the outermost perimeter of the natural spread of the foliage of the trees),
- exhibits early stages of decay (decay Class 1-3; Watt and Caceres 1999 will be used as a reference for determining stage of decay).

Each of the snag/cavity trees selected as the best representative bat maternity roost will have a single exit survey completed during the month of June. Viewing stations will be

positioned so they provide a clear view of the snag/cavity tree's cavity opening or crevice. When final snags/cavity trees are chosen, specific UTM monitoring locations for each selected station will be collected. For snags/cavity trees with multiple openings, multiple viewing stations may be established.

Visual surveys will be conducted in order to collect evidence of bats exiting the candidate snags/cavity trees. These surveys will be completed with the use of either human visual observation and/or the use of a low light, night-vision, or infrared video recorders. For the use of video recorders, viewing stations will be set-up prior to the exit survey timing window and will be conducted in the same candidate significant habitat as where there are also human visual exit surveys being conducted. Once an evening's monitoring is completed (60 minutes after sunset), the cameras will be collected by the NRSI staff members conducting visual surveys in the same candidate significant habitat and the visual recordings for each video recorder will be reviewed for evidence of significant bat roosting activity. After a suitable camera model has been identified, NRSI will provide more detailed camera specifications to the Ontario Ministry of Natural Resources prior to the onset of monitoring for confirmation that it will collect the information needed.

A broadband bat detector will be used in conjunction with the visual observations (human or video recorder) in order to determine the bat species observed. Microphones will be positioned to maximize bat detection (e.g. situated away from nearby obstacles to allow for maximum range detection, microphones angled slightly away from the prevailing wind to minimize wind noise). The same broadband detector will be used throughout the survey. Information on the equipment used will be recorded, including information on all adjustable settings (e.g. gain level) and the position of the microphone. Audio data collected will be analyzed by NRSI biologists who are experienced in bat identification and monitoring.

For each monitoring event, NRSI will record the following information:

- level of effort (including date, start and end time, time spent, weather conditions, etc.),
- name of observer(s) conducting field work and number of video recorders used,
- record of bats observed (time of observation, number of passes),
- a bat detector will be used to collect audio recordings of bat passes for species identification following the completion of the monitoring,
- description of the snag/cavity tree observed along with photographs,
- GPS point of the survey location.

<u>Evaluation of Significance and Reporting</u>

At the completion of the monitoring program, NRSI will review all data collected during the monitoring period and compare it to provincial standards for significant bat maternity colony habitats. These standards, as observed in the SWH 6E Ecoregion Criterion Schedule, include bat maternity colonies with confirmed use by:

- >20 Northern Myotis
- >10 Big Brown Bats
- >20 Little Brown Myotis
- >5 Adult Female Silver-haired Bats

Following the review of the data collected during the bat maternity colony habitat field studies, NRSI will prepare a detailed memo that describes the specific methods employed and details the results of the bat maternity colony habitat exit surveys. This memo will be prepared in a way that is consistent with appropriate provincial guidelines and recommendations relating to renewable energy projects, including specific details

relating to the evaluation of significance of each candidate significant habitat. For each habitat surveyed, NRSI will also outline any potential impacts and appropriate mitigation measures (if necessary), as related back to the Natural Heritage EIS. Other appropriate information, including habitat descriptions, photos, field notes, and detailed mapping, will also be included as part of the memo submission, as deemed necessary. This memo will be provided to the MNR for review and comment prior to the onset of construction activities at the Armow Wind Project.

Sincerely,



Andrew Ryckman
Terrestrial and Wetland Biologist

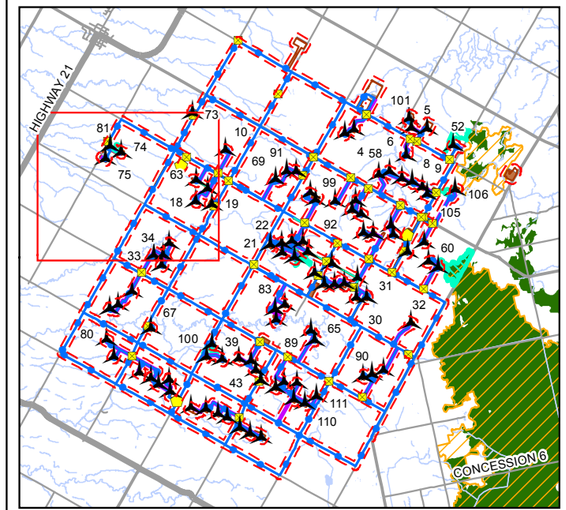
Map 1

Armow Wind Project

Bat Maternity Colony - Monitoring Locations

Legend

- Project Area (120m)
- Proposed Turbine (L12 Rev1)
- MET Tower
- Junction Box
- Crane Walk
- Cabling
- Access Road
- Disturbance Area
- Potential Operations Building
- Substation
- Staging Area
- Interconnect Area
- Highway
- Primary Road
- Secondary Road
- Waterbody
- Watercourse (Permanent)
- Watercourse (Intermittent)
- Bat Maternity Colony (BMA)



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Project: 1275
Date: Wednesday, October 24, 2012

NAD83 - UTM Zone 17
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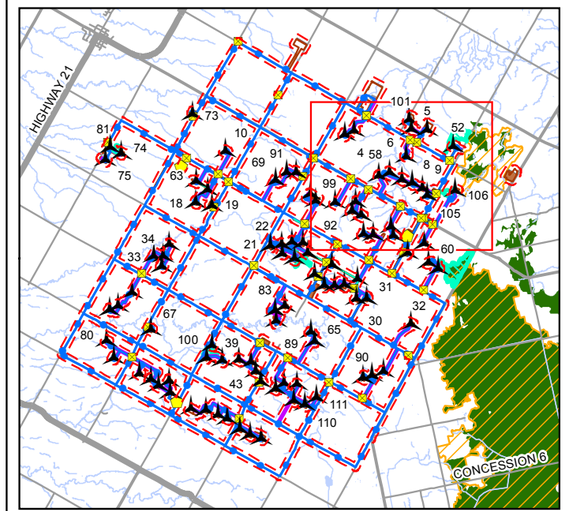
Map 2

Armow Wind Project

Bat Maternity Colony - Monitoring Locations

Legend

- Project Area (120m)
- Proposed Turbine (L12 Rev1)
- MET Tower
- Junction Box
- Crane Walk
- Cabling
- Access Road
- Disturbance Area
- Potential Operations Building
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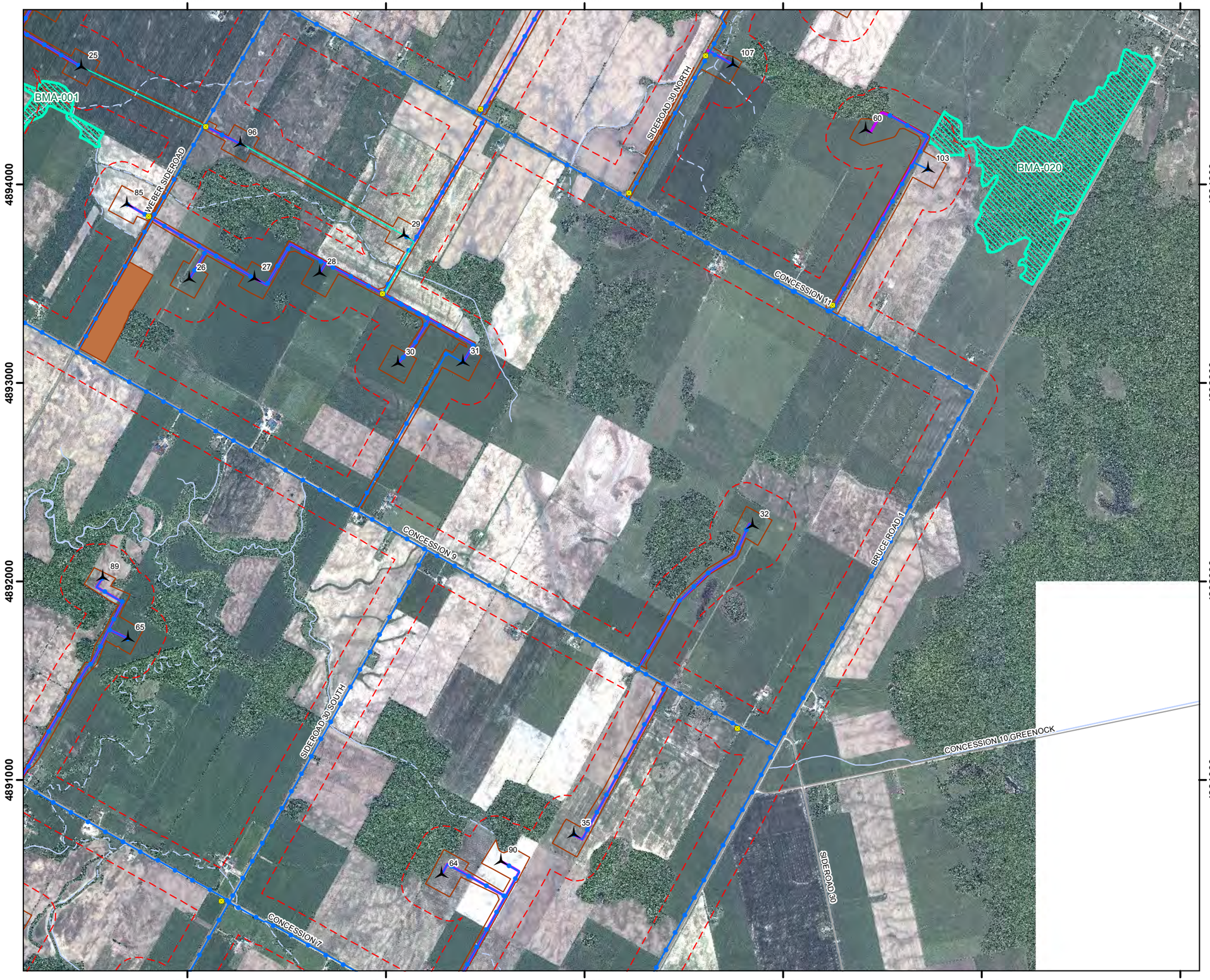
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Map 3

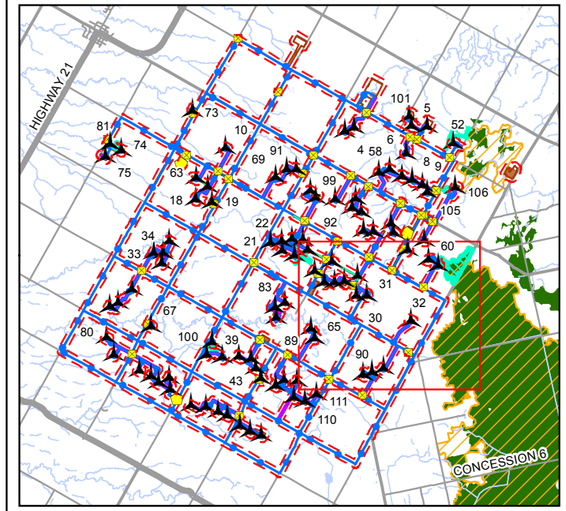
Armow Wind Project

Bat Maternity Colony - Monitoring Locations



Legend

- Project Area (120m)
- Proposed Turbine (L12 Rev1)
- MET Tower
- Junction Box
- Crane Walk
- Cabling
- Access Road
- Disturbance Area
- Potential Operations Building
- Substation
- Staging Area
- Interconnect Area
- Highway
- Primary Road
- Secondary Road
- Waterbody
- Watercourse (Permanent)
- Watercourse (Intermittent)
- Bat Maternity Colony (BMA)



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Aquatic, Terrestrial and Wetland Biologists

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Project: 1275
Date: Wednesday, October 24, 2012

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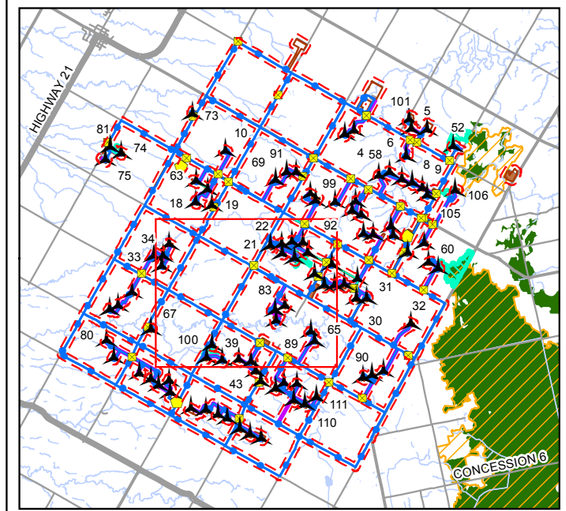
Map 4

Armow Wind Project

Bat Maternity Colony - Monitoring Locations

Legend

- Project Area (120m)
- Proposed Turbine (L12 Rev1)
- MET Tower
- Junction Box
- Crane Walk
- Cabling
- Access Road
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- Bat Maternity Colony (BMA)



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Appendix VI
Colonial-Nesting Bird Breeding Habitat (Ground) Survey Methods

NATURAL RESOURCE SOLUTIONS INC.
Aquatic, Terrestrial and Wetland Biologists

Memo

Project No. 1275

To: Amy Cameron

From: Andrew Ryckman

Date: August 28, 2012

Re: Armow Wind Project
Colonially-Nesting Bird Breeding Habitat (Ground) Survey Methods (DRAFT)

As part of the monitoring commitments in the Natural Heritage Environmental Impact Study (EIS) for the Armow Wind Project, Natural Resource Solutions Inc. (NRSI) will be conducting ground nesting colonial bird breeding habitat surveys to assess potential nesting habitats. These surveys will be completed for the purpose of determining significance under the Renewable Energy Approval (REA) process. These surveys are being completed as part of the EIS component of the Natural Heritage Assessment (NHA) submission for the Armow Wind Project. The NHA submission is currently going through provincial agency review.

Following available MNR guidelines, these surveys have been identified as being required at any rocky island or peninsula (natural or artificial) within a lake or large river (two-lined on a 1;50,000 NTS map) for gulls and terns, or in close proximity to watercourses in open fields or pastures with scattered trees or shrubs for Brewer's Blackbird, according to the Significant Wildlife Habitat Ecoregion 6E Criterion Schedule (OMNR 2012). No suitable habitats for terns or gulls were identified; however, several habitats for Brewer's blackbird have been identified. To ensure a standardized, and repeatable, approach between each visit as well as multiple years, all surveys will adhere to the standardized methods outlined below.

Although site investigations have identified several habitats as having suitable ELC community types, some identified habitats are in active agricultural use (e.g. hay fields and pastures), and changes in site conditions may have occurred since the original site investigation (e.g. plowing/conversion to row crop agriculture). Prior to conducting detailed wildlife surveys, NRSI biologists will evaluate the site conditions and compare them to provincial requirements. All habitats that meet provincial criteria for candidate significant colonially-nesting breeding birds (ground) will be surveyed following the methods described below. Any habitats that are determined not to have suitable site conditions will be discussed and confirmed through discussions with the Ministry of Natural Resources (MNR), and will not require additional studies.

Monitoring Locations

Based on available guidelines, including the Significant Wildlife Habitat 6E Ecoregion Criterion Schedule (OMNR 2012) and Natural Heritage Assessment Guide (OMNR 2011), NRSI biologists have identified 8 candidate significant ground nesting colonial bird breeding habitats. These locations meet the following criteria for requiring field surveys to determine level of significance:

- One of the following ELC community types: MAM1 – 6, MAS1 – 3, CUM, CUT or CUS, or open fields/pastures with scattered trees or shrubs
- Suitable habitat within 120m of a proposed wind turbine location, or overlapping any proposed project component

Habitat assessments for the 8 candidate significant ground nesting colonial bird breeding habitat areas have been identified during the site investigation stage of the project, which began in September 2011.

The 8 candidate significant habitat locations have been identified in the attached figures and can be found throughout the project area. Area searches will be conducted within each habitat to search for ground nests or evidence of nesting Brewer's blackbird. The objective of this survey is to estimate the total number of breeding individuals of this species present in the area. Roadside stations will be utilized for surveying this habitat type if no property access is granted. In the event that roadside counts will not provide a suitable vantage point, NRSI will examine other alternatives such as using adjacent properties, where possible, to adequately survey for ground nesting colonial species.

Monitoring Frequency and Timing

NRSI will conduct ground nesting colonial breeding bird surveys at the 8 locations in May/June, 2013. Surveys will occur once a week for three consecutive weeks during the peak of breeding season. Area searches will be conducted during daylight hours, between temperatures of 16-27˚C with winds below 20km/h with no precipitation. Despite a tentative monitoring schedule, these dates may be shifted slightly depending on weather conditions. In the event that a survey cannot be completed as planned, all attempts will be made to re-schedule this trip as quickly as possible.

Survey Methods

NRSI biologists will conduct an area search within the habitat where property access is granted, otherwise counts will be conducted roadside or from an adjacent habitat where roadside locations do not provide adequate viewpoints, following the guidelines outlined in the Birds and Bird Habitats guidelines (OMNR 2011).

Following the Birds and Bird Habitats guidelines, NRSI will record the following information during each survey:

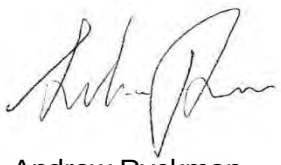
- Level of effort (including date, start and end time, time spent, etc.),
- Weather conditions (wind speed, temperature, cloud cover, precipitation, etc.)
- Name of observer(s) conducting field work,
- Complete list of all colonial species detected on each visit,
- Complete list of all other wildlife species,
- Description of general behaviour at time of observation,
- Location of any colonial species will be mapped,
- Description of habitats or areas scanned during the survey,
- A GPS point of the survey location will be documented on the first visit to be mapped for consistency between visits.

Evaluation of Significance and Reporting

At the completion of the monitoring program, NRSI will review all data collected during the monitoring period and compare it to provincial standards for significant ground nesting colonial bird breeding habitat. These standards, as observed in the SWH 6E Ecoregion Criterion Schedule, include the presence of 5 or more pairs for Brewer's Blackbird. For the purpose of determining number of breeding pairs, NRSI will consider Ontario Breeding Bird Atlas (OBBA) breeding evidence codes for probable or confirmed breeding evidence as reasonable indication of a breeding pair.

Following the review of the data collected during the ground nesting colonial bird breeding habitat field studies, NRSI will prepare a detailed memo that describes the specific methods employed and details of the results of the surveys. This memo will be prepared in a way that is consistent with appropriate provincial guidelines and recommendations relating to renewable energy projects, including specific details relating to the evaluation of significance of each feature. For each feature, NRSI will also outline any potential impacts and appropriate mitigation measures (if necessary), as identified in the Natural Heritage EIS. Other appropriate information, including habitat descriptions, photos, field notes, and detailed habitat mapping, will also be included as part of the memo submission, as deemed necessary. This memo will be provided to the MNR for review and comment prior to the onset of construction activities at the Armow Wind Project.

Sincerely,



Andrew Ryckman
Terrestrial and Wetland Biologist

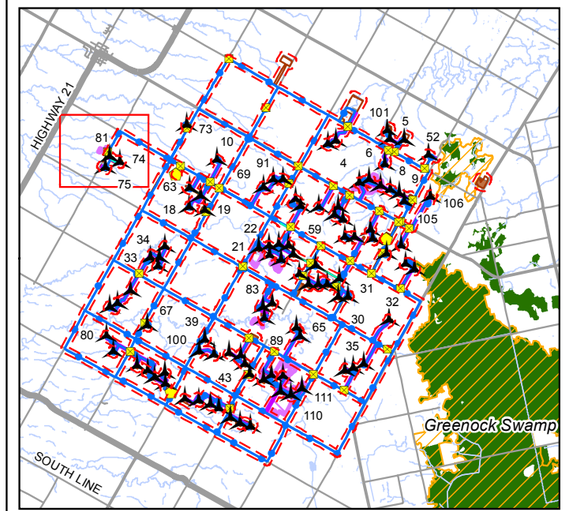
Map 1

Armow Wind Project

Colonial-Nesting Bird Breeding Habitat (Ground) Monitoring Locations

Legend

- Project Area (120m)
- Proposed Turbine (L12 Rev1)
- MET Tower
- Junction Box
- Crane Walk
- Cabling
- Access Road
- Disturbance Area
- Potential Operations Building
- Substation
- Staging Area
- Interconnect Area
- Highway
- Primary Road
- Secondary Road
- ANSI, Life Science
- Provincially Significant Wetland
- Waterbody
- Watercourse (Permanent)
- Watercourse (Intermittent)
- Colonial-Nesting Bird Breeding Habitat (Ground) (CBG)



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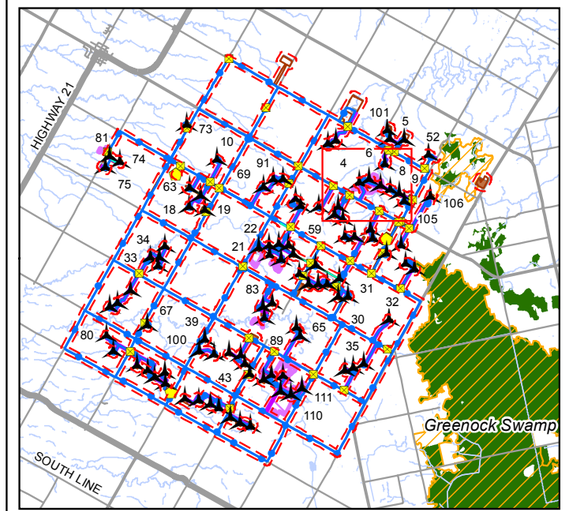
Map 2

Armow Wind Project

Colonial-Nesting Bird Breeding Habitat (Ground) Monitoring Locations

Legend

- Project Area (120m)
- Proposed Turbine (L12 Rev1)
- MET Tower
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- Disturbance Area
- Potential Operations Building
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- ANSI, Life Science
- Provincially Significant Wetland
- Waterbody
- Watercourse (Permanent)
- Watercourse (Intermittent)
- Colonial-Nesting Bird Breeding Habitat (Ground) (CBG)



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Date: Date: October 25, 2012

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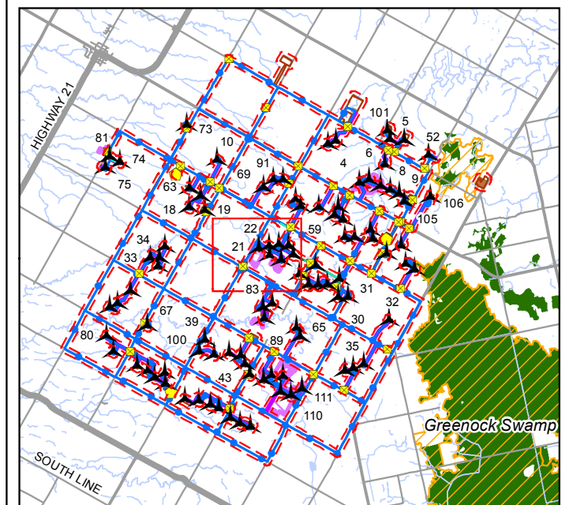
Map 3

Armow Wind Project

Colonial-Nesting Bird Breeding Habitat (Ground) Monitoring Locations

Legend

- Project Area (120m)
- Proposed Turbine (L12 Rev1)
- MET Tower
- Junction Box
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- Disturbance Area
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- Provincially Significant Wetland
- Waterbody
- Watercourse (Permanent)
- Watercourse (Intermittent)
- Colonial-Nesting Bird Breeding Habitat (Ground) (CBG)



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Project: 1275A
Date: Date: October 25, 2012

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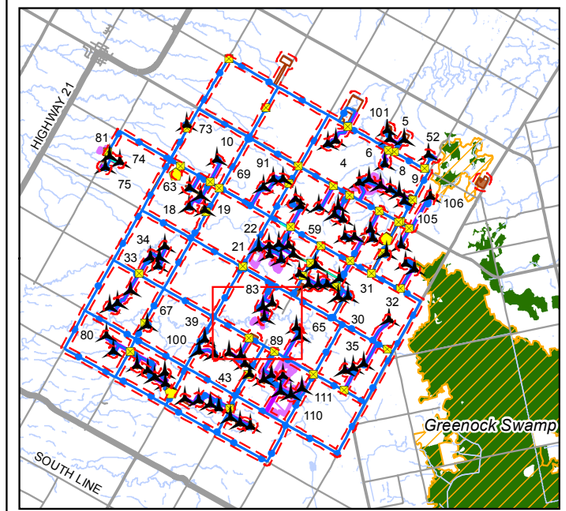
Map 4

Armow Wind Project

Colonial-Nesting Bird Breeding Habitat (Ground) Monitoring Locations

Legend

- Project Area (120m)
- Proposed Turbine (L12 Rev1)
- MET Tower
- Junction Box
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- Watercourse (Intermittent)
- Colonial-Nesting Bird Breeding Habitat (Ground) (CBG)



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Project: 1275A
Date: Date: October 25, 2012

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Map 5

Armow Wind Project

Colonial-Nesting Bird Breeding Habitat (Ground) Monitoring Locations

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4891000 4890500 4890000 4889500 4889000

BERVIE SIDEROAD

CONCESSION 7

CONCESSION 5

SIDEROAD 30 SOUTH

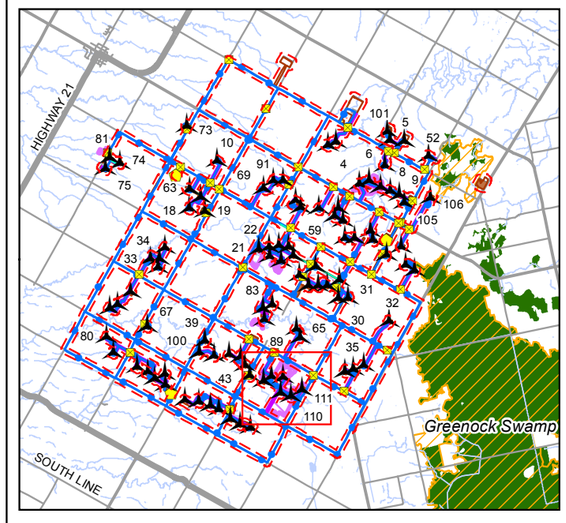
CBG-008

CBG-003

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Legend

- Project Area (120m)
- Proposed Turbine (L12 Rev1)
- MET Tower
- Junction Box
- Crane Walk
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- Primary Road
- Secondary Road
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- Provincially Significant Wetland
- Waterbody
- Watercourse (Permanent)
- Watercourse (Intermittent)
- Colonial-Nesting Bird Breeding Habitat (Ground) (CBG)



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Appendix VII
Waterfowl Nesting Area Survey Methods

NATURAL RESOURCE SOLUTIONS INC.
Aquatic, Terrestrial and Wetland Biologists

Memo

Project No. 1275

To: **Amy Cameron**

From: **Andrew Ryckman**

Date: **August 28, 2012**

Re: **Armow Wind Project**
Waterfowl Nesting Survey Methods (DRAFT)

As part of the monitoring commitments in the Natural Heritage Environmental Impact Study (EIS) for the Armow Wind Project, Natural Resource Solutions Inc. (NRSI) will be conducting waterfowl nesting surveys to assess potential nesting habitats for waterfowl. These surveys will be completed for the purpose of determining significance under the Renewable Energy Approval (REA) process. These surveys are being completed as part of the EIS component of the Natural Heritage Assessment (NHA) submission for the Armow Wind Project. The NHA submission is currently going through provincial agency review.

Following available MNR guidelines, these surveys have been identified as being required in areas where upland habitats of any kind are located adjacent to any meadow marsh, shallow marsh, shallow aquatic, bedrock thicket, mineral thicket swamp, or mineral deciduous swamp, including Provincially Significant Wetlands (PSWs), according to the Significant Wildlife Habitat Ecoregion 6E Criterion Schedule (OMNR 2012). To ensure a standardized and repeatable approach between each visit as well as multiple years, all surveys will adhere to the standardized methods outlined below.

Two candidate significant waterfowl nesting areas have already been surveyed for significance in 2012. An additional 18 habitats have since been identified within the project area. These habitats have been delineated on the attached figures, although individual point count locations will be determined based on the first site visit and are not included in the attached figures.

Although site investigations have identified several habitats as having suitable ELC community types, field surveys may not have been completed at the correct time of year to confirm other types of required site conditions (i.e. suitable permanent open water). Prior to conducting detailed wildlife surveys, NRSI biologists will evaluate the site conditions and compare them to provincial requirements. All habitats that meet provincial criteria for candidate significant waterfowl nesting habitat will be surveyed following the methods described below. Any habitats that are determined not to have suitable site conditions will be discussed and confirmed through discussions with the Ministry of Natural Resources (MNR), and will not require additional studies.

Monitoring Locations

Based on available guidelines, including the 2012 Significant Wildlife Habitat 6E Ecoregion Criterion Schedule and Natural Heritage Assessment Guide, NRSI biologists have identified several candidate significant waterfowl nesting areas. These locations meet the following criteria for requiring field surveys to determine level of significance:

- Upland habitats of any kind >120m wide, and located adjacent to any meadow marsh (MAM), shallow marsh (MAS), shallow aquatic (SA), bedrock thicket (RBS), mineral thicket swamp (SWT), or mineral deciduous swamp (SWD), including PSWs, which are >0.5ha in size, or in a cluster of ≥3 small wetlands
- Suitable habitat within 120m of a proposed wind turbine location, or overlapping any proposed project component

The 2 candidate significant habitats and their corresponding 6 locations (3 roadside point counts and 3 standardized transects) where surveys have been conducted have been identified in the attached figure and can be found along the eastern edge of the project area. Additional candidate significant habitats are found throughout the project area, and point count/transect locations will be determined during the first site visit. As a result these specific survey locations are not shown on the attached figures. Standardized transects will be conducted on properties where site access has been granted. Where site access has not been granted, scans will be conducted for each habitat from a roadside point count location with a suitable vantage point of the habitat. It is expected that these roadside stations will readily allow for abundance and species of breeding waterfowl to be identified within open fields and along the wetland perimeter. The objective of these surveys is to estimate the total number of nesting waterfowl during the egg laying and nest incubation period.

Monitoring Frequency and Timing

NRSI will conduct waterfowl nesting surveys at each habitat on 2 days between April and June. The objective of the first survey (occurring in April to early May) is to observe early nesting species, while the objective of the second survey (occurring in late May through June) is to observe late nesting species. Exact time spent at each habitat will be largely dependent on site access, length of wetland edge, and number of birds observed; however, all surveys will be conducted during the early morning, occurring no earlier than sunrise and ending no later than 4 hours after sunrise, when pairs of waterfowl using the associated wetlands are expected to be most visible. Each survey will be conducted under near optimal weather conditions, on clear, sunny days with little to no precipitation.

Survey Methods

Where site access is available, NRSI biologists will conduct a standardized transect on each visit following the Birds and Bird Habitats guidelines (OMNR 2011). These transects will follow a prescribed walking route along the perimeter of the wetland, searching for nesting waterfowl or other activity indicative of waterfowl nesting areas. Due to the composition and attributes of these candidate significant habitats, it is not anticipated that canoes or small boats will be required to survey the wetland perimeter. As observation and identification of nesting female waterfowl is very difficult, NRSI may implement the Indicated Breeding Pair (IBP) calculation to assist in estimating breeding pairs within each of the habitats. Although these surveys are designed to focus on nesting waterfowl, all bird or other wildlife species observed will also be documented. Following the Birds and Bird Habitats guidelines, NRSI will record the following information during each survey:

- Level of effort (including date, start and end time, time spent, etc.),
- Weather conditions (wind speed, temperature, cloud cover, precipitation, etc.),
- Name of observer(s) conducting field work,
- Complete list of all waterfowl species observed on each visit,
- Complete list of all other wildlife species observed,
- Description of general behaviour at time of observation,
- Location of any breeding waterfowl will be mapped,
- Description of habitats or areas scanned during the survey,
- A GPS track log will be recorded on the first visit to be mapped for consistency between visits.

Where site access is unavailable, NRSI biologists will conduct behavioural studies from the roadside. These point count surveys will be conducted for at least 30 minutes with binoculars and/or a spotting scope to allow enough time to thoroughly scan the wetland perimeter and associated upland habitats for indication of nesting waterfowl.

- Level of effort (including date, start and end time, time spent, etc.),
- Weather conditions (wind speed, temperature, cloud cover, precipitation, etc.)
- Name of observer(s) conducting field work,
- Complete list of all waterfowl species observed on each visit,
- Complete list of all other wildlife species observed,
- Description of general behaviour at time of observation,
- Location of any breeding waterfowl will be mapped,
- Description of habitats or areas scanned during the survey,
- A GPS point of the survey location will be documented on the first visit to be mapped for consistency between visits.

<u>Evaluation of Significance and Reporting</u>

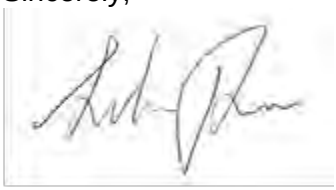
At the completion of the monitoring program in June 2012, NRSI will review all data collected during the monitoring period and compare it to provincial standards for significant waterfowl nesting areas. These standards, as observed in the SWH 6E Ecoregion Criterion Schedule, include:

- Any active nesting site of an American black duck, or
- Presence of ≥3 nesting pairs (excluding mallard) or ≥10 nesting pairs (including mallard) of any of the following species:
    - northern pintail
    - northern shoveler
    - gadwall
    - blue-winged teal
    - green-winged teal
    - wood duck
    - hooded merganser.
    - mallard

Following the review of the data collected during the waterfowl nesting field studies, NRSI will prepare a detailed memo that describes the specific methods employed and details the results of the 2012 waterfowl nesting surveys. This memo will be prepared in a way that is consistent with appropriate provincial guidelines and recommendations relating to renewable energy projects, including specific details relating to the evaluation of significance of each feature. For each feature, NRSI will also outline any potential impacts and appropriate mitigation measures (if necessary), as identified in the Natural

Heritage EIS. Other appropriate information, including habitat descriptions, photos, field notes, and detailed habitat mapping, will also be included as part of the memo submission, as deemed necessary. This memo will be provided to the MNR for review and comment prior to the onset of construction activities at the Armow Wind Project.

Sincerely,



Andrew Ryckman
Terrestrial and Wetland Biologist

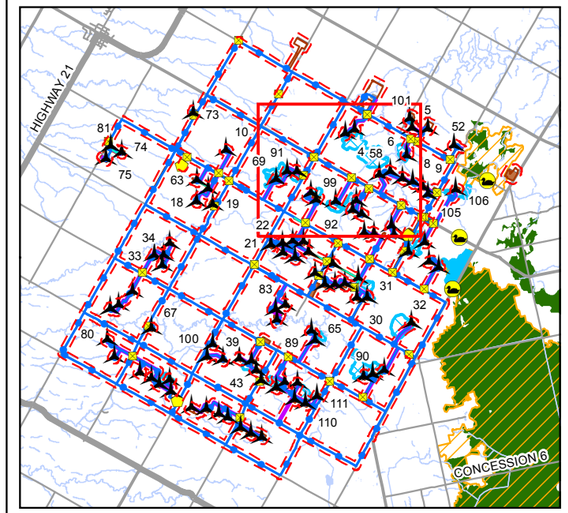
Map 1

Armow Wind Project

Waterfowl Nesting Area - Monitoring Locations

Legend

- Project Area (120m)
- Proposed Turbine (L12 Rev1)
- MET Tower
- Junction Box
- Crane Walk
- Cabling
- Access Road
- Disturbance Area
- Potential Operations Building
- Substation
- Staging Area
- Interconnect Area
- Highway
- Primary Road
- Secondary Road
- ANSI, Life Science
- Provincially Significant Wetland
- Waterfowl Nesting Area (2012)
- Waterfowl Nesting Area (2013)
- Monitoring Station
- Waterbody
- Watercourse (Permanent)
- Watercourse (Intermittent)



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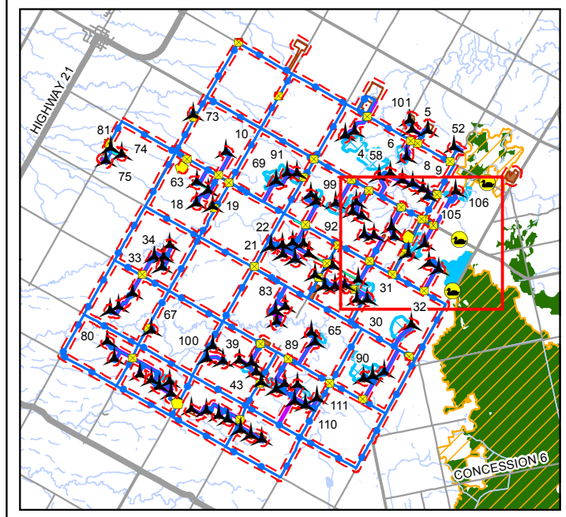
Map 2

Armow Wind Project

Waterfowl Nesting Area - Monitoring Locations

Legend

- Project Area (120m)
- Proposed Turbine (L12 Rev1)
- MET Tower
- Junction Box
- Crane Walk
- Cabling
- Access Road
- Disturbance Area
- Potential Operations Building
- Substation
- Staging Area
- Interconnect Area
- Highway
- Primary Road
- Secondary Road
- ANSI, Life Science
- Provincially Significant Wetland
- Waterfowl Nesting Area (2012)
- Waterfowl Nesting Area (2013)
- Monitoring Station
- Waterbody
- Watercourse (Permanent)
- Watercourse (Intermittent)



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Project: 1275 Date: October 24, 2012	NAD83 - UTM Zone 17 Size: 11x17" **1:17,000**

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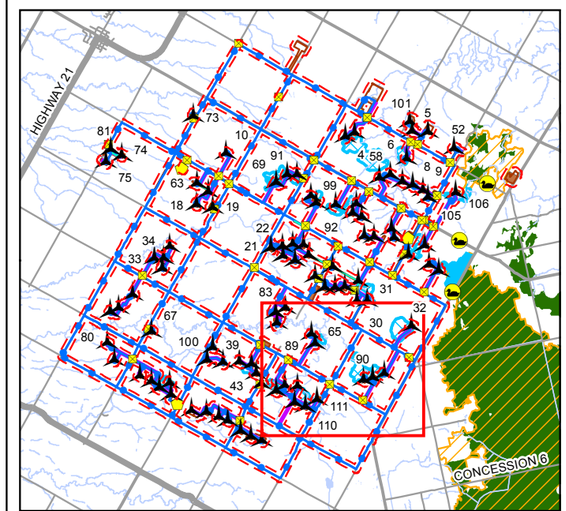
Map 3

Armow Wind Project

Waterfowl Nesting Area - Monitoring Locations

Legend

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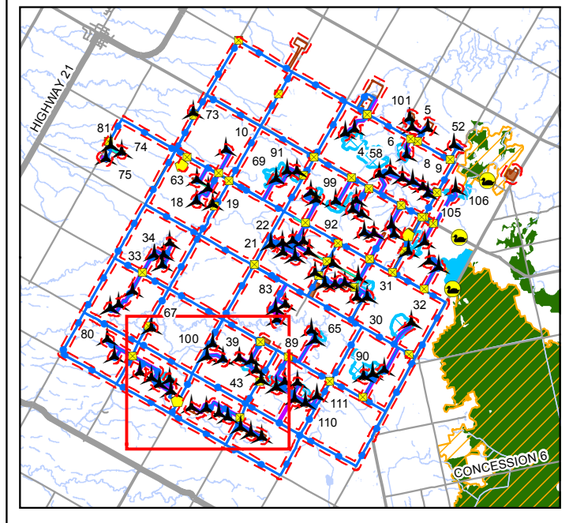
Map 4

Armow Wind Project

Waterfowl Nesting Area - Monitoring Locations

Legend

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Project: 1275
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Appendix VIII
Amphibian Breeding Habitat (Woodland) Survey Methods

NATURAL RESOURCE SOLUTIONS INC.
Aquatic, Terrestrial and Wetland Biologists

Memo

Project No. 1275

To: **Amy Cameron**

From: **Andrew Ryckman**

Date: **August 28, 2012**

Re: **Armow Wind Project**
Amphibian Woodland Breeding Habitat Survey Methods (DRAFT)

As part of the monitoring commitments in the Natural Heritage Environmental Impact Study (EIS) for the Armow Wind Project, Natural Resource Solutions Inc. (NRSI) will be conducting amphibian woodland breeding habitat surveys to assess potential woodland breeding habitats for amphibians. These surveys will be completed for the purpose of determining significance under the Renewable Energy Approval (REA) process. These surveys are being completed as part of the EIS component of the Natural Heritage Assessment (NHA) submission for the Armow Wind Project. The NHA submission is currently going through provincial agency review.

Following available MNR guidelines, these surveys have been identified as being required in areas where wetlands, lakes, or ponds are found within or adjacent to (within 120m) forests or treed swamps, according to the Significant Wildlife Habitat Ecoregion 6E Criterion Schedule Addendum (OMNR 2012). To ensure a standardized and repeatable approach between each visit, as well as multiple years, all surveys will adhere to the standardized methods outlined below.

Two candidate significant amphibian woodland breeding habitats have already been surveyed for significance in 2012. An additional 15 habitats have since been identified within 30m of an access road. These habitats have been delineated on the attached figures, although individual point count locations will be determined based on the first site visit and are not included in the attached figures.

Although site investigations have identified several habitats as having suitable ELC community types, field surveys may not have been completed at the correct time of year to confirm other types of required site conditions (i.e. suitable vernal pooling). Prior to conducting detailed wildlife surveys, NRSI biologists will evaluate the site conditions and compare them to provincial requirements. All habitats that meet provincial criteria for candidate significant amphibian woodland breeding habitats will be surveyed following the methods described below. Any habitats that are determined not to have suitable site conditions will be discussed and confirmed through discussions with the Ministry of Natural Resources (MNR), and will not require additional studies.

Monitoring Locations

Based on available guidelines, including the SWHTG, 2011 Significant Wildlife Habitat 6E Ecoregion Criterion Schedule, and Natural Heritage Assessment Guide, NRSI biologists have identified several candidate significant amphibian woodland breeding habitats. Field surveys will be conducted at these locations provided they meet the following criteria, as determined by suitable provincial guidance for significant wildlife habitat and/or renewable energy projects:

- Forest (FO) or treed swamp (SW)
- Wetlands, lakes, or ponds found within or adjacent (<120m) to a woodland
- Suitable habitat within 30m of a proposed access road, or overlapped by any project component
- Suitable habitats >30m but <120m from a proposed access road have been presumed significant and will not be surveyed.

Habitat assessments for these candidate significant amphibian woodland breeding habitats were conducted during the site investigation stage of the project, which began in September 2011. In some cases, standing water was observed in September; however, an assessment of vernal pool permanency could not be made during the site investigations for some areas within the woodland, as this typically occurs mid-March to July. Instead, the potential for vernal pooling and other suitable habitat was determined through an examination of local topography, habitat community, and vegetation species present. Prior to the first survey, all candidate significant habitats will be assessed for vernal pools to determine if suitable habitat exists. If suitable habitat exists, surveys will be conducted in order to determine their level of significance, following the methods outlined below.

Point counts will be conducted at each habitat to monitor calling amphibians. Several point counts may be required at a single habitat in order to adequately survey the area. Point counts will be located at least 500m apart to prevent counting duplicate amphibian calls. These surveys will be conducted within habitats where site access has been granted. Where site access has not been granted, point counts will be conducted along the roadside or adjacent property. Point count locations are expected to be suitable for surveying this habitat type since the surveys are auditory based and these vantage points will readily allow for abundance and species of calling amphibians to be identified within breeding ponds. The candidate significant habitat locations have been identified in the attached figure, while exact point count locations will be determined based upon conditions at the site on the first visit. In addition to call surveys, area searches will also be conducted along the perimeter of each wetland or vernal pool looking for egg masses.

Monitoring Frequency and Timing

NRSI will conduct amphibian woodland breeding habitat call surveys at each point count location on 3 evenings, occurring once in each of April, May, and June, following the accepted Marsh Monitoring Program protocol (Bird Studies Canada 2009). This survey type is expected to target breeding frog and toad species that may be using this habitat.

Amphibian egg mass searches will occur at each habitat during daylight hours in the early spring, with one visit in March after the first warm rain, and the second visit on the same date as the April call survey. These egg mass surveys will target non-vocalizing amphibians (i.e. salamanders) that are laying eggs in this habitat.

Survey Methods

NRSI biologists will conduct 3 amphibian call surveys at each of the point count locations, following the guidelines outlined in the Marsh Monitoring Program protocol (Bird Studies Canada 2009). Each survey will last 3 minutes, beginning no earlier than

one half hour after sunset and ending before midnight. The surveys will occur once in each of April, May, and June, with at least 15 days between visits. The night-time air temperature will be greater than 5℃ for the first survey, 10℃ for the second survey and 17℃ for the third survey. Optimal conditions are when there is little to no wind.

Following the Marsh Monitoring Program protocol (Bird Studies Canada 2009), NRSI will record the following information on data summary forms during each survey:

- Level of effort (including date, start and end time, time spent, etc.),
- Weather conditions (wind speed, temperature, cloud cover, precipitation, etc.),
- Name of observer(s) conducting field work,
- Complete list of all amphibian species observed, using standard 4 letter species ID codes,
- Call abundance codes for each amphibian species detected as outlined below:
    - Code 1: Individuals can be counted and calls are not simultaneous. This code will be assigned when individual males can be counted, and when the calls of individuals of the same species do not start at the same time. In addition, the number of individual frogs of each species calling will be recorded beside the code.
    - Code 2: Calls are distinguishable, with some simultaneous calling. This code will be assigned when there are a few males of the same species calling simultaneously. In addition, an estimate of the number of individual frogs of each species calling will be recorded beside the code, based on their locations and/or by the differences in their voices.
    - Code 3. Full chorus; calls continuous and overlapping. This code will be assigned when a full chorus is encountered.
- Distance from each amphibian species detected to the observer within a 100m radius of the point count location (where possible, calls heard outside the 100m radius will be identified and indicated on the data summary forms),
- Complete list of all other wildlife species observed,
- Description of habitats or areas scanned during the survey,
- A GPS point of the survey location will be documented on the first visit to be mapped for consistency between visits.

In addition, egg mass searches will be conducted in habitats where site access is available. The first search will occur in mid-to-late March after the first warm rain, and the second will occur on the same day as the April call survey. The area searches will include walking within the wetland or vernal pool along the perimeter, looking for egg masses. Due to the composition and attributes of the candidate significant amphibian breeding habitats, it is not anticipated that special equipment will be required to identify egg masses; however, visual surveys conducted in breeding ponds with high water levels may require the use of chest waders. This approach is expected to effectively identify egg masses, while minimizing any disturbance effects caused by sampling. A minimum search effort of 30 minutes will be used on each visit, in each habitat. NRSI will record the following information during each survey:

- Level of effort (including date, start and end time, time spent, etc.),
- Weather conditions (wind speed, temperature, cloud cover, precipitation, etc.),
- Name of observer(s) conducting field work,
- Complete list of all amphibian species observed, using standard 4 letter species ID codes,
- Complete list of all egg masses observed, with identification made to the species level where possible, using amphibian scientific field guides and/or field keys,
- Complete list of all other wildlife species observed,
- Description of habitats or areas scanned during the survey,
- A GPS point and photographs of any egg masses found.

Evaluation of Significance and Reporting

At the completion of the monitoring program, NRSI will review all data collected during the monitoring period and compare it to provincial standards for significant amphibian woodland breeding habitats. These standards, as indicated in the SWH 6E Ecoregion Criterion Schedule, include the presence of breeding population of ≥20 individuals (adult, juvenile, egg/larval mass) of ≥1 of the following species:

- eastern newt,
- blue-spotted salamander,
- spotted salamander,
- gray treefrog,
- spring peeper,
- chorus frog, or
- wood frog.

The presence of amphibian movement corridors will also be identified concurrently with these surveys in the event that habitats are considered significant. The surrounding habitats around significant breeding ponds will be assessed to determine if they meet the following candidate significant amphibian movement corridor criteria identified in the SWH 6E Ecoregion Criterion Schedule:

- consists of native vegetation at least 200m wide,
- in riparian areas, at least 15m of vegetation on both sides of the waterway,
- does not contain bisecting gaps >20m wide including roads, fields, and waterbodies,
- provides access to breeding and summer habitat.

In the event that amphibian movement corridors extend into areas where property access has not been granted, aerial photos of the surrounding landscape will be used, along with consultation with the MNR, to identify any linkages from significant amphibian woodland breeding habitat.

Following the review of the data collected during the amphibian woodland breeding habitat field studies, NRSI will prepare a detailed memo that describes the specific methods employed and details the results of the amphibian woodland breeding habitat surveys. This memo will be prepared in a way that is consistent with appropriate provincial guidelines and recommendations relating to renewable energy projects, including specific details relating to the evaluation of significance of each habitat. For each habitat, NRSI will also outline any potential impacts and appropriate mitigation measures (if necessary), as identified in the Natural Heritage EIS. Other appropriate information, including habitat descriptions, photos, field notes, and detailed habitat mapping, will also be included as part of the memo submission, as deemed necessary. This memo will be provided to the MNR for review and comment prior to the onset of construction activities at the Armow Wind Project.

Sincerely,



Andrew Ryckman
Terrestrial and Wetland Biologist

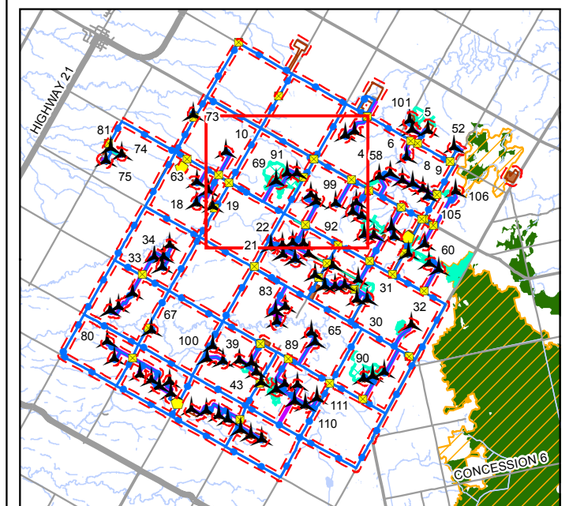
Map 1

Armow Wind Project

Amphibian Woodland Breeding Habitats - Monitoring Locations

Legend

- Project Area (120m)
- Proposed Turbine (L12 Rev1)
- MET Tower
- Junction Box
- Crane Walk
- Cabling
- Access Road
- Disturbance Area
- Potential Operations Building
- Substation
- Staging Area
- Interconnect Area
- Highway
- Primary Road
- Secondary Road
- ANSI, Life Science
- Provincially Significant Wetland
- Amphibian Breeding Habitat - Woodland (2012)
- Amphibian Breeding Habitat - Woodland (2013)
- Monitoring Station
- Waterbody
- Watercourse (Permanent)
- Watercourse (Intermittent)



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Aquatic, Terrestrial and Wetland Biologists

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Project: 1275
Date: October 24, 2012

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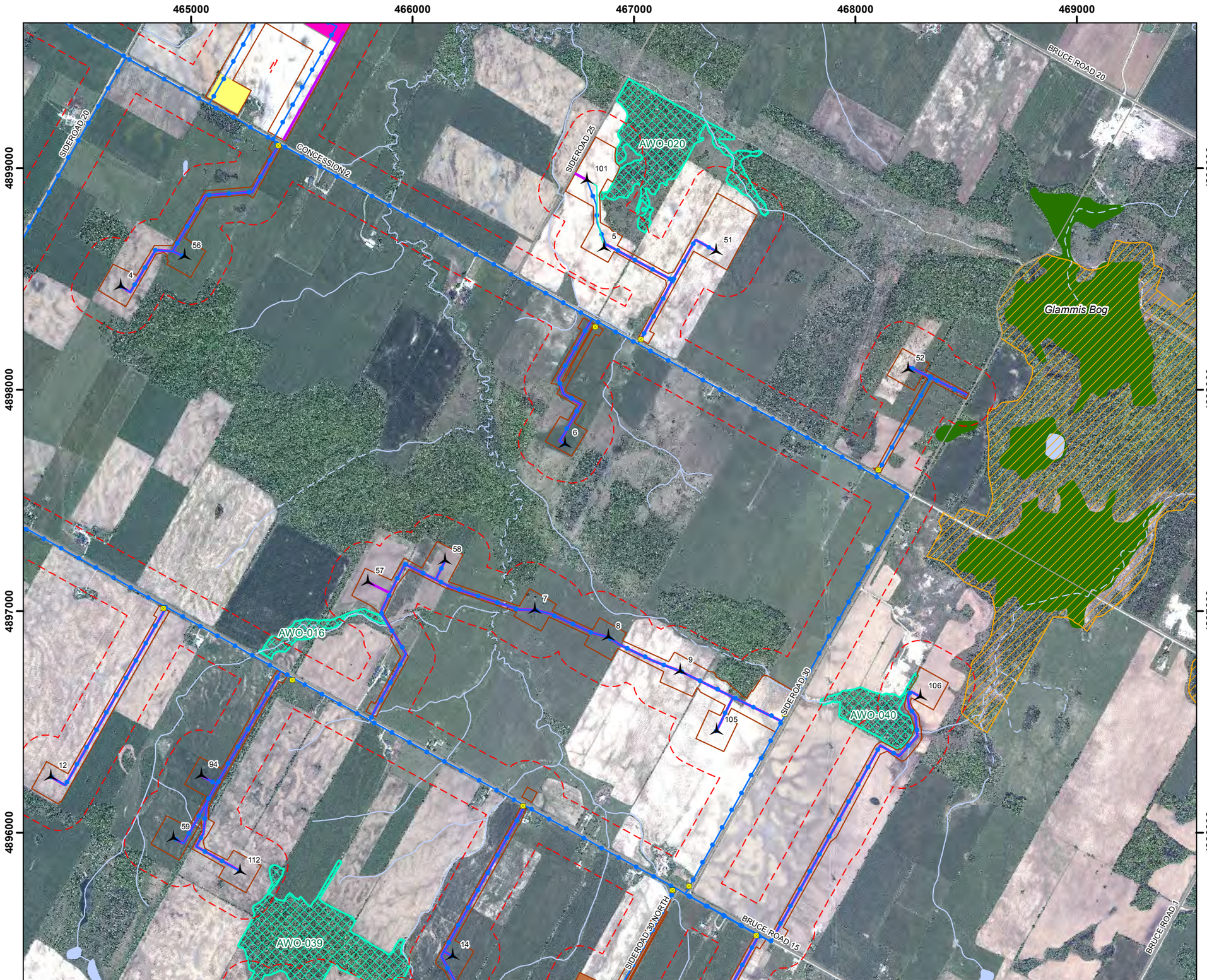
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Map 2

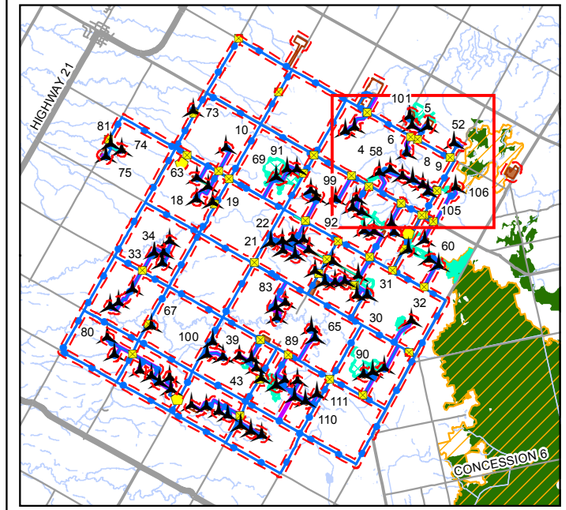
Armow Wind Project

Amphibian Woodland Breeding Habitats - Monitoring Locations



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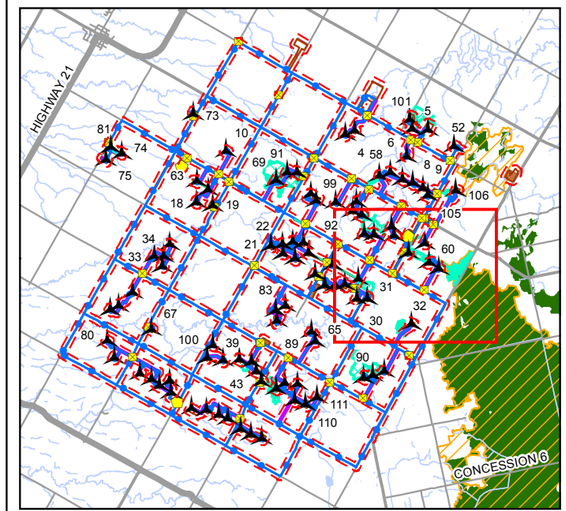
Map 3

Armow Wind Project

Amphibian Woodland Breeding Habitats - Monitoring Locations

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Map 4

Armow Wind Project

Amphibian Woodland Breeding Habitats - Monitoring Locations

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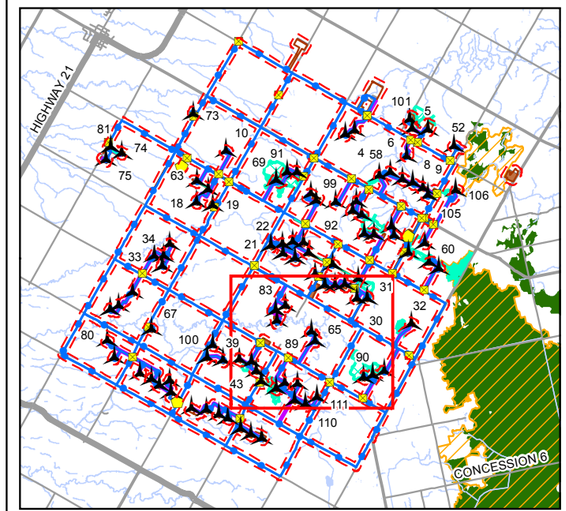
SIDEROAD 20
WEBER SIDEROAD
CONCESSION 9
CONCESSION 7
CONCESSION 6
BERVIE SIDEROAD
SIDEROAD 30 SOUTH
BRUCE ROAD 1
HIGHWAY 21

AWO-027
AWO-026
AWO-044
AWO-036
AWO-028

26 27 28 29 30 31 35 41 42 43 44 45 47 64 65 70 83 84 89 90 98 110 111 116

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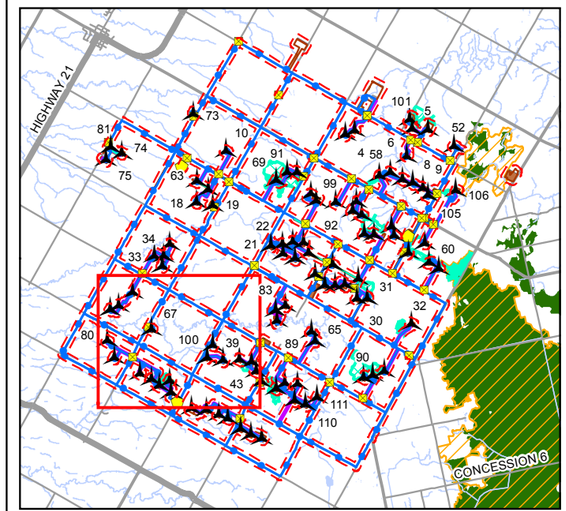
Map 5

Armow Wind Project

Amphibian Woodland Breeding Habitats - Monitoring Locations

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Appendix IX
Marsh Bird Breeding Habitat Survey Methods

NATURAL RESOURCE SOLUTIONS INC.
Aquatic, Terrestrial and Wetland Biologists

Memo

Project No. 1275

To: **Amy Cameron**

From: **Andrew Ryckman**

Date: **August 28, 2012**

Re: **Armow Wind Project**
Marsh Bird Breeding Habitat Survey Methods (DRAFT)

As part of the monitoring commitments in the Natural Heritage Environmental Impact Study (EIS) for the Armow Wind Project, Natural Resource Solutions Inc. (NRSI) is conducting marsh bird breeding habitat surveys to assess potential breeding habitats for marsh birds. These surveys are being completed for the purpose of determining significance under the Renewable Energy Approval (REA) process. These surveys are being completed as part of the EIS component of the Natural Heritage Assessment (NHA) submission for the Armow Wind Project. The NHA submission is currently going through provincial agency review.

Following available MNR guidelines, these surveys have been identified as being required in all wetland areas with shallow water and emergent aquatic vegetation, according to the Significant Wildlife Habitat Ecoregion 6E Criterion Schedule Addendum (OMNR 2012). To ensure a standardized, and repeatable, approach between each visit as well as multiple years, all surveys will adhere to the standardized methods outlined below.

One candidate significant marsh bird breeding habitat has already been surveyed for significance in 2012, although this has now been generalized as it is now greater than 120m from a proposed wind turbine. One additional habitat has since been identified within the project area. This habitat has been delineated on the attached figures, although the point count location(s) for this habitat will be determined based on the first site visit and is not included in the attached figures.

Although site investigations have identified several habitats as having suitable ELC community types, field surveys may not have been completed at the correct time of year to confirm other types of required site conditions (i.e. shallow water with emergent aquatic vegetation). Prior to conducting detailed wildlife surveys, NRSI biologists will evaluate the site conditions and compare them to provincial requirements. All habitats that meet provincial criteria for candidate significant marsh bird breeding habitat will be surveyed following the methods described below. Any habitats that are determined not to have suitable site conditions will be discussed and confirmed through discussions with the Ministry of Natural Resources (MNR), and will not require additional studies.

Monitoring Locations

Based on available guidelines, including the 2012 Significant Wildlife Habitat 6E Ecoregion Criterion Schedule, and Natural Heritage Assessment Guide (OMNR 2011), NRSI biologists have identified one candidate significant marsh bird breeding habitat. This location meets the following criteria for requiring field surveys to determine level of significance:

- All wetland habitat with shallow water and emergent vegetation, including meadow marsh (MAM), shallow aquatic (SA), open bog (BOO), or open fen (FEO) sites
- All swamp (SW), marsh (MA), or meadow (ME) sites for green heron
- Suitable habitat within 120m of a proposed wind turbine location, or overlapping any proposed project component

The location of this candidate significant habitat has been identified in the attached figure. The point count location(s) will be determined based on conditions at the site on the first survey and has not been included on the attached figure. As access has been granted at this location, a point count will be conducted from within the habitat. The objective of this survey is to estimate the total number of marsh breeding birds during the nesting period.

Monitoring Frequency and Timing

NRSI will conduct the marsh bird breeding habitat survey at the one location on 2 evenings between May 1 and June 30, with no less than 10 days between surveys, following the accepted Marsh Monitoring Program protocol (Bird Studies Canada 2008). Each survey will be conducted in the evening, occurring no earlier than four hours before sunset and ending before dark, when marsh birds are actively nesting in wetland habitats.

Survey Methods

NRSI biologists will conduct a point count within the habitat following the guidelines outlined in the Marsh Monitoring Program Protocol (Bird Studies Canada 2008). The point count will last for 15 minutes, and will be sub-divided into three 5 minute components: a 5 minute passive (silent) observation period, a 5 minute call playback period, and a second 5 minute passive observation period. Due to the composition and attributes of this candidate significant habitat, it is not anticipated that canoes or small boats will be required to survey the wetland. Each survey will be conducted during optimal or near optimal weather conditions, on clear, warm (at least 16°C), evenings, with no precipitation and little or no wind.

Following the Birds and Bird Habitats guidelines, NRSI will record the following information during each survey:

- Level of effort (including date, start and end time, time spent, etc.),
- Weather conditions (wind speed, temperature, cloud cover, precipitation, etc.)
- Name of observer(s) conducting field work,
- Complete list of all focal bird species observed, their abundance, and their distance from the observer on each visit,
- Complete list of all secondary bird species observed on each visit,
- Complete list of all other wildlife species observed,
- Description of general behavior at time of observation,
- Location of any breeding marsh birds will be mapped,
- Description of habitats or areas scanned during the survey,
- A GPS point of the survey location will be documented on the first visit to be mapped for consistency between visits.

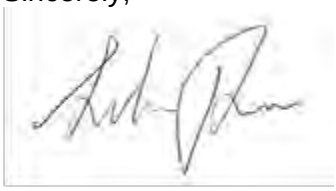
Evaluation of Significance and Reporting

At the completion of the marsh bird breeding habitat monitoring program, NRSI will review all data collected and compare it to provincial standards for significant marsh breeding bird habitats. These standards, as observed in the SWH 6E Ecoregion Criterion Schedule, include:

- Any wetland with breeding of 1 or more black terns, trumpeter swans, green herons or yellow rails, or
- Presence of 5 or more nesting pairs of sedge wren or marsh wren, or
- One pair of sandhill cranes, or
- Breeding by any combination of 5 or more of the following species:
    - American bittern
    - Virginia rail
    - sora
    - common moorhen
    - American coot
    - pied-billed grebe
    - common loon
    - marsh wren
    - sedge wren.

Following the review of the data collected during the marsh bird breeding habitat field studies, NRSI will prepare a detailed memo that describes the specific methods employed and details the results of the marsh bird breeding habitat surveys. This memo will be prepared in a way that is consistent with appropriate provincial guidelines and recommendations relating to renewable energy projects, including specific details relating to the evaluation of significance of the feature. NRSI will also outline any potential impacts and appropriate mitigation measures (if necessary), as identified in the Natural Heritage EIS. Other appropriate information, including habitat descriptions, photos, field notes, and detailed habitat mapping, will also be included as part of the memo submission, as deemed necessary. This memo will be provided to the MNR for review and comment prior to the onset of construction activities at the Armow Wind Project.

Sincerely,



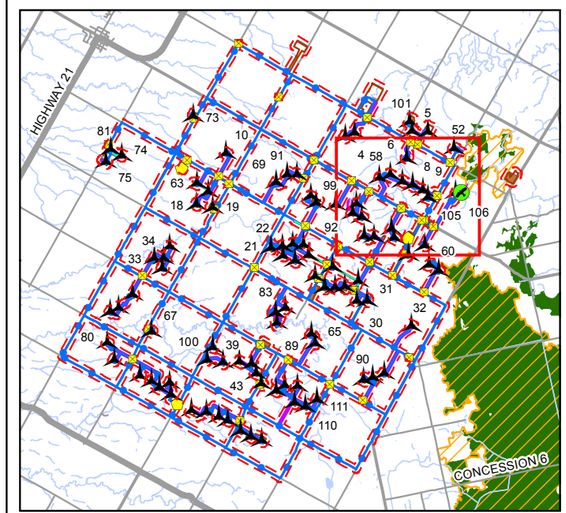
Andrew Ryckman
Terrestrial and Wetland Biologist

Armow Wind Project

Marsh Breeding Bird Habitat Monitoring Locations

Legend

- Project Area (120m)
- Proposed Turbine (L12 Rev1)
- MET Tower
- Junction Box
- Crane Walk
- Cabling
- Access Road
- Disturbance Area
- Potential Operations Building
- Substation
- Staging Area
- Interconnect Area
- Highway
- Primary Road
- Secondary Road
- ANSI, Life Science
- Provincially Significant Wetland
- Marsh Breeding Bird Habitat (2012)
- Marsh Breeding Bird Habitat (2013)
- Monitoring Station
- Waterbody
- Watercourse (Permanent)
- Watercourse (Intermittent)



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Aquatic, Terrestrial and Wetland Biologists

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Project: 1275
Date: October 24, 2012

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Appendix X
Open Country Bird Breeding Habitat Survey Methods

NATURAL RESOURCE SOLUTIONS INC.
Aquatic, Terrestrial and Wetland Biologists

Memo

Project No. 1275A

To: **Amy Cameron**

From: **Andrew Ryckman**

Date: **October 18, 2012**

Re: **Armow Wind Project**
Open Country Breeding Bird Habitat Survey Methods

As part of the monitoring commitments in the Natural Heritage Environmental Impact Study (EIS) for the Armow Wind Project, Natural Resource Solutions Inc. (NRSI) will be conducting open country breeding bird habitat surveys to assess potential breeding habitats for open country birds. These surveys will be completed for the purpose of determining significance under the Renewable Energy Approval (REA) process. These surveys are being completed as part of the EIS component of the Natural Heritage Assessment (NHA) submission for the Armow Wind Project. The NHA submission is currently going through provincial agency review.

Following available MNR guidelines, these surveys have been identified as being required in grassland areas, including natural and cultural fields and meadows, according to the Significant Wildlife Habitat Technical Guide (SWHTG) (OMNR 2000). To ensure a standardized, and repeatable, approach between each visit as well as multiple years, all surveys will adhere to the following standardized methods.

Although site investigations have identified several habitats as having suitable ELC community types, some identified habitats are in active agricultural use (e.g. hay fields and pastures), and changes in site conditions may have occurred since the original site investigation (e.g. plowing/conversion to row crop agriculture). Prior to conducting detailed wildlife surveys, NRSI biologists will evaluate the site conditions and compare them to provincial requirements. All habitats that meet provincial criteria for candidate significant open country bird breeding habitat will be surveyed following the methods described below. Any habitats that are determined not to have suitable site conditions will be discussed and confirmed through discussions with the Ministry of Natural Resources (MNR), and will not require additional studies.

<u>Monitoring Locations</u>
Based on available guidelines, including the Significant Wildlife Habitat 6E Ecoregion Criterion Schedule (OMNR 2012), and Natural Heritage Assessment Guide (OMNR 2011), NRSI biologists have identified 22 candidate significant open country breeding bird habitats. Field surveys will be conducted at each of these locations provided they meet the following criteria:

- Grassland areas, including meadow (ME), open pasture or perennial cover crops sites that are >30ha in size

- Not Class 1 or Class 2 agricultural lands
- No row cropping or intensive hay or livestock pasturing in the last 5 years
- Suitable habitat within 120m of a proposed wind turbine location, or overlapping any proposed project component

Prior to the first survey, all candidate significant habitats will be reassessed to determine if suitable habitat exists. If suitable habitat no longer exists, candidate significant habitats will not be monitored. If suitable habitat does exist, surveys will be conducted following the methods outlined below.

Based on the difference in potential impacts between direct habitat removal where project components overlap the project location and adjacent development where the potential impacts are considerably lower and limited to temporary disturbance during construction and the possibility of occasional avian mortality, NRSI has conducted two different survey methods. In instances where there is a direct overlap between candidate significant habitat and project location, the potential for impact is higher and as a result, NRSI has identified standardized transect surveys at 23 locations where candidate significant habitat may be removed. For these surveys, NRSI will establish a standardized linear transect within each habitat. Point counts will be conducted along each of these standardized transects, located approximately 250m from each other.

For the remaining habitats where there is no direct overlap between potential habitat and project location, indicating a greatly reduced potential for significant or permanent impacts, breeding bird surveys will be conducted through point count locations at 22 locations throughout the project area, each separated by at least 250m to avoid counting the same species multiple times. Point counts have been strategically placed along the roadside or adjacent property to ensure that surveys will be repeatable during post-construction monitoring, as well as to avoid disturbing active agricultural activities. These point count locations are located along the edge of the habitats and are expected to provide adequate viewpoints. Field surveys will be conducted under these survey methods where site access has not been granted, or if habitats are located at considerable distances from project locations. It is expected that these point counts will provide an accurate indication of open country bird species, as well as breeding evidence, within the candidate significant habitats.

For either survey method, the number of point counts required at each of the candidate significant habitats depends on the size and habitat diversity at each location. The candidate significant habitat locations as well as point count and transect locations have been identified on the attached figures and can be found throughout the project area. The objective of this survey is to identify the presence of nesting or breeding of open country breeding birds.

Monitoring Frequency and Timing

NRSI will conduct 3 open country breeding bird point count surveys, at each location unless during the first and second survey no indicator species (as listed in the 6E Ecoregion Criterion Schedule) are observed. If during the first two surveys no indicator species are observed, the third survey is not required. These surveys will occur between May 27 and July 14 in 2012 and 2013, with each survey separated by a week or more from previous surveys.

Survey Methods

Surveys will start at dawn and will generally continue until no later than 9am. The observer will walk the transect stopping at each point count to undertake 10 minutes of observations and listening. For habitats without standardized transects, each point

count will be surveyed for 10 minutes on each of the 3 visits. Optimal weather conditions for these surveys are clear, calm, sunny days with little to no precipitation.

Following the Bird and Bird Habitats guidelines, NRSI will record the following information during each survey:

- Level of effort (including date, start and end time, time spent, etc.),
- Weather conditions (wind speed, temperature, cloud cover, precipitation, etc.),
- Name of observer(s) conducting field work,
- Complete list of all bird species observed with highest breeding evidence,
- Complete list of all other wildlife species observed,
- Distance and direction of any observed open country breeding birds,
- Locations of all observed open country breeding birds will be mapped,
- Description of general behavior, including interactions with other individuals, at time of observation,
- Description of habitats or areas scanned during the survey,
- A GPS point of the survey location will be documented on the first visit to be mapped for consistency between visits.

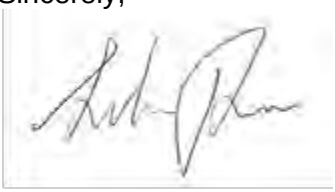
<u>Open Country Breeding Bird Evaluation of Significance and Reporting</u>

At the completion of the monitoring program in July 2013, NRSI will review all data collected during the monitoring period and compare it to provincial standards for significant open country breeding bird areas. These standards, as observed in the SWH 6E Ecoregion Criterion Schedule, include:

- Any field with 1 or more breeding short-eared owls, or
- Presence of nesting or breeding of 2 or more of the following species:
  - upland sandpiper
  - grasshopper sparrow
  - vesper sparrow
  - northern harrier
  - savannah sparrow.

Following the review of the data collected during the open country breeding bird habitat field studies, NRSI will prepare a detailed memo that describes the specific methods employed and details the results open country breeding bird habitat surveys. This memo will be prepared in a way that is consistent with appropriate provincial guidelines and recommendations relating to renewable energy projects, including specific details relating to the evaluation of significance of each feature. For each feature, NRSI will also outline any potential impacts and appropriate mitigation measures (if necessary), as related back to the Natural Heritage EIS. Other appropriate information, including habitat descriptions, photos, field notes, and detailed habitat mapping, will also be included as part of the memo submission, as deemed necessary. This memo will be provided to the MNR prior to the onset of construction activities at the Armow Wind Project.

Sincerely,



Andrew Ryckman
Terrestrial and Wetland Biologist

Map 1

Armow Wind Project

Open Country Bird Breeding (OCB) Habitats - Monitoring Locations

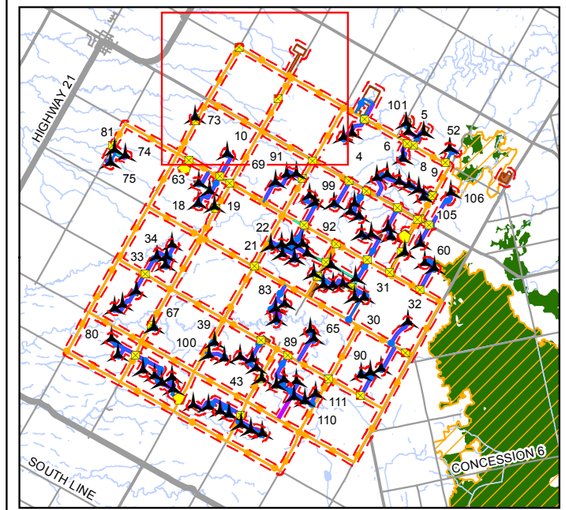
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HIGHWAY 21
BRUCE ROAD 20
BRUCE ROAD 15
SIDEROAD 15
CONCESSION 2
SIDEROAD 20
SIDEROAD 15 NORTH
SIDEROAD 10
CONCESSION 11
OCB-028
OCB-008
73
10
4

Legend

- Project Area (120m)
- Proposed Turbine (L12 Rev1)
- MET Tower
- Junction Box
- Crane Walk
- Above Ground Cabling
- Underground Cabling
- Access Road
- Disturbance Area
- Potential Operations Building
- Substation
- Staging Area
- Interconnect Area
- Highway
- Primary Road
- Secondary Road
- Waterbody
- Watercourse (Permanent)
- Watercourse (Intermittent)
- Open Country Bird Breeding Habitat (OCB)
- Walking Transect
- Open Country Bird Habitat Monitoring Station



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Project: 1275A
Date: October 24, 2012

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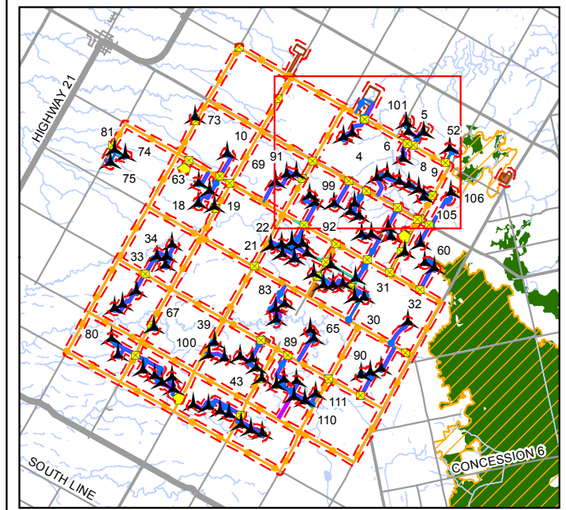
Map 2

Armow Wind Project

Open Country Bird Breeding (OCB) Habitats - Monitoring Locations

Legend

- Project Area (120m)
- Proposed Turbine (L12 Rev1)
- MET Tower
- Junction Box
- Crane Walk
- Above Ground Cabling
- Underground Cabling
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Project: 1275A
Date: October 24, 2012

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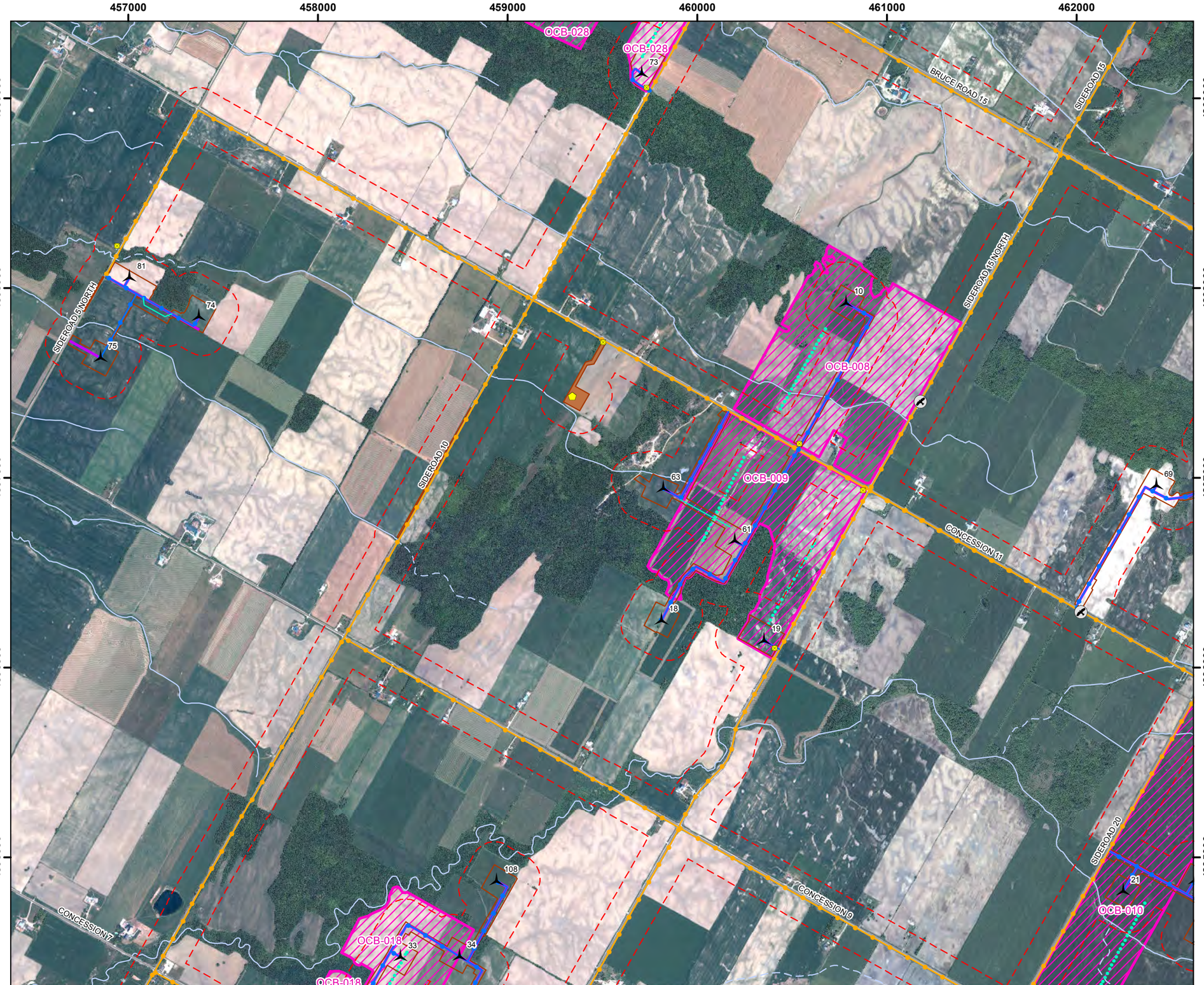
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Map 3

Armow Wind Project

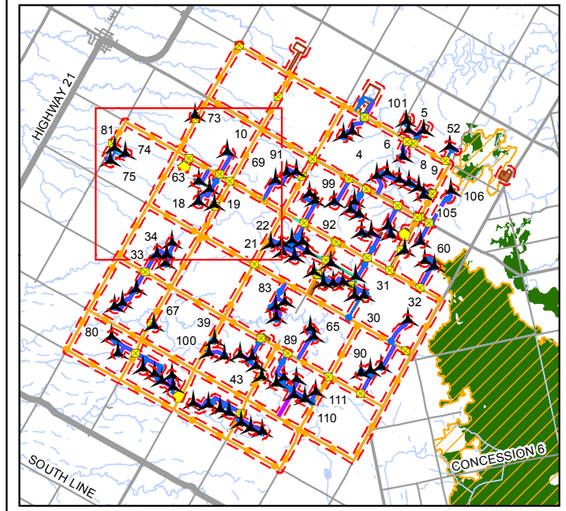
Open Country Bird Breeding (OCB) Habitats - Monitoring Locations



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Legend

- Project Area (120m)
- Proposed Turbine (L12 Rev1)
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- Waterbody
- Watercourse (Permanent)
- Watercourse (Intermittent)
- Open Country Bird Breeding Habitat (OCB)
- Walking Transect
- Open Country Bird Habitat Monitoring Station



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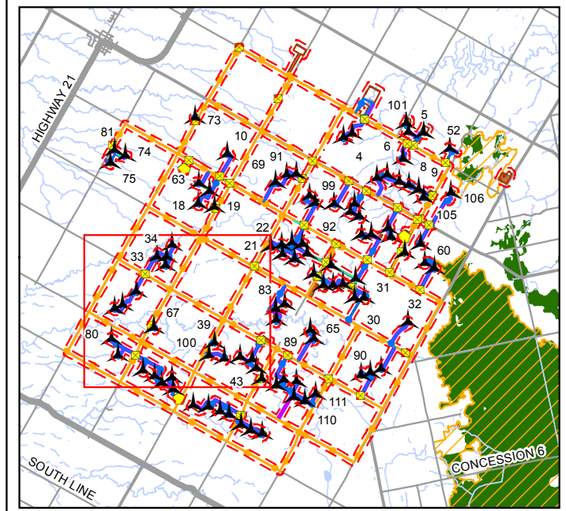
Map 4

Armow Wind Project

Open Country Bird Breeding (OCB) Habitats - Monitoring Locations

Legend

- Project Area (120m)
- Proposed Turbine (L12 Rev1)
- MET Tower
- Junction Box
- Crane Walk
- Above Ground Cabling
- Underground Cabling
- Access Road
- Disturbance Area
- Potential Operations Building
- Substation
- Staging Area
- Interconnect Area
- Highway
- Primary Road
- Secondary Road
- Waterbody
- Watercourse (Permanent)
- Watercourse (Intermittent)
- Open Country Bird Breeding Habitat (OCB)
- Walking Transect
- Open Country Bird Habitat Monitoring Station



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Project: 1275A
Date: October 24, 2012

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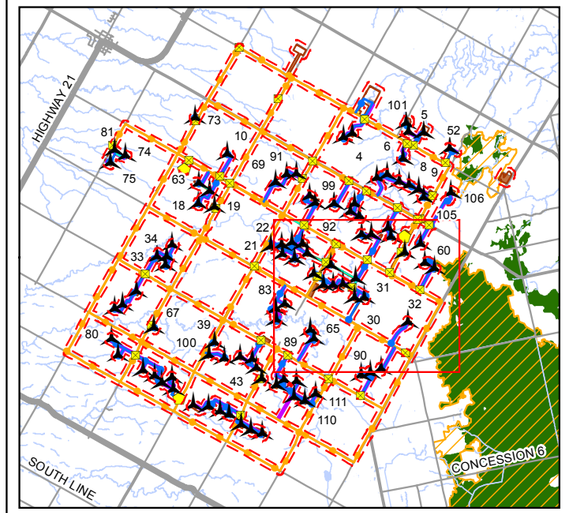
Map 5

Armow Wind Project

Open Country Bird Breeding (OCB) Habitats - Monitoring Locations

Legend

- Project Area (120m)
- Proposed Turbine (L12 Rev1)
- MET Tower
- Junction Box
- Crane Walk
- Above Ground Cabling
- Underground Cabling
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Project: 1275A
Date: October 24, 2012

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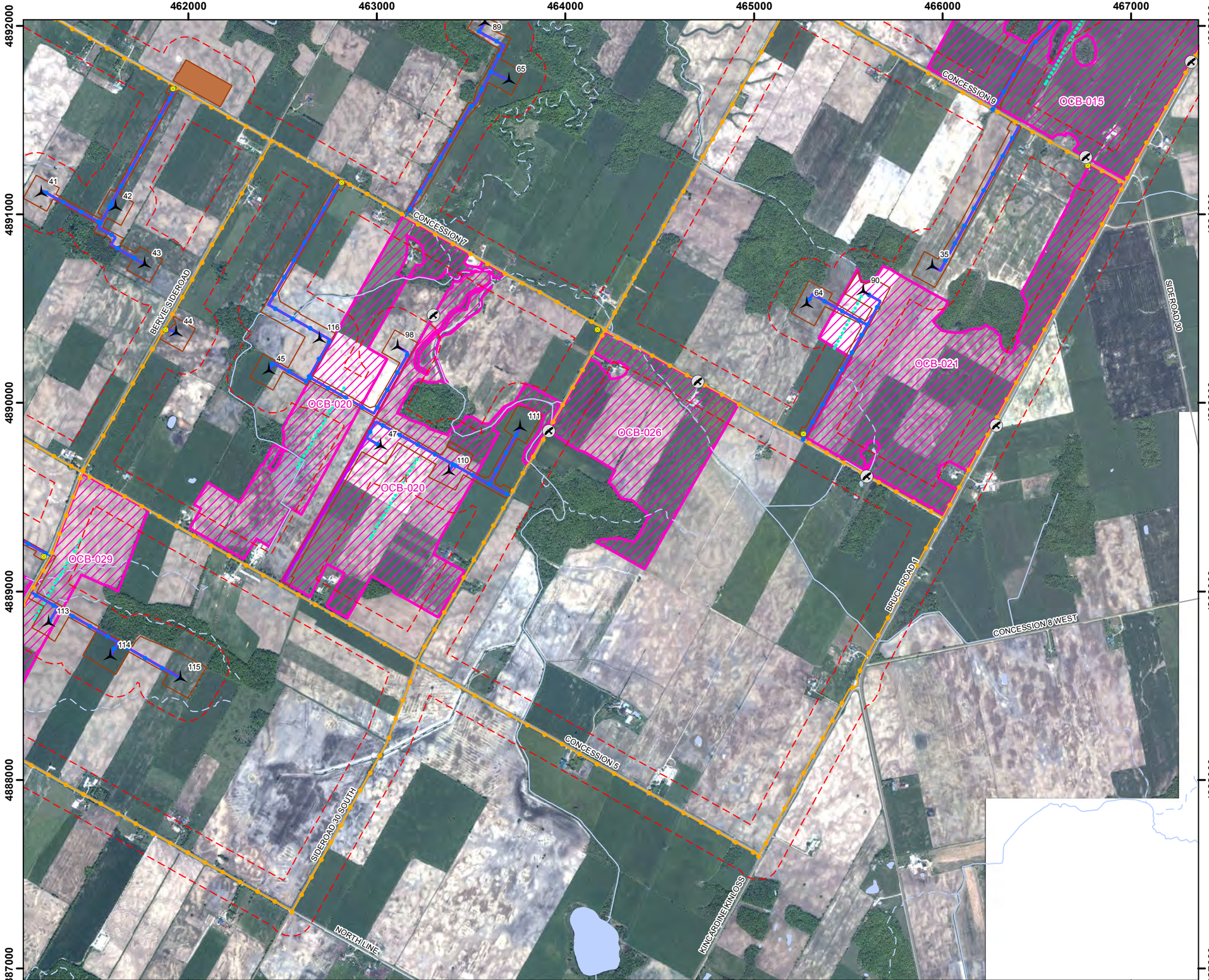
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Map 6

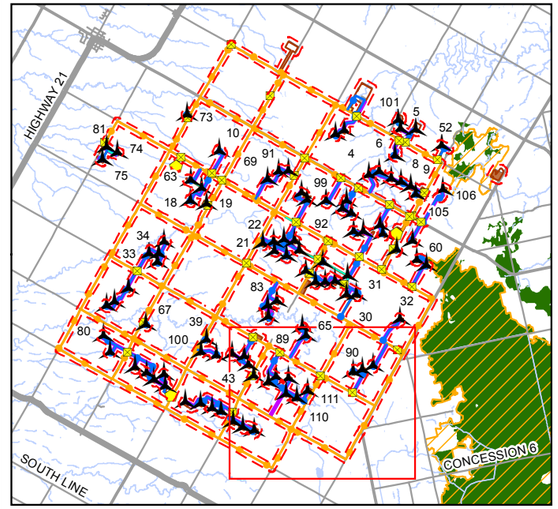
Armow Wind Project

Open Country Bird Breeding (OCB) Habitats - Monitoring Locations



Legend

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- Proposed Turbine (L12 Rev1)
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Date: October 24, 2012

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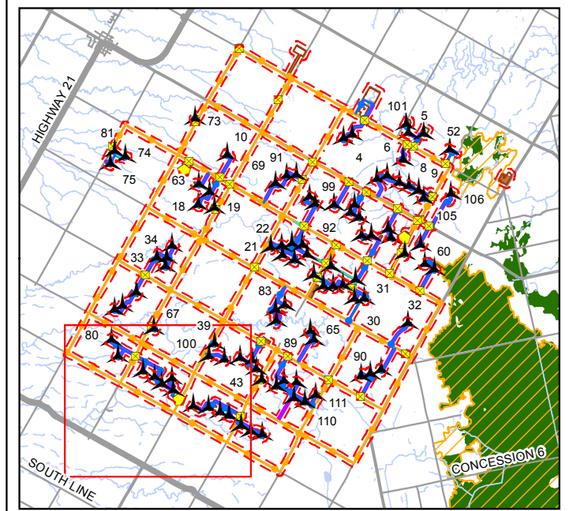
Map 7

Armow Wind Project

Open Country Bird Breeding (OCB) Habitats - Monitoring Locations

Legend

- Project Area (120m)
- Proposed Turbine (L12 Rev1)
- MET Tower
- Junction Box
- Crane Walk
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- Underground Cabling
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Appendix XI
Shrub/Early Successional Bird Breeding Habitat Survey Methods

NATURAL RESOURCE SOLUTIONS INC.
Aquatic, Terrestrial and Wetland Biologists

Memo

Project No. 1275A

To: **Amy Cameron**

From: **Andrew Ryckman**

Date: **June 26, 2012**

Re: **Armow Wind Farm**
Shrub/Early Successional Bird Breeding Habitat Survey Methods

---

As part of the monitoring commitments in the Natural Heritage Environmental Impact Study (EIS) for the Armow Wind Farm, Natural Resource Solutions Inc. (NRSI) will be conducting surveys to assess potential shrub/early successional bird breeding habitats. These surveys will be completed for the purpose of determining significance under the Renewable Energy Approval (REA) process. These surveys are being completed as part of the EIS component of the Natural Heritage Assessment (NHA) submission for the Armow Wind Farm. The NHA submission is currently going through provincial agency review.

Following available MNR guidelines, these surveys have been identified as being required in large field areas (>10ha in size) succeeding to shrub and thicket habitats, according to the Significant Wildlife Habitat Technical Guide (SWHTG) (OMNR 2000). To ensure a standardized and repeatable approach between each visit, as well as between multiple years, all surveys will adhere to the following standardized methods.

Monitoring Locations

Based on available guidelines, including the SWHTG, 2012 Significant Wildlife Habitat 6E Ecoregion Criteria, and Natural Heritage Assessment Guide, NRSI biologists have identified one candidate shrub/early successional bird breeding habitat. This habitat meets the following criteria for requiring field studies to determine level of significance:

- Large field area, including thicket (TH), savannah (SV), or woodland (WO) communities, >10ha in size
- Not Class 1 or 2 agricultural lands
- No row cropping or intensive hay or livestock pasturing in the last 5 years
- Suitable habitat within 120m of, or overlapping, a proposed wind turbine location

Shrub/early successional bird breeding habitat surveys will be conducted at 5 point count locations within the candidate habitat. The candidate habitat location as well as the point count locations have been identified on the attached figure and are found within the northeast end of the project area. The objective of this survey is to estimate the total number of breeding individuals within the candidate habitat during the breeding period.

Monitoring Frequency and Timing

NRSI will conduct shrub/early successional bird breeding habitat surveys at the 5 locations on 2 days, occurring in June and early July 2012, each no less than 10 days apart, following the Birds and Bird Habitat Guidelines (OMNR 2011).

Survey Methods

NRSI biologists will conduct 2 shrub/early successional breeding bird surveys at the 5 point count locations, following the Birds and Bird Habitats guidelines (OMNR 2011). Each survey will be conducted for 10 minutes with binoculars to allow enough time to thoroughly scan the area, both visually and aurally, for indication of shrub/early successional breeding birds. Surveys will start at dawn and will generally finish prior to 1000hrs.

Following the Birds and Bird Habitats guidelines, NRSI will record the following information on data summary forms during each survey:

- Level of effort (including date, start and end time, time spent, etc.),
- Weather conditions (wind speed, temperature, cloud cover, precipitation, etc.),
- Name of observer(s) conducting field work,
- Complete list of all bird species observed with highest breeding evidence,
- Complete list of all other wildlife species observed,
- Description of general behaviour at time of observation,
- Description of habitats or areas scanned during the survey,
- A GPS point of the survey location will be documented on the first visit to be mapped for consistency between visits.

Evaluation of Significance and Reporting

At the completion of the monitoring program in July 2012, NRSI will review all data collected during the monitoring period and compare it to provincial standards for significant shrub/early successional bird breeding areas. These standards, as observed in the SWH 6E Ecoregion Criteria, include:

- Any field with 1 or more breeding yellow-breasted chat or golden-winged warbler, or
- Presence of nesting or breeding of 1 or more of the following species:
  - brown thrasher,
  - clay-coloured sparrow,
- In addition to the presence of nesting or breeding of 2 or more of the following species:
  - field sparrow,
  - black-billed cuckoo,
  - eastern towhee,
  - willow flycatcher.

Following the review of the data collected during the shrub/early successional bird breeding habitat field studies, NRSI will prepare a detailed memo that describes the specific methods employed and details the results of the 2012 shrub/early successional bird breeding habitat surveys. This memo will be prepared in a way that is consistent with appropriate provincial guidelines and recommendations relating to renewable energy projects, including specific details relating to the evaluation of significance of each feature. For each feature, NRSI will also outline any potential impacts and appropriate mitigation measures (if necessary), as related back to the Natural Heritage EIS. Other appropriate information, including habitat descriptions, photos, field notes, and detailed habitat mapping, will also be included as part of the memo submission, as deemed necessary. This memo will be provided to the MNR for review and comment prior to the onset of construction activities at the Armow Wind Farm.

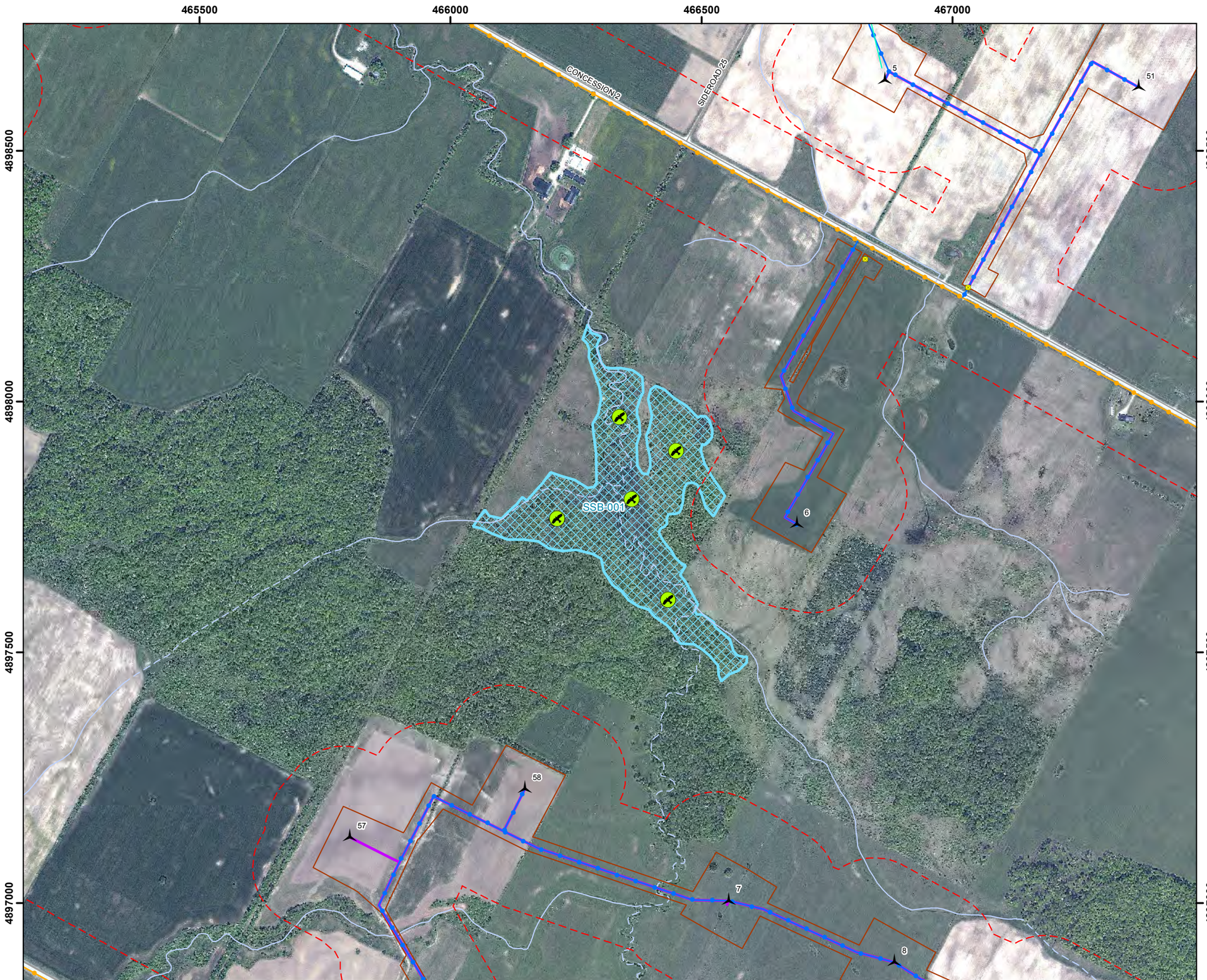
Sincerely,



Andrew Ryckman
Terrestrial and Wetland Biologist

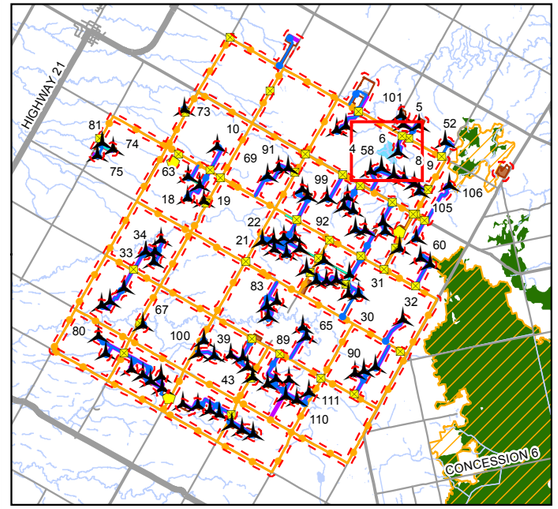
Armow Wind Farm

Shrub/Early Successional Bird Breeding Habitat - Monitoring Locations



Legend

- Project Area (120m)
- Proposed Turbine (L12 Rev0)
- MET Tower
- Junction Box
- Crane Walk
- Above Ground Cabling
- Underground Cabling
- Access Road
- Disturbance Area
- Potential Operations Building
- Substation
- Staging Area
- Interconnect Area
- Highway
- Primary Road
- Secondary Road
- ANSI, Life Science
- Provincially Significant Wetland
- Waterbody
- Watercourse (Permanent)
- Watercourse (Intermittent)
- Shrub/Early Successional Bird Breeding Habitat (SSB)
- Shrub/Early Successional Bird Breeding Habitat Monitoring Location



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Aquatic, Terrestrial and Wetland Biologists

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Imagery provided by: Golder Associates, 2011

Project: 1275A Date: June 25, 2012	NAD83 - UTM Zone 17 Size: 11x17" **1:7,500**

0 100 200 300 400 Meters

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Appendix XII
Olive-sided Flycatcher Habitat Survey Methods

NATURAL RESOURCE SOLUTIONS INC.
Aquatic, Terrestrial and Wetland Biologists

Memo

Project No. 1275A

To: **Amy Cameron**

From: **Andrew Ryckman**

Date: **June 26, 2012**

Re: **Armow Wind Farm**
Olive-sided Flycatcher Habitat Survey Methods

As part of the monitoring commitments in the Natural Heritage Environmental Impact Study (EIS) for the Armow Wind Farm, Natural Resource Solutions Inc. (NRSI) will be conducting surveys to assess potential breeding habitats the olive-sided flycatcher (*Contopus cooperi*), a provincial species of conservation concern. These surveys will be completed for the purpose of determining significance under the Renewable Energy Approval (REA) process. These surveys are being completed as part of the EIS component of the Natural Heritage Assessment (NHA) submission for the Armow Wind Farm. The NHA submission is currently going through provincial agency review.

According to the Significant Wildlife Habitat Technical Guide (SWHTG) (OMNR 2000), habitat for the olive-sided flycatcher consists of semi-open conifer forests (preferably spruce) near ponds, lakes, or rivers, with treed wetlands for nesting and burns with dead trees for perching. Habitat for this species exists within the project area. To ensure a standardized, and repeatable, approach between each visit as well as multiple years, all surveys will adhere to the following standardized methods.

<u>Monitoring Locations</u>
Based on available guidelines, including the SWHTG, 2012 Significant Wildlife Habitat 6E Ecoregion Criteria, and Natural Heritage Assessment Guide, NRSI biologists have identified one candidate habitat for the olive-sided flycatcher. This habitat meets the following criteria for requiring field surveys to determine level of significance:

- Semi-open conifer forests (FOC) near ponds, lakes, or rivers, with treed wetlands (SWD) for nesting and burns with dead trees for perching
- Suitable habitat within 120m of, or overlapping, a proposed wind turbine location

Olive-sided flycatcher surveys will be conducted at 3 roadside point count locations. These point count locations are located along the edge of the candidate habitat (no site access is available) and are expected to provide adequate viewpoints of the habitat. The candidate habitat location as well as the point count locations have been identified on the attached figure and are found within the southwest end of the project area. The objective of this survey is to estimate the total number of olive-sided flycatcher individuals during the breeding period.

Monitoring Frequency and Timing

NRSI will conduct olive-sided flycatcher surveys at the 3 location on 3 days, occurring in June and early July 2012, each no less than 10 days apart, following the Birds and Bird Habitat Guidelines (OMNR 2011). In the event that olive-sided flycatchers are not observed during the first 2 surveys, NRSI will conclude that this habitat is not significant breeding habitat for the olive-sided flycatcher and therefore, the final 3rd survey will not be required.

Survey Methods

NRSI biologists will conduct 3 olive-sided flycatcher surveys at the 3 point count locations, following the Birds and Bird Habitats guidelines (OMNR 2011). Each survey will be conducted for 10 minutes with binoculars to allow enough time to thoroughly scan the area for indication of breeding olive-sided flycatcher individuals. Surveys in early- to mid-June will be carried out between sunrise and four hours after sunrise, while surveys in late June and early July will be carried out between sunrise and three hours after sunrise. Optimal weather conditions for these surveys are clear, calm, sunny days with little to no precipitation.

Following the Birds and Bird Habitats guidelines, NRSI will record the following information during each survey:

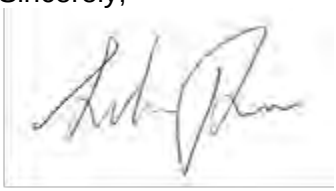
- Level of effort (including date, start and end time, time spent, etc.),
- Weather conditions (wind speed, temperature, cloud cover, precipitation, etc.),
- Name of observer(s) conducting field work,
- Complete list of all bird species observed with highest breeding evidence,
- All olive-sided flycatcher observations will be mapped,
- Complete list of all other wildlife species observed,
- Description of general behaviour at time of observation,
- Description of habitats or areas scanned during the survey,
- A GPS point of the survey location will be recorded.

Evaluation of Significance and Reporting

At the completion of the monitoring program in July 2012, NRSI will review all data collected during the monitoring period. The presence of olive-sided flycatcher breeding (based on probable or confirmed breeding evidence) within the habitat identified will result in a determination of significant habitat for this species.

Following the review of the data collected during the olive-sided flycatcher field studies, NRSI will prepare a detailed memo that describes the specific methods employed and details the results of the 2012 olive-sided flycatcher habitat surveys. This memo will be prepared in a way that is consistent with appropriate provincial guidelines and recommendations relating to renewable energy projects, including specific details relating to the evaluation of significance of each feature. For each feature, NRSI will also outline any potential impacts and appropriate mitigation measures (if necessary), as related back to the Natural Heritage EIS. Other appropriate information, including habitat descriptions, photos, field notes, and detailed habitat mapping, will also be included as part of the memo submission, as deemed necessary. This memo will be provided to the MNR for review and comment prior to the onset of construction activities at the Armow Wind Farm.

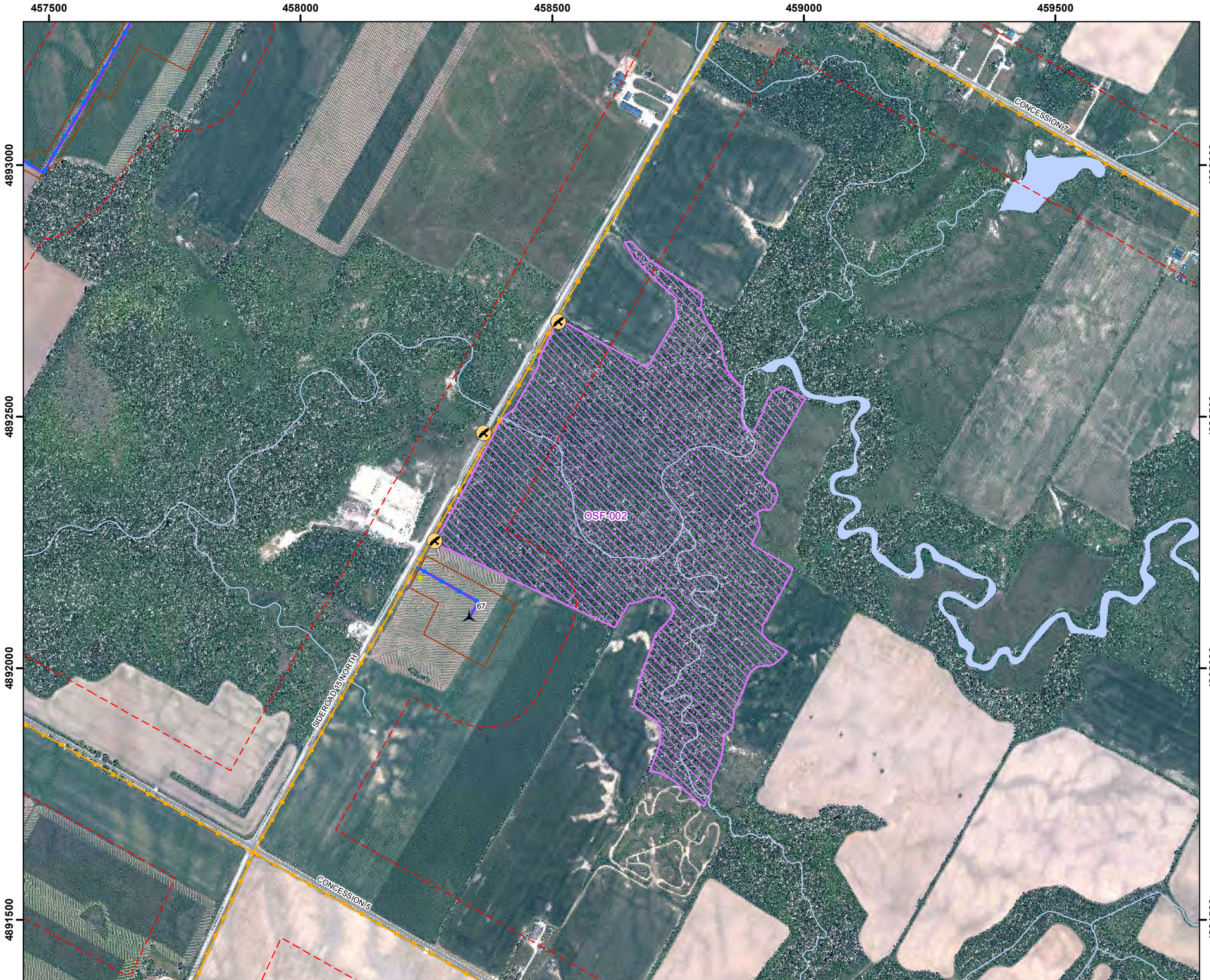
Sincerely,



Andrew Ryckman
Terrestrial and Wetland Biologist

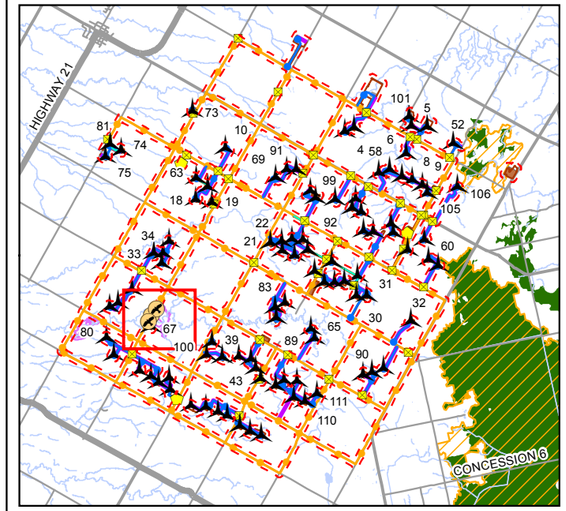
Armow Wind Farm

Olive-sided Flycatcher Habitat - Monitoring Locations



Legend

- Project Area (120m)
- Proposed Turbine (L12 Rev0)
- MET Tower
- Junction Box
- Crane Walk
- Above Ground Cabling
- Underground Cabling
- Access Road
- Disturbance Area
- Potential Operations Building
- Substation
- Staging Area
- Interconnect Area
- Highway
- Primary Road
- Secondary Road
- ANSI, Life Science
- Provincially Significant Wetland
- Waterbody
- Watercourse (Permanent)
- Watercourse (Intermittent)
- Olive-sided Flycatcher Habitat (OSF)
- Olive-sided Flycatcher Habitat Monitoring Location



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Aquatic, Terrestrial and Wetland Biologists

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Project: 1275A Date: June 25, 2012	NAD83 - UTM Zone 17 Size: 11x17" **1:7,500**

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Appendix XIII
Common Nighthawk Habitat Survey Methods

NATURAL RESOURCE SOLUTIONS INC.
Aquatic, Terrestrial and Wetland Biologists

Memo

Project No. 1275A

To: **Amy Cameron**

From: **Andrew Ryckman**

Date: **June 21, 2012**

Re: **Armow Wind Farm**
Common Nighthawk Habitat Survey Methods

As part of the monitoring commitments in the Natural Heritage Environmental Impact Study (EIS) for the Armow Wind Farm, Natural Resource Solutions Inc. (NRSI) will be conducting surveys to assess potential breeding habitats for common nighthawk (*Chordeiles minor*). These surveys will be completed for the purpose of determining significance under the Renewable Energy Approval (REA) process. These surveys are being completed as part of the EIS component of the Natural Heritage Assessment (NHA) submission for the Armow Wind Farm. The NHA submission is currently going through provincial agency review.

Following available MNR guidelines, these surveys have been identified as being required in areas with open ground, clearings in dense forests, ploughed fields, gravel beaches or barren areas with rocky soils, open woodlands, and flat gravel roofs, according to the Significant Wildlife Habitat Technical Guide (SWHTG) (OMNR 2000). To ensure a standardized, and repeatable, approach between each visit as well as multiple years, all surveys will adhere to the following standardized methods.

Monitoring Locations

Based on available guidelines, including the SWHTG and Natural Heritage Assessment Guide, NRSI biologists have identified 21 candidate common nighthawk habitats. These habitats meet the following criteria for requiring field surveys to determine level of significance:

- Open areas with little to no ground vegetation, including meadows (ME), open pastures (OAGM4), perennial cover crops (OAGM2), forests (FO), rock barrens (RB), bogs (BO), or shorelines (SH)
- Suitable habitat within 120m of, or overlapping, a proposed wind turbine location

Common nighthawk surveys will be conducted at a total of 28 roadside point count locations, and will be spaced by at least 500m. These point count locations are located at the edge of the candidate habitats and are expected to provide adequate viewpoints. The number of point counts required at each of the 21 candidate habitats depends on the size and habitat diversity at each location. The candidate habitat locations as well as the point count locations have been identified on the attached figures and can be found throughout the project area. The objective of this survey is to estimate the total number of common nighthawk individuals during the breeding period.

Monitoring Frequency and Timing

NRSI will conduct common nighthawk surveys at the 28 locations on 2 evenings, occurring once between May 28, 2012 and June 5, 2012, and once between June 26, 2012 and July 5, 2012, according to the Northeast Nightjar Survey technique, as provided by the MNR Sudbury district (2011). Surveys will be conducted between the first quarter and last quarter moon phases, when at least 50% of the moon face is visible, as this is when nightjars are most vocal.

Survey Methods

NRSI biologists will conduct 2 common nighthawk surveys at each of the 28 point count locations, following the Birds and Bird Habitats guidelines (OMNR 2011). Each survey will be conducted for 10 minutes, beginning at sunset, and ending no later than 90 minutes after sunset. These surveys will occur once between May 28, 2012 and June 5, 2012, and once between June 26, 2012 and July 5, 2012. Optimal conditions are when there is little or no cloud-cover, calm or light winds (up to 3 on the Beaufort scale), no precipitation, and temperatures above 10°C.

Following the Birds and Bird Habitats guidelines, NRSI will record the following information during each survey:

- Level of effort (including date, start and end time, time spent, etc.),
- Weather conditions (wind speed, temperature, cloud cover, precipitation, etc.),
- Name of observer(s) conducting field work,
- Complete list of all bird species observed with highest breeding evidence,
- Distance and direction of all observed common nighthawk individuals,
- All common nighthawk observations will be mapped,
- Complete list of all other wildlife species observed,
- Description of general behaviour at time of observation,
- Description of habitats or areas scanned during the survey,
- A GPS point of the survey location will be documented and mapped.

Evaluation of Significance and Reporting

At the completion of the monitoring program in July 2012, NRSI will review all data collected during the monitoring period. The presence of common nighthawk breeding (including both probable or confirmed evidence) within the habitats identified will result in a significant determination for the habitat.

Following the review of the data collected during the common nighthawk field studies, NRSI will prepare a detailed memo that describes the specific methods employed and details the results of the 2012 common nighthawk habitat surveys. This memo will be prepared in a way that is consistent with appropriate provincial guidelines and recommendations relating to renewable energy projects, including specific details relating to the evaluation of significance of each feature. For each feature, NRSI will also outline any potential impacts and appropriate mitigation measures (if necessary), as related back to the Natural Heritage EIS. Other appropriate information, including habitat descriptions, photos, field notes, and detailed habitat mapping, will also be included as part of the memo submission, as deemed necessary. This memo will be provided to the MNR for review and comment prior to the onset of construction activities at the Armow Wind Farm.

Sincerely,



Andrew Ryckman
Terrestrial and Wetland Biologist

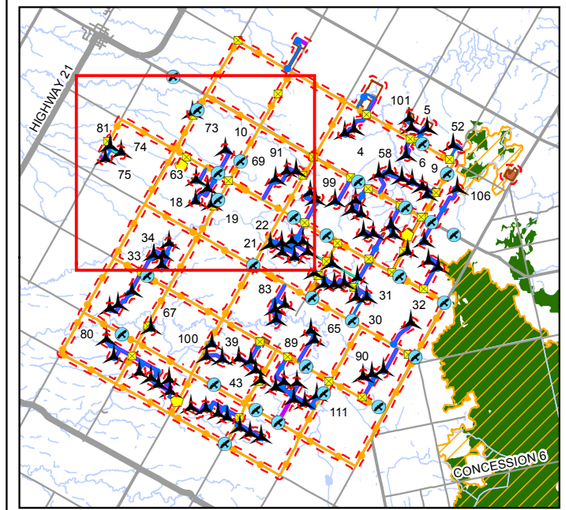
Map 1

Armow Wind Farm

Common Nighthawk Habitat Monitoring Stations

Legend

- Project Area (120m)
- Proposed Turbine (L10 Rev5)
- MET Tower
- Junction Box
- Crane Walk
- Above Ground Cabling
- Underground Cabling
- Access Road
- Disturbance Area
- Potential Operations Building
- Substation
- Staging Area
- Interconnect Area
- Highway
- Primary Road
- Secondary Road
- ANSI, Life Science
- Provincially Significant Wetland
- Waterbody
- Watercourse (Permanent)
- Watercourse (Intermittent)
- Common Nighthawk Habitat (CNH)
- Common Nighthawk Monitoring Station



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Aquatic, Terrestrial and Wetland Biologists

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Project: 1275A
Date: Thursday, October 25, 2012

NAD83 - UTM Zone 17
Size: 11x17"
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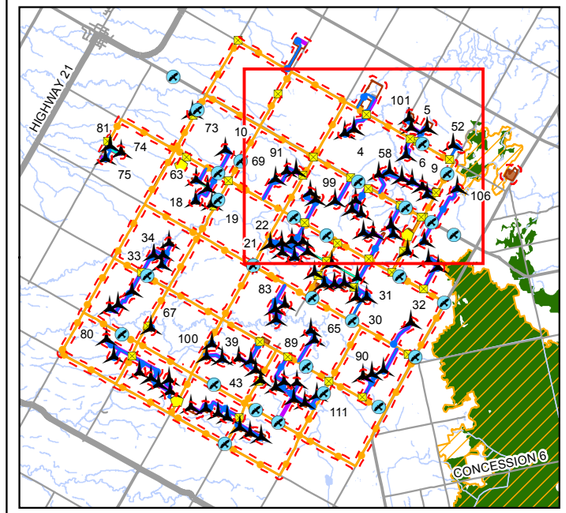
Map 2

Armow Wind Farm

Common Nighthawk Habitat Monitoring Stations

Legend

- Project Area (120m)
- Proposed Turbine (L10 Rev5)
- MET Tower
- Junction Box
- Crane Walk
- Above Ground Cabling
- Underground Cabling
- Access Road
- Disturbance Area
- Potential Operations Building
- Substation
- Staging Area
- Interconnect Area
- Highway
- Primary Road
- Secondary Road
- ANSI, Life Science
- Provincially Significant Wetland
- Waterbody
- Watercourse (Permanent)
- Watercourse (Intermittent)
- Common Nighthawk Habitat (CNH)
- Common Nighthawk Monitoring Station



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Imagery provided by: Golder Associates, 2011

Project: 1275A
Date: Thursday, October 25, 2012

NAD83 - UTM Zone 17
Size: 11x17"
1:25,000

0 500 1,000 1,500 Meters

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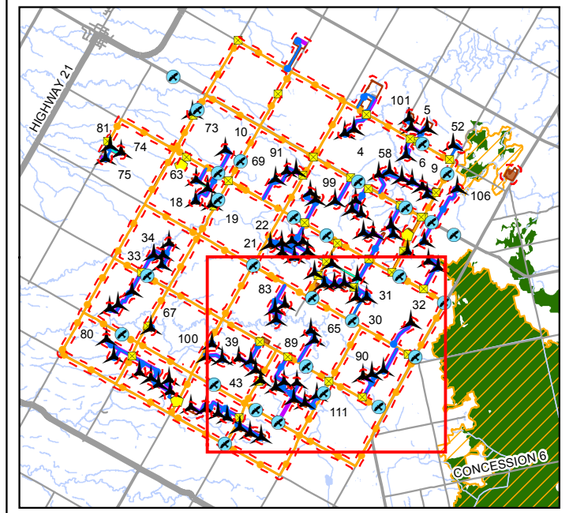
Map 3

Armow Wind Farm

Common Nighthawk Habitat Monitoring Stations

Legend

- Project Area (120m)
- Proposed Turbine (L10 Rev5)
- MET Tower
- Junction Box
- Crane Walk
- Above Ground Cabling
- Underground Cabling
- Access Road
- Disturbance Area
- Potential Operations Building
- Substation
- Staging Area
- Interconnect Area
- Highway
- Primary Road
- Secondary Road
- ANSI, Life Science
- Provincially Significant Wetland
- Waterbody
- Watercourse (Permanent)
- Watercourse (Intermittent)
- Common Nighthawk Habitat (CNH)
- Common Nighthawk Monitoring Station



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Imagery provided by: Golder Associates, 2011

Project: 1275A
Date: Thursday, October 25, 2012

NAD83 - UTM Zone 17
Size: 11x17"
1:25,000

0 500 1,000 1,500 Meters

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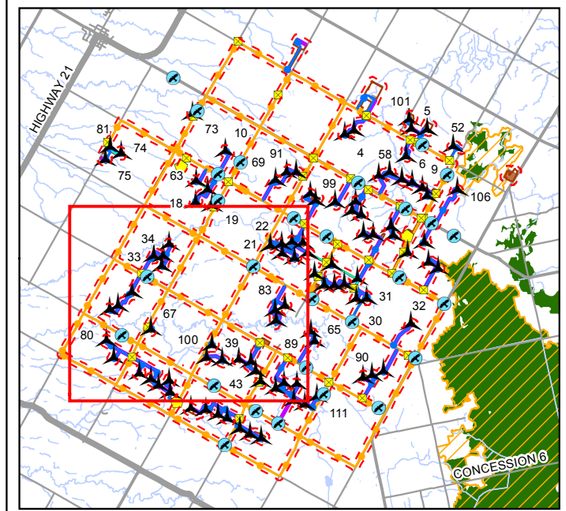
Map 4

Armow Wind Farm

Common Nighthawk Habitat Monitoring Stations

Legend

- Project Area (120m)
- Proposed Turbine (L10 Rev5)
- MET Tower
- Junction Box
- Crane Walk
- Above Ground Cabling
- Underground Cabling
- Access Road
- Disturbance Area
- Potential Operations Building
- Substation
- Staging Area
- Interconnect Area
- Highway
- Primary Road
- Secondary Road
- ANSI, Life Science
- Provincially Significant Wetland
- Waterbody
- Watercourse (Permanent)
- Watercourse (Intermittent)
- Common Nighthawk Habitat (CNH)
- Common Nighthawk Monitoring Station



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Project: 1275A
Date: Thursday, October 25, 2012

NAD83 - UTM Zone 17
Size: 11x17"
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Appendix XIV
Evaluation of Significance Fieldnotes

AVIAN POINT COUNT FORM

STATION WST-001 **PROJECT** 1275A

Length 30 mins Survey ☐ Migration ☐ Winter ☐ Daytime/ Raptor ☒ Other: waterfowl

Project Arnaw WF DD/MM/YY 13/03/12

Start Time (24hr): 14:15 End Time: 14:45 Observers NGM, AMD

Weather

Air Temp. 13 °C Wind Speed 5 Wind Direction SW (from)

Cloud Cover 20 % Cloud Height High ☒ Med ☐ Low ☐

Precipitation none Visibility High ☒ Med ☐ Low ☐

Station

Habitat meadow - no sheet water
- surrounded by forest, w hedgerow thickets

Elevation _____ ft / m Crop _____

Pressure _____ mb UTM 17T 0462434 4899630

Turbines

Operational yes no Number in View _____ RPM _____

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.
Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Photo 100-0829

Station#: WST-001 **Date:** Mar. 13/12 **Project #:** 1275 A

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Comments
herring gull	14:15	50	foraging	–	0	–	180	50 m	
mallard	14:20	3	perched	–	0	–	240	100 m	in sheet water pool – to the west of observation area (not in WST-001)
Common grackle	14:21	2	flying	1	1	270	90	100 m	
horned lark	14:30	2	flying	1	1	90	45	50 m	
Am. crow	14:33	5	flying	1	3	90	0	250 m	
Song sparrow	14:40	1	perched	–	0	-	270	25 m	

Temp. 13
Cloud Cover 20 %
Precipitation none

Wind Speed 5
Wind Direction SW

AVIAN POINT COUNT FORM

STATION WST-002 **PROJECT** 1275 A

Length: 30 mins Survey: ☐ Migration ☐ Winter ☐ Daytime/ Raptor ☒ Other: waterfowl

Project: Armaw WF DD/MM/YY: 13/03/12

Start Time (24hr): 14:55 End Time: 15:25 Observers: NGM, AMD

Weather

Air Temp. 14 °C Wind Speed 4 Wind Direction SW (from)

Cloud Cover 20 % Cloud Height High ☒ Med ☐ Low ☐

Precipitation none Visibility High ☒ Med ☐ Low ☐

Station

Habitat meadow - no sheet water
- most of area of interest has been tilled, as indicated on map

Photo # 100 – 0830
100 – 0831

Elevation _____ ft / m Crop _____

Pressure _____ mb UTM 17T 0456916 4898139

Turbines

Operational yes no Number in View _____ RPM _____

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.

Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Station#: WST-002 **Date:** Mar. 13/12 **Project #:** 1275A

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs. (m)	Comments
Red-winged Blackbird	14:59	1	flying	1	1	180	180	150	
Common Grackle	15:02	2	"	—	0	—	270	25	
Song Sparrow	15:13	1	perched	—	0	—	270	50	
Herring Gull	15:14	1	flying	1	2	45	345	100	
Red-tailed Hawk	15:15	1	"	1	4	45	300	200	
Am. Crow	15:21	1	"	1	4	90	270	100	

Temp. 14°C
Cloud Cover 20 %
Precipitation —

Wind Speed 4
Wind Direction SW

AVIAN POINT COUNT FORM

STATION WST-004 **PROJECT** 1275A

Length 30 mins Survey ☐ Migration ☐ Winter ☐ Daytime/ Raptor ☒ Other: waterfowl

Project Armaw WF DD/MM/YY 14/03/12

Start Time (24hr): 16:40 End Time: 17:10 Observers NGM, AMD

Weather

Air Temp. 19 °C Wind Speed 2 Wind Direction S (from)

Cloud Cover 5 % Cloud Height High ☒ Med ☐ Low ☐

Precipitation none Visibility High ☒ Med ☐ Low ☐

Station

Habitat thicket, woodlot, small meadow area south of thicket, no visible sheet water

Elevation ft / m Crop

Pressure mb UTM 17T 0461310 4897647

Turbines

Operational yes no Number in View RPM

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.

Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

photo 100-0846

Station#: WST-004 **Date:** Mar. 14/12 **Project #:** 1275 A

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Comments
Am. Crow	16:45	2	flying	1	3	0	270	50m	
red winged blackbird	16:49	2	perched	–	0	–	0	100m	
horned lark	16:55	1	flying	1	2	45	315	50m	
Am. Crow	16:55	2	flying	1	0	90	315	50m	
red tailed hawk	17:00	1	flying	1	1	90	180	200m	
herring gull	17:01	3	flying	1	3	270	0	300m	
common grackle	17:01	1	flying	1	1	270	180	25m	
horned lark	17:09	2	perched	–	0	–	45	100m	

Temp. 19
Cloud Cover 5 %
Precipitation none

Wind Speed 2
Wind Direction S

AVIAN POINT COUNT FORM

STATION WST-005 **PROJECT** 1275 A

Length: 30 mins | Survey: ☐ Migration ☐ Winter ☐ Daytime/ Raptor ☒ Other: waterfowl

Project: Armow WF | DD/MM/YY: 14/03/12

Start Time (24hr): 9:10 | End Time: 9:40 | Observers: NGM, AMD

Weather

Air Temp. 5 °C | Wind Speed 2 | Wind Direction SW (from)

Cloud Cover 5 % | Cloud Height: High ☒ Med ☐ Low ☐

Precipitation: none | Visibility: High ☒ Med ☐ Low ☐

Station

Habitat: meadow - no sheet water

Elevation ____ ft / m | Crop ____

Pressure ____ mb | UTM: 17T 0458952 4890485

Turbines

Operational: yes no | Number in View ____ | RPM ____

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.

Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

photo - AMD's blackberry - sent to work email
photo ref "WST-005"

Station#: WST-005 **Date:** Mar. 14/12 **Project #:** 1275A

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Comments
Am. Robin	9:21	2	perched	–	1	–	315	75 m.	
red winged blackbird	9:25	3	flying	1	2	90	90	20 m	
Song Sparrow	9:25	1	perched	–	1	–	0	50 m	
black-capped chickadee	9:29	3	flying	2	0	45	0	20 m	
brown-headed cowbird	9:35	1	perched	–	1	–	45	50 m.	
herring gull	9:38	1	flying	1	3	180	0	200 m	
red-tailed hawk	9:44	3	flying	1	1	270	0	75 m	
Am. crow	9:44	4	flying	1	1	270	0	100 m	
Horned lark	9:47	2	flying	1	0	180	180	150 m	
Common grackle	9:49	3	flying	1	0	90	180	200m	

Temp. 5
Cloud Cover 5 %
Precipitation none

Wind Speed 2
Wind Direction SW

AVIAN POINT COUNT FORM

STATION WST-007 **PROJECT** 1275 A

Length 30 mins Survey ☐ Migration ☐ Winter ☐ Daytime/ Raptor ☒ Other: waterfowl

Project Armow WF DD/MM/YY 13/03/12

Start Time (24hr): 16:10 End Time: 16:40 Observers NGM, AMD

Weather

Air Temp. 13 °C Wind Speed 3 Wind Direction SW (from)

Cloud Cover 0 % Cloud Height High ☒ Med ☐ Low ☐

Precipitation none Visibility High ☒ Med ☐ Low ☐

Station

Habitat pasture - very little sheet water
- western portion of area of interest has been tilled - indicated on map

Elevation ft / m Crop

Pressure mb UTM 17T 0461156 4889012

Turbines

Operational yes no Number in View RPM

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.
Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

photo 100-0834

Station#: WST-007 **Date:** Mar. 13/12 **Project #:** 1275 A

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Comments
Am. crow	16:11	1	flying	1	0	0	0	75 m	
red tailed hawk	16:25	3	hunting	2	1	0	180	300 m	
Euro. starling	16:30	25	flying	1	1	180	270	150 m	
common grackle	16:36	2	perched	—	0	—	250	100m	

Temp. 13
Cloud Cover 0 %
Precipitation none

Wind Speed 3
Wind Direction SW

AVIAN POINT COUNT FORM

STATION WST-008 **PROJECT** 1275A

Length 30 mins Survey ☐ Migration ☐ Winter ☐ Daytime/ Raptor ☒ Other: waterfowl

Project Armow WF DD/MM/YY 13/03/12

Start Time (24hr): 16:45 End Time: 17:15 Observers NGM, AMD

Weather

Air Temp. 13 °C Wind Speed 3 Wind Direction SW (from)

Cloud Cover 0 % Cloud Height High ☒ Med ☐ Low ☐

Precipitation none Visibility High ☒ Med ☐ Low ☐

Station

Habitat ploughed field - very little sheet water

Elevation _____ ft / m Crop _____

Pressure _____ mb UTM 17T 0462118 4890842

Turbines

Operational yes no Number in View _____ RPM _____

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.

Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

photo 100-0835

Station#: WST-008 **Date:** Mar. 13/12 **Project #:** 1275 A

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Comments
Common raven	16:50	1	perched	–	1	–	315	200 m	
Northern harrier	16:50	1	flying	1	3	0	180	100 m	
Am. crow	16:55	3	flying	1	1	180	180	50 m	
herring gull	17:00	2	flying	1	2	90	45	50 m	

Temp. 13
Cloud Cover 0 %
Precipitation none

Wind Speed 3
Wind Direction SW

AVIAN POINT COUNT FORM

STATION WST-009 **PROJECT** 1275 A

Length: 30 mins Survey: ☐ Migration ☐ Winter ☐ Daytime/ Raptor ☒ Other: waterfowl

Project: Arrow WF DD/MM/YY: 13/03/12

Start Time (24hr): 15:35 End Time: 16:05 Observers: NGM, AMD

Weather

Air Temp. 13 °C Wind Speed 4 Wind Direction SW (from)

Cloud Cover 10 % Cloud Height High ☒ Med ☐ Low ☐

Precipitation none Visibility High ☒ Med ☐ Low ☐

Station

Habitat: tilled field – no sheet water
– entire area of interest has been tilled

Elevation _____ ft / m Crop _____

Pressure _____ mb UTM 17T 0460216 4891602

Turbines

Operational yes no Number in View _____ RPM _____

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.
Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

photo 100-0833

Station#: WST-009 **Date:** Mar. 13/12 **Project #:** 1275 A

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Comments
Northern shrike	15:45	1	foraging	1	0	270	180	50 m	
Common grackle	15:47	2	flying	1	1	0	0	200 m	
Am crow	15:55	5	flying	1	3	90	45	100 m	
Am. robin	16:00	1	perched	-	0	-	45	100 m	

Temp. 13
Cloud Cover 10 %
Precipitation none

Wind Speed 4
Wind Direction SW

AVIAN POINT COUNT FORM

STATION WST-010 **PROJECT** 1275 A

Length 30 mins Survey ☐ Migration ☐ Winter ☐ Daytime/ Raptor ☒ Other: waterfowl

Project Armaw WF DD/MM/YY 14/03/12

Start Time (24hr): 10:50 End Time: 11:20 Observers NGM, AMD

Weather

Air Temp. 10 °C Wind Speed 2 Wind Direction SW (from)

Cloud Cover 5 % Cloud Height High ☐ Med ☐ Low ☐

Precipitation none Visibility High ☐ Med ☐ Low ☐

Station

Habitat field w winter cover crop - no sheet water

Elevation _____ ft / m Crop _____

Pressure _____ mb UTM 17T 0461519 4891272

Turbines

Operational yes no Number in View _____ RPM _____

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.
Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

photo 100-0837

Station#: WST-010 **Date:** Mar. 14/12 **Project #:** 1275 A

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs. (m)	Comments
Herring Gull	11:01	10	flying	1	6	270	150	150	
Canada Goose	11:12	6	"	1	5	95	270	200	
Horned Lark	11:17	3	perched	—	0	—	45	150	
Black-capped chickadee	11:23	2	"	—	0	—	340	100	
Am. Crow	11:30	4	flying	1	3	45	270	300	
Brown-headed Cowbird	11:33	1	perched	—	0	—	340	75	

Temp. 10
Cloud Cover 5 %
Precipitation none

Wind Speed 2
Wind Direction SW

AVIAN POINT COUNT FORM

STATION WST-011 **PROJECT** 1275A

Length: 30 mins | Survey: ☐ Migration ☐ Winter ☐ Daytime/Raptor ☒ Other: waterfowl

Project: Armar WF | DD/MM/YY: 13/03/12

Start Time (24hr): 14:55 | End Time: 15:25 | Observers: NGM, AMD

Weather

Air Temp. 14 °C | Wind Speed 4 | Wind Direction SW (from)

Cloud Cover 20 % | Cloud Height: High ☒ Med ☐ Low ☐

Precipitation none | Visibility: High ☒ Med ☐ Low ☐

Station

Habitat meadow w hawthorns, next to watercourse -no sheet water | Photo # 100-0832

Elevation _____ ft / m | Crop _____

Pressure _____ mb | UTM 17T 0456916 4898139

Turbines

Operational yes no | Number in View _____ | RPM _____

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.

Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Station#: WST-011 **Date:** Mar. 13/12 **Project #:** 1275A

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs. (m)	Comments
Downy Woodpecker	14:57	1	perched	—	0	—	270	25	
Common Grackle	15:09	2	flying	1	3	180	45	100	
Am. Crow	15:12	3	flying	1	4	45	45	250	
Blue Jay	15:16	1	flying	1	2	45	100	300	
Horned Lark	15:18	1	flying	1	1	190	45	25	
Herring Gull	15:19	4	flying	1	6	70	100	100	

Temp. 14
Cloud Cover 20 %
Precipitation none

Wind Speed 4
Wind Direction SW

AVIAN POINT COUNT FORM

STATION WST-016 **PROJECT** 1275 A

Length: 30 mins Survey: ☐ Migration ☐ Winter ☐ Daytime/Raptor ☒ Other: waterfowl

Project: Armow WF DD/MM/YY: 14/03/12

Start Time (24hr): 10:05 End Time: 10:35 Observers: NGM, AMD

Weather

Air Temp. 8 °C Wind Speed 2 Wind Direction SW (from)

Cloud Cover 0 % Cloud Height: High ☐ Med ☐ Low ☐ - no clouds

Precipitation: none Visibility: High ☒ Med ☐ Low ☐

Station

Habitat: meadow along watercourse, no sheet water

Elevation _____ ft / m Crop _____

Pressure _____ mb UTM: 17 T 0463971 4889968

Turbines

Operational: yes no Number in View _____ RPM _____

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.

Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

photo 100-0836

Station#: WST-016 **Date:** Mar. 14/12 **Project #:** 1275 A

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Comments
red tailed hawk	10:10	2	flying	1	1	270	0	100 m	
Am. kestrel	10:11	1	perched	-	0	-	0	15 m	
red-winged blackbird	10:15	2	flying	1	0	270	0	25 m.	
Common Grackle	10:17	1	flying	1	2	100	75	75 m	
Herring Gull	10:26	2	flying	1	4	45	270	500m	
Canada Goose	10:33	17	flying	1	7	45	270	200 m	flying over
* mink observed in creek									

Temp. 8
Cloud Cover 0 %
Precipitation none

Wind Speed 2
Wind Direction SW


Armow
1275A
© 2012 Google
Image © 2012 DigitalGlobe
©2010 Google
Imagery Date: 7/13/2005
2005
17 T 460985.21 m E 4889042.51 m N elev 894 ft
Eye alt 2114 ft

Mar. 13/12 - NGM + AMD (#1275A) ✓

WST-009, 007, 008

Armow Wind Farm

Waterfowl Stopover and Staging Area (Terrestrial) - Monitoring Locations Map 1

Mar. 14/12 - NGM + AMD

WST-005, 016, 010

459000 460000 461000 462000 463000 464000

4892000 4891000 4890000 4889000

WST-009 WST-010 WST-008 WST-005 WST-016 WST-007

39 40 41 42 43 44 45 47 49 50 65 66 70 76 78 82 83 84 89 98 100 104 110 111 113 114 115 116

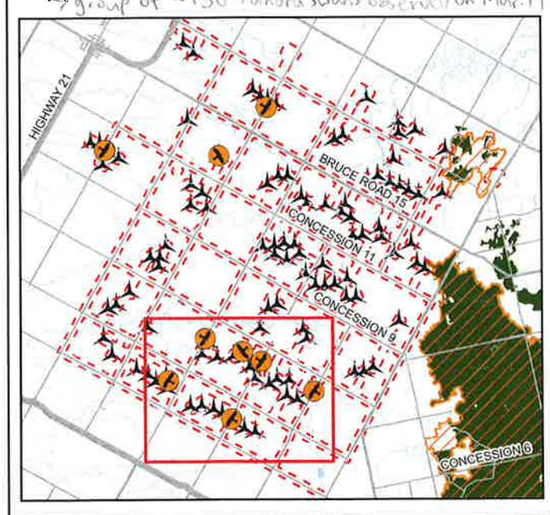
SIDEROAD 20 WEBER SIDEROAD CONCESSION 8 CONCESSION 7 BERVIE SIDEROAD CONCESSION 5 SIDEROAD 20 SOUTH NORTH LINE

- better vantage point from N side of area
- raptor stick nest
- hatched area has been tilled
- small amount of sheet wash

Legend

- Project Area (120m)
- Proposed Turbine (L08 Rev2)
- MET Tower
- Junction Box
- Crane Walk
- Overhead Cabling
- Underground Cabling
- Access Road
- Disturbance Area
- Substation
- Staging Area
- Interconnect Area
- Highway
- Primary Road
- Secondary Road
- ANSI, Life Science
- Provincially Significant Wetland
- Waterbody
- Watercourse (Permanent)
- Watercourse (Intermittent)
- Waterfowl Stopover and Staging Area
- Waterfowl Monitoring Station

- in corn agr. field (not significant)
- Weber sideroad + Con 9 (southwest corner)
  - group of ~150 tundra swans observed on Mar. 14



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Imagery provided by: Golder Associates, 2011

Project: 1275
Date: March-09-12

NAD83 - UTM Zone 17
Size: 11x17"
1:19,000

0 250 500 750 1,000 Meters

N

Mar. 13/12 - WST-001, 002, 011 (#1275)

AMD, NGM

Armow Wind Farm

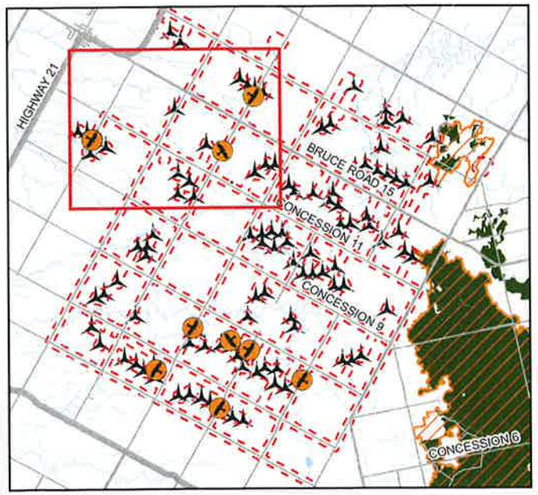
Waterfowl Stopover and Staging Area (Terrestrial) - Monitoring Locations Map 2

Mar. 14/12 - WST-004 (roadside)

AMD, NGM

Legend

- Project Area (120m)
- Proposed Turbine (L08 Rev2)
- MET Tower
- Junction Box
- Crane Walk
- Overhead Cabling
- Underground Cabling
- Access Road
- Disturbance Area
- Substation
- Staging Area
- Interconnect Area
- Highway
- Primary Road
- Secondary Road
- ANSI, Life Science
- Provincially Significant Wetland
- Waterbody
- Watercourse (Permanent)
- Watercourse (Intermittent)
- Waterfowl Stopover and Staging Area
- Waterfowl Monitoring Station



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Imagery provided by: Golder Associates, 2011

Project: 1275
Date: March-12-12

NAD83 - UTM Zone 17
Size: 11x17"
1:22,000

0 250 500 750 1,000 Meters

N

AVIAN POINT COUNT FORM

STATION WST-001 **PROJECT** 1275A

Length 30mins Survey ☒ Migration ☐ Winter ☐ Daytime/ Raptor ☐ Other: waterfowl

Project Armow WF DD/MM/YY 26/03/12

Start Time (24hr): 14:47 End Time: 15:17 Observers JRW, NGM

Weather

Air Temp. 1 °C Wind Speed 5 Wind Direction N (from)

Cloud Cover 5 % Cloud Height High ☐ Med ☐ Low ☑

Precipitation None Visibility High ☑ Med ☐ Low ☐

Station

Habitat

Elevation _____ ft / m Crop _____

Pressure _____ mb UTM 17 T 0462446 4899647

Turbines

Operational yes no Number in View _____ RPM _____

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.
Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Station#: WST-001 **Date:** 26/03/12 **Project #:** 1275A

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Comments
ring-billed gull	14:49	1	flying	1	11	W	NW	500m	
blackcapped chickadee	14:54	1	flying	1	0	S	W	20m	
horned lark	14:57	5	flying	1	0	W	NW	150m	

Temp. _____
Cloud Cover _____%
Precipitation _____

As before

Wind Speed _____
Wind Direction _____

AVIAN POINT COUNT FORM

STATION WST-002 **PROJECT** 1275A

Length 30 min Survey [X] Migration [ ] Winter [ ] Daytime/ Raptor [ ] Other: _____

Project Arrow WF DD/MM/YY 26/03/12

Start Time (24hr): 13:42 End Time: 14:12 Observers NGM, JRW

Weather

Air Temp. 1 °C Wind Speed 4 Wind Direction N (from)

Cloud Cover 5 % Cloud Height High [✓] Med [ ] Low [ ]

Precipitation None Visibility High [✓] Med [ ] Low [ ]

Station

Habitat

Elevation _____ ft / m Crop _____

Pressure _____ mb UTM 17T 0456927 4898148

Turbines

Operational yes no Number in View _____ RPM _____

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.

Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Station#: WST - 002 **Date:** Mar. 26/12 **Project #:** 1275A

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.(m)	Comments
Red-winged BB	13:47	7	perched	—	0	—	E	50	
Comm. Grackle	13:47	7	perched	—	0	—	E	50	
Downy woodpecker	14:08	1	perched	—	0	—	NE	25	

Temp. _____
Cloud Cover _____%
Precipitation _____

As before

Wind Speed _____
Wind Direction _____

AVIAN POINT COUNT FORM

STATION WST-004 **PROJECT** 1275A

Length 30mins Survey ☒ Migration ☐ Winter ☐ Daytime/ Raptor ☐ Other: Waterfowl

Project Arrow WF DD/MM/YY 26/03/12

Start Time (24hr): 15:30 End Time: 16:00 Observers JRW, NGM

Weather

Air Temp. 2 °C Wind Speed 5 Wind Direction N (from)

Cloud Cover 2 % Cloud Height High ☐ Med ☐ Low ☑

Precipitation None Visibility High ☑ Med ☐ Low ☐

Station

Habitat

Elevation ____ ft / m Crop ____

Pressure ____ mb UTM 17T 0461337 4897713

Turbines

Operational yes no Number in View ____ RPM ____

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.
Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Station#: WST-004 **Date:** 26/03/12 **Project #:** 1275 A

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Comments
Red-tailed hawk	15:27	1	flying	1	8	N	S	600m	
Eastern Meadowlark	15:33	1	perched	1	0	—	NE	75	
Am. Crow	15:34	1	flying	1	1	S	E	150	
Ring-billed Gull	15:35	2	flying	1	2	S	E	150	

Temp. _____
Cloud Cover _____%
Precipitation _____

As before

Wind Speed _____
Wind Direction _____

AVIAN POINT COUNT FORM

STATION WST-005 **PROJECT** 1275A

Length 30 min Survey [X] Migration [ ] Winter [ ] Daytime/ Raptor [ ] Other: Waterfowl

Project Armow 1275A DD/MM/YY 26/03/12

Start Time (24hr): 10:17 End Time: 10:47 Observers NGM, JRW

Weather

Air Temp. -3 °C Wind Speed 5 Wind Direction N (from)

Cloud Cover 5 % Cloud Height High [ ] Med [ ] Low [✓]

Precipitation None Visibility High [✓] Med [ ] Low [ ]

Station

Habitat

Elevation ____ ft / m Crop ____

Pressure ____ mb UTM 17T 0458956 4890496

Turbines

Operational yes no Number in View ____ RPM ____

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.
Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Station#: WST-005 **Date:** Mar. 26/12 **Project #:** 1275A

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs. (m)	Comments
American crow	10:18	1	flying	1	1	N	E	75m	
Horned Larks	10:19	30	flying	1	0	N	S	75m	
Red-winged Black	10:20	5	flying	1	1	E	S	200m	
Am Crow	10:22	1	perched	1	0	—	SE	150m	
Ring-billed Gull	10:26	2	flying	1	1	SW	E	200m	
Brown-headed cowbird	10:30	6	flying	1	1	E	S	150	
Red-winged BB	10:31	5	flying	1	1	E	S	200	
Ring-billed Gull	10:42	4	flying	1	3	E	SW	150	

Temp. _____
Cloud Cover _____%
Precipitation _____

As before

Wind Speed _____
Wind Direction _____

AVIAN POINT COUNT FORM

STATION WST-007 **PROJECT** 1275A

Length 30mins Survey [X] Migration [ ] Winter [ ] Daytime/ Raptor [ ] Other: waterfowl

Project Arnow WF DD/MM/YY 26/03/12

Start Time (24hr): 9:30 End Time: 10:00 Observers NGM, JRW

Weather

Air Temp. -3 °C Wind Speed 4 Wind Direction N-NW (from)

Cloud Cover 25 % Cloud Height High [ ] Med [ ] Low [✓]

Precipitation None Visibility High [✓] Med [ ] Low [ ]

Station

Habitat

Elevation N/A ft / m Crop

Pressure N/A mb UTM 17 T 0539028 4817785

Turbines

Operational yes no Number in View RPM

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.

Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Station#: WST-007 **Date:** 26/03/12 **Project #:** 1275A

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Comments
American Crow	9:36	4	perched	—	0	—	S	700m	
Rock Pigeon	9:37	2	flying	1	7	W	S	500m	
Ring-billed gull	9:40	1	flying	1	3	N	W	1000m	
Turkey Vulture	9:40	1	flying	1	4	N	SW	700m	
N. Harrier	9:41	1	flying	1	1	N	SW	200m	
Rough-legged Hawk	10:00	1	perched	—	0	—	E	50m	

Temp. -3
Cloud Cover 25 %
Precipitation None

Wind Speed 4
Wind Direction N-NW

AVIAN POINT COUNT FORM

STATION WST-008 **PROJECT** 1275A

Length 30mins Survey [X] Migration [ ] Winter [ ] Daytime/ Raptor [ ] Other: Waterfowl

Project Armow 1275A DD/MM/YY 26/03/12

Start Time (24hr): 11:04 End Time: 11:34 Observers NGM, JRW

Weather

Air Temp. -3 °C Wind Speed 5 Wind Direction N (from)

Cloud Cover 10 % Cloud Height High [ ] Med [ ] Low [✓]

Precipitation None Visibility High [✓] Med [ ] Low [ ]

Station

Habitat

Elevation ____ ft / m Crop ____

Pressure ____ mb UTM 17T 0462101 4890815

Turbines

Operational yes no Number in View ____ RPM ____

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.
Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Station#: WST-008 **Date:** Mar. 26/12 **Project #:** 1275A

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Comments
Red-tailed Hawk	11:06	1	flying	1	5	N	SW	400 m.	
Rough-legged Hawk	11:06	1	"	1	5	N	SW	400m	
Ring-billed Gull	11:14	2	flying	1	3	S	NE	300m	
Horned Lark	11:31	1	flying	1	0	NW	N	25 m	

Temp. _____
Cloud Cover _____%
Precipitation _____

As before

Wind Speed _____
Wind Direction _____

AVIAN POINT COUNT FORM

STATION WST-009 **PROJECT** 1275A

Length 30mins Survey ☒ Migration ☐ Winter ☐ Daytime/ Raptor ☐ Other: waterfowl

Project Arrnow WF DD/MM/YY 26/03/12

Start Time (24hr): 1608 End Time: 1638 Observers NGM, JRW

Weather

Air Temp. 2 °C Wind Speed 4 Wind Direction N (from)

Cloud Cover 2 % Cloud Height High ☐ Med ☐ Low ☑

Precipitation None Visibility High ☑ Med ☐ Low ☐

Station

Habitat

Elevation ____ ft / m Crop ____

Pressure ____ mb UTM 17T 0460175 4891537

Turbines

Operational yes no Number in View ____ RPM ____

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.
Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Station#: WST-009 **Date:** 26/03/12 **Project #:** 1275A

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs. (m)	Comments
Am. crow	16:10	2	perched	—	0	—	E	50	
Ring-billed Gull	16:22	3	flying	1	6	N	W	75	
Horned Lark	16:23	1	perched	—	0	—	NE	150	

Temp. _____
Cloud Cover _____%
Precipitation _____

As before

Wind Speed _____
Wind Direction _____

AVIAN POINT COUNT FORM

STATION WST-010 **PROJECT** 1275A

Length 30 min Survey [X] Migration [ ] Winter [ ] Daytime/ Raptor [ ] Other: _____

Project Amaruq WF DD/MM/YY 27/03/12

Start Time (24hr): 12:12 End Time: 12:42 Observers NOM, JRW

Weather

Air Temp. -3 °C Wind Speed 5 Wind Direction NW (from)

Cloud Cover 10 % Cloud Height High [X] Med [ ] Low [ ]

Precipitation — Visibility High [X] Med [ ] Low [ ]

Station

Habitat

Elevation _____ ft / m Crop _____

Pressure _____ mb UTM _____

Turbines

Operational yes no Number in View _____ RPM _____

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.

Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Station#: WST-010 **Date:** March 26/12 **Project #:** 1275A

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs. (m)	Comments
Common Grackle	12:15	5	flying	1	3	N	W	75	
Ring-billed Gull	12:16	3	circling	—	8	circling	SW	300	
Song Sparrow	12:20	2	foraging	—	0	—	SW	50	
Am. goldfinch	12:42	3	flying	1	2	W	N	75m	

Temp. _____
Cloud Cover _____%
Precipitation _____

As before

Wind Speed _____
Wind Direction _____

AVIAN POINT COUNT FORM

STATION WST-011 **PROJECT** 1275A

Length 30min Survey [X] Migration [ ] Winter [ ] Daytime/ Raptor [ ] Other: waterfowl

Project Armow WF DD/MM/YY 26/03/12

Start Time (24hr): 13:42 End Time: 14:12 Observers JRW, NGM

Weather

Air Temp. 1 °C Wind Speed 4 Wind Direction N (from)

Cloud Cover 5 % Cloud Height High [ ] Med [ ] Low [✓]

Precipitation None Visibility High [✓] Med [ ] Low [ ]

Station

Habitat

Elevation _____ ft / m Crop _____

Pressure _____ mb UTM 17T 0456927 4898148

Turbines

Operational yes no Number in View _____ RPM _____

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.
Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Station#: WST-011 **Date:** Mar. 26/12 **Project #:** 1275A

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs (m)	Comments
Red-winged B.B	13:47	7	perched	—	0	—	E	50	
Common Grackle	13:47	7	perched	—	0	—	E	50	
Turkey Vulture	14:06	2	flying	1	1	E	W	300	
Downy Woodpecker	14:08	1	perched	—	0	—	NE	25	

Temp. _____
Cloud Cover _____%
Precipitation _____

As before

Wind Speed _____
Wind Direction _____

AVIAN POINT COUNT FORM

STATION WST-016 **PROJECT** 1275A

Length 30mins Survey ☒ Migration ☐ Winter ☐ Daytime/ Raptor ☐ Other: waterfowl

Project Arnow WF DD/MM/YY 26/03/12

Start Time (24hr): 12:56 End Time: 13:26 Observers NGM, JRW

Weather

Air Temp. 1 °C Wind Speed 5 Wind Direction N (from)

Cloud Cover 5 % Cloud Height High ☐ Med ☐ Low ☑

Precipitation None Visibility High ☑ Med ☐ Low ☐

Station

Habitat

Elevation ____ ft / m Crop ____

Pressure ____ mb UTM 17T 0463969 4889973

Turbines

Operational yes no Number in View — RPM —

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.
Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Station#: WST-016 **Date:** 26/03/12 **Project #:** 1275A

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Comments
Red-tailed Hawk	12:58	1	flying	2	2	N	SE	400m	
Turkey Vulture	12:58	1	flying	1	2	W	S	400m	
E. Meadowlark	13:02	1	perched	—	0	—	S	40m	
Horned Lark	13:07	2	flying	2	0	S	E	20m	
ring-billed gull	13:11	2	flying	1	1	W	SW	800m	
Red-tailed hawk	13:14	1	flying	1	7	W	S	1.5km	
Red-tailed hawk	13:14	1	flying	1	4	W	S	50m	

Temp. _____
Cloud Cover _____%
Precipitation _____

As before

Wind Speed _____
Wind Direction _____

USI#2

March 26+27/12 JRW, NGM

1275A

Armow Wind Farm

Waterfowl Stopover and Staging Area (Terrestrial) - Monitoring Locations Map 1

459000 460000 461000 462000 463000 464000

4892000 4891000 4890000 4889000

WST-009 WST-010 WST-008 WST-005 WST-007 WST-016

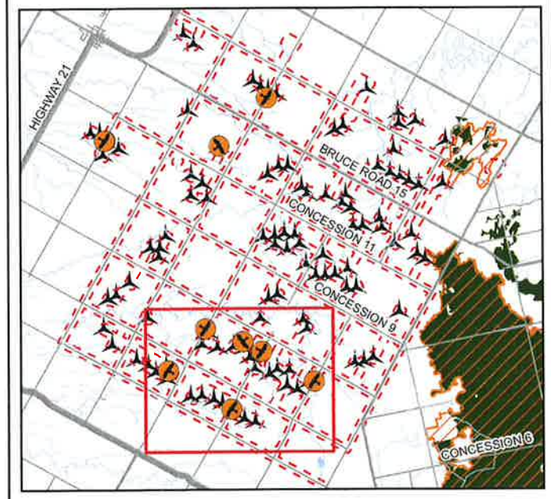
39 40 41 42 43 44 45 47 50 65 66 70 76 78 82 83 84 89 98 100 104 110 111 113 114 115 116

SIDEROAD 20 NORTH LINE BERVIE SIDEROAD CONCESSION 5 CONCESSION 7 WEBER SIDEROAD CONCESSION 9 SIDEROAD 30 SOUTH

PC mw2

Legend

- Project Area (120m)
- Proposed Turbine (L08 Rev2)
- MET Tower
- Junction Box
- Crane Walk
- Overhead Cabling
- Underground Cabling
- Access Road
- Disturbance Area
- Substation
- Staging Area
- Interconnect Area
- Highway
- Primary Road
- Secondary Road
- ANSI, Life Science
- Provincially Significant Wetland
- Waterbody
- Watercourse (Permanent)
- Watercourse (Intermittent)
- Waterfowl Stopover and Staging Area
- Waterfowl Monitoring Station



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Imagery provided by: Golder Associates, 2011

Project: 1275
Date: March-09-12

NAD83 - UTM Zone 17
Size: 11x17"
1:19,000

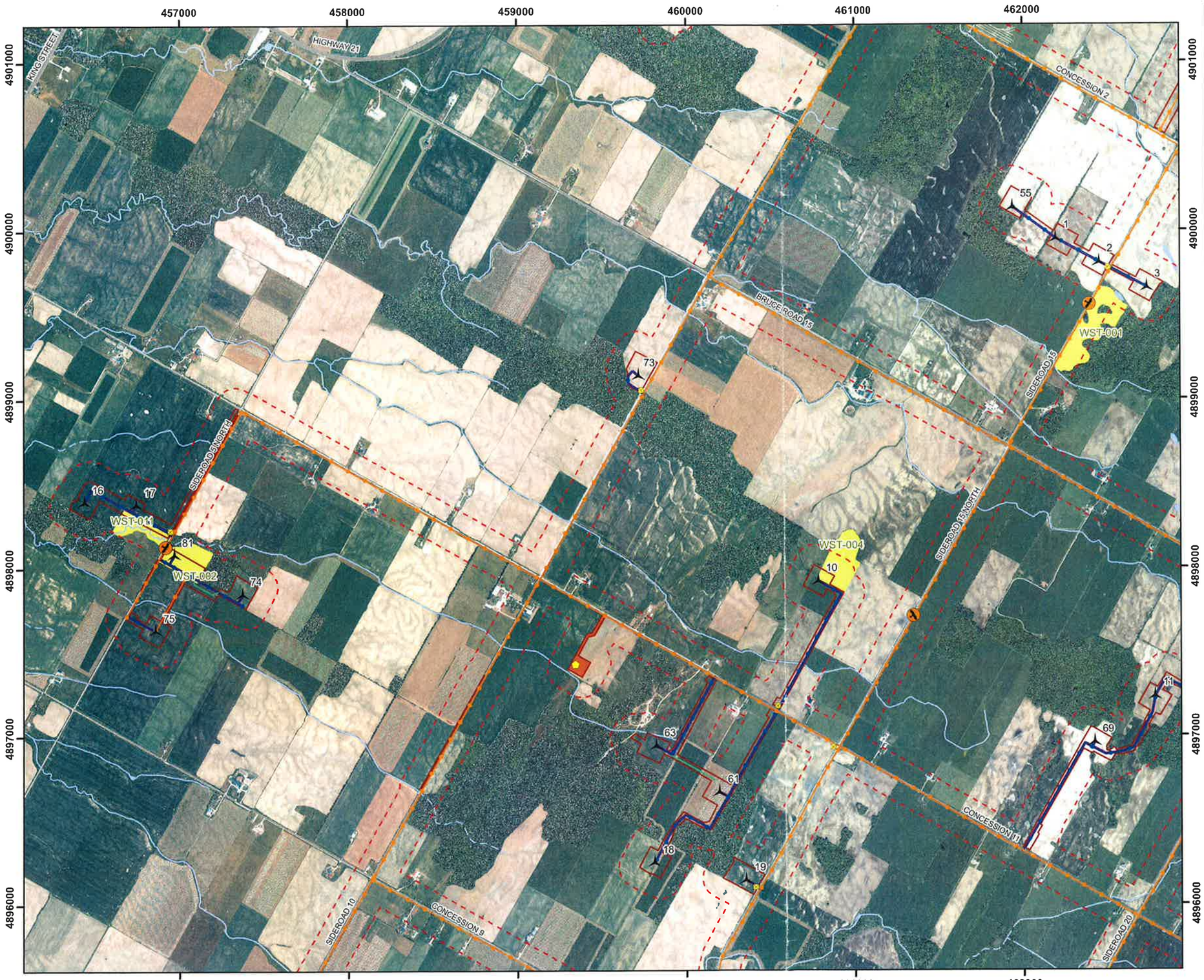
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VSH#2 March 26 & 27/12 JRW, NGM
1275A

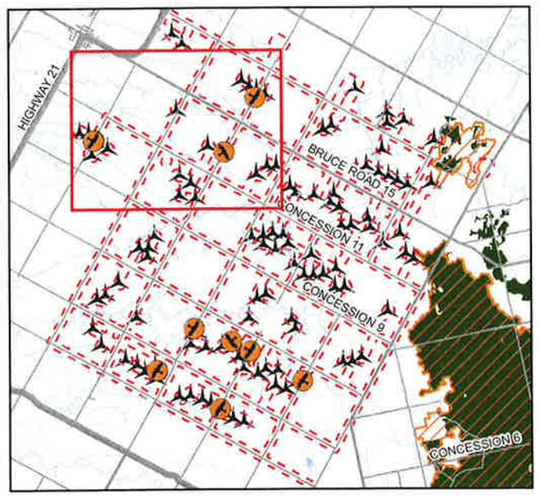
Armow Wind Farm

Waterfowl Stopover and Staging Area (Terrestrial) - Monitoring Locations Map 2



Legend

- Project Area (120m)
- Proposed Turbine (L08 Rev2)
- MET Tower
- Junction Box
- Crane Walk
- Overhead Cabling
- Underground Cabling
- Access Road
- Disturbance Area
- Substation
- Staging Area
- Interconnect Area
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Imagery provided by: Golder Associates, 2011

Project: 1275 Date: March-12-12	NAD83 - UTM Zone 17 Size: 11x17" 1:22,000

0 250 500 750 1,000 Meters

N

AVIAN POINT COUNT FORM

STATION WEF-001 **PROJECT** 1275A

Length 30mins Survey ☐ Migration ☐ Winter ☐ Daytime/ Raptor ☒ Other: Waterfowl

Project Arnprior WF DD/MM/YY April 11, 2012

Start Time (24hr): 13:01 End Time: 13:31 Observers AMJ, KGB

Weather

Air Temp. 3 °C Wind Speed 4 Wind Direction W (from)

Cloud Cover 100 % Cloud Height High ☐ Med ☐ Low ☒

Precipitation None Visibility High ☐ Med ☒ Low ☐

Station

Habitat

Elevation _____ ft / m Crop meadow

Pressure _____ mb UTM _____

Turbines

Operational yes no Number in View Ø RPM _____

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.
Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Station#: WST-001 **Date:** April 11, 2012 **Project #:** 12754

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.(m)	Comments
Ring billed gull	13:05	50	resting	—	0	—	W	500	
Song sparrow	13:05	1	perched	—	0	—	S	100	
Ring billed gull	13:08	3	flying	1	4	circling	E	400	
Am. crow	13:09	1	heard	—	—	—	E	1000	
Wild turkey	13:10	1	crossing road	1	0	—	N	400	
Am. crow	13:15	1	heard	—	—	—	W	1000	
Com. Grackle	13:17	2	flying	1	2	N	E	500	
Ring billed gull	13:20	5	flying	1	2	W	E	300	

Temp. 3C
Cloud Cover 100 %
Precipitation None

Wind Speed 4
Wind Direction W

AVIAN POINT COUNT FORM

STATION WST 002 **PROJECT** 1275A

Length 30min Survey ☐ Migration ☐ Winter ☐ Daytime/ Raptor ☑ Other: Waterfowl

Project Annow WF DD/MM/YY April 11/2012

Start Time (24hr): 13:52 End Time: 14:22 Observers KGB, RNT

Weather

Air Temp. 3 °C Wind Speed 4 Wind Direction NW (from)

Cloud Cover 100 % Cloud Height High ☐ Med ☑ Low ☐

Precipitation — Visibility High ☑ Med ☐ Low ☐

Station

Habitat

Elevation ____ ft / m Crop Thicket, bare field (ploughed), small meadow area

Pressure ____ mb UTM ____

Turbines

Operational yes no Number in View — RPM —

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.
Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Station#: WST-002 **Date:** April 11/2012 **Project #:** 12758

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs (m)	Comments
Wilson's Snipe	1:52	1	Perch	—	0	—	NE	20	
A. Robin	1:52	1	—	—	1	—	E	30	
Ring-billed Gull	1:56	2	Flying	1	5	N	E	500	
Ring-billed Gull	2:00	1	Flying	1	7	N	E	800	
Ring-billed Gull	2:02	1	Flying	1	10	N	E	800	
Song Sparrow	2:02	1	Perched	—	0	—	S	100	
A. Crow	2:06	1	+	—	1	—	S	400	
N. Flicker	2:07	1	+	—	0	—	E	50	
A. Robin	2:07	1	+	—	0	—	E	75	

Temp. 3
Cloud Cover 100 %
Precipitation None

Wind Speed 4
Wind Direction NW

AVIAN POINT COUNT FORM

STATION WST-004 **PROJECT** 1275A

Length 30min Survey ☐ Migration ☐ Winter ☐ Daytime/ Raptor ☑ Other: Waterfowl

Project Arrow WF DD/MM/YY April 11/2011

Start Time (24hr): 12:27 End Time: 12:57 Observers PNT, KGB

Weather

Air Temp. 3 °C Wind Speed 4 Wind Direction NW (from)

Cloud Cover 100 % Cloud Height High ☐ Med ☑ Low ☐

Precipitation — Visibility High ☑ Med ☐ Low ☐

Station

Habitat

Elevation ____ ft / m Crop Ploughed / Thicket/Woodlank

Pressure ____ mb UTM ____

Turbines

Operational yes no Number in View — RPM —

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.
Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Station#:	WST-004			Date:	April 11/2012			Project #:	1275A
Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.(m)	Comments
Ringbilled Gull	12:32	2	Flying	1	5	NW	W	500	
Ringbilled Gull	12:33	3	"	1	5	S	E	300	
A. Robin	12:36	1	"	1	5	W	S	300	
Rough-legged Hawk	12:38	1	Perched	—	1	—	SW	800	light morph
A. Crow	12:38	1	Perched	—	1	—	SW	800	
Redwinged Blackbird	12:38	8	Flying	1	4	N	SW	800	
A. Crow	12:48	1	Perched	—	0	—	W	500	
Ringbilled Gull	12:56	2	Flying	1	10	NW	S	200	

Temp. 3
Cloud Cover 100 %
Precipitation None

Wind Speed 4
Wind Direction NW

AVIAN POINT COUNT FORM

STATION WS-005 **PROJECT** 1275A

Length 30mins | Survey ☐ Migration ☐ Winter ☐ Daytime/ Raptor ☒ | Other: Waterfowl

Project ARMOWWF | DD/MM/YY April 11, 2012

Start Time (24hr): 15:17 | End Time: 15:47 | Observers PNJ, KGB

Weather

Air Temp. 6 °C | Wind Speed 4 | Wind Direction W (from)

Cloud Cover 75 % | Cloud Height | High ☐ Med ☐ Low ☒

Precipitation None | Visibility | High ☐ Med ☒ Low ☐

Station

Habitat

Elevation _____ ft / m | Crop Meadow

Pressure _____ mb | UTM _____

Turbines

Operational yes no | Number in View ∅ | RPM _____

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.
Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Station#: WST-005 **Date:** April 11th, 2012 **Project #:** 1295A

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs. (m)	Comments
Red bbacked	15:17	1	heard	—	—	—	S	150	
ring billed gull	15:17	200	heard	—	—	—	NE	400	
Song sparrow	15:17	4	perched	—	0	—	S	50	
downy woodpecker	15:17	1	perched	-	1	—	S	100	
Vesper sparrow	15'24	1	heard	-	—	-	S	800	
Turkey vulture	15:29	1	flying	1	2	circling	SW	100	
Turkey vulture	15:30	1	flying	1	4	W	SE	500	
horned lark	15:33	1	heard	-	0	-	N	200	
Am. crow	15:39	1	flying	1	3	W	S	350	
rough legged hawk	15:43	1	flying	1	5	W	S	400	
song sparrow	15:46	1	perched	—	0	—	S	50	

Temp. 4
Cloud Cover 75 %
Precipitation None

Wind Speed 4
Wind Direction W

AVIAN POINT COUNT FORM

STATION WST-007 **PROJECT** 1275A

Length 30min Survey [ ] Migration [ ] Winter [ ] Daytime/ Raptor [X] Other: Waterfowl

Project Arrow WF DD/MM/YY April 11, 2012

Start Time (24hr): 9:13 End Time: 943 Observers PNJ, KAB

Weather

Air Temp. 4 °C Wind Speed 4 Wind Direction N (from)

Cloud Cover 95 % Cloud Height High [ ] Med [ ] Low [X]

Precipitation None Visibility High [ ] Med [X] Low [ ]

Station

Habitat

Elevation ____ ft / m Crop Ploughed field (winter wheat?)

Pressure ____ mb UTM ____

Turbines

Operational yes no Number in View 0 RPM ____

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.

Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Station#: INST-007 **Date:** April 11, 2012 **Project #:** 1275A

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs(m)	Comments
Ringbilled gull	9:13	200	foraging	—	0	/	W	150	
Turkey vulture	9:13	3	flying	1	3	N	SW	200	
Canada goose	9:13	120	foraging	/	0	/	NW	400	
Song sparrow	9:13	1	perched	/	0	/	NW	50	
horned lark	9:16	1	foraging	/	0	/	N	25	
Herring Gull	9:24	1	foraging	/	0	/	W	150	
Savannah sparrow	9:24	1	perched	/	0	/	W	100	
Horned lark	9:29	8	flying	1	2	NW	N	150	
redwinged blackbird	9:32	1	perched	/	0	/	S	400	
ringbilled gull	9:35	2	copulating!	/	0	/	NW	500	
Am. crow	9:37	1	flying	1	5	S	NW	1000	
redwinged blackbird	9:37	2	perched	/	1	/	NW	700	
turkey vulture	9:43	1	flying	1	4	SW	NW	1000	

Temp. 4
Cloud Cover 95 %
Precipitation None

Wind Speed 4
Wind Direction N

AVIAN POINT COUNT FORM

STATION WST-008 **PROJECT** 1275A

Length 30min Survey ☐ Migration ☐ Winter ☐ Daytime/ Raptor ☑ Other: Waterfowl

Project Armow WF DD/MM/YY April 11/2012

Start Time (24hr): 9:50 End Time: 10:20 Observers PNT, KGB

Weather

Air Temp. 4 °C Wind Speed 4 Wind Direction NW (from)

Cloud Cover 100 % Cloud Height High ☐ Med ☑ Low ☐

Precipitation — Visibility High ☑ Med ☐ Low ☐

Station

Habitat

Elevation ____ ft / m Crop ploughed field

Pressure ____ mb UTM ____

Turbines

Operational yes no Number in View 0 RPM ____

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.

Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Station#: WST-008 **Date:** April 11, 2012 **Project #:** 1275A

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs. (m)	Comments
Killdeer	9:55	1	perched	/	0	/	E	300	
Am. robin	9:55	1	perched	/	0	/	E	100	
Mourning dove	9:57	1	flying	1	3	S	E	1000	
Greater Goose	9:58	9	flying	1	3	E	S	100	
Vesper sparrow	9:59	1	perched	/	0	/	S	1000	
ring billed gull	9:59	1	flying	1	1	NE	SE	25	
Canada goose	10:02	100	flying	1	5	N	SW	1000	
wild turkey	10:02	1	crossing road	1	0	/	S	1000	
horned lark	10:05	1	perched/ foraging	/	0	/	NE	100	
Am. crow	10:06	1	flying	1	1	N	E	700	
lapland longspur	10:07	1	perched	/	0	/	NE	50	
Red winged blackbird	10:08	2	perched	/	1	/	S	50	
Turkey vulture	10:08	1	flying	1	4	NW	S	400	
Am. crow	10:09	1	heard	/	/	/	W	1000	
Turkey vulture	10:10	3	flying	1	8	N	E	1500	
Ring billed gull	10:12	1	flying	1	5	W	S	400	
Canada goose	10:15	15	flying	1	5	N	E	1000	
Horned lark	10:15	26	flying	1	3	W	N	200	
br. headed cowbird	10:17	2	flying	1	1	NE	N	overhead	
Horned larks	10:19	60	flying	1	5	NW	NE	700	

Temp. 4°C
Cloud Cover 100 %
Precipitation None

Wind Speed 4
Wind Direction NW

AVIAN POINT COUNT FORM

STATION WST-009 **PROJECT** 1275A

Length 30 min Survey ☐ Migration ☐ Winter ☐ Daytime/ Raptor ☑ Other: Waterfowl

Project Armow WF DD/MM/YY April 11/2012

Start Time (24hr): 14:34 End Time: 15:04 Observers PNT, KGB

Weather

Air Temp. 4 °C Wind Speed 4 Wind Direction NW (from)

Cloud Cover 90 % Cloud Height High ☐ Med ☑ Low ☐

Precipitation — Visibility High ☑ Med ☐ Low ☐

Station

Habitat

Elevation ____ ft / m Crop ploughed field

Pressure ____ mb UTM ____

Turbines

Operational yes no Number in View Ø RPM ____

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.
Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Station#:	WST-009			Date:	Apr. 11/2012			Project #:	1275A
Species	Time (PM)	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.(m)	Comments
Turkey Vultures	2:34	4	Flying	1	4	NW	E	1000	
Redwinged Blackbird	2:40	1	Perched	—	1	—	NW	250	
Horned Lark	2:40	1	Display	—	0-10	↻	E	150	
Blue Jay	2:41	1	Perched	—	1	—	N	200	
Ring-billed Gull	2:42	1	Flying	1	10	W	SW	400	
Mallard ♂	2:48	2	Flying→landed	1	0	—	NWE	100	
E. Meadowlark	2:49	2	Perched	—	0	—	NW	500	
Ring-billed Gull	2:50	2	Flying	1	4	W	NW	500	
Turkey Vulture	2:51	5	Flying	1	10	N	E	1km	
A. Crow	3:02	1	Perched	—	3	—	NW	300	
Song Sparrow	3:02	1	Perched	—	0	—	S	500	
Ring-billed Gull	3:03	10	Flying	1	10	NW	E	300	

Temp. 4
Cloud Cover 90 %
Precipitation None

Wind Speed 4
Wind Direction NW

AVIAN POINT COUNT FORM

STATION WS-010 **PROJECT** 1275A

Length 30 min Survey ☐ Migration ☐ Winter ☐ Daytime/ Raptor ☒ Other: Waterfowl

Project Amaw WF DD/MM/YY April 11, 2012

Start Time (24hr): 11:17 End Time: 11:47 Observers PM, KGB

Weather

Air Temp. 6 °C Wind Speed 2 Wind Direction NW (from)

Cloud Cover 100 % Cloud Height High ☐ Med ☐ Low ☑

Precipitation None Visibility High ☐ Med ☑ Low ☐

Station

Habitat

Elevation _____ ft / m Crop Winter Wheat

Pressure _____ mb UTM _____

Turbines

Operational yes no Number in View Ø RPM _____

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.
Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Station#: WEST 010 **Date:** April 11, 2012 **Project #:** 1275A

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs. (m)	Comments
Brown headed cowbird	11:17	2	perched in tree	/	2	—	NW	150	
Am crow	11:17	1	flying	1	3	W	NW	1000	
~~Song sparrow~~	11:17	2	perched in tree	/	1	—	W	20	
Am. Robin	11:20	4	foraging in field	/	0	—	W	20	
Can. Goose	11:20	4	flying	1	2	E	N	400	
Blue Jay	11:20	2	perched	—	0	—	SW	300	
Rusty blackbird	11:22	1	perched in tree	—	1	—	S	100	
Horned lark	11:22	2	perched	—	0	/	S	200	
Can. Grackle	11:24	4	flying	1	1	SE	NE	20	
Am Grackle	11:29	6	foraging	—	0	/	W	50	
redwinged blackbird	11:29	7	foraging	—	0	/	W	50	
Can Grackle	11:35	8	flying	1	4	S	W	150	
Ring billed gull	11:35	2	flying	1	3	NW	N	250	
Am crow	11:37	6	flying	1	6	circling	S	1000	
Redwinged blackbird	11:43	2	flying	1	1	SW	W	50	
Turkey vulture	11:44	1	flying	1	2	circling	NW	50	

Temp. 6°C
Cloud Cover 100 %
Precipitation None

Wind Speed 0
Wind Direction NW

AVIAN POINT COUNT FORM

STATION WST-011 **PROJECT** 1275A

Length 30MINS Survey ☐ Migration ☐ Winter ☐ Daytime/ Raptor ☒ Other: Waterfowl

Project Arrow WF DD/MM/YY April 11, 2012

Start Time (24hr): 13:52 End Time: 14:22 Observers PNT / KGB

Weather

Air Temp. 3 °C Wind Speed 4 Wind Direction NW (from)

Cloud Cover 100 % Cloud Height High ☐ Med ☐ Low ☒

Precipitation None Visibility High ☐ Med ☒ Low ☐

Station

Habitat

Elevation _____ ft / m Crop Hawthorn pasture/meadow

Pressure _____ mb UTM _____

Turbines

Operational yes no Number in View Ø RPM _____

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.
Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Station#: WST-011 **Date:** April 11 /12 **Project #:** 1275A

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs (m)	Comments
Wilsons Snipe	13:52	1	perched	1	0	/	E	20	
Song sparrow	13:52	1	perched	/	0	—	E	150	
Am. Robin	13:52	5	perched	—	0	—	W	400	
Ring billed gull	14:03	1	flying	1	3	NW	NE	500	
Blue capped cowbird	14:03	1	singing	—	—	—	W	500	
Eastern meadowlark	14:07	1	perched in tree	—	1	—	E	300	
Northern flicker	14:09	1	flying	1	2	N	E	300	
Northern flicker	14:14	1	perched	—	1	—	W	400	
Killdeer	14:19	1	flying	1	0	SW	N	50	
Am crow	14:24	1	flying	1	0	W	SW	300	

Temp. 3
Cloud Cover 100 %
Precipitation None

Wind Speed 4
Wind Direction NW

AVIAN POINT COUNT FORM

STATION WST-C16 **PROJECT** 1275A

Length 30 min Survey ☐ Migration ☐ Winter ☐ Daytime/ Raptor ☑ Other: Waterfowl

Project Armow WF DD/MM/YY April 11/2012

Start Time (24hr): 10:29 End Time: 10:59 Observers PNT, KGB

Weather

Air Temp. 3 °C Wind Speed 5 Wind Direction N (from)

Cloud Cover 100 % Cloud Height High ☐ Med ☑ Low ☐

Precipitation ✓ Visibility High ☑ Med ☐ Low ☐

Station

Habitat

Elevation _____ ft / m Crop modestly grazed cattle pasture.

Pressure _____ mb UTM _____

Turbines

Operational yes no Number in View Ø RPM _____

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.
Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Station#: WST-016 **Date:** April 11, 2012 **Project #:** 1275A.

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs. (m)	Comments
horned lark	10:29	4	flying	1	4	N	E	500	
Eas. meadowlark	10:30	1	perched	—	0	/	E	400	
Canada goose	10:29	1	flying	1	5	S	E	700	
Ring-billed Gull	10:32	10	flying	1	5	E	N	500	
Song Sparrow	10:32	1	Perched	—	0	—	W	30	
A. Crow	10:32	1	Flying	1	3	S	W	500	
savannah sparrow	10:39	1	perched	—	0	/	E	100	
redwinged blackbird	10:44	1	flying	1	1	W	S	50	
horned lark	10:44	1	flying	1	2	W	N	300	
horned lark	10:45	1	display call	—	0	/	E	50	
ring billed gull	10:48	10	heard	—	/	/	SE	1000	
horned lark	10:55	1	perched	—	0	/	E	50	

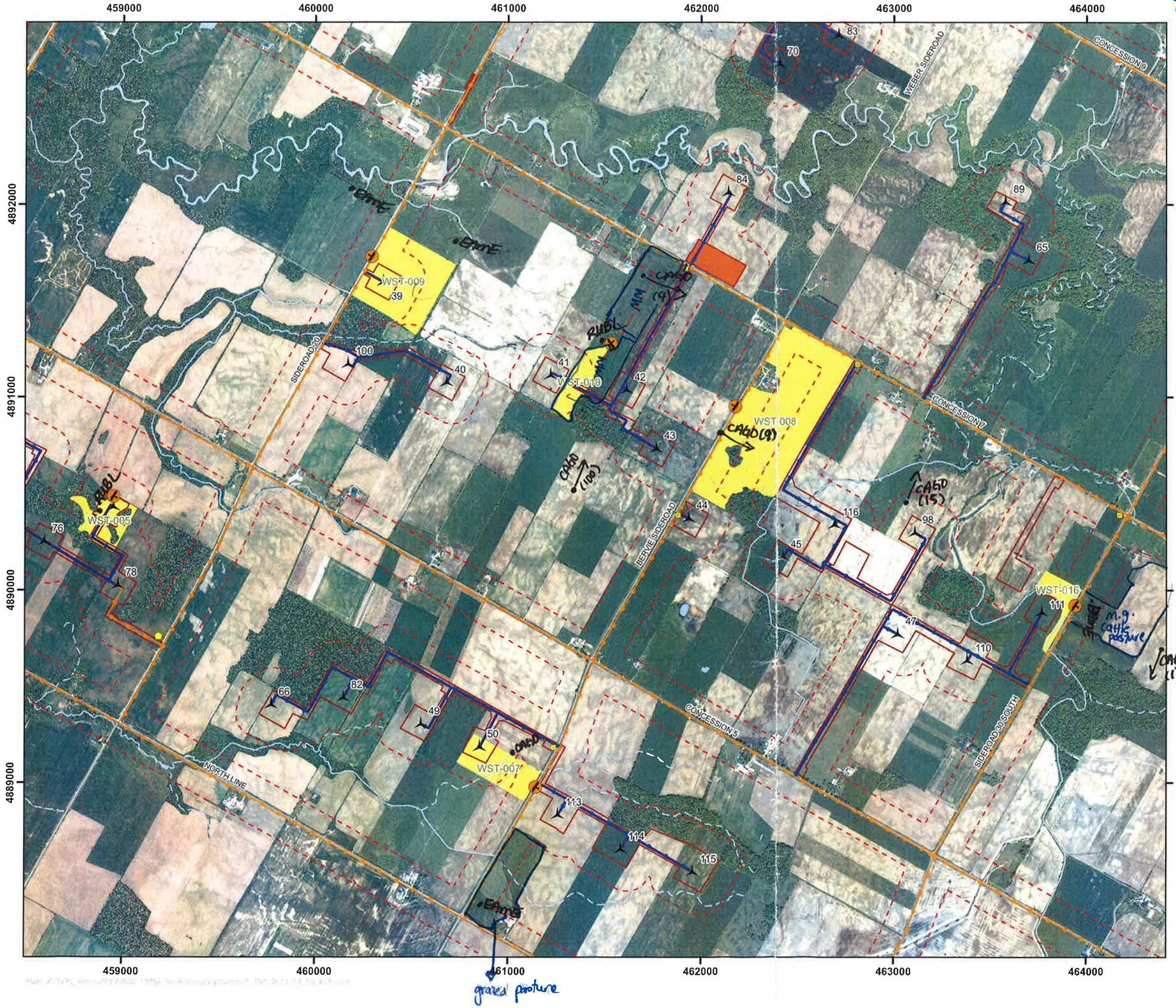
Temp. 3°C
Cloud Cover 100 %
Precipitation NONE

Wind Speed 5
Wind Direction N

#1275A-Armow WF Waterfowl Stopover+Staging Survey
April 11,2012 - DNT, KEB Map 1/2

Armow Wind Farm

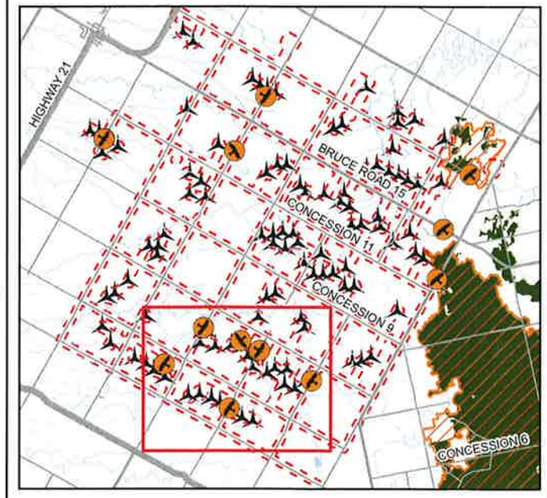
Waterfowl Stopover and Staging Area (Terrestrial) - Monitoring Locations Map 1



Legend

- Project Area (120m)
- Proposed Turbine (L08 Rev2)
- MET Tower
- Junction Box
- Crane Walk
- Overhead Cabling
- Underground Cabling
- Access Road
- Disturbance Area
- Substation
- Staging Area
- Interconnect Area
- Highway
- Primary Road
- Secondary Road
- ANSI, Life Science
- Provincially Significant Wetland
- Waterbody
- Watercourse (Permanent)
- Watercourse (Intermittent)
- Waterfowl Stopover and Staging Area
- Waterfowl Monitoring Station
- CAGD - Canada Goose
- RUBL - Rusty Blackbird
- EAME - East. Meadowlark

m-g - moderately grazed
WW - winter wheat



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Project: 1275 Date: April-05-12	NAD83 - UTM Zone 17 Size: 11x17" 1:19,000

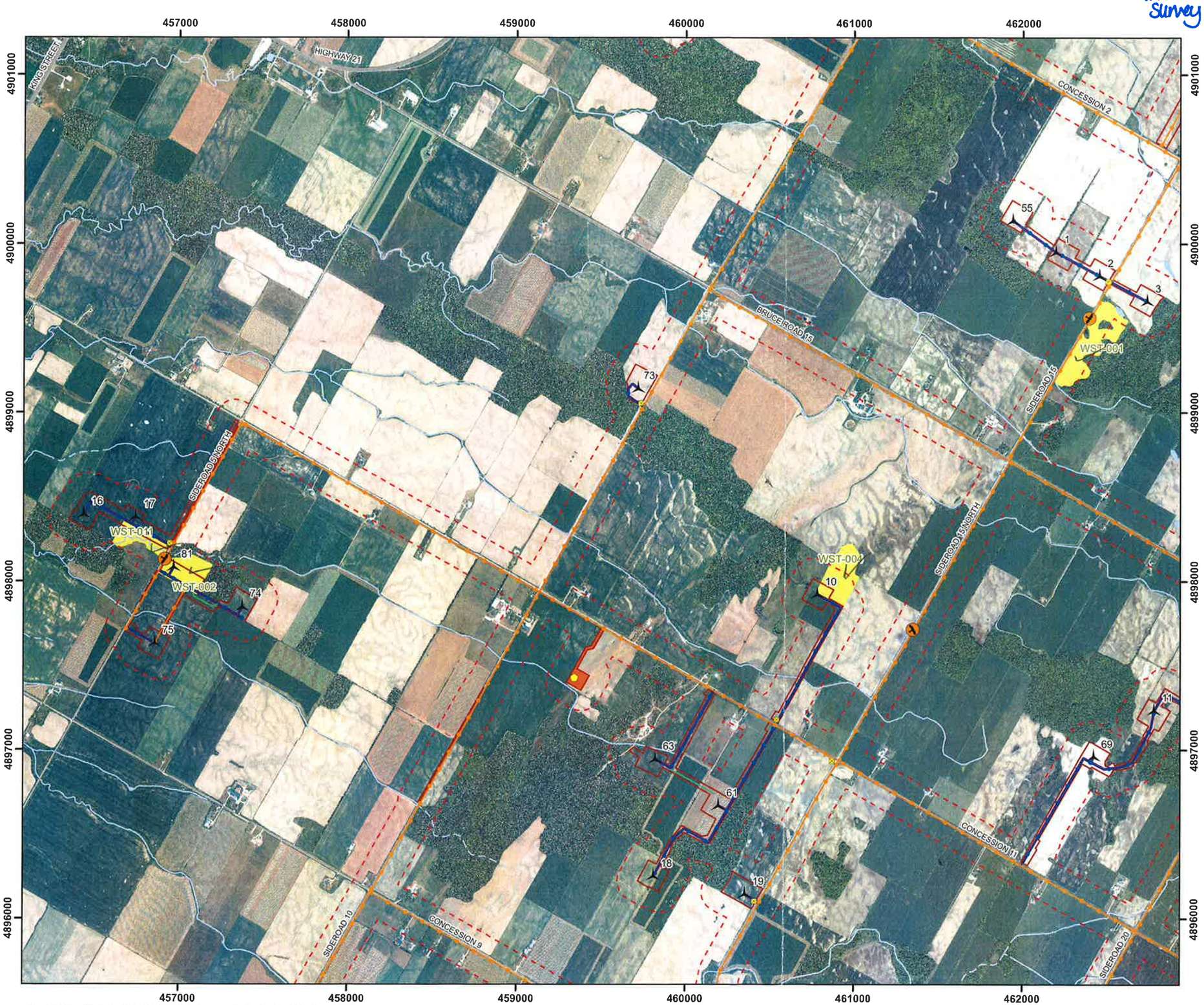
0 250 500 750 1,000 Meters

N

#127SA - Armow WF - Waterfowl Stopover + Staging Survey
April 11, 2012 - PNT, KGB Map 2/2

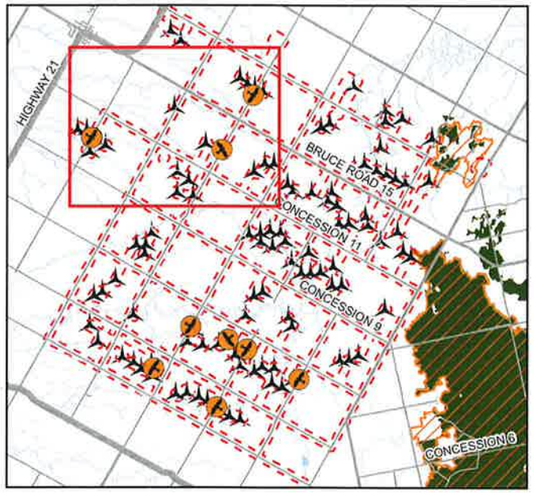
Armow Wind Farm

Waterfowl Stopover and Staging Area (Terrestrial) - Monitoring Locations Map 2



Legend

- Project Area (120m)
- Proposed Turbine (L08 Rev2)
- MET Tower
- Junction Box
- Crane Walk
- Overhead Cabling
- Underground Cabling
- Access Road
- Disturbance Area
- Substation
- Staging Area
- Interconnect Area
- Highway
- Primary Road
- Secondary Road
- ANSI, Life Science
- Provincially Significant Wetland
- Waterbody
- Watercourse (Permanent)
- Watercourse (Intermittent)
- Waterfowl Stopover and Staging Area
- Waterfowl Monitoring Station



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Project: 1275 Date: March-12-12	NAD83 - UTM Zone 17 Size: 11x17" **1:22,000**

0 250 500 750 1,000 Meters

N

#1275 - Armow - Winter Raptor Studies
MNR, Nam
Jan 3-6, 2012
(Visit #1)

Armow Wind Farm

Field Map - 1

Legend

- Project Area (120m)
- Watercourse (Permanent)
- Watercourse (Intermittent)
- Highway
- Primary Road
- Secondary Road
- Parcel Fabric
- Waterbody
- Woodlands

456000 458000 460000 462000 464000

4902000 4900000 4898000 4896000

MAIN STREET
KING STREET
HIGHWAY 21
BRUCE ROAD 20
CONCESSION 2
BRUCE ROAD 15
SIDEROAD 15
SIDEROAD 10
CONCESSION 11
SIDEROAD 5 NORTH
CONCESSION 9
SIDEROAD 15 NORTH
SIDEROAD 20

WOD-057 WOD-088 WOD-018 WOD-089 WOD-085 WOD-016 WOD-084 WOD-016 WOD-124 WOD-086 WOD-087 WOD-072 WOD-074 WOD-072 WOD-072 WOD-072 WOD-031 WOD-054 WOD-054 WOD-060 WOD-010 WOD-033 WOD-055 WOD-055 WOD-002 WOD-091 WOD-090 WOD-092 WOD-002 WOD-004 WOD-008 WOD-037 WOD-003 WOD-015 WOD-022 WOD-022 WOD-022 WOD-022

RTHA
A
B
C
D

Am. kestrels observed (2)

Spruce hedgerow blocks view of woodlot

- field uneven, needs lots of snow for snowmobiles to be useful

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Project: 1275
Date: Tuesday, January 03, 2012

NAD83 - UTM Zone 17
Size: 11x17"
1:30,000

0 500 1,000 1,500 Metres

N

462000 464000 466000 468000 470000

4900000 4898000 4896000 4894000

WOD-088 WOD-018 WOD-089 WOD-125 WOD-085 WOD-016 WOD-084 WOD-016 WOD-086 WOD-087 WOD-072 WOD-124 WOD-093 WOD-044 WOD-074 WOD-072 WOD-072 WOD-072 WOD-031 WOD-055 WOD-055 WOD-002 WOD-091 WOD-090 WOD-092 WOD-002 WOD-004 WOD-003 WOD-015 WOD-050 WOD-051 WOD-006 WOD-001 WOD-096 WOD-096 WOD-025 WOD-023 WOD-024 WOD-095 WOD-019 WOD-061 WOD-061 WOD-061 WOD-061 WOD-061 WOD-059 WOD-059 WOD-059 WOD-079 WOD-076 WOD-079 WOD-032 WOD-064 WOD-076

B C F G H I J K L M N O

RTHA RTHA RTHA Cross

BAEA

YBAA

WOD-047 Shrike Cross

N Shrike observed

Snowy owl @ utility pole

Snowy owl, different from last bird

D O

for H + I:
- 2 watercourses to cross, as shown on map
  ↳ snowmobiles would have limited use, could only use to get to south end of WOD-047, then terrain is variable
  ↳ several fences to climb.

- lots of snow on sdrd 30 around Con 2, B.R. 15, Con 11 – no winter maintenance, snowmobile useful

for N: walk transect

for O: walk transect, surrounding field uneven, need lots of snow for snowmobiles

Armow Wind Farm

Field Map - 2

Legend

- Project Area (120m)
- Watercourse (Permanent)
- Watercourse (Intermittent)
- Highway
- Primary Road
- Secondary Road
- Parcel Fabric
- Waterbody
- Woodlands

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Project: 1275
Date: Tuesday, January 03, 2012

NAD83 - UTM Zone 17
Size: 11x17"
1:30,000

0 500 1,000 1,500 Metres

N

Armow Wind Farm

Field Map - 3

Legend

- Project Area (120m)
- Watercourse (Permanent)
- Watercourse (Intermittent)
- Highway
- Primary Road
- Secondary Road
- Parcel Fabric
- Waterbody
- Woodlands

P: landowner does not allow snowmobiles

U: walk transect

R: walk along farm road (indicated w arrow on map) - landowner does not allow snowmobiles

S: Snowmobile would ~~not~~ work here, although easily accessible from road
↳ lane @ south side of pines

T: snowmobile would work here, although easily accessible from road.

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Project: 1275
Date: Tuesday, January 03, 2012

NAD83 - UTM Zone 17
Size: 11x17"
1:30,000

0 500 1,000 1,500 Metres

Armow Wind Farm

Field Map - 4

Legend

- Project Area (120m)
- Watercourse (Permanent)
- Watercourse (Intermittent)
- Highway
- Primary Road
- Secondary Road
- Parcel Fabric
- Waterbody
- Woodlands

AG: too many cattle fences (~6) for snowmobile use – not safe

AA: snowmobile use not possible – steep slopes around watercourse
↳ need to cross watercourse

AD: use farm lane just west of home @ #104 Con. 7
↳ fields uneven, but farm lane is grassed and would work for snowmobiles.

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Project: 1275
Date: Tuesday, January 03, 2012

NAD83 - UTM Zone 17
Size: 11x17"
1:30,000

0 500 1,000 1,500 Metres

N

BIRD TRANSECT

Location transect D

Project # 1275

Length ____ km / 30 min

Survey ☐ spring migration ☐ breeding ☐ fall migration ☒ winter ☐ daytime/ raptor

Project Armow WF

Date (mm/dd/yy) 01/05/12

Start Time: 8:05 End Time: 8:35 Obs. ____

Weather

Air Temp. -2 °C Wind Speed 2 Wind Direction SW

Cloud Cover 100 % Cloud High ☐ Med ☒ Low ☐

Precipitation none Visibility High ☒ Med ☐ Low ☐

Route

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

photo 0493

Route: transect D **Date:** Jan. 5/12 **Project #:** 1275

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Transect Segment
Snow bunting	8:06	35	foraging	—	0	—	NA	75	—
Am. crow	8:12	3	flying	1	2	90	NA	300	—
Rock Pigeon	8:20	12	perched	—	0	—	NA	50	—
Horned Lark	8:23	1	foraging	—	0	—	NA	75	—
No Raptors!									

BIRD TRANSECT

Location transect I

Project # 1275

Length ____ km / ____ min

Survey ☐ spring migration ☐ breeding ☐ fall migration ☒ winter ☐ daytime/ raptor

Project ____

Date (mm/dd/yy) 01/05/12

Start Time: 8:45 End Time: 10:00 Obs. NGM, AMD

Weather

Air Temp. -1 °C Wind Speed 2 Wind Direction SW

Cloud Cover 100 % Cloud High ☐ Med ☒ Low ☐

Precipitation none Visibility High ☒ Med ☐ Low ☐

Route

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

photo 0495

Route: **Date:** Jan. 5/12 **Project #:** 1275

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Transect Segment
Am. Crow	9:40	1	Perched	—	0	—	NA	100	—
No raptors observed!									

BIRD TRANSECT

Location transect H

Project # 1275

Length ____ km / ____ min

Survey ☐ spring migration ☐ breeding ☐ fall migration ☒ winter ☐ daytime/ raptor

Project ____

Date (mm/dd/yy) 01/05/12

Start Time: 8:45 End Time: 10:00 Obs. NGM, AMD

Weather

Air Temp. -1 °C Wind Speed 3 Wind Direction SW

Cloud Cover 100 % Cloud High ☐ Med ☐ Low ☒

Precipitation — Visibility High ☒ Med ☐ Low ☐

Route

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

photo 0494

Route: — **Date:** Jan. 5/12 **Project #:** 1275

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Transect Segment
Red-tailed Hawk	8:59	2	Foraging caught mole	1	1	120	NA	75	5
N. Shrike	9:12	1	Foraging	1	0	75	NA	50	—
Snow Bunting	9:35	1	flying	1	3	220	NA	100	—
Bald Eagle	9:50	1	flying	1	5	10	NA	150	—

BIRD TRANSECT

Location transect N

Project # 1275

Length ____ km / ____ min

Survey ☐ spring migration ☐ breeding ☐ fall migration ☒ winter ☐ daytime/ raptor

Project Armow WF

Date (mm/dd/yy) 01/05/12

Start Time: 10:10 End Time: 10:40 Obs. NGM, AMD

Weather

Air Temp. 1 °C Wind Speed 2 Wind Direction SW

Cloud Cover 100 % Cloud High ☐ Med ☒ Low ☐

Precipitation none Visibility High ☒ Med ☐ Low ☐

Route

Photo #0496

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Route: **Date:** Jan. 5/11 **Project #:** 1275

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Transect Segment
Am. Crow	10:15	1	perched	—	0	—	NA	100	—
Am. Tree Sparrow	10:26	9	perched	—	0	—	NA	50	—

BIRD TRANSECT

Location transect 0

Project # 1275

Length ____ km ____ min

Survey ☐ spring migration ☐ breeding ☐ fall migration ☒ winter ☐ daytime/ raptor

Project Arrow WF

Date (mm/dd/yy) 01/05/12

Start Time: 10:45 End Time: 11:15 Obs. NGM, AMD

Weather

Air Temp. 1 °C Wind Speed 3 Wind Direction SW

Cloud Cover 100 % Cloud High ☐ Med ☒ Low ☐

Precipitation none Visibility High ☒ Med ☐ Low ☐

Route

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

photo 0497

Route: transect 0 **Date:** Jan. 5/12 **Project #:** 1275

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Transect Segment
Snow Bunting	10:46	11	foraging	—	0	—	NA	75	—
Herring Gull	10:55	1	flying over	1	5	270	NA	200	—

BIRD TRANSECT

Location transect AG

Project # 1275

Length ____ km / ____ min

Survey ☐ spring migration ☐ breeding ☐ fall migration ☒ winter ☐ daytime/ raptor

Project Armow WF

Date (mm/dd/yy) 01/05/12

Start Time: 11:20 End Time: 12:00 Obs. ____

Weather

Air Temp. 0 °C Wind Speed 3 Wind Direction SW

Cloud Cover 100 % Cloud High ☐ Med ☒ Low ☐

Precipitation none Visibility High ☒ Med ☐ Low ☐

Route

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

photo 0498

Route: transect AG **Date:** Jan 5/12 **Project #:** 1275

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Transect Segment
Great-Horned owl	11:40	1	perched/flushed	1	0	190	NA	75	—
Rough-legged Hawk	12:00	1	Perched	—	0	—	NA	150	—

BIRD TRANSECT

Location transect AA

Project # 1275

Length ____ km ____ min

Survey ☐ spring migration ☐ breeding ☐ fall migration ☒ winter ☐ daytime/ raptor

Project ____

Date (mm/dd/yy) 01/05/12

Start Time: 12:05 End Time: 12:35 Obs. NGM, AMD

Weather

Air Temp. 1 °C Wind Speed 2 Wind Direction SW

Cloud Cover 90 % Cloud High ☐ Med ☒ Low ☐

Precipitation none Visibility High ☒ Med ☐ Low ☐

Route

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

photo 0499

Route: transect AA **Date:** Jan. 5/11 **Project #:** 1275

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs (m)	Transect Segment
Downy Woodpecker	12:06	1	Foraging	—	0	—	NA	25	—
Black-capped chickadee	12:13	2	"	—	0	—	NA	50	—
Am. Crow	12:20	1	calling	—	0	—	NA	200	—

Page ___ of ___

BIRD TRANSECT

Location transect U

Project # 1275

Length ____ km ____ min

Survey ☐ spring migration ☐ breeding ☐ fall migration ☒ winter ☐ daytime/ raptor

Project Armow WF

Date (mm/dd/yy) 01/05/12

Start Time: 12:40 End Time: 13:05 Obs. NGM, AMD

Weather

Air Temp. 1 °C Wind Speed 2 Wind Direction SW

Cloud Cover 90 % Cloud High ☐ Med ☒ Low ☐

Precipitation none Visibility High ☒ Med ☐ Low ☐

Route

~~Photo~~ Photo # 0500

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

photo

Route: transect U **Date:** Jan. 5/12 **Project #:** 1275

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Transect Segment
Blue Jay	12:45	1	Perched	–	0	–	NA	50	–
Black-capped chickadee	13:00	1	Foraging	–	0	–	NA	50	–

BIRD TRANSECT

Location transect P

Project # 1275

Length ____ km ____ min

Survey ☐ spring migration ☐ breeding ☐ fall migration ☒ winter ☐ daytime/ raptor

Project Armow WF

Date (mm/dd/yy) 01/05/12

Start Time: 13:40 End Time: 15:00 Obs. NGM, AMD

Weather

Air Temp. ____ °C Wind Speed 2 Wind Direction SW

Cloud Cover 90 % Cloud High ☐ Med ☒ Low ☐

Precipitation None Visibility High ☒ Med ☐ Low ☐

Route

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

photo 0501

Route: transect P **Date:** Jan. 5/12 **Project #:** 1275

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs. (m)	Transect Segment
Am. Crow	13:40	1	Flying	1	3	180	NA	200	–
House Sparrow	13:55	5	Perched	–	0	–	"	50	–
Mourning Dove	14:20	2	Perched	–	0	–	"	25	–
Ring-billed Gull	14:32	1	flying by	1	4	90	"	250	–
Red-tailed Hawk	14:45	1	flying over	1	5	160	"	120	–

BIRD TRANSECT

Location transect AD

Project # 1275

Length ____ km / ____ min

Survey ☐ spring migration ☐ breeding ☐ fall migration ☒ winter ☐ daytime/ raptor

Project Armow WF

Date (mm/dd/yy) 01/06/12

Start Time: 13:50 End Time: 14:30 Obs. NGM, AMD

Weather

Air Temp. 3 °C Wind Speed 2 Wind Direction SW

Cloud Cover 100 % Cloud High ☐ Med ☒ Low ☐

Precipitation — Visibility High ☒ Med ☐ Low ☐

Route

photo # 0511

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Route: **Date:** Jan 6/12 **Project #:** 1275

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Transect Segment
House Sparrow	13:53	18	Perched	—	0	—	NA	50	> on house near rd.
Eur. Starling	13:55	6	Perched	—	0	—	NA	50	

BIRD TRANSECT

Location transect R

Project # 1275

Length ____ km / ____ min

Survey ☐ spring migration ☐ breeding ☐ fall migration ☒ winter ☐ daytime/ raptor

Project Arrow WF

Date (mm/dd/yy) 01/06/12

Start Time: 9:15 End Time: 9:55 Obs. NG-M, AMD

Weather

Air Temp. 5 °C Wind Speed 3 Wind Direction SW

Cloud Cover 90 % Cloud High ☒ Med ☐ Low ☐

Precipitation none Visibility High ☒ Med ☐ Low ☐

Route

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Photo 0503

Route: **Date:** Jun. 6/11 **Project #:** 1215

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Transect Segment
Ring-billed Gull	9:23	9	flying	1	6	270	NA	200	—
Am crow	9:40	1	flying	1	3	200	NA	100	—
Red-tailed Hawk	9:42	1	perched	—	1	—	NA	150	—

See Map for location

BIRD TRANSECT

Location transect 5

Project # 1275

Length ____ km / ____ min

Survey ☐ spring migration ☐ breeding ☐ fall migration ☒ winter ☐ daytime/ raptor

Project Arrow

Date (mm/dd/yy) 01/06/12

Start Time: 10:00 End Time: 10:35 Obs. ____

Weather

Air Temp. 5 °C Wind Speed 3 Wind Direction SW

Cloud Cover 90 % Cloud High ☒ Med ☐ Low ☐

Precipitation none Visibility High ☒ Med ☐ Low ☐

Route

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

photo 0504

Route: **Date:** Jan 6, /12 **Project #:** 1275

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Transect Segment
Red-tailed Hawk	10:02	1	Perched	—	0	—	NA	150	—
Am. Tree Sparrow	10:05	2	Perched	—	0	—	NA	50	—
Am crow	10:11	2	flying	1	2	80	NA	75	—
Ring-billed Gull	10:20	3	circling dump	1	3	circling	NA	100	—
Herring Gull	10:21	1	circling dump	1	2	circling	NA	100	—

See Map

BIRD TRANSECT

Location transect T

Project # 1275

Length _____ km _____ min

Survey ☐ spring migration ☐ breeding ☐ fall migration ☒ winter ☐ daytime/ raptor

Project _____

Date (mm/dd/yy) 01/06/12

Start Time: 10:40 End Time: 11:10 Obs. NGM, AMD

Weather

Air Temp. 4 °C Wind Speed 3 Wind Direction SW

Cloud Cover 90 % Cloud High ☒ Med ☐ Low ☐

Precipitation none Visibility High ☒ Med ☐ Low ☐

Route

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

photo #0505

Route: **Date:** Jan. 6/12 **Project #:** 1275

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Transect Segment
Black-capped chick.	10:49	1	calling	—	0	—	NA	25	
Am. Crow	10:53	1	calling	—	0	—	NA	300	heard only

AVIAN POINT COUNT FORM

STATION B PROJECT 1275

Length 30 mins Survey ☐ Migration ☒ Winter ☐ Daytime/ Soaring ☐ Other:

Project Arman WF 1275 DD/MM/YY 03/01/12

Start Time (24hr): 15:40 End Time: 16:16 Observers NGM, AMD

Weather

Air Temp. -13 °C Wind Speed 5 Wind Direction NW (from)

Cloud Cover 100 % Cloud Height High ☐ Med ☐ Low ☒

Precipitation Flurries Visibility High ☐ Med ☒ Low ☐

Station

Habitat Photo # 0467

Elevation _____ ft / m Crop _____

Pressure _____ mb UTM 17T 0463624 4900098

Turbines

Operational yes no Number in View _____ RPM _____

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.
Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

#725 Concession 2 (@ landfill)

Station#: B **Date:** Jan. 3/12 **Project #:** 1275

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs. (m)	Comments
Am. crow	15:49	1	flying	1	2	10	90	400	
Red tailed hawk	15:55	1	flying	1	2	215	340	400	

Temp. -13
Cloud Cover 100 %
Precipitation flurries

Wind Speed 5
Wind Direction NW

AVIAN POINT COUNT FORM

STATION G **PROJECT** 1275

Length 30 mins Survey ☐ Migration ☒ Winter ☐ Daytime/ Soaring ☐ Other: _____

Project Armow WF DD/MM/YY 03/01/12

Start Time (24hr): 16:15 End Time: 16:45 Observers NGM, AMD

Weather

Air Temp. −13 °C Wind Speed 5 Wind Direction NW (from)

Cloud Cover 100 % Cloud Height High ☐ Med ☐ Low ☒

Precipitation flurries Visibility High ☐ Med ☒ Low ☐

Station

Habitat photo #0468

Elevation _____ ft / m Crop _____

Pressure _____ mb UTM _____

Turbines

Operational yes no Number in View _____ RPM _____

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.
Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Station#: G **Date:** Jan. 3/12 **Project #:** 1275

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Comments
no birds observed									

Temp. -13
Cloud Cover 100 %
Precipitation flurries

Wind Speed 5
Wind Direction NW

AVIAN POINT COUNT FORM

STATION K PROJECT 1275

Length 30 mins Survey ☐ Migration ☒ Winter ☐ Daytime/ Soaring ☐ Other: _____

Project Arnaw WF DD/MM/YY 04/01/12

Start Time (24hr): 8:05 End Time: 8:35 Observers NGM, AMD

Weather

Air Temp. -3 °C Wind Speed 3 Wind Direction SW (from)

Cloud Cover 100 % Cloud Height High ☒ Med ☐ Low ☐

Precipitation none Visibility High ☒ Med ☐ Low ☐

Station

Habitat photo 0470

Elevation _____ ft / m Crop _____

Pressure _____ mb UTM _____

Turbines

Operational yes no Number in View _____ RPM _____

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.
Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Station#: K **Date:** Jan. 4/12 **Project #:** 1275

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs. (m)	Comments
Am. Crow	8:11	2	flying	1	3	0	280	200	
No Raptors observed!									

Temp. _____
Cloud Cover _____%
Precipitation _____

Wind Speed _____
Wind Direction _____

AVIAN POINT COUNT FORM

STATION L PROJECT 1275

Length 30 mins Survey ☐ Migration ☒ Winter ☐ Daytime/ Soaring ☐ Other: _____

Project Arrow WF DD/MM/YY 04/01/12

Start Time (24hr): 8:45 End Time: 9:15 Observers NGM, AMD

Weather

Air Temp. -3 °C Wind Speed 3 Wind Direction SW (from)

Cloud Cover 100 % Cloud Height High ☒ Med ☐ Low ☐

Precipitation none Visibility High ☒ Med ☐ Low ☐

Station

Habitat photo 0471

Elevation _____ ft / m Crop _____

Pressure _____ mb UTM _____

Turbines

Operational yes no Number in View _____ RPM _____

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.
Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Station#: L **Date:** Jan. 4/12 **Project #:** 1275

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Comments
Rock Pigeon	8:51	6	flying	1	3	275	175	75	

Temp. _____
Cloud Cover _____%
Precipitation _____

Wind Speed _____
Wind Direction _____

AVIAN POINT COUNT FORM

STATION J PROJECT 1275

Length 30 mins Survey ☐ Migration ☒ Winter ☐ Daytime/ Soaring ☐ Other: _____

Project Armow WF DD/MM/YY 04/01/12

Start Time (24hr): 9:20 End Time: 9:55 Observers NGM, AMD

Weather

Air Temp. -3 °C Wind Speed 3 Wind Direction SW (from)

Cloud Cover 100 % Cloud Height High ☒ Med ☐ Low ☐

Precipitation none Visibility High ☒ Med ☐ Low ☐

Station

Habitat photo 0472

Elevation _____ ft / m Crop _____

Pressure _____ mb UTM _____

Turbines

Operational yes no Number in View _____ RPM _____

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.
Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Station#: J **Date:** Jan 4 /12 **Project #:** 1275

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Comments
no birds observed									

Temp. −3
Cloud Cover 100 %
Precipitation none

Wind Speed 3
Wind Direction SW

AVIAN POINT COUNT FORM

STATION C **PROJECT** 1275

Length 30 mins Survey ☐ Migration ☒ Winter ☐ Daytime/ Soaring ☐ Other: _____

Project Armow WF DD/MM/YY 04/01/12

Start Time (24hr): 10:05 End Time: 10:35 Observers NGM, AMD

Weather

Air Temp. -3 °C Wind Speed 3 Wind Direction SW (from)

Cloud Cover 100 % Cloud Height High ☒ Med ☐ Low ☐

Precipitation none Visibility High ☒ Med ☐ Low ☐

Station

Habitat photos 0473

Elevation _____ ft / m Crop _____

Pressure _____ mb UTM _____

Turbines

Operational yes no Number in View _____ RPM _____

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.
Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Station#: C **Date:** Jan. 4 /12 **Project #:** 1275

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Comments
European Starling	10:09	~20	P	–	1	–	240	100 m	
Am. tree sparrow	10:11	6	foraging	–	2	–	240	100 m	
Red tailed hawk	10:21	1	P	–	1	–	150	100 m	
Red tailed hawk	10:25	1	flying	1	1	160	90	150 m	

Temp. -3
Cloud Cover 100 %
Precipitation none

Wind Speed 3
Wind Direction SW

AVIAN POINT COUNT FORM

STATION A PROJECT 1275

Length 30 mins Survey ☐ Migration ☒ Winter ☐ Daytime/ Soaring ☐ Other: _____

Project Armow WF DD/MM/YY 04/01/12

Start Time (24hr): 10:40 End Time: 11:10 Observers NGM, AMD

Weather

Air Temp. -2 °C Wind Speed 3 Wind Direction SW (from)

Cloud Cover 100 % Cloud Height High ☒ Med ☐ Low ☐

Precipitation none Visibility High ☒ Med ☐ Low ☐

Station

Habitat photo 0474

Elevation _____ ft / m Crop _____

Pressure _____ mb UTM _____

Turbines

Operational yes no Number in View _____ RPM _____

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.
Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Station#: A **Date:** Jan. 4 /11 **Project #:** 1275

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Comments
bald eagle	10:45	1	flying	1	2	90	180	50 m	sik!
Rock V Pigeon	10:46	2	flying	1	1	45	160	75 m	
herring gull	10:46	1	flying	1	5	270	135	800 m	

Temp. −2
Cloud Cover 100 %
Precipitation none

Wind Speed 3
Wind Direction SW

Page ___ of ___

AVIAN POINT COUNT FORM

STATION AH PROJECT 1275

Length 30 mins Survey ☐ Migration ☒ Winter ☐ Daytime/ Soaring ☐ Other: _____

Project Armow WF DD/MM/YY 04/01/12

Start Time (24hr): 11:20 End Time: 11:50 Observers NGM, AMD

Weather

Air Temp. −3 °C Wind Speed 3 Wind Direction SW (from)

Cloud Cover 100 % Cloud Height High ☒ Med ☐ Low ☐

Precipitation none Visibility High ☒ Med ☐ Low ☐

Station

Habitat photo 0475

Elevation _____ ft / m Crop _____

Pressure _____ mb UTM _____

Turbines

Operational yes no Number in View _____ RPM _____

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.
Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Station#: AH **Date:** Jan. 4/12 **Project #:** 1275

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Comments

Temp. −3
Cloud Cover 100 %
Precipitation none

Wind Speed 3
Wind Direction SW

Page ___ of ___

AVIAN POINT COUNT FORM

STATION AF **PROJECT** 1275

Length 30 mins Survey ☐ Migration ☒ Winter ☐ Daytime/ Soaring ☐ Other: _____

Project Armow WF DD/MM/YY 07/01/12

Start Time (24hr): 11:55 End Time: 12:25 Observers NGM, AMD

Weather

Air Temp. −3 °C Wind Speed 3 Wind Direction SW (from)

Cloud Cover 100 % Cloud Height High ☒ Med ☐ Low ☐

Precipitation none Visibility High ☒ Med ☐ Low ☐

Station

Habitat photo 0476

Elevation _____ ft / m Crop _____

Pressure _____ mb UTM _____

Turbines

Operational yes no Number in View _____ RPM _____

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.
Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Station#: AF **Date:** Jan. 4/12 **Project #:** 1275

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Comments
Red tailed hawk	12:01	1	flying	1	4	0	45	600m	
Am. crow	12:03	3	flying	1	3	90	340	300m	

Temp. -3
Cloud Cover 100 %
Precipitation none

Wind Speed 3
Wind Direction SW

Page ___ of ___

AVIAN POINT COUNT FORM

STATION AE PROJECT 1275

Length 30 mins Survey ☐ Migration ☒ Winter ☐ Daytime/ Soaring ☐ Other: _____

Project Armow WF DD/MM/YY 04/01/12

Start Time (24hr): 12:25 End Time: 12:55 Observers NGM, AMD

Weather

Air Temp. -3 °C Wind Speed 3 Wind Direction SW (from)

Cloud Cover 100 % Cloud Height High ☒ Med ☐ Low ☐

Precipitation none Visibility High ☒ Med ☐ Low ☐

Station

Habitat photo 0477

Elevation _____ ft / m Crop _____

Pressure _____ mb UTM _____

Turbines

Operational yes no Number in View _____ RPM _____

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.
Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Station#: AE **Date:** Jan 4/12 **Project #:** 1275

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Comments
no birds observed.									

Temp. −3
Cloud Cover 100 %
Precipitation none

Wind Speed 3
Wind Direction SW

AVIAN POINT COUNT FORM

STATION AC PROJECT 1275

Length 30 mins Survey ☐ Migration ☒ Winter ☐ Daytime/ Soaring ☐ Other: _____

Project Arnow WF DD/MM/YY 04/01/12

Start Time (24hr): 13:00 End Time: 13:30 Observers NGM, AMD

Weather

Air Temp. −1 °C Wind Speed 3 Wind Direction SW (from)

Cloud Cover 100 % Cloud Height High ☒ Med ☐ Low ☐

Precipitation none Visibility High ☒ Med ☐ Low ☐

Station

Habitat photo 0478

Elevation _____ ft / m Crop _____

Pressure _____ mb UTM _____

Turbines

Operational yes no Number in View _____ RPM _____

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.
Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Station#: AC **Date:** Jan. 4/12 **Project #:** 1275

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Comments
no birds observed									

Temp. -1
Cloud Cover 100 %
Precipitation none

Wind Speed 3
Wind Direction SW

AVIAN POINT COUNT FORM

STATION Z (zed) **PROJECT** 1275

Length: 30 mins | Survey: ☐ Migration ☒ Winter ☐ Daytime/ Soaring ☐ Other: ____

Project: Arrow WF | DD/MM/YY: 04/01/12

Start Time (24hr): 13:35 | End Time: 14:05 | Observers: NGM, AMD

Weather

Air Temp.: -1 °C | Wind Speed: 2 | Wind Direction: SW (from)

Cloud Cover: 100 % | Cloud Height: High ☒ Med ☐ Low ☐

Precipitation: none | Visibility: High ☒ Med ☐ Low ☐

Station

Habitat: photo 0480

Elevation: ____ ft / m | Crop: ____

Pressure: ____ mb | UTM: ____

Turbines

Operational: yes no | Number in View: ____ | RPM: ____

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.
Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Station#: 2 **Date:** Jan. 4 /11 **Project #:** 1275

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Comments
Am. kestrel	13:37	1	P	–	O	–	180	125 m	
Am. Crow	13:39	1	P	–	O	–	180	100 m	
Rough-legged hawk	13:53	1	P	–	O	–	90	150 m	
↳ dark morph									

Temp. –1
Cloud Cover 100 %
Precipitation none

Wind Speed 2
Wind Direction SW

AVIAN POINT COUNT FORM

STATION Y PROJECT 1275

Length 30 mins Survey [ ] Migration [X] Winter [ ] Daytime/ Soaring [ ] Other: _____

Project Armow WF DD/MM/YY 04/01/12

Start Time (24hr): 14:10 End Time: 14:40 Observers NGM, AMD

Weather

Air Temp. -1 °C Wind Speed 2 Wind Direction SW (from)

Cloud Cover 100 % Cloud Height High [X] Med [ ] Low [ ]

Precipitation none Visibility High [X] Med [ ] Low [ ]

Station

Habitat photo 0479

Elevation _____ ft / m Crop _____

Pressure _____ mb UTM _____

Turbines

Operational yes no Number in View _____ RPM _____

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.
Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Station#: Y **Date:** Jan. 4/11 **Project #:** 1275

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Comments
Am. crow	14:20	3	P	–	O	–	45	150 m	

Temp. –1
Cloud Cover 100 %
Precipitation none

Wind Speed 2
Wind Direction SW

Page ___of___

AVIAN POINT COUNT FORM

STATION X PROJECT 1275

Length 30 mins Survey ☐ Migration ☒ Winter ☐ Daytime/ Soaring ☐ Other: _____

Project Arman WF DD/MM/YY 04/01/12

Start Time (24hr): 14:50 End Time: 15:20 Observers NGM, AMD

Weather

Air Temp. -1 °C Wind Speed 2 Wind Direction SW (from)

Cloud Cover 100 % Cloud Height High ☒ Med ☐ Low ☐

Precipitation none Visibility High ☒ Med ☐ Low ☐

Station

Habitat photo 0481

Elevation _____ ft / m Crop _____

Pressure _____ mb UTM _____

Turbines

Operational yes no Number in View _____ RPM _____

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.
Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Station#: X **Date:** Jan. 4/12 **Project #:** 1275

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Comments
Am. Crow	15:15	7	flying	1	2	270	90	100m	

Temp. _____
Cloud Cover _____%
Precipitation _____

Wind Speed _____
Wind Direction _____

Page ___of ___

AVIAN POINT COUNT FORM

STATION M PROJECT 1275

Length 30 mins Survey ☐ Migration ☒ Winter ☐ Daytime/ Soaring ☐ Other: _____

Project Armow WF DD/MM/YY 04/01/12

Start Time (24hr): 15:35 End Time: 16:05 Observers NGM, AMD

Weather

Air Temp. −1 °C Wind Speed 2 Wind Direction SW (from)

Cloud Cover 100 % Cloud Height High ☒ Med ☐ Low ☐

Precipitation none Visibility High ☒ Med ☐ Low ☐

Station

Habitat photo 0482

Elevation _____ ft / m Crop _____

Pressure _____ mb UTM _____

Turbines

Operational yes no Number in View _____ RPM _____

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.
Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Station#: M **Date:** Jan 4/12 **Project #:** 1275

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Comments
snow bunting	16:00	2	flying	1	10	300	135	100m	

Temp. -1
Cloud Cover 100 %
Precipitation none

Wind Speed 2
Wind Direction SW

AVIAN POINT COUNT FORM

STATION Q PROJECT 1275

Length 30 mins Survey ☐ Migration ☒ Winter ☐ Daytime/ Soaring ☐ Other: _____

Project Arnow WF DD/MM/YY 05/01/12

Start Time (24hr): 15:20 End Time: 15:50 Observers NGM, AMD

Weather

Air Temp. 1 °C Wind Speed 2 Wind Direction SW (from)

Cloud Cover 90 % Cloud Height High ☐ Med ☒ Low ☐

Precipitation none Visibility High ☒ Med ☐ Low ☐

Station

Habitat photo 0502

Elevation _____ ft / m Crop _____

Pressure _____ mb UTM _____

Turbines

Operational yes no Number in View _____ RPM _____

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.
Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Station#: Q **Date:** Jan. 5 / 12 **Project #:** 1275

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Comments
Am. crow	15:25	1	calling	—	0	—	10	500 m	
Euro. starling	15:30	12	flying	1	2	270	0	100 m	
Red tailed hawk	15:40	1	P	—	0	—	330	200 m	

Temp. 1
Cloud Cover 90 %
Precipitation none

Wind Speed 2
Wind Direction SW

*completed from roadside, no access to property for transect survey

AVIAN POINT COUNT FORM

STATION W PROJECT 1275

Length 30 mins Survey ☐ Migration ☐ Winter ☐ Daytime/ Soaring ☐ Other: _____

Project Armow WF DD/MM/YY 06/01/12

Start Time (24hr): 11:15 End Time: 11:45 Observers NGM, AMD

Weather

Air Temp. 4 °C Wind Speed 2 Wind Direction SW (from)

Cloud Cover 90 % Cloud Height High ☒ Med ☐ Low ☐

Precipitation none Visibility High ☒ Med ☐ Low ☐

Station

Habitat

Elevation _____ ft / m Crop _____

Pressure _____ mb UTM _____

Turbines

Operational yes no Number in View _____ RPM _____

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.
Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

photo 0506

Station#: W **Date:** Jan. 6/12 **Project #:** 1275

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Comments
Rock pigeon	11:30	8	P	–	0	–	90	150m	
Am. crow	11:31	1	flying	1	0	45	340	200m	

Temp. 4
Cloud Cover 90 %
Precipitation none

Wind Speed 2
Wind Direction SW

AVIAN POINT COUNT FORM

STATION V PROJECT 1275

Length 30 mins Survey ☐ Migration ☒ Winter ☐ Daytime/ Soaring ☐ Other: _____

Project Armow WF DD/MM/YY 06/01/12

Start Time (24hr): 11:50 End Time: 12:20 Observers NGM, AMD

Weather

Air Temp. 4 °C Wind Speed 3 Wind Direction SW (from)

Cloud Cover 90 % Cloud Height High ☒ Med ☐ Low ☐

Precipitation none Visibility High ☒ Med ☐ Low ☐

Station

Habitat

Elevation _____ ft / m Crop _____

Pressure _____ mb UTM _____

Turbines

Operational yes no Number in View _____ RPM _____

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.
Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

photo 0507

Station#: V **Date:** Jan 6/12 **Project #:** 1275

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Comments
Euro. starling	11:50	14	Perched	-	O	—	300	50	-
Snow Bunting	11:59	1	flying	1	6	200	75	100	

Temp. 4
Cloud Cover 90 %
Precipitation none

Wind Speed 3
Wind Direction SW

AVIAN POINT COUNT FORM

STATION E PROJECT 1275

Length 30 mins Survey ☐ Migration ☒ Winter ☐ Daytime/ Soaring ☐ Other: _____

Project Arrow WF DD/MM/YY 06/01/12

Start Time (24hr): 12:30 End Time: 13:00 Observers NGM, AMD

Weather

Air Temp. 4 °C Wind Speed 2 Wind Direction SW (from)

Cloud Cover 90 % Cloud Height High ☒ Med ☐ Low ☐

Precipitation none Visibility High ☒ Med ☐ Low ☐

Station

Habitat

Elevation _____ ft / m Crop _____

Pressure _____ mb UTM _____

Turbines

Operational yes no Number in View _____ RPM _____

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.
Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

photo 0508

Station#: E **Date:** Jan. 6/12 **Project #:** 1275

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Comments
no birds observed.									

Temp. 4
Cloud Cover 90 %
Precipitation none

Wind Speed 2
Wind Direction SW

*completed from roadside, no access to property for transect survey

AVIAN POINT COUNT FORM

STATION F PROJECT 1275

Length _____ Survey ☐ Migration ☐ Winter ☒ Daytime/ Soaring ☐ Other: _____

Project Arman WF DD/MM/YY 06/01/12

Start Time (24hr): 13:10 End Time: 13:40 Observers N6M, AMD

Weather

Air Temp. 4 °C Wind Speed 3 Wind Direction SW (from)

Cloud Cover 100 % Cloud Height High ☐ Med ☒ Low ☐

Precipitation — Visibility High ☒ Med ☐ Low ☐

Station

Habitat Photo # 0509, 0510

Elevation _____ ft / m Crop _____

Pressure _____ mb UTM _____

Turbines

Operational yes no Number in View _____ RPM _____

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.
Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Station#: **Date:** Jan. 6/12 **Project #:** 1275

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Comments
Mourning Dove	13:13	2	perched	—	0	—	260	100	—
House Sparrow	13:17	7	"	—	0	—	260	100	—
Rock Pigeon	13:29	7	"	—	0	—	100	150	—

Temp. _____
Cloud Cover _____%
Precipitation _____

Wind Speed _____
Wind Direction _____

*completed from roadside, no access to property for transect survey

AVIAN POINT COUNT FORM

STATION AB PROJECT 1275

Length 30 mins Survey ☐ Migration ☒ Winter ☐ Daytime/ Soaring ☐ Other: _____

Project Armow WF DD/MM/YY 06/01/12

Start Time (24hr): 14:35 End Time: 15:05 Observers NGM, AMD

Weather

Air Temp. 6 °C Wind Speed 2 Wind Direction SW (from)

Cloud Cover 100 % Cloud Height High ☐ Med ☒ Low ☐

Precipitation none Visibility High ☒ Med ☐ Low ☐

Station

Habitat photo 0512

Elevation _____ ft / m Crop _____

Pressure _____ mb UTM _____

Turbines

Operational yes no Number in View _____ RPM _____

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.
Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Station#: AB **Date:** Jan. 6/12 **Project #:** 1275

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Comments
Mourning Dove	14:40	8	flying	1	3	270	175	100	—
Rock Pigeon	14:59	3	flying	1	2	90	60	200	—

Temp. 6
Cloud Cover 100 %
Precipitation None

Wind Speed 2
Wind Direction SW

Jan 9-11 2012

KSJ HLW

Armow Wind Farm

Field Map - 1

Raptor Wintering Area Surveys

Legend

- Project Area (120m)
- Watercourse (Permanent)
- Watercourse (Intermittent)
- Highway
- Primary Road
- Secondary Road
- Parcel Fabric
- Waterbody
- Woodlands



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Imagery provided by: Golder Associates, 2011

Project: 1275 Date: Tuesday, January 03, 2012	NAD83 - UTM Zone 17 Size: 11x17" **1:30,000**

0 500 1,000 1,500 Metres

N

Armow Wind Farm

Field Map - 2

Legend

- Project Area (120m)
- Watercourse (Permanent)
- Watercourse (Intermittent)
- Highway
- Primary Road
- Secondary Road
- Parcel Fabric
- Waterbody
- Woodlands

*N is next to corn (!?)

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Project: 1275
Date: Tuesday, January 03, 2012

NAD83 - UTM Zone 17
Size: 11x17"
1:30,000

0 500 1,000 1,500 Metres

Armow Wind Farm

Field Map - 3

Legend

- Project Area (120m)
- Watercourse (Permanent)
- Watercourse (Intermittent)
- Highway
- Primary Road
- Secondary Road
- Parcel Fabric
- Waterbody
- Woodlands

Red-tailed Hawk 11/01/12 9:00

Red-tailed Hawk 11/01/12 9:34

Red-tailed Hawk 11/01/12 9:48

Red-tailed Hawk 11/01/12 11:28

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Project: 1275
Date: Tuesday, January 03, 2012

NAD83 - UTM Zone 17
Size: 11x17"
1:30,000

0 500 1,000 1,500 Metres

Armow Wind Farm

Field Map - 4

Legend

- Project Area (120m)
- Watercourse (Permanent)
- Watercourse (Intermittent)
- Highway
- Primary Road
- Secondary Road
- Parcel Fabric
- Waterbody
- Woodlands

462000 464000 466000 468000

4892000 4890000 4888000 4886000

SIDEROAD 20
CONCESSION 9
SIDEROAD 30 SOUTH
CONCESSION 10 GREENOCK
CONCESSION 7
BERVIE SIDEROAD
SIDEROAD 30
CONCESSION 8 WEST
CONCESSION 5
KINCARDINE KINLOSS
BRUCE ROAD 1
CONCESSION 6
NORTH LINE
NORTHLINE AVENUE
YOUNGS ROAD
HIGHWAY 9

WOD-005 WOD-009 WOD-012 WOD-013 WOD-020 WOD-023 WOD-030 WOD-041 WOD-061 WOD-078 WOD-097 WOD-098 WOD-099 WOD-100 WOD-111 WOD-112 WOD-113 WOD-114 WOD-115 WOD-116 WOD-117 WOD-118 WOD-119 WOD-120 WOD-122 WOD-123

Rough-legged Hawk 10/01/12 14:20

Great Horned Owl 10/01/12 10:14

Rough-legged Hawk 10/01/12 14:00

AA AB AC AD AE AF (moved) AG AH

*AF moved for better view

*Not possible to cross creek for station AA on property - but you can see through forest along edge of creek

NATURAL RESOURCE SOLUTIONS INC.
Aquatic, Terrestrial and Wetland Biologists

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Imagery provided by: Golder Associates, 2011

Project: 1275
Date: Tuesday, January 03, 2012

NAD83 - UTM Zone 17
Size: 11x17"
1:30,000

0 500 1,000 1,500 Metres

N

BIRD TRANSECT

Location D

Project # 1275

Length ____ km ____ min

Survey ☐ spring migration ☐ breeding ☐ fall migration ☒ winter ☒ daytime/ raptor

Project Arrow WF

Date (mm/dd/yy) 10/01/12

Start Time: 842 End Time: 855

Obs. KSJ, HLM

Weather

Air Temp. 1 °C

Wind Speed 1

Wind Direction S

Cloud Cover 95 %

Cloud High ☐ Med ☒ Low ☐

Precipitation —

Visibility High ☒ Med ☐ Low ☐

Route

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Route: D **Date:** 10/01/12 **Project #:** 1275

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Transect Segment
Am Cow	901	4	perched		2		S	300	D

BIRD TRANSECT

Location H

Project # 1275

Length ____ km ____ min

Survey ☐ spring migration ☐ breeding ☐ fall migration ☒ winter ☒ daytime/ raptor

Project Armour WF

Date (mm/dd/yy) 10/01/12

Start Time: 12:27 End Time: 13:23 Obs. ____

Weather

Air Temp. 2 °C Wind Speed 1 Wind Direction S

Cloud Cover 95 % Cloud High ☐ Med ☒ Low ☐

Precipitation none Visibility High ☒ Med ☐ Low ☐

Route

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Route: H **Date:** 10/01/12 **Project #:** 1275

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Transect Segment
Am Crow	12:27	4	Flying	1	1	NE	E	100m	
Black-capped Chickadee	12:45	1	Singing/ Flying	1	0	E	11	150m	

Page ___ of ___

BIRD TRANSECT

Location I

Project # 1275

Length _____ km _____ min

Survey ☐ spring migration ☐ breeding ☐ fall migration ☒ winter ☒ daytime/ raptor

Project _____

Date (mm/dd/yy) 10/01/12

Start Time: 12:42 End Time: 13:19 Obs. _____

Weather

Air Temp. 2 °C Wind Speed _____ Wind Direction _____

Cloud Cover 95 % Cloud High ☐ Med ☐ Low ☐

Precipitation none Visibility High ☐ Med ☐ Low ☐

Route

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Route: I **Date:** 10/01/12 **Project #:** 1275

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Transect Segment

Page ___ of ___

BIRD TRANSECT

Location N

Project # 1275

Length ____ km ____ min

Survey ☐ spring migration ☐ breeding ☐ fall migration ☒ winter ☒ daytime/ raptor

Project Armow WF

Date (mm/dd/yy) 10/01/12

Start Time: 1350

End Time: 1358

Obs. KSJ, HLW

Weather

Air Temp. 2 °C

Wind Speed 2

Wind Direction SW

Cloud Cover 95 %

Cloud High ☐ Med ☒ Low ☐

Precipitation none

Visibility High ☒ Med ☐ Low ☐

Route

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Note: Field adjacent to woodlot plowed corn

Route: N **Date:** [illegible] **Project #:** 1275

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Transect Segment

BIRD TRANSECT

Location 0

Project # 1275

Length ____ km ____ min

Survey ☐ spring migration ☐ breeding ☐ fall migration ☒ winter ☒ daytime/ raptor

Project Armow WF

Date (mm/dd/yy) 10/01/12

Start Time: 9.58 End Time: 10.16 Obs. KSJ, HLW

Weather

Air Temp. 1 °C Wind Speed 1 Wind Direction S

Cloud Cover 100 % Cloud High ☐ Med ☒ Low ☐

Precipitation none Visibility High ☒ Med ☐ Low ☐

Route

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Route: 0 **Date:** 10/01/12 **Project #:** 1275

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Transect Segment
Am. Goldfinch	10:10	1	perching	1	1	—	N	10m	—

Wildlife observed: Coyote (TK)
Raccoon (TK)

Page ___of ___

BIRD TRANSECT

Location P

Project # 1275

Length ____ km ____ min

Survey ☐ spring migration ☐ breeding ☐ fall migration ☒ winter ☐ daytime/ raptor

Project Arrow WF

Date (mm/dd/yy) 11/01/12

Start Time: 8:54 End Time: 9:16 Obs. KSJ, HLW

Weather

Air Temp. 0 °C Wind Speed 1 Wind Direction SW

Cloud Cover 5 % Cloud High ☐ Med ☒ Low ☐

Precipitation none Visibility High ☒ Med ☐ Low ☐

Route

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Route: P **Date:** 11/01/12 **Project #:**

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Transect Segment
Am. Crow	8:59	4	Perching/ Flying	1	1	~	~	40 m	~
Red-tailed Hawk	9:06	1	Perching/ Flying	1		NE	E	50 m	~
Am. Crow	9:06	1	Flying	1	2	NE	E	60 m	~
Herring Gull	9:09	9	Flying	1	2	W	NE	20 m	~
Fly Over	9:11	2	Flying/ Perching	1	0	N	N	15 m	~

Page ___of ___

BIRD TRANSECT

Location R

Project # 1275

Length ____ km ____ min

Survey ☐ spring migration ☐ breeding ☐ fall migration ☒ winter ☒ daytime/ raptor

Project Armow WF

Date (mm/dd/yy) 11/01/12

Start Time: 9:40 End Time: 9:55 Obs. KSJ, HLW

Weather

Air Temp. 0 °C Wind Speed 2 Wind Direction W

Cloud Cover <5 % Cloud High ☐ Med ☒ Low ☐

Precipitation none Visibility High ☒ Med ☐ Low ☐

Route

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Route: R **Date:** 11/01/12 **Project #:** 215

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Transect Segment
(juv.) Red-tailed Hawk	9:36	1	Perching/ Flying	1	0	W	W	10m	—
Am. Crow	9:48	2	Mobbing	1	3	SW	SSW	300m	—
Rough-legged Hawk	9:48	1	Flying	1	3	SW	SSW	300m	—
Herring Gulls	9:49	41	Flying	1	4	E	SE	500m	—
Herring Gulls	9:59	7	Flying	1	1	E	NW	100m	—

Page 1 of 1

BIRD TRANSECT

Location 3

Project # [illegible]

Length ____ km ____ min

Survey ☐ spring migration ☐ breeding ☐ fall migration ☐ winter ☐ daytime/ raptor

Project Ramsay WE

Date (mm/dd/yy) [illegible]

Start Time: 10:15 End Time: 10:26 Obs. KST HLW

Weather

Air Temp. 1 °C Wind Speed 3 Wind Direction SE

Cloud Cover 0 % Cloud High ☐ Med ☒ Low ☐

Precipitation none Visibility High ☑ Med ☐ Low ☐

Route

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Route: S **Date:** 11/01/12 **Project #:** 1005

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Transect Segment
Am. Crow	10:16	1	Flying	1	1	SW	S	200 m	-
E. Starling	10:17	2	Flying	1	2	S	SW	200m	-
Herring Gull	10:17	300	Perched on ground	1	0	-	W	200m	-
E. Starling	10:18	5	Flying	1	2	S	SW	200m	-
Black-capped Chickadee	10:22	1	Perching		0	-	N	200m	-
Wild Turkey	10:24		(feather)						

Page ___of ___

BIRD TRANSECT

Location T

Project # 1275

Length ____ km ____ min

Survey ☐ spring migration ☐ breeding ☐ fall migration ☒ winter ☒ daytime/ raptor

Project Arrow WF

Date (mm/dd/yy) 11/01/12

Start Time: 1112 End Time: 1133 Obs. KSJ, HLW

Weather

Air Temp. 1 °C Wind Speed 3 Wind Direction E

Cloud Cover 0 % Cloud High ☒ Med ☐ Low ☐

Precipitation — Visibility High ☒ Med ☐ Low ☐

Route

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Route: T **Date:** 11/01/12 **Project #:** 125

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Transect Segment
Red-tailed Hawk	1128	1	flying	1	3	SW	N	40	T
Am Goldfinch	1129	2	perched	1	2		E	30	T

Raccoon track S

BIRD TRANSECT

Location U

Project # 1275

Length ____ km ____ min

Survey ☐ spring migration ☐ breeding ☐ fall migration ☒ winter ☒ daytime/ raptor

Project Arrow WF

Date (mm/dd/yy) 11/01/12

Start Time: 1155 End Time: ____

Obs. KSJ, HLW

Weather

Air Temp. 3 °C

Wind Speed 1

Wind Direction SE

Cloud Cover 0 %

Cloud High ☒ Med ☐ Low ☐

Precipitation —

Visibility High ☒ Med ☐ Low ☐

Route

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Route: U **Date:** 11/01/12 **Project #:** 1275

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Transect Segment
Am Crow	1156	7	perched		2		N	150	U

Raccoon tracks, coyote tracks

BIRD TRANSECT

Location AA

Project # 1275

Length ____ km ____ min

Survey ☐ spring migration ☐ breeding ☐ fall migration ☒ winter ☒ daytime/ raptor

Project Arrow W

Date (mm/dd/yy) 11/01/12

Start Time: 13:35 End Time: 14:46 Obs. KSS, HW

Weather

Air Temp. 3 °C Wind Speed 3 Wind Direction SE

Cloud Cover 35 % Cloud High ☐ Med ☒ Low ☐

Precipitation None Visibility High ☒ Med ☐ Low ☐

Route

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Route: AA **Date:** 11/01/12 **Project #:** 1275

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Transect Segment

BIRD TRANSECT

Location AD

Project # 1275

Length ____ km ____ min

Survey ☐ spring migration ☐ breeding ☐ fall migration ☒ winter ☒ daytime/ raptor

Project Armow WF

Date (mm/dd/yy) 10/01/12

Start Time: 1527 End Time: 1547 Obs. KSJ, HLW

Weather

Air Temp. 2 °C Wind Speed 1 Wind Direction S

Cloud Cover 90 % Cloud High ☐ Med ☒ Low ☐

Precipitation — Visibility High ☒ Med ☐ Low ☐

Route

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Route: AD **Date:** 10/01/12 **Project #:** 1275

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Transect Segment

Page 2 of 2

BIRD TRANSECT

Location AG

Project # 1275

Length ____ km ____ min

Survey ☐ spring migration ☐ breeding ☐ fall migration ☒ winter ☒ daytime/ raptor

Project Armow WF

Date (mm/dd/yy) 10/01/12

Start Time: 10:27 End Time: ____

Obs. KSJ, HLW

Weather

Air Temp. 1 °C

Wind Speed 1

Wind Direction S

Cloud Cover 100 %

Cloud High ☐ Med ☒ Low ☐

Precipitation none

Visibility High ☒ Med ☐ Low ☐

Route

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Route: AG **Date:** 10/0[illegible]/12 **Project #:** 1275

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Transect Segment
[illegible]	10:41	1	[illegible]	1	2		N	[illegible]	—

Winter observations [illegible]

AVIAN POINT COUNT FORM

STATION A **PROJECT** 1275

Length 30 min. Survey ☐ Migration ☒ Winter ☐ Daytime/ Soaring ☐ Other: _____

Project Arnow WF DD/MM/YY 04/01/2012

Start Time (24hr): 11:41 End Time: 12:11 Observers KSJ . HLM

Weather

Air Temp. 0 °C Wind Speed 5 Wind Direction S (from)

Cloud Cover 50 % Cloud Height High ☐ Med ☑ Low ☐

Precipitation none Visibility High ☑ Med ☐ Low ☐

Station

Habitat

Elevation 254 ft / (m) Crop hay

Pressure — mb UTM 0459626 4897836

Turbines

Operational yes (no) Number in View — RPM —

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.
Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Station#:				Date:			Project #:		
Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Comments
Ravens	11:48	2	Flying	1	0	S	SE	300 m	
Herring (gull)	12:07	1	Flying	1	1	S	E	250m	

Temp. 0°C
Cloud Cover 50 %
Precipitation none

Wind Speed 5
Wind Direction N

AVIAN POINT COUNT FORM

STATION B **PROJECT** 1275

Length 30 min. Survey ☐ Migration ☒ Winter ☐ Daytime/ Soaring ☐ Other: _____

Project Armow WF DD/MM/YY 09/01/12

Start Time (24hr): 12:28 End Time: 12:58 Observers KGJ, HLW

Weather

Air Temp. 0 °C Wind Speed 5 Wind Direction S (from)

Cloud Cover 100 % Cloud Height High ☐ Med ☒ Low ☐

Precipitation none Visibility High ☒ Med ☐ Low ☐

Station

Habitat

Elevation 250 ft / (m) Crop Pasture

Pressure — mb UTM 0413511 4900175

Turbines

Operational yes (no) Number in View — RPM —

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.
Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Station#:				Date:				Project #:	
Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Comments
Ravens	12:50	4	Flying	1	1	E	SW	300m	

Temp. 0
Cloud Cover 100 %
Precipitation none

Wind Speed 5
Wind Direction 3
(from)

AVIAN POINT COUNT FORM

STATION C PROJECT 1275

Length 30 mins Survey ☐ Migration ☒ Winter ☒ Daytime/ Soaring ☐ Other: ____

Project Arnow WF DD/MM/YY 11/01/12

Start Time (24hr): 811 End Time: 841 Observers KSJ, HLW

Weather

Air Temp. -1 °C Wind Speed 2 Wind Direction S (from)

Cloud Cover 0 % Cloud Height High ☐ Med ☒ Low ☐

Precipitation — Visibility High ☒ Med ☐ Low ☐

Station

Habitat

Elevation ____ ft / m Crop hay

Pressure ____ mb UTM 17T 0462799 4898224

Turbines

Operational yes ~~no~~ Number in View ____ RPM ____

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.
Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Station#: C **Date:** 11/01/12 **Project #:** 1275

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Comments
Am Crow	830	1	flying	1	0	E	N	400	
Rock Pigeon	833	2	"	1	2	E	N	10	
Herring Gull	835	1	"	1	3	E	N	350	

Temp. _____
Cloud Cover _____%
Precipitation _____

Wind Speed _____
Wind Direction _____

AVIAN POINT COUNT FORM

STATION E PROJECT 1275

Length 30 mins Survey ☐ Migration ☒ Winter ☒ Daytime/ Soaring ☐ Other: Raptor

Project Armow WF DD/MM/YY 10/01/12

Start Time (24hr): 915 End Time: 945 Observers KSJ, HLW

Weather

Air Temp. 1 °C Wind Speed 1 Wind Direction S (from)

Cloud Cover 100 % Cloud Height High ☐ Med ☒ Low ☐

Precipitation — Visibility High ☒ Med ☐ Low ☐

Station

Habitat

Elevation ____ ft / m Crop hay

Pressure ____ mb UTM 17T 0462482 4895613

Turbines

Operational yes (no) Number in View ____ RPM ____

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.
Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Station#: ~~IDS~~ E **Date:** 10/01/12 **Project #:** 1275

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Comments
Common Raven	915	1	flying	1	3	S	W	300	
Herring Gull	945	1	"	1	4	S	W	50	

Temp. _____
Cloud Cover _____%
Precipitation _____

Wind Speed _____
Wind Direction _____

AVIAN POINT COUNT FORM

STATION F PROJECT 1275

Length 30 min Survey ☐ Migration ☒ Winter ☐ Daytime/ Soaring ☐ Other: _____

Project Arklow WF DD/MM/YY 09/01/12

Start Time (24hr): 1108 End Time: 1138 Observers KSJ, HLN

Weather

Air Temp. 0 °C Wind Speed 5 Wind Direction S (from)

Cloud Cover 100 % Cloud Height High ☐ Med ☒ Low ☐

Precipitation none Visibility High ☒ Med ☐ Low ☐

Station

Habitat

Elevation 265 ft / m Crop pasture, some plowed field

Pressure _____ mb UTM 0465384 4899128

Turbines

Operational yes (no) Number in View – RPM –

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.
Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Station#: F **Date:** Jan 9 2012 **Project #:** 1275

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Comments

Temp. 0
Cloud Cover 100 %
Precipitation none

Wind Speed 5
Wind Direction S

AVIAN POINT COUNT FORM

STATION G **PROJECT** 1275

Length 30 mins Survey ☐ Migration ☒ Winter ☒ Daytime/ Soaring ☐ Other: _____

Project Arrow WF DD/MM/YY 09/01/12

Start Time (24hr): 1347 End Time: 1417 Observers KSJ, HLW

Weather

Air Temp. 0 °C Wind Speed 5 Wind Direction S (from)

Cloud Cover 75 % Cloud Height High ☐ Med ☒ Low ☐

Precipitation — Visibility High ☒ Med ☐ Low ☐

Station

Habitat

Elevation _____ ft / m Crop Hay

Pressure _____ mb UTM 17T 0467205, 4898126

Turbines

Operational yes (no) Number in View _____ RPM _____

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.
Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Station#: G **Date:** 09/01/12 **Project #:** 1275

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Comments
Red-tailed Hawk	1406	2	flying	1	3	W	N	600	soaring around in circles

Temp. _____
Cloud Cover _____%
Precipitation _____

Wind Speed _____
Wind Direction _____

AVIAN POINT COUNT FORM

STATION J PROJECT 1275

Length 30mins Survey ☐ Migration ☒ Winter ☒ Daytime/ Soaring ☐ Other: _____

Project Armow WF DD/MM/YY 09/01/12

Start Time (24hr): 1426 End Time: 1456 Observers KSJ, HLW

Weather

Air Temp. 2 °C Wind Speed 5 Wind Direction S (from)

Cloud Cover 100 % Cloud Height High ☐ Med ☒ Low ☐

Precipitation — Visibility High ☒ Med ☐ Low ☐

Station

Habitat

Elevation _____ ft / m Crop pasture

Pressure _____ mb UTM 17T 0467915 4896934

Turbines

Operational yes (no) Number in View _____ RPM _____

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.
Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Station#: J **Date:** 09/01/12 **Project #:** 1275

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Comments
Am Crow	1430	1	Flying	1	2	W	S	50	

Temp. _____
Cloud Cover _____%
Precipitation _____

Wind Speed _____
Wind Direction _____

AVIAN POINT COUNT FORM

STATION K PROJECT 1275

Length 30 min. Survey ☐ Migration ☒ Winter ☒ Daytime/ Soaring ☐ Other: ____

Project ARMOW WF DD/MM/YY 10/01/12

Start Time (24hr): 11:43 End Time: 12:13 Observers KSJ, HLW

Weather

Air Temp. 2 °C Wind Speed \ Wind Direction S (from)

Cloud Cover 100 % Cloud Height High ☐ Med ☒ Low ☐

Precipitation Snow Visibility High ☐ Med ☒ Low ☐

Station

Habitat

Elevation 280 ft / (m) Crop Pasture

Pressure – mb UTM 11 T 0469293 4896964

Turbines

Operational yes (no) Number in View – RPM –

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.
Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Station#: K **Date:** 10/21/12 **Project #:** 1275

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Comments
Am. Crow	11:49	4	Flying	1	2	NE	N	700 m	
Blue Jay	11:50	1	Perching	2	2	-	NW	250m	
Blue Jay	12:03	1	Flying	1	2	E	NW	250m	

Temp. 2

Cloud Cover 100 %

Precipitation None

Wind Speed 1

Wind Direction S

AVIAN POINT COUNT FORM

STATION L PROJECT 1275

Length 30 mins Survey ☐ Migration ☒ Winter ☒ Daytime/ Soaring ☐ Other: ____

Project Arnow WF DD/MM/YY 09/01/12

Start Time (24hr): 1500 End Time: 1530 Observers KSJ, HLW

Weather

Air Temp. 2 °C Wind Speed S Wind Direction S (from)

Cloud Cover 100 % Cloud Height High ☐ Med ☒ Low ☐

Precipitation — Visibility High ☒ Med ☐ Low ☐

Station

Habitat

Elevation ____ ft / m Crop pasture

Pressure ____ mb UTM 17T 0467920, 4895343

Turbines

Operational yes no Number in View ____ RPM ____

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.
Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Station#: L **Date:** 09/01/12 **Project #:** 1275

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Comments
Rough-legged Hawk	15:06	1	Perching (on fence post)	1	0	–	S	500 m	hunting - caught something on ground
Canada Geese	15:08	14	Flying	1	3	S	E	1000 m	

Temp. 2
Cloud Cover 100 %
Precipitation none

Wind Speed 5
Wind Direction S

AVIAN POINT COUNT FORM

STATION M **PROJECT** 1275

Length 30 min. Survey ☐ Migration ☒ Winter ☐ Daytime/ Soaring ☐ Other: _____

Project Armow WF DD/MM/YY 09/01/12

Start Time (24hr): 15:39 End Time: 16:09 Observers KSJ, HLW

Weather

Air Temp. 2 °C Wind Speed 5 Wind Direction S (from)

Cloud Cover 100 % Cloud Height High ☐ Med ☒ Low ☐

Precipitation none Visibility High ☒ Med ☐ Low ☐

Station

Habitat

Elevation 292 ft / m Crop pasture

Pressure _____ mb UTM NT 0466575 4893732

Turbines

Operational ~~yes~~ no Number in View – RPM –

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.
Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Station#: M **Date:** 09/01/2012 **Project #:** 1275

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Comments

Temp. 2
Cloud Cover 100 %
Precipitation None

Wind Speed 5
Wind Direction S

AVIAN POINT COUNT FORM

STATION Q PROJECT 1275

Length 30 min. Survey ☐ Migration ☒ Winter ☐ Daytime/ Soaring ☐ Other:

Project Armow WF DD/MM/YY 11/01/12

Start Time (24hr): 10:35 End Time: 11:05 Observers KSJ, HLW

Weather

Air Temp. 1 °C Wind Speed 3 Wind Direction SE (from)

Cloud Cover 0 % Cloud Height High ☐ Med ☐ Low ☐

Precipitation none Visibility High ☐ Med ☐ Low ☐

Station

Habitat

Elevation 253 ft / m Crop Pasture

Pressure ____ mb UTM 17T 457185 4892060

Turbines

Operational yes no Number in View – RPM –

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.
Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Station#: Q **Date:** 11/01/12 **Project #:** 1275

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Comments
Red-bellied Woodpecker	10:36	1	Perched	-	2	-	N	100 m	
Am. Crow	10:35	1	Perched	-	2	-	NE	150m	
Herring Gull	10:37	1	Flying	1	2	W	N	100 m	
Herring Gull	10:38	1	Flying	1	2	E	N	100m	
Am. Crow	10:42	2	Flying/Perched	1	2	W	N	100m	
Am. Goldfinch	10:44	2	Flying	1	2	E	E	150m	
Herring Gull	10:50	2	Flying	1	2	SE	NE	100m	
Herring Gull	10:55	9	Flying	1	2	E	N	150m	
Herring Gull	11:01	3	Flying	1	2	W	N	100m	

Temp. 1°c
Cloud Cover 0 %
Precipitation none

Wind Speed 3
Wind Direction SE

AVIAN POINT COUNT FORM

STATION V **PROJECT** 1275

Length 30 min Survey ☐ Migration ☒ Winter ☒ Daytime/ Soaring ☐ Other: _____

Project Armow WF DD/MM/YY 11/01/12

Start Time (24hr): 12:07 End Time: 12:37 Observers KSJ, HLW

Weather

Air Temp. 3 °C Wind Speed 3 Wind Direction SW (from)

Cloud Cover 10 % Cloud Height High ☐ Med ☒ Low ☐

Precipitation none Visibility High ☒ Med ☐ Low ☐

Station

Habitat

Elevation 270 ft / (m) Crop Hay

Pressure _____ mb UTM 17 T 0460127 [illegible]

Turbines

Operational yes (no) Number in View — RPM —

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.
Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Station#: V **Date:** 11/01/12 **Project #:** 1275

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Comments
Herring Gull	12:08	1	Flying	1	2	SW	SW	200 m	
American Goldfinch	12:10	5	Flying	1	2	W	SW	150 m	
Hawk sp.	12:10	1	Flying/Perched	1	2	W	S	200 m	Unable to determine species due to location of sun, light creating silhouette

Temp. 3°C
Cloud Cover 10 %
Precipitation none

Wind Speed 3
Wind Direction SW

Page 2 of 2

AVIAN POINT COUNT FORM

STATION N PROJECT 1275

Length 30 min Survey ☐ Migration ☒ Winter ☒ Daytime/ Soaring ☐ Other:

Project Arnow WF DD/MM/YY 11/01/12

Start Time (24hr): 12:44 End Time: 13:14 Observers KSJ, HLN

Weather

Air Temp. 3 °C Wind Speed 3 Wind Direction SE (from)

Cloud Cover 0 % Cloud Height High ☐ Med ☐ Low ☐

Precipitation none Visibility High ☒ Med ☐ Low ☐

Station

Habitat

Elevation 277 ft / (m) Crop Hay

Pressure ____ mb UTM 17T 046176 4889072

Turbines

Operational yes (no) Number in View — RPM —

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.
Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Station#: W **Date:** 11/01/12 **Project #:** 1275

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Comments

Temp. 3
Cloud Cover 0 %
Precipitation none

Wind Speed 3
Wind Direction SE

AVIAN POINT COUNT FORM

STATION X **PROJECT** 1275

Length 30 min Survey ☐ Migration ☒ Winter ☒ Daytime/ Soaring ☐ Other: ____

Project Arnow WF DD/MM/YY 11/01/12

Start Time (24hr): 13:21 End Time: 13:51 Observers KSJ, HLW

Weather

Air Temp. 3 °C Wind Speed 3 Wind Direction SE (from)

Cloud Cover 20 % Cloud Height High ☐ Med ☒ Low ☐

Precipitation none Visibility High ☒ Med ☐ Low ☐

Station

Habitat

Elevation 285 ft / (m) Crop ____

Pressure ____ mb UTM 17T 0462174 4890960

Turbines

Operational yes (no) Number in View — RPM —

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.
Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Station#: X **Date:** 11/01/12 **Project #:** 1275

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Comments
Herring Gull	1:38	1	Flying	1	2	W	E	150m	
Am. Crow	1:38	1	Flying	1	2	S	E	150m	

Temp. 3
Cloud Cover 20 %
Precipitation none

Wind Speed 3
Wind Direction SE

AVIAN POINT COUNT FORM

STATION 7 PROJECT 1275

Length 30 min Survey ☐ Migration ☒ Winter ☒ Daytime/ Soaring ☐ Other:

Project Armow NF DD/MM/YY 11/01/12

Start Time (24hr): 13:55 End Time: 1425 Observers KSJ HLW

Weather

Air Temp. 3 °C Wind Speed 3 Wind Direction SE (from)

Cloud Cover 5 % Cloud Height High ☐ Med ☒ Low ☐

Precipitation None Visibility High ☒ Med ☐ Low ☐

Station

Habitat

Elevation 283 ft / (m) Crop hay

Pressure ____ mb UTM 17T 0462564 4891619

Turbines

Operational yes (no) Number in View - RPM -

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.
Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Station#: 4 **Date:** 11/01/12 **Project #:** 1275

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Comments
Am Crow	1406	1	flying	1	4	W	N	50	
Rough-legged Hawk	1420	1	perched		2		NW	100	
Am Goldfinch	1423	15	flying	1	3	SW	W	50	

Temp. 3
Cloud Cover 5 %
Precipitation

Wind Speed <
Wind Direction SE

Page 2 of 2

AVIAN POINT COUNT FORM

STATION 2 PROJECT 1275

Length 30mins Survey ☐ Migration ☒ Winter ☒ Daytime/ Soaring ☐ Other: _____

Project Arnow WF DD/MM/YY 11/01/12

Start Time (24hr): 1436 End Time: 1506 Observers KSJ, HLW

Weather

Air Temp. 3 °C Wind Speed SE Wind Direction S (from)

Cloud Cover 0 % Cloud Height High ☒ Med ☐ Low ☐

Precipitation — Visibility High ☒ Med ☐ Low ☐

Station

Habitat

Elevation _____ ft / m Crop hay

Pressure _____ mb UTM 17T 046343 0489048

Turbines

Operational yes no Number in View _____ RPM _____

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.
Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Station#: 2 **Date:** 11/01/12 **Project #:** 1275

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Comments

Temp. _____
Cloud Cover _____%
Precipitation _____

Wind Speed _____
Wind Direction _____

Page ___of___

AVIAN POINT COUNT FORM

STATION AB PROJECT 1275

Length 30mins Survey ☐ Migration ☒ Winter ☒ Daytime/ Soaring ☐ Other: ____

Project Arnow WF DD/MM/YY 11/01/12

Start Time (24hr): 1512 End Time: 1542 Observers KSJ, HLW

Weather

Air Temp. 3 °C Wind Speed 3 Wind Direction SE (from)

Cloud Cover 0 % Cloud Height High ☒ Med ☐ Low ☐

Precipitation — Visibility High ☒ Med ☐ Low ☐

Station

Habitat

Elevation ____ ft / m Crop hay / ploughed

Pressure ____ mb UTM 17T 0463918 6890562

Turbines

Operational yes (no) Number in View ____ RPM ____

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.
Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Station#: AB **Date:** 11/01/12 **Project #:** 1275

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Comments

Temp. _____
Cloud Cover _____%
Precipitation _____

Wind Speed _____
Wind Direction _____

AVIAN POINT COUNT FORM

STATION AC PROJECT 1275

Length 30 min Survey ☐ Migration ☒ Winter ☑ Daytime/ Soaring ☐ Other: ____

Project Armow WF DD/MM/YY 10/01/12

Start Time (24hr): 15:59 End Time: 1629 Observers KSJ, HLW

Weather

Air Temp. 2 °C Wind Speed 2 Wind Direction SW (from)

Cloud Cover 90 % Cloud Height High ☐ Med ☑ Low ☐

Precipitation none Visibility High ☑ Med ☐ Low ☐

Station

Habitat

Elevation 290 ft / (m) Crop Pasture

Pressure — mb UTM 17T 464882 4890022

Turbines

Operational yes (no) Number in View — RPM —

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.
Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Station#: AC **Date:** 10/01/12 **Project #:** 1275

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Comments

Temp. 2
Cloud Cover 90 %
Precipitation none

Wind Speed 2
Wind Direction SW

AVIAN POINT COUNT FORM

STATION AE **PROJECT** 1275

Length 30 min. Survey ☐ Migration ☒ Winter ☒ Daytime/ Soaring ☐ Other: _____

Project Armow WF DD/MM/YY 10/21/12

Start Time (24hr): 14:51 End Time: 15:21 Observers KSJ, HLW

Weather

Air Temp. 2 °C Wind Speed 2 Wind Direction SW (from)

Cloud Cover 95 % Cloud Height High ☐ Med ☒ Low ☐

Precipitation none Visibility High ☒ Med ☐ Low ☐

Station

Habitat

Elevation 291 ft / (m) Crop _____

Pressure _____ mb UTM 17T 0466396 [illegible]

Turbines

Operational yes (no) Number in View — RPM —

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.
Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Station#: AE **Date:** 10/01/12 **Project #:** 1275

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Comments

Temp. 2
Cloud Cover 95 %
Precipitation none

Wind Speed 2
Wind Direction SW

AVIAN POINT COUNT FORM

STATION AF PROJECT 1275

Length 30 min Survey ☐ Migration ☒ Winter ☒ Daytime/ Soaring ☐ Other: ____

Project Armon WT DD/MM/YY 10/01/12

Start Time (24hr): 14:17 End Time: 14:47 Observers KSJ, HLW

Weather

Air Temp. 2 °C Wind Speed 1 Wind Direction SW (from)

Cloud Cover 100 % Cloud Height High ☐ Med ☒ Low ☐

Precipitation none Visibility High ☒ Med ☐ Low ☐

Station

Habitat

Elevation 291 ft / (m) Crop Hay

Pressure ____ mb UTM 17T 0467421 4889510

Turbines

Operational yes (no) Number in View — RPM —

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.
Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Station#: AF **Date:** 10/00/12 **Project #:** 1275

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Comments

Temp. 2
Cloud Cover 100 %
Precipitation none

Wind Speed 2
Wind Direction SW

AVIAN POINT COUNT FORM

STATION AH **PROJECT** 1275

Length 30min Survey ☐ Migration ☒ Winter ☒ Daytime/ Soaring ☐ Other: _____

Project Arrow WF DD/MM/YY 10/01/12

Start Time (24hr): 11:07 End Time: 11:37 Observers KSJ, HLW

Weather

Air Temp. 2 °C Wind Speed 1 Wind Direction S (from)

Cloud Cover 95 % Cloud Height High ☐ Med ☐ Low ☐

Precipitation 2cm WF fall becoming snow/freezing rain Visibility High ☐ Med ☐ Low ☐

Station

Habitat

Elevation 294 ft / (m) Crop Hay

Pressure _____ mb UTM 17T 0467646 4892252

Turbines

Operational yes (no) Number in View — RPM —

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.
Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Station#: AH **Date:** 10/31/12 **Project #:** 1275

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Comments

Temp. 1

Cloud Cover 5 %

Precipitation

Wind Speed

Wind Direction

COPY

Armow Wind Farm

Field Map - 1

Legend

- Project Area (120m)
- Watercourse (Permanent)
- Watercourse (Intermittent)
- Highway
- Primary Road
- Secondary Road
- Parcel Fabric
- Waterbody
- Woodlands

456000 458000 460000 462000 464000

4902000 4900000 4898000 4896000

KING STREET
MAIN STREET
HIGHWAY 21
BRUCE ROAD 20
CONCESSION 2
BRUCE ROAD 15
SIDEROAD 15
SIDEROAD 10
CONCESSION 11
SIDEROAD 5 NORTH
CONCESSION 9
SIDEROAD 15 NORTH
SIDEROAD 20

WOD-057 WOD-088 WOD-018 WOD-089 WOD-085 WOD-016 WOD-084 WOD-016 WOD-124 WOD-086 WOD-087 WOD-072 WOD-074 WOD-072 WOD-072 WOD-072 WOD-031 WOD-054 WOD-054 WOD-060 WOD-010 WOD-033 WOD-055 WOD-055 WOD-002 WOD-091 WOD-008 WOD-090 WOD-092 WOD-002 WOD-004 WOD-037 WOD-003 WOD-015 WOD-022 WOD-022 WOD-022 WOD-022

RTHA
B
A
D

Am. Kestrels observed (2)

Spruce hedgerow blocks view of woodlot

- field uneven, needs lots of snow for snowmobiles to be useful

Snowy owl 18/01/12 (male, mature)

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Aquatic, Terrestrial and Wetland Biologists

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Imagery provided by: Golder Associates, 2011

Project: 1275
Date: Tuesday, January 03, 2012

NAD83 - UTM Zone 17
Size: 11x17"
1:30,000

0 500 1,000 1,500 Metres

N

Armow Wind Farm

Field Map - 2

Legend

- Project Area (120m)
- Watercourse (Permanent)
- Watercourse (Intermittent)
- Highway
- Primary Road
- Secondary Road
- Parcel Fabric
- Waterbody
- Woodlands

for H + I:
- 2 watercourses to cross, as shown on map
  - ↳ snowmobiles would have limited use, could only use to get to southern of WOD-047, then terrain is variable
  - ↳ several fences to climb.

- lots of snow on sdrd 30 around Con 2, B.R. 15, Con 11 – no winter maintenance, snowmobile useful

for N: walk transect

for O: walk transect, surrounding field uneven, need lots of snow for snowmobiles

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Imagery provided by: Golder Associates, 2011

Project: 1275
Date: Tuesday, January 03, 2012

NAD83 - UTM Zone 17
Size: 11x17"
1:30,000

0 500 1,000 1,500 Metres

N

Armow Wind Farm

Field Map - 3

Legend

- Project Area (120m)
- Watercourse (Permanent)
- Watercourse (Intermittent)
- Highway
- Primary Road
- Secondary Road
- Parcel Fabric
- Waterbody
- Woodlands

P: landowner does not allow snowmobiles

U: walk transect

R: walk along farm road (indicated w arrow on map) - landowner does not allow snowmobiles @ spruce hedge row

S: Snowmobile would work here, although easily accessible from road ↳ lane @ south side of pines

T: snowmobile would work here, although easily accessible from road.

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Imagery provided by: Golder Associates, 2011

Project: 1275
Date: Tuesday, January 03, 2012

NAD83 - UTM Zone 17
Size: 11x17"
1:30,000

0 500 1,000 1,500 Metres

Armow Wind Farm

Field Map - 4

Legend

- Project Area (120m)
- Watercourse (Permanent)
- Watercourse (Intermittent)
- Highway
- Primary Road
- Secondary Road
- Parcel Fabric
- Waterbody
- Woodlands

AG: too many cattle fences (~6) for snowmobile use – not safe

AA: snowmobile use not possible – steep slopes around watercourse
↳ need to cross watercourse

AD: use farm lane just west of home @ #104 Con. 7
↳ fields uneven, but farm lane is grassed and would work for snowmobiles.

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Imagery provided by: Golder Associates, 2011

Project: 1275
Date: Tuesday, January 03, 2012

NAD83 - UTM Zone 17
Size: 11x17"
1:30,000

0 500 1,000 1,500 Metres

N

BIRD TRANSECT

Location transect 0

Project # 1275

Length ____ km / ____ min

Survey ☐ spring migration ☐ breeding ☐ fall migration ☒ winter ☐ daytime/ raptor

Project Armow WF

Date (mm/dd/yy) 01/18/12

Start Time: 13:00 End Time: 13:35 Obs. NGM, AMD

Weather

Air Temp. -7 °C Wind Speed 2 Wind Direction NW

Cloud Cover 100 % Cloud High ☐ Med ☒ Low ☐

Precipitation light snow Visibility High ☐ Med ☒ Low ☐

Route

17T 0463876 4893195

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Route: transect 0 **Date:** Jan. 18/12 **Project #:** 1275

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Transect Segment
red-tailed hawk	13:05	1	flying	1	1	O	—	100	
Euro starling	13:15	150	perched	—	O	—	—	600	
downy woodpecker	13:25	1	perched	—	O	—	—	75	
black-capped chickadees	13:25	6	foraging	1	O	—	—	20	

BIRD TRANSECT

Location transect AA

Project # 1275

Length ____ km / ____ min

Survey ☐ spring migration ☐ breeding ☐ fall migration ☒ winter ☐ daytime/ raptor

Project Armow WF

Date (mm/dd/yy) 01/18/12

Start Time: 13:45 End Time: 14:10 Obs. NGM, AMD

Weather

Air Temp. -8 °C Wind Speed 2 Wind Direction NW

Cloud Cover 100 % Cloud High ☐ Med ☒ Low ☐

Precipitation Light Snow Visibility High ☐ Med ☒ Low ☐

Route

17T 0463272 4890648

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Route: transect AA **Date:** Jan 18/12 **Project #:** 1275

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Transect Segment
N. Shrike	13.50	1	foraging	1	0	95	NA	75	
A. crow	13:59	1	flying	1	4	270	NA	200	
A. Goldfinch	14:06	3	flying	1	7	10	NA	150	

BIRD TRANSECT

Location transect N

Project # 1275

Length ____ km ____ min

Survey ☐ spring migration ☐ breeding ☐ fall migration ☒ winter ☐ daytime/ raptor

Project Armow WF

Date (mm/dd/yy) 01/18/12

Start Time: 12:00 End Time: 12:20 Obs. NGM, AMD

Weather

Air Temp. −7 °C Wind Speed 3 Wind Direction NW

Cloud Cover 100 % Cloud High ☐ Med ☒ Low ☐

Precipitation light snow Visibility High ☐ Med ☒ Low ☐

Route

17T 0466768 4894624

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Route: transect N **Date:** Jan. 18 / 12 **Project #:** 1275

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Transect Segment
Herring Gull	12:10	3	flying	1	8	260	NA	150	
Am. Tree Sparrow	12:15	5	perched	—	0	—	NA	10	
Black-capped Chickadee	12:19	3	calling	—	0	—	NA	25	

BIRD TRANSECT

Location transect H

Project # 1275

Length ____ km / ____ min

Survey ☐ spring migration ☐ breeding ☐ fall migration ☒ winter ☐ daytime/ raptor

Project Armow WF

Date (mm/dd/yy) 01/18/12

Start Time: 9:25 End Time: 10.45 Obs. NGM, AMD

Weather

Air Temp. -10 °C Wind Speed 3 Wind Direction NW

Cloud Cover 100 % Cloud High ☐ Med ☒ Low ☐

Precipitation light snow Visibility High ☐ Med ☒ Low ☐

Route

17T 0466578 4897219

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Route: transect H **Date:** Jan. 18 / 12 **Project #:** 1275

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Transect Segment
red-tailed hawk	9:45	2	Perched	—	0	—	— NA	300	—
blue jay	9:50	1	calling	—	0	—	—	150	—
black-capped chickadee	9:56	5	calling	—	0	—	—	50	—
grouse	10:05	1	flushed	1	0	340	—	25	—
rock pigeon	10:10	1	flyby	1	4	15	—	100	—

BIRD TRANSECT

Location transect I

Project # 1275

Length ____ km / ____ min

Survey ☐ spring migration ☐ breeding ☐ fall migration ☒ winter ☐ daytime/ raptor

Project Armow WF

Date (mm/dd/yy) 01/18/12

Start Time: 9:25 End Time: 10:45 Obs. NGM, AMD

Weather

Air Temp. -9 °C Wind Speed 3 Wind Direction NW

Cloud Cover 100 % Cloud High ☐ Med ☒ Low ☐

Precipitation light snow Visibility High ☐ Med ☒ Low ☐

Route

17 T 0467269 4896901

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Route: transect I **Date:** Jan. 18/12 **Project #:** 1275

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Transect Segment
northern shrike	10:15	1	flying	1	0	270	—	50	
northern shrike	10:20	1	perched	—	0	—	—	150	

BIRD TRANSECT

Location transect AG

Project # 1275

Length ____ km / ____ min

Survey ☐ spring migration ☐ breeding ☐ fall migration ☒ winter ☐ daytime/ raptor

Project Armow WF

Date (mm/dd/yy) 01/16/12

Start Time: 16.00 End Time: 16:40 Obs. NGM, AMD

Weather

Air Temp. 1 °C Wind Speed 2 Wind Direction SW

Cloud Cover 90 % Cloud High ☒ Med ☐ Low ☐

Precipitation none Visibility High ☒ Med ☐ Low ☐

Route

17T 0466632 4892219

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Route: transect AG **Date:** Jan. 16/12 **Project #:** 1275

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Transect Segment
rough-legged hawk	16:01	1	perched	-	0	-	-	50	

BIRD TRANSECT

Location transect T

Project # 1275

Length ____ km ____ min

Survey ☐ spring migration ☐ breeding ☐ fall migration ☒ winter ☐ daytime/ raptor

Project Armow WF

Date (mm/dd/yy) 01/16/12

Start Time: 14:50 End Time: 15:15 Obs. NGM, AMD

Weather

Air Temp. 1 °C Wind Speed 2 Wind Direction SW

Cloud Cover 70 % Cloud High ☒ Med ☐ Low ☐

Precipitation none Visibility High ☒ Med ☐ Low ☐

Route

17T 0459241 4989877

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Route: transect T **Date:** Jan. 16 / 12 **Project #:** 1275

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Transect Segment
no birds observed.									

BIRD TRANSECT

Location transect S

Project # 1275

Length ____ km ____ min

Survey ☐ spring migration ☐ breeding ☐ fall migration ☒ winter ☐ daytime/ raptor

Project Armow WF

Date (mm/dd/yy) 01/16/12

Start Time: 11:50 End Time: 12:20 Obs. NGM, AMD

Weather

Air Temp. -1 °C Wind Speed ~~4~~ Wind Direction SW

Cloud Cover 90 % Cloud High ☒ Med ☐ Low ☐

Precipitation none Visibility High ☒ Med ☐ Low ☐

Route

17T 0458258 4892265

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Route: transect 5 **Date:** Jan. 16/12 **Project #:** 1275

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Transect Segment
Euro starling	11:57	~40	flying	2	0	270	270	50	
herring gull	11:50	40	foraging	5	0	all directions	270	50	
rough-legged hawk	12:10	1	soaring	1	8	270	270	500	
great black-backed gull	12:13	1	foraging	1	0	180	270	50	
glaucous gull	12:18	1	foraging in dump	—	0	—	270	200	

- @ landfill across road

- all observation around landfill across street (sideroad 15)

BIRD TRANSECT

Location transect R

Project # 1275

Length _____ km _____ min

Survey ☐ spring migration ☐ breeding ☐ fall migration ☒ winter ☐ daytime/ raptor

Project Armow WF

Date (mm/dd/yy) 01/16/12

Start Time: 12:25 End Time: 12:55

Obs. AMD, NGM

Weather

Air Temp. -1 °C

Wind Speed 3

Wind Direction SW

Cloud Cover 90 %

Cloud High ☒ Med ☐ Low ☐

Precipitation none

Visibility High ☒ Med ☐ Low ☐

Route

17T 0457521 4892998

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Route: transect R **Date:** Jan. 16/12 **Project #:** 1275

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Transect Segment
red-tailed hawk	12:26	1	flying	1	3	180	—	150	

Page ___ of ___

BIRD TRANSECT

Location transect P

Project # 1275

Length ____ km / ____ min

Survey ☐ spring migration ☐ breeding ☐ fall migration ☒ winter ☐ daytime/ raptor

Project Armow WF

Date (mm/dd/yy) 01/16/12

Start Time: 13:00 End Time: 13:45 Obs. NGM, AMD

Weather

Air Temp. 0 °C Wind Speed 3 Wind Direction SW

Cloud Cover 90 % Cloud High ☒ Med ☐ Low ☐

Precipitation none Visibility High ☒ Med ☐ Low ☐

Route

17T 0458235 4894300

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Route: transect P **Date:** Jan. 16/12 **Project #:** 1275

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Transect Segment
Am. crow	13:20	4	flying	1	3	330	—	300	

Page ___ of ___

BIRD TRANSECT

Location transect U

Project # 1275

Length ____ km ____ min

Survey ☐ spring migration ☐ breeding ☐ fall migration ☒ winter ☐ daytime/ raptor

Project Armow WF

Date (mm/dd/yy) 01/16/12

Start Time: 13:50 End Time: 14:10 Obs. NGM, AMD

Weather

Air Temp. 1 °C Wind Speed 2 Wind Direction SW

Cloud Cover 60 % Cloud High ☒ Med ☐ Low ☐

Precipitation none Visibility High ☒ Med ☐ Low ☐

Route

17T 0460205 4891518

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Route: transect U **Date:** Jan. 16/12 **Project #:**

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Transect Segment
red-tailed hawk	14:00	1	flying	1	1	180	—	50	

BIRD TRANSECT

Location transect AD

Project # 1275

Length ____ km ____ min

Survey ☐ spring migration ☐ breeding ☐ fall migration ☒ winter ☐ daytime/ raptor

Project Armow WF

Date (mm/dd/yy) 01/18/12

Start Time: 14:15 End Time: 14:50

Obs. NGM, AMD

Weather

Air Temp. -7 °C

Wind Speed 2

Wind Direction NW

Cloud Cover 100 %

Cloud High ☐ Med ☒ Low ☐

Precipitation none

Visibility High ☐ Med ☒ Low ☐

Route

17T 046553 4890761

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Route: transect AD **Date:** Jan. 18/12 **Project #:** 1275

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Transect Segment
snow bunting	14:30	1	flying	1	O	90	–	25	

BIRD TRANSECT

Location transect D

Project # 1275

Length ____ km ____ min

Survey ☐ spring migration ☐ breeding ☐ fall migration ☒ winter ☐ daytime/ raptor

Project Armow WF

Date (mm/dd/yy) 01/18/12

Start Time: 15:00 End Time: 15:30 Obs. NGM, AMD

Weather

Air Temp. -8 °C Wind Speed 2 Wind Direction NW

Cloud Cover 100 % Cloud High ☐ Med ☒ Low ☐

Precipitation light snow Visibility High ☐ Med ☒ Low ☐

Route

17 T 0463 595 4896449 ~~5~~ S?

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Route: transect D **Date:** Jan. 18/12 **Project #:** 1275

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Transect Segment
mourning dove	15:05	1	flying	1	1	60	–	100	
Rock Pigeon	15:07	4	perched	–	0	–	–	150	
Herring Gull	15:17	12	flying	1	7	270	–	250	
Snowy owl	15:23	1	perched on pole	–	0	–	–	200	

AVIAN POINT COUNT FORM

STATION F **PROJECT** 1275

Length 30 mins Survey ☐ Migration ☒ Winter ☐ Daytime/ Soaring ☐ Other: _____

Project Armow WF DD/MM/YY 18/01/12

Start Time (24hr): 8:50 End Time: 9:20 Observers NGM, AMD

Weather

Air Temp. -9 °C Wind Speed 3 Wind Direction NW (from)

Cloud Cover 100 % Cloud Height High ☐ Med ☒ Low ☐

Precipitation flurries Visibility High ☐ Med ☒ Low ☐

Station

Habitat 17T 0465721 4898936

Elevation _____ ft / m Crop _____

Pressure _____ mb UTM 17T 0465721 4898936

Turbines

Operational yes no Number in View _____ RPM _____

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.
Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Station#: F **Date:** Jan. 18/12 **Project #:** 1275

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Comments
northern shrike	8:55	1	flying	1	0	135	270	50	

Temp. -9
Cloud Cover 100 %
Precipitation flurries

Wind Speed 3
Wind Direction NW

AVIAN POINT COUNT FORM

STATION L PROJECT 1275

Length 30 min Survey ☐ Migration ☒ Winter ☐ Daytime/ Soaring ☐ Other: _____

Project Arnaw WF DD/MM/YY 18/01/12

Start Time (24hr): 11:25 End Time: 11:55 Observers NGM, AMD

Weather

Air Temp. −10 °C Wind Speed 2 Wind Direction NW (from)

Cloud Cover 100 % Cloud Height High ☐ Med ☒ Low ☐

Precipitation off & on snow Visibility High ☐ Med ☒ Low ☐

Station

Habitat 17T 0467913 4895341

Elevation _____ ft / m Crop _____

Pressure _____ mb UTM _____

Turbines

Operational yes no Number in View _____ RPM _____

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.
Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Station#: L **Date:** Jan. 18/12 **Project #:** 1275

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Comments
Common Raven	11:29	1	flying	1	4	270	240	400	
Am. Crow	11:37	2	flying	1	3	100	160	150	

Temp. -10
Cloud Cover 100 %
Precipitation snow on + off

Wind Speed 2
Wind Direction NW

AVIAN POINT COUNT FORM

STATION M **PROJECT** 1275

Length 30 mins Survey ☐ Migration ☒ Winter ☐ Daytime/ Soaring ☐ Other: _____

Project Arnaw WF DD/MM/YY 18/01/12

Start Time (24hr): 12:25 End Time: 12:55 Observers NGM, AMD

Weather

Air Temp. -7 °C Wind Speed 2 Wind Direction NW (from)

Cloud Cover 100 % Cloud Height High ☐ Med ☒ Low ☐

Precipitation light snow Visibility High ☐ Med ☒ Low ☐

Station

Habitat

Elevation _____ ft / m Crop _____

Pressure _____ mb UTM 17T 0466566 4893737

Turbines

Operational yes no Number in View _____ RPM _____

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.
Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Station#: M **Date:** Jan. 18/12 **Project #:** 1275

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Comments
no birds observed									

Temp. -7
Cloud Cover 100 %
Precipitation light snow

Wind Speed 2
Wind Direction NW

Page 2 of 2

AVIAN POINT COUNT FORM

STATION K PROJECT 1275

Length 30 mins Survey ☐ Migration ☒ Winter ☐ Daytime/ Soaring ☐ Other:

Project Arrow WF DD/MM/YY 18/01/12

Start Time (24hr): 10:50 End Time: 11:20 Observers NGM, AMD

Weather

Air Temp. -10 °C Wind Speed 3 Wind Direction NW (from)

Cloud Cover 100 % Cloud Height High ☐ Med ☒ Low ☐

Precipitation light snow Visibility High ☐ Med ☒ Low ☐

Station

Habitat 17 T 0469229 4896983

Elevation ft / m Crop

Pressure mb UTM 17T 0469293 4896956

Turbines

Operational yes no Number in View RPM

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.
Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Station#: K **Date:** Jan. 18/12 **Project #:** 1275

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Comments
no birds observed									

Temp. -10
Cloud Cover 100 %
Precipitation light snow

Wind Speed 3
Wind Direction NW

AVIAN POINT COUNT FORM

STATION X PROJECT 1275

Length 30 mins Survey ☐ Migration ☒ Winter ☐ Daytime/ Soaring ☐ Other: _____

Project Armow WF DD/MM/YY 18/01/12

Start Time (24hr): 8:15 End Time: 8:45 Observers NGM, AMD

Weather

Air Temp. -9 °C Wind Speed 3 Wind Direction NW (from)

Cloud Cover 100 % Cloud Height High ☐ Med ☒ Low ☐

Precipitation flurries Visibility High ☐ Med ☒ Low ☐

Station

Habitat 17T 0462107 4890824

Elevation _____ ft / m Crop _____

Pressure _____ mb UTM _____

Turbines

Operational yes no Number in View _____ RPM _____

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.
Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Station#: X **Date:** Jan. 18/12 **Project #:** 1275

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Comments
no birds observed									

Temp. -9
Cloud Cover 100 %
Precipitation flurries

Wind Speed 3
Wind Direction NW

AVIAN POINT COUNT FORM

STATION 5 PROJECT 1275

Length 30 min Survey ☐ Migration ☒ Winter ☐ Daytime/ Soaring ☐ Other: _____

Project Arrow WF DD/MM/YY 17/01/12

Start Time (24hr): 1615 End Time: 1645 Observers NGM, AMD

Weather

Air Temp. 2 °C Wind Speed 1 Wind Direction SW (from)

Cloud Cover 100 % Cloud Height High ☐ Med ☐ Low ☒

Precipitation light rain Visibility High ☐ Med ☒ Low ☐

Station

Habitat 17T 0467792 4896753

Elevation _____ ft / m Crop _____

Pressure _____ mb UTM _____

Turbines

Operational yes no Number in View _____ RPM _____

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.
Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Station#: J **Date:** Jan. 17/12 **Project #:** 1275

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Comments
E. starling	1627	24	flying	1	3	5	25	150	
No other birds observed.									

Temp. _____
Cloud Cover _____%
Precipitation _____

Wind Speed _____
Wind Direction _____

AVIAN POINT COUNT FORM

STATION 6 PROJECT 1275

Length 30 min Survey ☐ Migration ☒ Winter ☐ Daytime/ Soaring ☐ Other: _____

Project Arnaw WF DD/MM/YY 17/01/12

Start Time (24hr): 1535 End Time: 1605 Observers NGM, AMD

Weather

Air Temp. 2 °C Wind Speed 1 Wind Direction SW (from)

Cloud Cover 100 % Cloud Height High ☐ Med ☐ Low ☒

Precipitation light drizzle Visibility High ☐ Med ☒ Low ☐

Station

Habitat 17T 0467275 4898093

Elevation _____ ft / m Crop _____

Pressure _____ mb UTM _____

Turbines

Operational yes no Number in View _____ RPM _____

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.
Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Station#: 6 **Date:** Jan. 17/12 **Project #:** 1275

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Comments
Rock Pigeon	13:39	4	Perched	–	0	–	100	200	
Herring Gull	13:46	1	Flying	1	7	275	90	250	

Temp. _____
Cloud Cover _____%
Precipitation _____

Wind Speed _____
Wind Direction _____

AVIAN POINT COUNT FORM

STATION E PROJECT 727S

Length 30 min Survey ☐ Migration ☒ Winter ☐ Daytime/ Soaring ☐ Other: _____

Project Amaw WF DD/MM/YY 17/01/12

Start Time (24hr): 1455 End Time: 1525 Observers NGM, AMD

Weather

Air Temp. 2 °C Wind Speed 1 Wind Direction SW (from)

Cloud Cover 100 % Cloud Height High ☐ Med ☐ Low ☒

Precipitation light rain Visibility High ☐ Med ☒ Low ☐

Station

Habitat 17T 0462494 4895605

Elevation _____ ft / m Crop _____

Pressure _____ mb UTM _____

Turbines

Operational yes no Number in View _____ RPM _____

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.
Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Station#: E **Date:** Jan. 17/12 **Project #:** 1275

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Comments
A. Crow	1513	1	flying	1	2	180	200	50	
No other birds!									

Temp. _____
Cloud Cover _____%
Precipitation _____

Wind Speed _____
Wind Direction _____

AVIAN POINT COUNT FORM

STATION C PROJECT 1275

Length 30 min Survey ☐ Migration ☒ Winter ☐ Daytime/ Soaring ☐ Other: _____

Project Arnaw WF DD/MM/YY 17/01/12

Start Time (24hr): 1405 End Time: 1435 Observers NGM, AMD

Weather

Air Temp. 2 °C Wind Speed 1 Wind Direction SW (from)

Cloud Cover 100 % Cloud Height High ☐ Med ☐ Low ☒

Precipitation light drizzle Visibility High ☐ Med ☒ Low ☐

Station

Habitat 17T 0462965 4898128

Elevation _____ ft / m Crop _____

Pressure _____ mb UTM _____

Turbines

Operational yes no Number in View _____ RPM _____

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.
Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Station#: C **Date:** Jan. 17/12 **Project #:** 1275

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Comments
Mourning Dove	1410	2	flying	1	1	175	275	300	
Herring Gull	1416	1	flying	1	6	250	90	200	

Temp. _____
Cloud Cover _____%
Precipitation _____

Wind Speed _____
Wind Direction _____

AVIAN POINT COUNT FORM

STATION B **PROJECT** 1275

Length 30 min Survey ☐ Migration ☒ Winter ☐ Daytime/ Soaring ☐ Other: _____

Project Arnow WF DD/MM/YY 17/01/12

Start Time (24hr): 1320 End Time: 1350 Observers NGM, AMD

Weather

Air Temp. 2 °C Wind Speed 1 Wind Direction SW (from)

Cloud Cover 100 % Cloud Height High ☐ Med ☐ Low ☒

Precipitation light rain Visibility High ☐ Med ☒ Low ☐

Station

Habitat 17T 0463637 4900096

Elevation _____ ft / m Crop _____

Pressure _____ mb UTM _____

Turbines

Operational yes no Number in View _____ RPM _____

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.
Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Station#: B **Date:** Jan. 17/12 **Project #:** 1275

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Comments
Blue Jay	1335	1	Perched	—	0	—	175	300	
A. Crow	1346	1	Flying	1	2	10	85	250	

Temp. _____
Cloud Cover _____%
Precipitation _____

Wind Speed _____
Wind Direction _____

AVIAN POINT COUNT FORM

STATION A PROJECT 1275

Length 30 min Survey ☐ Migration ☒ Winter ☐ Daytime/ Soaring ☐ Other: _____

Project Amar WF DD/MM/YY 17/01/12

Start Time (24hr): 1235 End Time: 1305 Observers NCM, AMD

Weather

Air Temp. 2 °C Wind Speed 1 Wind Direction SW (from)

Cloud Cover 100 % Cloud Height High ☐ Med ☐ Low ☒

Precipitation light rain Visibility High ☐ Med ☒ Low ☐

Station

Habitat UTM 17T 0459433 4898488

Elevation _____ ft / m Crop _____

Pressure _____ mb UTM _____

Turbines

Operational yes no Number in View _____ RPM _____

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.
Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Station#: A				**Date:** Jan. 17/12			**Project #:** 1275		
Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Comments
A. Crow	1238	3	flying	1	4	200	210	150	
Snow Bunting	1243	40	foraging	—	0	—	210	200	

Temp. _____
Cloud Cover _____%
Precipitation _____

Wind Speed _____
Wind Direction _____

AVIAN POINT COUNT FORM

STATION Y PROJECT 1275

Length 30 min Survey ☐ Migration ☒ Winter ☐ Daytime/ Soaring ☐ Other: _____

Project Amaw WF DD/MM/YY 17/01/12

Start Time (24hr): 11:30 End Time: 12:00 Observers ? NGM, AMD.

Weather

Air Temp. 3. °C Wind Speed 1 Wind Direction SW (from)

Cloud Cover 100 % Cloud Height High ☐ Med ☐ Low ☒

Precipitation light rain Visibility High ☐ Med ☒ Low ☐

Station

Habitat 17T 0462503 4891368

Elevation _____ ft / m Crop _____

Pressure _____ mb UTM _____

Turbines

Operational yes no Number in View _____ RPM _____

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.
Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Station#: Y **Date:** Jan. 17/12 **Project #:** 1275

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Comments
A. Crow	1131	2	flying	1	1	200	275	100	
A. Goldfinch	1142	2	flying	1	6	150	45	75	

Temp. _____
Cloud Cover _____%
Precipitation _____

Wind Speed _____
Wind Direction _____

AVIAN POINT COUNT FORM

STATION Z PROJECT 1275

Length 30 min Survey ☐ Migration ☒ Winter ☐ Daytime/ Soaring ☐ Other: _____

Project Arran WF DD/MM/YY 17/01/12

Start Time (24hr): 10:50 End Time: 11:20 Observers NGM, AMD

Weather

Air Temp. 3 °C Wind Speed 1 Wind Direction SW (from)

Cloud Cover 100 % Cloud Height High ☐ Med ☐ Low ☒

Precipitation light rain Visibility High ☐ Med ☒ Low ☐

Station

Habitat 17T 463624 4890722

Elevation _____ ft / m Crop _____

Pressure _____ mb UTM _____

Turbines

Operational yes no Number in View _____ RPM _____

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.
Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Station#: 2 **Date:** Jan. 17/12 **Project #:** 1275

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Comments
Am. Crow	10:53	1	flying	1	1	160	240	75	
No other birds.									

Temp. _____
Cloud Cover _____%
Precipitation _____

Wind Speed _____
Wind Direction _____

AVIAN POINT COUNT FORM

STATION AC PROJECT 1275

Length 30 min Survey ☐ Migration ☒ Winter ☐ Daytime/ Soaring ☐ Other: _____

Project Arnaw WF DD/MM/YY 17/01/12

Start Time (24hr): 10:10 End Time: 10:40 Observers NGM, AMD

Weather

Air Temp. 3 °C Wind Speed 1 Wind Direction SW (from)

Cloud Cover 100 % Cloud Height High ☐ Med ☐ Low ☒

Precipitation light rain Visibility High ☐ Med ☒ Low ☐

Station

Habitat 17T 0464856 4890022

Elevation _____ ft / m Crop _____

Pressure _____ mb UTM _____

Turbines

Operational yes no Number in View _____ RPM _____

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.
Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Station#: AC **Date:** Jan. 17/12 **Project #:** 1275

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Comments
Rock Pigeon	10:13	1	flying	1	2	90	45	150	
A. Crow	10:21	1	flying	1	3	180	70	200	
E. Starling	10:37	7	perched	1	0	70	150	175	

Temp. _____
Cloud Cover _____%
Precipitation _____

Wind Speed _____
Wind Direction _____

AVIAN POINT COUNT FORM

STATION AH **PROJECT** 1275

Length 30 min Survey ☐ Migration ☒ Winter ☐ Daytime/ Soaring ☐ Other: _____

Project Armow WF DD/MM/YY 17/01/12

Start Time (24hr): 9:30 End Time: 10:00 Observers NGM, AMD

Weather

Air Temp. 3 °C Wind Speed 1 Wind Direction SW (from)

Cloud Cover 100 % Cloud Height High ☐ Med ☐ Low ☒

Precipitation light rain Visibility High ☐ Med ☒ Low ☐

Station

Habitat 17T 0467760 4892608

Elevation _____ ft / m Crop _____

Pressure _____ mb UTM _____

Turbines

Operational yes no Number in View _____ RPM _____

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.
Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Station#: AH **Date:** Jan. 17/12 **Project #:** 1275

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Comments
A. crow	9:40	1	flying	1	2	100	75	200	
Red-tailed Hawk	9:43	1	Scavenging on dead animal	—	0	—	45	500	
A. Crow	9:46	2	Scavenging	—	0	—	45	500	

Temp. _____
Cloud Cover _____%
Precipitation _____

Wind Speed _____
Wind Direction _____

AVIAN POINT COUNT FORM

STATION AF **PROJECT** 1275

Length 30 min Survey ☐ Migration ☒ Winter ☐ Daytime/ Soaring ☐ Other: _____

Project Arman WF DD/MM/YY 17/01/12

Start Time (24hr): 8:50 End Time: 9:20 Observers NGM, AMD

Weather

Air Temp. 3 °C Wind Speed 1 Wind Direction SW (from)

Cloud Cover 100 % Cloud Height High ☐ Med ☐ Low ☒

Precipitation light rain Visibility High ☐ Med ☒ Low ☐

Station

Habitat 17T 046644 4890569

Elevation _____ ft / m Crop _____

Pressure _____ mb UTM _____

Turbines

Operational yes no Number in View _____ RPM _____

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.
Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Station#: AF **Date:** Jan. 17/12 **Project #:** 1275

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Comments
No birds observed									

Temp. _____
Cloud Cover _____%
Precipitation _____

Wind Speed _____
Wind Direction _____

AVIAN POINT COUNT FORM

STATION AE PROJECT 1225

Length 30 min Survey ☐ Migration ☒ Winter ☐ Daytime/ Soaring ☐ Other: _____

Project Armow WF DD/MM/YY 17/01/12

Start Time (24hr): 8:15 End Time: 8:45 Observers NGM, AMD

Weather

Air Temp. 3 °C Wind Speed 1 Wind Direction SW (from)

Cloud Cover 100 % Cloud Height High ☐ Med ☐ Low ☒

Precipitation light rain Visibility High ☐ Med ☒ Low ☐

Station

Habitat UTM: 17T 0766284 9889579

Elevation _____ ft / m Crop _____

Pressure _____ mb UTM _____

Turbines

Operational yes no Number in View _____ RPM _____

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.
Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Station#: AE **Date:** Jan 17/12 **Project #:** 1075

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Comments
E Starling	8:16	11	Perched	—	0	—	270	110	
A crow	8:22	1	Flying	1	3	150	75	100	

Temp. _____
Cloud Cover _____%
Precipitation _____

Wind Speed _____
Wind Direction _____

AVIAN POINT COUNT FORM

STATION AB PROJECT 1275

Length 30 mins Survey ☐ Migration ☒ Winter ☐ Daytime/ Soaring ☐ Other: _____

Project Arrow WF DD/MM/YY 16/01/12

Start Time (24hr): 16:45 End Time: 17:15 Observers NGM, AMD

Weather

Air Temp. 1 °C Wind Speed 2 Wind Direction SW (from)

Cloud Cover 90 % Cloud Height High ☒ Med ☐ Low ☐

Precipitation none Visibility High ☒ Med ☐ Low ☐

Station

Habitat

Elevation _____ ft / m Crop _____

Pressure _____ mb UTM 17T 0463921 4890563

Turbines

Operational yes no Number in View _____ RPM _____

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.
Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Station#: AB **Date:** Jan. 16/12 **Project #:** 1275

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Comments
red-tailed hawk	16:48	1	flying	1	0	200	—	75	

Temp. 1
Cloud Cover 90 %
Precipitation none

Wind Speed 2
Wind Direction SW

AVIAN POINT COUNT FORM

STATION W PROJECT 1275

Length 30 mins Survey ☐ Migration ☒ Winter ☐ Daytime/ Soaring ☐ Other: _____

Project Armow WF DD/MM/YY 16/01/12

Start Time (24hr): 15:20 End Time: 15:50 Observers NGM, AMD

Weather

Air Temp. 1 °C Wind Speed ___ Wind Direction SW (from)

Cloud Cover 90 % Cloud Height High ☒ Med ☐ Low ☐

Precipitation none Visibility High ☒ Med ☐ Low ☐

Station

Habitat

Elevation _____ ft / m Crop _____

Pressure _____ mb UTM 17T 0461133 4888099

Turbines

Operational yes no Number in View _____ RPM _____

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.
Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Station#: W **Date:** Jan. 16/12 **Project #:** 1275

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Comments
Snowy owl (male)	15:22	1	perched	–	0	–	0	50	
snow bunting	15:49	200	flying	1	0	90	315	20	

Temp. 1
Cloud Cover 90 %
Precipitation none

Wind Speed 2
Wind Direction SW

AVIAN POINT COUNT FORM

STATION V PROJECT 1275

Length 30 mins Survey ☐ Migration ☒ Winter ☐ Daytime/ Soaring ☐ Other: _____

Project Arnow WF DD/MM/YY 16/01/12

Start Time (24hr): 14:15 End Time: 14:45 Observers NGM, AMD

Weather

Air Temp. 1 °C Wind Speed 2 Wind Direction SW (from)

Cloud Cover 60 % Cloud Height High ☒ Med ☐ Low ☐

Precipitation none Visibility High ☒ Med ☐ Low ☐

Station

Habitat

Elevation _____ ft / m Crop _____

Pressure _____ mb UTM 17T 0459534 4890336

Turbines

Operational yes no Number in View _____ RPM _____

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.
Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Station#: V **Date:** Jan. 16/12 **Project #:** 1275

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Comments
Sharp-shinned hawk	14:15	1	flying	1	0	180	–	50	

Temp. 1
Cloud Cover 60 %
Precipitation none

Wind Speed 2
Wind Direction SW

AVIAN POINT COUNT FORM

STATION Q PROJECT 1275

Length 30 mins Survey ☐ Migration ☐ Winter ☐ Daytime/ Soaring ☐ Other: _____

Project Arrow WF DD/MM/YY 16/01/12

Start Time (24hr): 11:15 End Time: 11:45 Observers NGM, AMD

Weather

Air Temp. -1 °C Wind Speed 4 Wind Direction SW (from)

Cloud Cover 90 % Cloud Height High ☒ Med ☐ Low ☐

Precipitation none Visibility High ☒ Med ☐ Low ☐

Station

Habitat

Elevation _____ ft / m Crop _____

Pressure _____ mb UTM 17T 0457140 4892072

Turbines

Operational yes no Number in View _____ RPM _____

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.
Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Station#: Q **Date:** Jan. 16/12 **Project #:** 1275

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Comments
Snow bunting	11:25	~400	foraging	1	1	270	180	1000	
red-tailed hawk	11:27	1	perched	–	0	–	135	200	
herring gull	11:35	10	flying	1	2	10	135	250	
ring-billed gull	11:35	60	flying	1	2	10	135	250	

Temp. -1
Cloud Cover 90 %
Precipitation none

Wind Speed 4
Wind Direction SW

AVIAN POINT COUNT FORM

STATION AK PROJECT 1275

Length 30 min Survey ☐ Migration ☑ Winter ☐ Daytime/ Soaring ☐ Other: _____

Project Arnow WF DD/MM/YY 26/01/12

Start Time (24hr): 1355 End Time: _____ Observers KSW, KNP

Weather

Air Temp. _____ °C Wind Speed 4 Wind Direction SE (from)

Cloud Cover 50 % Cloud Height High ☑ Med ☐ Low ☐

Precipitation none Visibility High ☑ Med ☐ Low ☐

Station

Habitat

Elevation _____ ft / m Crop _____

Pressure _____ mb UTM _____

Turbines

Operational (yes) no Number in View 31 RPM _____

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.
Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Station#: AK **Date:** **Project #:**

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Comments
Red-tailed hawk	1355	1	perched	–	1	–	90	100	perched on utility pole

Temp. _____
Cloud Cover _____%
Precipitation _____

Wind Speed _____
Wind Direction _____

Page ___of ___

Feb. 2/12

Armow Wind Farm

Woodlands - 1

Jan 31, Feb 1 – 3/12

Legend

- Project Area (120m)
- Proposed Turbine (L08)
- Access Road
- Woodlands
- Watercourse (Permanent)
- Watercourse (Intermittent)
- Highway
- Primary Road
- Secondary Road
- Parcel Fabric
- Waterbody

Roadside scan

walked transects

Roadside scan (pending property access)

Ak: double scan – both sides of Con. 11

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Imagery provided by: Golder Associates, 2011

Project: 1275
Date: Monday, January 23, 2012

NAD83 - UTM Zone 17
Size: 11x17"
1:30,000

0 500 1,000 1,500 Metres

N

Jan. 31/12

Armow Wind Farm

Woodlands - 4

462000 464000 466000 468000

4892000 4890000 4888000 4886000

SIDEROAD 20 · CONCESSION 9 · CONCESSION 10 GREENOCK · SIDEROAD 30-SOUTH · CONCESSION 7 · BERVIE SIDEROAD · SIDEROAD 30 · CONCESSION 8 WEST · KINCARDINE KINLOSS · BRUCE ROAD 1 · CONCESSION 5 · NORTH LINE · NORTHLINE AVENUE · CONCESSION 6 · YOUNGS ROAD · HIGHWAY 9

WOD-012 · WOD-098 · WOD-126 · WOD-009 · WOD-061 · WOD-013 · WOD 100 · WOD-020 · WOD-112 · WOD-041 · WOD-030 · WOD-078 · WOD-114 · WOD-113 · WOD-123 · WOD-122 · WOD-120 · WOD-099 · WOD-119 · WOD-111 · WOD-115 · WOD-116 · WOD-118 · WOD-117

Red-tailed (same?) · N. Harrier · Red-tailed · Red Tailed · Snowy · 2 Red-tailed · Rough-legged · N

AA · AB · AC · AD · AE · AF · AG · AH · AM · N · Y · Z

Legend

- Project Area (120m)
- Proposed Turbine (L08)
- Access Road
- Woodlands
- Watercourse (Permanent)
- Watercourse (Intermittent)
- Highway
- Primary Road
- Secondary Road
- Parcel Fabric
- Waterbody

Roadside scan

Walked transect

Roadside Scan (pending property access)

AA: woodlot edge south of watercourse @ southern woodlot edge

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Imagery provided by: Golder Associates, 2011

Project: 1275
Date: Monday, January 23, 2012

NAD83 - UTM Zone 17
Size: 11x17"
1:30,000

0 500 1,000 1,500 Metres

N

Feb. 1/2/12

Armow Wind Farm

Woodlands - 2



Legend

- Project Area (120m)
- Proposed Turbine (L08)
- Access Road
- Woodlands
- Watercourse (Permanent)
- Watercourse (Intermittent)
- Highway
- Primary Road
- Secondary Road
- Parcel Fabric
- Waterbody

Roadside scan

Walked transects

Roadside scan (pending property access)

As of Jan 31st the following stations had 4 visits & no indicator species:

A, E, F, J, M, AA, AD

Bufo sp.: Do not drop.

The following stations were confirmed to have row crop.

X, W

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Project: 1275
Date: Monday, January 23, 2012

NAD83 - UTM Zone 17
Size: 11x17"
1:30,000

0 500 1,000 1,500 Metres

N

Feb. 1/12

Armow Wind Farm

Woodlands - 3

Legend

- Project Area (120m)
- Proposed Turbine (L08)
- Access Road
- Woodlands
- Watercourse (Permanent)
- Watercourse (Intermittent)
- Highway
- Primary Road
- Secondary Road
- Parcel Fabric
- Waterbody

Roadside scan

Walked transects

Q: double scan - both sides of Con. 5

V: double scan - both sides of Con. 5

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Project: 1275
Date: Monday, January 23, 2012

NAD83 - UTM Zone 17
Size: 11x17"
1:30,000

0 500 1,000 1,500 Metres

N

BIRD TRANSECT

Location C ARMOW

Project # 1275

Length 16.0 km / min

Survey ☐ spring migration ☐ breeding ☐ fall migration ☒ winter ☒ daytime/ raptor

Project Armow

Date (mm/dd/yy) 02/01/2012

Start Time: 14:38 End Time: 14:55 Obs. PWD, MJD

Weather

Air Temp. 2 °C Wind Speed 4 Wind Direction NW

Cloud Cover 10 % Cloud High ☐ Med ☒ Low ☐

Precipitation None Visibility High ☒ Med ☐ Low ☐

Route

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Route:				Date:				Project #:	
Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Transect Segment
H. Gull	14:43	1	Flying	1	4	NW	N	6-20	

BIRD TRANSECT

Location N' Arnow

Project # 1275

Length ____ km / 9:00 min

Survey ☐ spring migration ☐ breeding ☐ fall migration ☒ winter ☒ daytime/ raptor

Project Arnow Wind Farm

Date (mm/dd/yy) 02/01/12

Start Time: 15:53 End Time: 16.02 Obs. PWD, MJD

Weather

Air Temp. 2 °C Wind Speed 4 Wind Direction SW (from)

Cloud Cover 100 % Cloud High ☐ Med ☒ Low ☐

Precipitation none Visibility High ☑ Med ☐ Low ☐

Route

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

3:53 9.00

Route:			Date:				Project #:		
Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Transect Segment
no species found									

Page ___of ___

BIRD TRANSECT

Location I

Project # 1275

Length ____ km / 21 min

Survey ☐ spring migration ☐ breeding ☐ fall migration ☒ winter ☒ daytime/ raptor

Project Ashnola WF

Date (mm/dd/yy) 02/02/2012

Start Time: 2:50 End Time: 13:11 Obs. PWD, MJD

Weather

Air Temp. -1 °C Wind Speed I Wind Direction NW

Cloud Cover 60 % Cloud High ☑ Med ☐ Low ☐

Precipitation None Visibility High ☑ Med ☐ Low ☐

Route

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Route: I **Date:** 02/02/2012 **Project #:** 1275

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Transect Segment

Page ___of ___

BIRD TRANSECT

Location H

Project # 1275

Length 50 km / min

Survey ☐ spring migration ☐ breeding ☐ fall migration ☒ winter ☒ daytime/ raptor

Project Arrow WF

Date (mm/dd/yy) 02/02/2012

Start Time: 14:15 End Time: 3:23 – 3:52

Obs. PWD, MJD

Weather

Air Temp. -1 °C

Wind Speed 2

Wind Direction NW

Cloud Cover 60 %

Cloud High ☑ Med ☐ Low ☐

Precipitation None

Visibility High ☑ Med ☐ Low ☐

Route

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

2 times for this as we went to 'I' when we reached ½ point
See map for 'I-H' transect

1st time 14:15 - 14-36

2nd time 15:23 - 15:52.

2 start times as transect was split and site 'I' was done

Route: H **Date:** 02/02/2012 **Project #:** 1275

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Transect Segment
Black-capped Chickadee	15:32	2		–	0	–	East	50m	–

The 50 min transect time was for one way 3:57 pm

BIRD TRANSECT

Location AG

Project # 1275 Armow

Length ____ km / 44 min

Survey ☐ spring migration ☐ breeding ☐ fall migration ☒ winter ☐ daytime/ raptor

Project Armow

Date (mm/dd/yy) 01/31/2012

Start Time: 15:19 End Time: 16:03 Obs. PWD MJD

Weather

Air Temp. 4 °C Wind Speed 4 Wind Direction S

Cloud Cover 75 % Cloud High ☐ Med ☒ Low ☐

Precipitation none Visibility High ☑ Med ☐ Low ☐

Route counter clockwise starting @ Southernmost point.

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Route: **Date:** **Project #:**

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Transect Segment
Red tailed HAWK	15:32	1		—	2	N	N	50	E side of [illegible]
Red tailed	15 38	1		1	2	SE	E	25	E side of [illegible]

Page ___ of ___

BIRD TRANSECT

Location D

Project # 1275

Length ____ km; 13 min

Survey ☐ spring migration ☐ breeding ☐ fall migration ☒ winter ☒ daytime/ raptor

Project Acmow WF

Date (mm/dd/yy) 02/02/2022

Start Time: 10 01

End Time: 10 14

Obs. RWD MJD

Weather

Air Temp. 7 °C

Wind Speed 1

Wind Direction –

Cloud Cover 100 %

Cloud High ☐ Med ☒ Low ☐

Precipitation None

Visibility High ☒ Med ☐ Low ☐

Route

East to west

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Route:			**Date:**				**Project #:**		
Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Transect Segment

Page ___of ___

BIRD TRANSECT

Location Armow WF /S

Project # 1275

Length ____ km / 25 min

Survey ☐ spring migration ☐ breeding ☐ fall migration ☒ winter ☒ daytime/ raptor

Project Armow WF

Date (mm/dd/yy) 02/01/2012

Start Time: 09:07 End Time: 9:31 Obs. PWD, MJD

Weather

Air Temp. 2 °C Wind Speed 1 Wind Direction NW

Cloud Cover 100 % Cloud High ☐ Med ☑ Low ☐

Precipitation None Visibility High ☑ Med ☐ Low ☐

Route

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Route: **Date:** 0 **Project #:** 1275

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Transect Segment
American Crow	09:07	3	Perched	-	0	-	SE	250	
Herring Gull	09:07	30	Mobbing	-	1	-	N	50	
Rough-legged Hawk	09:09	1	Flying	1	3	NW	S	150	
A Crow	9:17	3	Perched	-	1	-	S	100	
Ringbilled	9:18	47	Flying	-	4	E	S	150	
Blue Jay	9:25	1	Perched on ground	-	0	-	N	25m	Flew to Low Branch
Blue [illegible]	9:25	10	Perched	-	0	-	N	25m	

E. Cottontail OB

BIRD TRANSECT

Location 'P' Armow WF

Project # 1275

Length (33 min) 49.0 min km

Survey ☐ spring migration ☐ breeding ☐ fall migration ☒ winter ☒ daytime/ raptor

Project Armow

Date (mm/dd/yy) 02/01/2012

Start Time: 9:42 End Time: 10:31 Obs. PWD, MJD

Weather

Air Temp. 3 °C Wind Speed 2 Wind Direction NW (From)

Cloud Cover 100 % Cloud High ☐ Med ☑ Low ☐

Precipitation none Visibility High ☑ Med ☐ Low ☐

Route

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Route: **Date:** Feb 1 2012 **Project #:** 1275

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Transect Segment
H Gull	9:28	1	Flying	1	3	SE	N	100	
Ring-billed Gull	9:46	3	Flying	–	3	SE	SE	0	
A. Crow	9:48	2	Flying	1	1	N	E	50	
Wild Turkey	9:52	1	Foraging	–	0	–	N	5m	
A. Crow	10:01	1	Perched	–	0	–	NE	25 m	

Page ___of ___

BIRD TRANSECT

Location R

Project # 1275

Length ____ km / 60 min

Survey ☐ spring migration ☐ breeding ☐ fall migration ☒ winter ☒ daytime/ raptor

Project Arrow WF

Date (mm/dd/yy) 02/01/2012

Start Time: 11:01 End Time: 11:21 Obs. PWD, MJD

Weather

Air Temp. 3 °C Wind Speed 3 Wind Direction NW

Cloud Cover 100 % Cloud High ☐ Med ☑ Low ☐

Precipitation None Visibility High ☑ Med ☐ Low ☐

Route North to South along woodlot edge.

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Route: **Date:** 02/01/2012 **Project #:** 1275

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Transect Segment
AMCROW	11:01	3	Perched	—	1	—	~~SW~~ SW	100	
BLACK-BILLED MAGPIE	11:05	3	Perched		0	—	S	50	

Cottontail Rabbit Tracks 11:10

BIRD TRANSECT

Location U' Arrow

Project # 1275

Length ____ km / 14:32 min

Survey ☐ spring migration ☐ breeding ☐ fall migration ☑ winter ☒ daytime/ raptor

Project ARROW

Date (mm/dd/yy) 02/01/2012

Start Time: 11:38 End Time: 11:52 Obs. PWD, MJD

Weather

Air Temp. 3 °C Wind Speed 3 Wind Direction NW (FROM)

Cloud Cover 100 % Cloud High ☐ Med ☒ Low ☐

Precipitation NONE Visibility High ☐ Med ☐ Low ☐

Route

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Route: **Date:** 02/01/2012 **Project #:** 175

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Transect Segment
A crow	11:38	1	Flying	1	4	S	W	100	
Red-tailed	11:39	1	Flying	1	7	E	SE	100	
Snow bunting	11:42	80	Perched on ground	–	–	–	NE	50	

Page ___ of ___

AVIAN POINT COUNT FORM

STATION AI PROJECT 1275

Length 30 minute Survey ☐ Migration ☒ Winter ☒ Daytime/ Soaring ☐ Other: _____

Project Armow WF DD/MM/YY 02/02/2017

Start Time (24hr): 08:30 End Time: 09:00 Observers PWD. MJD

Weather

Air Temp. -1 °C Wind Speed 3 Wind Direction NW (from)

Cloud Cover 100 % Cloud Height High ☑ Med ☐ Low ☐

Precipitation None Visibility High ☑ Med ☐ Low ☐

Station

Habitat

Elevation _____ ft / m Crop _____

Pressure _____ mb UTM 17T 0459875 4899280

Turbines

Operational yes (no) Number in View _____ RPM _____

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.
Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Station#:				Date:				Project #:	
Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Comments
American Crow	08:31	1	Flying	1	1		SW	300	
Red-tailed Hawk	08:31	1	Perched	–	0	–		500	
American Crow	08 35	3	Perched	–	0	–	W	300	
American Crow	08:47	20	Flying	1	4	SE	N	600	
Snow Bunting	08:50	3	Flying	1	2	W	SW	300	
Rock Pigeon	08:54	25	Flying	1	4	N	NW	1200	
American Crow	08:59	2	Perched	–	0	–	S	250	

Temp. _____
Cloud Cover _____%
Precipitation _____

Wind Speed _____
Wind Direction _____

AVIAN POINT COUNT FORM

STATION AL **PROJECT** 1275

Length 30 m Survey ☐ Migration ☒ Winter ☐ Daytime/ Soaring ☐ Other: _____

Project Armow DD/MM/YY 01/02/2012

Start Time (24hr): 16:14 End Time: 16:44 Observers PWD, MJD

Weather

Air Temp. 3 °C Wind Speed 3 Wind Direction SE (from)

Cloud Cover 100 % Cloud Height High ☐ Med ☒ Low ☐

Precipitation None Visibility High ☑ Med ☐ Low ☐

Station

Habitat

Elevation _____ ft / m Crop _____

Pressure _____ mb UTM _____

Turbines

Operational yes no Number in View _____ RPM _____

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.
Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Station#: AL **Date:** 01/02/2012 **Project #:** 1075

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Comments
Red-tailed Hawk	16:25	1	Perched	–	0	–	NW	800	
Snow Bunting	16:30	175	Flying	1	6	SW	SE	600	
Gull sp.	16:30	7	Flying	1	6	SW	SE	500	
European Starling	16:33	1	Perched	–	0	–	W	75	
Gull sp.	16:36	14	Flying	1	7	W	S	900	

Temp. _____
Cloud Cover _____%
Precipitation _____

Wind Speed _____
Wind Direction _____

Page ___of ___

AVIAN POINT COUNT FORM

STATION E **PROJECT** 1275

Length 30 min Survey ☐ Migration ☒ Winter ☒ Daytime/ Soaring ☐ Other: _____

Project Arrow DD/MM/YY 01/02/2012

Start Time (24hr): 15:07 End Time: 15:37 Observers PWD, MJD

Weather

Air Temp. 2 °C Wind Speed 4 Wind Direction N (from)

Cloud Cover 100 % Cloud Height High ☐ Med ☒ Low ☐

Precipitation None Visibility High ☑ Med ☐ Low ☐

Station

Habitat

Elevation _____ ft / m Crop _____

Pressure _____ mb UTM _____

Turbines

Operational yes no Number in View _____ RPM _____

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.
Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Station#: E **Date:** 01/02/2012 **Project #:** 1275

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Comments
Gull sp.	15:10	1	Flying	1	5	NW	W	400	
Turkey Vulture	15:13	1	Circling	1	7	N	NW	600	
Ring-billed Gull	15:25	3	Flying	1	4	W	W	500	

Temp. _____
Cloud Cover _____%
Precipitation _____

Wind Speed _____
Wind Direction _____

Page ___of ___

AVIAN POINT COUNT FORM

STATION L PROJECT 1275

Length 30 minute Survey ☐ Migration ☒ Winter ☒ Daytime/ Soaring ☐ Other: _____

Project Amherst WF DD/MM/YY 03/02/2012

Start Time (24hr): 10:18 End Time: 10:48 Observers PWD. MJD

Weather

Air Temp. 4 °C Wind Speed 2 Wind Direction SW (from)

Cloud Cover 100 % Cloud Height High ☐ Med ☑ Low ☐

Precipitation None Visibility High ☑ Med ☐ Low ☐

Station

Habitat

Elevation _____ ft / m Crop _____

Pressure _____ mb UTM _____

Turbines

Operational yes no Number in View _____ RPM _____

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.
Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Station#: L **Date:** 03/02/2012 **Project #:** 1275

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Comments
Rock Pigeon	10:23	5	Perched	-	O	-	S	300	
European Starling	10.44	1	Perched	-	O	-	S	300	

Temp. 4°
Cloud Cover 100 %
Precipitation snow

Wind Speed 2
Wind Direction SW

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AVIAN POINT COUNT FORM

STATION K PROJECT 1275

Length 30 minute Survey ☐ Migration ☒ Winter ☒ Daytime/ Soaring ☐ Other: _____

Project Arnow WF DD/MM/YY 03/02/2012

Start Time (24hr): 9:39 End Time: 10:09 Observers PWD, MJD

Weather

Air Temp. 4 °C Wind Speed 1 Wind Direction SW (from)

Cloud Cover 100 % Cloud Height High ☐ Med ☑ Low ☐

Precipitation None Visibility High ☑ Med ☐ Low ☐

Station

Habitat

Elevation _____ ft / m Crop _____

Pressure _____ mb UTM _____

Turbines

Operational yes no Number in View _____ RPM _____

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.
Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Station#: K **Date:** 03/02/2011 **Project #:** 1275

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Comments
Blue Jay	09:42	2	Perched	–	0	–	SW	250	
American Crow	09:42	3	Perched	–	0	–	N	200	
Black-capped Chickadee	09:45	8	Perched	–	0	–	E	25	
Black-capped	10:09	2	Perched	–	0	–	NW	25	
Blue Jay	10:10	2	Perched	–	1	–	SE	25	

Temp. 4
Cloud Cover 100 %
Precipitation None

Wind Speed 1
Wind Direction – SW

Page ___ of ___

AVIAN POINT COUNT FORM

STATION AQ PROJECT 1275

Length 30 minute Survey ☐ Migration ☒ Winter ☒ Daytime/ Soaring ☐ Other: _____

Project Arnow WF DD/MM/YY 03/02/2012

Start Time (24hr): 09:07 End Time: 09:37 Observers PWD, MJD

Weather

Air Temp. 2 °C Wind Speed 2 Wind Direction SW (from)

Cloud Cover 100 % Cloud Height High ☐ Med ☑ Low ☐

Precipitation None Visibility High ☑ Med ☐ Low ☐

Station

Habitat

Elevation _____ ft / m Crop _____

Pressure _____ mb UTM 17T 0467870 4897742

Turbines

Operational yes no Number in View _____ RPM _____

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.
Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Station#: AQ **Date:** 03/02/2012 **Project #:** 1275

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Comments
Black-capped Chickadee	09:09	4	Perched	-	0	-	N	75	
European Starling	09:18	6	Perched on ground	-	0	-	W	50	
American Crow	09:26	3	Flying	1	4	E	N	300	
Blue Jay	0937	2	Perched	-	0	-	S	200	

Temp. 2
Cloud Cover 100 %
Precipitation

Wind Speed 2
Wind Direction SW

Page ___ of ___

AVIAN POINT COUNT FORM

STATION 6 PROJECT 1275

Length 30 minute Survey ☐ Migration ☒ Winter ☒ Daytime/ Soaring ☐ Other: _____

Project Arrow WF DD/MM/YY 03/02/2012

Start Time (24hr): 08:34 End Time: 09:04 Observers PWD, MJD

Weather

Air Temp. 2 °C Wind Speed 2 Wind Direction SW (from)

Cloud Cover 100 % Cloud Height High ☐ Med ☑ Low ☐

Precipitation None Visibility High ☑ Med ☐ Low ☐

Station

Habitat

Elevation _____ ft / m Crop _____

Pressure _____ mb UTM _____

Turbines

Operational yes no Number in View _____ RPM _____

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.
Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Station#: 6 **Date:** 03/02/2012 **Project #:** 1275

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Comments
American Crow	08:36	4	Perched	—	O	—	E	300	
Blue Jay	08:46	1	Perched	—	O	-	S	200	
European Starling	08:48	6	Perched	—	O	—	S	200	
Rough-legged Hawk	08:53	1	Perched	—	O	-	NW	1100	Continued at zoom [illegible]

Temp. 2
Cloud Cover 100 %
Precipitation NONE

Wind Speed 2
Wind Direction SW

Page ___ of ___

AVIAN POINT COUNT FORM

STATION AP PROJECT 1275

Length 30 minute Survey ☐ Migration ☒ Winter ☐ Daytime/ Soaring ☐ Other: _____

Project Arrow WJF DD/MM/YY 02/02/2012

Start Time (24hr): 13:23 End Time: 13:53 Observers PWD, MJD

Weather

Air Temp. 0 °C Wind Speed 2 Wind Direction NW (from)

Cloud Cover 60 % Cloud Height High ☑ Med ☐ Low ☐

Precipitation None Visibility High ☑ Med ☐ Low ☐

Station

Habitat

Elevation _____ ft / m Crop _____

Pressure _____ mb UTM 17T 0464058 4897491

Turbines

Operational yes no Number in View _____ RPM _____

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.
Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Station#: AP **Date:** 02/02/2012 **Project #:** 1275

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Comments
American Crow	13:36	1	Flying	1	1	W	NW	500	
Rock Pigeon	13:46	1	Flying	1	3	E	S	200	
Ring-billed Gull		1	Flying	1	4	NE	SW	100	

Temp. _____
Cloud Cover _____%
Precipitation _____

Wind Speed _____
Wind Direction _____

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AVIAN POINT COUNT FORM

STATION AJ **PROJECT** 1275

Length 30 minute Survey ☐ Migration ☒ Winter ☐ Daytime/ Soaring ☐ Other: _____

Project Armow WF DD/MM/YY 02/02/2012

Start Time (24hr): 12:42 End Time: 13:12 Observers PWD, MJD

Weather

Air Temp. -2 °C Wind Speed 1 Wind Direction NW (from)

Cloud Cover 75 % Cloud Height High ☑ Med ☐ Low ☐

Precipitation None Visibility High ☑ Med ☐ Low ☐

Station

Habitat

Elevation _____ ft / m Crop _____

Pressure _____ mb UTM 17T 0465243 4900462

Turbines

Operational (yes) no (other project to NW) Number in View 35 RPM 14

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.

Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Station#: AJ **Date:** 02/02/2012 **Project #:** 1275

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Comments
Red-tailed Hawk	12:48	1	Flying	1	3	S	SE	400	Circling
American Crow	12:48	1	Flying	1	2	N	SE	150	
Hawk sp	12:55	1	Perched	-	1	-	SE	800	
American Crow	13:12	1	Perched	-	0	-	E	500.	

Temp. _____
Cloud Cover _____%
Precipitation _____

Wind Speed _____
Wind Direction _____

AVIAN POINT COUNT FORM

STATION AH PROJECT 1275

Length 30 minute Survey ☐ Migration ☒ Winter ☐ Daytime/ Soaring ☐ Other: _____

Project Armow WF DD/MM/YY 31/01/2012

Start Time (24hr) 16:14 End Time: 16:44 Observers PWD. MJD

Weather

Air Temp. 5 °C Wind Speed 3 Wind Direction SW (from)

Cloud Cover 75 % Cloud Height High ☒ Med ☐ Low ☐

Precipitation None Visibility High ☒ Med ☐ Low ☐

Station

Habitat

Elevation _____ ft / m Crop _____

Pressure _____ mb UTM _____

Turbines

Operational yes no Number in View _____ RPM _____

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.
Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Station#: AH **Date:** 31/01/2018 **Project #:** 1275

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Comments
Northern Harrier	16:14	1	Flying	1	2	SW	SE	100	
Northern Shrike	16:24	1	Perched	-	0	-	NE	40	

Temp. _____
Cloud Cover _____%
Precipitation _____

Wind Speed _____
Wind Direction _____

AVIAN POINT COUNT FORM

STATION AF **PROJECT** 1275

Length 30 Survey ☐ Migration ☒ Winter ☒ Daytime/ Soaring ☐ Other: _____

Project Armow DD/MM/YY 31/01/2012

Start Time (24hr): 14:32 End Time: _____ Observers PWD, MJD

Weather

Air Temp. 4 °C Wind Speed 4 Wind Direction S (from)

Cloud Cover 90 % Cloud Height High ☐ Med ☒ Low ☐

Precipitation none Visibility High ☑ Med ☐ Low ☐

Station

Habitat

Elevation _____ ft / m Crop _____

Pressure _____ mb UTM _____

Turbines

Operational yes no Number in View _____ RPM _____

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.
Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Station#: AF **Date:** 31/01/2012 **Project #:** 1275 ARMOW

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Comments
Blue Jay	14:37	1	Perched	–	0	–	S	175	
Rough-legged Hawk	14:43	1	Flying	1	4	S	W	250	
American Crow	14:59	2	Flying	1	3	S	SE	400	

Temp. _____
Cloud Cover _____%
Precipitation _____

Wind Speed _____
Wind Direction _____

Page ___of ___

AVIAN POINT COUNT FORM

STATION AE **PROJECT** 1275

Length 30 Survey ☐ Migration ☒ Winter ☐ Daytime/ Soaring ☐ Other: _____

Project Armow DD/MM/YY 31/01/2012

Start Time (24hr): 13:55 End Time: _____ Observers DWD, MSD

Weather

Air Temp. 4 °C Wind Speed 4 Wind Direction S (from)

Cloud Cover 90 % Cloud Height High ☐ Med ☒ Low ☐

Precipitation None Visibility High ☑ Med ☐ Low ☐

Station

Habitat

Elevation _____ ft / m Crop _____

Pressure _____ mb UTM _____

Turbines

Operational yes no Number in View _____ RPM _____

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.
Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Station#: AE **Date:** 3/[illegible]/19 **Project #:** 1275

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Comments
Red tailed Hawk	13:57	1427	Perched [illegible]	1	3	S	N	100m	PIC 113 3507

Temp. 4
Cloud Cover 90 %
Precipitation rain

Wind Speed 7
Wind Direction S

Page ___of ___

AVIAN POINT COUNT FORM

STATION AM **PROJECT** 1275 Armow

Length 30 mins Survey ☐ Migration ☒ Winter ☐ Daytime/ Soaring ☐ Other: _____

Project Armow DD/MM/YY 31/01/2012

Start Time (24hr): 13:21 End Time: 13 51 Observers PWD, MJD

Weather

Air Temp. 4 °C Wind Speed 4 Wind Direction SW (from)

Cloud Cover 85 % Cloud Height High ☐ Med ☑ Low ☐

Precipitation none Visibility High ☑ Med ☐ Low ☐

Station

Habitat

Elevation _____ ft / m Crop _____

Pressure _____ mb UTM 17T-0465418-4889718

Turbines

Operational yes no Number in View _____ RPM _____

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.
Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Station#: AM **Date:** 31/01/2012 **Project #:** 1275

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Comments
Am CROW	1:27	3	Flying	1	1	SE	SE	50m	
Snow Bunting	1:27	6	perched on ground	0	0	~~N~~	N	50m	

Temp. 4
Cloud Cover 85 %
Precipitation none

Wind Speed 4
Wind Direction SW

Page ___ of ___

AVIAN POINT COUNT FORM

STATION AC PROJECT 1275

Length 30 minute Survey ☐ Migration ☒ Winter ☒ Daytime/ Soaring ☐ Other: _____

Project ARMOW DD/MM/YY 31/01/2012

Start Time (24hr): 12:43 End Time: 13:13 Observers PWD, MJD

Weather

Air Temp. 6 °C Wind Speed 4 Wind Direction SW (from)

Cloud Cover 90 % Cloud Height High ☐ Med ☒ Low ☐

Precipitation None Visibility High ☒ Med ☐ Low ☐

Station

Habitat

Elevation _____ ft / m Crop _____

Pressure _____ mb UTM _____

Turbines

Operational yes no Number in View _____ RPM _____

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.
Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Station#: AC **Date:** 31/01/2012 **Project #:** 1275

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Comments
American Crow	12:44	1	Flying	1	3	SE	S	800	
Horned Lark	12.47	1	Flying	1	2	NW	SW	125	
Red-tailed Hawk	12:49	1	Circling / Perched	—	3	—	SW	750	
American Crow	13:03	1	Perched on ground	—	0	—	E	500	
Bird of Sp	13:10		Perch	—	0	—	SW	650	Photo 6398

Temp. 6
Cloud Cover 90 %
Precipitation None

Wind Speed 4
Wind Direction SW

Page ___ of ___

AVIAN POINT COUNT FORM

STATION AN PROJECT 1275

Length 30 minute Survey ☐ Migration ☒ Winter ☒ Daytime/ Soaring ☐ Other:

Project Arrow WF DD/MM/YY 31/01/2012

Start Time (24hr): 12:00 End Time: 12:30 Observers PWD, MJD

Weather

Air Temp. 4 °C Wind Speed 4 Wind Direction SW (from)

Cloud Cover 90 % Cloud Height High ☐ Med ☒ Low ☐

Precipitation None Visibility High ☒ Med ☐ Low ☐

Station

Habitat

Elevation _____ ft / m Crop _____

Pressure _____ mb UTM _____

Turbines

Operational yes no Number in View _____ RPM _____

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.
Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Station#: AN **Date:** 31/01/2012 **Project #:** 1275

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Comments
American Crow	12:06	1	Flying	1	1	NE	E	200	
Red-tailed Hawk	12:12	1	Perched	—	1	—	N	900	
Snow Bunting	12:20	2	Perched on ground	—	0	—	ESE	100	
American Crow	12:22	1	Flying	1	2	NE	NE	700	
American Crow	12:26	1	Flying	1	0	SW	NW	300	
Snowy Owl	12:26	1	Perched	—	0	—	N	800	

Temp. 4°C
Cloud Cover 90 %
Precipitation None

Wind Speed 4
Wind Direction SW

Page ___ of ___

AVIAN POINT COUNT FORM

STATION Y **PROJECT** 1275

Length 30 minute Survey ☐ Migration ☑ Winter ☒ Daytime/ Soaring ☐ Other: _____

Project Arnow WF DD/MM/YY 01/02/2012

Start Time (24hr): 13:12 End Time: 13:42 Observers PWD, MJD

Weather

Air Temp. 2 °C Wind Speed 4 Wind Direction NW (from)

Cloud Cover 100 % Cloud Height High ☐ Med ☑ Low ☐

Precipitation None Visibility High ☑ Med ☐ Low ☐

Station

Habitat

Elevation _____ ft / m Crop _____

Pressure _____ mb UTM _____

Turbines

Operational yes (no) Number in View _____ RPM _____

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.
Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Station#: Y **Date:** 01/02/2012 **Project #:** 1275

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Comments
American Crow	13:12	2	Perched	-	0	-	ENE	800	
American Crow	13:31	2	Flying	1	5	NW	NE	1250	

Temp. _____
Cloud Cover _____%
Precipitation _____

Wind Speed _____
Wind Direction _____

AVIAN POINT COUNT FORM

STATION AB PROJECT 1275

Length 30 mins Survey ☐ Migration ☒ Winter ☒ Daytime/ Soaring ☐ Other: _____

Project Armow DD/MM/YY 01/02/2012

Start Time (24hr): 1:50 End Time: 14:20 Observers PWD, MSD

Weather

Air Temp. 3 °C Wind Speed 5 Wind Direction NW (from)

Cloud Cover 100 % Cloud Height High ☐ Med ☒ Low ☐

Precipitation None Visibility High ☑ Med ☐ Low ☐

Station

Habitat

Elevation _____ ft / m Crop _____

Pressure _____ mb UTM _____

Turbines

Operational yes no Number in View _____ RPM _____

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.
Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Station#: AB **Date:** 01/02/2012 **Project #:** 1275

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Comments
Gull sp	14:10	1	Flying	1	6	W	SW	700m	
Rock Pigeon	14:13	2	Flying	1	4	SW	S	150	

Temp. _____
Cloud Cover _____%
Precipitation _____

Wind Speed _____
Wind Direction _____

AVIAN POINT COUNT FORM

STATION 2 PROJECT 1275

Length 30 minute Survey ☐ Migration ☒ Winter ☒ Daytime/ Soaring ☐ Other: _____

Project Armow WF DD/MM/YY 01/02/2012

Start Time (24hr): 13:50 End Time: 14:20 Observers PWD, MJD

Weather

Air Temp. 3 °C Wind Speed 5 Wind Direction NW (from)

Cloud Cover 100 % Cloud Height High ☐ Med ☑ Low ☐

Precipitation None Visibility High ☑ Med ☐ Low ☐

Station

Habitat

Elevation _____ ft / m Crop _____

Pressure _____ mb UTM _____

Turbines

Operational yes (no) Number in View _____ RPM _____

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.
Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Station#: Z **Date:** 01/02/2012 **Project #:** 1275

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Comments
Snowy Owl	13:58	1	Flying	1	3	W	NW	750	Broad, pale white wings (not gull)
European Starling	14:05	200	Flying/Perched	1	0	W	NW	40	

Temp. _____
Cloud Cover _____%
Precipitation _____

Wind Speed _____
Wind Direction _____

Page ___of ___

AVIAN POINT COUNT FORM

STATION AK PROJECT 1275

Length 30 minute Survey ☐ Migration ☒ Winter ☒ Daytime/ Soaring ☐ Other: _____

Project Arrow WF DD/MM/YY 02/02/2012

Start Time (24hr): 09:06 End Time: 09:36 Observers PWD, MJD

Weather

Air Temp. -1 °C Wind Speed 3 Wind Direction NW (from)

Cloud Cover 100 % Cloud Height High ☑ Med ☐ Low ☐

Precipitation None Visibility High ☑ Med ☐ Low ☐

Station

Habitat

Elevation _____ ft / m Crop _____

Pressure _____ mb UTM 17T 0460514 4897168

Turbines

Operational yes (no) Number in View _____ RPM _____

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.
Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Station#: AK **Date:** 02/02/2012 **Project #:** 1275

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Comments
American Crow	09:07	1	Flying	1	1	NW	SW	200	
American Crow	09:10	1	Perched	-	0	-	E	750	
American Crow	09:10	1	Perched	-	0	-	E	1000	
Gull sp.	09:12	1	Flying	1	5	SE	E	1700	
Northern Shrike	09:16	2	Perched	-	0	-	NE	300	
Red-tailed Hawk	09:20	2	Flying	1	1	W	N	300	Mobbed by crows
Blue Jay	09:22	1	Perched	-	0	-	N	500	
European Starling	09:29	3	Perched	-	0	-	WNW	150	At house/barn

Temp. _____
Cloud Cover _____%
Precipitation _____

Wind Speed _____
Wind Direction _____

AVIAN POINT COUNT FORM

STATION AO **PROJECT** 1275

Length 30 minute Survey ☐ Migration ☒ Winter ☒ Daytime/ Soaring ☐ Other: ____

Project Armow WF DD/MM/YY 02/02/2012

Start Time (24hr): 10:49 End Time: 11:19 Observers PWD, MJD

Weather

Air Temp. -2 °C Wind Speed 1 Wind Direction NW (from)

Cloud Cover 100 % Cloud Height High ☑ Med ☐ Low ☐

Precipitation None Visibility High ☑ Med ☐ Low ☐

Station

Habitat

Elevation ____ ft / m Crop ____

Pressure ____ mb UTM 17T 0461261 4896743

Turbines

Operational (yes) no ← Different project to NW Number in View 50 RPM 14

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.
Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Station#: A0 **Date:** 02/02/2012 **Project #:** 1275

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Comments
A. Crow	10:55	1	Flying	1	4	E	N	500m	
Red tailed hawk	11:01	1	Perched	-	1	-	NW	250m	

Temp. _____
Cloud Cover _____%
Precipitation _____

Wind Speed _____
Wind Direction _____

AVIAN POINT COUNT FORM

STATION C PROJECT 1275

Length 30 minute Survey ☐ Migration ☒ Winter ☒ Daytime/ Soaring ☐ Other: _____

Project Armow WF DD/MM/YY 02/02/2012

Start Time (24hr): 11:25 End Time: 11:55 Observers PWD, MJD

Weather

Air Temp. -2 °C Wind Speed 2 Wind Direction NW (from)

Cloud Cover 100 % Cloud Height High ☑ Med ☐ Low ☐

Precipitation None Visibility High ☑ Med ☐ Low ☐

Station

Habitat

Elevation _____ ft / m Crop _____

Pressure _____ mb UTM _____

Turbines

Operational yes no Number in View _____ RPM _____

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.
Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Station#: C **Date:** 02/02/2012 **Project #:** 1275

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Comments
Am. Crow	11:28	1	Perched	—	2	—	N	200	
Red-tailed Hawk	11:33	1	Flying	1	1	SW	N	100	Circled WOD-072 entire count
Ring[illegible]	1:36	1	Flying	1	4	SW	N	50	
Red-tailed [illegible]	11:37	1	Perched	—	2	—	NE	50	Circled WOD-072 entire count
American kestrel	11:39	1	Flying / perched	1	2	S	N	150	
Rock Pigeon	11:50	13	Flying	1	1	NW	E	75	

Temp. _____
Cloud Cover _____%
Precipitation _____

Wind Speed _____
Wind Direction _____

Page ___of ___

AVIAN POINT COUNT FORM

STATION B PROJECT 1275

Length 30min Survey ☐ Migration ☒ Winter ☐ Daytime/ Soaring ☐ Other: _____

Project Arnaiu DD/MM/YY 02/02/2012

Start Time (24hr): 12:06 End Time: 12:36 Observers AD, MSD

Weather

Air Temp. -1 °C Wind Speed 1 Wind Direction NW (from)

Cloud Cover 80 % Cloud Height High ☐ Med ☒ Low ☐

Precipitation none Visibility High ☒ Med ☐ Low ☐

Station

Habitat

Elevation _____ ft / m Crop _____

Pressure _____ mb UTM _____

Turbines

Operational yes no Number in View _____ RPM _____

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.
Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Station#: B **Date:** 02/02/2012 **Project #:** 1275

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Comments
Ring billed Gull	12 ok	60	Flying	1	4	NW	S	500	
European Starling		150	Perched on ground	—	0	—	S	250	
* Turkey Vulture	12:17	7	Flying / Circling	—	9/10	circling	S	600m	
American Crow	12:32	3	Flying	1	3	SE	S	250m	
American Crow	12:33	2	Perched	—	1	—	S	250m	

Not sure if turkey vulture - large black birds in group of 6 Circling area really high

Temp. _____
Cloud Cover _____%
Precipitation _____

Wind Speed _____
Wind Direction _____

AVIAN POINT COUNT FORM

STATION V **PROJECT** 1275

Length 30 min Survey ☐ Migration ☒ Winter ☒ Daytime/ Soaring ☐ Other: _____

Project Armow WF DD/MM/YY 01/02/12

Start Time (24hr): 12:33 End Time: 13:03 Observers PWD. MJD

Weather

Air Temp. 3 °C Wind Speed 4 Wind Direction NW (from)

Cloud Cover 100 % Cloud Height High ☐ Med ☒ Low ☐

Precipitation none Visibility High ☑ Med ☐ Low ☐

Station

Habitat

Elevation _____ ft / m Crop _____

Pressure _____ mb UTM _____

Turbines

Operational yes (no) Number in View _____ RPM _____

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.
Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Station#: 1275 **Date:** 01/02/2012 **Project #:** 1275

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Comments
Rock Pigeons	12:35	5	Flying	1	3	North	SE	150m	
Red-tailed Hawk	12:36	1	Flying	1	3	S	SE	100m	
Ring billed Gull	12:38	1	Flying	1	3	S	SE	100m	
Am. Crow	12:39	2	Flying	1	2	N	E	600m	
Am. Crow	12:44	1	Perched	–	–	~~N~~	N	700m	
Ring billed Gull	12:44	1	Fly	–	3	NE	N	100m	
Gull sp.	12:51	5	Flying	1	5	SE	SW	800m	
Am. Crow	12:53	5	Perched	-	0	–	NE	75m	
Red-tailed Hawk	13:01	1	Flying/Foraging	1	2	N	E	50m	Mobbed by crows while foraging.

Temp. _____
Cloud Cover _____%
Precipitation _____

Wind Speed _____
Wind Direction _____

Page ___of ___

AVIAN POINT COUNT FORM

STATION 1 **PROJECT** Arnow

Length 30 mins Survey ☐ Migration ☒ Winter ☒ Daytime/ Soaring ☐ Other: _____

Project Arnow Wind FARM DD/MM/YY 01/02/12

Start Time (24hr): 8:28 End Time: _____ Observers PWD, MJD

Weather

Air Temp. 2 °C Wind Speed 3 Wind Direction NW (from)

Cloud Cover 100 % Cloud Height High ☐ Med ☑ Low ☐

Precipitation None Visibility High ☑ Med ☐ Low ☐

Station

Habitat

Elevation _____ ft / m Crop _____

Pressure _____ mb UTM _____

Turbines

Operational yes no Number in View _____ RPM _____

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

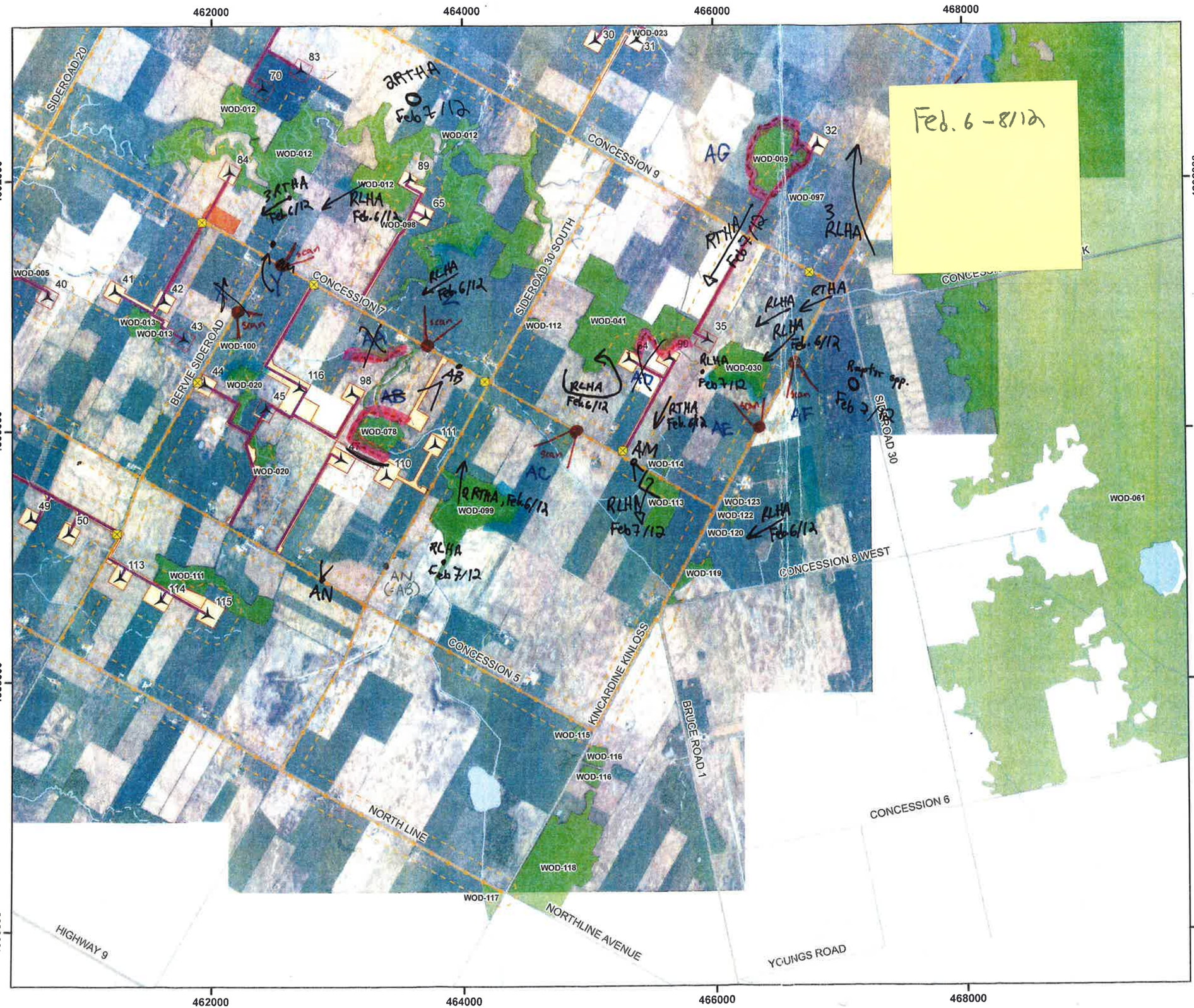
Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.
Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Station#:				Date:			Project #:		
Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Comments
American Crow	08:28	3	Perched	–	0	–	S	300	
Ring-billed Gull	08:32	1	Flying	1	5	E	S	400	
Blue Jay	08:34	2	Perched	–	0	–	NNW	500	
American Crow	08:34	1	Perched	–	0	–	NNW	600	
Ring-billed Gull	08:37	16	Flying	1	4	E	NE	700	
Turkey Vulture	08:37	3	Circling	–	7	–	N	1000	
Red-tailed Hawk	08:39	1	Flying	1	4	NE	NW	200	Moving up/down valley
Herring Gull	08:41	8	Flying	1	6	NE	SE	300	
Snow Bunting	08:45	15	Flying	1	0	SE	NE	50	
American Crow	08 48	7	Flying	1	2	SE	NE	150	
Snow Bunting	08:49	60	Flying	1	4	NW	NE	250	
Ring-billed Gull	08:55	20	Mobbing	–	1	–	E	200	Landf. 117
Herring Gull	08 55	40	Mobbing	–	1	–	E	200	Landf. 117

Temp. _____
Cloud Cover _____%
Precipitation _____

Wind Speed _____
Wind Direction _____

Page ___of ___



Armow Wind Farm

Disturbance Area - 4

Legend

- Project Area (120m Buffer)
- Archaeology/Woodland Overlap
- Archaeology Surveyed Area
- Woodland
- Proposed Turbine (L08 Rev0)
- MET Tower (L07)
- Junction Box (L07)
- Cabling (L07)
- Crane Walk (L07)
- Access Road (L07)
- Watercourse (Permanent)
- Watercourse (Intermittent)
- Highway
- Primary Road
- Secondary Road
- Disturbance Area (L07)
- Interconnect Area (L07)
- Staging Area
- Waterbody

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Project: 1275
Date: Sunday, December 18, 2011

NAD83 - UTM Zone 17
Size: 11x17"
1:30,000

0 500 1,000 1,500 Metres

N

Armow Wind Farm

Disturbance Area - 1

Legend

- Project Area (120m Buffer)
- Archaeology/Woodland Overlap
- Archaeology Surveyed Area
- Woodland
- Proposed Turbine (L08 Rev0)
- MET Tower (L07)
- Junction Box (L07)
- Cabling (L07)
- Crane Walk (L07)
- Access Road (L07)
- Watercourse (Permanent)
- Watercourse (Intermittent)
- Highway
- Primary Road
- Secondary Road
- Disturbance Area (L07)
- Interconnect Area (L07)
- Staging Area
- Waterbody

Removed

A, F, J, M, AA, AD, X, W, T

Added

AI, AT, AK, AL, AM, AN, AO, AP, AQ

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Project: 1275
Date: Sunday, December 18, 2011

NAD83 - UTM Zone 17
Size: 11x17"
1:30,000

0 500 1,000 1,500 Metres

N

Armow Wind Farm

Disturbance Area - 2

Legend

- Project Area (120m Buffer)
- Archaeology/Woodland Overlap
- Archaeology Surveyed Area
- Woodland
- Proposed Turbine (L08 Rev0)
- MET Tower (L07)
- Junction Box (L07)
- Cabling (L07)
- Crane Walk (L07)
- Access Road (L07)
- Watercourse (Permanent)
- Watercourse (Intermittent)
- Highway
- Primary Road
- Secondary Road
- Disturbance Area (L07)
- Interconnect Area (L07)
- Staging Area
- Waterbody

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Project: 1275
Date: Sunday, December 18, 2011

NAD83 - UTM Zone 17
Size: 11x17"
1:30,000

0 500 1,000 1,500 Metres

N

Armow Wind Farm

Disturbance Area - 3

Legend

- Project Area (120m Buffer)
- Archaeology/Woodland Overlap
- Archaeology Surveyed Area
- Woodland
- Proposed Turbine (L08 Rev0)
- MET Tower (L07)
- Junction Box (L07)
- Cabling (L07)
- Crane Walk (L07)
- Access Road (L07)
- Watercourse (Permanent)
- Watercourse (Intermittent)
- Highway
- Primary Road
- Secondary Road
- Disturbance Area (L07)
- Interconnect Area (L07)
- Staging Area
- Waterbody

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Project: 1275
Date: Sunday, December 18, 2011

NAD83 - UTM Zone 17
Size: 11x17"
1:30,000

0 500 1,000 1,500 Metres

N

BIRD TRANSECT

Location N

Project # 1275

Length ____ km / ____ min

Survey ☐ spring migration ☐ breeding ☐ fall migration ☒ winter ☒ daytime/ raptor

Project Aman WF

Date (mm/dd/yy) 02/08/12

Start Time: 12:45 End Time: 13:05 Obs. NGM, EMP

Weather

Air Temp. -4 °C Wind Speed 5 Wind Direction W

Cloud Cover 20 % Cloud High ☒ Med ☐ Low ☐

Precipitation — Visibility High ☒ Med ☐ Low ☐

Route

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Route: N **Date:** Feb. 8/12 **Project #:** 1275

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Transect Segment
Rough-legged Hawk	12:50	1	hunting	1	4	170	NA	200	
Dark-eyed Junco	12:53	1	perched	—	0	—	NA	25	

BIRD TRANSECT

Location I

Project # 1275

Length ____ km ____ min

Survey ☐ spring migration ☐ breeding ☐ fall migration ☒ winter ☒ daytime/ raptor

Project Armow WF

Date (mm/dd/yy) 02/08/12

Start Time: 11:05 End Time: 11:45 Obs. NGM, EMP

Weather

Air Temp. -4 °C Wind Speed 5 Wind Direction W

Cloud Cover 25 % Cloud High ☒ Med ☐ Low ☐

Precipitation — Visibility High ☒ Med ☐ Low ☐

Route

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Route: I **Date:** Feb. 8/12 **Project #:** 1275

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Transect Segment
Rough-legged Hawk	11:15	1	hunting over woodlot	1	5	180	NA	200	Same bird as at H.
Red-tailed Hawk	11:20	1	Perched	—	0	—	NA	150	likely one of the earlier pair

Page ___ of ___

BIRD TRANSECT

Location H

Project # 1275

Length ____ km / ____ min

Survey ☐ spring migration ☐ breeding ☐ fall migration ☒ winter ☒ daytime/ raptor

Project Arnav WF

Date (mm/dd/yy) 02/08/12

Start Time: 10:15 End Time: 11:00 Obs. NGM, EMP

Weather

Air Temp. -4 °C Wind Speed 5 Wind Direction W

Cloud Cover 25 % Cloud High ☒ Med ☐ Low ☐

Precipitation — Visibility High ☒ Med ☐ Low ☐

Route

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Route: H **Date:** Feb. 8/12 **Project #:** 1275

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Transect Segment
Ruffed Grouse	10:20	1	flushed	1	0	280	NA	25	
Black-capped Chickadee	10:30	2	calling	—	0	—	NA	15	
Am. Crow	10:46	1	perched	—	0	—	NA	300	
Red-tailed Hawk	10:47	2	pair flushed from perch	3	0-7	circled over woodlot	NA	150	
Rough-legged Hawk	10:50	1	hunting	1	6	45	NA	250	

BIRD TRANSECT

Location 0

Project # 1275

Length ____ km ____ min

Survey ☐ spring migration ☐ breeding ☐ fall migration ☒ winter ☒ daytime/ raptor

Project Arnaw WF

Date (mm/dd/yy) 02/07/12

Start Time: 11:40 End Time: 11:55 Obs. NGM, EMP

Weather

Air Temp. -3 °C Wind Speed 5 Wind Direction NW

Cloud Cover 100 % Cloud High ☐ Med ☒ Low ☐

Precipitation — Visibility High ☒ Med ☐ Low ☐

Route

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Route: 3 **Date:** Feb. 7/12 **Project #:** 1275

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Transect Segment
Am. Crow	11:45	2	perched	—	0	—	NA	75	
Red-tailed Hawk	11:50	2	pair circling	1	7	circling	NA	150	

BIRD TRANSECT

Location AG

Project # 1275

Length ____ km ____ min

Survey ☐ spring migration ☐ breeding ☐ fall migration ☒ winter ☒ daytime/ raptor

Project Arrow WF

Date (mm/dd/yy) 02/07/12

Start Time: 11:05 End Time: 11:35 Obs. NGM, EMD

Weather

Air Temp. -3 °C Wind Speed 5 Wind Direction NW

Cloud Cover 100 % Cloud High ☐ Med ☒ Low ☐

Precipitation — Visibility High ☒ Med ☐ Low ☐

Route

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Route: AG **Date:** Feb. 7/12 **Project #:** 1275

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Transect Segment
Am. Crow	11:05	4	flying	1	0	300	NA	300	
Red-tailed Hawk	11:29	1	flying	1	3	200	NA	75	

BIRD TRANSECT

Location U

Project # 1275

Length ____ km ____ min

Survey ☐ spring migration ☐ breeding ☐ fall migration ☒ winter ☒ daytime/ raptor

Project Arman WF

Date (mm/dd/yy) 02/07/12

Start Time: 9:05 End Time: 9:15 Obs. NGM, EMP

Weather

Air Temp. -3 °C Wind Speed 5 Wind Direction NW

Cloud Cover 100 % Cloud High ☐ Med ☒ Low ☒

Precipitation light snow Visibility High ☒ Med ☐ Low ☐

Route

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Route: U **Date:** Feb. 7/12 **Project #:** 1275

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Transect Segment
No birds	observed!								

BIRD TRANSECT

Location S

Project # 1275

Length ____ km ____ min

Survey ☐ spring migration ☐ breeding ☐ fall migration ☒ winter ☒ daytime/ raptor

Project Amau WF

Date (mm/dd/yy) 02/07/12

Start Time: 8:45 End Time: 8:57 Obs. NGM, EMP

Weather

Air Temp. -3 °C Wind Speed S Wind Direction NW

Cloud Cover 100 % Cloud High ☐ Med ☒ Low ☐

Precipitation — Visibility High ☒ Med ☐ Low ☐

Route

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Route: 5				Date: Feb. 7/12			Project #: 1275		
Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Transect Segment
Herring Gull	8:45	75	Foraging at dump	—	0-3	—	NA	150	
Black-capped chickadee	8:46	2	calling	—	0	—	NA	25	
Dark-eyed Junco	8:49	1	"	—	0	—	NA	25	
Eur. starling	8:53	2	flying	1	1	300	NA	100	
Red-tailed Hawk	8:57	1	hunting	1	1	0	NA	150	
Rough-legged Hawk	8:57	1	"	1	1	0	NA	200	

BIRD TRANSECT

Location R

Project # R7S

Length ____ km ____ min

Survey ☐ spring migration ☐ breeding ☐ fall migration ☒ winter ☒ daytime/ raptor

Project Arrow WF

Date (mm/dd/yy) 02/07/12

Start Time: 8:10 End Time: 8:40 Obs. NGM, EMP

Weather

Air Temp. -3 °C Wind Speed 5 Wind Direction NW

Cloud Cover 100 % Cloud High ☐ Med ☒ Low ☐

Precipitation — Visibility High ☒ Med ☐ Low ☐

Route

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Route: R **Date:** Feb. 7/12 **Project #:** 1275

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Transect Segment
Horned Lark	8:10	2	foraging	—	0	—	NA	100	
Ring-billed Gull	8:12	1	flying	1	6	90	"	150	
Herring Gull	8:20	6	"	1	7	90	"	250	
Am. Crow	8:30	4	"	1	5	90	"	100	
Rough-legged Hawk	8:35	1	"	1	1	260	"	150	

BIRD TRANSECT

Location P

Project # 1275

Length ____ km ____ min

Survey ☐ spring migration ☐ breeding ☐ fall migration ☒ winter ☒ daytime/ raptor

Project Arnaw WF

Date (mm/dd/yy) 02/07/12

Start Time: 7:40 End Time: 8:05 Obs. NGM, EMP

Weather

Air Temp. -3 °C Wind Speed 5 Wind Direction NW

Cloud Cover 100 % Cloud High ☐ Med ☒ Low ☐

Precipitation — Visibility High ☒ Med ☐ Low ☐

Route

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Route: P **Date:** Feb. 7/12 **Project #:** 1275

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Transect Segment
Am. Crow	7:45	3	flying	1	2	200	NA	200	
Herring Gull	7:46	10	flying	1	6	75	NA	150	
Red-tailed Hawk	8:00	2	Pair circling	1	4	circling	NA	200	

AVIAN POINT COUNT FORM

STATION AL PROJECT 1275

Length 30 min Survey ☐ Migration ☒ Winter ☒ Daytime/ Raptor ☐ Other: ____

Project Armow WF DD/MM/YY 08/02/12

Start Time (24hr) 12:10 End Time: 12:40 Observers NGM, EMP

Weather

Air Temp. -4 °C Wind Speed 5 Wind Direction W (from)

Cloud Cover 25 % Cloud Height High ☒ Med ☐ Low ☐

Precipitation — Visibility High ☒ Med ☐ Low ☐

Station

Habitat

Elevation ____ ft / m Crop ____

Pressure ____ mb UTM ____

Turbines

Operational yes no Number in View ____ RPM ____

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.
Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Unable to effectively see down edge of woodlot due to hill.

Station#: AL **Date:** Feb. 8/12 **Project #:** 1275

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Comments
Raptor Sp.	12:15	1	Circling	1	5	circling	180	800	
Rock Pigeon	12:19	2	flying	1	1	90	200	75	
Rough-legged Hawk	12:24	1	hunting	1	2	220	270	200	
Rough-legged Hawk	12:24	1	hunting	1	2	220	25	200	
Horned Lark	12:24	1	perched	—	0	—	75	100	
House Sparrow	12:26	1	calling	—	0	—	260	75	
Rough-legged Hawk	12:33	1	hunting	1	3	270	50	300	
Rough-legged Hawk	12:37	1	perched	—	0	—	340	400	

Temp. _____
Cloud Cover _____%
Precipitation _____

Wind Speed _____
Wind Direction _____

AVIAN POINT COUNT FORM

STATION AQ PROJECT 1275

Length 30 min Survey ☐ Migration ☒ Winter ☑ Daytime/ Raptor ☐ Other: ____

Project Amaw WF DD/MM/YY 08/02/12

Start Time (24hr): 9:40 End Time: 10:10 Observers NGM, EMP

Weather

Air Temp. -4 °C Wind Speed 2 Wind Direction NW (from)

Cloud Cover 20 % Cloud Height High ☒ Med ☐ Low ☐

Precipitation — Visibility High ☑ Med ☐ Low ☐

Station

Habitat

Elevation ____ ft / m Crop ____

Pressure ____ mb UTM ____

Turbines

Operational yes no Number in View ____ RPM ____

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.
Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Station#: AQ **Date:** Feb. 8/12 **Project #:** 1275

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Comments
Am. Crow	9:45	1	Calling	—	0	—	45	200	
Euro. Starling	9:46	4	flying	1	6	290	160	300	
Blue Jay	9:55	1	flying	1	0	90	0	100	

Temp. _____
Cloud Cover _____%
Precipitation _____

Wind Speed _____
Wind Direction _____

AVIAN POINT COUNT FORM

STATION AJ PROJECT 1275

Length 30 min Survey ☐ Migration ☒ Winter ☒ Daytime/ Raptor ☐ Other: ____

Project Arman WF DD/MM/YY 08/02/12

Start Time (24hr) 9:05 End Time: 9:35 Observers NGM, EMP

Weather

Air Temp. -4 °C Wind Speed 2 Wind Direction NW (from)

Cloud Cover 25 % Cloud Height High ☒ Med ☐ Low ☐

Precipitation — Visibility High ☒ Med ☐ Low ☐

Station

Habitat

Elevation ____ ft / m Crop ____

Pressure ____ mb UTM ____

Turbines

Operational yes no Number in View ____ RPM ____

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.
Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Station#: AJ **Date:** Feb. 8/12 **Project #:** 1275

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Comments
Am. Crow	9:06	5	Calling	—	0	—	270	300	
Blue Jay	9:11	1	calling	—	0	—	160	150	
Horned Lark	9:12	1	Calling	—	0	—	0	75	
Am. Crow	9:21	1	flying	1	2	45	15	150	
Horned Lark	9:21	1	flying	1	4	340	180	25	
Mourning Dove	9:28	2	flying	1	3	340	340	150	

Temp. _____
Cloud Cover _____%
Precipitation _____

Wind Speed _____
Wind Direction _____

AVIAN POINT COUNT FORM

STATION B PROJECT 1275

Length 30 min Survey ☐ Migration ☒ Winter ☒ Daytime/ Raptor ☐ Other: _____

Project Arnaw DD/MM/YY 08/02/12

Start Time (24hr): 8:29 End Time: 8:59 Observers NGM, EMP

Weather

Air Temp. -4 °C Wind Speed 3 Wind Direction NW (from)

Cloud Cover 20 % Cloud Height High ☒ Med ☐ Low ☐

Precipitation — Visibility High ☒ Med ☐ Low ☐

Station

Habitat

Elevation _____ ft / m Crop _____

Pressure _____ mb UTM _____

Turbines

Operational yes no Number in View _____ RPM _____

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.
Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Station#: B **Date:** Feb. 8/12 **Project #:** 1275

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Comments
Am. Crow	8:31	2	flying	1	1	300	200	200	
Eur. Starling	8:32	1	flying	1	1	300	200	300	
Red-tailed Hawk	8:32	1	perched in woodlot	—	0	—	190	400	
Herring Gull	8:37	1	flying	1	5	200	180	700	
Horned Lark	8:47	2	flying	1	2	180	270	75	
Rock Pigeon	8:49	6	flying	1	6	180	270	500	

Temp. _____
Cloud Cover _____%
Precipitation _____

Wind Speed _____
Wind Direction _____

Point Count

BIRD ~~TRANSECT~~ Location C Project # 1275

Length	km	Survey	☐ spring migration	☐ breeding	☐ fall migration	☒ winter	☒ daytime/ raptor		
	30 min								
Project	Aman WF			Date (mm/dd/yy)	02/08/12				
Start Time:	7:55	End Time:	8:25	Obs.	NGM, EMP				

Weather

Air Temp.	-4 °C	Wind Speed	3	Wind Direction	NW		
Cloud Cover	20 %	Cloud	High ☒	Med ☐	Low ☐		
Precipitation	—	Visibility	High ☒	Med ☐	Low ☐		

Route

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Route: C **Date:** Feb. 8/12 **Project #:** 1275

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Transect Segment
Am. Crow	7:58	3	flying	1	1	270	320	150	
Eur. starling	8:00	1	"	1	1	180	90	200	
Rock Pigeon	8:10	2	"	1	3	45	90	100	

BIRD TRANSECT

Location 1D

Project # 1275

Length ____ km ____ min

Survey ☐ spring migration ☐ breeding ☐ fall migration ☒ winter ☒ daytime/ raptor

Project Arnaw WF

Date (mm/dd/yy) 02/07/12

Start Time: 15:20 End Time: 15:55 Obs. NGM, EMP

Weather

Air Temp. -3 °C Wind Speed 5 Wind Direction NW

Cloud Cover 100 % Cloud High ☐ Med ☒ Low ☐

Precipitation — Visibility High ☒ Med ☐ Low ☐

Route

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Route: D				Date: Feb. 7/12			Project #: 1275		
Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Transect Segment
No birds observed!									

AVIAN POINT COUNT FORM

STATION A 0 PROJECT 1275

Length 30 min Survey ☐ Migration ☒ Winter ☒ Daytime/ Raptor ☐ Other: _____

Project Arnaw WF DD/MM/YY 07/02/12

Start Time (24hr): 14:43 End Time: 15:13 Observers NGM, EMP

Weather

Air Temp. -2 °C Wind Speed 4 Wind Direction NW (from)

Cloud Cover 95 % Cloud Height High ☐ Med ☒ Low ☐

Precipitation — Visibility High ☒ Med ☐ Low ☐

Station

Habitat

Elevation _____ ft / m Crop _____

Pressure _____ mb UTM _____

Turbines

Operational yes no Number in View _____ RPM _____

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.
Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Station#: A0 **Date:** Feb. 7/12 **Project #:** 1275

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Comments
Rock Pigeon	14:47	1	flying	1	1	100	45	150	
Red-tailed Hawk	14:49	1	hunting	1	2	15	110	100	
Am. Crow	14:49	1	flying	1	1	270	90	300	
Red-tailed Hawk	14:55	1	flying	1	2	330	45	800	
Rough-legged Hawk	15:01	1	hunting	1	2	190	10	600	

Temp. _____
Cloud Cover _____%
Precipitation _____

Wind Speed _____
Wind Direction _____

AVIAN POINT COUNT FORM

STATION AK PROJECT 1275

Length 30 min Survey ☐ Migration ☒ Winter ☒ Daytime/ Raptor ☐ Other: _____

Project Arrow WF DD/MM/YY 07/02/12

Start Time (24hr): 14:10 End Time: 14:40 Observers _____

Weather

Air Temp. -3 °C Wind Speed 4 Wind Direction NW (from)

Cloud Cover 100 % Cloud Height High ☐ Med ☒ Low ☐

Precipitation — Visibility High ☒ Med ☐ Low ☐

Station

Habitat

Elevation _____ ft / m Crop _____

Pressure _____ mb UTM _____

Turbines

Operational yes no Number in View _____ RPM _____

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.
Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Station#: AK **Date:** Feb. 7/12 **Project #:** 1275

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Comments
Am. crow	14:13	1	flying	1	1	100	95	300	
Rough-legged Hawk	14:15	1	soaring	–	7	circling	35	1 Km +	
Red-tailed Hawk	14:19	1	flying	1	3	200	340	500	
Rough-legged Hawk	14:19	1	hunting	1	5	180	0	500	
Red-tailed Hawk	14:24	1	flying	1	1	0	285	300	

Temp. _____
Cloud Cover _____%
Precipitation _____

Wind Speed _____
Wind Direction _____

AVIAN POINT COUNT FORM

STATION A I PROJECT 1275

Length 30 min Survey ☐ Migration ☒ Winter ☒ Daytime/ Raptor ☐ Other: _____

Project Arnaw WF DD/MM/YY 07/02/12

Start Time (24hr): 13:35 End Time: 14:05 Observers NGM, EMP

Weather

Air Temp. -3 °C Wind Speed 5 Wind Direction NW (from)

Cloud Cover 100 % Cloud Height High ☐ Med ☒ Low ☐

Precipitation — Visibility High ☒ Med ☐ Low ☐

Station

Habitat

Elevation _____ ft / m Crop _____

Pressure _____ mb UTM _____

Turbines

Operational yes no Number in View _____ RPM _____

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.
Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Station#: AT **Date:** Feb. 7/12 **Project #:** 1275

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Comments
Red-tailed Hawk	13:46	1	Hunting	—	1	—	310	500	
N. Shrike	13:48	1	perched	—	0	—	15	200	
Am. Crow	13:51	1	Flying	1	2	10	270	110	

Temp. _____
Cloud Cover _____%
Precipitation _____

Wind Speed _____
Wind Direction _____

AVIAN POINT COUNT FORM

STATION AP PROJECT 1275

Length 30 min Survey ☐ Migration ☒ Winter ☒ Daytime/ Raptor ☐ Other: _____

Project Aman WF DD/MM/YY 07/02/12

Start Time (24hr) 12:35 End Time: 13:05 Observers NGM, EMP

Weather

Air Temp. -3 °C Wind Speed 5 Wind Direction NW (from)

Cloud Cover 100 % Cloud Height High ☐ Med ☒ Low ☐

Precipitation — Visibility High ☒ Med ☐ Low ☐

Station

Habitat

Elevation _____ ft / m Crop _____

Pressure _____ mb UTM _____

Turbines

Operational yes no Number in View _____ RPM _____

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.

Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Station#: AP **Date:** Feb. 07/12 **Project #:** 1275

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Comments
Am. Crow	12:40	5	Perched	—	0	—	15	500	
Raptor Sp.	12:55	1	Soaring	—	7	—	15	1 Km+	

Temp. _____
Cloud Cover _____%
Precipitation _____

Wind Speed _____
Wind Direction _____

AVIAN POINT COUNT FORM

STATION E **PROJECT** 1275

Length 30 min Survey ☐ Migration ☒ Winter ☒ Daytime/ Raptor ☐ Other: _____

Project Arrow WF DD/MM/YY 07/02/12

Start Time (24hr): 12:00 End Time: 12:30 Observers NGM, EMP

Weather

Air Temp. -3 °C Wind Speed 5 Wind Direction NW (from)

Cloud Cover 100 % Cloud Height High ☐ Med ☒ Low ☐

Precipitation — Visibility High ☒ Med ☐ Low ☐

Station

Habitat

Elevation _____ ft / m Crop _____

Pressure _____ mb UTM _____

Turbines

Operational yes no Number in View _____ RPM _____

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.
Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Station#: E **Date:** Feb. 7/12 **Project #:** 1275

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Comments
Euro. Starling	12:05	10	flying	1	1	270	300	200	
Am. Goldfinch	12:15	2	flying	1	6	180	45	150	
No other birds observed.									

Temp. _____
Cloud Cover _____%
Precipitation _____

Wind Speed _____
Wind Direction _____

AVIAN POINT COUNT FORM

STATION AM PROJECT 1275

Length 30 min Survey ☐ Migration ☒ Winter ☒ Daytime/ Raptor ☐ Other: _____

Project Arman WF DD/MM/YY 07/02/12

Start Time (24hr): 10:30 End Time: 11:00 Observers NGM, EMP

Weather

Air Temp. -3 °C Wind Speed 3 Wind Direction NW (from)

Cloud Cover 100 % Cloud Height High ☐ Med ☒ Low ☐

Precipitation — Visibility High ☒ Med ☐ Low ☐

Station

Habitat

Elevation _____ ft / m Crop _____

Pressure _____ mb UTM _____

Turbines

Operational yes no Number in View _____ RPM _____

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.
Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Station#: AM **Date:** Feb. 7/12 **Project #:** 1275

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Comments
Euro. Starlings	10:31	15	flying	1	0	160	15	400	
Raptor Sp.	10:44	1	flying	1	5	45	45	1 Km +	
Am. Crow	10:45	4	flying	1	4	110	15	800	
Rough-legged Hawk	10:47	1	Soaring	1	7	180	100	250	
Rough-legged Hawk	10:50	1	circling	1	6	90	10	600	

Temp. _____
Cloud Cover _____%
Precipitation _____

Wind Speed _____
Wind Direction _____

AVIAN POINT COUNT FORM

STATION AN **PROJECT** 1275

Length 30 min Survey ☐ Migration ☒ Winter ☒ Daytime/ Raptor ☐ Other: _____

Project Amaw WF DD/MM/YY 07/02/12

Start Time (24hr): 9:55 End Time: 10:25 Observers NGM, EMP

Weather

Air Temp. -3 °C Wind Speed 1 Wind Direction NW (from)

Cloud Cover 95 % Cloud Height High ☐ Med ☐ Low ☒

Precipitation light flurries Visibility High ☐ Med ☒ Low ☐

Station

Habitat

Elevation _____ ft / m Crop _____

Pressure _____ mb UTM _____

Turbines

Operational yes no Number in View _____ RPM _____

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.
Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Station#: AN **Date:** Feb. 7/12 **Project #:** 1275

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Comments
Am. Crow	9:59	1	Calling	—	0	—	270	300	
Am. Crow	10:15	1	flying	1	3	320	210	1 Km+	
No other birds observed!									

Temp. _____
Cloud Cover _____%
Precipitation _____

Wind Speed _____
Wind Direction _____

AVIAN POINT COUNT FORM

STATION AB PROJECT 1275

Length 30 min Survey ☐ Migration ☒ Winter ☒ Daytime/ Raptor ☐ Other: ____

Project Arnaw WF DD/MM/YY 07/02/12

Start Time (24hr): 9:20 End Time: 9:50 Observers N6M, EMP

Weather

Air Temp. −3 °C Wind Speed 4 Wind Direction NW (from)

Cloud Cover 100 % Cloud Height High ☐ Med ☐ Low ☒

Precipitation light flurries Visibility High ☐ Med ☒ Low ☐

Station

Habitat

Elevation ____ ft / m Crop ____

Pressure ____ mb UTM ____

Turbines

Operational yes no Number in View ____ RPM ____

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.
Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Station#: AB **Date:** Feb. 7/12 **Project #:** 1275

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Comments
Am. Crow	9:22	1	perched	—	0	—	320	150	
Am. Tree Sparrow	9:28	2	flying	1	5	320	45	100	
No other birds observed!									

Temp. _____
Cloud Cover _____%
Precipitation _____

Wind Speed _____
Wind Direction _____

AVIAN POINT COUNT FORM

STATION G PROJECT 1275

Length 30 min Survey ☐ Migration ☒ Winter ☒ Daytime/ Raptor ☐ Other: ____

Project Amow WF DD/MM/YY 06/02/12

Start Time (24hr): 16:04 End Time: 16:34 Observers N6M, EMP

Weather

Air Temp. 2 °C Wind Speed 3 Wind Direction W (from)

Cloud Cover 100 % Cloud Height High ☐ Med ☒ Low ☐

Precipitation — Visibility High ☒ Med ☐ Low ☐

Station

Habitat

Elevation ____ ft / m Crop ____

Pressure ____ mb UTM ____

Turbines

Operational yes no Number in View ____ RPM ____

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.
Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Station#: 6 **Date:** Feb. 6/12 **Project #:** 1275

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Comments
Herring Gull	16:05	3	flying	1	3	200	75	100	
Rough-legged Hawk	16:07	1	eating a/vole (perched)	—	0	—	200	100	
Eur. Starling	16:08	20	perched	—	0	—	190	100	
Rough-legged Hawk	16:16	1	perched	—	0	—	250	200	

Temp. _____
Cloud Cover _____%
Precipitation _____

Wind Speed _____
Wind Direction _____

Page ___of___

AVIAN POINT COUNT FORM

STATION K **PROJECT** 1275

Length 30 min Survey ☐ Migration ☒ Winter ☒ Daytime/ Raptor ☐ Other: _____

Project Arman WF DD/MM/YY 06/02/12

Start Time (24hr): 15:30 End Time: 16:00 Observers NGM, EMP

Weather

Air Temp. 2 °C Wind Speed 4 Wind Direction W (from)

Cloud Cover 95 % Cloud Height High ☐ Med ☒ Low ☐

Precipitation — Visibility High ☒ Med ☐ Low ☐

Station

Habitat

Elevation _____ ft / m Crop _____

Pressure _____ mb UTM _____

Turbines

Operational yes no Number in View _____ RPM _____

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.
Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Station#: K **Date:** Feb. 6 /12 **Project #:** 1275

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Comments
Am. Crow	15:31	4	flying	1	7	350	240	500	
Herring Gull	15:40	1	flying	1	8	350	240	300	
Herring Gull	15:44	6	flying	1	5	200	270	200	

Temp. _____
Cloud Cover _____%
Precipitation _____

Wind Speed _____
Wind Direction _____

AVIAN POINT COUNT FORM

STATION L PROJECT 1275

Length 30 min Survey ☐ Migration ☒ Winter ☒ Daytime/ Raptor ☐ Other:

Project Aman WF DD/MM/YY 06/02/12

Start Time (24hr) 14:55 End Time: 15:25 Observers NGM, EMP

Weather

Air Temp. 1 °C Wind Speed 5 Wind Direction W (from)

Cloud Cover 85 % Cloud Height High ☐ Med ☒ Low ☐

Precipitation — Visibility High ☒ Med ☐ Low ☐

Station

Habitat

Elevation ft / m Crop

Pressure mb UTM

Turbines

Operational yes no Number in View RPM

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.
Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Station#: 1275 **Date:** Feb. 2/12 **Project #:** 1275

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Comments
Herring Gull	14:55	2	flying	1	5	270	250	300	
Herring Gull	15:13	3	flying	1	3	270	350	400	
Am. Crow	15:14	1	perched	—	0	—	260	200	
Euro. Starling	15:15	1	flying	1	1	350	250	150	

Temp. _____
Cloud Cover _____%
Precipitation _____

Wind Speed _____
Wind Direction _____

AVIAN POINT COUNT FORM

STATION AH PROJECT 1275

Length 30 min Survey ☐ Migration ☒ Winter ☒ Daytime/ Raptor ☐ Other:

Project Arnaw WF DD/MM/YY 06/02/12

Start Time (24hr): 14:18 End Time: 14:48 Observers NGM, EMP

Weather

Air Temp. 1 °C Wind Speed 5 Wind Direction W (from)

Cloud Cover 80 % Cloud Height High ☐ Med ☒ Low ☐

Precipitation — Visibility High ☒ Med ☐ Low ☐

Station

Habitat

Elevation ____ ft / m Crop ____

Pressure ____ mb UTM ____

Turbines

Operational yes no Number in View ____ RPM ____

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.
Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Station#: AH **Date:** Feb. 2/12 **Project #:** 1275

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Comments
Red-tailed Hawk	14:18	3	flying	1	3	260	110	300	
Am. Crow	14:18	2	mobbing RTHA	1	3	260	110	300	
Rough-legged Hawk	14:22	1	flying	1	7	270	0	600	
Rough-legged Hawk	14:30	3	hunting	1	5	0	190	300	
Rough-legged Hawk	14:35	1	hunting	1	5	90	15	450	

Temp. _____
Cloud Cover _____%
Precipitation _____

Wind Speed _____
Wind Direction _____

AVIAN POINT COUNT FORM

STATION AF **PROJECT** 1275

Length 30 min Survey ☐ Migration ☒ Winter ☒ Daytime/ Raptor ☐ Other: _____

Project Arrnow DD/MM/YY _____

Start Time (24hr): 13:43 End Time: 14:15 Observers NGM, EMP

Weather

Air Temp. 1 °C Wind Speed 5 Wind Direction W (from)

Cloud Cover 70 % Cloud Height High ☐ Med ☒ Low ☐

Precipitation — Visibility High ☒ Med ☐ Low ☐

Station

Habitat

Elevation _____ ft / m Crop _____

Pressure _____ mb UTM _____

Turbines

Operational yes no Number in View _____ RPM _____

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.
Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Station#: AF **Date:** Feb. 6/12 **Project #:** 1275

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Comments
A. Crow	13:55	1	Calling	1	—	45	190	150	
Rough-legged Hawk	13:56	1	hunting	1	3	190	340	250	light morph
Herring Gull	13:59	2	flying	1	0	170	45	150	
Rough-legged Hawk	14:00	2	hunting	1	2	215	160	1 km	light morph
Red-tailed Hawk	14:12	1	hunting	1	2	190	340	250	

associated w pr. ct AE walbt

Temp. _____
Cloud Cover _____%
Precipitation _____

Wind Speed _____
Wind Direction _____

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AVIAN POINT COUNT FORM

STATION AE PROJECT 1275

Length 30 Survey ☐ Migration ☒ Winter ☒ Daytime/ Raptor ☐ Other:

Project Armow WF DD/MM/YY 06/02/12

Start Time (24hr): 13:12 End Time: 13:42 Observers NGM, EMP

Weather

Air Temp. 1 °C Wind Speed 5 Wind Direction W (from)

Cloud Cover 65 % Cloud Height High ☐ Med ☒ Low ☐

Precipitation — Visibility High ☒ Med ☐ Low ☐

Station

Habitat

Elevation ft / m Crop

Pressure mb UTM

Turbines

Operational yes no Number in View RPM

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.
Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Station#: AE **Date:** Feb. 6/12 **Project #:** 1275

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Comments
A. Crow	13:12	1	flying	1	3	0	295	300	
Herring Gull	13:13	10	flying	1	6	260	45	200	
* RLHA see note on		AF							

Temp. _____
Cloud Cover _____%
Precipitation _____

Wind Speed _____
Wind Direction _____

AVIAN POINT COUNT FORM

STATION AC **PROJECT** 1275

Length 30 min Survey ☐ Migration ☒ Winter ☒ Daytime/ Raptor ☐ Other: _____

Project Armow WF DD/MM/YY 06/02/12

Start Time (24hr): 12:37 End Time: 13:07 Observers NGM, EMP

Weather

Air Temp. 1 °C Wind Speed 5 Wind Direction W (from)

Cloud Cover 80 % Cloud Height High ☐ Med ☒ Low ☐

Precipitation — Visibility High ☒ Med ☐ Low ☐

Station

Habitat

Elevation _____ ft / m Crop _____

Pressure _____ mb UTM _____

Turbines

Operational yes no Number in View _____ RPM _____

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.
Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Station#:	AC			Date:	Feb. 6/12			Project #:	1275
Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Comments
Horned Lark	12:39	3	flying	1	1	270	5	75	
Eur. Starling	12:40	1	flying	1	0	90	15	50	
Am. Crow	12:41	1	flying	1	1	200	270	300	
Rock Pigeon	12:50	6	perched	—	0	—	270	300	
Red-tailed Hawk	12:53	2	Pair flying	1	5	0	210	400	
Rough-legged Hawk	12:54	1	Hunting	1	5	90	0	300	Dark morph

Temp. _____
Cloud Cover _____%
Precipitation _____

Wind Speed _____
Wind Direction _____

AVIAN POINT COUNT FORM

STATION 2 PROJECT 1275

Length 30 min Survey ☐ Migration ☒ Winter ☒ Daytime/ Raptor ☐ Other: ____

Project Armow WF DD/MM/YY 06/02/12

Start Time (24hr): 12:04 End Time: 12:34 Observers NoM, EMP

Weather

Air Temp. 1 °C Wind Speed 6 Wind Direction W (from)

Cloud Cover 65 % Cloud Height High ☐ Med ☒ Low ☐

Precipitation — Visibility High ☒ Med ☐ Low ☐

Station

Habitat

Elevation ____ ft / m Crop ____

Pressure ____ mb UTM ____

Turbines

Operational yes no Number in View ____ RPM ____

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.
Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Station#: 2 **Date:** Feb. 6/12 **Project #:** 1275

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Comments
Herring Gull	12:19	6	flying	1	7	160	45	100	
Rough-legged Hawk	12:19	1	flying	1	6	270	0	100	light morph

Temp. _____
Cloud Cover _____%
Precipitation _____

Wind Speed _____
Wind Direction _____

AVIAN POINT COUNT FORM

STATION Y PROJECT 1275

Length 30 min Survey ☐ Migration ☒ Winter ☒ Daytime/ Raptor ☐ Other: ____

Project Amaw WF DD/MM/YY 06/02/12

Start Time (24hr) 11:31 End Time: 12:01 Observers NGM, EMP

Weather

Air Temp. 0 °C Wind Speed 4 Wind Direction SW (from)

Cloud Cover 85 % Cloud Height High ☐ Med ☒ Low ☐

Precipitation — Visibility High ☒ Med ☐ Low ☐

Station

Habitat

Elevation ____ ft / m Crop ____

Pressure ____ mb UTM 17T 0462531 4891619

Turbines

Operational yes no Number in View ____ RPM ____

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.
Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Station#: Y **Date:** Feb. 6/12 **Project #:** 1275

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Comments
Red-tailed Hawk	11:33	3	circling	1	6	200	320	500	
Rough-legged Hawk	11:54	1	hunting	1	4	200	15	300	light morph
Am. Crow	11:55	2	flying	1	6	45	90	75	
Am. Goldfinch	11:56	1	calling	—	0	—	180	100	

Temp. _____
Cloud Cover _____%
Precipitation _____

Wind Speed _____
Wind Direction _____

AVIAN POINT COUNT FORM

STATION V PROJECT 1275

Length 30 min Survey ☐ Migration ☒ Winter ☒ Daytime/ Raptor ☐ Other: _____

Project Aman WF DD/MM/YY 06/02/12

Start Time (24hr): 10:58 End Time: 11:28 Observers NCM, EMP

Weather

Air Temp. 0 °C Wind Speed 9 Wind Direction SW (from)

Cloud Cover 90 % Cloud Height High ☐ Med ☒ Low ☐

Precipitation — Visibility High ☒ Med ☐ Low ☐

Station

Habitat

Elevation _____ ft / m Crop _____

Pressure _____ mb UTM _____

Turbines

Operational yes no Number in View _____ RPM _____

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.
Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Station#: V	Date: Feb. 6/12	Project #: 1275

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Comments
Herring Gull	10:59	3	Flying	1	6	265	310	400	
Eur. Starling	11:01	1	perched	—	0	—	90	75	
House Sparrow	11:03	2	calling	—	0	—	250	200	
Am. Crow	11:03	12	Flying	1	2	50	90	300	
Red-tailed Hawk	11:12	2	Pair circling over woodlot	—	7	circling	170	250	
Red-tailed Hawk	11:21	2	Mobbed by crows	—	0	circling	10	300	

Temp. _____
Cloud Cover _____%
Precipitation _____

Wind Speed _____
Wind Direction _____

AVIAN POINT COUNT FORM

STATION Q PROJECT 1275

Length 30 min Survey ☐ Migration ☒ Winter ☒ Daytime/ Raptor ☐ Other: _____

Project Arnaud Wind Farm DD/MM/YY 06/02/12

Start Time (24hr): 10:25 End Time: 10:55 Observers NGM, EMP

Weather

Air Temp. 0 °C Wind Speed 3 Wind Direction SW (from)

Cloud Cover 75 % Cloud Height High ☐ Med ☒ Low ☐

Precipitation — Visibility High ☒ Med ☐ Low ☐

Station

Habitat

Elevation _____ ft / m Crop _____

Pressure _____ mb UTM _____

Turbines

Operational yes no Number in View _____ RPM _____

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.
Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Station#: Q **Date:** Feb 06/12 **Project #:** 1275

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Comments
Rock Pigeon	10:30	1	flying	1	0	170	15	350	
Ring-billed Gull	10:33	1	flying	1	0	270	90	75	
Red-tailed Hawk	10:36	1	soaring	1	6	circling over woodlot	15	500	

Temp. _____
Cloud Cover _____%
Precipitation _____

Wind Speed _____
Wind Direction _____

BIRD TRANSECT

Location P

Project # 1275

Length ____ km / ____ min

Survey ☐ spring migration ☐ breeding ☐ fall migration ☒ winter ☐ daytime/ raptor

Project Armow WE

Date (mm/dd/yy) 02/13/12

Start Time: 12:44 End Time: 1326 Obs. ANM, KNP

Weather

Air Temp. -1 °C Wind Speed 3 Wind Direction SW

Cloud Cover 10 % Cloud High ☒ Med ☐ Low ☐

Precipitation None Visibility High ☒ Med ☐ Low ☐

Route

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Route: P **Date:** 13-Feb-12 **Project #:** 1273

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Transect Segment
Am Robin	12:57	1	foraging	—	0	—	E	25	
Blue Jay	12:58	1	flying	—	1	N	E	50	

Page ___ of ___

BIRD TRANSECT

Location O

Project # 1275

Length ____ km ____ min

Survey ☐ spring migration ☐ breeding ☐ fall migration ☒ winter ☐ daytime/ raptor

Project Armow WF

Date (mm/dd/yy) 02/15/12

Start Time: 17:13 End Time: 17:39 Obs. ANM/KNP

Weather

Air Temp. 1 °C Wind Speed 4 Wind Direction SW

Cloud Cover 100 % Cloud High ☒ Med ☐ Low ☐

Precipitation None Visibility High ☒ Med ☐ Low ☐

Route

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Route: O **Date:** 15-Feb-12 **Project #:** 1275

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Transect Segment
None observed									

Page ___ of ___

BIRD TRANSECT

Location N

Project # 1275

Length _____ km _____ min

Survey ☐ spring migration ☐ breeding ☐ fall migration ☒ winter ☐ daytime/ raptor

Project Arnaw

Date (mm/dd/yy) 02/14/12

Start Time: 17:15 End Time: 17:27 Obs. ANM, KNP

Weather

Air Temp. 1 °C Wind Speed 3 Wind Direction SW

Cloud Cover 100 % Cloud High ☒ Med ☐ Low ☐

Precipitation Light snow Visibility High ☐ Med ☒ Low ☐

Route

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Route: N **Date:** 14-Feb-12 **Project #:** 1275

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Transect Segment
N. Shrike	17:25	1	Perched	—	1	—	SE	100 m	

Page ___ of ___

BIRD TRANSECT

Location 4

Project # 1275

Length _____ km _____ min

Survey ☐ spring migration ☐ breeding ☐ fall migration ☒ winter ☐ daytime/ raptor

Project Armow WF

Date (mm/dd/yy) 03/13/12

Start Time: 1530 End Time: 1543 Obs. ANM, KNP

Weather

Air Temp. -1 °C Wind Speed 3 Wind Direction SW

Cloud Cover 0 % Cloud N/A High ☐ Med ☐ Low ☐

Precipitation None Visibility High ☒ Med ☐ Low ☐

Route

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Route: 4 **Date:** 13-Feb-12 **Project #:** 1275

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Transect Segment
Am Crow	1537	1	[illegible]	1	1	NW	W	75m	

Page ___of ___

BIRD TRANSECT

Location S

Project # 1275

Length ____ km ____ min

Survey ☐ spring migration ☐ breeding ☐ fall migration ☒ winter ☐ daytime/ raptor

Project Armow WF

Date (mm/dd/yy) 2/13/12

Start Time: 14:16 End Time: 14:39 Obs. ANM, KNP

Weather

Air Temp. -1 °C Wind Speed 3 Wind Direction SE

Cloud Cover 0 % Cloud N/A High ☐ Med ☐ Low ☐

Precipitation None (yay!) Visibility High ☒ Med ☐ Low ☐

Route

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Route: S **Date:** 13-Feb-12 **Project #:** 1275

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Transect Segment
Herring Gull	14:18	7	flying	1	1	W	S	200	
Am Crow	14:22	1	"	1	2	W	S	350	

Page ___ of ___

BIRD TRANSECT

Location R

Project # 1275

Length ____ km ____ min

Survey ☐ spring migration ☐ breeding ☐ fall migration ☒ winter ☐ daytime/ raptor

Project Armow WF

Date (mm/dd/yy) 02/13/12

Start Time: 1338 End Time: 1400 Obs. ANM, KNP

Weather

Air Temp. -1 °C Wind Speed 3 Wind Direction SW

Cloud Cover 0 % Cloud High ☒ Med ☐ Low ☐

Precipitation NONE Visibility High ☒ Med ☐ Low ☐

Route

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Route: R **Date:** 13-Feb-12 **Project #:** 1275

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Transect Segment
Herring Gull	1248	1	flying	1	1	NE	N	200	

Page ___of ___

BIRD TRANSECT

Location AG

Project # 1273

Length ____ km ____ min

Survey ☐ spring migration ☐ breeding ☐ fall migration ☒ winter ☐ daytime/ raptor

Project Armow WF

Date (mm/dd/yy) 02/14/12

Start Time: 12:10 End Time: 12:51 Obs. ANM, KNP

Weather

Air Temp. -1 °C Wind Speed 4 Wind Direction SW

Cloud Cover 100 % Cloud High ☒ Med ☐ Low ☐

Precipitation None Visibility High ☒ Med ☐ Low ☐

Route

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Route: AG **Date:** 14-Feb-12 **Project #:** 1275

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Transect Segment
Rough-legged Hawk	12:25	1	flying	1	1	NW	N	250	
" "	"	1	perched	—	0	—	E	200	
Am. crow	12:41	3	flying	1	2	E	N	500	

Page ___ of ___

BIRD TRANSECT

Location I

Project # 1275

Length ____ km ____ min

Survey ☐ spring migration ☐ breeding ☐ fall migration ☒ winter ☐ daytime/ raptor

Project Arrow WF

Date (mm/dd/yy) 02/15/10

Start Time: ~16:00 End Time: 16:24

Obs. ANM, KNP

Weather

Air Temp. 2 °C

Wind Speed 5

Wind Direction SW

Cloud Cover 100 %

Cloud High ☒ Med ☐ Low ☐

Precipitation None

Visibility High ☒ Med ☐ Low ☐

Route

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Route: I **Date:** 15-Feb-12 **Project #:** 1275

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Transect Segment
RTHK	16:00	1	flying	2	3	SW	E	200	
"	16:04	1	"	1	1	NE	E	75	

Page ___ of ___

BIRD TRANSECT

Location H

Project # 1275

Length ____ km / ____ min

Survey ☐ spring migration ☐ breeding ☐ fall migration ☒ winter ☐ daytime/ raptor

Project Arrow WF

Date (mm/dd/yy) 02/15/12

Start Time: 15:40 End Time: 16:53 Obs. ANM, KNP

Weather

Air Temp. 2 °C Wind Speed 5 Wind Direction SW

Cloud Cover 100 % Cloud High ☒ Med ☐ Low ☐

Precipitation None Visibility High ☒ Med ☐ Low ☐

Route

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Route: H **Date:** 15-Feb-12 **Project #:** 1275

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Transect Segment
Am Crow	1628	3	Perched	—	C	—	NW	350	
Rough-legged Hawk	1629	1	flying	1	3	SE	NE	250	

Page ___ of ___

BIRD TRANSECT

Location D

Project # 1275

Length ____ km ____ min

Survey ☐ spring migration ☐ breeding ☐ fall migration ☒ winter ☐ daytime/ raptor

Project Armow WF

Date (mm/dd/yy) 02/15/12

Start Time: 1051 End Time: 11:35 Obs. ANM, KNP

Weather

Air Temp. 2 °C Wind Speed 4 Wind Direction SW

Cloud Cover 100 % Cloud High ☒ Med ☐ Low ☐

Precipitation None Visibility High ☒ Med ☐ Low ☐

Route

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Route: D **Date:** 15-Feb-12 **Project #:** 1275

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Transect Segment
Rock Dove	10:51	7	Perched	—	1	—	N	50	
House sparrow	10:51	10	Foraging	—	0	—	W	10	
Sharp-shinned hawk	11:15	1	Flying	1	1	E	N	200	
horned lark	11:15	1	Perched	—	0	—	S	75	

Page ___ of ___

AVIAN POINT COUNT FORM

STATION AQ PROJECT 1275

Length 30 min Survey ☐ Migration ☒ Winter ☐ Daytime/ Soaring ☐ Other: _____

Project Armow WF DD/MM/YY 14/2/12

Start Time (24hr): 1538 End Time: 1608 Observers ANM, KNF

Weather

Air Temp. 1 °C Wind Speed 3 Wind Direction SW (from)

Cloud Cover 100 % Cloud Height High ☒ Med ☐ Low ☐

Precipitation None but haze Visibility High ☐ Med ☒ Low ☐

Station

Habitat

Elevation _____ ft / m Crop _____

Pressure _____ mb UTM 17T 0467867 4897764

Turbines N/A

Operational yes no Number in View None RPM N/A

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.
Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Station#: AQ **Date:** 14-Feb-12 **Project #:** 1275

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Comments
Am Crow	1551	1	flying	1	2	SW	W	150m	

Temp. 1
Cloud Cover 100 %
Precipitation None but haze

Wind Speed 3
Wind Direction SW

Page ___ of ___

AVIAN POINT COUNT FORM

STATION AP PROJECT 1275

Length 30min Survey ☐ Migration ☒ Winter ☐ Daytime/ Soaring ☐ Other: ____

Project Arnow WF DD/MM/YY 14/12/12

Start Time (24hr): 14:24 End Time: 14:54 Observers ANM, KNP

Weather

Air Temp. 0 °C Wind Speed 3 Wind Direction SW (from)

Cloud Cover 100 % Cloud Height High ☒ Med ☐ Low ☐

Precipitation light snow Visibility High ☐ Med ☒ Low ☐

Station

Habitat

Elevation ____ ft / m Crop ____

Pressure ____ mb UTM 17T 0463901 4897579

Turbines

Operational (yes) no Number in View 7 RPM 12

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.
Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Station#: AP **Date:** 14-Feb-10 **Project #:** 1273

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Comments
Rough-legged hawk	1432	1	Perched	—	1	—	NE	300	

Temp. 0
Cloud Cover 100 %
Precipitation light snow

Wind Speed 3
Wind Direction SW

Page ___ of ___

AVIAN POINT COUNT FORM

STATION A0 PROJECT 1275

Length 30 min Survey ☐ Migration ☒ Winter ☐ Daytime/ Raptor ☐ Other: _____

Project Armow WF DD/MM/YY 15/02/12

Start Time (24hr): 10:05 End Time: 10:35 Observers ANM, KNP

Weather

Air Temp. 2 °C Wind Speed 2 Wind Direction W (from)

Cloud Cover 100 % Cloud Height High ☒ Med ☐ Low ☐

Precipitation None Visibility High ☒ Med ☐ Low ☐

Station

Habitat

Elevation _____ ft / m Crop _____

Pressure _____ mb UTM 17T 0461182 4896782

Turbines

Operational (yes) no Number in View 3 RPM 13

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.
Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Station#: AO **Date:** 15-Feb-12 **Project #:** 1275

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Comments
Eu. Starling	10:08	25	perched	—	0	—	E	75	
Am. Crow	1011	1	"	—	0	—	NE	350	
Herring Gull	1021	1	flying	1	1	S	E	25	
Red tailed hawk	10:23	1	"	1	1	W	S	350	
horned lark	10:27	3	"	1	0	E	NE	25	

Temp. 2
Cloud Cover 100 %
Precipitation None

Wind Speed 2
Wind Direction W

Page ___of ___

AVIAN POINT COUNT FORM

STATION AN PROJECT 1275

Length 30min Survey ☐ Migration ☒ Winter ☐ Daytime/ Raptor ☐ Other: ____

Project Arnaw WF DD/MM/YY 14/2/12

Start Time (24hr): 0934 End Time: 1004 Observers ANM, KNP

Weather

Air Temp. -2 °C Wind Speed 3 Wind Direction W (from)

Cloud Cover 100 % Cloud Height High ☒ Med ☐ Low ☐

Precipitation None Visibility High ☒ Med ☐ Low ☐

Station

Habitat

Elevation ____ ft / m Crop ____

Pressure ____ mb UTM 17T 0462898 4888823

Turbines

Operational (yes) no Number in View 1 RPM 13

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.
Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Station#: AN **Date:** 14-Feb-12 **Project #:** 1275

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Comments
None									

Temp. -2
Cloud Cover 100 %
Precipitation None

Wind Speed 3
Wind Direction W

Page ___ of ___

AVIAN POINT COUNT FORM

STATION AM **PROJECT** 1275

Length 30min Survey ☐ Migration ☒ Winter ☐ Daytime/ Soaring ☐ Other: ____

Project Armow WF DD/MM/YY 14/02/12

Start Time (24hr): 1014 End Time: 1044 Observers ANM, KNP

Weather

Air Temp. −1 °C Wind Speed 3 Wind Direction W (from)

Cloud Cover 100 % Cloud Height High ☒ Med ☐ Low ☐

Precipitation None Visibility High ☒ Med ☐ Low ☐

Station

Habitat

Elevation ____ ft / m Crop ____

Pressure ____ mb UTM 17T 0464818 4870052

Turbines N/A

Operational yes no Number in View None RPM N/A

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.
Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Station#: AM **Date:** 14-Feb-12 **Project #:** 1275

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Comments
Eu. Starling	1038	150	flying	1	4	E	SE	500	
Am Crow	1039	1	"	1	4	SE	SE	500	

Temp. -1
Cloud Cover 100 %
Precipitation None

Wind Speed 3
Wind Direction W

Page ___ of ___

AVIAN POINT COUNT FORM

STATION AL PROJECT 1275

Length 30min Survey ☐ Migration ☒ Winter ☐ Daytime/ Raptor ☐ Other:

Project Arnow WF DD/MM/YY 14/02/12

Start Time (24hr): 1348 End Time: 1418 Observers ANM, KNP

Weather

Air Temp. 0 °C Wind Speed 4 Wind Direction SW (from)

Cloud Cover 100 % Cloud Height High ☒ Med ☐ Low ☐

Precipitation Light snow Visibility High ☐ Med ☒ Low ☐

Station

Habitat

Elevation ____ ft / m Crop

Pressure ____ mb UTM 17T 0465476 4896695

Turbines N/A

Operational yes no Number in View None RPM N/A

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.
Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Station#: AL **Date:** 14-Feb-12 **Project #:** 1275

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Comments
None observed.									

Temp. 0
Cloud Cover 100 %
Precipitation Light Snow

Wind Speed 4
Wind Direction SW

Page ___ of ___

AVIAN POINT COUNT FORM

STATION AK **PROJECT** 1275

Length 30min Survey ☐ Migration ☒ Winter ☐ Daytime/ Raptor ☐ Other: _____

Project Arnow WF DD/MM/YY 15/02/12

Start Time (24hr): 0926 End Time: 0956 Observers KNP, ANM

Weather

Air Temp. 2 °C Wind Speed 2 Wind Direction W (from)

Cloud Cover 100 % Cloud Height High ☒ Med ☐ Low ☐

Precipitation None Visibility High ☒ Med ☐ Low ☐

Station

Habitat

Elevation _____ ft / m Crop _____

Pressure _____ mb UTM 17T 0460493 4897160

Turbines

Operational (yes) no Number in View 5 RPM 13

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.
Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Station#: AK **Date:** 15-Feb-12 **Project #:** 1275

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Comments
Am Crow	0930	1	flying	3	O	W	N	150	
Hairy Woodpecker	0933	1	"	1	1	W	S	350	
horned larks	0937	5	perched	—	O	—	S	50	
Eu. Starlings	0943	2	"	—	1	—	NE	400	
" "	0956	40	Perched	—	1	—	E	400	

Temp. 2
Cloud Cover 100 %
Precipitation None

Wind Speed 2
Wind Direction W

Page ___ of ___

AVIAN POINT COUNT FORM

STATION AJ **PROJECT** 1275

Length 30min. Survey ☐ Migration ☒ Winter ☐ Daytime/ Raptor ☐ Other: _____

Project Arnow WF DD/MM/YY 15/02/12

Start Time (24hr): 14:59 End Time: 15:29 Observers ANM, KNP

Weather

Air Temp. 2 °C Wind Speed 5 Wind Direction SW (from)

Cloud Cover 100 % Cloud Height High ☒ Med ☐ Low ☐

Precipitation None Visibility High ☒ Med ☐ Low ☐

Station

Habitat

Elevation _____ ft / m Crop _____

Pressure _____ mb UTM 17T 0465303 4900561

Turbines

Operational (yes) no Number in View 23 RPM 13

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.
Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Station#: AJ **Date:** 15-Feb-12 **Project #:** 1275

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Comments
None observed.									

Temp. 2
Cloud Cover 100 %
Precipitation None

Wind Speed 5
Wind Direction SW

Page ___of ___

AVIAN POINT COUNT FORM

STATION AI **PROJECT** 1275

Length 30min Survey ☐ Migration ☒ Winter ☐ Daytime/ Soaring ☐ Other: ____

Project ARMAW WF DD/MM/YY 15/02/12

Start Time (24hr): 13:41 End Time: 14:11 Observers ANM, KNP

Weather

Air Temp. 3 °C Wind Speed 3 Wind Direction SW (from)

Cloud Cover 100 % Cloud Height High ☒ Med ☐ Low ☐

Precipitation None Visibility High ☒ Med ☐ Low ☐

Station

Habitat

Elevation ____ ft / m Crop ____

Pressure ____ mb UTM 17T 0459884 4899297

Turbines

Operational (yes) no Number in View 33 RPM 13

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.

Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Station#: AI **Date:** 15-Feb-12 **Project #:** 1275

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Comments
Eu. Starling	1347	10	flying	1	3	N	W	500 m	
~~RTHA~~ BTHA	1411	1	Perched	—	1	—	S	500 m	

Temp. 3
Cloud Cover 100 %
Precipitation None

Wind Speed 3
Wind Direction SW

Page ___ of ___

AVIAN POINT COUNT FORM

STATION AH PROJECT 1275

Length 30min Survey ☐ Migration ☒ Winter ☐ Daytime/ Soaring ☐ Other: ____

Project Arrow WF DD/MM/YY 14/02/12

Start Time (24hr): 11:28 End Time: 11:58 Observers ANM, KNP

Weather

Air Temp. -1 °C Wind Speed 3 Wind Direction W (from)

Cloud Cover 100 % Cloud Height High ☒ Med ☐ Low ☐

Precipitation None Visibility High ☒ Med ☐ Low ☐

Station

Habitat

Elevation ____ ft / m Crop ____

Pressure ____ mb UTM 17T 0467656 4892341

Turbines N/A

Operational yes no Number in View None RPM N/A

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.
Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Station#: AH **Date:** 14-Feb-12 **Project #:** 1275

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Comments
Am Crow	11:45	2	flying	1	1	SE	E	175m	

Temp. -1
Cloud Cover 100 %
Precipitation None

Wind Speed 3
Wind Direction W

Page ___ of ___

AVIAN POINT COUNT FORM

STATION AB **PROJECT** 1275

Length 30 min Survey ☐ Migration ☒ Winter ☐ Daytime/ Raptor ☐ Other: _____

Project Armow WF DD/MM/YY 15/02/12

Start Time (24hr): 11:53 End Time: 12:23 Observers ANM, KNP

Weather

Air Temp. 2 °C Wind Speed 4 Wind Direction SW (from)

Cloud Cover 100 % Cloud Height High ☒ Med ☐ Low ☐

Precipitation None Visibility High ☒ Med ☐ Low ☐

Station

Habitat

Elevation _____ ft / m Crop _____

Pressure _____ mb UTM 17T 0465309 4900558

Turbines

Operational N/A yes no Number in View None RPM N/A

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.
Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Station#: AB **Date:** 15-Feb-12 **Project #:** 1275

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Comments
Bteo Spp.	11:54	1	flying	1	1	S	W	400	

Temp. 2
Cloud Cover 100 %
Precipitation None

Wind Speed 4
Wind Direction SW

Page ___of ___

AVIAN POINT COUNT FORM

STATION 2 PROJECT 1275

Length 30min Survey ☐ Migration ☒ Winter ☐ Daytime/ Soaring ☐ Other: ____

Project Arnow WE DD/MM/YY 13/02/12

Start Time (24hr): 1636 End Time: 1706 Observers ANM KNP

Weather

Air Temp. 1 °C Wind Speed 3 Wind Direction SW (from)

Cloud Cover 5 % Cloud Height High ☒ Med ☐ Low ☐

Precipitation None Visibility High ☒ Med ☐ Low ☐

Station

Habitat

Elevation ____ ft / m Crop ____

Pressure ____ mb UTM 17T 0463586 4890741

Turbines

Operational N/A yes no Number in View None RPM N/A

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.
Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Station#: 2 **Date:** 13-Feb-12 **Project #:** 1275

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Comments
None observed									

Temp. 1
Cloud Cover 5 %
Precipitation None

Wind Speed 3
Wind Direction SW

Page ___ of ___

AVIAN POINT COUNT FORM

STATION Y **PROJECT** 1275

Length 30 min Survey ☐ Migration ☒ Winter ☐ Daytime/ Soaring ☐ Other: _____

Project Arrow WF DD/MM/YY 13/2/14

Start Time (24hr): 1557 End Time: 1627 Observers ANM, KNP

Weather

Air Temp. -1 °C Wind Speed 3 Wind Direction SW (from)

Cloud Cover 10 % Cloud Height High ☒ Med ☐ Low ☐

Precipitation None Visibility High ☒ Med ☐ Low ☐

Station

Habitat

Elevation _____ ft / m Crop _____

Pressure _____ mb UTM 17T 0462550 4891601

Turbines

Operational N/A yes no Number in View None RPM N/A

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.
Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Station#: Y **Date:** 13-Feb-12 **Project #:** 1275

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Comments
Tree Sparrow	16:00	5	perched	—	C	—	W	300	
Black-capped Chickadee	16:01	1	foraging	—	C	—	W	15	
Am Crow	16:05	1	flying	1	3	NW	N	15	
" "	16:09	6	"	1	2	↻	NW	500m	

Temp. −1
Cloud Cover 10 %
Precipitation None

Wind Speed 3
Wind Direction SW

Page ___ of ___

AVIAN POINT COUNT FORM

STATION ✓ **PROJECT** 1275

Length 30min Survey ☐ Migration ☒ Winter ☐ Daytime/ Soaring ☐ Other:

Project Arnow WF DD/MM/YY 13/02/12

Start Time (24hr): 1450 End Time: 1520 Observers ANM KNP

Weather

Air Temp. -1 °C Wind Speed 3 Wind Direction SW (from)

Cloud Cover 0 % Cloud Height N/A High ☐ Med ☐ Low ☐

Precipitation None Visibility High ☒ Med ☐ Low ☐

Station

Habitat

Elevation _____ ft / m Crop _____

Pressure _____ mb UTM 17T 0459746 4890594

Turbines

Operational N/A yes no Number in View None RPM N/A

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.
Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Station#: V **Date:** 13-Feb-12 **Project #:** 1275

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Comments
RTHA	15:00	1	Perched	—	1	—	S	300	

Temp. -1
Cloud Cover 0 %
Precipitation None

Wind Speed 3
Wind Direction SW

Page ___ of ___

AVIAN POINT COUNT FORM

STATION Q **PROJECT** 1275

Length 30 min Survey ☐ Migration ☒ Winter ☐ Daytime/ Soaring ☐ Other: _____

Project Armaw WF DD/MM/YY 13/02/12

Start Time (24hr): 11:58 End Time: 12:28 Observers ANM, KNP

Weather

Air Temp. -1 °C Wind Speed 4 Wind Direction SW (from)

Cloud Cover 30 % Cloud Height High ☐ Med ☒ Low ☐

Precipitation None Visibility High ☒ Med ☐ Low ☐

Station

Habitat

Elevation _____ ft / m Crop _____

Pressure _____ mb UTM 17T 0457186 4892055

Turbines N/A

Operational yes no Number in View None RPM N/A

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.
Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Station#: Q **Date:** 13-Feb-12 **Project #:** 1275

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Comments
Am Crow	1226	1	flying	1	0	S	SW	350	

Temp. -1
Cloud Cover 30 %
Precipitation None

Wind Speed 4
Wind Direction SW

Page ___of ___

AVIAN POINT COUNT FORM

STATION L PROJECT 1275

Length 30 min Survey ☐ Migration ☒ Winter ☐ Daytime/ Soaring ☐ Other: ____

Project Arnow WF DD/MM/YY 14/02/12

Start Time (24hr): 1308 End Time: 1338 Observers ANM, KNP

Weather

Air Temp. 0 °C Wind Speed 4 Wind Direction SW (from)

Cloud Cover 100 % Cloud Height High ☒ Med ☐ Low ☐

Precipitation Light snow Visibility High ☐ Med ☒ Low ☐

Station

Habitat

Elevation ____ ft / m Crop ____

Pressure ____ mb UTM 17T 0467561 4895567

Turbines

Operational N/A yes no Number in View None RPM N/A

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.
Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Station#: L **Date:** 14-Feb-12 **Project #:** 1275

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Comments
Lorned lark	1309	5	flying	1	0	NW	N	20	

Temp. 0
Cloud Cover 100 %
Precipitation None

Wind Speed 4
Wind Direction SW

Page ___ of ___

AVIAN POINT COUNT FORM

STATION K PROJECT 1275

Length 30 min Survey ☐ Migration ☒ Winter ☐ Daytime/ Soaring ☐ Other: _____

Project Armow WF DD/MM/YY 14/2/12

Start Time (24hr): 1615 End Time: 1645 Observers ANM, KNP

Weather

Air Temp. 1 °C Wind Speed 3 Wind Direction SW (from)

Cloud Cover 100 % Cloud Height High ☒ Med ☐ Low ☐

Precipitation None but haze Visibility High ☐ Med ☒ Low ☐

Station

Habitat

Elevation _____ ft / m Crop _____

Pressure _____ mb UTM 17T 0469298 4891955

Turbines

Operational N/A yes no Number in View None RPM N/A

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.
Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Station#: K **Date:** 14-Feb-12 **Project #:** 1275

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Comments
None observed									

Temp. 1
Cloud Cover 100 %
Precipitation None
Some haze

Wind Speed 3
Wind Direction SW

Page ___ of ___

AVIAN POINT COUNT FORM

STATION G **PROJECT** 1275

Length 30min Survey ☐ Migration ☒ Winter ☐ Daytime/ Soaring ☐ Other: _____

Project Arrow WF DD/MM/YY 14/02/12

Start Time (24hr): 1505 End Time: 1535 Observers ANM, KNP

Weather

Air Temp. 1 °C Wind Speed 3 Wind Direction SW (from)

Cloud Cover 100 % Cloud Height High ☒ Med ☐ Low ☐

Precipitation light wet snow Visibility High ☐ Med ☒ Low ☐

Station

Habitat

Elevation _____ ft / m Crop _____

Pressure _____ mb UTM 17T 0467452 4897993

Turbines N/A

Operational yes no Number in View None RPM N/A

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.
Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Station#: G **Date:** 14-Feb-12 **Project #:** 1275

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Comments
Snow buntings	1516	2	flying	1	3	NE	E	50	

Temp. 1
Cloud Cover 100 %
Precipitation light wet snow

Wind Speed 3
Wind Direction SW

Page ___ of ___

AVIAN POINT COUNT FORM

STATION E **PROJECT** 1275

Length 30min Survey ☐ Migration ☒ Winter ☐ Daytime/ Raptor ☐ Other: _____

Project Armow WF DD/MM/YY 15/02/12

Start Time (24hr): 14:21 End Time: 14:51 Observers ANM, KNP

Weather

Air Temp. 2 °C Wind Speed 3 Wind Direction SW (from)

Cloud Cover 100 % Cloud Height High ☒ Med ☐ Low ☐

Precipitation None Visibility High ☒ Med ☐ Low ☐

Station

Habitat

Elevation _____ ft / m Crop _____

Pressure _____ mb UTM 17T 0462528 4895674

Turbines

Operational N/A yes no Number in View None RPM N/A

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.
Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Station#: E **Date:** 15 – Feb – 12 **Project #:** 1275

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Comments
None observed									

Temp. 2
Cloud Cover 100 %
Precipitation None

Wind Speed 3
Wind Direction SW

Page ___ of ___

AVIAN POINT COUNT FORM

STATION C PROJECT 1275

Length 30min Survey ☐ Migration ☒ Winter ☐ Daytime/ Raptor ☐ Other: _____

Project Arnow WF DD/MM/YY 15/02/12

Start Time (24hr): 1307 End Time: 1337 Observers ANM, KNP

Weather

Air Temp. 2 °C Wind Speed 4 Wind Direction SW (from)

Cloud Cover 100 % Cloud Height High ☒ Med ☐ Low ☐

Precipitation None Visibility High ☒ Med ☐ Low ☐

Station

Habitat

Elevation _____ ft / m Crop _____

Pressure _____ mb UTM 17T 0463294 4897940

Turbines

Operational (yes) no Number in View 10 RPM 13

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.
Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Station#: C **Date:** 15 - Feb - 12 **Project #:** 1075

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Comments
horned lark	13:17	1	fly	1	0	S	E	15	
Rough-legged hawk	13:20	1	"	1	1	W	N	250	intermediate morph

Temp. 2
Cloud Cover 100 %
Precipitation None

Wind Speed 1
Wind Direction SW

Page ___ of ___

AVIAN POINT COUNT FORM

STATION B **PROJECT** 1275

Length 30 min Survey ☐ Migration ☒ Winter ☐ Daytime/ Raptor ☐ Other: _____

Project Arrow WF DD/MM/YY 15/Feb/12

Start Time (24hr): 12:35 End Time: 13:05 Observers ANM, KNP

Weather

Air Temp. 2 °C Wind Speed 4 Wind Direction SW (from)

Cloud Cover 100 % Cloud Height High ☒ Med ☐ Low ☐

Precipitation None Visibility High ☒ Med ☐ Low ☐

Station

Habitat

Elevation _____ ft / m Crop _____

Pressure _____ mb UTM 17T 0464320 4899738

Turbines N/A

Operational yes no Number in View None RPM N/A

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.
Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Station#: B **Date:** 15 **Project #:** 1275

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Comments
Am Crow	1242	3	Perched	—	0	—	S	175	
Rock Pigeon	1253	1	Flying	1	1	S	W	350	

Temp. 2
Cloud Cover 100 %
Precipitation None

Wind Speed 4
Wind Direction SW

Page ___ of ___

AVIAN POINT COUNT FORM

STATION AF PROJECT 1275

Length 30min Survey ☐ Migration ☒ Winter ☐ Daytime/ Soaring ☐ Other: ____

Project Arnaw WF DD/MM/YY 14/02/12

Start Time (24hr): 1053 End Time: 1123 Observers ANM, KNP

Weather

Air Temp. -1 °C Wind Speed 3 Wind Direction W (from)

Cloud Cover 100 % Cloud Height High ☒ Med ☐ Low ☐

Precipitation None Visibility High ☒ Med ☐ Low ☐

Station

Habitat

Elevation ____ ft / m Crop ____

Pressure ____ mb UTM 17T 0466800 4890835

Turbines

Operational N/A yes no Number in View None RPM N/A

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.
Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Station#: AF **Date:** 14-Feb-12 **Project #:** 1275

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Comments
Rough-legged	11:07	1	flying	1	3	↻	W	250m	dark morph
Rough-legged	11:13	1	"	1	1	SE	W	200 m	light morph

Temp. -1
Cloud Cover 100 %
Precipitation None

Wind Speed 3
Wind Direction W

Page ___ of ___

AVIAN POINT COUNT FORM

STATION AE **PROJECT** 1275

Length 30 min Survey ☐ Migration ☒ Winter ☐ Daytime/ Soaring ☐ Other: _____

Project Arnow WF DD/MM/YY 13/02/12

Start Time (24hr): 1714 End Time: 1744 Observers ANM, KNP

Weather

Air Temp. -1 °C Wind Speed 3 Wind Direction SW (from)

Cloud Cover 5 % Cloud Height High ☒ Med ☐ Low ☐

Precipitation None Visibility High ☒ Med ☐ Low ☐

Station

Habitat

Elevation _____ ft / m Crop _____

Pressure _____ mb UTM 17T0460398 4890057

Turbines

Operational N/A yes no Number in View None RPM N/A

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.
Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Station#: AE **Date:** 13-Feb-12 **Project #:** 1275

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Comments
RTHK	1743	1	flying	1	1	E	N	200	

RTHA

Temp. ~1
Cloud Cover 5 %
Precipitation None

Wind Speed 3
Wind Direction SW

Page ___ of ___

AVIAN POINT COUNT FORM

STATION AC **PROJECT** 1275

Length 30 min Survey ☐ Migration ☒ Winter ☐ Daytime/ Soaring ☐ Other: _____

Project Arnow WF DD/MM/YY 14/02/12

Start Time (24hr): 1014 End Time: 1044 Observers ANM / KNP

Weather

Air Temp. -1 °C Wind Speed 3 Wind Direction W (from)

Cloud Cover 100 % Cloud Height High ☒ Med ☐ Low ☐

Precipitation None Visibility High ☒ Med ☐ Low ☐

Station

Habitat

Elevation _____ ft / m Crop _____

Pressure _____ mb UTM 17T 0464818 4890052

Turbines

Operational N/A yes no Number in View None RPM N/A

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.
Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Station#: AC **Date:** 14-Feb-12 **Project #:** 1275

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Comments
Eu. Starling	1038	150	flying	1	4	E	SE	500+	
Am Crow	1039	1	" "	1	4	SE	SE	500+	

Temp. -1
Cloud Cover 100 %
Precipitation None

Wind Speed 3
Wind Direction W

Page ___ of ___

24/02/2012 LSM, ANM

Armow Wind Farm

Woodlands - 1

Legend

- Project Area (120m)
- Proposed Turbine (L08)
- Access Road
- Woodlands
- Watercourse (Permanent)
- Watercourse (Intermittent)
- Highway
- Primary Road
- Secondary Road
- Parcel Fabric
- Waterbody

Roadside scan

Walked transects

Roadside scan (pending property access)

Ak: double scan - both sides of Con. 11

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Aquatic, Terrestrial and Wetland Biologists

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Imagery provided by: Golder Associates, 2011

Project: 1275
Date: Monday, January 23, 2012

NAD83 - UTM Zone 17
Size: 11x17"
1:30,000

0 500 1,000 1,500 Metres

N

Armow Wind Farm

Woodlands - 2



Legend

- Project Area (120m)
- Proposed Turbine (L08)
- Access Road
- Woodlands
- Watercourse (Permanent)
- Watercourse (Intermittent)
- Highway
- Primary Road
- Secondary Road
- Parcel Fabric
- Waterbody

Roadside scan

Walked transects

Roadside scan (pending property access)

As of Jan 31st the following stations had 4+ visits & no indicator species:

A, E, F, J, M, AA, AD

Bteo sp.: Drop not drop.

The following stations were confirmed to have row crop.

X, W

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Aquatic, Terrestrial and Wetland Biologists

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Imagery provided by: Golder Associates, 2011

Project: 1275
Date: Monday, January 23, 2012

NAD83 - UTM Zone 17
Size: 11x17"
1:30,000

0 500 1,000 1,500 Metres

N

Armow Wind Farm

Woodlands - 3

Legend

- Project Area (120m)
- Proposed Turbine (L08)
- Access Road
- Woodlands
- Watercourse (Permanent)
- Watercourse (Intermittent)
- Highway
- Primary Road
- Secondary Road
- Parcel Fabric
- Waterbody

Roadside scan

Walked transects

Q: double scan - both sides of Con. 5

V: double scan - both sides of Con. 5

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Imagery provided by: Golder Associates, 2011

Project: 1275
Date: Monday, January 23, 2012

NAD83 - UTM Zone 17
Size: 11x17"
1:30,000

0 500 1,000 1,500 Metres

N

Armow Wind Farm

Woodlands - 4

Legend

- Project Area (120m)
- Proposed Turbine (L08)
- Access Road
- Woodlands
- Watercourse (Permanent)
- Watercourse (Intermittent)
- Highway
- Primary Road
- Secondary Road
- Parcel Fabric
- Waterbody

Roadside scan

Walked transect

Roadside scan (pending property access)

AA: woodlot edge south of watercourse @ southern woodlot edge

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Imagery provided by: Golder Associates, 2011

Project: 1275
Date: Monday, January 23, 2012

NAD83 - UTM Zone 17
Size: 11x17"
1:30,000

0 500 1,000 1,500 Metres

N

BIRD TRANSECT

Location E

Project # 1275

Length ____ km ____ min

Survey ☐ spring migration ☐ breeding ☐ fall migration ☒ winter ☐ daytime/ raptor

Project 1275

Date (mm/dd/yy) 02/24/12

Start Time: 1200pm End Time: 1230pm Obs. LSM, ANM

Weather

Air Temp. 4 °C Wind Speed 3 Wind Direction SW

Cloud Cover 100 % Cloud High ☐ Med ☐ Low ☐

Precipitation Snow/Rain Visibility High ☐ Med ☐ Low ☐

Route

* Really bad weather

UTM 0462466 / 4895578

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Route: E **Date:** 02/24/12 **Project #:** 1275

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Transect Segment

Page ___of ___

BIRD TRANSECT

Location P

Project # 1275

Length ____ km ____ min

Survey ☐ spring migration ☐ breeding ☐ fall migration ☒ winter ☐ daytime/ raptor

Project 1275 ARMOW

Date (mm/dd/yy) 02/21/12

Start Time: 1230 End Time: 1:10 Obs. ANM, KM

Weather

Air Temp. 1 °C Wind Speed 3 Wind Direction ESE

Cloud Cover 100% % Cloud High ☐ Med ☒ Low ☐

Precipitation Snow/Rain Visibility High ☐ Med ☐ Low ☒

Route

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Route: P				**Date:** 02/21/2012			**Project #:** 1275		
Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Transect Segment
None observed.									

Page ___of ___

BIRD TRANSECT

Location D

Project # 1275

Length ____ km ____ min

Survey ☐ spring migration ☐ breeding ☐ fall migration ☒ winter ☐ daytime/ raptor

Project 1275 ARMOW

Date (mm/dd/yy) 02/22/12

Start Time: 300pm End Time: 340pm

Obs. LSM, ANM

Weather

Air Temp. 3 °C

Wind Speed 4

Wind Direction SW

Cloud Cover 90 %

Cloud High ☐ Med ☒ Low ☐

Precipitation NONE

Visibility High ☐ Med ☒ Low ☐

Route

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Route: D **Date:** 02/22/12 **Project #:** 1275

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Transect Segment
NONE observed									

BIRD TRANSECT

Location H3 I

Project # 1275

Length ____ km ____ min

Survey ☐ spring migration ☐ breeding ☐ fall migration ☒ winter ☐ daytime/ raptor

Project Armow 1275

Date (mm/dd/yy) 02/23/12

Start Time: 1:20 End Time: 2:30 Obs. ____

Weather

Air Temp. 2 °C Wind Speed 1 Wind Direction SW

Cloud Cover 90 % Cloud High ☐ Med ☒ Low ☐

Precipitation NONE Visibility High ☐ Med ☒ Low ☐

Route

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Route: H-I **Date:** 02/23/12 **Project #:** 1275

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Transect Segment
Red tailed Hawk	2:00pm	1	perched	—	2	—	W	350m	—

Page ___of ___

BIRD TRANSECT

Location R

Project # 1275

Length ____ km ____ min

Survey ☐ spring migration ☐ breeding ☐ fall migration ☒ winter ☐ daytime/ raptor

Project ____

Date (mm/dd/yy) 02/21/2012

Start Time: 1:11 End Time: 139 Obs. CSM, ANM

Weather

Air Temp. 1 °C Wind Speed 4 Wind Direction ESE

Cloud Cover 100 % Cloud High ☐ Med ☐ Low ☒

Precipitation Light Rain Visibility High ☐ Med ☐ Low ☒

Route

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Route: R **Date:** 02/21/2012 **Project #:** 1275

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Transect Segment
Nowe observed									

Page ___ of ___

BIRD TRANSECT

Location 5

Project # 125

Length ____ km ____ min

Survey ☐ spring migration ☐ breeding ☐ fall migration ☒ winter ☐ daytime/ raptor

Project ____

Date (mm/dd/yy) 02/21/2017

Start Time: 12:17 End Time: 1230 Obs. ANM, LSM

Weather

Air Temp. 1 °C Wind Speed 3 Wind Direction ESE

Cloud Cover 100 % Cloud High ☐ Med ☒ Low ☐

Precipitation None Visibility High ☒ Med ☐ Low ☐

Route

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Route:	5			Date:	02/21/2012		Project #:	275	
Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Transect Segment
Herring Gulls	12:17	200	Flying	1	2	N	N	20m	—
Am Crow	12:20	2	Flying	1	1	E	E	200m	

Page ___of ___

BIRD TRANSECT

Location [redacted] U

Project # 1275

Length ____ km ____ min

Survey ☐ spring migration ☐ breeding ☐ fall migration ☒ winter ☐ daytime/ raptor

Project ARMOW 1275

Date (mm/dd/yy) 02/21/12

Start Time: 1:51 End Time: 2:06 Obs. LSM, ANM

Weather

Air Temp. 2 °C Wind Speed 3 Wind Direction ESE

Cloud Cover 100 % Cloud High ☐ Med ☐ Low ☒

Precipitation Light Snow / RAIN Visibility High ☐ Med ☐ Low ☒

Route

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Route: 4 **Date:** 02/21/12 **Project #:** 1275

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Transect Segment

Page ___of ___

BIRD TRANSECT

Location AG

Project # 1275

Length ____ km ____ min

Survey ☐ spring migration ☐ breeding ☐ fall migration ☒ winter ☐ daytime/ raptor

Project ARMOW 1275

Date (mm/dd/yy) 02/22/2012

Start Time: 10:50 End Time: 1135 Obs. LSM, ANM

Weather

Air Temp. 2 °C Wind Speed 3 Wind Direction SW

Cloud Cover 15 % Cloud High ☒ Med ☐ Low ☐

Precipitation None Visibility High ☒ Med ☐ Low ☐

Route

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Route: A6 **Date:** 02/22/2012 **Project #:** 1275

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Transect Segment
Rough-Legged Hawk	1100	1	Flying	Circling	2	N	N	400m	
Rough-Legged Hawk	1137	1	Flying	Circling	2	W	W	200m	

AVIAN POINT COUNT FORM

STATION AL PROJECT 1275

Length 30' Survey ☐ Migration ☒ Winter ☐ Daytime/Raptor ☐ Other: _____

Project 1275 ARMOW DD/MM/YY 24/02/12

Start Time (24hr): 1250 End Time: 120 Observers ANM, LSM

Weather

Air Temp. 0 °C Wind Speed 3 Wind Direction SW (from)

Cloud Cover 100 % Cloud Height High ☐ Med ☐ Low ☒

Precipitation Rain/Snow Visibility High ☐ Med ☐ Low ☒

Station

Habitat

Elevation _____ ft / m Crop _____

Pressure _____ mb UTM _____

Turbines

Operational yes no Number in View _____ RPM _____

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.
Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Station#: AL **Date:** 24/02/12 **Project #:** 1275 ARMOW

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Comments
None observed									

Temp. _____
Cloud Cover _____%
Precipitation _____

Wind Speed _____
Wind Direction _____

Page ___of ___

AVIAN POINT COUNT FORM

STATION AP PROJECT 1275

Length 30 Survey ☐ Migration ☒ Winter ☐ Daytime/ Raptor ☐ Other: _____

Project 1275 ARmow DD/MM/YY 24/02/12

Start Time (24hr): 1124 End Time: 1154 Observers CSM, AWM

Weather

Air Temp. 0 °C Wind Speed ~~3~~ 5 Wind Direction SW (from)

Cloud Cover 100 % Cloud Height High ☐ Med ☐ Low ☒

Precipitation Snow/RAIN Visibility High ☐ Med ☐ Low ☒

Station

Habitat

Elevation _____ ft / m Crop _____

Pressure _____ mb UTM _____

Turbines

Operational yes no Number in View _____ RPM _____

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.
Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Station#: AP **Date:** 02/24/12 **Project #:** 1275

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Comments
None Observed									

Temp. _____
Cloud Cover _____%
Precipitation _____

Wind Speed _____
Wind Direction _____

Page ___of ___

AVIAN POINT COUNT FORM

STATION AJ PROJECT 1275

Length 30 Survey ☐ Migration ☒ Winter ☐ Daytime/ Raptor ☐ Other: _____

Project 1275 ARmow DD/MM/YY 24/02/12

Start Time (24hr): 1040 End Time: 1110 Observers CSM, ANM

Weather

Air Temp. 0 °C Wind Speed 2-3 Wind Direction _____ (from)

Cloud Cover 100 % Cloud Height High ☐ Med ☐ Low ☒

Precipitation Snow, Rain Visibility High ☐ Med ☐ Low ☒

Station

Habitat

Elevation _____ ft / m Crop _____

Pressure _____ mb UTM _____

Turbines

Operational yes no Number in View _____ RPM _____

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.
Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Station#: AJ **Date:** 24/02/12 **Project #:** 1275

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Comments
None observed.									

Temp. _____
Cloud Cover _____%
Precipitation _____

Wind Speed _____
Wind Direction _____

Page ___of ___

AVIAN POINT COUNT FORM

STATION L PROJECT 1275

Length 30 Survey ☐ Migration ☒ Winter ☐ Daytime/ Raptor ☐ Other: _____

Project 1275 ARMOW DD/MM/YY 23/02/2012.

Start Time (24hr): 410 End Time: 440 Observers LSM, ANM

Weather

Air Temp. 3 °C Wind Speed 1 Wind Direction SW (from)

Cloud Cover 90 % Cloud Height High ☐ Med ☒ Low ☐

Precipitation NONE Visibility High ☐ Med ☒ Low ☐

Station

Habitat

Elevation _____ ft / m Crop _____

Pressure _____ mb UTM _____

Turbines

Operational yes no Number in View _____ RPM _____

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.
Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Station#: L **Date:** 23/02/12 **Project #:** 1275

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Comments
NONE observed									

Temp. _____
Cloud Cover _____%
Precipitation _____

Wind Speed _____
Wind Direction _____

Page ___of ___

AVIAN POINT COUNT FORM

STATION K PROJECT 1275

Length 30 Survey ☐ Migration ☒ Winter ☐ Daytime/ Raptor ☐ Other: _____

Project 1275 ARMOW DD/MM/YY 23/02/12

Start Time (24hr): 440 End Time: 510 Observers LSM, ANM

Weather

Air Temp. 4 °C Wind Speed 1 Wind Direction SW (from)

Cloud Cover 80 % Cloud Height High ☐ Med ☒ Low ☐

Precipitation NONE Visibility High ☐ Med ☒ Low ☐

Station

Habitat

Elevation _____ ft / m Crop _____

Pressure _____ mb UTM _____

Turbines

Operational yes no Number in View _____ RPM _____

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.
Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Station#: K **Date:** 23/02/12 **Project #:** 1275

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Comments
NONE observed									

Temp. _____
Cloud Cover _____%
Precipitation _____

Wind Speed _____
Wind Direction _____

AVIAN POINT COUNT FORM

STATION Q PROJECT 1275

Length 30min Survey ☐ Migration ☑ Winter ☐ Daytime/ Raptor ☐ Other: _____

Project Armow DD/MM/YY 21/02/12

Start Time (24hr): 11:40 End Time: 12:10 Observers Anthony Miller Leanne Marcaux

Weather

Air Temp. 1 °C Wind Speed 3 Wind Direction ESE (from)

Cloud Cover 100 % Cloud Height High ☐ Med ☑ Low ☐

Precipitation 0 Visibility High ☑ Med ☐ Low ☐

Station

Habitat

Elevation _____ ft / m Crop _____

Pressure _____ mb UTM 0457189 4892055

Turbines

Operational yes no Number in View _____ RPM _____

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.
Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Station#: Q **Date:** 21/02/2012 **Project #:** 1275

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Comments
herring gull	11:45	30	flying	1	3	NW	N	350m	
American crow	11:49	2	flying	1	2	SE	W	100m	
rough legged hawk	11:50	1	foraging	/	2	W	W	300m	
sharp shinned hawk	11:52	1	flying	1	3	NW	N	400m	
rough legged hawk	11:55	1	flying	/	3	NW	NW	450m	

Temp. 1°C
Cloud Cover 100 %
Precipitation 0

Wind Speed 23
Wind Direction SE

Page ___ of ___

AVIAN POINT COUNT FORM

STATION AN PROJECT 1275

Length 30 Survey ☐ Migration ☒ Winter ☐ Daytime/ Raptor ☐ Other: ____

Project 1275 ARMOW DD/MM/YY 21/02/2012

Start Time (24hr): 12:50 End Time: 3:20 Observers LSM, ANM

Weather

Air Temp. 1 °C Wind Speed 3 Wind Direction ESE (from)

Cloud Cover 100 % Cloud Height High ☐ Med ☐ Low ☒

Precipitation NONE Visibility High ☐ Med ☐ Low ☒

Station

Habitat

Elevation / ft / m Crop

Pressure / mb UTM 0462917 / 4888801

Turbines

Operational yes no Number in View ____ RPM ____

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.
Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Station#: AN **Date:** 02/21/12 **Project #:** 125

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Comments
E Starling	310	12	Flying	1	2	S	NW	100m	—

Temp. _____
Cloud Cover _____%
Precipitation _____

Wind Speed _____
Wind Direction _____

AVIAN POINT COUNT FORM

STATION AA PROJECT 1275

Length 30min Survey ☐ Migration ☑ Winter ☐ Daytime/ Raptor ☐ Other: ____

Project Arrow Wind Farm DD/MM/YY 22/02/2012

Start Time (24hr): 10:14 End Time: 10:44 Observers Anthony Miller Leanne Marcaux

Weather

Air Temp. 1 °C Wind Speed 4 Wind Direction SW (from)

Cloud Cover 60 % Cloud Height High ☐ Med ☑ Low ☐

Precipitation Ø Visibility High ☑ Med ☐ Low ☐

Station

Habitat

Elevation ____ ft / m Crop ____

Pressure ____ mb UTM 0463895 4890578

Turbines

Operational yes (no) Number in View Ø RPM Ø

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.
Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Station#: AA **Date:** 22/02/2012 **Project #:** 1275

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Comments

Temp. _____
Cloud Cover _____%
Precipitation _____

Wind Speed _____
Wind Direction _____

AVIAN POINT COUNT FORM

STATION Am PROJECT 1275

Length 30m Survey ☐ Migration ☒ Winter ☐ Daytime/ Raptor ☐ Other: _____

Project ARMOW 1275 DD/MM/YY 22/02/2012

Start Time (24hr): 140 End Time: 210 Observers LSM, ANM

Weather

Air Temp. 2 °C Wind Speed 3 Wind Direction SW (from)

Cloud Cover 80 % Cloud Height High ☒ Med ☐ Low ☐

Precipitation NONE Visibility High ☒ Med ☐ Low ☐

Station

Habitat

Elevation _____ ft / m Crop _____

Pressure _____ mb UTM 0465598 4889609

Turbines

Operational yes no Number in View _____ RPM _____

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.
Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Station#: AM **Date:** 22/02/12 **Project #:** 1275

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Comments

Temp. _____
Cloud Cover _____%
Precipitation _____

Wind Speed _____
Wind Direction _____

Page ___of ___

AVIAN POINT COUNT FORM

STATION A1 PROJECT 1275

Length 30min Survey ☐ Migration ☑ Winter ☐ Daytime/ Raptor ☐ Other: ____

Project Arrow Wind Farm DD/MM/YY 23/02/12

Start Time (24hr): 11:20 End Time: 11:50 Observers Anthony Miller Leanne Marcoux

Weather

Air Temp. 2 °C Wind Speed 1 Wind Direction S (from)

Cloud Cover 75 % Cloud Height High ☐ Med ☐ Low ☑

Precipitation Ø Visibility High ☐ Med ☑ Low ☐

Station

Habitat

Elevation ____ ft / m Crop ____

Pressure ____ mb UTM 0461386 4897811

Turbines

Operational (yes) no Number in View 30+ RPM 16

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.
Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Station#: AI **Date:** 23/02/12 **Project #:** 1275

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Comments

Temp. 2
Cloud Cover 75 %
Precipitation Ø

Wind Speed 1
Wind Direction S

AVIAN POINT COUNT FORM

STATION C PROJECT 1275

Length 30min Survey ☐ Migration ☑ Winter ☐ Daytime/ Raptor ☐ Other: ____

Project Arrow Wind Farm DD/MM/YY 23/02/12

Start Time (24hr): 10:35 End Time: 11:05 Observers Anthony Miller Leanne Marcoux

Weather

Air Temp. -3.2 °C Wind Speed 1 Wind Direction S (from)

Cloud Cover 75 % Cloud Height High ☐ Med ☐ Low ☑

Precipitation Ø Visibility High ☑ Med ☐ Low ☐

Station

Habitat

Elevation ____ ft / m Crop ____

Pressure ____ mb UTM 0463233 4897961

Turbines

Operational (yes) ~~no~~ Number in View ~~0~~ 4 RPM ~~0~~ 16

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.
Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Station#: C **Date:** 23/02/12 **Project #:** 1275

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Comments
Rough legged hawk	10:36	1	perched	/	/	/	W	500m	
Rock pigeon	10:40	1	flying	/	1	NW	W	400m	

Temp. 2
Cloud Cover 75 %
Precipitation Ø

Wind Speed 1
Wind Direction S

AVIAN POINT COUNT FORM

STATION B PROJECT 1275

Length 30 min Survey ☐ Migration ☑ Winter ☐ Daytime/ Raptor ☐ Other: _____

Project Arrow Wind Farm DD/MM/YY 23/02/12

Start Time (24hr): 10:00 End Time: 10:30 Observers Anthony Miller Leanne Marcaux

Weather

Air Temp. -1 °C Wind Speed 1 Wind Direction S (from)

Cloud Cover 80 % Cloud Height High ☐ Med ☐ Low ☑

Precipitation Ø Visibility High ☐ Med ☑ Low ☐

Station

Habitat

Elevation _____ ft / m Crop _____

Pressure _____ mb UTM 0463892 4899970

Turbines

Operational (yes) no Number in View 26 RPM 16

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.

Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Station#: B **Date:** 23/02/12 **Project #:** 1275

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Comments
gulls	10:24	2	flying	\	1	E	~~N~~ S	800m	

Temp. -1
Cloud Cover 80 %
Precipitation Ø

Wind Speed 1
Wind Direction S

AVIAN POINT COUNT FORM

STATION AK PROJECT 1275

Length 30min Survey ☐ Migration ☑ Winter ☐ Daytime/ Raptor ☐ Other: ____

Project Arrow Wind Farm DD/MM/YY 23/02/12

Start Time (24hr): 12:40 End Time: 1:10 Observers Anthony Miller Leanne Marcoux

Weather

Air Temp. 2 °C Wind Speed 1 Wind Direction S (from)

Cloud Cover 60 % Cloud Height High ☐ Med ☐ Low ☑

Precipitation 0 Visibility High ☐ Med ☑ Low ☐

Station

Habitat

Elevation ____ ft / m Crop ____

Pressure ____ mb UTM 0460467 4897213

Turbines

Operational (yes) no Number in View 15 RPM 16

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.
Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Station#: AK **Date:** 23/02/12 **Project #:** 1275

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Comments

Temp. 2
Cloud Cover 60 %
Precipitation Ø

Wind Speed 1
Wind Direction S

AVIAN POINT COUNT FORM

STATION C PROJECT _____

Length 30 Survey ☐ Migration ☒ Winter ☐ Daytime/ Raptor ☐ Other: _____

Project ARMOW 1275 DD/MM/YY 23/02/12

Start Time (24hr): 240 End Time: 310 Observers LSM, ANM

Weather

Air Temp. 3 °C Wind Speed 1 Wind Direction SW (from)

Cloud Cover 90 % Cloud Height High ☐ Med ☒ Low ☐

Precipitation NONE Visibility High ☐ Med ☒ Low ☐

Station

Habitat

Elevation _____ ft / m Crop _____

Pressure _____ mb UTM 0467451 4897995

Turbines

Operational yes no Number in View _____ RPM _____

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.
Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Station#:			**Date:**				**Project #:**		
Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Comments

Temp. _____
Cloud Cover _____%
Precipitation _____

Wind Speed _____
Wind Direction _____

AVIAN POINT COUNT FORM

STATION AQ PROJECT 1275

Length 30 min Survey ☐ Migration ☒ Winter ☐ Daytime/ Raptor ☐ Other: —

Project ARMOW 1275 DD/MM/YY 23/02/12

Start Time (24hr): 315 End Time: 345 Observers LSM, ANM

Weather

Air Temp. 3 °C Wind Speed 1 Wind Direction SW (from)

Cloud Cover 80 % Cloud Height High ☐ Med ☒ Low ☐

Precipitation NONE Visibility High ☐ Med ☒ Low ☐

Station

Habitat

Elevation ____ ft / m Crop ____

Pressure ____ mb UTM 0467843 4897753

Turbines

Operational yes no Number in View ____ RPM ____

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.
Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Station#: AQ **Date:** 02/23/12 **Project #:** 1275

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Comments

Temp. _____
Cloud Cover _____%
Precipitation _____

Wind Speed _____
Wind Direction _____

AVIAN POINT COUNT FORM

STATION V PROJECT 1275

Length 30 Survey ☐ Migration ☒ Winter ☐ Daytime/ Raptor ☐ Other: ____

Project 1275 ARMOW DD/MM/YY 21/02/2012

Start Time (24hr): 2:15 End Time: 245 Observers LSM, ANM

Weather

Air Temp. 2 °C Wind Speed 3 Wind Direction ESE (from)

Cloud Cover 100 % Cloud Height High ☐ Med ☐ Low ☒

Precipitation NONE Visibility High ☐ Med ☐ Low ☒

Station

Habitat

Elevation ____ ft / m Crop ____

Pressure ____ mb UTM 0460246 4890314

Turbines

Operational yes no Number in View ____ RPM ____

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.
Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Station#: V **Date:** 02/21/2012 **Project #:** 1275

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Comments

Temp. _____
Cloud Cover _____%
Precipitation _____

Wind Speed _____
Wind Direction _____

AVIAN POINT COUNT FORM

STATION 4 PROJECT 1275

Length 30 Survey ☐ Migration ☒ Winter ☐ Daytime/ Raptor ☐ Other:

Project 1275 Armow DD/MM/YY 21/05/2012

Start Time (24hr): 330 End Time: 400 Observers LSM, ANM

Weather

Air Temp. 1 °C Wind Speed 3 Wind Direction ESE (from)

Cloud Cover 100 % Cloud Height High ☐ Med ☐ Low ☒

Precipitation Light Rain Visibility High ☐ Med ☐ Low ☒

Station

Habitat

Elevation ____ ft / m Crop ____

Pressure ____ mb UTM 0462551 4891606

Turbines

Operational yes no Number in View ____ RPM ____

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.
Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Station#: Y				**Date:** 02/12/12			**Project #:** 1275		
Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Comments
A Crow	345	3	Flying	1	2	E	NE	250m	—
A Crow	350	1	Flying	1	3	NE	NE	300m	—

Temp. _____
Cloud Cover _____%
Precipitation _____

Wind Speed _____
Wind Direction _____

Page ___of___

AVIAN POINT COUNT FORM

STATION 2 PROJECT 1275

Length 30min Survey ☐ Migration ☑ Winter ☐ Daytime/ Raptor ☐ Other: _____

Project Arrow Wind Farm DD/MM/YY 22/02/2012

Start Time (24hr): 9:40 End Time: 10:10 Observers Anthony Miller Leanne Marcaux

Weather

Air Temp. 1 °C Wind Speed 4 Wind Direction SW (from)

Cloud Cover 100 % Cloud Height High ☐ Med ☐ Low ☑

Precipitation Ø Visibility High ☑ Med ☐ Low ☐

Station

Habitat

Elevation _____ ft / m Crop _____

Pressure _____ mb UTM 0464115 4890238

Turbines

Operational yes (no) Number in View Ø RPM Ø

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.
Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Station#: Z **Date:** 22/02/12 **Project #:** 1275

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Comments
rough legged hawk	9:43	1	perched	—		—	W	400m	

Temp. 1
Cloud Cover 100 %
Precipitation 0

Wind Speed 4
Wind Direction SW

Page ___ of ___

AVIAN POINT COUNT FORM

STATION ~~PM~~ AO PROJECT 1275

Length 30 Survey ☐ Migration ☑ Winter ☐ Daytime/ Raptor ☐ Other: _____

Project Armow Wind Farm DD/MM/YY 23/02/12

Start Time (24hr): 12:00 End Time: 12:30 Observers Anthony Miller Leanne Marcaux

Weather

Air Temp. 2 °C Wind Speed 1 Wind Direction S (from)

Cloud Cover 95 % Cloud Height High ☐ Med ☐ Low ☑

Precipitation Ø Visibility High ☐ Med ☑ Low ☐

Station

Habitat

Elevation _____ ft / m Crop _____

Pressure _____ mb UTM 0462210 4896191

Turbines

Operational yes (no) Number in View _____ RPM _____

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.
Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Station#: ~~BAR~~ AO **Date:** 23/02/12 **Project #:** 1275

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Comments
gulls	12:04	2	flying	/	3	W	S	500m	
gull	12:06	1	flying	/	3	W	N	300m	
American Crow	12:24	2	flying	/	3	N	E	200m	

Temp. 2
Cloud Cover 95 %
Precipitation Ø

Wind Speed 1
Wind Direction S

Page ___ of ___

AVIAN POINT COUNT FORM

STATION AH PROJECT 1275

Length 30min Survey ☐ Migration ☑ Winter ☐ Daytime/ Raptor ☐ Other: ____

Project Arnaw Wind Farm DD/MM/YY 22/02/12

Start Time (24hr) 11:50 End Time: 12:20 Observers Anthony Miller + Leanne Marcaux

Weather

Air Temp. 3 °C Wind Speed 4 Wind Direction SW (from)

Cloud Cover 80 % Cloud Height High ☐ Med ☐ Low ☑

Precipitation 0 Visibility High ☑ Med ☐ Low ☐

Station

Habitat

Elevation ____ ft / m Crop ____

Pressure ____ mb UTM 0463895 4890573

Turbines

Operational yes (no) Number in View 0 RPM 0

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.
Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Station#:				**Date:**				**Project #:**	
Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Comments
A. Crow	1204	1	Flying	1	1	NW	SE	25m	—

Temp. _____
Cloud Cover _____%
Precipitation _____

Wind Speed _____
Wind Direction _____

NRM, LSM Feb 28/12

Armow Wind Farm

Woodlands - 1

Legend

- Project Area (120m)
- Proposed Turbine (L08)
- Access Road
- Woodlands
- Watercourse (Permanent)
- Watercourse (Intermittent)
- Highway
- Primary Road
- Secondary Road
- Parcel Fabric
- Waterbody

Roadside scan

walked transects

Roadside scan (pending property access)

Ak: double scan - both sides of Con. 11

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Imagery provided by: Golder Associates, 2011

Project: 1275
Date: Monday, January 23, 2012

NAD83 - UTM Zone 17
Size: 11x17"
1:30,000

0 500 1,000 1,500 Metres

N

456000 458000 460000 462000 464000

4902000 4900000 4898000 4896000



Armow Wind Farm

Woodlands - 2

Legend

- Project Area (120m)
- Proposed Turbine (L08)
- Access Road
- Woodlands
- Watercourse (Permanent)
- Watercourse (Intermittent)
- Highway
- Primary Road
- Secondary Road
- Parcel Fabric
- Waterbody

Roadside scan

Walked transects

Roadside scan (pending property access)

As of Jan 31st the following stations had 4+ visits & no indicator species:

A, E, F, J, M, AA, AD

Bfloo sp.: Do not drop.

The following stations were confirmed to have row crop.

X, W

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Project: 1275
Date: Monday, January 23, 2012

NAD83 - UTM Zone 17
Size: 11x17"
1:30,000

0 500 1,000 1,500 Metres

N

Armow Wind Farm

Woodlands - 3

Legend

- Project Area (120m)
- Proposed Turbine (L08)
- Access Road
- Woodlands
- Watercourse (Permanent)
- Watercourse (Intermittent)
- Highway
- Primary Road
- Secondary Road
- Parcel Fabric
- Waterbody

Roadside scan

Walked transects

Q: double scan - both sides of Con. 5

V: double scan - both sides of Con. 5

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Project: 1275
Date: Monday, January 23, 2012

NAD83 - UTM Zone 17
Size: 11x17"
1:30,000

0 500 1,000 1,500 Metres

N

Armow Wind Farm

Woodlands - 4

Legend

- Project Area (120m)
- Proposed Turbine (L08)
- Access Road
- Woodlands
- Watercourse (Permanent)
- Watercourse (Intermittent)
- Highway
- Primary Road
- Secondary Road
- Parcel Fabric
- Waterbody

Roadside scan

Walked transect

Roadside scan (pending property access)

AA: woodlot edge south of watercourse @ southern woodlot edge

462000 464000 466000 468000

4892000 4890000 4888000 4886000

SIDEROAD 20 · CONCESSION 9 · CONCESSION 10 GREENOCK · SIDEROAD 30 SOUTH · BERVIE SIDEROAD · CONCESSION 7 · SIDEROAD 30 · CONCESSION 8 WEST · KINCARDINE KINLOSS · BRUCE ROAD 1 · CONCESSION 5 · CONCESSION 6 · NORTH LINE · NORTHLINE AVENUE · YOUNGS ROAD · HIGHWAY 9

WOD-012 · WOD-126 · WOD-009 · WOD-061 · WOD-098 · WOD-112 · WOD-041 · WOD-030 · WOD-013 · WOD-100 · WOD-020 · WOD-078 · WOD-114 · WOD-113 · WOD-123 · WOD-122 · WOD-120 · WOD-119 · WOD-099 · WOD-111 · WOD-115 · WOD-116 · WOD-118 · WOD-117

AA · AB · AC · AD · AE · AF · AG · AH · AM · AN

ALHA Feb 26/12 · ALHA Feb. 28/12

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Project: 1275
Date: Monday, January 23, 2012

NAD83 - UTM Zone 17
Size: 11x17"
1:30,000

0 500 1,000 1,500 Metres

N

BIRD TRANSECT

Location N

Project # 1275

Length ____ km ____ min

Survey ☐ spring migration ☐ breeding ☐ fall migration ☒ winter ☒ daytime/ raptor

Project Amar WF

Date (dd/mm/yy) 28/02/12

Start Time: 14:30 End Time: 15:00 Obs. NGM, LSM

Weather

Air Temp. -1 °C Wind Speed 1 Wind Direction W

Cloud Cover 40 % Cloud High ☒ Med ☐ Low ☐

Precipitation — Visibility High ☒ Med ☐ Low ☐

Route

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Route: N **Date:** Feb. 28/12 **Project #:** 1975

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Transect Segment
Downy Woodpecker	14:36	1	calling	—	0	—	NA	75	
Am. Crow	14:49	1	flying	1	3	N	NA	150	

BIRD TRANSECT

Location 0

Project # 1275

Length ____ km ____ min

Survey ☐ spring migration ☐ breeding ☐ fall migration ☒ winter ☒ daytime/ raptor

Project Aman WF

Date (dd/mm/yy) 28/02/12

Start Time: 15:15 End Time: 15:33 Obs. NGM, LSM

Weather

Air Temp. -1 °C Wind Speed 1 Wind Direction W

Cloud Cover 40 % Cloud High ☒ Med ☐ Low ☐

Precipitation — Visibility High ☒ Med ☐ Low ☐

Route

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Route: O **Date:** Feb. 28/12 **Project #:** 1275

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Transect Segment
No birds observed.									

AVIAN POINT COUNT FORM

STATION AM PROJECT 1275

Length 30min Survey ☐ Migration ☑ Winter ☑ Daytime/ Raptor ☐ Other: _____

Project Arnow Wind Farm DD/MM/YY 28/02/12

Start Time (24hr): 3:45 End Time: 4:15 Observers NGM LSM

Weather

Air Temp. -1 °C Wind Speed 1 Wind Direction SW (from)

Cloud Cover 50 % Cloud Height High ☐ Med ☑ Low ☐

Precipitation Ø Visibility High ☑ Med ☐ Low ☐

Station

Habitat

Elevation _____ ft / m Crop _____

Pressure _____ mb UTM _____

Turbines

Operational yes no Number in View _____ RPM _____

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.
Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Station#: AM **Date:** 28/02/12 **Project #:** 1275

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Comments
starlings	3:49	25	foraging	/	0	/	NW	100m	
Red tailed hawk	3:57	1	Perched	/	/	/	S	500m	
Horned Lark	3:58	1	flying	1	6	SE	SE	50m	

Temp. -1
Cloud Cover 50 %
Precipitation 0

Wind Speed 1
Wind Direction SW

AVIAN POINT COUNT FORM

STATION A N PROJECT 1275

Length 30 min Survey ☐ Migration ☒ Winter ☒ Daytime/ Raptor ☐ Other: ____

Project Amaw WF DD/MM/YY 28/02/12

Start Time (24hr): 16:19 End Time: 16:49 Observers NGM, LSM

Weather

Air Temp. -1 °C Wind Speed 1 Wind Direction W (from)

Cloud Cover 90 % Cloud Height High ☐ Med ☒ Low ☐

Precipitation — Visibility High ☒ Med ☐ Low ☐

Station

Habitat

Elevation ____ ft / m Crop ____

Pressure ____ mb UTM ____

Turbines

Operational yes no Number in View ____ RPM ____

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.
Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Station#: AN **Date:** Feb 28/12 **Project #:** 1275

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Comments
Am. Crow	16:22	6	flying	1	4	SE	N	175	
Eur. Starling	16:26	14	foraging	—	0	—	N	50	

Temp. _____
Cloud Cover _____%
Precipitation _____

Wind Speed _____
Wind Direction _____

Point Count

~~BIRD TRANSECT~~

Location AK

Project # 1275

Length ____ km ____ min

Survey ☐ spring migration ☐ breeding ☐ fall migration ☒ winter ☒ daytime/ raptor

Project Arrow WF

Date (dd/mm/yy) 28/02/12

Start Time: 1030 End Time: 11:00 Obs. NGM, LSM

Weather

Air Temp. -1 °C Wind Speed 3 Wind Direction SW

Cloud Cover 100 % Cloud High ☐ Med ☒ Low ☐

Precipitation — Visibility High ☒ Med ☐ Low ☐

Route

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Route: AK **Date:** Feb. 28/12 **Project #:** 1275

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Transect Segment
Common Raven	10:36	1	flying	1	3	N	E	75	
Am. Crow	10 41	2	"	1	2	NW	N	156	
Herring Gull	10:49	1	"	1	6	S	N	200	
Euro. Starling	10:59	1	"	1	1	S	S	75	
N. Shrike	10:59	1	perched	1	1	—	E	100	

Point Count

BIRD ~~TRANSECT~~

Location AO

Project # 1275

Length _____ km _____ min

Survey ☐ spring migration ☐ breeding ☐ fall migration ☑ winter ☑ daytime/ raptor

Project _____

Date (dd/mm/yy) 28/02/12

Start Time: 11:05 End Time: 11:35 Obs. NGM, LSM

Weather

Air Temp. -1 °C Wind Speed 3 Wind Direction SW

Cloud Cover 100 % Cloud High ☐ Med ☒ Low ☐

Precipitation _____ Visibility High ☒ Med ☐ Low ☐

Route

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Route: AO **Date:** 28/02/2012 **Project #:** 1275

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Transect Segment
Rough legged hawk	11:07	1	perched	/	/	/	NW	400m	
American crow	11:13	2	perched	/	/	/	S	600m	

AVIAN POINT COUNT FORM

STATION AI PROJECT 1275

Length 30 min Survey ☐ Migration ☒ Winter ☒ Daytime/ Raptor ☐ Other: _____

Project Amaw WF DD/MM/YY 28/02/12

Start Time (24hr): 11:39 End Time: 12:09 Observers N6M, L5M

Weather

Air Temp. -1 °C Wind Speed 2 Wind Direction SW (from)

Cloud Cover 100 % Cloud Height High ☐ Med ☒ Low ☐

Precipitation — Visibility High ☒ Med ☐ Low ☐

Station

Habitat

Elevation _____ ft / m Crop _____

Pressure _____ mb UTM _____

Turbines

Operational yes no Number in View _____ RPM _____

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.
Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Station#: AI **Date:** Feb. 28/12 **Project #:** 1275

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Comments
Red-tailed Hawk	11:40	1	perched	—	0	—	NW	800	
Am. Crow	11:51	1	flying	1	2	NE	NE	300	

Temp. _____
Cloud Cover _____%
Precipitation _____

Wind Speed _____
Wind Direction _____

AVIAN POINT COUNT FORM

STATION AP PROJECT 1275

Length 30min Survey ☐ Migration ☑ Winter ☐ Daytime/ Raptor ☐ Other: _____

Project Arrow Wind Farm DD/MM/YY 28/02/12

Start Time (24hr): 12:14 End Time: 12:44 Observers NGM + LSM

Weather

Air Temp. -1 °C Wind Speed 1 Wind Direction SW (from)

Cloud Cover 100 % Cloud Height High ☐ Med ☑ Low ☐

Precipitation Ø Visibility High ☑ Med ☐ Low ☐

Station

Habitat

Elevation _____ ft / m Crop _____

Pressure _____ mb UTM _____

Turbines

Operational yes no Number in View _____ RPM _____

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.
Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Station#: AP **Date:** 28/02/12 **Project #:** 1275

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Comments
American Crow	12:14	35	Perched	/	/	/	NW	700m	
Horned Lark	12:26	2	Calling	/	/	/	N	75m	
Red Tailed hawk	12:30	2	Perched	/	/	/	NE	500m	

Temp. -1
Cloud Cover 100 %
Precipitation 0

Wind Speed 1
Wind Direction SW

AVIAN POINT COUNT FORM

STATION AL PROJECT 1275

Length 30 min Survey ☐ Migration ☑ Winter ☒ Daytime/ Raptor ☐ Other: _____

Project Armow Wind Farm DD/MM/YY 28/02/12

Start Time (24hr): 12:48 End Time: 1:18 Observers NGM, LSM

Weather

Air Temp. -1 °C Wind Speed 1 Wind Direction SW (from)

Cloud Cover 100 % Cloud Height High ☐ Med ☑ Low ☐

Precipitation 0 Visibility High ☑ Med ☐ Low ☐

Station

Habitat

Elevation _____ ft / m Crop _____

Pressure _____ mb UTM _____

Turbines

Operational yes no Number in View _____ RPM _____

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.
Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Station#: AL **Date:** 28/02/12 **Project #:** 1275

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Comments
Red Tailed Hawk	12:48	1	Perched	/	/	/	SW	700m	
European starling	12:48	10	flying	1	0	NE	W	25m	
American Crow	12:51	1	Perched	/	/	/	NE	200m	
Red Tailed Hawk	12:53	1	flying	/	7	NE	SW	1 km	
House sparrow	1:06	4	calling	/	/	/	N	500m	

Temp. -1
Cloud Cover 100 %
Precipitation Ø

Wind Speed 1
Wind Direction SW

AVIAN POINT COUNT FORM

STATION AQ PROJECT 1275

Length 30min Survey ☐ Migration ☑ Winter ☑ Daytime/ Raptor ☐ Other: ____

Project Arrow Wind Farm DD/MM/YY 28/02/2012

Start Time (24hr): 1:19 End Time: 1:49 Observers NGM LSM

Weather

Air Temp. -1 °C Wind Speed 1 Wind Direction SW (from)

Cloud Cover 80 % Cloud Height High ☐ Med ☑ Low ☐

Precipitation Ø Visibility High ☑ Med ☐ Low ☐

Station

Habitat

Elevation ____ ft / m Crop ____

Pressure ____ mb UTM ____

Turbines

Operational yes no Number in View ____ RPM ____

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.
Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Station#: AQ **Date:** 28/02/2012 **Project #:** 1275

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Comments
American Crow	1:19	1	flying	/	2	NW	SW	800m	
" "	1:21	2	flying			NE	N	800m	
Horned Lark	1:40	1	perched	/	/	/	NW	500m	

Temp. -1
Cloud Cover 80 %
Precipitation 0

Wind Speed 1
Wind Direction SW

AVIAN POINT COUNT FORM

STATION A3 **PROJECT** 1275

Length 30 min Survey ☐ Migration ☒ Winter ☒ Daytime/ Raptor ☐ Other: _____

Project Amaw WF DD/MM/YY 28/02/13

Start Time (24hr): 13:55 End Time: 14:25 Observers NGM, LSM

Weather

Air Temp. -1 °C Wind Speed 2 Wind Direction W (from)

Cloud Cover 60 % Cloud Height High ☐ Med ☒ Low ☐

Precipitation — Visibility High ☒ Med ☐ Low ☐

Station

Habitat

Elevation _____ ft / m Crop _____

Pressure _____ mb UTM _____

Turbines

Operational yes no Number in View _____ RPM _____

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.
Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Station#: AJ **Date:** 28/02/12 **Project #:** 1275

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Comments
Red tailed Hawk	13:55	1	Perched	—	2	—	SE	400	
Eur. Starling	14:02	1	Flying	1	1	NE	SE	200	
Horned Lark	14:04	4	perched	—	0		S	25	

Temp. _____
Cloud Cover _____%
Precipitation _____

Wind Speed _____
Wind Direction _____

Station#: AC **Date:** 22/02/12 **Project #:** 1275

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Comments
rough legged hawk	2:16	1	flying	1	3	W	S	500m	

Temp. _____
Cloud Cover _____%
Precipitation _____

Wind Speed _____
Wind Direction _____

AVIAN POINT COUNT FORM

STATION AC PROJECT 1275

Length 30min Survey ☐ Migration ☑ Winter ☐ Daytime/ Raptor ☐ Other: ____

Project Arrow Wind Farm DD/MM/YY 22/02/12

Start Time (24hr): 2:15 End Time: 2:45 Observers Anthony Miller Leanne Marcaux

Weather

Air Temp. 3 °C Wind Speed 4 Wind Direction SW (from)

Cloud Cover 60 % Cloud Height High ☐ Med ☐ Low ☑

Precipitation Ø Visibility High ☑ Med ☐ Low ☐

Station

Habitat

Elevation ____ ft / m Crop ____

Pressure ____ mb UTM 0464881 4890027

Turbines

Operational yes (no) Number in View Ø RPM Ø

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.
Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Station#: AE **Date:** 22/02/12 **Project #:** 1275

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Comments

Temp. _____
Cloud Cover _____%
Precipitation _____

Wind Speed _____
Wind Direction _____

Page ___of ___

AVIAN POINT COUNT FORM

STATION AE PROJECT 1275

Length 30 Survey ☐ Migration ☒ Winter ☐ Daytime/ Raptor ☐ Other: ____

Project Arrow Wind Farm DD/MM/YY 22/02/12

Start Time (24hr): 1:00 End Time: 1:30 Observers Anthony Miller Leanne Marcaux

Weather

Air Temp. 2 °C Wind Speed 4 Wind Direction SW (from)

Cloud Cover 60 % Cloud Height High ☐ Med ☑ Low ☐

Precipitation 0 Visibility High ☑ Med ☐ Low ☐

Station

Habitat

Elevation ____ ft / m Crop ____

Pressure ____ mb UTM 0466400 4890128

Turbines

Operational yes no Number in View ____ RPM ____

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.
Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Station#: AF **Date:** 22/02/12 **Project #:** 1275

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Comments
Sharp-shinned hawk	12:27	1	flying	1	1	SW	NE	10m	

Temp. _____
Cloud Cover _____%
Precipitation _____

Wind Speed _____
Wind Direction _____

AVIAN POINT COUNT FORM

STATION AF PROJECT 1275

Length 30min Survey ☐ Migration ☑ Winter ☐ Daytime/ Raptor ☐ Other: _____

Project Armow Wind Farm DD/MM/YY 22/02/12

Start Time (24hr): 12:25 End Time: 12:55 Observers Anthony Miller Leanne Marcoux

Weather

Air Temp. -2 °C Wind Speed 4 Wind Direction SW (from)

Cloud Cover 80 % Cloud Height High ☐ Med ☐ Low ☑

Precipitation Ø Visibility High ☑ Med ☐ Low ☐

Station

Habitat

Elevation _____ ft / m Crop _____

Pressure _____ mb UTM 0467113 4890902

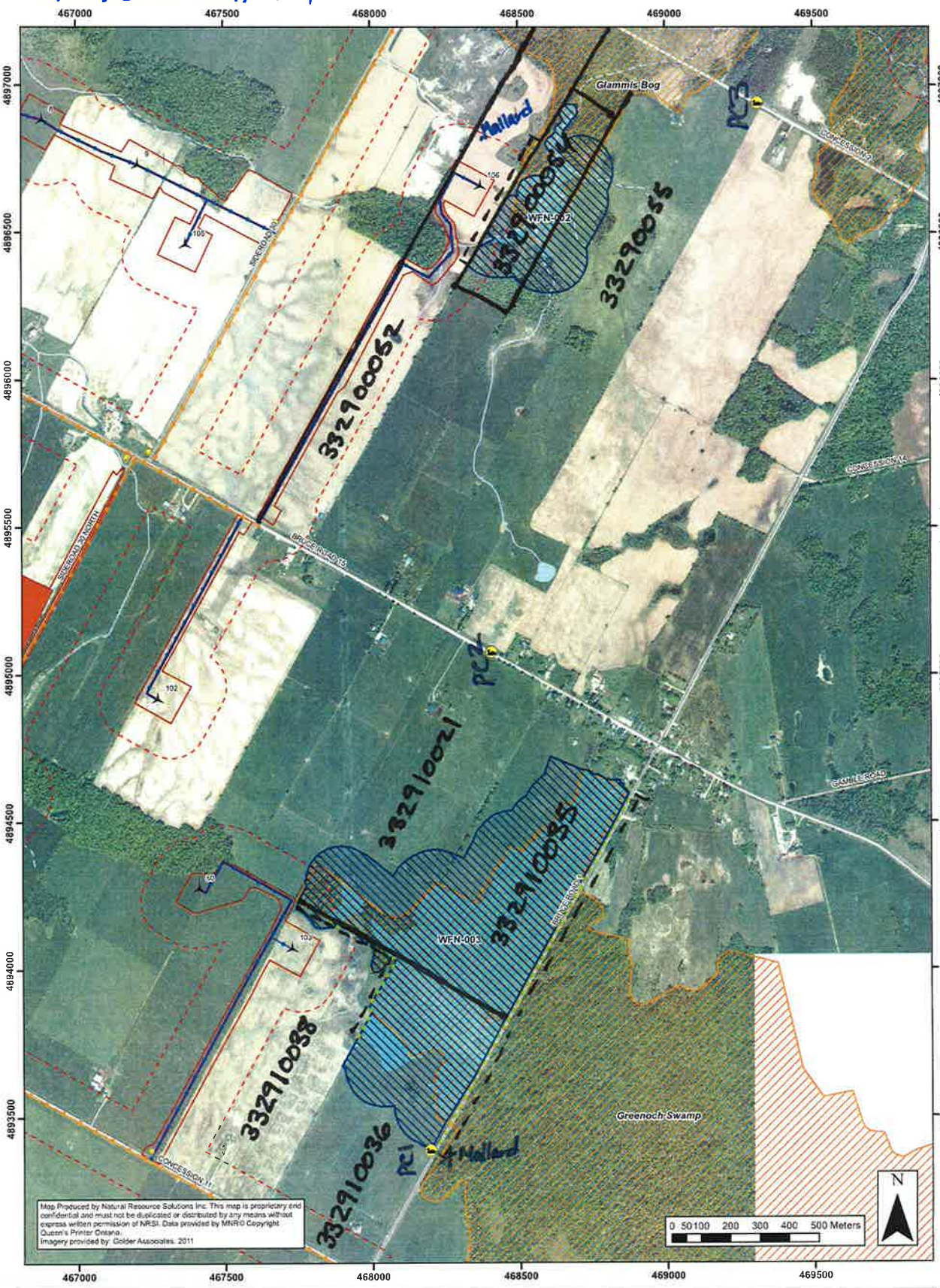
Turbines

Operational yes (no) Number in View Ø RPM Ø

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.
Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

May 10/12 - EMP, CJC Visit #1



Armow Wind Farm

Waterfowl Nesting Area - Monitoring Locations

Date: May-03-12, Project: NRSI-1275A
NAD83 - UTM Zone 17, Scale: 1:12,000 (at 11x17")

NATURAL RESOURCE SOLUTIONS INC.
Aquatic, Terrestrial and Wetland Biologists

Legend

- Project Area (120m)
- Proposed Turbine (L08 Rev2)
- MET Tower
- Junction Box
- Crane Walk
- Overhead Cabling
- Underground Cabling
- Access Road
- Disturbance Area
- Substation
- Staging Area
- Interconnect Area
- Highway
- Primary Road
- Secondary Road
- Watercourse (Permanent)
- Watercourse (Intermittent)
- Waterbody
- ANSI Life Science
- Waterfowl Nesting Area
- Waterfowl Nesting Area - Brood Habitat (NRSI Wetland)
- Waterfowl Nesting Monitoring Station
- Waterfowl Nesting Walking Transect

Access:
332910038
332900052

BIRD TRANSECT

Project Armow

Project # 1275A

Length 500 m / 21 min

Survey [ ] spring migration [ ] breeding [X] waterfowl nesting [ ] fall migration [ ] raptor wintering

Habitat ID WFN 002

Date (dd/mm/yy) 10/05/12

Start Time: 6:13 End Time: 6:32 Obs. EMP, COC

Weather

Air Temp. 5 °C Wind Speed 1 Wind Direction E (from)

Cloud Cover 75 % Cloud High [ ] Med [X] Low [ ]

Precipitation none Visibility High [X] Med [ ] Low [ ]

Route

UTM: 17T 0468339 4896418 (start)

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Route: WFN 002 **Date:** 10/05/12 **Project #:** 1275 A

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Transect Segment
Am Robin	6:13	1	perched	-	1	-	N	100	
Red-winged blackbird	6:13	2	perched	-	1	-	E	50	
Brown-headed Cowbirds	6:13	4	perched	-	1	-	E	20	
American Bittern	6:13	1	perched	-	1	-	E	75	
American Crow	6:13	1	flying	1	1	N	E	50	
Blue Jay	6:13	2	perched	-	1	-	E	50	
Song Sparrow	6:13	7	perched	-	1	-	E	25	
Red-tailed Hawk	6:15	1	flying	1	2	W	SW	100	
American Robin	6:17	2	perched	-	1	-	W	20	
Northern Cardinal	6:19	1	perched	-	1	-	N	70	
Blue Jay	6:19	1	perched	-	1	-	SW	75	
American Crow	6:20	1	flying	1	1	S	E	50	
Song Sparrow	6:22	1	perched	-	1	-	E	10	
Great-crested Flycatcher	6:23	1	perched	-	1	-	E	50	
White-Crowned Sparrow	6:25	1	perched	-	1	-	NE	30	
Mallard	6:27	1	perched	-	1	-	NW	100	
American Goldfinch	6:28	1	perched	-	0	-	NE	5	
Red-winged Blackbird	6:32	3	flying	-	1	N	E	20	female

BIRD TRANSECT

Project ArmGW

Project # 1275A

Length 500 m / 28 min

Survey ☐ spring migration ☐ breeding ☑ waterfowl nesting ☐ fall migration ☐ raptor wintering

Habitat ID WFN003

Date (dd/mm/yy) 10/05/12

Start Time: 7:16 End Time: 7:42 Obs. CJC, EMP

Weather

Air Temp. 5 °C Wind Speed 2 Wind Direction NE

Cloud Cover 5 % Cloud High ☒ Med ☐ Low ☐

Precipitation none Visibility High ☑ Med ☐ Low ☐

Route UTM 0469915 4893791 (start)
0467745 4894218 (end)

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Route: CNFN 003 **Date:** 10/05/12 **Project #:** 1275A

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Transect Segment
Red-winged blackbird	7:16	7	perched	-	1	-	E	10	
American crow	7:16	2	flying	1	+	W	E	10	
Mourning Dove	7:18	2	flying	1	0	E	S	10	
American Robin	7:19	2	perched	-	1	-	E	30	
Canada Geese	7:19	2	flying	1	1	N	W	25	
Blue Jay	7:21	1	perched	-	1	-	E	10	
Song Sparrow	7:21	3	perched	-	1	-	E	10	
American Goldfinch	7:22	2	perched	-	1	-	N	5	
Northern Cardinal	7:28	1	perched	-	1	-	N	50	
Northern Mockingbird	7:28	1	flying	-	1	N	NW	20	
Gray Catbird	7:28	1	perched	-	1	-	NW	10	
Yellow Warbler	7:30	1	perched	-	1	-	E	10	
Song Sparrow	7:32	1	perched	-	1	-	N	10	
Red-winged Blackbird	7:33	1	perched	-	1	-	N	15	
Song Sparrow	7:35	2	"	-	1	-	N	25	
Am Robin	7:35	1	"	-	1	-	N	50	

BIRD TRANSECT

Project: Arnow WF

Project #: 1275A

Length: 1000 m / 29 min

Survey: ☐ spring migration ☑ breeding ☐ waterfowl nesting ☐ fall migration ☐ raptor wintering

Habitat ID: Greenock Swamp + WFN 003

Date (dd/mm/yy): May 10/12

Start Time: 9:56 End Time: 10:25 Obs. CJC EMP

Weather

Air Temp. 5 °C Wind Speed 2 Wind Direction S

Cloud Cover 5 % Cloud High ☑ Med ☐ Low ☐

Precipitation — Visibility High ☑ Med ☐ Low ☐

Route

0468800 4894497 (start)

0468177 4893330 (end)

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Route: WFN-003 - Greenock Swamp **Date:** May 10/12 **Project #:** 1275A

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Transect Segment
American Crow	9:59	1	Perched	—	1	—	NW	30m	
Red-winged Blackbird	9:59	1	Perched	—	1	—	E	30m	
American Robin	9:59	1	Perched	—	1	—	N	30m	
Song Sparrow	10:01	1	Perched	—	1	—	E	10m	
American Goldfinch	10:02	2	Perched	—	2	—	E	10m	
Ovenbird	10:02	1	Perched	—	1	—	E	20m	
Field Sparrow	10:03	2	Perched	—	1	—	E	30m	
Grey Catbird	10:03	1	Perched	—	1	—	W	10m	
Brown-headed Cowbird	10:03	2	Perched	—	1	—	E	30m	
Northern Flicker	10:06	2	Perched	—	1	—	E	10m	
Northern Cardinal	10:08	1	Perched	—	1	—	E	30m	
Common Grackle	10:09	1	Perched	—	1	—	W	20m	
White-breasted Nuthatch	10:10	1	Perched	—	1	—	W	10m	
Pine Warbler	10:11	1	Perched	—	1	—	E	10m	
Eastern phoebe	10:13	1	Perched	—	1	—	E	30m	
Ovenbird	10:17	1	Perched	—	1	—	W	30m	
American Crow	10:20	1	Flying	—	4	W	E	100m	
Marsh Wren	10:22	1	Perched	—	1	—	W	20m	
Canada Goose	10:22	1	Perched	—	4	—	W	150m	

Station#: Transect WFN-003 - Greenoch **Date:** May 10/12 **Project #:** 1275A

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Comments
Turkey Vulture	10:22	3	Flying	—	5	S	S	150m	
Red-winged Blackbird	10:22	1	Perched	—	1	—	S	50m	
Black-capped Chickadee	10:24	1	Perched	—	1	—	S	50m	

AVIAN POINT COUNT FORM

PROJECT 1275A Armow **PROJECT #** 1275A

Length 30 min Survey ☐ spring migration ☒ breeding ☐ fall migration ☐ raptor wintering

Habitat ID PC1 Greenock Swamp DD/MM/YY 10/05/12

Start Time (24hr): 8:09 End Time: 8:39 Observers CJC, EMP

Weather

Air Temp. 5 °C Wind Speed 2 Wind Direction W (from)

Cloud Cover 5 % Cloud Height High ☒ Med ☐ Low ☐

Precipitation none Visibility High ☒ Med ☐ Low ☐

Station

Habitat

Elevation _____ ft / m Crop Maple Swamp, surrounded by fallow field

Pressure _____ mb UTM 0468190 4893332

Turbines

Operational yes (no) Number in View _____ RPM _____

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.

Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Station#: PC1 (Greenock Swamp) **Date:** 10/05/12 **Project #:** 1275A

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Comments
Red-winged Blackbird	8:13	2	Perched	—	2	—	W	30m	
Turkey Vulture	8:13	8	Flying	1	5	W	SW	100m	
Canada Goose	8:14	2	Flying	1	4	E	W	70m	
Red-winged Blackbird	8:21	3	Perched	—	1	—	W	10m	♂ ♀ young ♂
Mallard	8:21	2	Swimming/Flying	—	1	—	E, W	10m	1 ♂ swimming (one ind. swimming because a pair) 2 flying (1 ♂ 1 ♀)
Canada Goose	8:23	4	Flying	—	4	N	W	100m	
Song Sparrow	8:29	1	Perched	—	2	—	E	50m	
American Robin	8:30	2	Perched	—	1	—	E, W	50m	
American Crow	8:31	1	Perched	—	3	—	W	100m	
Yellow Warbler	8:33	1	Perched	—	1	—	E	50m	
Red-winged Blackbird	8:38	1	Perched	—	1	—	E	20m	

Temp. 5°C
Cloud Cover 5 %
Precipitation —

Wind Speed 2
Wind Direction W

AVIAN POINT COUNT FORM

PROJECT Arnow WF **PROJECT #** 1275A

Length 30 min. Survey ☐ spring migration ☑ breeding ☐ fall migration ☐ raptor wintering

Habitat ID PC2 WFN-003 DD/MM/YY May 10/12

Start Time (24hr): 8:44 End Time: 9:14 Observers CJC EMP

Weather

Air Temp. 5 °C Wind Speed 2 Wind Direction S (from)

Cloud Cover 5 % Cloud Height High ☑ Med ☐ Low ☐

Precipitation — Visibility High ☑ Med ☐ Low ☐

Station

Habitat upland habitat

Elevation ____ ft / m Crop cow pasture 5 cows (S side), fallow field (N side)

Pressure ____ mb UTM 0468430 4895074

Turbines

Operational yes (no) Number in View — RPM —

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.
Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Station#: (PC2 WFN-003) **Date:** May 10/12 **Project #:** 1275A

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Comments
Barn Swallow	8:44	2	Flying	1	3	W	S	30m	
Turkey Vulture	8:45	4	Flying	1	5	E	SE	150m	
Red-winged Blackbird	8:45	1	Perched	—	1	—	N	10m	
Black-capped Chickadee	8:50	1	Perched	—	1	—	N	30m	
American Crow	8:52	1	Perched	—	1	—	NW	100m	
Canada Goose	8:54	2	Flying	—	5	N	N	150m	
Turkey Vulture	8:54	1	Flying	—	5	N	E	100m	
Common Grackle	8:54	1	Perched	—	2	—	E	30m	
American Robin	8:57	1	Perched	—	1	—	E	30m	
Mourning Dove	9:02	1	Perched	—	1	—	S	10m	
Turkey Vulture	9:08	1	Flying	1	5	N	N	150m	
American Crow	9:08	3	Flying	—	3	N	N	100m	
Song Sparrow	9:09	1	Perched	—	1	—	SE	50m	

Temp. 5°C
Cloud Cover 5 %
Precipitation —

Wind Speed 2
Wind Direction S

AVIAN POINT COUNT FORM

PROJECT Armow PROJECT # 1275A

Length 30 mins PC3 Survey ☐ spring migration ☒ breeding ☐ fall migration ☐ raptor wintering

Habitat ID WFN 002 DD/MM/YY 10/05/12

Start Time (24hr): 9:21 End Time: 9:51 Observers CJC, EMP

Weather

Air Temp. 10 °C Wind Speed 2 Wind Direction NE (from)

Cloud Cover 5 % Cloud Height High ☒ Med ☐ Low ☐

Precipitation none Visibility High ☒ Med ☐ Low ☐

Station

Habitat + Pine forest across road

Elevation _____ ft / m Crop Soy bean?, Valley

Pressure _____ mb UTM 17T 0469373 4848904

Turbines

Operational yes (no) Number in View — RPM —

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.
Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Station#: WFN 002 (PC3) **Date:** 10/05/2012 **Project #:** 1275A

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Comments
Turkey Vulture	9:22	1	flying	1	4	N	W	750m	
Brown-headed cowbird	9:22	1	perched	-	1	-	NE	20	
Blue Jay	9:23	1	perched	-	1	-	NE	75	
Song Sparrow	9:24	2	perched	-	1	-	NE	20	
Red-winged blackbird	9:25	3	perched	-	1	-	E	70	
Am. Goldfinch	9:26	4	perched	-	1	-	NW	20	
Black-capped chickadee	9:27	1	perched	-	1	-	SE	75	
American Robin	9:29	1	perched	-	1	-	E	100	
Blue Jay	9:29	1	perched	-	1	-	E	70	
Phoebe	9:29	1	perched	-	1	-	NE	50	
American crow	9:30	2	flying	1	2	N	E	200	
Canada Goose	9:32	2	flying	1	5	S	W	150	
Blue Jay	9:38	1	perched	-	1	-	NE	50	
American Robin	9:39	1	perched	-	1	-	S	30	
Grasshopper Sparrow	9:41	1	perched	-	1	-	NE	10	
American Crow	9:43	1	flying	1	1	W	S	70	
Chipping Sparrow	9:45	1	perched	-	1	-	S	60	
Canada Goose	9:46	2	flying	1	0	W	S	10	
White-crowned Sparrow	9:47	1	perched	-	1	→	S	75	
Brown-Headed Cowbird	9:48	1	perched	-	1	-	SW	30	

Temp. 10C
Cloud Cover 5 %
Precipitation none

Wind Speed 2
Wind Direction NE

Route: WFN 002 Point Count (PC3) **Date:** 10/05/12 **Project #:** 1275A

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Transect Segment
Tree Swallow	9:50	2	flying	1	1	NW	E	20	
Canada Goose	9:51	1	flying	1	1	SW	SE	75	

1275A Armow 10/05/12

CJC, EMP 5°C, no precip, Wind 1E
75% CC

Incidentals WFN 002 (Transect)
(all incidentals were seen/heard outside transect habitats walking to + from sites)

- Am Robin
- Blue Jay
- Song Sparrow
- Red-winged blackbird
- Am. Crow
- Barn Swallow
- Northern Cardinal

- Spring Peepers
- White-tailed deer tracts
- Bird tracts (Picture 1)

Habitat
- Wetland - standing trees (snags)
- Birch
- Conifer/Cedar Dominated

Pictures # 2-3

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WFN-003

(all incidentals were observed/heard outside transect habitats while walking to or from sites)

Incidentals
- Red-winged Blackbird
- Am. Goldfinch
- Am. Crow
- Phoebe
- Canada Goose
- Song Sparrow

Along W side of woodlot large burrows (Picture 4)

Along ~~N~~ S side of small isolated woodlot small burrows (Picture 5)

Habitat
- small pools of water scattered throughout site
- Spruce
- Maple dominated
- Red-osier dogwood
- Sparse cattail

Rain in the Rain

BIRD TRANSECT

Project: Aman WF Project #: 1275A

Length: 30 min (m)

Survey: ☐ spring migration ☐ breeding ☒ waterfowl nesting ☐ fall migration ☐ raptor wintering

Habitat ID: WFN-002 Date (dd/mm/yy): 31/05/12

Start Time: 7:15 End Time: 7:45 Obs.: NGM, ANM

Weather

Air Temp.: 10 °C Wind Speed: 1 Wind Direction: W

Cloud Cover: 75 % Cloud: High ☐ Med ☒ Low ☐

Precipitation: — Visibility: High ☒ Med ☐ Low ☐

Route

very little standing water

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Route: **Date:** May 31/12 **Project #:** 1275A

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Transect Segment
Field Sparrow	7:16	2	Singing	—	0	—	NA	50	
House Wren	7:16	1	"	—	0	—	NA	"	
Am. Goldfinch	7:19	2	"	—	0	—	NA	"	
Song Sparrow	7:20	1	"	—	0	—	NA	"	
Eastern Kingbird	7:21	1	"	—	0	—	NA	75	
Great-crested Flycatcher	7:22	1	"	—	0	—	NA	150	
Northern Flicker	7:23	1	Calling	—	0	—	NA	150	
Wilson's Snipe	7:26	1	Winnowing display	—	0	—	NA	200	
Eastern Bluebird	7:31	1	perched	—	0	—	NA	100	
Brown-headed cowbird	7:39	2	flying	1	1	NE	NA	"	
Herring Gull	7:40	1	flying	1	1	NW	NA	"	
Baltimore oriole	7:41	2	perched	—	0	—	NA	75	

BIRD TRANSECT

Project Aman

Project # 1275A

Length 31 m / min

Survey ☐ spring migration ☐ breeding ☒ waterfowl nesting ☐ fall migration ☐ raptor wintering

Habitat ID WFN-003

Date (dd/mm/yy) 31/05/12

Start Time: 6:10 End Time: 6:41 Obs. NGM, ANM

Weather

Air Temp. 9 °C Wind Speed 1 Wind Direction NW

Cloud Cover 90 % Cloud High ☐ Med ☒ Low ☐

Precipitation — Visibility High ☒ Med ☐ Low ☐

Route No waterfowl observed. No significant amount of water in the forest.

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Route:				Date: May 31/12			Project #: 1275A		
Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Transect Segment
Blue Jay	6:15	1	calling	—	C	—	NA	75	
Song sparrow	6:16	2	Singing	—		—		100	
Yella warbler	6:20	3	"	—				75	
Comm. Yellathroat	6:21	2	"	—				20	
Indigo Bunting	6:23	1	"	—				50	
Eastern Meadowlark	6:23	1	"	—				"	
Comm. Grackle	6:24	2	"	—				"	
Mourning Dove	6:29	1	"	—				"	
Red-winged Blackbird	6:31	2	"	—				100	
Am. Crow	6:32	2	"	—				100	
Horned Lark	6:36	1	"	—				150	
Baltimore oriole	6:38	2	"	—	↓	↓	↓	75	
No Waterfowl observed.									

BIRD TRANSECT

Project: Amow WF Project #: 19754

Length: ____ m / 20 min

Survey: ☐ spring migration ☐ breeding ☒ waterfowl nesting ☐ fall migration ☐ raptor wintering

Habitat ID: WFN-003/Greenoch Swamp Date (dd/mm/yy): 31/05/12

Start Time: 8:00 End Time: 8:20 Obs. NGM, ANM

Weather

Air Temp. 12 °C Wind Speed 2 Wind Direction W

Cloud Cover 80 % Cloud: High ☐ Med ☒ Low ☐

Precipitation — Visibility: High ☒ Med ☐ Low ☐

Route

No waterfowl nesting habitat present. No standing water

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Route:				Date: May 31/12			Project #: 1275A		
Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Transect Segment
Least Flycatcher	8:02	1	calling	—	0	—	NA	50	
Yellow rumped warbler	8:03	2	flying	—	0	—		50	
Turkey Vulture	8:06	1	Soaring	1		W		100	
Baltimore oriole	8:11	2	perched	—	0	—		75	
Brown-headed cowbird	8:11	3	flying	1	1	N		11	
Common Grackle	8:12	2	flying	1				11	
Song Sparrow	8:12	1	flying	—	0	—		100	
Common Yellowthroat	8:13	1	"	—	0	—		4	
Am. Goldfinch	8:14	1	"	—	0	—		11	
Red-winged blackbird	8:14	1	"	—	0	—		150	
warbling vireo	8:17	1	"	—	0	—		150	
Am. Crow	8:18	1	flying	1	2	SW		200	

AVIAN POINT COUNT FORM

PROJECT ARROW WF PROJECT # 1275A

Length 30mins Survey ☐ spring migration ☒ breeding ☐ fall migration ☐ raptor wintering waterfowl

Habitat ID PC 1 DD/MM/YY 31/05/12

Start Time (24hr) 830 End Time: 900 Observers Anthony miller

Weather

Air Temp. 16 °C Wind Speed 2 Wind Direction S (from)

Cloud Cover 75 % Cloud Height High ☒ Med ☐ Low ☐

Precipitation NONE Visibility High ☒ Med ☐ Low ☐

Station

Habitat

Elevation 279 ft (m) Crop NONE

Pressure ____ mb UTM nt 0468271 4895484

Turbines

Operational yes (no) Number in View ____ RPM ____

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.
Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Station#: **Date:** 31/05/12 **Project #:** 1275A

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Comments
Song sparrow	830	2	Song	—	—	—	E	40m	
Baltimore oriole	830	2	Song	—	—	—	W	40 m	
Great-crested Fly	830	3	Song	—	—	—	E	30 m	
Yellow warbler	830	10+	Song	—	—	—	E	40 m	
Common yellowthr	830	5+	Song	—	—	—	E	20 m	
Red-eyed vireo	830	2	Song	—	—	—	E	30 m	
Brown-head Cowb	842	1	Song	—	—	—	W	20 m	
House wren	848	2	Song	—	—	—	W	40 m	

Temp. _____
Cloud Cover _____%
Precipitation _____

Wind Speed _____
Wind Direction _____

AVIAN POINT COUNT FORM

PROJECT Arrow WF PROJECT # 1275A

Length 30 min Survey ☐ spring migration ☒ breeding ☐ fall migration ☐ raptor wintering Waterfowl nesting

Habitat ID PC 2 DD/MM/YY 31/05/12

Start Time (24hr) 8:30 End Time: 9:00 Observers NGM

Weather

Air Temp. 12 °C Wind Speed 2 Wind Direction W (from)

Cloud Cover 50 % Cloud Height High ☐ Med ☒ Low ☐

Precipitation — Visibility High ☒ Med ☐ Low ☐

Station

Habitat

Elevation _____ ft / m Crop _____

Pressure _____ mb UTM _____

Turbines

Operational yes no Number in View _____ RPM _____

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.
Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Station#: PC 2 **Date:** May 31/12 **Project #:** 1275A

Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Comments
Eastern Meadowlark	8:30	3	singing	—	0	—	SW	100	
European Starling	8:31	1	perched	—	0	—	S	"	
Am. Crow	8:32	1	calling	—	0	—	NE	"	
Red-winged Blackbird	8:33	4	singing		0	—	E	"	
Common Grackle	8:33	2	"	—	0	—	N	75	
Yellow Warbler	8:35	2	"	—	0	—	N	50	
Killdeer	8:36	5	"	—	0	—	SW	100	
Eastern Kingbird	8:37	1	calling	—	0	—	SW	100	
Rock Pigeon	8:38	7	perched	—	0	—	SE	300	
Blue Jay	8:38	1	calling	—	0	—	S	200	
Ring-billed Gull	8:39	1	flying	1	6	NE	N	400	
Horned Lark	8:40	1	singing	—	0	—	S	75	
Chipping Sparrow	8:41	1	singing	—	0	—	E	"	
Barn Swallow	8:42	3	foraging	3	0	circling	N	100	
Barn Swallow	8:43	2	foraging	2	0	circling	S	75	
European Starling	8:46	7	perched	—	0	—	SW	250	
Tree Swallow	8:52	1	flying	1	1	NE	SW	100	
Turkey Vulture	8:56	1	gliding	1	2	W	NE	150	
No waterfowl observed!									

Temp. _____
Cloud Cover _____%
Precipitation _____

Wind Speed _____
Wind Direction _____

AVIAN POINT COUNT FORM

PROJECT Amaw PROJECT # 1275A

Length 30 min Survey ☐ spring migration ☒ breeding ☐ fall migration ☐ raptor wintering waterfowl

Habitat ID PC3 DD/MM/YY 31/05/12

Start Time (24hr): 9:07 End Time: 9:37 Observers NGM, ANM

Weather

Air Temp. 12 °C Wind Speed 2 Wind Direction NW (from)

Cloud Cover 50 % Cloud Height High ☐ Med ☒ Low ☐

Precipitation — Visibility High ☒ Med ☐ Low ☐

Station

Habitat

Elevation _____ ft / m Crop _____

Pressure _____ mb UTM _____

Turbines

Operational yes no Number in View _____ RPM _____

Behaviour should be recorded as: foraging, mobbing, migration, flying, perching, perched on ground, or swimming. Can also use to record breeding evidence

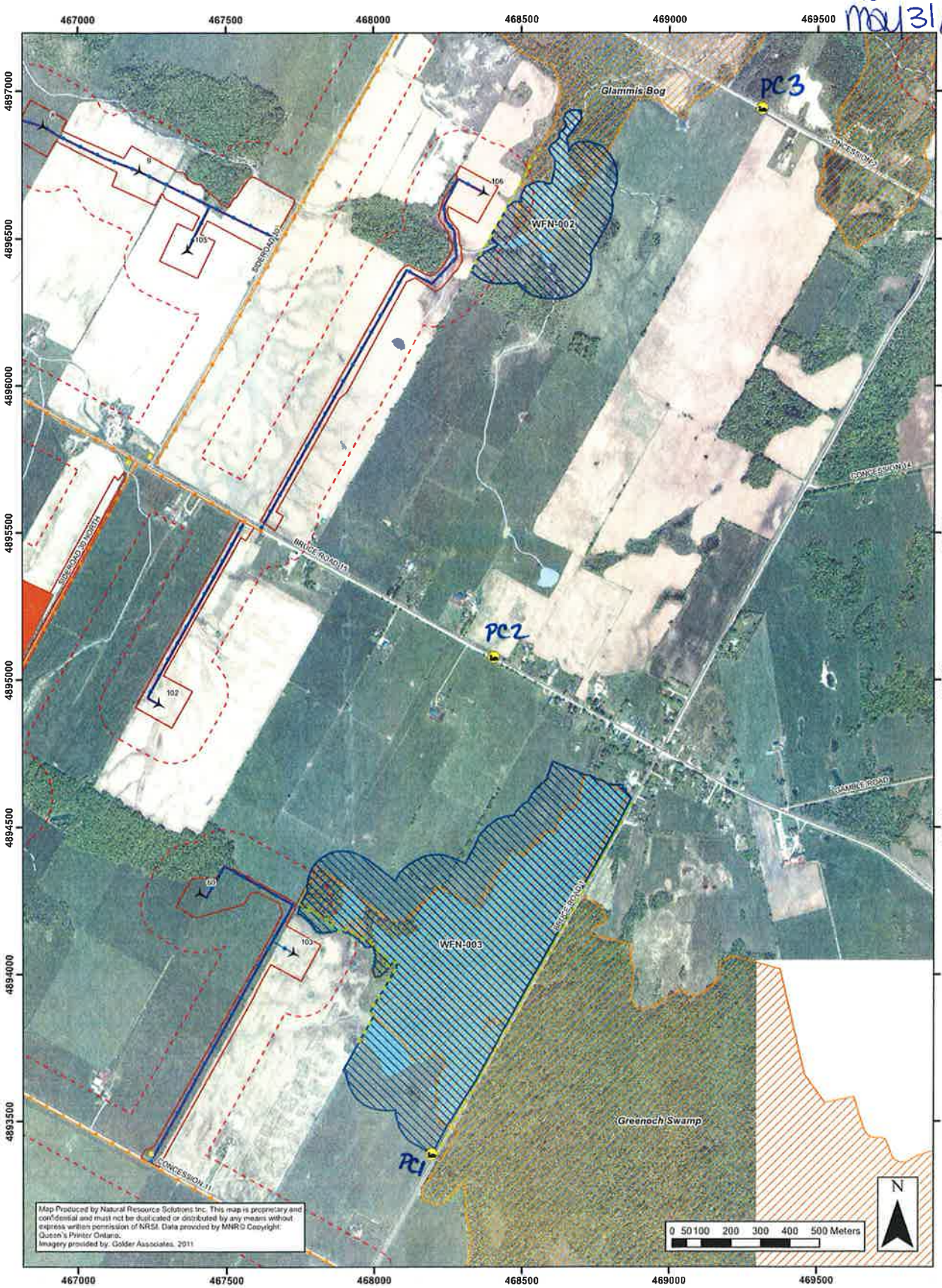
Height Category: 0=0-9m; 1=10-19m; 2=20-29m; 3 = 30-39m etc.
Wind speed (Beaufort): 0=calm; 1=smoke drifts; 2=wind felt on face; 3=leaves move; 4=sm.branches move; 5=sm.trees move; 6=lrg branches move; 7=lrg trees move; 8=twigs break off, hard to walk; 9=light structural damage; 10=trees uprooted

Station#:				Date:				Project #:	
Species	Time	# of Birds	Behaviour	Passes	Height Category	Flight Direction	Direction from Obs.	Distance from Obs.	Comments
Swamp Sparrow	9:09	2	Singing	—	0	—	N	25	
Red-winged Blackbird	9:11	6	calling	—	0	—	N	100	
Am. Crow	9:12	3	"	—	0	—	N	200	
Common Grackle	9:13	5	"	—	0	—	S	75	
Turkey Vulture	9:14	1	Soaring	1	9	—	SE	250	
Common Yellowthroat	9:16	2	Singing	—	0	—	NW	150	
Tree Swallow	9:17	2	foraging	1	0	N	S	100	
Northern Harrier	9:19	2	pair	1	0	circling	W	75	
Mourning Dove	9:20	1	Calling	—	0	—	SW	75	
House Wren	9:21	1	Singing	—	0	—	S	100	
Am. Goldfinch	9:24	2	Flying	1	3	NE	SW	200	
Great-Blue Heron	9:27	1	flying	1	4	N	SW	150	
Great-crested Flycatcher	9:33	1	calling	—	0	—	N	50	
No water fowl observed.									

Temp. _____
Cloud Cover _____%
Precipitation _____

Wind Speed _____
Wind Direction _____

Visit #2
May 31/12
NGM, ANM



Armow Wind Farm

Waterfowl Nesting Area - Monitoring Locations

Date: May-03-12 Project: NRSI-1275A
NAD83 - UTM Zone 17 Scale: 1:12,000 (at 11x17")

NATURAL RESOURCE SOLUTIONS INC.
Aquatic, Terrestrial and Wetland Biologists

Legend

- Project Area (120m)
- Proposed Turbine (L08 Rev2)
- MET Tower
- Junction Box
- Crane Walk
- Overhead Cabling
- Underground Cabling
- Access Road
- Disturbance Area
- Substation
- Staging Area
- Interconnect Area
- Highway
- Primary Road
- Secondary Road
- Watercourse (Permanent)
- Watercourse (Intermittent)
- Waterbody
- ANSI, Life Science
- Waterfowl Nesting Area
- Waterfowl Nesting Area - Brood Habitat (NRSI Wetland)
- Waterfowl Nesting Monitoring Station
- Waterfowl Nesting Walking Transect

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Amphibian Data Form

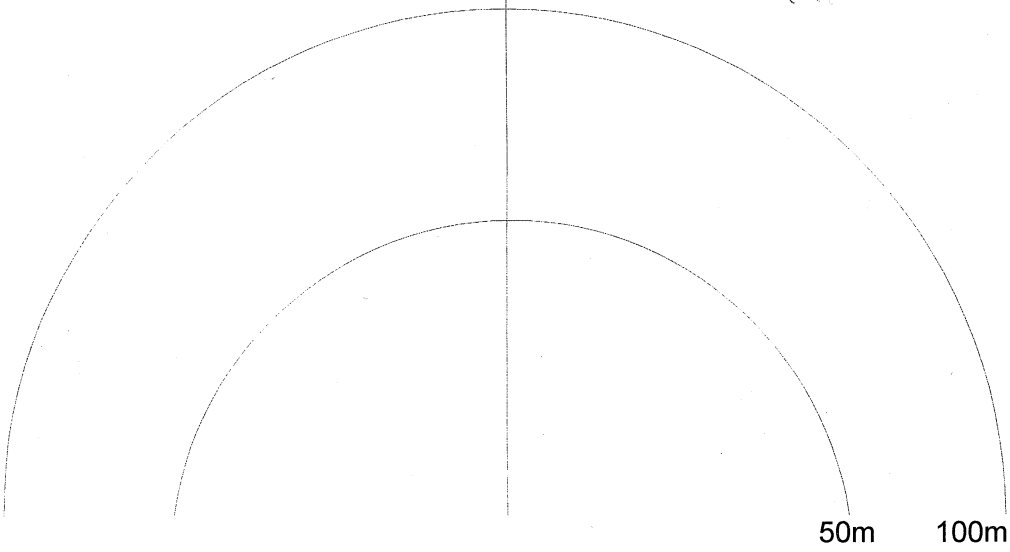
Project: ATmow Project No. 1275A

UTM: 17T 0468476 4896656

Observer: CM, KNP	Station Name: AWO 003 Visit #: 1		Date: Apr. 16/12 Start time: 20:35	
Wind speed: 6	% Cloud cover: 95	Air Temp: 12°C	Water Temp: N/A	Water pH: N/A
Precipitation Description: none				
Remarks: no access & no open water				

direction 90°

>100m SPPE 3
full chorus



CALL LEVEL CODES		Beaufort Wind Scale		
1	Calls not overlapping; calling individuals can be counted	0 Calm	0-2	Smoke rises vertically
2	Calls somewhat overlapping; calling individuals can be counted	1 Light air	3 – 5	Smoke drifts, but wind vanes do not
3	Full chorus; number of calling individuals cannot be estimated	2 Slight breeze	6 – 11	Wind felt on face, leaves rustle
Enter as: Call code (# of ind.) e.g. 1 (2)		3 Gentle breeze	12 – 19	Leaves & small twigs in constant motion; light flags extended
		4 Mod. breeze	20 – 30	Wind raises dust and loose paper; small branches move
		5 Fresh breeze	31 – 39	Small trees in leaf begin to sway
		6 Strong breeze	40 - 50	Large branches in motion; inconvenience felt when walking against wind

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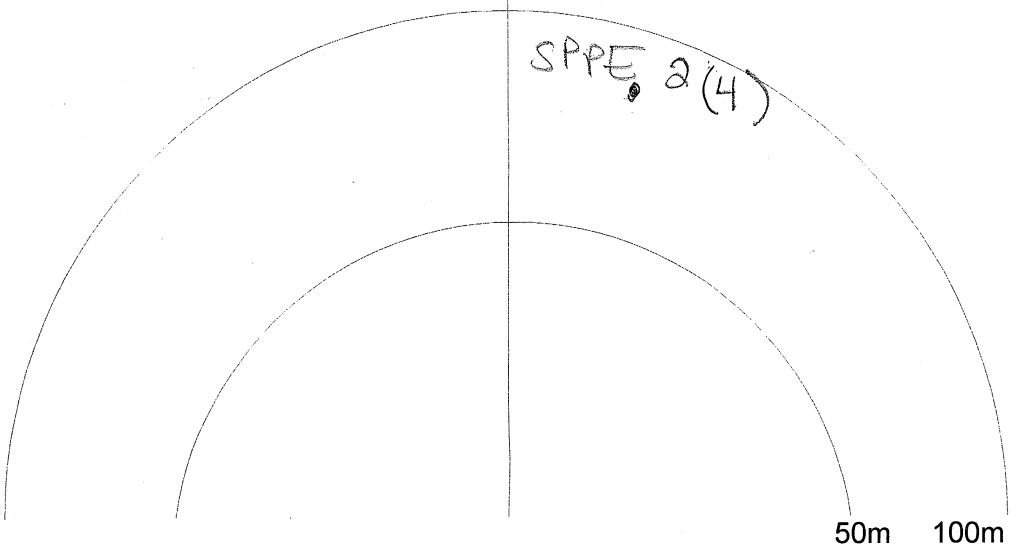
Amphibian Data Form

Project: Arnow Project No. 1275A

UTM: 17T 0467825 4894201

Observer: CM KNP	Station Name: AWO-002A Visit #: 1		Date: 16-Apr-19 Start time: 21:24	
Wind speed: 6	% Cloud cover: 95%	Air Temp: 10°C	Water Temp: 10.9	Water pH: 8.2
Precipitation Description: None.				
Remarks:				

direction 25 °



CALL LEVEL CODES		Beaufort Wind Scale		
1	Calls not overlapping; calling individuals can be counted	0 Calm	0-2	Smoke rises vertically
2	Calls somewhat overlapping; calling individuals can be counted	1 Light air	3 – 5	Smoke drifts, but wind vanes do not
3	Full chorus; number of calling individuals cannot be estimated	2 Slight breeze	6 – 11	Wind felt on face, leaves rustle
Enter as: Call code (# of ind.) e.g. 1 (2)		3 Gentle breeze	12 – 19	Leaves & small twigs in constant motion; light flags extended
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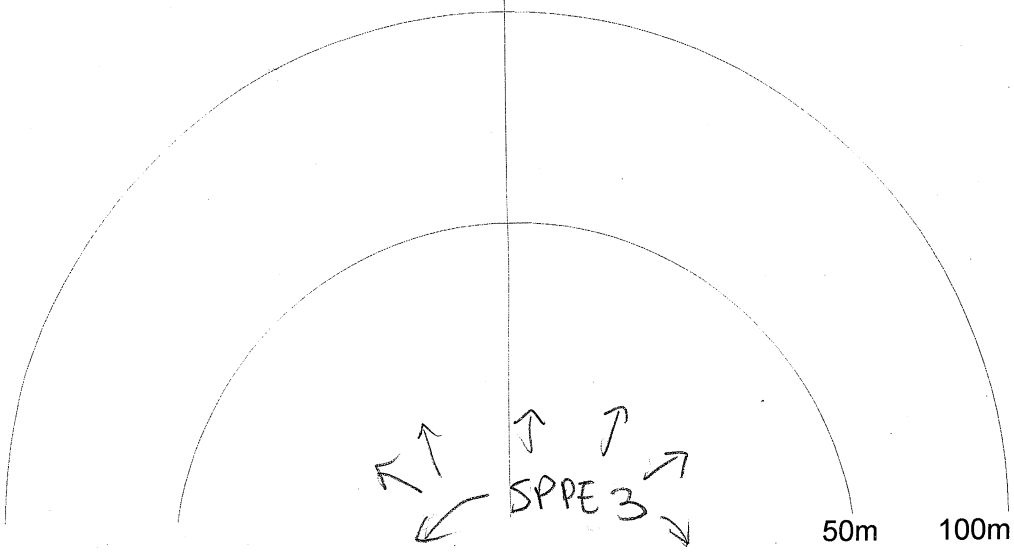
Amphibian Data Form

Project: Arrow WF Project No. 1275-A

UTM: 17T 0466555 4891821

Observer: KNP CM	Station Name: AWO-001 Visit #: 1		Date: 16-APR-17 Start time: 21:57	
Wind speed: 6	% Cloud cover: 100	Air Temp: 9°C	Water Temp: 11.2	Water pH: 8.4
Precipitation Description: Very light rain				
Remarks: Deafening!				

direction 100°



CALL LEVEL CODES		Beaufort Wind Scale		
1	Calls not overlapping; calling individuals can be counted	0 Calm	0-2	Smoke rises vertically
2	Calls somewhat overlapping; calling individuals can be counted	1 Light air	3 – 5	Smoke drifts, but wind vanes do not
3	Full chorus; number of calling individuals cannot be estimated	2 Slight breeze	6 – 11	Wind felt on face, leaves rustle
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		6 Strong breeze	40 - 50	Large branches in motion; inconvenience felt when walking against wind

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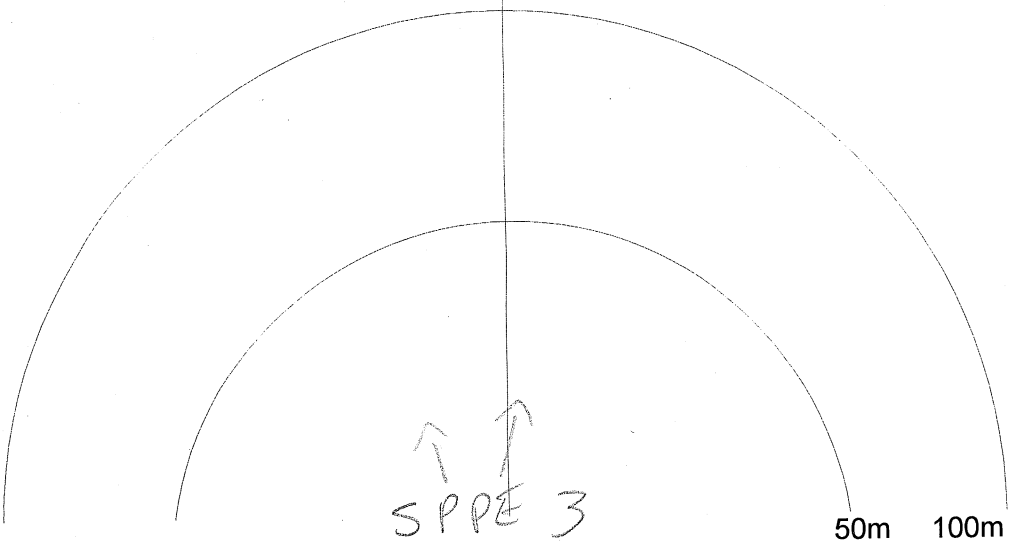
Amphibian Data Form

Project: ARMOW WF Project No. 1235A

UTM: 17T 0468680 4894238

Observer: CM KNP	Station Name: AWO 002B Visit #: 1		Date: April 16, 2012 Start time: 22:14	
Wind speed: 6	% Cloud cover: 100	Air Temp: 6°C	Water Temp: NA	Water pH: N/A
Precipitation Description: light rain				
Remarks: no access for water measurements				

direction 270°



CALL LEVEL CODES		Beaufort Wind Scale		
1	Calls not overlapping; calling individuals can be counted	0 Calm	0-2	Smoke rises vertically
2	Calls somewhat overlapping; calling individuals can be counted	1 Light air	3 – 5	Smoke drifts, but wind vanes do not
3	Full chorus; number of calling individuals cannot be estimated	2 Slight breeze	6 – 11	Wind felt on face, leaves rustle
Enter as: Call code (# of ind.) e.g. 1 (2)		3 Gentle breeze	12 – 19	Leaves & small twigs in constant motion; light flags extended
		4 Mod. breeze	20 – 30	Wind raises dust and loose paper; small branches move
		5 Fresh breeze	31 – 39	Small trees in leaf begin to sway
		6 Strong breeze	40 - 50	Large branches in motion; inconvenience felt when walking against wind

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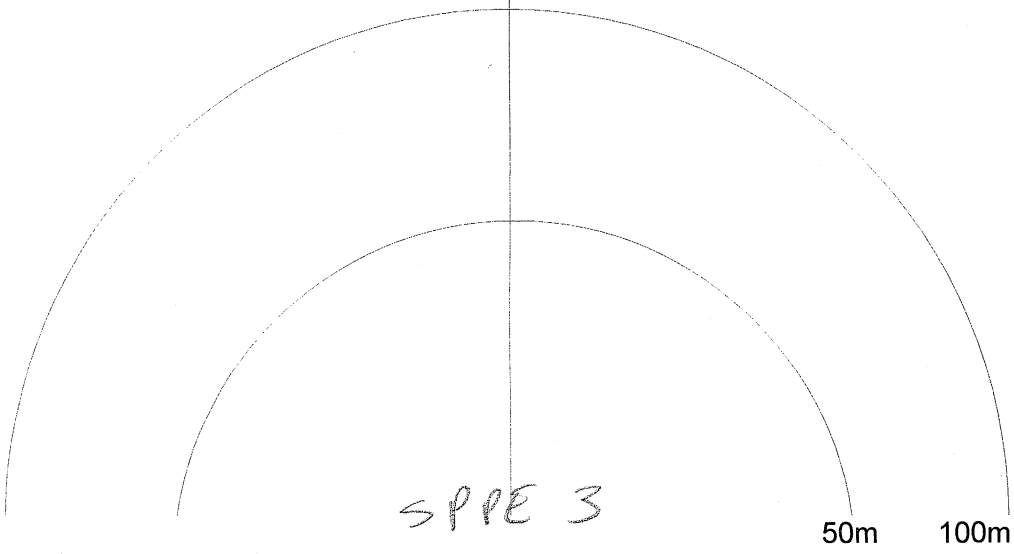
Amphibian Data Form

Project: ARMOW WF Project No. 1275A

UTM: 17T 0468397 4893726

Observer: CM KNP	Station Name: AWO 002C Visit #: 1		Date: April 16 2012 Start time: 22:22	
Wind speed: 6	% Cloud cover: 100	Air Temp: 7 °C	Water Temp: N/A	Water pH: N/A
Precipitation Description: light rain				
Remarks: no access for water measurements				

direction 270°

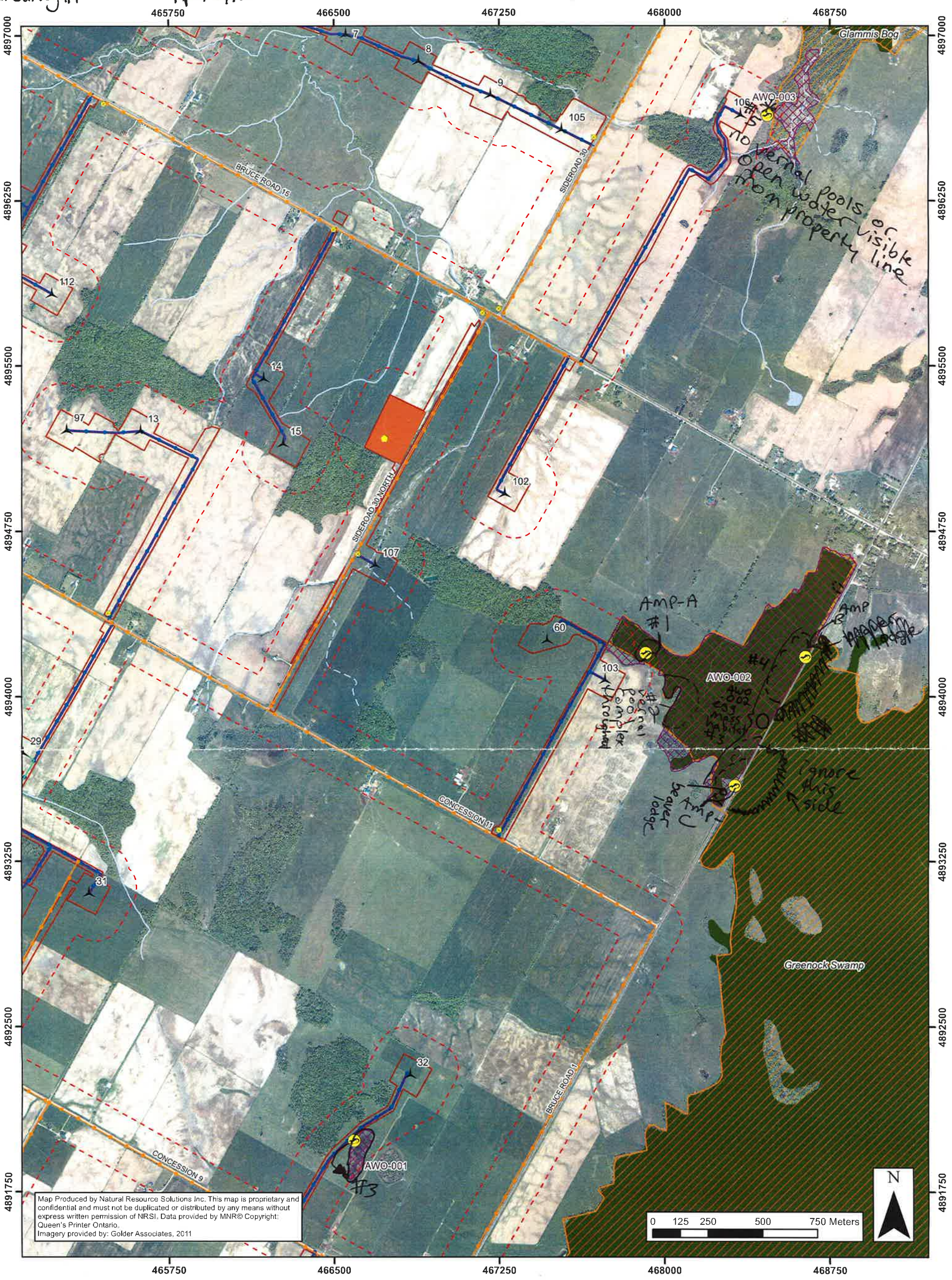


CALL LEVEL CODES		Beaufort Wind Scale		
1	Calls not overlapping; calling individuals can be counted	0 Calm	0-2	Smoke rises vertically
2	Calls somewhat overlapping; calling individuals can be counted	1 Light air	3 – 5	Smoke drifts, but wind vanes do not
3	Full chorus; number of calling individuals cannot be estimated	2 Slight breeze	6 – 11	Wind felt on face, leaves rustle
Enter as: Call code (# of ind.) e.g. 1 (2)		3 Gentle breeze	12 – 19	Leaves & small twigs in constant motion; light flags extended
		4 Mod. breeze	20 – 30	Wind raises dust and loose paper; small branches move
		5 Fresh breeze	31 – 39	Small trees in leaf begin to sway
		6 Strong breeze	40 - 50	Large branches in motion; inconvenience felt when walking against wind

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Egg mass Search #2
Call survey #1

Charlotte + Kaitlin
April 6/12



no vernal pools or open water visible from property line

Amp-A #1

#4

#2 vernal pool complex

#3

beaver lodge

ignore this side

Armow Wind Farm

Amphibian Woodland Breeding Habitats - Monitoring Stations

Date: March-12-12, Project: NRSI-1275
NAD83 - UTM Zone 17, Scale: 1:16,000 (at 11x17").

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Legend

- Project Area (120m)
- Proposed Turbine (L08 Rev2)
- MET Tower
- Junction Box
- Crane Walk
- Overhead Cabling
- Underground Cabling
- Access Road
- Disturbance Area
- Substation
- Staging Area
- Interconnect Area
- Highway
- Primary Road
- Secondary Road
- Watercourse (Permanent)
- Watercourse (Intermittent)
- Waterbody
- ANSI, Life Science
- Provincially Significant Wetland
- Amphibian Breeding Habitat - Woodland (AWO)
- Amphibian Monitoring Station

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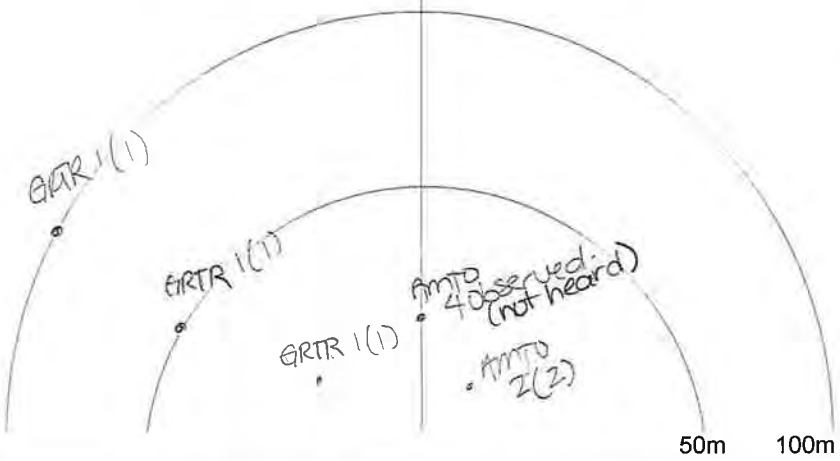
Amphibian Data Form

Project: Arrow WF Project No. 1275A

UTM: 17T 0466555 4891821

Observer:	Station Name: AWO-001 Visit #: 2		Date: May 24/12 Start time: 23:03	
Wind speed: 4	% Cloud cover: 10	Air Temp: 23°C	Water °C Temp: 20.6	Water pH: 8.3
Precipitation Description: None				
Remarks: Standing water present, Likely contains >20 AMTO, but uncertain of likelihood of >20 GRTR				

direction 120°



CALL LEVEL CODES		Beaufort Wind Scale		
1	Calls not overlapping; calling individuals can be counted	0 Calm	0-2	Smoke rises vertically
2	Calls somewhat overlapping; calling individuals can be counted	1 Light air	3 – 5	Smoke drifts, but wind vanes do not
3	Full chorus; number of calling individuals cannot be estimated	2 Slight breeze	6 – 11	Wind felt on face, leaves rustle
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		4 Mod. breeze	20 – 30	Wind raises dust and loose paper; small branches move
		5 Fresh breeze	31 – 39	Small trees in leaf begin to sway
		6 Strong breeze	40 - 50	Large branches in motion; inconvenience felt when walking against wind

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Amphibian Data Form

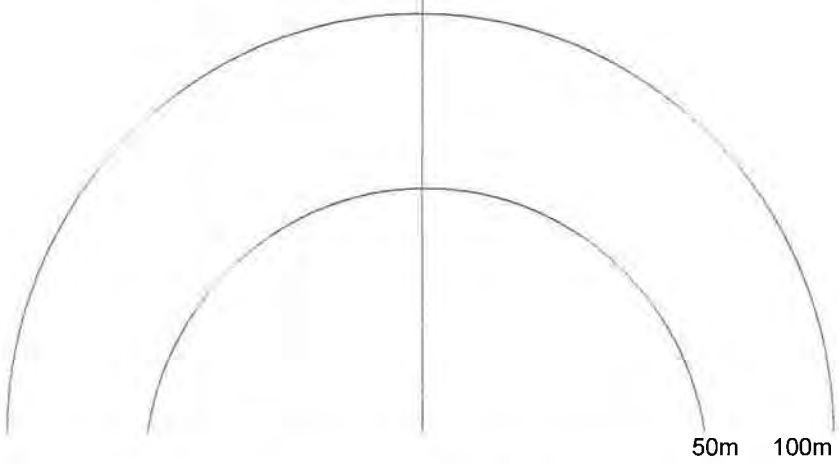
Project: Arnow WF Project No. 1275A

UTM: 17T 0467885 4894201

Observer:	Station Name: AWO-002a		Date: May 24/12
CJC, PNT	Visit #: 2		Start time: 22:24
Wind speed: 4	% Cloud cover: 15	Air Temp: 24°C	Water Temp: / Water pH: /
Precipitation Description: none			
Remarks: No standing water			

direction 340°

- GRTR 2 (2) (calling along S edge of habitat)



CALL LEVEL CODES		Beaufort Wind Scale		
1	Calls not overlapping; calling individuals can be counted	0 Calm	0-2	Smoke rises vertically
2	Calls somewhat overlapping; calling individuals can be counted	1 Light air	3 – 5	Smoke drifts, but wind vanes do not
3	Full chorus; number of calling individuals cannot be estimated	2 Slight breeze	6 – 11	Wind felt on face, leaves rustle
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		5 Fresh breeze	31 – 39	Small trees in leaf begin to sway
		6 Strong breeze	40 - 50	Large branches in motion; inconvenience felt when walking against wind

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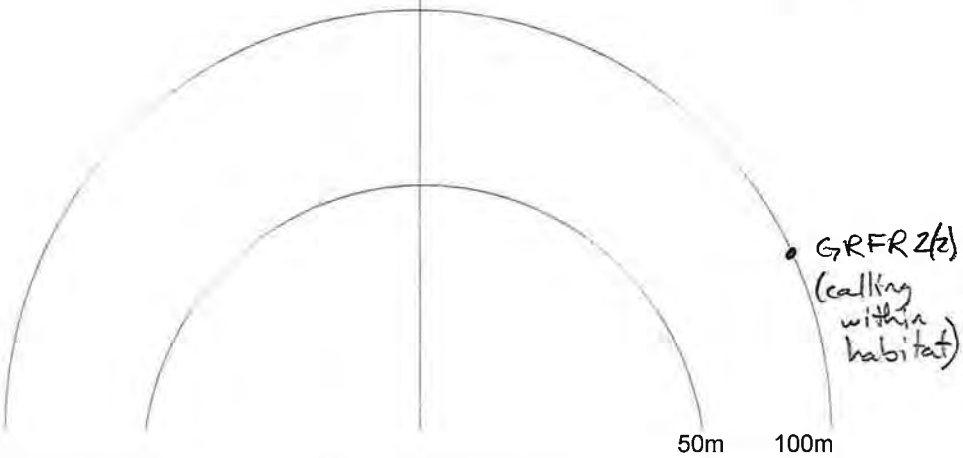
Amphibian Data Form

Project: Arrow WF Project No. 1275A

UTM: 17T 0468680 4894201

Observer:	Station Name: AWO-002b Visit #: 2		Date: May 24/12 Start time: 23:21	
Wind speed: 3	% Cloud cover: 0	Air Temp: 23	Water Temp: /	Water pH: /
Precipitation Description: none				
Remarks: No standing water; No direct access to habitat				

direction 300°



CALL LEVEL CODES		Beaufort Wind Scale		
1	Calls not overlapping; calling individuals can be counted	0 Calm	0-2	Smoke rises vertically
2	Calls somewhat overlapping; calling individuals can be counted	1 Light air	3 – 5	Smoke drifts, but wind vanes do not
3	Full chorus; number of calling individuals cannot be estimated	2 Slight breeze	6 – 11	Wind felt on face, leaves rustle
Enter as: Call code (# of ind.) e.g. 1 (2)		3 Gentle breeze	12 – 19	Leaves & small twigs in constant motion; light flags extended
		4 Mod. breeze	20 – 30	Wind raises dust and loose paper; small branches move
		5 Fresh breeze	31 – 39	Small trees in leaf begin to sway
		6 Strong breeze	40 - 50	Large branches in motion; inconvenience felt when walking against wind

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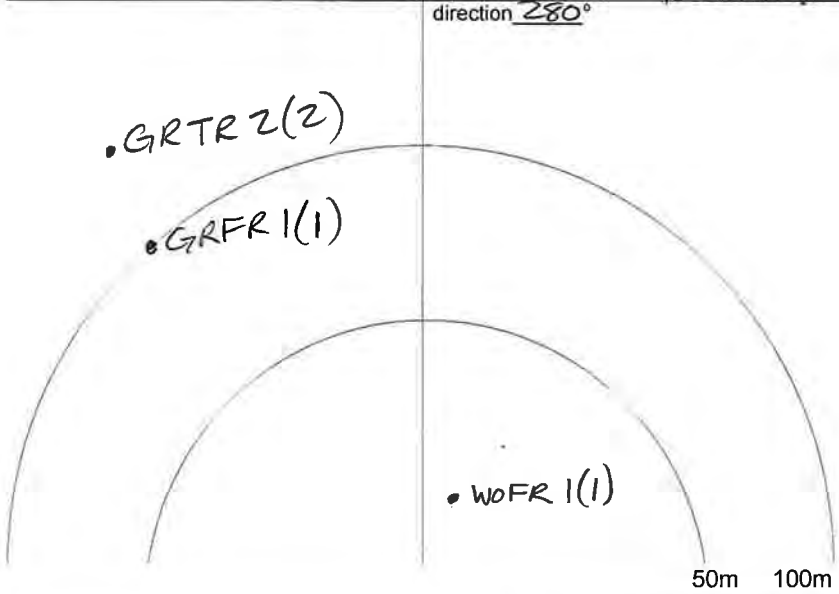
Amphibian Data Form

Project: Armow WF Project No. 1275A

UTM: 17T 0468397 4893726

Observer:	Station Name:		Date:	
CJC PNT	AWO-002C Visit #: 2		May 24/12 Start time: 23:29	
Wind speed:	% Cloud cover:	Air Temp:	Water Temp:	Water pH:
1	0	23°C	✓	✓
Precipitation Description: none				
Remarks: No standing water; No direct access to habitat				

direction 280°



CALL LEVEL CODES		Beaufort Wind Scale		
1	Calls not overlapping; calling individuals can be counted	0 Calm	0-2	Smoke rises vertically
2	Calls somewhat overlapping; calling individuals can be counted	1 Light air	3 – 5	Smoke drifts, but wind vanes do not
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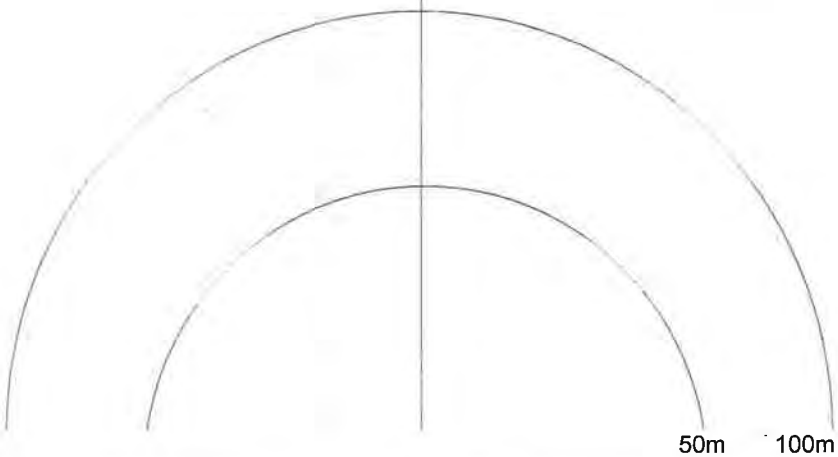
Project: Arrow WF Project No. 1275A

UTM: 17T 0476476 4896656

Observer:	Station Name: AWD-003 Visit #: 2		Date: May 24/12 Start time: 21:25	
Wind speed: 4	% Cloud cover: 15	Air Temp: 23°C	Water Temp: /	Water pH: /
Precipitation Description: None				
Remarks: No standing water, No direct access to habitat				

direction 120 °

GRTR • 2(3) → In woodland SE of habitat (outside of project area)



CALL LEVEL CODES		Beaufort Wind Scale		
1	Calls not overlapping; calling individuals can be counted	0 Calm	0-2	Smoke rises vertically
2	Calls somewhat overlapping; calling individuals can be counted	1 Light air	3 – 5	Smoke drifts, but wind vanes do not
3	Full chorus; number of calling individuals cannot be estimated	2 Slight breeze	6 – 11	Wind felt on face, leaves rustle
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		5 Fresh breeze	31 – 39	Small trees in leaf begin to sway
		6 Strong breeze	40 - 50	Large branches in motion; inconvenience felt when walking against wind

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Amphibian call survey #2 - May 24/12 PNT, CJC



Armow Wind Farm

Amphibian Woodland Breeding Habitats - Monitoring Stations

Date: March-12-12, Project: NRSI-1275
NAD83 - UTM Zone 17, Scale: 1:16,000 (at 11x17").

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Legend

- Project Area (120m)
- Proposed Turbine (L08 Rev2)
- MET Tower
- Junction Box
- Crane Walk
- Overhead Cabling
- Underground Cabling
- Access Road
- Disturbance Area
- Substation
- Staging Area
- Interconnect Area
- Highway
- Primary Road
- Secondary Road
- Watercourse (Permanent)
- Watercourse (Intermittent)
- Waterbody
- ANSI, Life Science
- Provincially Significant Wetland
- Amphibian Breeding Habitat - Woodland (AWO)
- Amphibian Monitoring Station

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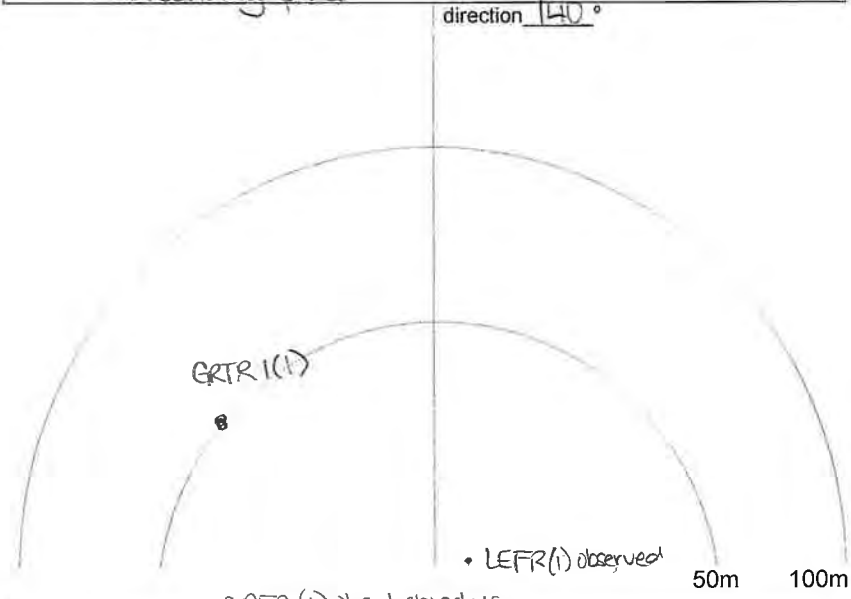
Aquatic, Terrestrial and Wetland Biologists

Amphibian Data Form

Project: Arrow WF Project No. 1275A

UTM: 17T 0466555 4891821

Observer:	Station Name: AWO-001 Visit #: 3		Date: June 2017 Start time: 21:42	
PNJ, RNA				
Wind speed: 2	% Cloud cover: 0%	Air Temp: 24°C	Water Temp: 22.8	Water pH: 7.2
Precipitation Description: None				
Remarks: Cattle surrounding pond				



CALL LEVEL CODES		Beaufort Wind Scale		
1	Calls not overlapping; calling individuals can be counted	0 Calm	0-2	Smoke rises vertically
2	Calls somewhat overlapping; calling individuals can be counted	1 Light air	3 – 5	Smoke drifts, but wind vanes do not
3	Full chorus; number of calling individuals cannot be estimated	2 Slight breeze	6 – 11	Wind felt on face, leaves rustle
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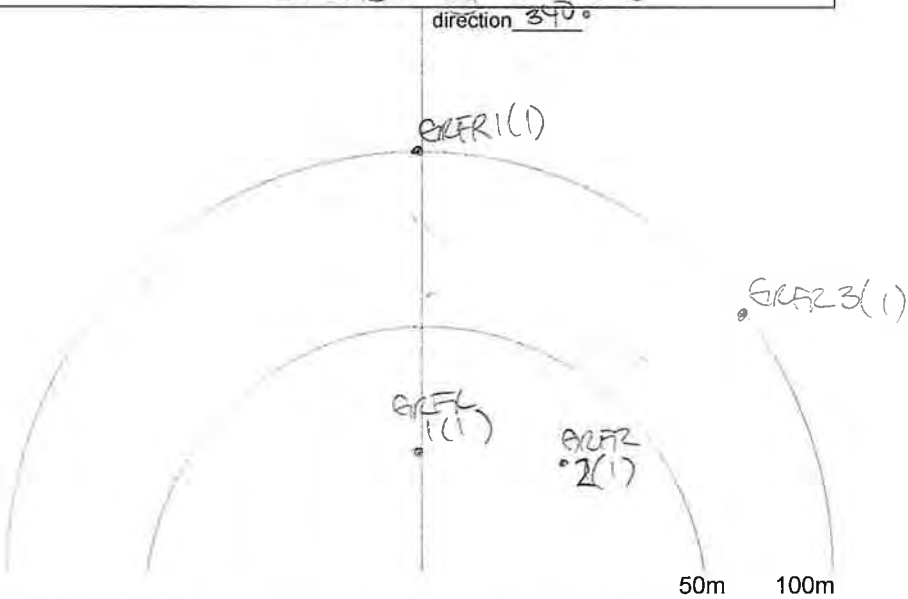
Project: Arrow WF Project No. 1275A

UTM: 17T 0467825 4894201

Observer:	Station Name: AWO-CO2A		Date: JUN 20/12
PN/RWA	Visit #: 3		Start time: 22:23
Wind speed:	% Cloud cover:	Air Temp:	Water Temp: / Water pH: /
1	0%	26	

Precipitation Description: None

Remarks: no standing water



CALL LEVEL CODES		Beaufort Wind Scale		
1	Calls not overlapping; calling individuals can be counted	0 Calm	0-2	Smoke rises vertically
2	Calls somewhat overlapping; calling individuals can be counted	1 Light air	3 – 5	Smoke drifts, but wind vanes do not
3	Full chorus; number of calling individuals cannot be estimated	2 Slight breeze	6 – 11	Wind felt on face, leaves rustle
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		5 Fresh breeze	31 – 39	Small trees in leaf begin to sway
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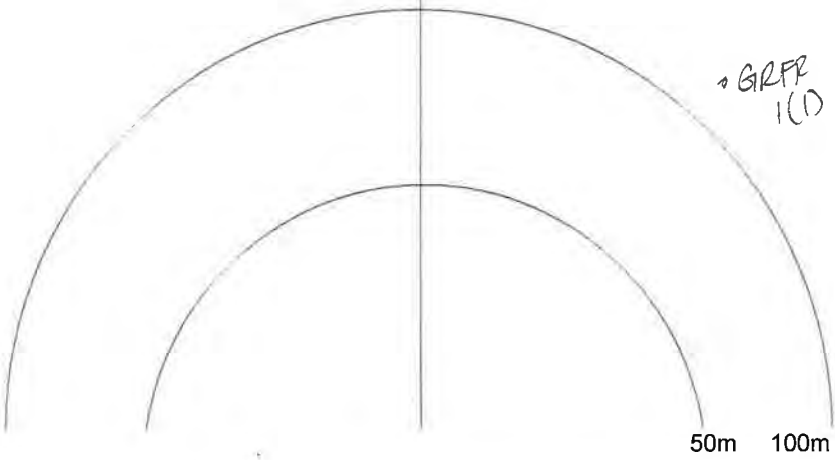
Amphibian Data Form

Project: Arrow WF Project No. 1295A

UTM: 17T 0468680 4894201

Observer:	Station Name: ARW-0028		Date: June 20/12
PNT, RWA	Visit #: 3		Start time: 23:07
Wind speed: 1	% Cloud cover: 0	Air Temp: 23	Water Temp: /	Water pH: /
Precipitation Description: None			
Remarks: No site access			

direction 320 °



CALL LEVEL CODES		Beaufort Wind Scale		
1	Calls not overlapping; calling individuals can be counted	0 Calm	0-2	Smoke rises vertically
2	Calls somewhat overlapping; calling individuals can be counted	1 Light air	3 – 5	Smoke drifts, but wind vanes do not
3	Full chorus; number of calling individuals cannot be estimated	2 Slight breeze	6 – 11	Wind felt on face, leaves rustle
Enter as: Call code (# of ind.) e.g. 1 (2)		3 Gentle breeze	12 – 19	Leaves & small twigs in constant motion; light flags extended
		4 Mod. breeze	20 – 30	Wind raises dust and loose paper; small branches move
		5 Fresh breeze	31 – 39	Small trees in leaf begin to sway
		6 Strong breeze	40 - 50	Large branches in motion; inconvenience felt when walking against wind

225 Labrador Drive, Waterloo, Ontario, N2K 4M8 Tel: (519) 725-2227 Fax: (519) 725-2575
Web: www.nrsi.on.ca

NATURAL RESOURCE SOLUTIONS INC.

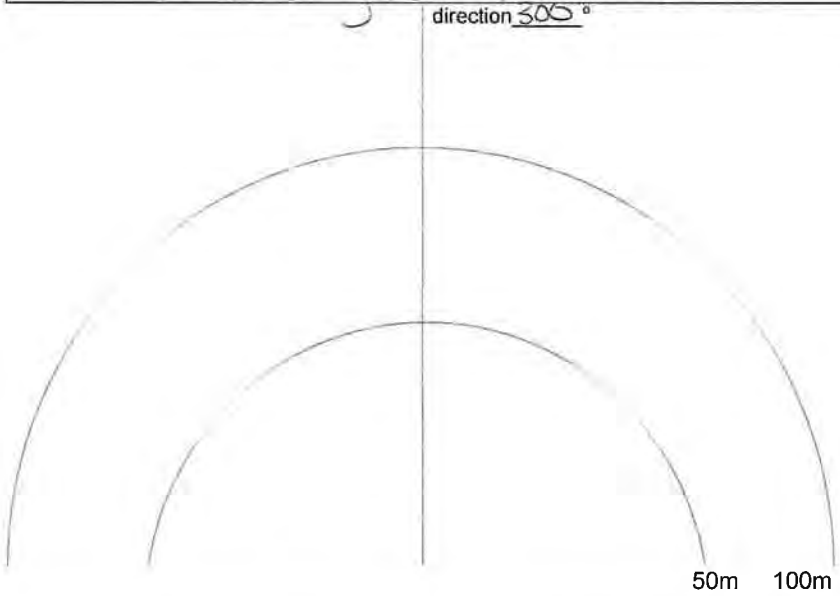
Aquatic, Terrestrial and Wetland Biologists

Amphibian Data Form

Project: Arrow WF Project No. 1275A

UTM: 17T 0468397 4893726

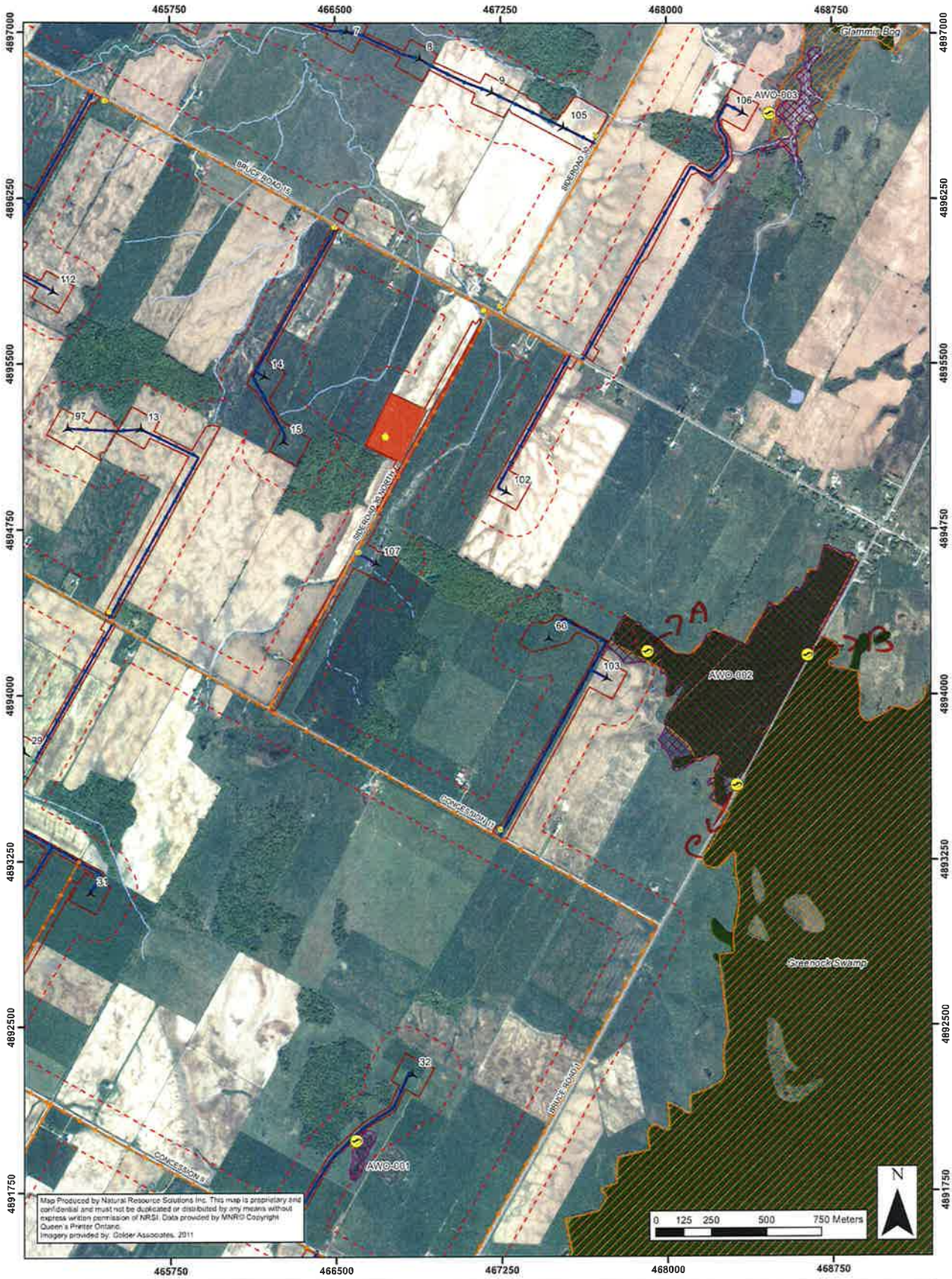
Observer:	Station Name: AWD-002C		Date: June 20/12
PNT, RWA	Visit #: 3		Start time: 22:55
Wind speed:	% Cloud cover:	Air Temp:	Water Temp: /	Water pH: /
1	0	24	
Precipitation Description: None			
Remarks: no standing water, no site access			



CALL LEVEL CODES		Beaufort Wind Scale		
1	Calls not overlapping; calling individuals can be counted	0 Calm	0-2	Smoke rises vertically
2	Calls somewhat overlapping; calling individuals can be counted	1 Light air	3 – 5	Smoke drifts, but wind vanes do not
3	Full chorus; number of calling individuals cannot be estimated	2 Slight breeze	6 – 11	Wind felt on face, leaves rustle
Enter as: Call code (# of ind.) e.g. 1 (2)		3 Gentle breeze	12 – 19	Leaves & small twigs in constant motion; light flags extended
		4 Mod. breeze	20 – 30	Wind raises dust and loose paper; small branches move
		5 Fresh breeze	31 – 39	Small trees in leaf begin to sway
		6 Strong breeze	40 - 50	Large branches in motion; inconvenience felt when walking against wind

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Web: www.nrsi.on.ca

Amphibian call survey #3 June 20/12 PNT, RWA



Armow Wind Farm

Amphibian Woodland Breeding Habitats - Monitoring Stations

Date: March-12-12 Project: NRSI-1275
NAD83 - UTM Zone 17. Scale: 1:16,000 (at 11x17")

NATURAL RESOURCE SOLUTIONS INC.
Aquatic, Terrestrial and Wetland Biologists

Legend

- Project Area (120m)
- Proposed Turbine (L08 Rev2)
- MET Tower
- Junction Box
- Crane Walk
- Overhead Cabling
- Underground Cabling
- Access Road
- Disturbance Area
- Substation
- Staging Area
- Interconnect Area
- Highway
- Primary Road
- Secondary Road
- Watercourse (Permanent)
- Watercourse (Intermittent)
- Waterbody
- ANSI: Life Science
- Provincially Significant Wetland
- Amphibian Breeding Habitat - Woodland (AWO)
- Amphibian Monitoring Station

NATURAL RESOURCE SOLUTIONS INC.

Aquatic, Terrestrial and Wetland Biologists

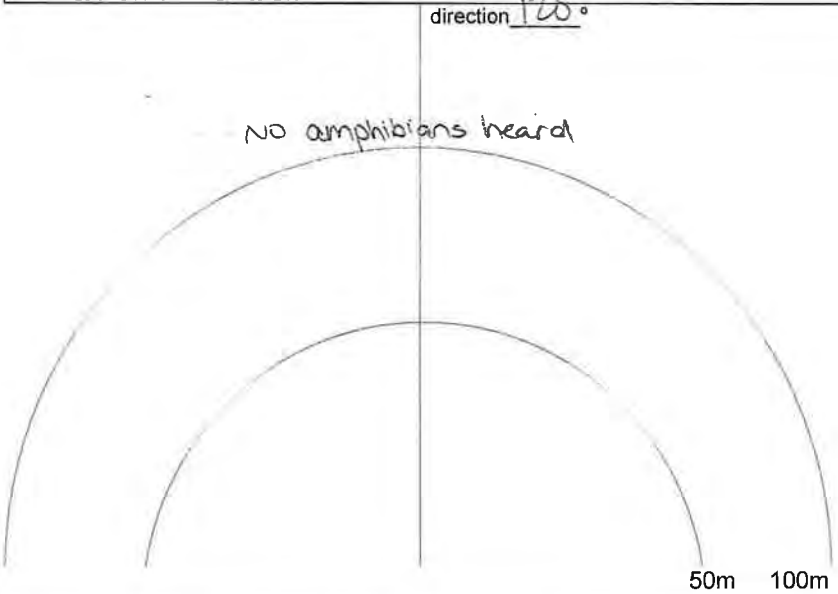
Amphibian Data Form

Project: Arnon WF Project No. 1273A

UTM: 17T 0468476 4896056

Observer:	Station Name: AWO-003 Visit #: 3	Date: JUNE 29/12 Start time: 21:49		
PNTICLH				
Wind speed:	% Cloud cover:	Air Temp:	Water Temp: /	Water pH: /
1	15	20		
Precipitation Description: None				
Remarks: No site access				

direction 120°



CALL LEVEL CODES		Beaufort Wind Scale		
1	Calls not overlapping; calling individuals can be counted	0 Calm	0-2	Smoke rises vertically
2	Calls somewhat overlapping; calling individuals can be counted	1 Light air	3 – 5	Smoke drifts, but wind vanes do not
3	Full chorus; number of calling individuals cannot be estimated	2 Slight breeze	6 – 11	Wind felt on face, leaves rustle
Enter as: Call code (# of ind.) e.g. 1 (2)		3 Gentle breeze	12 – 19	Leaves & small twigs in constant motion; light flags extended
		4 Mod. breeze	20 – 30	Wind raises dust and loose paper; small branches move
		5 Fresh breeze	31 – 39	Small trees in leaf begin to sway
		6 Strong breeze	40 - 50	Large branches in motion; inconvenience felt when walking against wind

225 Labrador Drive, Waterloo, Ontario, N2K 4M8 Tel: (519) 725-2227 Fax: (519) 725-2575
Web: www.nrsi.on.ca

June 29/12 - VISIT #3 - PNI, CLH



Armow Wind Farm

Amphibian Woodland Breeding Habitats - Monitoring Stations

Date: March-12-12. Project: NRSI-1275
NAD83 - UTM Zone 17. Scale: 1:16,000 (at 11x17").

NATURAL RESOURCE SOLUTIONS INC.
Aquatic, Terrestrial and Wetland Biologists

Legend

- Project Area (120m)
- Proposed Turbine (L08 Rev2)
- MET Tower
- Junction Box
- Crane Walk
- Overhead Cabling
- Underground Cabling
- Access Road
- Disturbance Area
- Substation
- Staging Area
- Interconnect Area
- Highway
- Primary Road
- Secondary Road
- Watercourse (Permanent)
- Watercourse (Intermittent)
- Waterbody
- ANSI, Life Science
- Provincially Significant Wetland
- Amphibian Breeding Habitat - Woodland (AWO)
- Amphibian Monitoring Station

Egg Mass Surveys

Project #: 1275A

Project Name: Armow WF Observers NGM, AMD

DD/MM/YY 14/03/12 Time (24hr): 16:00 - 16:30 (30 min)

Weather

Air Temp. 14 °C Wind Speed 2 Wind Direction S

Cloud Cover 0 % Cloud Height NA High ☐ Med ☐ Low ☐

Precipitation — Visibility High ☒ Med ☐ Low ☐

***Please mark location of egg masses observed on separate field map, indicating observation #

Pond #	Obs. # (mark on map)	Photo #	Water Temp	pH	Water Depth (cm)	Species	Size of Egg Mass (cm)	# of Egg Masses	Habitat Description/Comments (i.e. what are eggs attached to)
AWO-001	3	0844/0845	17°C	7.4	15-30	NA	—	—	Many possible egg attachment sites (available amongst emergent vegetation (cattails) — No egg masses observed.

Egg Mass Surveys

Project #: 1275A

Project Name: Amaw WF (2012) Observers NGM, AMD

DD/MM/YY 14/03/12 Time (24hr): 13:30 - 14:15 (45 min)

Weather

Air Temp. 14 °C Wind Speed B3 Wind Direction S

Cloud Cover 5 % Cloud Height High ☒ Med ☐ Low ☐

Precipitation — Visibility High ☒ Med ☐ Low ☐

***Please mark location of egg masses observed on separate field map, indicating observation #

Pond #	Obs. # (mark on map)	Photo #	Water Temp	pH	Water Depth (cm)	Species	Size of Egg Mass (cm)	# of Egg Masses	Habitat Description/Comments (i.e. what are eggs attached to)
AWO-002	1	0838/0839	12.3	7.6	25 (max)	—	—	—	many egg attach. sites, water may not be deep enough to last.
AWO-002	2	0840/0841	7.1	7.4	~50	NOLF (2 adult)	—	—	" "
AWO-002	2	"	7.7	7.4	~50	GTFR (calling)	—	—	"
									* note these represent "possible" egg attachment sites. No eggs observed at either pond.
									ELC Polygons:
									AWO-002 #1: FODM5-2
									AWO-002 #2: SWDM3-3, FODM5-2

Egg Mass Surveys

Project #: 1275A

Project Name: Arnow WF

Observers NGM, AMD

DD/MM/YY 14/03/12

Time (24hr): 15:25 – 15:55 (30 min)

Weather

Air Temp. 16 °C

Wind Speed 2

Wind Direction SW

Cloud Cover 0 %

Cloud Height NA High ☐ Med ☐ Low ☐

Precipitation —

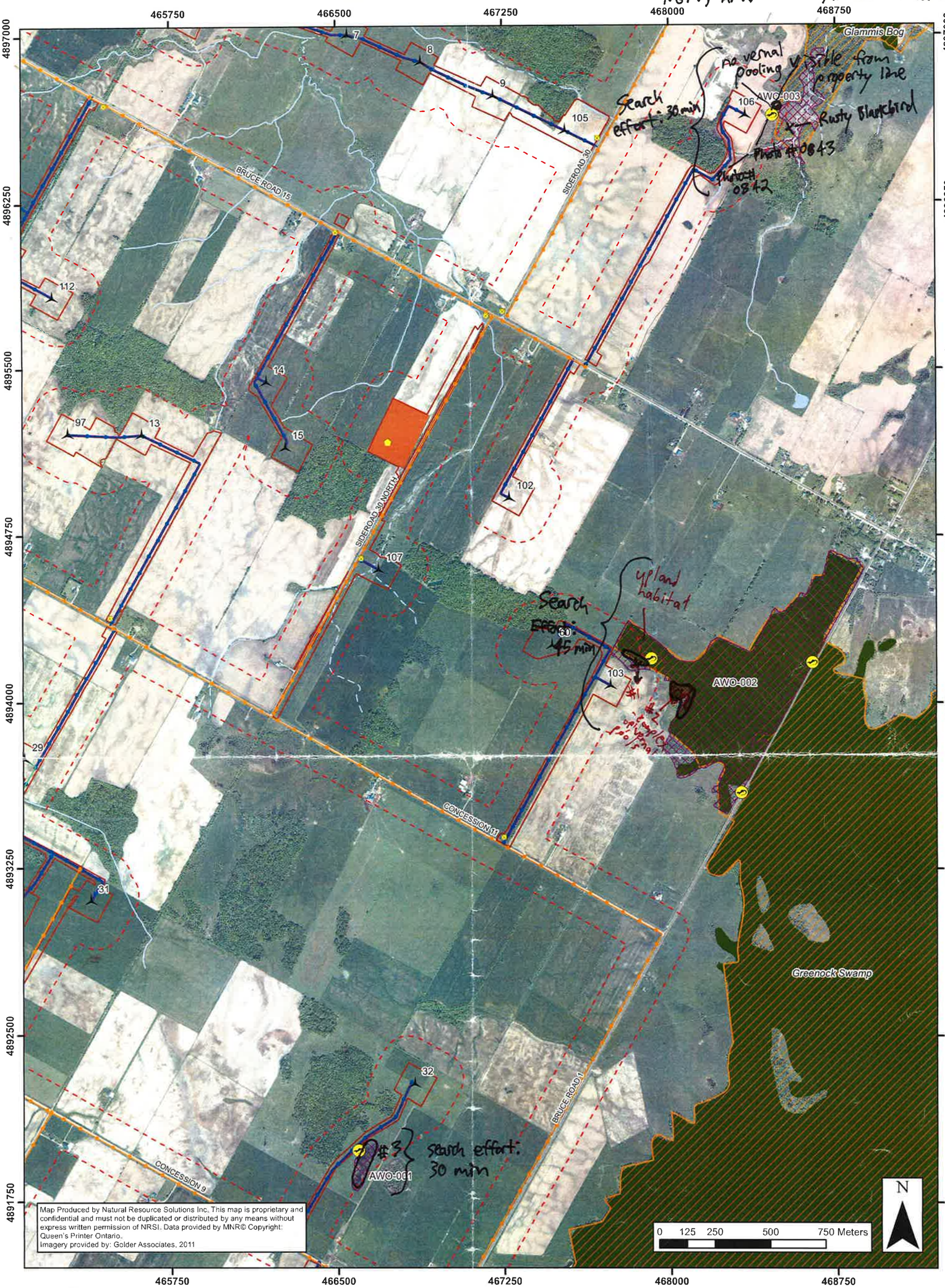
Visibility High ☒ Med ☐ Low ☐

***Please mark location of egg masses observed on separate field map, indicating observation #

Pond #	Obs. # (mark on map)	Photo #	Water Temp	pH	Water Depth (cm)	Species	Size of Egg Mass (cm)	# of Egg Masses	Habitat Description/Comments (i.e. what are eggs attached to)
AWO-003	NA	0842/0843	NA	NA	NA	—	—	—	No habitat visible from prop. line, appears much too dry.
	* Rusty Blackbird observed calling in marsh (Photo 0843)								
									Photo 0842: Stream inflow
									Photo 0843: location of marsh (Rusty Blackbird locale)

Visit #1 Mar. 14/12
NGM, AMO

#1275A
Armow WP (2012)



Armow Wind Farm

Amphibian Woodland Breeding Habitats - Monitoring Stations

Date: March-12-12. Project: NRSI-1275
NAD83 - UTM Zone 17. Scale: 1:16,000 (at 11x17").

NATURAL RESOURCE SOLUTIONS INC.
Aquatic, Terrestrial and Wetland Biologists

Legend

- Project Area (120m)
- Proposed Turbine (L08 Rev2)
- MET Tower
- Junction Box
- Crane Walk
- Overhead Cabling
- Underground Cabling
- Access Road
- Disturbance Area
- Substation
- Staging Area
- Interconnect Area
- Highway
- Primary Road
- Secondary Road
- Watercourse (Permanent)
- Watercourse (Intermittent)
- Waterbody
- ANSI, Life Science
- Provincially Significant Wetland
- Amphibian Breeding Habitat - Woodland (AWO)
- Amphibian Monitoring Station

1275A Arnow April 16, 2012
Observers: Charlotte & Caitlin P
22°C, wind 7 from south, 259°
c.c., no precip.

Amphibian egg mass surveys
AWO 002 #1 16:48 (4)
Incidentals: red admiral butterflies
gray treefrog calling 1(3)
leopard frog observed

AWO 002 #2 end 17:25
Turkey vulture observed
red admiral
deer tracks

No.352
Rite in the Rain

1275A Arnow April 16, 2012
Observers: Charlotte M, Kaitlin P
20°C, 45% c.c., wind 7 from south, no precip.

Egg mass surveys

AWO 001 18:10-18:41

- woodcock, pair of black ducks?, killdeer, red-winged blackbird
- gray treefrog observed
- full chorus of spring peepers heard
- canada goose
- Great blue heron
- 5 gray treefrogs heard calling

AWO 002 #3 19:02 - 19:32
- Spring peepers calling
- gray treefrogs calling
- raccoon

AWO 002 #3 cont.

beaver lodge photo 0120

Utm 17T 0468396 4893692

30m from road on west side

J. L. DARLING CORP. TACOMA, WA
www.RiteintheRain.com

1275A Armow April 16, 2012
Observers: Charlotte & Kaitlin P
13°C, 95% c.c., wind 6-7 from south, no precip.

Egg mass surveys

AWO 003 20:05-20:35
no vernal pools or open water visible from adjacent property.
Incidentals: American woodcock, Canada Goose, full chorus & spring peepers heard

No.352
Rite in the Rain

Egg Mass Surveys

Project #: 1215A DD/MM/YY 16/04/2012 Start Time: 1648 End Time: 17:25

Project Name: Arrow Observers: Charlotte, KaitlinP Monitoring Effort: 37 minutes

Weather

Air Temp: 22 °C Cloud Cover: 25 % Precipitation: none Wind Speed: 7 Wind Direction: S

Cloud Height: medium Visibility: high Super windy!

***Please mark location of egg masses observed on separate field map, indicating observation #

Habitat ID (AWO-XXX/AWE-XXX)	Obs. # (mark on map)	UTM	Photo #	Water Temp	pH	Water Depth (cm)	Species	Size of Egg Mass (cm)	# of Egg Masses	Habitat Description (i.e. applicable ELC polygons, what are eggs attached to, etc.)	Comments
AWO-002 #1	#1	17T 0467807 4894181	100-0111-0114	19.5°C	8.3	10 cm	tadpole (photo 0114)	none	none	upland woodland	
AWO-002 #2	#2	17T 0468004 4894092	100-0115	no access	→	→	none	none	none	woodland	difficult to observe w/o access

Egg Mass Surveys

Project #: 1275A | DD/MM/YY: 16/04/2012 | Start Time: 18.10 | End Time: 18.41

Project Name: Arnow | Observers: Charlotte, kaitlin P | Monitoring Effort: 31 minutes

Weather

Air Temp: 20 °C | Cloud Cover: 45 % | Precipitation: none | Wind Speed: 7 | Wind Direction: S

Cloud Height: low | Visibility: high | : super windy!

***Please mark location of egg masses observed on separate field map, indicating observation #

Habitat ID (AWO-XXX/AWE-XXX)	Obs. # (mark on map)	UTM	Photo #	Water Temp	pH	Water Depth (cm)	Species	Size of Egg Mass (cm)	# of Egg Masses	Habitat Description (i.e. applicable ELC polygons, what are eggs attached to, etc.)	Comments
AWO-001	#3	17T 0466570 4891803	100-0116-0117	17.1 °C	8.5	could not access centre guess 1m	none	none	none	marsh	

Egg Mass Surveys

Project #: 1275A | DD/MM/YY: 16/04/2012 | Start Time: 19:02 | End Time: 19:32

Project Name: Arrow | Observers: Charlotte, Kaitlin P | Monitoring Effort: 30 minutes

Weather

Air Temp: 16 °C | Cloud Cover: 90 % | Precipitation: none | Wind Speed: 7 | Wind Direction: S

Cloud Height: low | Visibility: high

***Please mark location of egg masses observed on separate field map, indicating observation #

Habitat ID (AWO-XXX/AWE-XXX)	Obs. # (mark on map)	UTM	Photo #	Water Temp	pH	Water Depth (cm)	Species	Size of Egg Mass (cm)	# of Egg Masses	Habitat Description (i.e. applicable ELC polygons, what are eggs attached to, etc.)	Comments
AWO-002 #3	#4	17T 0468647 4894177	100-0118-0120	no access		→	none	none	none	swamp	no access- used binoculars from road edge

Egg Mass Surveys

Project #: 12754 DD/MM/YY 16/04/12 Start Time: 20:05 End Time: 20:35

Project Name: Arrow Observers: Charlotte, Kaitlin Monitoring Effort: 30 minutes

Weather

Air Temp: 13 °C Cloud Cover: 95 % Precipitation: none Wind Speed: 6-7 Wind Direction: S

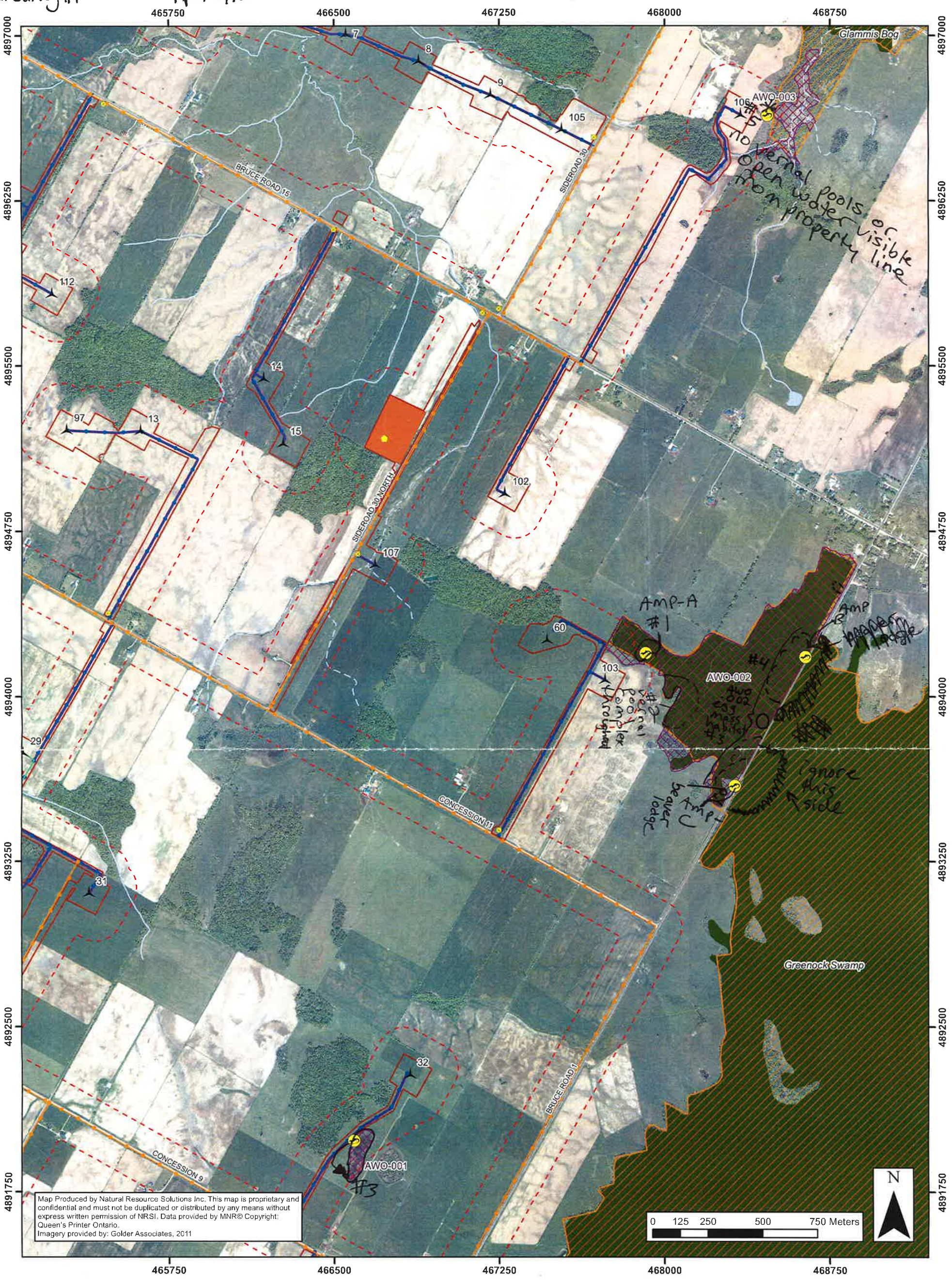
Cloud Height: 10W Visibility: high very windy

***Please mark location of egg masses observed on separate field map, indicating observation #

Habitat ID (AWO-XXX/AWE-XXX)	Obs. # (mark on map)	UTM	Photo #	Water Temp	pH	Water Depth (cm)	Species	Size of Egg Mass (cm)	# of Egg Masses	Habitat Description (i.e. applicable ELC polygons, what are eggs attached to, etc.)	Comments
AWO-003 #1	#5	17T 0468476 4896656	100 -0121- 0122	no access		→	none	none	none	marsh	no vernal pools visible from property line

Egg mass Search #2
Call survey #1

Charlotte + Kaitlin
April 6/12



no vernal pools or open water visible from property line

Amp-A #1

#4

#2 vernal pool complex

#3

beaver lodge

ignore this side

Armow Wind Farm

Amphibian Woodland Breeding Habitats - Monitoring Stations

Date: March-12-12, Project: NRSI-1275
NAD83 - UTM Zone 17, Scale: 1:16,000 (at 11x17").

NATURAL RESOURCE SOLUTIONS INC.
Aquatic, Terrestrial and Wetland Biologists

Legend

- Project Area (120m)
- Proposed Turbine (L08 Rev2)
- MET Tower
- Junction Box
- Crane Walk
- Overhead Cabling
- Underground Cabling
- Access Road
- Disturbance Area
- Substation
- Staging Area
- Interconnect Area
- Highway
- Primary Road
- Secondary Road
- Watercourse (Permanent)
- Watercourse (Intermittent)
- Waterbody
- ANSI, Life Science
- Provincially Significant Wetland
- Amphibian Breeding Habitat - Woodland (AWO)
- Amphibian Monitoring Station

Breeding Bird Monitoring

10 Minute Point Count Project Name: Armow Project # 12750

Station: SSBE

Wind speed: 2-5

Date: June 21/2012

Cloud cover: 10 %

Visit #: (1) 2 3 (circle)

Air Temp. 23 °C

Start Time: 7:14

Precip. —

Observers: PPA: KGB

UTM 17T 0466419 4897917

Species Name	First 5 Minutes			Second 5 Minutes			Breeding Evidence
	<50m	50-100m	>100m*	<50m	50-100m	>100m*	
Nashville Warbler	2						S
C. Yellowthroat	1						S
A. Goldfinch		2			2		H
A. Redstart	2						S
A. Crow			1				X
House Wren	1						S
Gray Catbird	1			1	1		H
Red-winged Blackbird		2					H
Wood Duck			1				H
Black-and-white Warbler	1						S
Cedar Waxwing		1			2		H
Rock Pigeon			2				X
Swamp Sparrow		1					S
Great Crested Flycatcher			1				S
C. Raven			1				X
Mourning Dove		2			2		H
N. Flicker		1					S
E. Kingbird		2					H
Song Sparrow		1					S
Killdeer			1				X
Ruby-headed Cardinal		1					H
Green Heron						1	H
Tree Swallow						1	X
E. Wood-Pewee					1		S
Yellow Warbler					1	1	S
Rose-breasted Grosbeak						1	S
Willow Flycatcher						1	S

Wind Scale
0 Calm
1 Smoke drifts
2 Wind felt on face
3 Leaves in motion
4 Sm branches move
5 Sm trees sway
6 Lrg branches move
7 Whole trees in motion
8 Twigs break off, hard to walk
9 Light structural damage
10 Trees uprooted

Breeding Evidence Codes
Observed
X - No evidence of breeding
Possible
H - Suitable nesting habitat
S - Singing male
Probable
P - Pair
T - Permanent territory
D - Courtship or display
V - Visiting prob. nest site
A - Agitated behaviour or anxiety calls
B - Brood patch/cloacal protuberance
N - Nest building or excavation
Confirmed
DD - Distraction display
NU - Used nest or egg shell
FY - Fledged young
AE - Adults at occupied nest
FS - Faecal sac
CF - Carrying food
NE - Nest containing eggs
NY - Nest with young

Comments: Green Frog - 4 calling WSW

* Note: this column gets entered in as incidental species (Point Count radius is 100m)

1275A - PPA, KGB
Visit #1 - June 21/12

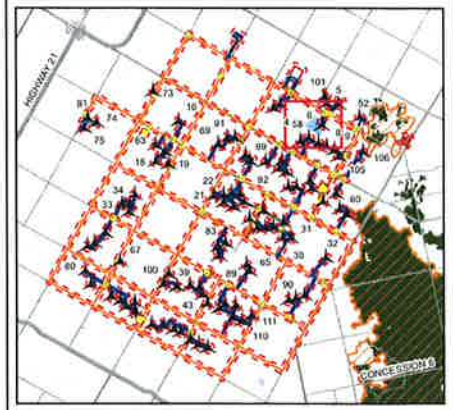


Armow Wind Farm

Shrub/Early Successional Bird Breeding Habitat - Monitoring Locations

Legend

- Project Area (120m)
- Proposed Turbine (L10 Rev5)
- MET Tower
- Junction Box
- Crane Walk
- Above Ground Cabling
- Underground Cabling
- Access Road
- Disturbance Area
- Potential Operations Building
- Substation
- Staging Area
- Interconnect Area
- Highway
- Primary Road
- Secondary Road
- ANSI, Life Science
- Provincially Significant Wetland
- Waterbody
- Watercourse (Permanent)
- Watercourse (Intermittent)
- Shrub/Early Successional Bird Breeding Habitat (SSB)
- Shrub/Early Successional Bird Breeding Habitat Monitoring Location



Natural Resource Solutions Inc.
Aquatic, Terrestrial and Wetland Biologists

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Imagery provided by: Golder Associates, 2011

Project: 1275A
Date: June-15-12

NAD83 - UTM Zone 17
Size: 11x17"
1:7,500

0 100 200 300 400 Meters

N

Breeding Bird Monitoring

10 Minute Point Count Project Name: Arrow WF Project # 1275

Station: SSB-001 A
Wind speed: 0
Date: 27/06/2012
Cloud cover: 0 %
Visit #: (1) 2 3 (circle)
Air Temp. 14 °C
Start Time: 5:37
Precip. NSWF
Observers: AWM, LSM
UTM 0466368 4898031

Species Name	First 5 Minutes			Second 5 Minutes			Breeding Evidence
	<50m	50-100m	>100m*	<50m	50-100m	>100m*	
American Redstart	2						X
Willow flycatcher		1					S
Am Robin		2					S
Brown Thrasher	1						S
Song Sparrow	2						S
Common yellowthroat		1					S
House wren		1					S
Red Blackbird			5				S
Am Goldfinch	1						X
Yellow Warbler		1					S

Wind Scale
0 Calm
1 Smoke drifts
2 Wind felt on face
3 Leaves in motion
4 Sm branches move
5 Sm trees sway
6 Lrg branches move
7 Whole trees in motion
8 Twigs break off, hard to walk
9 Light structural damage
10 Trees uprooted

Breeding Evidence Codes
Observed
X - No evidence of breeding
Possible
H - Suitable nesting habitat
S - Singing male
Probable
P - Pair
T - Permanent territory
D - Courtship or display
V - Visiting prob. nest site
A - Agitated behaviour or anxiety calls
B - Brood patch/cloacal protuberance
N - Nest building or excavation
Confirmed
DD - Distraction display
NU - Used nest or egg shell
FY - Fledged young
AE - Adults at occupied nest
FS - Faecal sac
CF - Carrying food
NE - Nest containing eggs
NY - Nest with young

Comments: Green frog 1 (1)

* Note: this column gets entered in as incidental species (Point Count radius is 100m)

Breeding Bird Monitoring

10 Minute Point Count Project Name: Aquaculture WF Project # 1275

Station: SSB-001-B

Wind speed: 0

Date: 27/06/17

Cloud cover: 0 %

Visit #: (1) 2 3 (circle)

Air Temp. 16 °C

Start Time: 0602 – 0612

Precip. NONE

Observers: ANM, LSM

UTM 0466456 4897933

Species Name	First 5 Minutes			Second 5 Minutes			Breeding Evidence
	<50m	50-100m	>100m*	<50m	50-100m	>100m*	
Gray Catbird	1						X
Common yellowthroat		1					S
Yellow Warbler		1					S
Willow Flycatcher		1					S
House Wren		1					S
Red Blackbird			2				S

Wind Scale
0 Calm
1 Smoke drifts
2 Wind felt on face
3 Leaves in motion
4 Sm branches move
5 Sm trees sway
6 Lrg branches move
7 Whole trees in motion
8 Twigs break off, hard to walk
9 Light structural damage
10 Trees uprooted

Breeding Evidence Codes
Observed
X - No evidence of breeding
Possible
H - Suitable nesting habitat
S - Singing male
Probable
P - Pair
T - Permanent territory
D - Courtship or display
V - Visiting prob. nest site
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B - Brood patch/cloacal protuberance
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Confirmed
DD - Distraction display
NU - Used nest or egg shell
FY - Fledged young
AE - Adults at occupied nest
FS - Faecal sac
CF - Carrying food
NE - Nest containing eggs
NY - Nest with young

Comments:

* Note: this column gets entered in as incidental species (Point Count radius is 100m)

Breeding Bird Monitoring

10 Minute Point Count Project Name: Arnaud WF Project # 1275

Station: SSB-001 C
Wind speed: 1
Date: 27/06/2012
Cloud cover: 0 %
Visit #: (1) 2 3 (circle)
Air Temp. 14 °C
Start Time: 6:23
Precip. none
Observers: AMM LSM
UTM 0466506 4897716

Species Name	First 5 Minutes			Second 5 Minutes			Breeding Evidence
	<50m	50-100m	>100m*	<50m	50-100m	>100m*	
* Golden Winged Warbler	1		1				X
Ll Blind Swallow						1	S
Gray Catbird				1			S
Am Goldfinch				2			X
Rwl Blackbird					2		S
Am Crow						1	S

Wind Scale
0 Calm
1 Smoke drifts
2 Wind felt on face
3 Leaves in motion
4 Sm branches move
5 Sm trees sway
6 Lrg branches move
7 Whole trees in motion
8 Twigs break off, hard to walk
9 Light structural damage
10 Trees uprooted

Breeding Evidence Codes
Observed
X - No evidence of breeding
Possible
H - Suitable nesting habitat
S - Singing male
Probable
P - Pair
T - Permanent territory
D - Courtship or display
V - Visiting prob. nest site
A - Agitated behaviour or anxiety calls
B - Brood patch/cloacal protuberance
N - Nest building or excavation
Confirmed
DD - Distraction display
NU - Used nest or egg shell
FY - Fledged young
AE - Adults at occupied nest
FS - Faecal sac
CF - Carrying food
NE - Nest containing eggs
NY - Nest with young

Comments: Counter singing Golden-winged Warblers. both seen and observed. Can confirm these to be pure and not hybrids.

* Note: this column gets entered in as incidental species (Point Count radius is 100m)

Breeding Bird Monitoring

10 Minute Point Count Project Name: ARMOW Project # 1275

Station: SSR-001 D

Wind speed: 1

Date: 27/06/2012

Cloud cover: 20 %

Visit #: (1) 2 3 (circle)

Air Temp. °C

Start Time: 7:07

Precip. none

Observers: ANM, LSM

UTM

Species Name	First 5 Minutes			Second 5 Minutes			Breeding Evidence
	<50m	50-100m	>100m*	<50m	50-100m	>100m*	
Common Yellowthroat	1						S
Catbird	1						S
Song sparrow		2					X
Red winged blackbird		2	1		3	4	H
Baltimore oriole			1				X
House wren			1				S
Goldfinch	1						S
Yellow warbler			1				S
flicker			1				S
Willow flycatcher						1	S
Chickadee				1			S

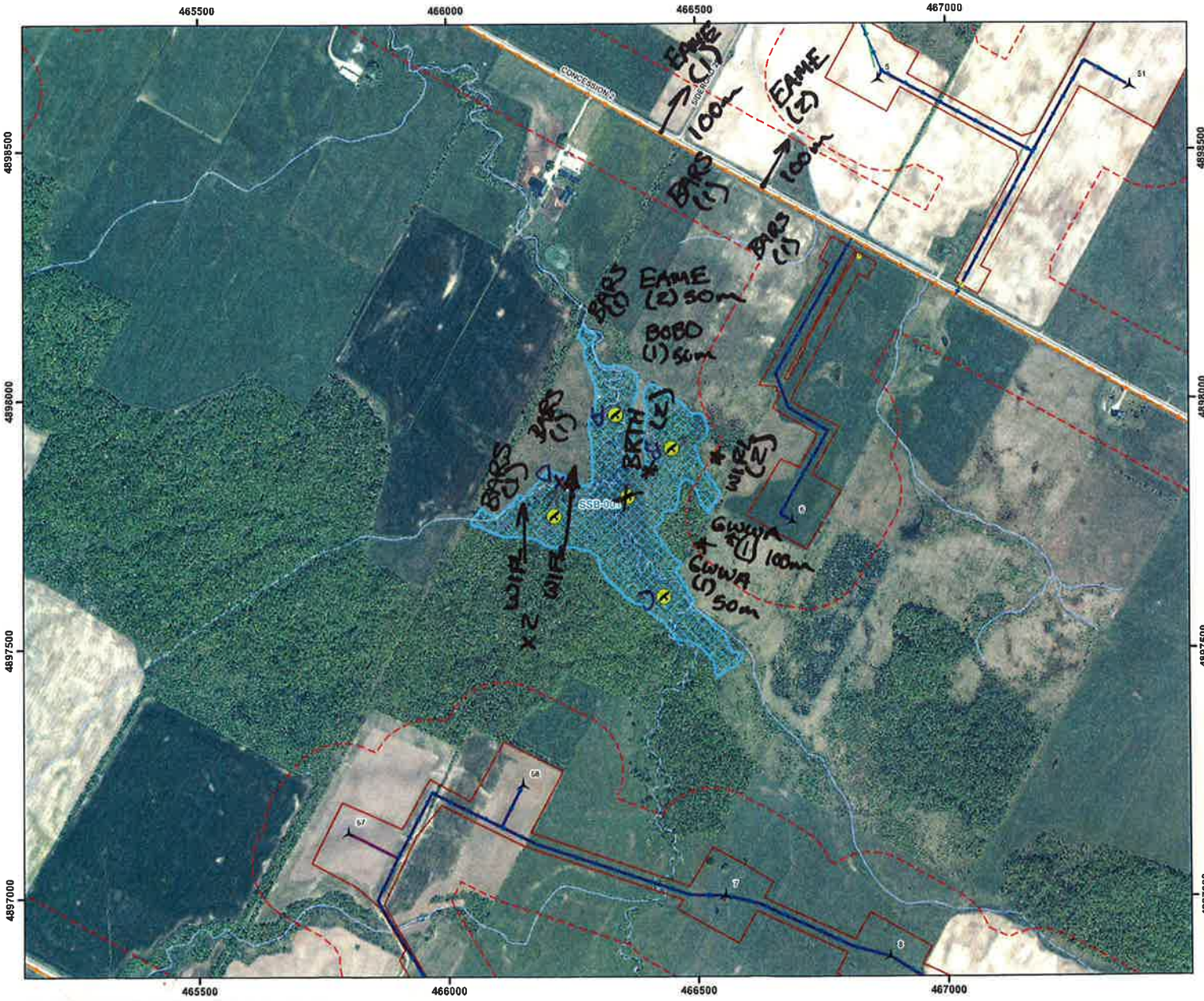
Wind Scale
0 Calm
1 Smoke drifts
2 Wind felt on face
3 Leaves in motion
4 Sm branches move
5 Sm trees sway
6 Lrg branches move
7 Whole trees in motion
8 Twigs break off, hard to walk
9 Light structural damage
10 Trees uprooted

Breeding Evidence Codes
Observed
X - No evidence of breeding
Possible
H - Suitable nesting habitat
S - Singing male
Probable
P - Pair
T - Permanent territory
D - Courtship or display
V - Visiting prob. nest site
A - Agitated behaviour or anxiety calls
B - Brood patch/cloacal protuberance
N - Nest building or excavation
Confirmed
DD - Distraction display
NU - Used nest or egg shell
FY - Fledged young
AE - Adults at occupied nest
FS - Faecal sac
CF - Carrying food
NE - Nest containing eggs
NY - Nest with young

Comments: Very difficult to get to from point C. Go out towards road and back in. Bride over river. River too wide/deep to cross

* Note: this column gets entered in as incidental species (Point Count radius is 100m)

June 27 - ANM, LSM
2012

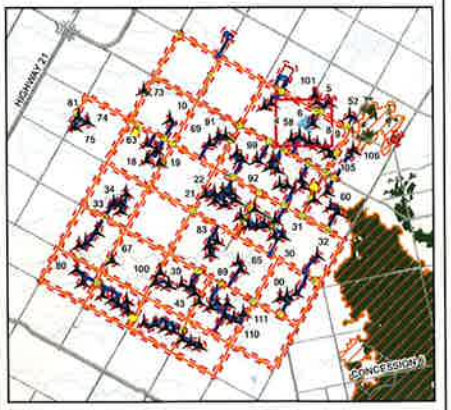


Armow Wind Farm

Shrub/Early Successional Bird Breeding Habitat - Monitoring Locations

Legend

- Project Area (120m)
- Proposed Turbine (L12 Rev0)
- MET Tower
- Junction Box
- Crane Walk
- Above Ground Cabling
- Underground Cabling
- Access Road
- Disturbance Area
- Potential Operations Building
- Substation
- Staging Area
- Interconnect Area
- Highway
- Primary Road
- Secondary Road
- ANSI, Life Science
- Provincially Significant Wetland
- Waterbody
- Watercourse (Permanent)
- Watercourse (Intermittent)
- Shrub/Early Successional Bird Breeding Habitat (SSB)
- Shrub/Early Successional Bird Breeding Habitat Monitoring Location



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Imagery provided by: Golder Associates, 2011

Project: 1275A Date: June 25, 2012	NAD83 - UTM Zone 17 Size: 11x17" 1:7,500

0 100 200 300 400 Meters

N

Breeding Bird Monitoring

10 Minute Point Count Project Name: Armow Project # 1275A

Station: SBB-E

Wind speed: 1

Date: July 2, 2012

Cloud cover: 0 %

Visit #: 1 (2) 3 (circle)

Air Temp. 18 °C

Start Time: 9:06

Precip. —

Observers: RWW, GKW

UTM 466419 4897917

Species Name	First 5 Minutes			Second 5 Minutes			Breeding Evidence
	<50m	50-100m	>100m*	<50m	50-100m	>100m*	
House Wren	2	1					A
Yellow Warbler		1		1			S
Gray Catbird	2	1					S
R.W. Blackbird	2	3					P
Killdeer		1					X
Am. Robin		2			1		S
B.H. Cowbird	2	1					H
Song Sparrow	1	2					S
Chipping Sparrow	1	1					X
E. Meadowlark			1				X
Mourning Dove			1				X
Tree Swallow		2					P
Common Yellowthroat					1		S
Swamp Sparrow					1		S
Am. Redstart					1		S
Wood Thrush						1	V
Belted Kingfisher						1	X

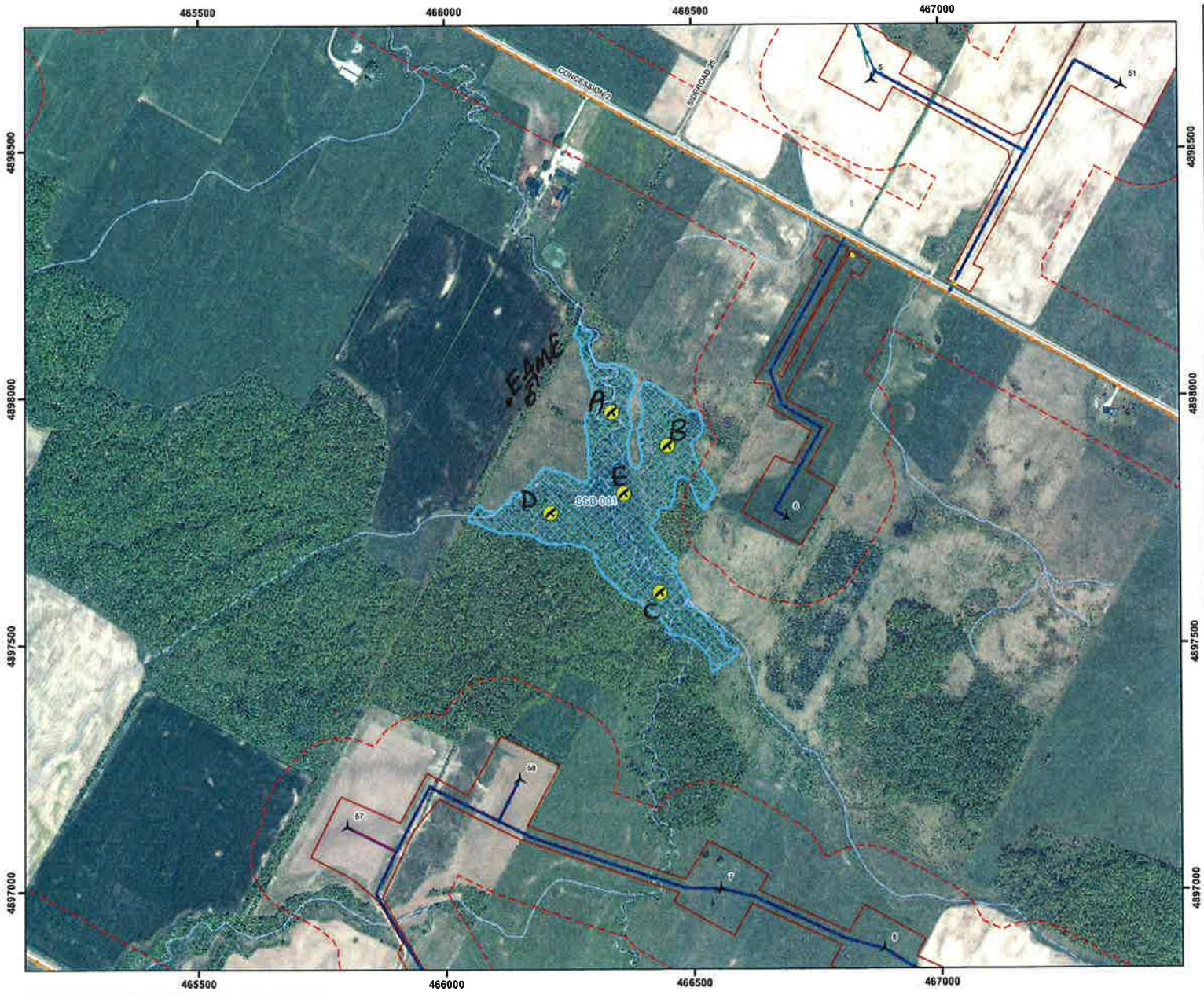
Wind Scale
0 Calm
1 Smoke drifts
2 Wind felt on face
3 Leaves in motion
4 Sm branches move
5 Sm trees sway
6 Lrg branches move
7 Whole trees in motion
8 Twigs break off, hard to walk
9 Light structural damage
10 Trees uprooted

Breeding Evidence Codes
Observed
X - No evidence of breeding
Possible
H - Suitable nesting habitat
S - Singing male
Probable
P - Pair
T - Permanent territory
D - Courtship or display
V - Visiting prob. nest site
A - Agitated behaviour or anxiety calls
B - Brood patch/cloacal protuberance
N - Nest building or excavation
Confirmed
DD - Distraction display
NU - Used nest or egg shell
FY - Fledged young
AE - Adults at occupied nest
FS - Faecal sac
CF - Carrying food
NE - Nest containing eggs
NY - Nest with young

Comments:

* Note: this column gets entered in as incidental species (Point Count radius is 100m)

Ross + Eisenham - July 2/12

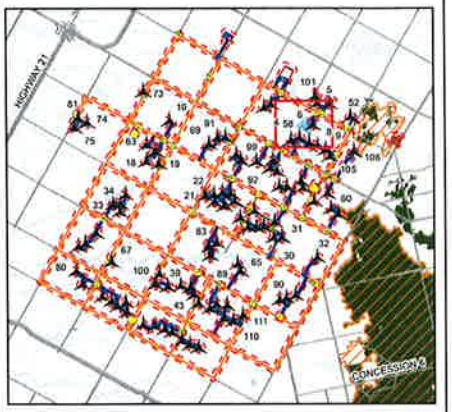


Armow Wind Farm

Shrub/Early Successional Bird Breeding Habitat - Monitoring Locations

Legend

- Project Area (120m)
- Proposed Turbine (L12 Rev0)
- MET Tower
- Junction Box
- Crane Walk
- Above Ground Cabling
- Underground Cabling
- Access Road
- Disturbance Area
- Potential Operations Building
- Substation
- Staging Area
- Interconnect Area
- Highway
- Primary Road
- Secondary Road
- ANSI, Life Science
- Provincially Significant Wetland
- Waterbody
- Watercourse (Permanent)
- Watercourse (Intermittent)
- Shrub/Early Successional Bird Breeding Habitat (SSB)
- Shrub/Early Successional Bird Breeding Habitat Monitoring Location



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Imagery provided by: Golder Associates, 2011

Project: 1275A Date: June 25, 2012	NAD83 - UTM Zone 17 Size: 11x17" 1:7,500

0 100 200 300 400 Meters

N

Breeding Bird Monitoring

10 Minute Point Count Project Name: Armow Project # 1275A

Station: SBB-001-A

Wind speed: 0

Date: July 9, 2012

Cloud cover: 70 %

Visit #: 1 (2) 3 (circle)

Air Temp. 15 °C

Start Time: 5:56

Precip. none

Observers: RWW, NZ

UTM 0466368 4898031

Species Name	First 5 Minutes			Second 5 Minutes			Breeding Evidence
	<50m	50-100m	>100m*	<50m	50-100m	>100m*	
Common Yellowthroat	1	1			1		FY
Am. Goldfinch	1	1	1				D
R.B. Gull			1			2	X
Yellow Warbler		1			1		S
Eastern Kingbird		1					A
Song Sparrow	1	2		1			S
Red-winged Blackbird		2					H
Mourning Warbler		1					S
Mourning Dove		1					S
Gray Catbird	1	1					S
Am. Crow						1	X
C. Grackle					2		H
Baltimore Oriole					1		H

Wind Scale
0 Calm
1 Smoke drifts
2 Wind felt on face
3 Leaves in motion
4 Sm branches move
5 Sm trees sway
6 Lrg branches move
7 Whole trees in motion
8 Twigs break off, hard to walk
9 Light structural damage
10 Trees uprooted

Breeding Evidence Codes
Observed
X - No evidence of breeding
Possible
H - Suitable nesting habitat
S - Singing male
Probable
P - Pair
T - Permanent territory
D - Courtship or display
V - Visiting prob. nest site
A - Agitated behaviour or anxiety calls
B - Brood patch/cloacal protuberance
N - Nest building or excavation
Confirmed
DD - Distraction display
NU - Used nest or egg shell
FY - Fledged young
AE - Adults at occupied nest
FS - Faecal sac
CF - Carrying food
NE - Nest containing eggs
NY - Nest with young

Comments: Green Frogs heard

YEWA nest found empty 50m South of P.C.

* Note: this column gets entered in as incidental species (Point Count radius is 100m)

Breeding Bird Monitoring

10 Minute Point Count Project Name: Arnold Project # 1275A

Station: SBB-001-B

Wind speed: 0

Date: July 9, 2012

Cloud cover: 70 %

Visit #: 1 (2) 3 (circle)

Air Temp. 15 °C

Start Time: 6:12

Precip. none

Observers: RWW NZ

UTM 0466456 4897933

Species Name	First 5 Minutes			Second 5 Minutes			Breeding Evidence
	<50m	50-100m	>100m*	<50m	50-100m	>100m*	
Am. Robin	2	1					A
Mourning Dove		1					S
Gray Catbird		2					P
Am. Redstart		1					S
Am. Goldfinch	1	2					D
E. Meadowlark			1				S
B.C. Chickadee	1	2					FY
R.W. Blackbird		1					H
Baltimore Oriole		1					S
Song Sparrow		1		1		1	S
House Wren		1					S
G.C. Flycatcher				2			P
Am. Crow						1	X
Cedar Waxwing					2		P
B-H Cowbird					1		H
R.B. Gull						1	X
Herring Gull						1	X

Wind Scale
0 Calm
1 Smoke drifts
2 Wind felt on face
3 Leaves in motion
4 Sm branches move
5 Sm trees sway
6 Lrg branches move
7 Whole trees in motion
8 Twigs break off, hard to walk
9 Light structural damage
10 Trees uprooted

Breeding Evidence Codes
Observed
X - No evidence of breeding
Possible
H - Suitable nesting habitat
S - Singing male
Probable
P - Pair
T - Permanent territory
D - Courtship or display
V - Visiting prob. nest site
A - Agitated behaviour or anxiety calls
B - Brood patch/cloacal protuberance
N - Nest building or excavation
Confirmed
DD - Distraction display
NU - Used nest or egg shell
FY - Fledged young
AE - Adults at occupied nest
FS - Faecal sac
CF - Carrying food
NE - Nest containing eggs
NY - Nest with young

Comments:

* Note: this column gets entered in as incidental species (Point Count radius is 100m)

Breeding Bird Monitoring

10 Minute Point Count Project Name: Armow Project # 1275A

Station: SBB-001C

Wind speed: 0

Date: July 9 2012

Cloud cover: 60 %

Visit #: 1 (2) 3 (circle)

Air Temp. 15 °C

Start Time: 6:31

Precip. None

Observers: RWL WE

UTM 0466506 4897716

Species Name	First 5 Minutes			Second 5 Minutes			Breeding Evidence
	<50m	50-100m	>100m*	<50m	50-100m	>100m*	
Belted kingfisher		2					P
Am. Goldfinch	2	4			1		D
Clay-colored Sparrow		2					S
Song Sparrow	1	2				1	S
Mourning Dove	1	1					S
R.W. Blackbird	1	1					S
Am. Robin		1		1	1		S
Am. Crow		1	1				V
Common Raven			1				X
G.C. Flycatcher					1		S
Gray Catbird				1	1		S
R.B. Grosbeak					1		S
House Wren						1	S
Field Sparrow					2		S
C. Yellowthroat					1		S

Wind Scale
0 Calm
1 Smoke drifts
2 Wind felt on face
3 Leaves in motion
4 Sm branches move
5 Sm trees sway
6 Lrg branches move
7 Whole trees in motion
8 Twigs break off, hard to walk
9 Light structural damage
10 Trees uprooted

Breeding Evidence Codes
Observed
X - No evidence of breeding
Possible
H - Suitable nesting habitat
S - Singing male
Probable
P - Pair
T - Permanent territory
D - Courtship or display
V - Visiting prob. nest site
A - Agitated behaviour or anxiety calls
B - Brood patch/cloacal protuberance
N - Nest building or excavation
Confirmed
DD - Distraction display
NU - Used nest or egg shell
FY - Fledged young
AE - Adults at occupied nest
FS - Faecal sac
CF - Carrying food
NE - Nest containing eggs
NY - Nest with young

Comments:

* Note: this column gets entered in as incidental species (Point Count radius is 100m)

Breeding Bird Monitoring

10 Minute Point Count Project Name: Armow Project # 1275A

Station: SBB-001-D

Wind speed: 0

Date: July 9, 2012

Cloud cover: 60 %

Visit #: 1 (2) 3 (circle)

Air Temp. 16 °C

Start Time: 6:50

Precip. none

Observers: RWW, EN, Z

UTM 0466221 4897845

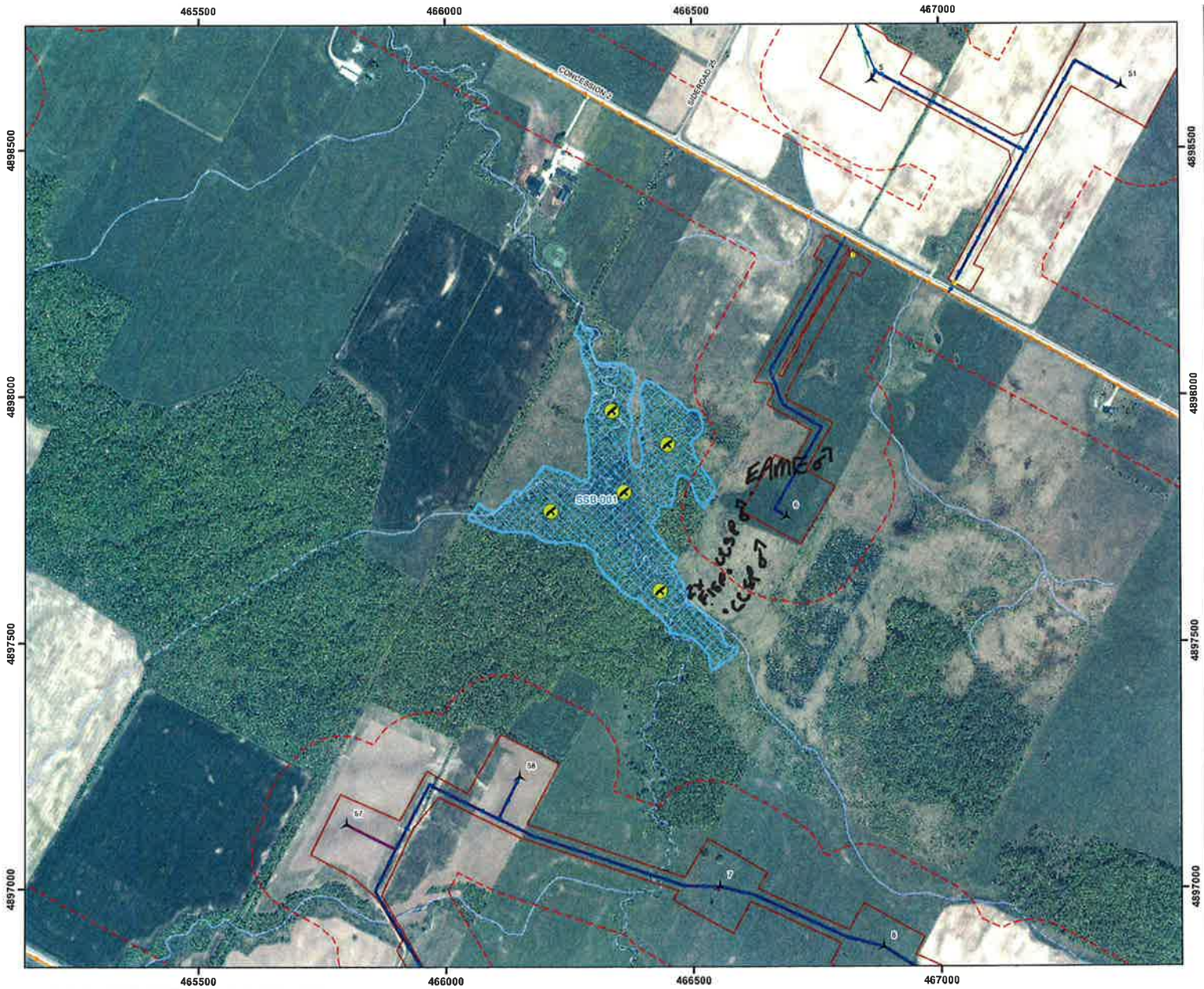
Species Name	First 5 Minutes			Second 5 Minutes			Breeding Evidence
	<50m	50-100m	>100m*	<50m	50-100m	>100m*	
Song Sparrow	3	3					S
Great Egret		1					H
GB. Heron		3					H
Am. Redstart		2					S
Mourning Dove		2					S
Am. Goldfinch	2	3			1		D
Tree Swallow		1					H
House Wren		1					S
Gray Catbird	1	2					S
R.W. Blackbird	2	4					A
E. kingbird		1					A
Common Yellowthroat		2					S
Rock Pigeons		2					X
Belted Kingfisher		1					H
Am. Robin					1		S
Swamp Sparrow					1		S
Yellow Warbler					1		S
C. Grackle					1		A
Baltimore Oriole					1		S
N. Flicker					1		S

Wind Scale
0 Calm
1 Smoke drifts
2 Wind felt on face
3 Leaves in motion
4 Sm branches move
5 Sm trees sway
6 Lrg branches move
7 Whole trees in motion
8 Twigs break off, hard to walk
9 Light structural damage
10 Trees uprooted

Breeding Evidence Codes
Observed
X - No evidence of breeding
Possible
H - Suitable nesting habitat
S - Singing male
Probable
P - Pair
T - Permanent territory
D - Courtship or display
V - Visiting prob. nest site
A - Agitated behaviour or anxiety calls
B - Brood patch/cloacal protuberance
N - Nest building or excavation
Confirmed
DD - Distraction display
NU - Used nest or egg shell
FY - Fledged young
AE - Adults at occupied nest
FS - Faecal sac
CF - Carrying food
NE - Nest containing eggs
NY - Nest with young

Comments:

* Note: this column gets entered in as incidental species (Point Count radius is 100m)

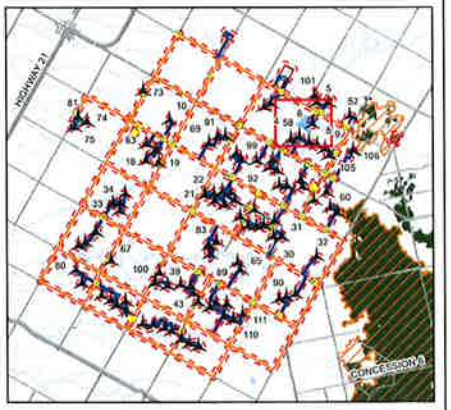


Armow Wind Farm

Shrub/Early Successional Bird Breeding Habitat - Monitoring Locations

Legend

- Project Area (120m)
- Proposed Turbine (L12 Rev0)
- MET Tower
- Junction Box
- Crane Walk
- Above Ground Cabling
- Underground Cabling
- Access Road
- Disturbance Area
- Potential Operations Building
- Substation
- Staging Area
- Interconnect Area
- Highway
- Primary Road
- Secondary Road
- ANSI, Life Science
- Provincially Significant Wetland
- Waterbody
- Watercourse (Permanent)
- Watercourse (Intermittent)
- Shrub/Early Successional Bird Breeding Habitat (SSB)
- Shrub/Early Successional Bird Breeding Habitat Monitoring Location



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Imagery provided by: Golder Associates, 2011

Project: 1275A
Date: June 25, 2012

NAD83 - UTM Zone 17
Size: 11x17"
1:7,500

0 100 200 300 400 Meters

N

Breeding Bird Monitoring

10 Minute Point Count Project Name: Amaw WF Project # 1275A

Station: OSF-001C

Wind speed: 4 N

Date: June 13/12

Cloud cover: 20 %

Visit #: (1) 2 (circle)

Air Temp. 13 °C

Start Time: 8:30 am

Precip. —

Observers: NGM

UTM 17T 0458364 4892468

Species Name	First 5 Minutes			Second 5 Minutes			Breeding Evidence
	<50m	50-100m	>100m*	<50m	50-100m	>100m*	
Chipping Sparrow		I					S
Eastern Phoebe		II					P
Red-tailed Hawk		II					P
Field Sparrow			I				S
Tree Swallow		I					H
Brown-headed cowbird		II	I				H
Brown Thrasher		I				I	S
House wren		II					S
Hermit Thrush		I					S
Turkey Vulture			##III				X
Am. Crow		III	I				H
Indigo Bunting		I					S
Common Yellowthroat		I					S
Northern Rough-winged Swallow		I				I	H
Ring-billed Gull			III			II	X
Song Sparrow					I		S

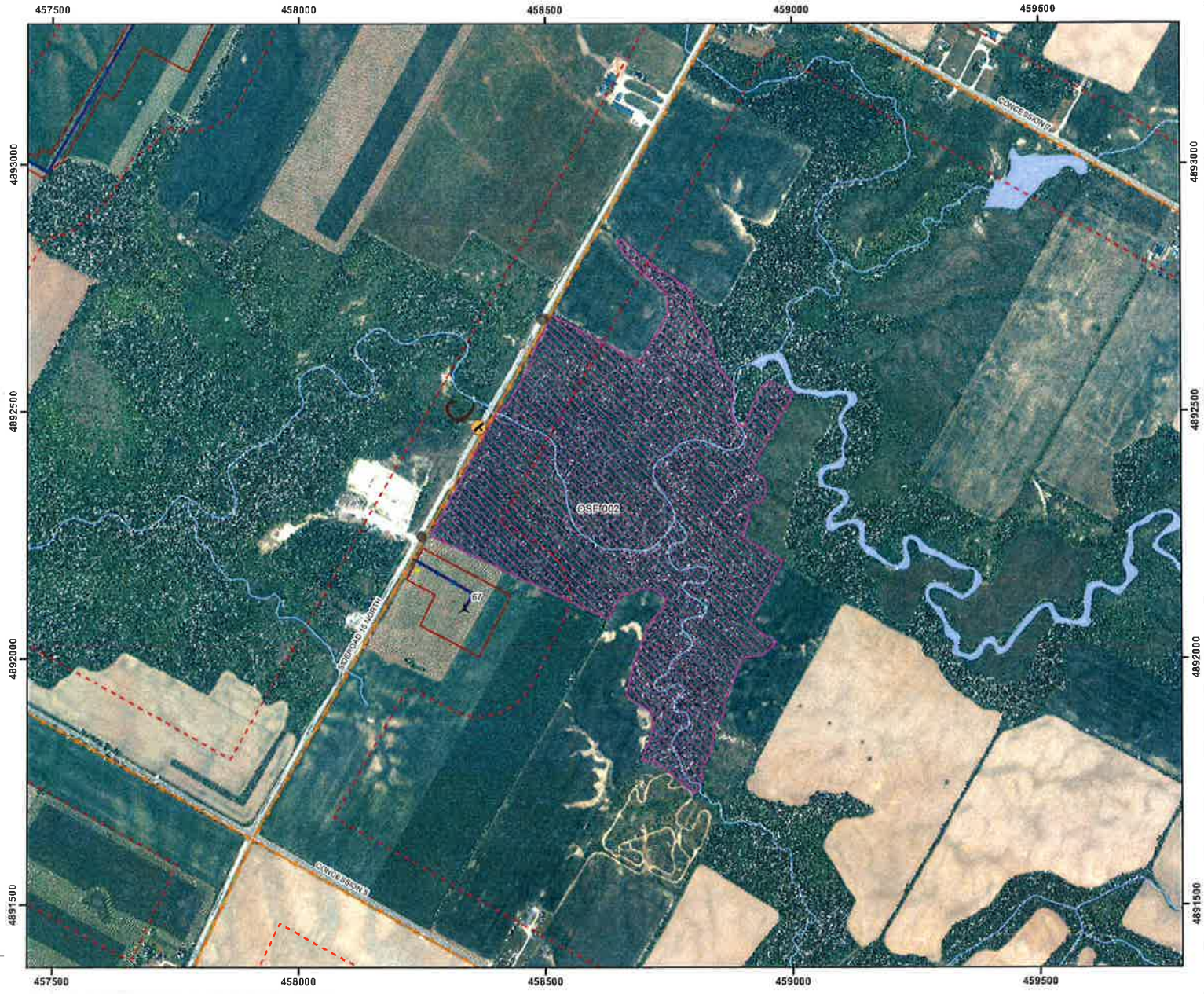
Wind Scale
0 Calm
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8 Twigs break off, hard to walk
9 Light structural damage
10 Trees uprooted

Breeding Evidence Codes
Observed
X - No evidence of breeding
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Confirmed
DD - Distraction display
NU - Used nest or egg shell
FY - Fledged young
AE - Adults at occupied nest
FS - Faecal sac
CF - Carrying food
NE - Nest containing eggs
NY - Nest with young

Comments:

* Note: this column gets entered in as incidental species (Point Count radius is 100m)

Visit #1 - June 13/12
NGM

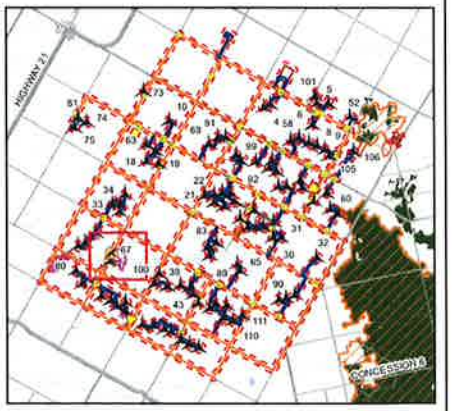


Armow Wind Farm

Olive-sided Flycatcher Habitat - Monitoring Locations

Legend

- Project Area (120m)
- Proposed Turbine (L10 Rev5)
- MET Tower
- Junction Box
- Crane Walk
- Above Ground Cabling
- Underground Cabling
- Access Road
- Disturbance Area
- Potential Operations Building
- Substation
- Staging Area
- Interconnect Area
- Highway
- Primary Road
- Secondary Road
- ANSI, Life Science
- Provincially Significant Wetland
- Waterbody
- Watercourse (Permanent)
- Watercourse (Intermittent)
- Olive-sided Flycatcher Habitat (OSF)
- Olive-sided Flycatcher Habitat Monitoring Location



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Imagery provided by: Golder Associates, 2011

Project: 1273A Date: June-18-12	NAD83 - UTM Zone 17 Size: 11x17" 1:7,500

0 100 200 300 400 Meters

N

Breeding Bird Monitoring

10 Minute Point Count Project Name: Arrow Project # 1275A

Station: OSF-001 C

Wind speed: —

Date: June 24/12

Cloud cover: 100 %

Visit #: 1 (2) 3 (circle)

Air Temp. 15 °C

Start Time: 5:52

Precip. —

Observers: KGB

UTM 17T 0458364 4892468

Species Name	First 5 Minutes			Second 5 Minutes			Breeding Evidence
	<50m	50-100m	>100m*	<50m	50-100m	>100m*	
Comm. Yellowthroat		•					S
Chipping Sparrow		•					S
Ream's Thrasher		•				•	S
A. Redstart	•						S
Black-capped Chickadee		••					H
Song Sparrow	•				••		S
Blue Jay		•			••		H
Herring Gull		•••	••		••	X	X
Field Sparrow			•				S
House Wren		•					S
Cliff Swallow		•					X
E. Kingbird		•			•		P
A. Robin							S
Indigo Bunting			•		•		S
Cedar Waxwing						••	H
Green Heron						•	H
Black-and-white Warbler						•	S
Eastern Phoebe				•			H
Goldfinch					••		H

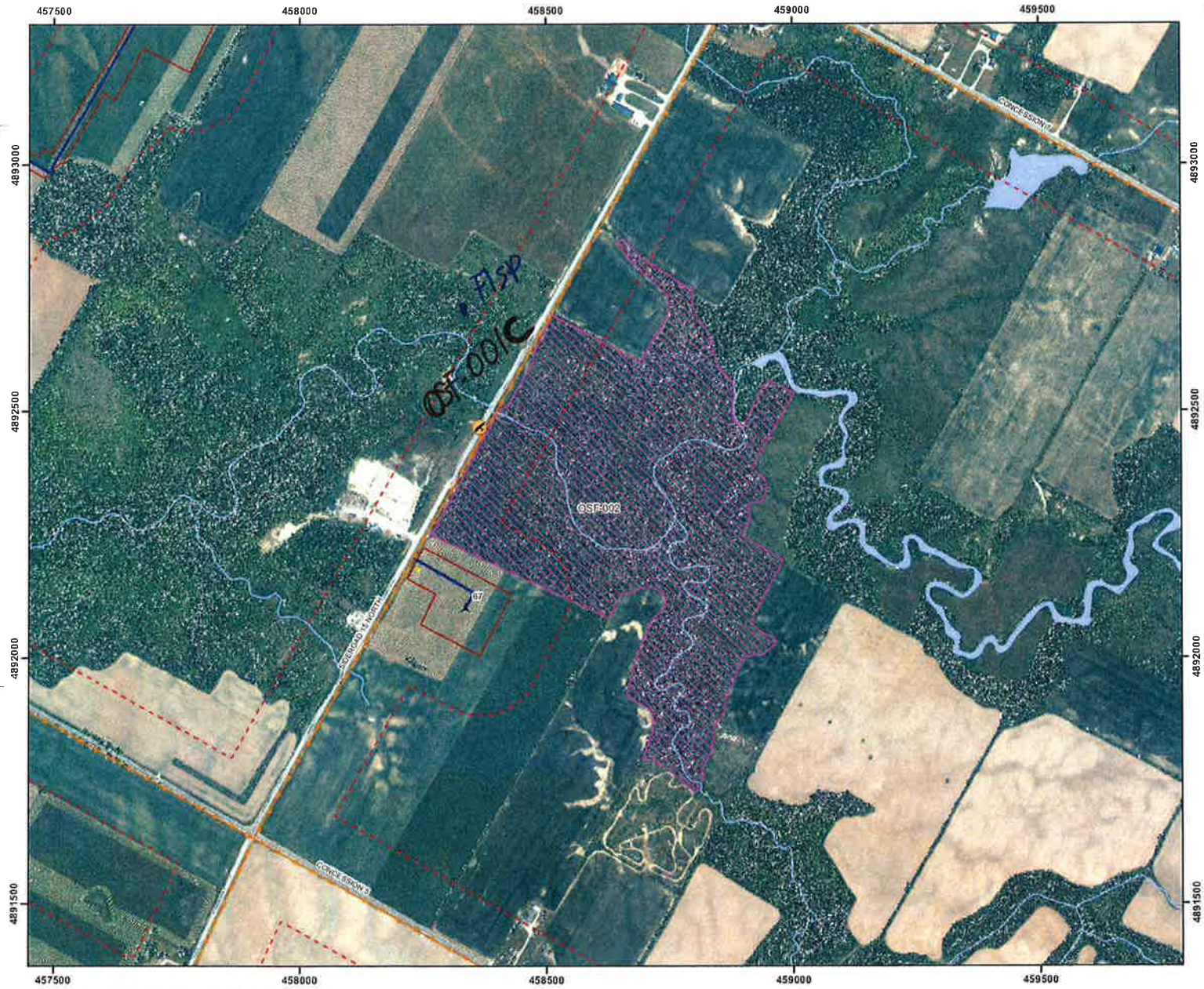
Wind Scale
0 Calm
1 Smoke drifts
2 Wind felt on face
3 Leaves in motion
4 Sm branches move
5 Sm trees sway
6 Lrg branches move
7 Whole trees in motion
8 Twigs break off, hard to walk
9 Light structural damage
10 Trees uprooted

Breeding Evidence Codes
Observed
X - No evidence of breeding
Possible
H - Suitable nesting habitat
S - Singing male
Probable
P - Pair
T - Permanent territory
D - Courtship or display
V - Visiting prob. nest site
A - Agitated behaviour or anxiety calls
B - Brood patch/cloacal protuberance
N - Nest building or excavation
Confirmed
DD - Distraction display
NU - Used nest or egg shell
FY - Fledged young
AE - Adults at occupied nest
FS - Faecal sac
CF - Carrying food
NE - Nest containing eggs
NY - Nest with young

Comments: HERG -> flying into municipal dump

* Note: this column gets entered in as incidental species (Point Count radius is 100m)

visit#2-June 24/12 - KAB

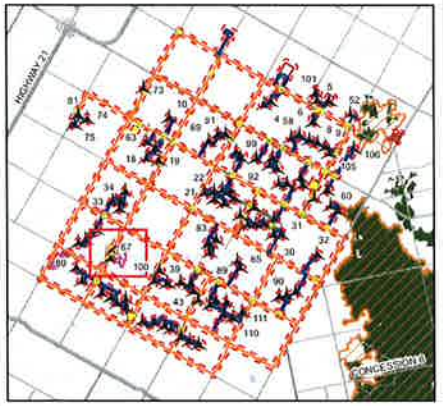


Armow Wind Farm

Olive-sided Flycatcher Habitat - Monitoring Locations

Legend

- Project Area (120m)
- Proposed Turbine (L10 Rev5)
- MET Tower
- Junction Box
- Crane Walk
- Above Ground Cabling
- Underground Cabling
- Access Road
- Disturbance Area
- Potential Operations Building
- Substation
- Staging Area
- Interconnect Area
- Highway
- Primary Road
- Secondary Road
- ANSI, Life Science
- Provincially Significant Wetland
- Waterbody
- Watercourse (Permanent)
- Watercourse (Intermittent)
- Olive-sided Flycatcher Habitat (OSF)
- Olive-sided Flycatcher Habitat Monitoring Location



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Project: 1275A
Date: June-18-12

NAD83 - UTM Zone 17
Size: 11x17"
1:7,500

0 100 200 300 400 Meters

N

Breeding Bird Monitoring

10 Minute Point Count Project Name: Arrow WF Project # 1275

Station: OSF-002A

Wind speed: 1

Date: 27/06/2012

Cloud cover: 30 %

Visit #: (1) 2 3 (circle)

Air Temp. 16 °C

Start Time: 7:56

Precip. none

Observers: ANM LSM

UTM 0458264 4892254

Species Name	First 5 Minutes			Second 5 Minutes			Breeding Evidence
	<50m	50-100m	>100m*	<50m	50-100m	>100m*	
Chickadee	1		2				S
song sparrow	1						S
Chipping sparrow	1						S
barn swallow		3					S
goldfinch	1						S
Turkey Vulture			1				X
herring gull			1			1	S

Wind Scale
0 Calm
1 Smoke drifts
2 Wind felt on face
3 Leaves in motion
4 Sm branches move
5 Sm trees sway
6 Lrg branches move
7 Whole trees in motion
8 Twigs break off, hard to walk
9 Light structural damage
10 Trees uprooted

Breeding Evidence Codes
Observed
X - No evidence of breeding
Possible
H - Suitable nesting habitat
S - Singing male
Probable
P - Pair
T - Permanent territory
D - Courtship or display
V - Visiting prob. nest site
A - Agitated behaviour or anxiety calls
B - Brood patch/cloacal protuberance
N - Nest building or excavation
Confirmed
DD - Distraction display
NU - Used nest or egg shell
FY - Fledged young
AE - Adults at occupied nest
FS - Faecal sac
CF - Carrying food
NE - Nest containing eggs
NY - Nest with young

Comments:

* Note: this column gets entered in as incidental species (Point Count radius is 100m)

Breeding Bird Monitoring

10 Minute Point Count Project Name: Amaw WF Project # 1275

Station: OSF-002 B

Wind speed: 1

Date: 27/06/2012

Cloud cover: 30 %

Visit #: (1) 2 3 (circle)

Air Temp. 16 °C

Start Time: 8:11

Precip. none

Observers: ANM LSM

UTM 0458520 4892691

Species Name	First 5 Minutes			Second 5 Minutes			Breeding Evidence
	<50m	50-100m	>100m*	<50m	50-100m	>100m*	
Eastern Towhee	1						S
Field Sparrow			1				S
American Crow		3					S
Catbird	1						S
Chipping Sparrow	1						S
Goldfinch	1						S
Chickadee						2	S

Wind Scale
0 Calm
1 Smoke drifts
2 Wind felt on face
3 Leaves in motion
4 Sm branches move
5 Sm trees sway
6 Lrg branches move
7 Whole trees in motion
8 Twigs break off, hard to walk
9 Light structural damage
10 Trees uprooted

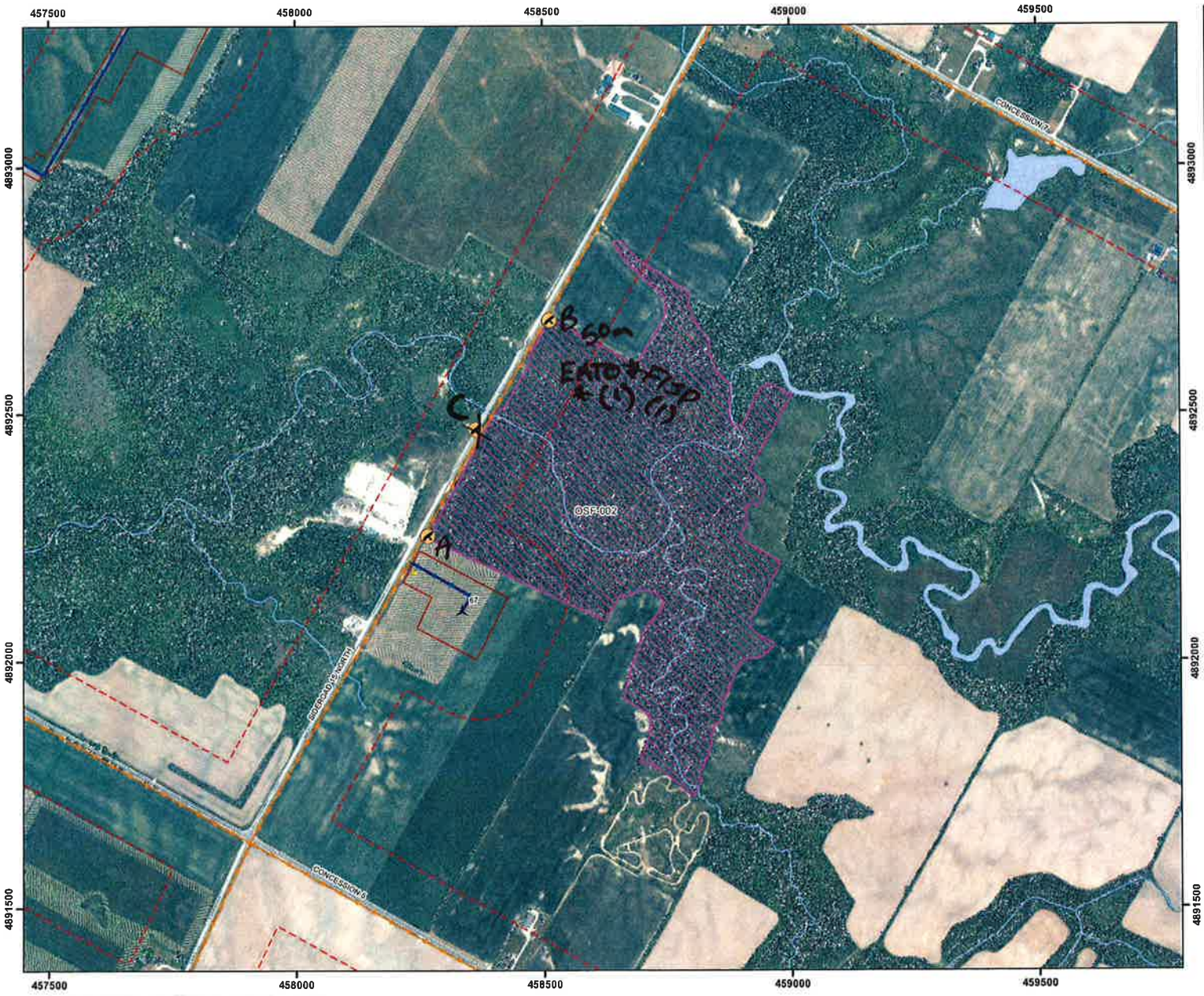
Breeding Evidence Codes
Observed
X - No evidence of breeding
Possible
H - Suitable nesting habitat
S - Singing male
Probable
P - Pair
T - Permanent territory
D - Courtship or display
V - Visiting prob. nest site
A - Agitated behaviour or anxiety calls
B - Brood patch/cloacal protuberance
N - Nest building or excavation
Confirmed
DD - Distraction display
NU - Used nest or egg shell
FY - Fledged young
AE - Adults at occupied nest
FS - Faecal sac
CF - Carrying food
NE - Nest containing eggs
NY - Nest with young

Comments:

* Note: this column gets entered in as incidental species (Point Count radius is 100m)

EATO – Eastern Towhee (in Polygon)
FISP – Field Sparrow (in Polygon).

June 27 – ANM, LSM 2012.

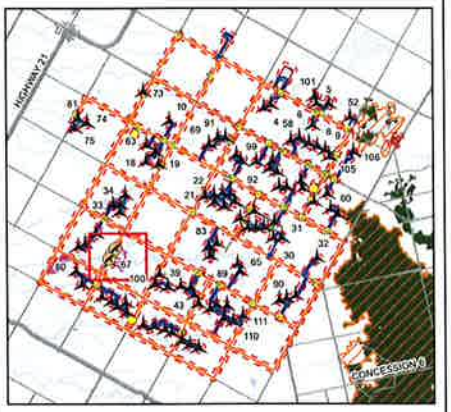


Armow Wind Farm

Olive-sided Flycatcher Habitat - Monitoring Locations

Legend

- Project Area (120m)
- Proposed Turbine (L12 Rev0)
- MET Tower
- Junction Box
- Crane Walk
- Above Ground Cabling
- Underground Cabling
- Access Road
- Disturbance Area
- Potential Operations Building
- Substation
- Staging Area
- Interconnect Area
- Highway
- Primary Road
- Secondary Road
- ANSI, Life Science
- Provincially Significant Wetland
- Waterbody
- Watercourse (Permanent)
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Imagery provided by: Golder Associates, 2011

Project: 1275A Date: June 25, 2012	NAD83 - UTM Zone 17 Size: 11x17" 1:7,500

0 100 200 300 400 Meters

N

Common Nighthawk Survey Form

Project: Armow WF	
Project #: 1275 A	
Date: MAY 29, 2012.	Cloud Cover (%): 20
Observer(s): TRB, TAL	Temperature (°C) 20
Habitat ID: CNH-028	Wind: 3
Description of habitat: lightly grazed horse pasture, fallow field, corn	Precipitation: none

Spend 6 minutes at each site listening for nocturnal birds. Record all wildlife you see/hear, but focus on nocturnal birds.

Mark all observed common nighthawk individuals on the maps provided.

Station #	GPS Coordinates	Start Time	Moon Visible (Y/N)	Species Heard	Direction of Call (N, SW)	Approx. distance	General Behaviour	Comments
A	17T 0459075 4900340	21:05	Y	Am. Robin (x6)	SW	100m	Calling	
↓	↓	↓	↓	Thrush Sp.	S	100m	Calling	
↓	↓	↓	↓	Killdeer (x2)	SW	50m	Flying	
↓	↓	↓	↓	Red-winged Blackbird	N S	100m 200m	Calling	
B	17T 0459910 4899347	21:14	N	Gull sp. (x2)	W	100m	Flying	
↓	↓	↓	↓	Killdeer (x2)	NW	200m	Calling	
↓	↓	↓	↓	Red-winged (x3) Blackbird	W	50m 100m	Calling	
↓	↓	↓	↓	Wild Turkey	SW	100m	Gobbling	
↓	↓	↓	↓	Am. Robin (x2)	S, E	250m	Calling	
↓	↓	↓	↓	Savannah Sparrow	W	100m	Calling	

Common Nighthawk Survey Form

Date: May 29, 2012	Project: Armow WF
Observer(s): TRB-JAL	Project #: 1275A
Habitat ID: CNH-009	Cloud Cover (%): 60%
Description of habitat: wheat, sheep pasture, cattle pasture	Temperature (°C) 20
	Wind: 2-3
	Precipitation: none

Spend 6 minutes at each site listening for nocturnal birds. Record all wildlife you see/hear, but focus on nocturnal birds.

Mark all observed common nighthawk individuals on the maps provided.

Station #	GPS Coordinates	Start Time	Moon Visible (Y/N)	Species Heard	Direction of Call (N, SW)	Approx. distance	General Behaviour	Comments
D	17T 0460465 4897189	21:25	N	Killdeer (x4)	SW, W N	50-250 m	Calling	
C	17T 0461281 4897617	21:36	N	Killdeer (x2)	NW SW	200m+	calling.	
E	17T 0460470 4896179	21:46	Y	Killdeer	NW	200m+	Calling	-green frogs calling in woodland (x6)
↓	↓	↓	Y	Red-winged Blackbird (x2)	W	100m	Calling.	
↓	↓	↓	Y	Savannah Sparrow	W	100	Calling.	

Common Nighthawk Survey Form

Project: Arrow UF
Project #: 1275A
Date: MAY 29, 2012
Cloud Cover (%): 20/0
Observer(s): TRB, TAL
Temperature (°C) 19°C
Habitat ID: CNH-010
Wind: 1-2
Description of habitat: soybeans
Precipitation: none

Spend 6 minutes at each site listening for nocturnal birds. Record all wildlife you see/hear, but focus on nocturnal birds.

Mark all observed common nighthawk individuals on the maps provided.

Station #	GPS Coordinates	Start Time	Moon Visible (Y/N)	Species Heard	Direction of Call (N, SW)	Approx. distance	General Behaviour	Comments
F CNH-010/011	17T 0463020 4895728	21:58	Y	Killdeer (x2)	SE NW	300m	Calling	
G	17T 0461698 4894157	22:22	Y	None	—	—	—	—

Common Nighthawk Survey Form

Date: May 29, 2012.	Project: ARMOW WF
Observer(s): TRB, JAL	Project #: 1275 A
Habitat ID: CNH-011	Cloud Cover (%): 10 %
Description of habitat: ~~CR~~ lightly grazed pasture (cattle)	Temperature (°C) 19 °C
	Wind: 2
	Precipitation: None.

Spend 6 minutes at each site listening for nocturnal birds. Record all wildlife you see/hear, but focus on nocturnal birds.

Mark all observed common nighthawk individuals on the maps provided.

Station #	GPS Coordinates	Start Time	Moon Visible (Y/N)	Species Heard	Direction of Call (N, SW)	Approx. distance	General Behaviour	Comments
F →	See sheet for CNH-010							
H	17T 0464077 4895142	22:09	Y	Killdeer (x2)	NE	200m+	Calling	+ chorus frogs + Am. toads calling in distance
↓	↓	↓	Y	Canada Geese (x5+)	S	500m	Calling Flying	

Common Nighthawk Survey Form

Project: ARMOW WF
Project #: 1275A
Date: May 30th, 2012
Cloud Cover (%): 10 %
Observer(s): TRB, TAL
Temperature (°C) 10°C
Habitat ID: CNH-012
Wind: 2-3
Description of habitat: lightly grazed pasture
Precipitation: none

Spend 6 minutes at each site listening for nocturnal birds. Record all wildlife you see/hear, but focus on nocturnal birds.

Mark all observed common nighthawk individuals on the maps provided.

Station #	GPS Coordinates	Start Time	Moon Visible (Y/N)	Species Heard	Direction of Call (N, SW)	Approx. distance	General Behaviour	Comments
1	17T 0465111 4896895	21:00	Y	Killdeer	NW	50m	-calling	-point count at actively grazed pasture/land
↓	↓	↓	↓	Am. Robin (x3)	SW	100m 25m	-calling -flying/calling	
↓	↓	↓	↓	Red-winged Blackbird (x2)	S, N	100m	-calling	
↓	↓	↓	↓	Savannah Sparrow	S	100	-calling	

Common Nighthawk Survey Form

Date: May 30/2012	Project: Armow WF
Observer(s): TRB, TAL	Project #: 1275A
Habitat ID: CNH-018	Cloud Cover (%): 100%
Description of habitat: Hay	Temperature (°C) 11 °C
	Wind: 2-3
	Precipitation: none

Spend 6 minutes at each site listening for nocturnal birds. Record all wildlife you see/hear, but focus on nocturnal birds.

Mark all observed common nighthawk individuals on the maps provided.

Station #	GPS Coordinates	Start Time	Moon Visible (Y/N)	Species Heard	Direction of Call (N, SW)	Approx. distance	General Behaviour	Comments
AB	17T 0458335 4893735	21:22	Y	Red-winged Blackbird (x4)	NE, N, NW	100m +	Calling	- some blackbirds sound different (?) - "hello" bird / goat ? - coming from barn ***
↓	↓	↓	↓	Am. Robin (x2)	SW	500m 100m	Calling	
↓	↓	↓	↓	Savannah Sparrow	SW	100	Calling	

Common Nighthawk Survey Form

Date: May 30/2012	Project: ARMOW UP
Observer(s): TRB, TAL	Project #: 1275A
Habitat ID: CNH-027	Cloud Cover (%): 100%
Description of habitat: moderately grazed pasture	Temperature (°C) 9°C
	Wind: 2-3
	Precipitation: none

Spend 6 minutes at each site listening for nocturnal birds. Record all wildlife you see/hear, but focus on nocturnal birds.

Mark all observed common nighthawk individuals on the maps provided.

Station #	GPS Coordinates	Start Time	Moon Visible (Y/N)	Species Heard	Direction of Call (N, SW)	Approx. distance	General Behaviour	Comments
AA	17T 0457389 4891927	21:38	Y	Red-winged Blackbird	N	100m	calling	point count in actively grazed pasture

Common Nighthawk Survey Form

Date: MAY 30/2012.	Project: ARMOUR UF
Observer(s): TRB, TAL	Project #: 1275 A
Habitat ID: CNH-023 + CNH-029	Cloud Cover (%): 10%
Description of habitat: moderately + heavily grazed cattle pasture	Temperature (°C)
	Wind: 2-3
	Precipitation: none

Spend 6 minutes at each site listening for nocturnal birds. Record all wildlife you see/hear, but focus on nocturnal birds.

Mark all observed common nighthawk individuals on the maps provided.

Station #	GPS Coordinates	Start Time	Moon Visible (Y/N)	Species Heard	Direction of Call (N, SW)	Approx. distance	General Behaviour	Comments
Z	17T 0460732 4888331	21:54	Y	Killdeer (x2)	NW S	200m 100m	- calling	- point count in actively grazed pasture.

Dec L.
Point Counts "A-N"

Armow Wind Farm

Common Nighthawk Habitat Monitoring Stations

Map 1

Visit #1

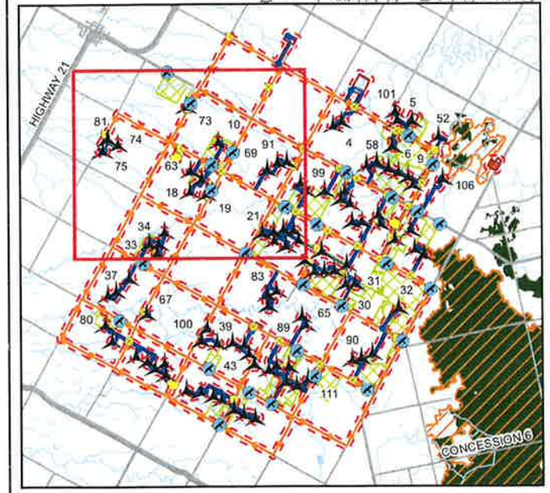
LGC - Lightly grazed cow.



Legend

- Project Area (120m)
- Proposed Turbine (L10 Rev5)
- MET Tower
- Junction Box
- Crane Walk
- Above Ground Cabling
- Underground Cabling
- Access Road
- Disturbance Area
- Potential Operations Building
- Substation
- Staging Area
- Interconnect Area
- Highway
- Primary Road
- Secondary Road
- ANSI, Life Science
- Provincially Significant Wetland
- Waterbody
- Watercourse (Permanent)
- Watercourse (Intermittent)
- Common Nighthawk Habitat (CNH)
- Common Nighthawk Monitoring Station - Lightly Grazed sheep

LGS
LGH - Lightly Grazed horse pasture
FL - Fallow land
PC - Planted corn (planted)
W - Wheat
PS - Planted soybeans



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Project: 1275A
Date: May-23-12

NAD83 - UTM Zone 17
Size: 11x17"
1:25,000

0 500 1,000 1,500 Meters

N

Armow Wind Farm

Common Nighthawk Habitat Monitoring Stations

Map 2

462000 463000 464000 465000 466000 467000 468000 469000

4900000 4899000 4898000 4897000 4896000 4895000

SIDEROAD 15 NORTH
SIDEROAD 15
CONCESSION 2
SIDEROAD 25
BRUCE ROAD 20
SIDEROAD 20
WEBER SIDEROAD
CONCESSION 11
SIDEROAD 30 NORTH
SIDEROAD 30
BRUCE ROAD 15
BRUCE ROAD 1
CONCESSION 6
HIGHWAY 21
Glammis Bog
Greenock Swamp

CNH-001
CNH-004
CNH-010
CNH-011
CNH-012
CNH-013
CNH-014
CNH-025

PF
SP
LGP
LGC

A B C D E F G H I J K L M N

Legend

- Project Area (120m)
- Proposed Turbine (L10 Rev5)
- MET Tower
- Junction Box
- Crane Walk
- Above Ground Cabling
- Underground Cabling
- Access Road
- Disturbance Area
- Potential Operations Building
- Substation
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- Interconnect Area
- Highway
- Primary Road
- Secondary Road
- ANSI, Life Science
- Provincially Significant Wetland
- Waterbody
- Watercourse (Permanent)
- Watercourse (Intermittent)
- Common Nighthawk Habitat (CNH)
- Common Nighthawk Monitoring Station

PF - Plowed Field
SP - Shrubby pasture
LGP - Lightly Grazed Pasture

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Project: 1275A
Date: May-23-12

NAD83 - UTM Zone 17
Size: 11x17"
1:25,000

0 500 1,000 1,500 Meters

N

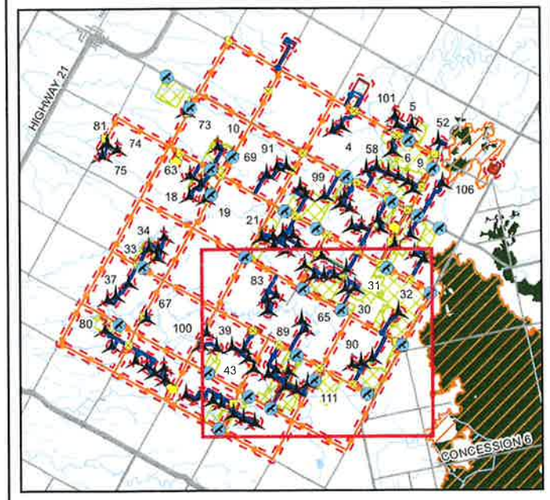
Armow Wind Farm

Common Nighthawk Habitat Monitoring Stations

Map 3

Legend

- Project Area (120m)
- Proposed Turbine (L10 Rev5)
- MET Tower
- Junction Box
- Crane Walk
- Above Ground Cabling
- Underground Cabling
- Access Road
- Disturbance Area
- Potential Operations Building
- Substation
- Staging Area
- Interconnect Area
- Highway
- Primary Road
- Secondary Road
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- Watercourse (Intermittent)
- Common Nighthawk Habitat (CNH)
- Common Nighthawk Monitoring Station



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Project: 1275A
Date: May-23-12

NAD83 - UTM Zone 17
Size: 11x17"
1:25,000

0 500 1,000 1,500 Meters

N

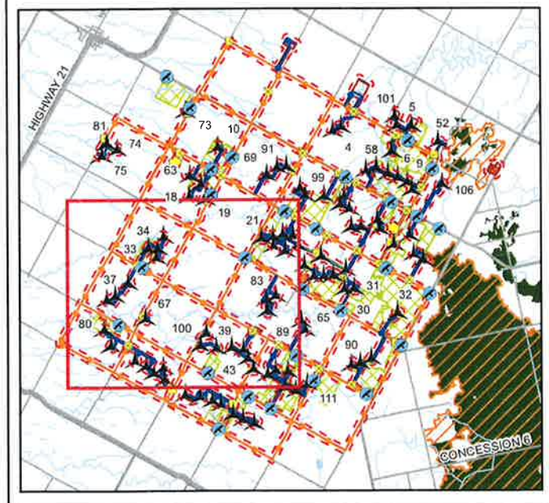
Armow Wind Farm

Common Nighthawk Habitat Monitoring Stations

Map 4

Legend

- Project Area (120m)
- Proposed Turbine (L10 Rev5)
- MET Tower
- Junction Box
- Crane Walk
- Above Ground Cabling
- Underground Cabling
- Access Road
- Disturbance Area
- Potential Operations Building
- Substation
- Staging Area
- Interconnect Area
- Highway
- Primary Road
- Secondary Road
- ANSI, Life Science
- Provincially Significant Wetland
- Waterbody
- Watercourse (Permanent)
- Watercourse (Intermittent)
- Common Nighthawk Habitat (CNH)
- Common Nighthawk Monitoring Station



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Project: 1275A
Date: May-23-12

NAD83 - UTM Zone 17
Size: 11x17"
1:25,000

0 500 1,000 1,500 Meters

N

Common Nighthawk Survey Form

Project: Arrow WF	
Project #: 12757	
Date: MAY 30 2012	**Cloud Cover (%):** 15
Observer(s): PNT JJK	**Temperature (°C)** 10
Habitat ID: CNH-029	**Wind:** 3
Description of habitat: Hay	**Precipitation:** None

Spend 6 minutes at each site listening for nocturnal birds. Record all wildlife you see/hear, but focus on nocturnal birds.

Mark all observed common nighthawk individuals on the maps provided.

Station #	GPS Coordinates (UTM)	Start Time	Moon Visible (Y/N)	Species Heard	Direction of Call (N, SW)	Approx. distance	General Behaviour	Comments
X	0461580 4689556	21:25	y	red-winged blackbird.	S	55	heard	
↓	↓	↓	↓	American robin	W	100	heard calling	
				red-winged (5) blackbird.	N	50	perched in field - calling	
				Horned lark (5)	S	30	perched in field, calling.	
				Killdeer	N	100	heard	
↓	↓	↓	↓	Killdeer	S	150	heard	
CNH-030 y (Hay)	0460529 4690159	21:35	YES	Killdeer	N	100	perched in field (heard)	
↓	↓	↓	↓	Killdeer	S	100	perched in field (heard)	
				American Robin	S N	300	perched in field (heard)	
↓	↓	↓	↓	savannah sparrow	N	100	heard	

Common Nighthawk Survey Form

Project: ARMOW	
Project #: 1275A	
Date: MAY 30 2012	**Cloud Cover (%):**
Observer(s): PNT WJK	**Temperature (°C)** 10°C
Habitat ID: CNH-020	**Wind:** 3
Description of habitat: Hay	**Precipitation:** N

Spend 6 minutes at each site listening for nocturnal birds. Record all wildlife you see/hear, but focus on nocturnal birds.

Mark all observed common nighthawk individuals on the maps provided.

Station #	(17T) GPS Coordinates	Start Time	Moon Visible (Y/N)	Species Heard	Direction of Call (N, SW)	Approx. distance	General Behaviour	Comments
W	0462599 4688980	21:13	Y	American robin	NE	50	perched on tree - singing	
↓	↓	↓	↓	Red-winged blackbird	SW	100	perched in field singing.	
↓	↓	↓	↓	killdeer	W	200	heard	
↓	↓	↓	↓	Red-winged (10) blackbird	NE	100	perched in field.	
↓	↓	↓	↓	Savannah sparrow	SW	100	perched in field. singing	

Common Nighthawk Survey Form

Date: MAY 29 2012	Project: ARNOW
Observer(s): PNT JJK	Project #: 1275A
Habitat ID: CNH - 020	Cloud Cover (%): 0
Description of habitat: Pasture	Temperature (°C) 14
	Wind: 1
	Precipitation: N

Spend 6 minutes at each site listening for nocturnal birds. Record all wildlife you see/hear, but focus on nocturnal birds.

Mark all observed common nighthawk individuals on the maps provided.

Station #	GPS Coordinates (17T)	Start Time	Moon Visible (Y/N)	Species Heard	Direction of Call (N, SW)	Approx. distance	General Behaviour	Comments
T	0463444 4990636	22:26	Y	GREEN FROG	N	50m	HEARD	
↓	↓	↓	↓	GREEN FROG	S	90m	HEARD	
				GREEN FROG	NE	60m	HEARD	
↓	↓	↓	↓	AMERICAN TOAD (x3)	S	80m	HEARD	

Common Nighthawk Survey Form

Date: May 30/12	Project: 1275A
Observer(s): PNT, JTK	Project #: Arrow WF
Habitat ID: CNH-021	Cloud Cover (%): 15
Description of habitat: Hay field	Temperature (°C) 10
	Wind: 2
	Precipitation: None

Spend 6 minutes at each site listening for nocturnal birds. Record all wildlife you see/hear, but focus on nocturnal birds.

Mark all observed common nighthawk individuals on the maps provided.

Station #	GPS Coordinates	Start Time	Moon Visible (Y/N)	Species Heard	Direction of Call (N, SW)	Approx. distance	General Behaviour	Comments
4	0465870 4889467	21:00	y	Red-winged blackbird.	SE	50	perched on tree - singing.	
↓	↓	↓	↓	American Robin (5)	N	45	perched in field singing	
↓	↓	↓	↓	Red-winged blackbird	N	50	perched in field singing.	
↓	↓	↓	↓	American Robin (2)	E	100	↓	
↓	↓	↓	↓	mourning dove	NE	300	perched on phone line	
↓	↓	↓	↓	European Starling	N	50	flying	
↓	↓	↓	↓	savannah sparrow	N	50	perched in field, singing	

Common Nighthawk Survey Form

Project: ARMOW	
Project #: 1275A	
Date: MAY 29 2012	**Cloud Cover (%):** 10
Observer(s): PNT JJK	**Temperature (°C)** 19 °C
Habitat ID: CNH-20 + CNH-26	**Wind:** 1
Description of habitat: moderately + heavily grazed cattle pasture	**Precipitation:** N

Spend 6 minutes at each site listening for nocturnal birds. Record all wildlife you see/hear, but focus on nocturnal birds.

Mark all observed common nighthawk individuals on the maps provided.

Station #	GPS Coordinates (17T)	Start Time	Moon Visible (Y/N)	Species Heard	Direction of Call (N, SW)	Approx. distance	General Behaviour	Comments
V	0463453 4669773	22:15	Y	GREEN FROG	N	10 m	HEARD	
↓	↓	↓	↓	GREEN FROG	N	30 m	HEARD	
				GREEN FROG	W	6 m	HEARD	
				KILDEER	NE	50 m	HEARD	
				GREEN FROG	SE	20 m	HEARD	
				AMERICAN TOAD	NW	700 m	HEARD	

Common Nighthawk Survey Form

Project: ARMOW
Project #: 1275A
Date: MAY 29 2012
Cloud Cover (%): 30
Observer(s): PNT JJK
Temperature (°C) 17
Habitat ID: CNH-013 + CNH-015
Wind: 1
Description of habitat: Corn, lightly grazed cattle pasture.
Precipitation: N

Spend 6 minutes at each site listening for nocturnal birds. Record all wildlife you see/hear, but focus on nocturnal birds.

Mark all observed common nighthawk individuals on the maps provided.

Station #	GPS Coordinates (17T)	Start Time	Moon Visible (Y/N)	Species Heard	Direction of Call (N, SW)	Approx. distance	General Behaviour	Comments
0	0466452 4993807	21:54	Y	TREE FROG	S	50m	HEARD	
↓	✓	↓	↓	SPRING PEEPERS	N	1 Km	HEARD	

Common Nighthawk Survey Form

Date: MAY 29 2012	**Project:** ARMOW
Observer(s): PNT JJK	**Project #:** 1295A
Habitat ID: CNH-015	**Cloud Cover (%):** 30
Description of habitat: HAY / PASTURE	**Temperature (°C)** 17
	Wind: 1
	Precipitation: N

Spend 6 minutes at each site listening for nocturnal birds. Record all wildlife you see/hear, but focus on nocturnal birds.

Mark all observed common nighthawk individuals on the maps provided.

Station #	GPS Coordinates (17T)	Start Time	Moon Visible (Y/N)	Species Heard	Direction of Call (N, SW)	Approx. distance	General Behaviour	Comments
P	0467935 4992944	21:42	Y	AMERICAN WOODCOCK	N	30m	HEARD	
↓	↓	↓	↓	AMERICAN WOODCOCK	SW	50m	HEARD	
				CANADA GEESE (x2)	E	300m	FLYING	
↓	↓	↓	↓	TREE FROG	SW	100m	HEARD	

Common Nighthawk Survey Form

Date: May 29/12	**Project:** ARMOW
Observer(s): PNT, JJK	**Project #:** 1275A
Habitat ID: CNH-015 + 021	**Cloud Cover (%):** 30
Description of habitat: HAY	**Temperature (°C)** 17°C
	Wind: 1
	Precipitation: N

Spend 6 minutes at each site listening for nocturnal birds. Record all wildlife you see/hear, but focus on nocturnal birds.

Mark all observed common nighthawk individuals on the maps provided.

Station #	(17T) GPS Coordinates	Start Time	Moon Visible (Y/N)	Species Heard	Direction of Call (N, SW)	Approx. distance	General Behaviour	Comments
Q	0466936 4891186	21:29	y	KILDEER	NW	300 m	HEARD	N
↓	↓	↓	↓	AMERICAN ROBIN	W	500 m	HEARD	N
↓	↓	↓	↓	KILDEER	N	50 m	HEARD	N
↓	↓	↓	↓	savannah sparrow	N	50	perched in field, singing	

Common Nighthawk Survey Form

Date: May 29/12	Project: Arrow WF
Observer(s): PNT, JJK	Project #: 1273A
Habitat ID: CNH-017	Cloud Cover (%): 45
Description of habitat: pasture (heavily, moderately, lightly grazed)	Temperature (°C) 18
	Wind: 4
	Precipitation: None

Spend 6 minutes at each site listening for nocturnal birds. Record all wildlife you see/hear, but focus on nocturnal birds.

Mark all observed common nighthawk individuals on the maps provided.

Station #	(17T) GPS Coordinates	Start Time	Moon Visible (Y/N)	Species Heard	Direction of Call (N, SW)	Approx. distance	General Behaviour	Comments
S	17T 0463578 4893093	21:04	y	savannah sparrow	N	50	perched in field - singing	
↓	↓	↓	↓	savannah sparrow	E	100	perched in field singing	
R	0465189 4892182	21:18	y	Red-winged blackbirds	N	50	perched in field singing	
				↓	E	100	perched in field singing	
				↓	SW	150	"	
				American crow	SW	1000	heard	
				American robin	N	500	perched in field - singing	

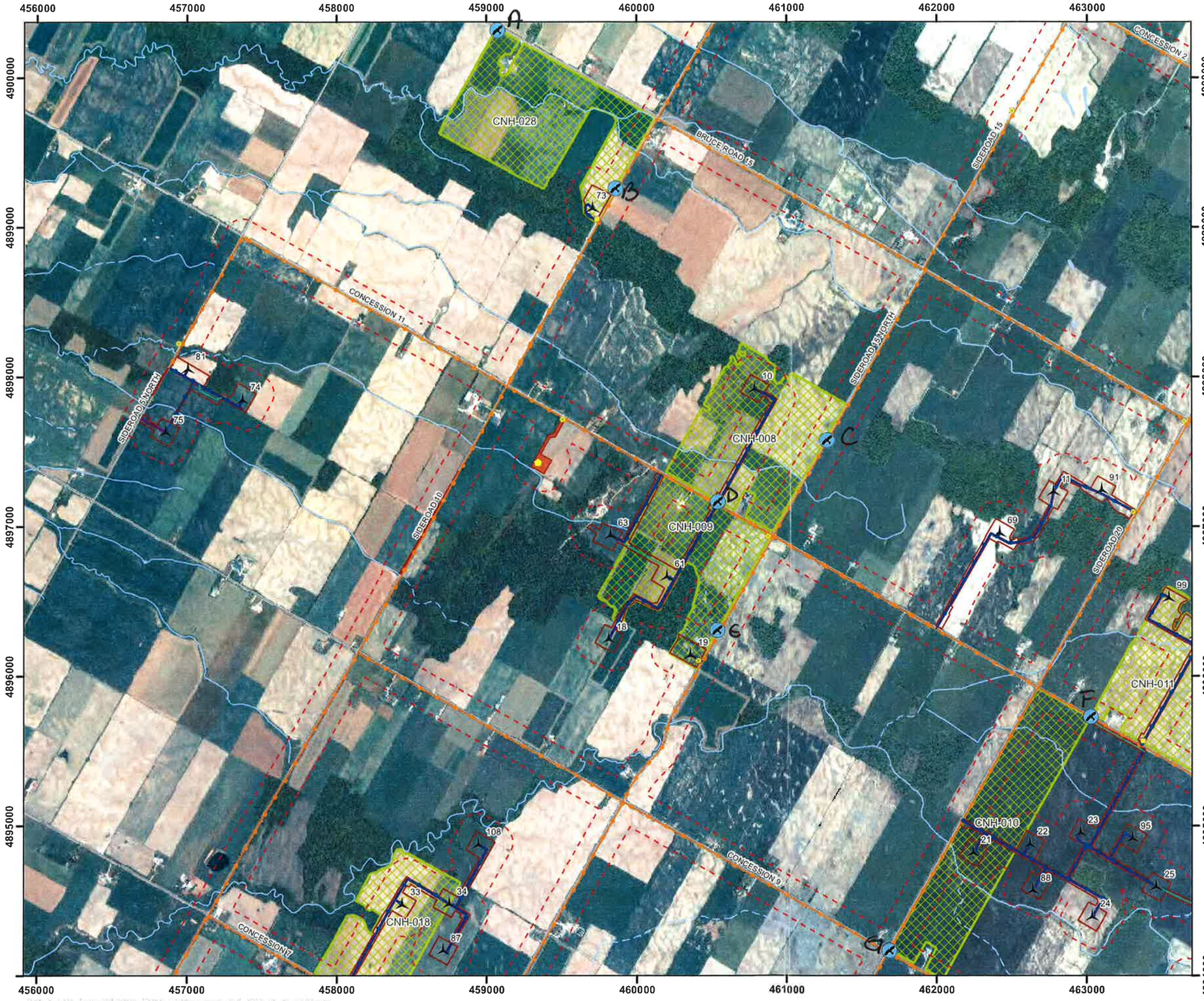
Part T.
Part counts "O-AB"

Armow Wind Farm

Common Nighthawk Habitat Monitoring Stations

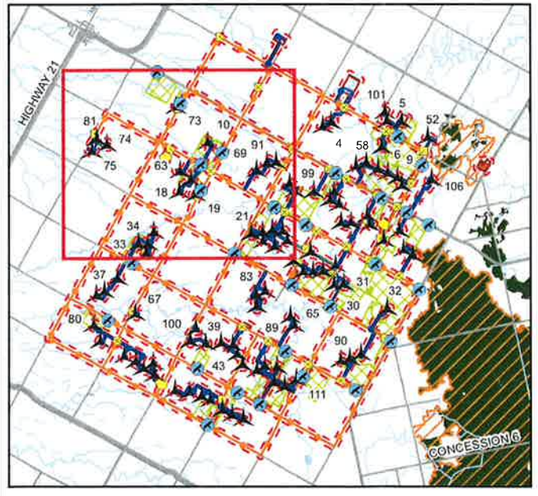
Map 1

Visit #1



Legend

- Project Area (120m)
- Proposed Turbine (L10 Rev5)
- MET Tower
- Junction Box
- Crane Walk
- Above Ground Cabling
- Underground Cabling
- Access Road
- Disturbance Area
- Potential Operations Building
- Substation
- Staging Area
- Interconnect Area
- Highway
- Primary Road
- Secondary Road
- ANSI, Life Science
- Provincially Significant Wetland
- Waterbody
- Watercourse (Permanent)
- Watercourse (Intermittent)
- Common Nighthawk Habitat (CNH)
- Common Nighthawk Monitoring Station



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Imagery provided by: Golder Associates, 2011

Project: 1275A
Date: May-23-12

NAD83 - UTM Zone 17
Size: 11x17"
1:25,000

0 500 1,000 1,500 Meters

N

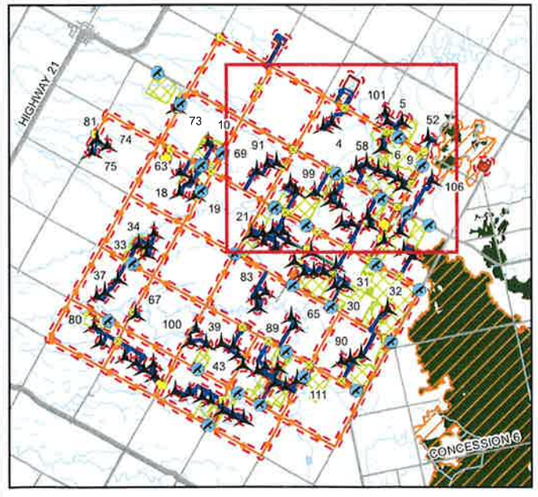
Armow Wind Farm

Common Nighthawk Habitat Monitoring Stations

Map 2

Legend

- Project Area (120m)
- Proposed Turbine (L10 Rev5)
- MET Tower
- Junction Box
- Crane Walk
- Above Ground Cabling
- Underground Cabling
- Access Road
- Disturbance Area
- Potential Operations Building
- Substation
- Staging Area
- Interconnect Area
- Highway
- Primary Road
- Secondary Road
- ANSI, Life Science
- Provincially Significant Wetland
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Project: 1275A
Date: May-23-12

NAD83 - UTM Zone 17
Size: 11x17"
1:25,000

0 500 1,000 1,500 Meters

N

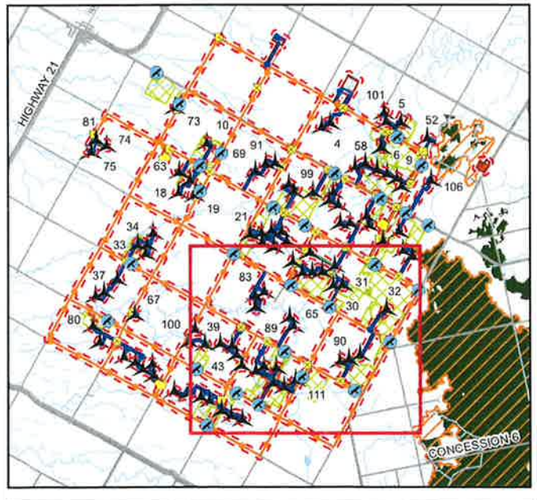
Armow Wind Farm

Common Nighthawk Habitat Monitoring Stations

Map 3

Legend

- Project Area (120m)
- Proposed Turbine (L10 Rev5)
- MET Tower
- Junction Box
- Crane Walk
- Above Ground Cabling
- Underground Cabling
- Access Road
- Disturbance Area
- Potential Operations Building
- Substation
- Staging Area
- Interconnect Area
- Highway
- Primary Road
- Secondary Road
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- Waterbody
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- Watercourse (Intermittent)
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Project: 1275A
Date: May-23-12

NAD83 - UTM Zone 17
Size: 11x17"
1:25,000

0 500 1,000 1,500 Meters

N

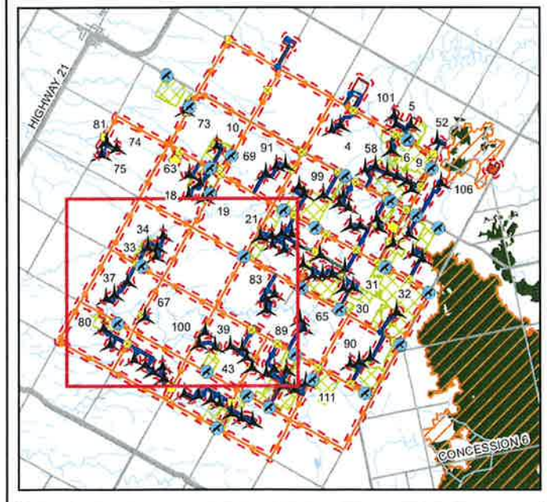
Armow Wind Farm

Common Nighthawk Habitat Monitoring Stations

Map 4

Legend

- Project Area (120m)
- Proposed Turbine (L10 Rev5)
- MET Tower
- Junction Box
- Crane Walk
- Above Ground Cabling
- Underground Cabling
- Access Road
- Disturbance Area
- Potential Operations Building
- Substation
- Staging Area
- Interconnect Area
- Highway
- Primary Road
- Secondary Road
- ANSI, Life Science
- Provincially Significant Wetland
- Waterbody
- Watercourse (Permanent)
- Watercourse (Intermittent)
- Common Nighthawk Habitat (CNH)
- Common Nighthawk Monitoring Station



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Project: 1275A
Date: May-23-12

NAD83 - UTM Zone 17
Size: 11x17"
1:25,000

0 500 1,000 1,500 Meters

N

Common Nighthawk Survey Form

Project: Amew
Project #: 1275A
Date: May 30/12
Cloud Cover (%): 15
Observer(s): NGM, ANM
Temperature (°C) 12
Habitat ID: CNH-025/CNH-004
Wind: 2 NW
Description of habitat: Hay field
Precipitation: —

Spend 6 minutes at each site listening for nocturnal birds. Record all wildlife you see/hear, but focus on nocturnal birds.

Mark all observed common nighthawk individuals on the maps provided.

Station #	GPS Coordinates	Start Time	Moon Visible (Y/N)	Species Heard	Direction of Call (N, SW)	Approx. distance	General Behaviour	Comments
L	0466718 4895999	2104	N	Savannah Sparrow	N	100m	—	* Song only
L	"	"	"	Chipping Sparrow	N	50m	—	* Song only
L	"	"	"	Song Sparrow	N	50m	—	* Song only
L	"	"	"	Red-winged Blackbird	S	50m	flying north	* Chip calls

Common Nighthawk Survey Form

Date: May 30/12	**Project:** Arnow
Observer(s): NGM, ANM	**Project #:** 1275A
Habitat ID: CNH-013	**Cloud Cover (%):** 15
Description of habitat: Cow Pasture	**Temperature (°C)** 10
	Wind: 2 NW
	Precipitation: —

Spend 6 minutes at each site listening for nocturnal birds. Record all wildlife you see/hear, but focus on nocturnal birds.

Mark all observed common nighthawk individuals on the maps provided.

Station #	GPS Coordinates	Start Time	Moon Visible (Y/N)	Species Heard	Direction of Call (N, SW)	Approx. distance	General Behaviour	Comments
M	17T 0467500 4895600	21:20	N	Am. Robin	SW	150	Singing	
M	17T "	"	N	Song Sparrow	N	100	Singing	

Common Nighthawk Survey Form

Date: May 30/12	Project: Arman WF
Observer(s): NGM, ANM	Project #: 1275A
Habitat ID: CNH-01	Cloud Cover (%): 15
Description of habitat: Hay	Temperature (°C) 10
	Wind: 2 NW
	Precipitation: —

Spend 6 minutes at each site listening for nocturnal birds. Record all wildlife you see/hear, but focus on nocturnal birds.

Mark all observed common nighthawk individuals on the maps provided.

Station #	GPS Coordinates	Start Time	Moon Visible (Y/N)	Species Heard	Direction of Call (N, SW)	Approx. distance	General Behaviour	Comments
N	0468267 4895241	2206	Y	None	—			

Common Nighthawk Survey Form

Date: 30/05/12	Project: 1275A ARMOW WF
Observer(s): NGM, ANM	Project #: 1275A
Habitat ID: CNH:004 Site:K	Cloud Cover (%): 70%
Description of habitat: Corn	Temperature (°C) 10°C
	Wind: 1
	Precipitation: NONE

Spend 6 minutes at each site listening for nocturnal birds. Record all wildlife you see/hear, but focus on nocturnal birds.

Mark all observed common nighthawk individuals on the maps provided.

Station #	GPS Coordinates	Start Time	Moon Visible (Y/N)	Species Heard	Direction of Call (N, SW)	Approx. distance	General Behaviour	Comments
K	0468002 4897103	2136	Y	Horned LARK	W	100m	*Song	5-10 individual singing.
K	"	2140	Y	Killdeer	NE	200m	*Song	1 individual

Common Nighthawk Survey Form

Date: May 30/12	Project: Aman
Observer(s): WBM, ANM	Project #: 127SH
Habitat ID: CNH'-001	Cloud Cover (%): 15
Description of habitat: Hay	Temperature (°C) 10
	Wind: 2 NW
	Precipitation: —

Spend 6 minutes at each site listening for nocturnal birds. Record all wildlife you see/hear, but focus on nocturnal birds.

Mark all observed common nighthawk individuals on the maps provided.

Station #	GPS Coordinates	Start Time	Moon Visible (Y/N)	Species Heard	Direction of Call (N, SW)	Approx. distance	General Behaviour	Comments
J	12T 0467811 5978967	21:46	Y	None heard				
J	"	21:51	Y	Coyote Pack	NW	300m	full pack calling	

this has been changed to 10 mins!!

Common Nighthawk Survey Form

Project: Armadillo WF
Project #: 1275
Date: 26/06/2012
Cloud Cover (%): 10
Observer(s): ANM LSM
Temperature (°C) 19°C
Habitat ID: CNH-015
Wind: 3
Description of habitat:
Precipitation: none

Spend 10 minutes at each site listening for nocturnal birds. Record all wildlife you see/hear, but focus on nocturnal birds.

Mark all observed common nighthawk individuals on the maps provided.

Station #	GPS Coordinates	Start Time	Moon Visible (Y/N)	Species Heard	Direction of Call (N, SW)	Approx. distance	General Behaviour	Comments
P	467935 4892984	9:16	Y	eastern Meadowlark	W	100m	calling (S)	2 males countersinging
P	" "	9:16	Y	Savannah Sparrow	W	50m	calling (S)	multiple males, approx. 5
P	" "	9:16	Y	Bobolink	W	35m	calling (S)	
P	" "	9:16	Y	Red winged Blackbird	W	25m	calling (S)	
O	0466452 4893807	9:30	Y	Red winged blackbird	SW	50m	calling (S)	
O	" "	9:30	Y	Catbird	SW	50m	calling (S)	

Common Nighthawk Survey Form

Date: 26/06/2012	Project: Arrow
Observer(s): ANM, LSM	Project #: 1275
Habitat ID: CNH-017	Cloud Cover (%): 10
Description of habitat:	Temperature (°C) 19°C
	Wind: 3
	Precipitation: none

Spend 6 minutes at each site listening for nocturnal birds. Record all wildlife you see/hear, but focus on nocturnal birds.

Mark all observed common nighthawk individuals on the maps provided.

Station #	GPS Coordinates	Start Time	Moon Visible (Y/N)	Species Heard	Direction of Call (N, SW)	Approx. distance	General Behaviour	Comments
S	0463578 4893093	9:47	Y	none	/	/	/	/
R	0465189 4892182	10:00	Y	none	/	/	/	/

Common Nighthawk Survey Form

Date: 26/06/2012	Project: Arnaw WF
Observer(s): ANM, LSM	Project #: 1275
Habitat ID: CNH-021	Cloud Cover (%): 10
Description of habitat:	Temperature (°C) 19°C
	Wind: 3
	Precipitation: none

Spend 6 minutes at each site listening for nocturnal birds. Record all wildlife you see/hear, but focus on nocturnal birds.

Mark all observed common nighthawk individuals on the maps provided.

Station #	GPS Coordinates	Start Time	Moon Visible (Y/N)	Species Heard	Direction of Call (N, SW)	Approx. distance	General Behaviour	Comments
Q	0466936 4891186	10:14	Y	none	/	/	/	/
U	0465870 4889467	10:28	Y	none	/	/	/	/

Common Nighthawk Survey Form

Date: 27/06/12	Project: ARMOW WF
Observer(s): CSM, ANM	Project #: 1275
Habitat ID: CNH-020	Cloud Cover (%): 80
Description of habitat: Pasture	Temperature (°C) 20
	Wind: 0
	Precipitation: NONE

Spend 6 minutes at each site listening for nocturnal birds. Record all wildlife you see/hear, but focus on nocturnal birds.

Mark all observed common nighthawk individuals on the maps provided.

Station #	GPS Coordinates	Start Time	Moon Visible (Y/N)	Species Heard	Direction of Call (N, SW)	Approx. distance	General Behaviour	Comments
T	4634414 4890838	9:00	Y	Redwinged blackbird	N	15m	Singing male	
T	" "	9:00	Y	Mourning Dove	E	10m	perched (X-observed)	
W	4625999 4888980	9:35	Y	Savannah sparrow	N	100m	Calling	4 singing males
W	" "	9:35	Y	Song sparrow	N	100m	Calling	2 singing
W	" "	9:35	Y	Redwinged blackbird	N	50m	Calling	10 singing

Common Nighthawk Survey Form

Date: 27/06/2012	Project: Arrow WF
Observer(s): ANM, LSM	Project #: 1275
Habitat ID: CNH-026	Cloud Cover (%): 80
Description of habitat: Pasture	Temperature (°C) 20
	Wind: 0
	Precipitation: none

Spend 6 minutes at each site listening for nocturnal birds. Record all wildlife you see/hear, but focus on nocturnal birds.

Mark all observed common nighthawk individuals on the maps provided.

Station #	GPS Coordinates	Start Time	Moon Visible (Y/N)	Species Heard	Direction of Call (N, SW)	Approx. distance	General Behaviour	Comments
✓	463853 4889773	9:19	Y	Savannah Sparrow	E	20m	calling	4 singing males.
✓	" "	9:19	Y	Red winged blackbird	S	75m	calling	
✓	" "	9:19	Y	Killdeer	E	50m	calling	
✓	" "	9:19	Y	Horned Lark	NW	100m	calling	2 singing males
✓	" "	9:19	Y	Eastern Meadowlark	W	200m	calling	

Common Nighthawk Survey Form

Date: 27/06/2012	Project: Armow WF
Observer(s): ANM LSM	Project #: 1275
Habitat ID: CNH-029	Cloud Cover (%): 80
Description of habitat: Pasture	Temperature (°C) 20°C
	Wind: 0
	Precipitation: none

Spend 6 minutes at each site listening for nocturnal birds. Record all wildlife you see/hear, but focus on nocturnal birds.

Mark all observed common nighthawk individuals on the maps provided.

Station #	GPS Coordinates	Start Time	Moon Visible (Y/N)	Species Heard	Direction of Call (N, SW)	Approx. distance	General Behaviour	Comments
X	461580 4889556	9:47	Y	Savannah sparrow	N	50m	calling	
X	" "	9:47	Y	American Robin	N	50m	calling	
X	" "	9:47	Y	Killdeer	S	50m	singing	

Common Nighthawk Survey Form

Date: 27/06/2012	Project: Arrow WF
Observer(s): ANM LSM	Project #: 12-75
Habitat ID: CNH-030	Cloud Cover (%): 80
Description of habitat: Pasture	Temperature (°C) 20
	Wind: 0
	Precipitation: none

Spend 6 minutes at each site listening for nocturnal birds. Record all wildlife you see/hear, but focus on nocturnal birds.

Mark all observed common nighthawk individuals on the maps provided.

Station #	GPS Coordinates	Start Time	Moon Visible (Y/N)	Species Heard	Direction of Call (N, SW)	Approx. distance	General Behaviour	Comments
Y	0460529 4890159	10:00	Y	Killdeer	W	75m	calling	

Common Nighthawk Survey Form

Date: 27/06/2012	Project: Arrow
Observer(s): ANM LSM	Project #: 1275
Habitat ID: CNH-023	Cloud Cover (%): 80
Description of habitat: Pasture.	Temperature (°C) 20
	Wind: 0
	Precipitation: none

Spend 6 minutes at each site listening for nocturnal birds. Record all wildlife you see/hear, but focus on nocturnal birds.

Mark all observed common nighthawk individuals on the maps provided.

Station #	GPS Coordinates	Start Time	Moon Visible (Y/N)	Species Heard	Direction of Call (N, SW)	Approx. distance	General Behaviour	Comments
Z	460732 4888331	10:14	Y	Killdeer	E	50m	Calling.	

Common Nighthawk Survey Form

Date: 28/06/2012	Project: Armaw WF
Observer(s): ANM, LSM	Project #: 1275
Habitat ID: CNH-010	Cloud Cover (%): 80
Description of habitat: SOY	Temperature (°C) 20
	Wind: 1
	Precipitation: none

Spend 6 minutes at each site listening for nocturnal birds. Record all wildlife you see/hear, but focus on nocturnal birds.

Mark all observed common nighthawk individuals on the maps provided.

Station #	GPS Coordinates	Start Time	Moon Visible (Y/N)	Species Heard	Direction of Call (N, SW)	Approx. distance	General Behaviour	Comments
F	463020 4895728	10:25	Y	Nothing heard				

Common Nighthawk Survey Form

Date: 28/06/2012	Project: Armaw WF
Observer(s): AMM, LSM	Project #: 1275
Habitat ID: CNH-009	Cloud Cover (%): 80
Description of habitat: Pasture and SOY	Temperature (°C) 21
	Wind: 1
	Precipitation: none

Spend 6 minutes at each site listening for nocturnal birds. Record all wildlife you see/hear, but focus on nocturnal birds.

Mark all observed common nighthawk individuals on the maps provided.

Station #	GPS Coordinates	Start Time	Moon Visible (Y/N)	Species Heard	Direction of Call (N, SW)	Approx. distance	General Behaviour	Comments
E	460470 4896179	10:10	Y	none	/	/	/	/

Common Nighthawk Survey Form

Project: ARMOW	
Date: 28/06/12	Project #: 1275
Observer(s): CSM, AN, MA	Cloud Cover (%): 100
Habitat ID: CNH-008	Temperature (°C) 22
Description of habitat: Wheat (durum)	Wind:
	Precipitation: NONE

Spend 6 minutes at each site listening for nocturnal birds. Record all wildlife you see/hear, but focus on nocturnal birds.

Mark all observed common nighthawk individuals on the maps provided.

Station #	GPS Coordinates	Start Time	Moon Visible (Y/N)	Species Heard	Direction of Call (N, SW)	Approx. distance	General Behaviour	Comments
D	466465/4897139	935	Y	Killdeer	W	100m	Song	2-4
D	"	"	Y	Savannah Sparrow	W	100m	Song	2-4
D	"	"	Y	Horned LARK	W	100m	Song	2-5
D	"	"	Y	Am Robin	W	100m	Song	2-3
C	466251/4897161	954	Y	Horned LARK	W	100m	Song	2-3

Common Nighthawk Survey Form

Project: Arnaw	
Project #: 1275	
Date: 28/06/2012	Cloud Cover (%): 40
Observer(s): ANM . LSM	Temperature (°C) 23°C
Habitat ID: CNH-028	Wind: |
Description of habitat: horse pasture + corn field	Precipitation: none

Spend 6 minutes at each site listening for nocturnal birds. Record all wildlife you see/hear, but focus on nocturnal birds.

Mark all observed common nighthawk individuals on the maps provided.

Station #	GPS Coordinates	Start Time	Moon Visible (Y/N)	Species Heard	Direction of Call (N, SW)	Approx. distance	General Behaviour	Comments
A	0459075 4900340	9:06	Y	Savannah Sparrow	S	25m	Calling	2-4
A	" "	9:06	Y	Eastern Meadowlark	S	75m	calling	1
A	" "	9:06	Y	Redwinged blackbird	S	75m	calling	multiple
A	" "	9:06	Y	European Starling	S	100m	calling	multiple
A	" "	9:06	Y	American Robin	S	75m	calling	multiple
B	0459910 4899347	9:20	Y	Wood-thrush	E	100m	Singing	1
B		9:10	Y	Eastern Wood Peewee	E	100m	singing	1
B		11	Y	Savannah Sparrow	E	100m	singing	2
B		11	Y	Vesper Sparrow	E	100m	Singing	1

Visit #2 – Anthony + Leanne
June 26, 27, 28 / 12

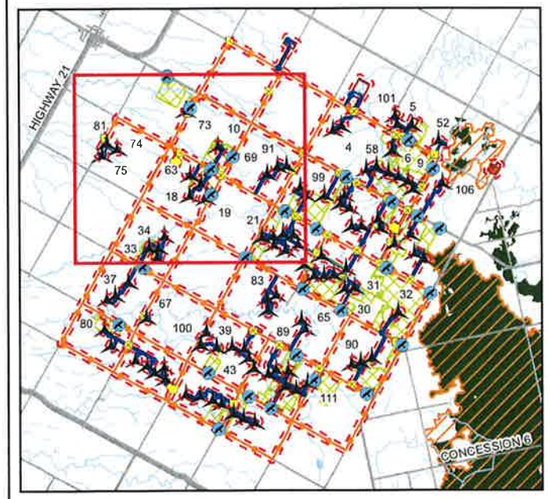
Armow Wind Farm

Common Nighthawk Habitat Monitoring Stations

Map 1

Legend

- Project Area (120m)
- Proposed Turbine (L10 Rev5)
- MET Tower
- Junction Box
- Crane Walk
- Above Ground Cabling
- Underground Cabling
- Access Road
- Disturbance Area
- Potential Operations Building
- Substation
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- Common Nighthawk Habitat (CNH)
- Common Nighthawk Monitoring Station



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Project: 1275A
Date: May-23-12

NAD83 - UTM Zone 17
Size: 11x17"
1:25,000

0 500 1,000 1,500 Meters

N

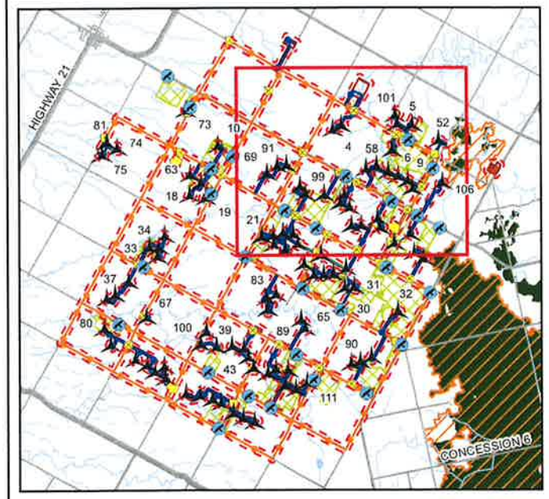
Armow Wind Farm

Common Nighthawk Habitat Monitoring Stations

Map 2

Legend

- Project Area (120m)
- Proposed Turbine (L10 Rev5)
- MET Tower
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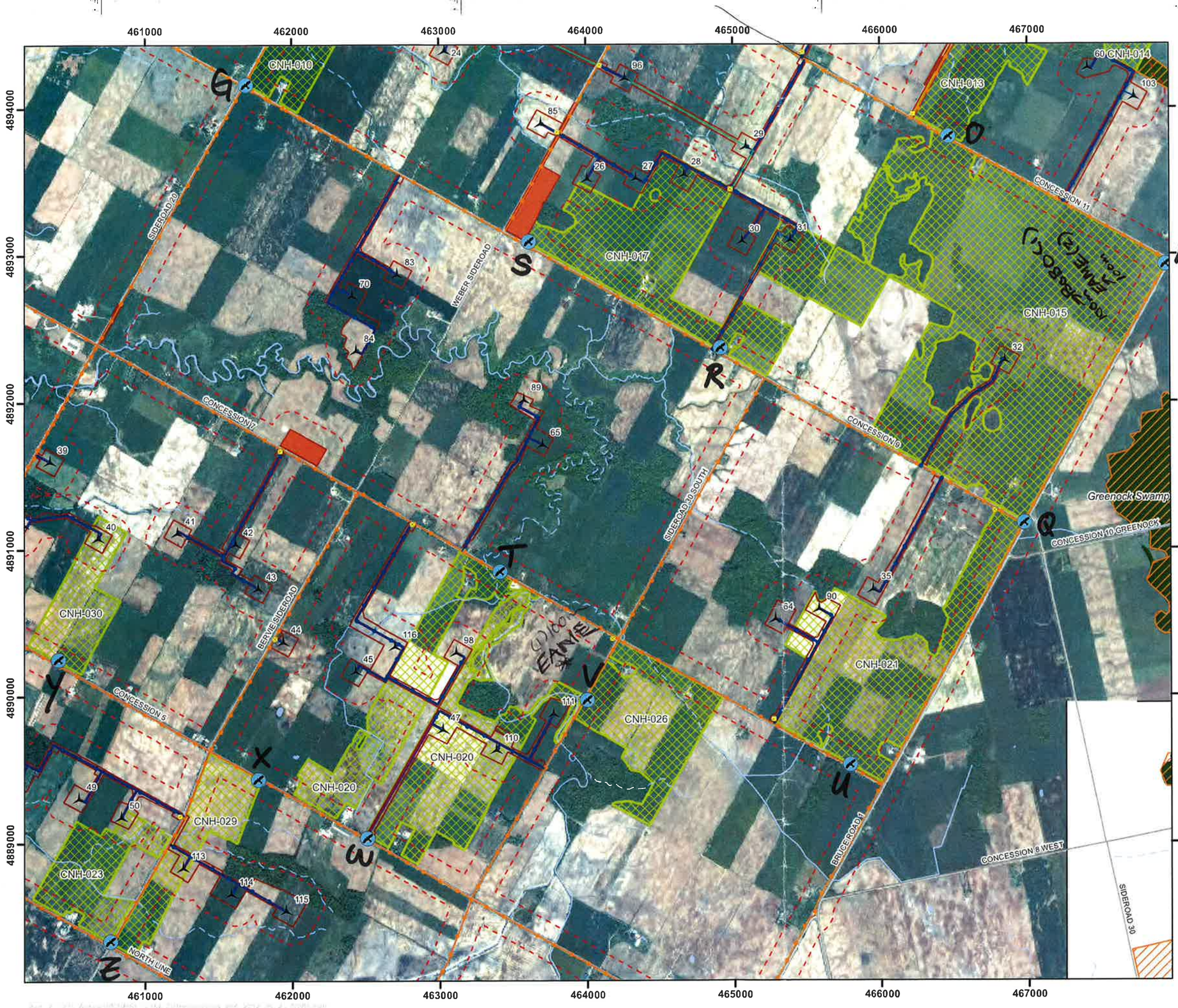
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June 26, 27 - ANM, LSM 2012

Armow Wind Farm

Common Nighthawk Habitat Monitoring Stations

Map 3



Legend

- Project Area (120m)
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Date: May-23-12

NAD83 - UTM Zone 17
Size: 11x17"
1:25,000

0 500 1,000 1,500 Meters

N

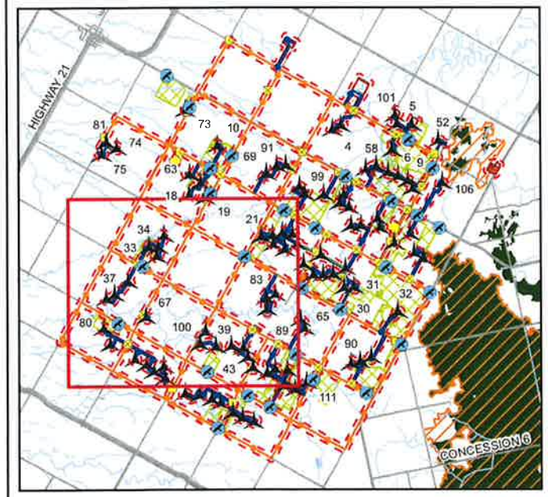
Armow Wind Farm

Common Nighthawk Habitat Monitoring Stations

Map 4

Legend

- Project Area (120m)
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Project: 1275A
Date: May-23-12

NAD83 - UTM Zone 17
Size: 11x17"
1:25,000

0 500 1,000 1,500 Meters

N

Common Nighthawk Survey Form

Date: June 29/12	**Project:** Amaw WF
Observer(s): NGM, KGB	**Project #:** 1275A
Habitat ID: CNH-011	**Cloud Cover (%):** 25
Description of habitat: Open habitat	**Temperature (°C)** 24
	Wind: Calm
	Precipitation: —

Spend 10 minutes at each site listening for nocturnal birds. Record all wildlife you see/hear, but focus on nocturnal birds.

Mark all observed common nighthawk individuals on the maps provided.

Station #	GPS Coordinates	Start Time	Moon Visible (Y/N)	Species Heard	Direction of Call (N, SW)	Approx. distance	General Behaviour	Comments
H	Recorded on earlier datasheets	10:34	Y	None obs	—	—	—	-

Common Nighthawk Survey Form

Date: June 29/12	**Project:** Amaw WF
Observer(s): NGM, KGB	**Project #:** 1275A
Habitat ID: CNH-012	**Cloud Cover (%):** 25
Description of habitat: open habitat	**Temperature (°C)** 24
	Wind: Calm
	Precipitation: —

Spend 10 minutes at each site listening for nocturnal birds. Record all wildlife you see/hear, but focus on nocturnal birds.

Mark all observed common nighthawk individuals on the maps provided.

Station #	GPS Coordinates	Start Time	Moon Visible (Y/N)	Species Heard	Direction of Call (N, SW)	Approx. distance	General Behaviour	Comments
1	Recorded on earlier datasheets	10:20	Y	None observed	—	—	—	—

Common Nighthawk Survey Form

Date: June 29/12	**Project:** Annau WF
Observer(s): NGM, KGB	**Project #:** 1275A
Habitat ID: CNH-027	**Cloud Cover (%):** 25
Description of habitat: Open habitat	**Temperature (°C)** 24
	Wind: Calm
	Precipitation: —

Spend 10 minutes at each site listening for nocturnal birds. Record all wildlife you see/hear, but focus on nocturnal birds.

Mark all observed common nighthawk individuals on the maps provided.

Station #	GPS Coordinates	Start Time	Moon Visible (Y/N)	Species Heard	Direction of Call (N, SW)	Approx. distance	General Behaviour	Comments
AA	Recorded on earlier datasheets	9:45	Y	Savannah Sparrow	S	100	Singing	-
AA	"	"	Y	Wood Thrush	N	150	"	-

Common Nighthawk Survey Form

Date: June 29/12	**Project:** Arman wF
Observer(s): NGM, KGB	**Project #:** 1275A
Habitat ID: CNH-010	**Cloud Cover (%):** 25
Description of habitat: Open habitat	**Temperature (°C)** 24
	Wind: Calm
	Precipitation: —

Spend 10 minutes at each site listening for nocturnal birds. Record all wildlife you see/hear, but focus on nocturnal birds.

Mark all observed common nighthawk individuals on the maps provided.

Station #	GPS Coordinates	Start Time	Moon Visible (Y/N)	Species Heard	Direction of Call (N, SW)	Approx. distance	General Behaviour	Comments
G	Recorded on earlier datasheets	9:15	N	Horned Lark	N	75	singing	
G	"	↑	N	Red-winged Blackbird	N	110	"	
G	"	|	N	Savannah Sparrow	SW	150	"	
G	"	|	Y	Am Robin	NW	150	"	

Common Nighthawk Survey Form

Date: June 29/12	**Project:** Arnaud WF
Observer(s): NGM, KGB	**Project #:** 1275A
Habitat ID: CNH-018	**Cloud Cover (%):** 25
Description of habitat: open habitat	**Temperature (°C)** 24
	Wind: Calm
	Precipitation: —

Spend 10 minutes at each site listening for nocturnal birds. Record all wildlife you see/hear, but focus on nocturnal birds.

Mark all observed common nighthawk individuals on the maps provided.

Station #	GPS Coordinates	Start Time	Moon Visible (Y/N)	Species Heard	Direction of Call (N, SW)	Approx. distance	General Behaviour	Comments
AB	Recorded on earlier datasheet	9:29	Y	Savannah Sparrow	W	100	Singing	—
AB	"	"	Y	Song Sparrow	W	200	"	—
AB	"	"	Y	Yellow Warbler	S	150	"	—

Common Nighthawk Survey Form

Date: June 29/12	**Project:** Arman WF
Observer(s): NGM, KGB	**Project #:** 12751
Habitat ID: CNH-001	**Cloud Cover (%):** 25
Description of habitat: open habitat	**Temperature (°C)** 27
	Wind: Calm
	Precipitation: —

Spend 10 minutes at each site listening for nocturnal birds. Record all wildlife you see/hear, but focus on nocturnal birds.

Mark all observed common nighthawk individuals on the maps provided.

Station #	GPS Coordinates	Start Time	Moon Visible (Y/N)	Species Heard	Direction of Call (N, SW)	Approx. distance	General Behaviour	Comments
J	Recorded on earlier datasheets	10:05	Y	None observed	—	—	—	—

Common Nighthawk Survey Form

Project:	Armow WF
Project #:	1275-A
Date:	July 4, 2012
Cloud Cover (%):	20 %
Observer(s):	TAL, NGM
Temperature (°C)	26 °C
Habitat ID:	CNH-004
Wind:	\
Description of habitat:	hay crop.
Precipitation:	none

Spend 6 minutes at each site listening for nocturnal birds. Record all wildlife you see/hear, but focus on nocturnal birds.

Mark all observed common nighthawk individuals on the maps provided.

Station #	GPS Coordinates	Start Time	Moon Visible (Y/N)	Species Heard	Direction of Call (N, SW)	Approx. distance	General Behaviour	Comments
K	see earlier data sheets	0908	N	Savannah (x5) sparrow	W	100m	singing	locations marked on map.
↓	↓	↓	↓	song sparrow (x1)	S	100m	singing	
				northern harrier (x1)	E	500m	flying	
				mourning dove (x1)	N	100m	singing	
				eastern meadowlark (x3)	S, W	200m	singing	locations marked on map
				barn swallow (x4)	N	150m	flying around potential habitat -farms.	locations marked on map
				red-winged blackbird (x1)	N	100m	perched on hedgerows	
↓	↓	↓	↓	American Robin (x1)	SW	100m	flyover	

Common Nighthawk Survey Form

Project:	Arrow LF
Project #:	1275-A
Date:	July 4, 2012
Cloud Cover (%):	0 90
Observer(s):	TAL, NGM
Temperature (°C)	25°C.
Habitat ID:	CNH-004, CNH-025
Wind:	\
Description of habitat:	pasture, corn crop
Precipitation:	none

Spend 6 minutes at each site listening for nocturnal birds. Record all wildlife you see/hear, but focus on nocturnal birds.

Mark all observed common nighthawk individuals on the maps provided.

Station #	GPS Coordinates	Start Time	Moon Visible (Y/N)	Species Heard	Direction of Call (N, SW)	Approx. distance	General Behaviour	Comments
L	See previous data sheets	0924	N	Killdeer (x2)	NW, SW	100m	calling	
↓	↓	↓	↓	American Robin (x3)	NW, SE S	200m	calling	
				Savannah Sparrow (x1)	N	200m	singing	Locations marked on map.
				Red-winged blackbird (x1)	S	50m	perched on telephone wire	
				Chipping Sparrow (x1)	NW	200m	singing	

Common Nighthawk Survey Form

Date: JULY 4, 2012	Project: Arrow WF
Observer(s): TAL, NGM	Project #: 1275-A
Habitat ID: CNH-013	Cloud Cover (%): 0%
Description of habitat: soybean crop	Temperature (°C) 22°C
	Wind: 1
	Precipitation: none

Spend 6 minutes at each site listening for nocturnal birds. Record all wildlife you see/hear, but focus on nocturnal birds.

Mark all observed common nighthawk individuals on the maps provided.

Station #	GPS Coordinates	Start Time	Moon Visible (Y/N)	Species Heard	Direction of Call (N, SW)	Approx. distance	General Behaviour	Comments
M	See previous data sheets	0938	N	Killdeer (x2)	SE, SW	500m 100m	calling	
↓	↓	↓	↓	horned lark (x2)	S, N	100m	singing.	
↓	↓	↓	↓	Savannah sparrow (x1)	S	200m	singing.	

Common Nighthawk Survey Form

Date: July 4, 2012	Project: Arrow WF
Observer(s): TAL, NGm	Project #: 1275-A
Habitat ID: CNH-014	Cloud Cover (%): 0 %
Description of habitat: hay crop	Temperature (°C) 22 °C
	Wind: |
	Precipitation: none

Spend 6 minutes at each site listening for nocturnal birds. Record all wildlife you see/hear, but focus on nocturnal birds.

Mark all observed common nighthawk individuals on the maps provided.

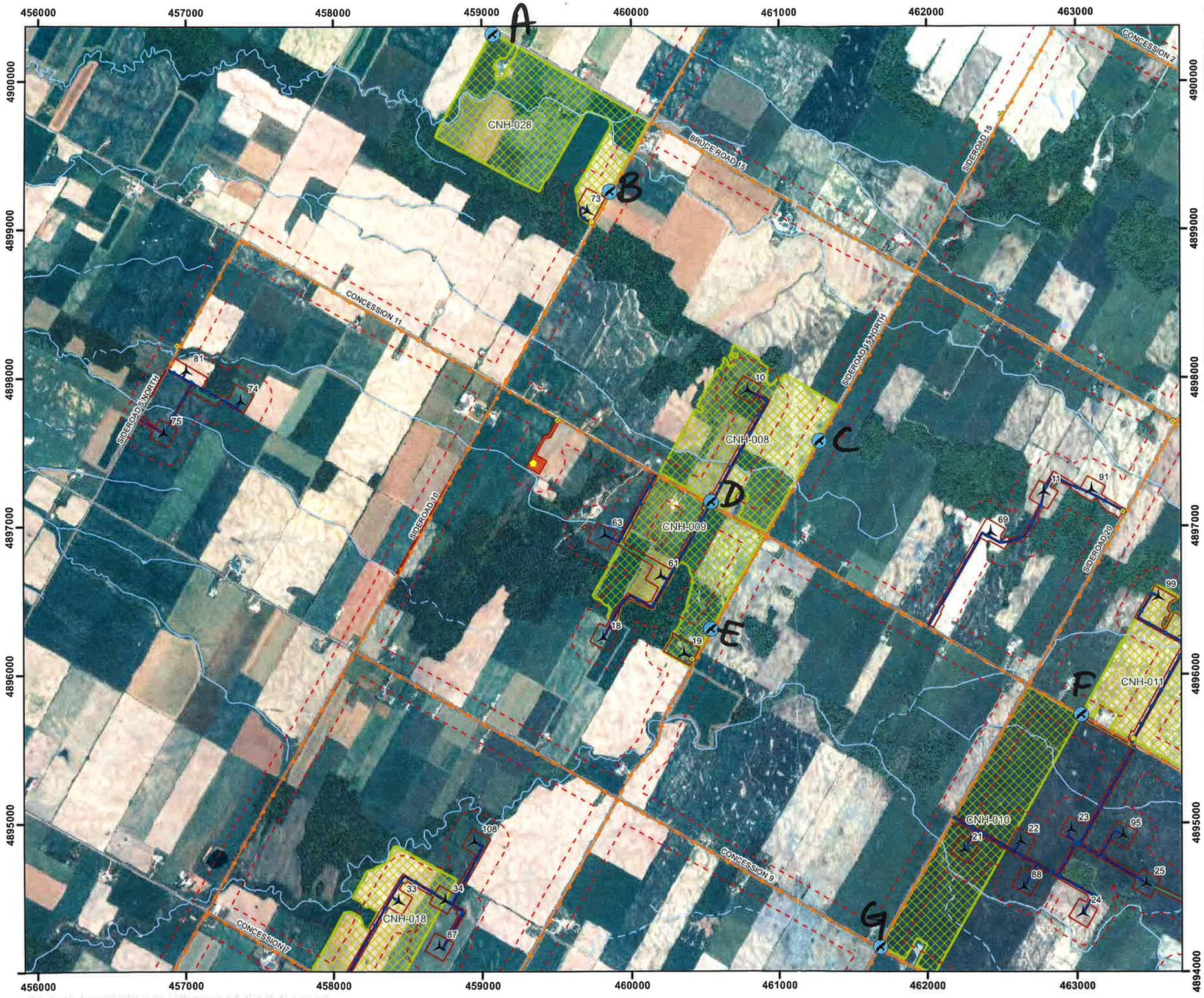
Station #	GPS Coordinates	Start Time	Moon Visible (Y/N)	Species Heard	Direction of Call (N, SW)	Approx. distance	General Behaviour	Comments
N	See previous data sheets	0950	N	Killdeer (x2)	SE, SW	300m	calling	
↓	↓	↓	↓	Savannah Sparrow (x1)	S	250m	Singing	Location marked on map.
↓	↓	↓	↓	Am. Robin (x1)	W	300m	Calling	

Visit 2 - June 29/12 - Nathan + Ken
July 4/12 - Nathan, Tara C

Armow Wind Farm

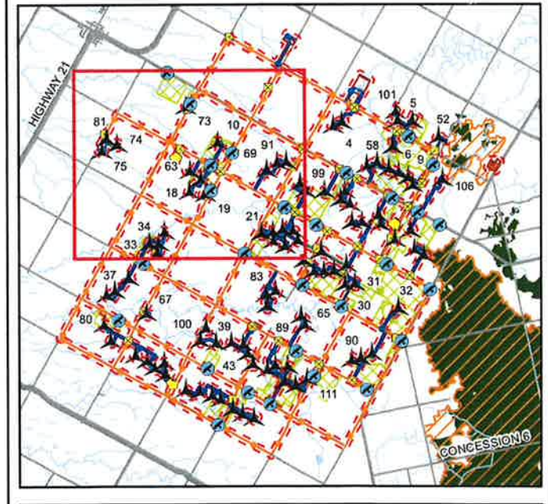
Common Nighthawk Habitat Monitoring Stations

Map 1



Legend

- Project Area (120m)
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Project: 1275A Date: May-23-12	NAD83 - UTM Zone 17 Size: 11x17" 1:25,000

0 500 1,000 1,500 Meters

N

July 4/12 CNH Survey
NGM, TAL

Armow Wind Farm

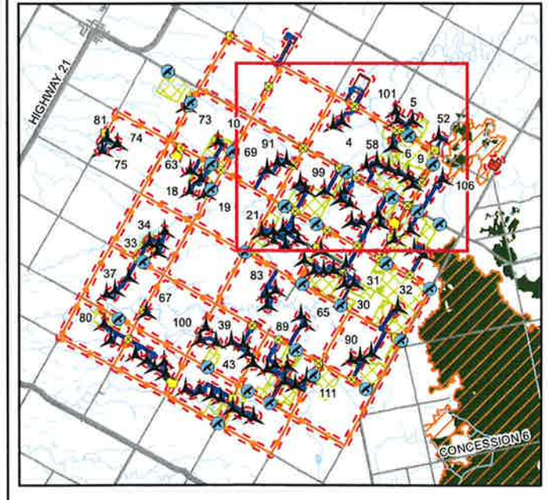
Common Nighthawk Habitat Monitoring Stations

Map 2



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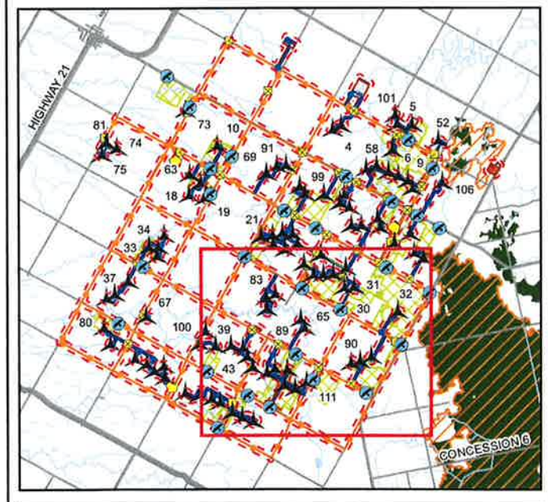
Armow Wind Farm

Common Nighthawk Habitat Monitoring Stations

Map 3

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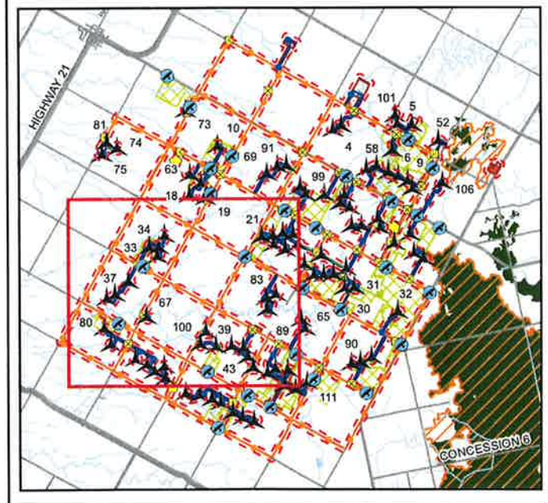
Armow Wind Farm

Common Nighthawk Habitat Monitoring Stations

Map 4

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Project: 1275A Date: May-23-12	NAD83 - UTM Zone 17 Size: 11x17" **1:25,000**

0 500 1,000 1,500 Meters

N