



Penn Energy- Van Dorp
SOLAR ENERGY FACILITY

in the
Municipality of Port Hope
Northumberland County
FIT Application No. FIT-FLTV77L
FIT Contract No. F-001573- SPV-130-505

Natural Heritage Assessment
Site Investigation

Prepared for: Penn Energy Renewables Ltd.
620 Righters Ferry Road, Bala Cynwyd, PA 19004

Submitted by: Niblett Environmental Associates Inc.
PN 10-066

October 2012



Niblett Environmental Associates Inc.
Biological Consultants

October 26, 2012

PN 10-066

Penn Energy Trust
620 Righters Ferry Road
Bala Cynwyd, PA 19004

Attention : Mr. Glen Tomkinson

**RE: Penn Energy- Van Dorp
SOLAR ENERGY FACILITY
in the Municipality of Port Hope, Northumberland County
FIT Application No. FIT-FLTV77L
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**Natural Heritage Assessment
Site Investigation Report**

Dear Mr. Tomkinson:

We are pleased to submit the Site Investigation Report for the proposed Van Dorp solar energy facility as part of the Natural Heritage Assessment for this project.

The report follows the outline provided in the MNR Natural Heritage Assessment Manual.

If there are any comments or questions on the content please contact us.

Yours very truly,

Chris Ellingwood
President and Sr. Terrestrial and Wetland Biologist

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1.0 Introduction

The site investigation is the second step of a Natural Heritage Assessment (NHA) as required under Part IV, Section 26 of the REA Regulation. The purpose of the site investigation is to confirm the presence and boundaries of natural features identified through the Records Review that are within 120 m of the project location (Figures 1 and 2). Field visits on site verify the accuracy of information sources used in the records review and allow for additional natural features to be identified that were not previously found.

Natural features to be identified on site through the records review included riparian habitat/wetland associated with the watercourse and woodland. The records review was sent to the local MNR district office for screening.

2.0 Methodology

Site investigations were completed on June 28th and July 22nd, 2010 and April 14th and September 6th, 2011. A total of 10 hours were spent on site. Table 1 provides a summary of duration and conditions of site visits. Qualifications of personnel are included in Appendix A and field notes can be reviewed in Appendix B.

2.1 Ecological Land Classification

All vegetation communities on and adjacent to the study lands were visited and species composition of dominant species in all layers was determined. Vegetation criterion followed that of MNR's Ecological Land Classification (ELC) for Southern Ontario program (Lee et al., 1998) and was classified to the vegetation type level. Species of conservation concern identified through the records review listed as potentially occurring on the property were searched.

Photographs and/or specimens were taken of plants requiring verification of identification.

National, provincial and regional significance was determined from accepted status lists and published reference lists such as SARA (January 2012), COSEWIC (May 2012),

COSSARO (January 2012) and NHIC (2010). Regional and local lists were also reviewed and included Riley (1989).

2.2 Incidental Wildlife Observations

Incidental observations of birds, mammals, herpetozoa and lepidoptera were made during the site visits on June 28th, July 22nd, 2010 and August 16th and September 6th, 2011. Observations included direct sightings and indirect evidence such as calls, tracks, scat, burrows, dens and browse. Species of conservation concern identified through the records review listed as potentially occurring on the property were searched.

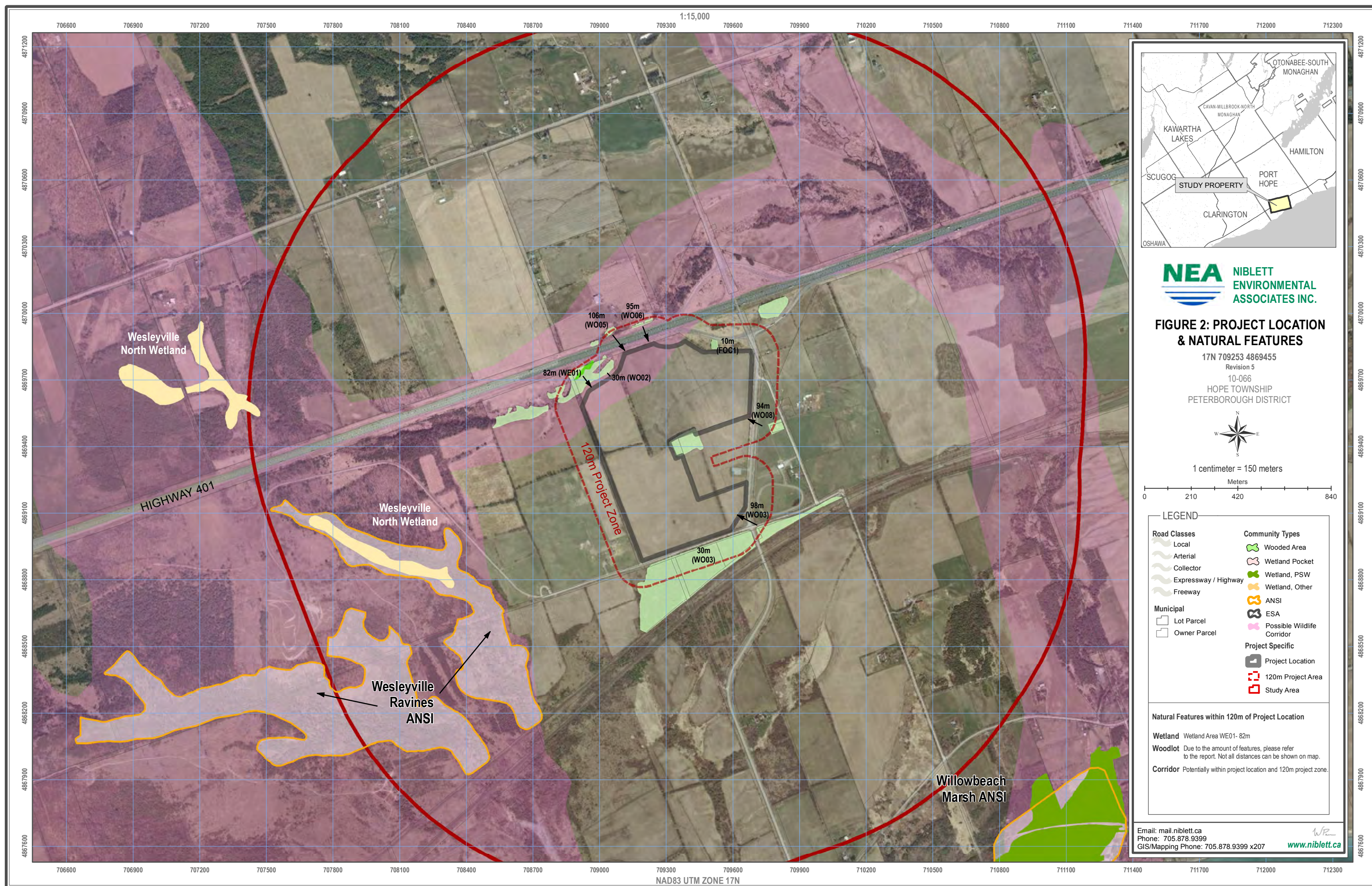
Species significance on a national, provincial, regional, and local level was based on COSEWIC (2012), COSSARO (2012), SARA (2012) and Dobbyn (1994).

Table 1: Site Investigation Methods Summary

Feature Type	Purpose	Date, Time and Duration	Weather conditions	Location	Summary of Methods	Names of investigators
Wetland	Confirmation and boundary delineation	July 22, 2010; 9:30-14:30 (5 hrs)	20.9°C	Northumberland County; Geographic Township of Hope; Part of Lots 23-24 Concession 2.	ELC	Kelly Cordick
Wetland	Amphibian survey	April 14, 2011; 20:30-21:00 (30 min x 2 people); 0% cloud cover; Beaufort wind scale = 2	6.3°C	Survey station at F01 17T 0708923E 4869728N (Figure 1)	Marsh Monitoring Protocol	Ali Giroux & Katherine Ryan
Woodland	Bird Survey	June 28, 2010; 6:30-9:00 (2.5 hrs);	16.5°C	Point count stations B01-B03 (Figure 1)	Point count surveys	Chris Ellingwood
		May 8, 2012	13°C	Point count stations	Point count surveys	Chris Ellingwood

Woodland	Classify vegetation community	July 22, 2010; 9:30-14:30 (5 hrs)	20.9°C	Northumberland County; Geographic Township of Hope; Part of Lots 23-24 Concession 2.	ELC	Kelly Cordick
Woodland	Identify function	September 6, 2011; 14:00 - 15:30 (1.5 hrs)	22 °C	Northumberland County; Geographic Township of Hope; Part of Lots 23-24 Concession 2.	Area search	Chris Ellingwood & Ali Giroux





3.0 Results

The records review identified two natural heritage features, a riparian habitat/wetland associated with the stream that intersects the north-west corner of the property, and a woodland area to the south of the property. Site investigations identified additional natural features not found through the records review.

3.1 Ecological Land Classification (ELC)

The site investigations confirmed that the habitat on the property consisted of agricultural croplands, hedgerows, woodlands and wetland. Additional habitat within 120 m of the project location included cultural plantations, residential areas, cropland and woodland. These areas were classified to the Ecosite level for both upland and wetland habitats (Figure 3). Wetland habitats were not classified using the Southern Ontario Wetland Evaluation System (OWES) because they did not meet the size requirements (at least 2 ha) for evaluation. Although these areas were also too small for ELC vegetation mapping they were described to signify their presence. A description of each community is provided below which outlines the dominant vegetation in each layer. No species of conservation value was observed during field visits.

3.1.1. Wetland Communities

Shallow Marsh (Communities 7 and 8)

Within the study area, two (2) wetland communities were delineated in a low lying area adjacent to the stream and within a ditch associated with Highway 401. Standing water was observed in the early spring and summer to support hydrophilic plants. Vernal pools were not observed that would support amphibian breeding. No candidate significant natural features were found within these wetland pockets.

Forb Mineral Shallow Marsh Type (MAS2-9)

Community 7 (0.12 ha)

Feature ID: WE01

The majority of the creek bed on the subject property was observed to be forb mineral meadow marsh. The creek was approximately one to a maximum of two feet wide in the small section of creek that crossed the northwest corner of the property and flowed under

Highway 401. Community 7 was dominated with a high diversity of herbaceous plant cover including spotted Joe-pye weed (*Eupatorium maculatum*), field horsetail (*Equisetum arvense*), spotted jewelweed (*Impatiens capensis*), fowl meadow grass (*Poa palustris*), sensitive fern (*Onoclea sensibilis*) and hog peanut (*Amphicarpaea bracteata*). A higher abundance of tree and shrub species were found along the edge. Shrub species found included red-osier dogwood (*Cornus stolonifera*), prickly rose (*Rosa acicularis*) and European buckthorn (*Rhamnus cathartica*). Tree species included black ash (*Fraxinus nigra*), white ash (*Fraxinus americana*), eastern white cedar (*Thuja occidentalis*) and crack willow (*Salix fragilis*). Due to the wetland's small size (0.3 acres) no evaluation was conducted as it did not meet the minimum size criteria (2 ha) found in the wetland evaluation manual.



Photo 1: Forb Mineral Meadow (July 22, 2010)

Cattail Mineral Shallow Marsh Type (MAS2-1)

Community 8 (0.07ha)

Feature ID: WE01

This small but dense patch of Cattail was bounded to the north by another small patch of the invasive common reed. Due to the density of cattail marshes, other species tend to find it difficult to establish and diversity tends to be lower than in other meadow marsh types. This was true in comparing Communities 7 and 8, with primarily the shrub and tree component being lost in the cattail marsh. Common cattail (*Typha latifolia*) and narrow-leaved cattail (*Typha angustifolia*) were the dominant emergent vegetation with spotted jewelweed, sensitive fern, water horsetail (*Equisetum fluviatile*), spotted Joe-pye weed and wild mint (*Mentha arvensis*) as associates. Due to the feature's small size (0.3 acres), no evaluation was conducted as it did not meet the minimum size criteria (2ha) found in the wetland evaluation manual.



Photo 2: Cattail marsh (July 22, 2010)

3.1.2 Upland Communities

Within the study area twelve (12) upland vegetation communities were delineated on the subject property and within the 120 m study area. In 2010, the majority of the property was under active agricultural use (corn and barley crops) and in 2011 it was being farmed exclusively with corn crops. Historically, deciduous hedgerows lined the agricultural fields; however, the current landowner who is farming the property removed the hedgerows in order to expand his agricultural use of the property. Forested communities are found in the northwest corner and off property to the northeast, south and within the adjacent parcel belonging to Hydro One. If a candidate significant natural feature is found within a community it is listed under the community heading.



Photo 3: Meadow (July 22, 2010)

Cultural Meadow (CUM1-1) Community 1 (25.49ha)

Community 1 is located in the north-eastern corner of the study area (which is controlled by the Ministry of Transportation) and on the northern boundary of the subject property. The majority of the property was in a disturbed state, resulting in associated scattered old-field meadow communities in various stages of regeneration around the property. The roadside edges and ditches and the outer edges of field/hedgerow interface areas all housed classic old field species. These tend to be early-establishing, or 'pioneer' species, and are often also not native to the area, or 'exotic'. Species composition tends to be primarily herbaceous; with isolated young shrubs or sapling trees only becoming established after the area has been allowed to stabilize for a number of years post-disturbance.

The meadow is regenerating with species typical of a disturbed environment and is dominated by crown vetch (*Coronilla varia*), Canada goldenrod (*Solidago canadensis*), awnless brome grass (*Bromus inermis*), common milkweed (*Asclepias syriaca*) and wild grape (*Vitis riparia*). Shrub and tree species are scattered throughout and include staghorn sumac (*Rhus typhina*), European buckthorn, red-osier dogwood and white ash.

Hedgerows (no applicable ELC code) Community 4

The hedgerows on this property were variable in their width but less so in their species diversity. Those separating the fields to the north and west were wider than those to the south and east, but were still quite limited in the habitat they provided. Species were quite consistent across the property with staghorn sumac, American basswood, trembling aspen (*Populus tremuloides*),



Manitoba maple (*Acer negundo*), apple (*Malus domestica*), wild grape, European buckthorn, Virginia creeper (*Parthenocissus inserta*), wild red raspberry (*Rubus idaeus*) and Alleghany blackberry found consistently throughout. Notable

differences included a change in the hedgerow that connected Community 3 to Community 1 to the north; sugar maple (*Acer saccharum*) and poison ivy (*Rhus rydbergii*) were more prominent in the south end while black cherry (*Prunus serotina*) and swallow-wort (*Cynanchum rossicum*) seemed to dominate in the north. Again the herbaceous component was made up of primarily exotic and/or pioneer species found in Communities 1 and 2. The 2011 field visit in September revealed that the hedgerow in the southern extent of the property that is connected to the central woodlot has been removed. As of early 2012, the landowner (who is currently farming the property) has removed the remainder of the hedgerows in order to increase agricultural production on the property.

3.1.3 Forest Communities

Forest vegetative communities have a tree cover greater than 60% and can be either deciduous, coniferous or mixed depending on the dominance in canopy cover.

Feature ID: WO01

Feature Size: 1.16 ha

Woodlot Feature WO01 was contiguous woodlot with one community type, consisting of a sugar maple deciduous forest.

Dry-Fresh Sugar Maple Deciduous Forest Type (FOD5-1)

Community 3 (1.16 ha)

Community 3 represents the small patch of forest in the center of the project location. The majority of the forest is on Hydro One lands with a small area on the western side belonging to the subject property. The isolated sugar maple woodlot was degraded due to the length and degree of disturbance to the site. There was virtually no connectivity between it and neighbouring habitats of a similar type, and therefore any sensitive species of plants had long since disappeared. Leaf litter was abundant with exposed soil also showing in many areas. Many large trees had blown over, and both of these occurrences are also likely due to the small, isolated nature of the forest patch. The exposure to wind across the open fields desiccates and blows away soils and in severe winds, the increased amount of edge without the typical buffer and support of neighbouring trees results in blowdown.

Sugar maple dominated the canopy with American elm, American beech (*Fagus grandifolia*), black cherry, white ash and ironwood (*Ostrya virginiana*) as associates. The shrub layer contained alternate-leaf dogwood (*Cornus alternifolia*), high bush cranberry

(*Viburnum trilobium*) and purple flowering raspberry (*Rubus odoratus*). Ostrich fern (*Matteuccia struthiopteris*), dwarf enchanter's nightshade (*Circaea alpina*), herb Robert (*Geranium robertianum*), Jack-in-the-pulpit (*Arisaema triphyllum*) and early meadow-rue (*Thalictrum dioicum*) are found in the open ground layer.



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Feature ID: WO02

Feature size: 3.36 ha

Woodlot Feature WO02 contained a variety of community types including mixed forests, a white cedar forest and a poplar deciduous forest and was a total of 4.31 acres in size. This feature existed alongside the watercourse clipping the north-west corner of the property.

Mixed Forest (no applicable ELC code)

Community 5 and 9 (0.92 ha-community 5 and 9)

Community 5 (WO02) is found along the stable top-of-bank in the northwest corner of the property, a less-disturbed though still young (<25 years) regenerating mixed forest community was found. Species variety here was higher than in other areas of the property, likely owing to the closer proximity to naturalized areas of the valley below to act as a seed source as the area was allowed to re-establish. Coniferous trees include eastern white pine (*Pinus strobus*), Scot's pine (*Pinus sylvestris*) and eastern white cedar. trembling aspen, white ash, American elm, black cherry, choke cherry (*Prunus virginiana*) and white birch (*Betula papyrifera*) are among the deciduous tree species. Shrub species include alternate-leaf dogwood, red-osier dogwood, staghorn sumac and hawthorn species (*Crataegus sp.*). Goldenrods, swallow-wort, Canada enchanter's

nightshade (*Circaea lutetiana*), heart-leaved aster, ostrich fern and sensitive fern were found in the ground layer.

Community 9 (WO02) is found north of the wetland communities sandwiched between community 1 and 7. Elements of the marsh community are found within this forest with field horsetail, sensitive fern and hog-peanut. Eastern white cedar, white ash, crack willow and American elm represent the canopy layer. European buckthorn and red-osier dogwood are found in the shrub layer. Wood nettle (*Laportea canadensis*), common strawberry (*Fragaria virginiana*) and poison ivy are present in the ground layer.

Fresh-Moist White Cedar Coniferous Forest Type (FOC4-1)

Community 6 (0.41 ha)

Community 6 is found bordering the stream in the northwest corner of the property. The slope itself was completely forested in dense, mature Eastern White Cedar. Along some portions of the bank it was extremely steep and treacherous, while in others there was a lesser degree of slope. The amount of vegetation and the root systems those plants provided rendered it stable despite the slope in most areas observed. Many large stems were observed, therefore it can be concluded that this community was not disturbed as a result of the creation of the adjacent agricultural fields and highway. Given the needle litter and dense canopy, diversity was low, but this is typical for this type of cedar forest. American elm, European buckthorn, white ash and Manitoba maple (*Acer negundo*) were found as minor associates. Staghorn sumac and alternate-leaf dogwood are found in the shrub layer. The ground layer had very little diversity and consisted of Virginia creeper (*Parthenocissus inserta*), wild grape, wild cucumber (*Echinocystis lobata*) and dwarf enchanter's nightshade.



Photo 8: Cedar coniferous forest (July 22, 2010)

Fresh-Moist Poplar Deciduous Forest Type (FOD8-1) Community 10 (0.32 ha)

At the toe of the cedar-forested slope to the east of the creek was a small pocket of densely regenerating young poplar. Balsam poplar (*Populus balsamifera*) and trembling aspen are the dominant tree species with eastern white cedar as a minor associate. All poplars were very young (approximately 15 years old) and of the same size class; being under 10 cm dbh (diameter at breast height) they were all considered saplings. Sensitive fern, common strawberry, Bebb's sedge (*Carex bebbii*) and Canada goldenrod are present in the ground layer.



Feature ID: WO03

Feature size: 11.17 ha

Woodlot feature WO03 was a total of 11.17 ha in size and was comprised of a mixed forest.

Mixed Forest (no ELC code Applicable) Community 12 (size 11.17ha)_

Community 12 (WO03) is the forest located directly south of the subject property to the south of Mail Road. This community has been identified in schedule B of the Port Hope Official Plan (2009) as a development constraint. The species composition was very similar to that of Community 5 though with a heavier coniferous component.

Plant inventories were done from the roadside and within the road allowance as permission was not sought to enter the private property. An adequate amount of information was obtained through surveys given the project location was a proposed 30 meters away. Tree species were very diverse throughout the canopy and included mature eastern white cedars, eastern hemlock (*Tsuga canadensis*), white ash, eastern white pine, white spruce (*Picea glauca*), American elm, American basswood, green ash, sugar maple and black cherry. Shrub species include staghorn sumac, wild red raspberry, high-bush cranberry and choke cherry. The herbaceous layer was rather sparse, with patches of

growth in areas with a more open canopy. Run-off was evident in areas where species composition represented a moist forest with spotted jewelweed and Jack-in-the-pulpit (*Arisaema triphyllum*). To the east, the forest becomes more deciduous in nature with sugar maple, ironwood and white ash more dominant in the canopy. Ground cover includes Canada goldenrod, wild grape, Pennsylvania sedge (*Carex pensylvanica*), bloodroot (*Sanguinaria canadensis*), mayapple (*Podophyllum peltatum*), zig-zag goldenrod (*Solidago flexicaulis*) and Canada enchanter's nightshade.

**Feature ID: WO04**

Feature size: 0.07 ha

Woodlot Feature WO04 was a small feature (0.07 ha) comprised of only one community type, red pine plantation.

Red Pine Coniferous Plantation
(CUP3-1)

Community 11 (0.07 ha)

Community 11 is found in the northwest corner of the study area. This small pocket located along the stream was coniferous dominant. It was located on the north side of highway 401. As this community was located off property, detailed inventories were not conducted.



plantation

Feature ID: WO05

Feature size: 0.12 ha

Woodlot feature WO05 was a small feature (0.12 ha) also comprised of only a red pine plantation.

Dry-Fresh Pine Coniferous Forest(FOC1)

Community 12 (0.12 ha)

This small pocket of pine was identified from the road as this area was not on the subject parcel (it is located to the north) . It was found adjacent to the stream running south-west to north-east. As this community was located off property, detailed inventories were not conducted.

Feature ID: WO06

Feature size: 0.13 ha

Woodlot feature WO06 was a small feature (0.13 ha) also comprised of only a red pine plantation

Dry-Fresh Pine Coniferous Forest (FOC1)

Community 13 (0.13ha)

This community was similar to woodlot WO05 and was found bordering the northern edge of highway 401. As this community was located off property, detailed inventories were not conducted.

Feature ID: WO07

Feature size: 0.12 ha

Woodlot feature WO07 is also a small feature of 0.12 ha in size. This feature contained only one community type, lowland deciduous forest.

Fresh-Moist Lowland Deciduous Forest(FOC1)

Community 14 (0.12 ha)

This small community existed directly adjacent to the off-ramp from highway 401 to Weslyville Road. Coniferous trees dominated this area with Scott's pine being the dominant species.

Feature ID: WO08

Feature size: 0.72

Mixed Forest (FOM)

Community 2 (0.29 ha)

Woodlot feature WO08 was 0.29 ha in size and was comprised entirely of a mixed forest.

This woodlot located on the west side of Best Road contained a mixture of deciduous and coniferous species. Detailed inventories were not conducted for this area as it was not contained on the subject property.

3.2 Plants

Plant species were analyzed as outlined in Section 2.1 of this report. A list of species recorded within the study area is included in Appendix D. A total of 110 species were identified. No provincially or regionally significant plants or plant communities were found on site that would qualify as significant habitats, significant or rare species habitat or Rare Vegetation And Specialized Habitat For Wildlife.

3.3 Amphibians

Amphibian species were surveyed on the property as part of the significance assessment to determine candidate significant wildlife habitat for rare species or specialized wildlife habitat. No species were heard or observed during field visits and no vernal pools, ponds, long term flooded areas or permanent water bodies were present.

3.4 Incidental Wildlife Observations

The methods used to record incidental wildlife observations are outlined in Section 2.4 of this report. Wildlife observed included three (3) species: white-tailed deer (*Odocoileus virginianus*), common raccoon (*Procyon lotor*) and monarch butterfly (*Danaus plexippus*). The Monarch is listed as special concern both federally and provincially, however it is also commonly observed in the general area. The study area was analyzed to determine if it meets the criteria for candidate significant wildlife habitat (SWH02) for migratory butterfly stopover areas (Table 2) as per the NHAG. The property is within 5 km of Lake Ontario and contains a combination of field and forest; but the habitat within the study area is highly disturbed and common milkweed is present but its abundance is not high. As a result of these factors, it has been concluded that SWH02 not be

considered a candidate for significance and will not be carried forward to the EOS. All other wildlife species found in the study area are common to the region.

3.4.1 Candidate Significant Wildlife Habitat

Table 2 outlines the Candidate Significant Wildlife Habitat in and within 120 meters of the project location boundary (Figure 3).

Table 2: Candidate Significant Wildlife Habitat

Wildlife Habitat	Present in or within 120m of the project location	Rationale	Carried forward to EOS (y/n)
SEASONAL CONCENTRATIONS			
Waterfowl Stopover and Staging Area (Terrestrial)	No	Cultural thickets and meadows with significant spring melt water flooding was absent within 120m of the project location.	No
Waterfowl Stopover and Staging Area (Aquatic)	No	Two small wetland features were present within 120m of the Project Location. Though provided an ELC designation, they are both technically too small to classify as per ELC and OWES criteria. Large wetland features were absent in or within 120m of the Project Location.	No
Shorebird Migratory Stopover Area	No	No ELC Ecosite Codes relevant to this wildlife habitat was present in or within 120m of the Project Location.	No
Raptor Wintering Area	No	The property included a mixture of cultural meadow and deciduous forest. One stick nest was observed within 120m from the project location. Bird surveys identified the nest as housing a red-tailed hawk. Bird surveys identified only one raptor species, red tailed hawk. 17 ha of potential habitat existed for raptor species. No short-eared owls were identified on or adjacent to the project location.	No

Bat Hibernacula	No	There are no caves, abandoned mine shafts, underground foundations, and Karsts or crevice/cave communities within 120m of the project location.	No
Bat Maternity Colonies	No	Two FOD communities (WO01 and part of WO02) exist in or within 120m of the project location boundary. NEA completed investigations through the FOD areas and confirmed that no snag/cavity trees greater than or equal to 25cm were identified within the two areas.	No
Turtle Wintering Areas	No	One small wetland (WE01) of MAS2-1 and MAS2-9 were identified within 120m of the project location. Field investigations identified these areas as seasonally flooded areas surrounding the watercourse. The watercourse would not provide suitable over wintering habitat for turtles.	No
Snake Hibernacula	No	No Talus, Rock Barren, Crevice, Cave or Alvar were identified on site. Rock piles were identified within 120m of the project. No snake species were observed on or within 120m of the property during all field investigations.	No
Colonial-Nesting Bird Breeding Habitat (bank/cliff)	No	Results of the vegetation community surveys determined that there were no eroding banks, sandy hills, borrow pits, steep slopes and sand piles present within 120m of the Project Location.	No
Colonial-Nesting Bird Breeding Habitat (tree/shrub)	No	Results of the vegetation community surveys determined that there were no deciduous or mixed swamps and treed fens. No nests were identified.	No
Colonial-Nesting Bird Breeding Habitat (ground)	No	Results of the vegetation community surveys determined that there were no rocky island or peninsulas within a lake or large river. There is no suitable habitat for the	No

		Brewers Blackbird on or within 120 meters of the subject property and is not within this species habitat range.	
Migratory Butterfly Stopover Area	No	Monarch butterflies (<i>Danaus plexippus</i>) were recorded in the CUM1-1 communities outside of the project location boundary in the north-eastern corner of the study area. The monarch is listed as a special concern both federally and provincially, however it is commonly observed in the general area. The habitat however does not contain 10 ha of suitable field and forest habitat for the monarch butterfly. The project location is within 5km of Lake Ontario.	No
Landbird Migratory Stopover Areas	No	The study area is primarily agricultural fields and contains only two small seasonal wetlands. The habitat variety is not present in order to accommodate for a landbird migratory stopover area	No
Deer Yarding Areas	No	No Deer Yards were identified by MNR.	No
Deer Winter Congregation Areas	No	No Deer Winter Congregation Areas were identified by MNR. All woodlots are less than 100 ha.	No
Wildlife Habitat	Present in or within 120m of the project location	Rationale	Carried forward to EOS (y/n)
RARE VEGETATION AND SPECIALIZED HABITAT FOR WILDLIFE			
Rare Vegetation			
Cliff and Talus Slopes	No	Results of the vegetation community surveys determined that there were no cliff and talus slopes in or within 120m of the project location.	No
Sand Barren	No	Results of the vegetation community surveys determined that there were no sand barrens in or within 120m of the project location.	No
Alvar	No	Results of the vegetation community surveys determined that there were no alvars in or within 120m of the project location.	No

Old Growth Forest	No	Results of the vegetation community surveys determined that there were no woodlands 30ha or greater in size in or within 120m of the project location.	No
Savannah	No	Results of the vegetation community surveys determined that there were no savannahs in or within 120m of the project location.	No
Other rare vegetation communities	No	Results of the vegetation community surveys determined that there were no provincially rare S1, S2 or S3 vegetation communities as listed in Appendix M of the SWHTG in or within 120m of the project location.	No
Specialized Habitat for Wildlife			
Waterfowl Nesting Areas	No	Two small (<0.5ha) wetlands were identified within 120m of each other, however a cluster of three or more small (<0.5ha) wetlands are required.	No
Bald Eagle and Osprey Nesting, Foraging and Perching Habitat	No	No ELC communities related to Bald Eagle and Osprey Nesting, Foraging and Perching Habitat are located directly adjacent to riparian areas.	No
Woodland Raptor Nesting Habitat	No	No interior habitat (10ha) was found within the woodlots located in or within 120m of the project location	No
Turtle Nesting Areas	No	Results of the vegetation community surveys determined that there were no MAM, SAS, SAF, BOO or FEO ELC designations in or within 120m of the project location.	No
Seeps and Springs	No	Results of the vegetation community surveys determined that there were no seeps or springs in or within 120m of the project location.	No
Amphibian Breeding habitat (Woodland)	No	Two wetlands are located within the woodland feature WO02. Wetlands were flooded for only a short period of time in May. The wetlands were not identified as breeding pools therefore the adjacent woodlands would not support woodland breeding habitat.	No

		Amphibian surveys identified no amphibians in or within 120m of the project location boundary.	
Amphibian Breeding Habitat (Wetlands)	No	Two wetlands less than 500m ² were identified. No pools including vernal pools were identified through vegetation community surveys.	No
Wildlife Habitat	Present in or within 120m of the project location	Rationale	Carried forward to EOS (y/n)
HABITAT FOR SPECIES OF CONSERVATION CONCERN			
Marsh Bird Breeding Habitat	No	Results of the vegetation community surveys determined that there were no MAM, SAS, SAF, BOO or FEO ELC designations in or within 120m of the project location. In relation to Green Heron specifically, two marsh wetlands have been identified (MAS2-1 and MAS2-9) within 120m of the project location however no water bodies were associated with these, the two wetlands were only seasonal and would not provide suitable habitat for the green heron	No
Woodland Area-Sensitive Bird Breeding Habitat	No	No woodlots (Forested ELC ecosites) in or within 120m of the project location are greater than 30ha.	No
Open Country Bird Breeding Habitat	No	The cultural meadows (CUM1-1) are do not amount to >30 ha in size in or within the project location.	No
Shrub/Early Successional Bird Breeding Habitat	No	No large field areas succeeding to shrub and thicket habitats >10ha in size are located in or within 120m of the project location.	No
Terrestrial Crayfish	No	Two shallow marshes were identified however were only seasonally flooded. The project location is not located in south-western Ontario, where these species are confined to.	No

Special Concern and Rare Wildlife Species	YES	Results of the vegetation community surveys determined that there were no special concern and provincially rare (S1, S3, SH) plant species. One special concern species was identified on the property, monarch butterfly.	YES
Wildlife Habitat	Present in or within 120m of the project location	Rationale	Carried forward to EOS (y/n)
ANIMAL MOVEMENT CORRIDORS			
Amphibian Movement Corridors	No	No Amphibian Breeding Habitat – Wetland Significant Wildlife Habitat is in or within 120m of the project location.	No
Deer Movement Corridors	No	No deer yarding areas or deer winter congregation areas were identified by MNR.	No



3.5 Natural Features

Additional natural features identified through the site investigation (different than those identified through records review) are summarized in Table 3. These included one unevaluated woodland and wildlife habitat. One candidate significant wildlife habitat were determined based on criteria found in the Natural Heritage and Assessment Guide for Renewable Energy Projects (2011), special concern and rare wildlife species.

**Table 3: Additional natural features within the project location or adjacent lands
(found through site investigations AND records review)**

Feature Type/ID	Methods used to identify the feature	Minimum distance between feature and project location
Woodland-WO04	Field surveys-ELC	102m

4.0 Conclusion

The site investigation confirmed the absence of valleylands, sand barrens, savannah, tallgrass prairie and alvars. It did however, confirm the presence of an unevaluated wetland and woodlands (Figure 1). Table 4 summarizes the results of the site investigation.

The proposed Solar Energy Facility is not expected to interfere with the wetland community in the northwest corner of the property even though the project location is within 120 m. The wetland is too small to be evaluated using OWES and therefore will not be carried forward to the Evaluation of Significance stage of the Natural Heritage Assessment. The woodland community (WO02) adjacent to the watercourse in the northwest corner of the property will be within 120 m from the project location and will be carried forward because of its expanse beyond 120 m of the project area. The woodland south of the property (WO03) will also be carried forth to the next stage as this was identified as a development constraint in the Official Plan and the project location will be within 120 m of the feature. Likewise, WO01 has potential as a linkage that provides habitat between WO03 and WO02 and will be carried forward to the evaluation of significance. WO04, on the other hand, does not meet the minimum size criteria for any of the criterion for significant woodland evaluation and will not be carried forward.

Candidate significant wildlife was found on and within 120m of the property, special concern and rare wildlife species.

Table 4: Results of Site Investigation

Feature ID	Size (ha)	Significance (if known)	Attributes	Composition	Functions	Minimum distance between feature & project location	Carried forward to EOS (y/n)
Wetland-WE01	0.19	Unknown	Forb Meadow Marsh MAS2-9 (community 7); Cattail marsh MAS2-1 (community 8)	High diversity of species. Eastern side dominated by cattails. Contains species with CC of 7 and 8 (Water Horsetail, prickly rose and Black Ash).	Water protection	82	n- the wetland community is too small to be considered for evaluation.
Woodland-WO01	1.16	Unknown	Sugar Maple dominated FOD5-1 (community 3) -little understory growth	Presence of nesting Red-shouldered Hawk.	Red-shouldered Hawk nesting	0 m	y
Woodland-WO02	1.74	Unknown	Mixed forest (community 5); Mixed forest (community 9); Coniferous forest FOC4-1 (community 6); Poplar deciduous forest FOD8-1	Mixed tree species. High diversity of species. Extends along the watercourse beyond 120 m.	Wetland buffer and water protection.	30m	y

Feature ID	Size (ha)	Significance (if known)	Attributes	Composition	Functions	Minimum distance between feature & project location	Carried forward to EOS (y/n)
			(community 10) Mixed forest community 12				
Woodland -WO03	11.17	Unknown	Mixed Forest	Unknown	n/a	98m	y
Woodland-WO04	0.07	Unknown	Pine Coniferous Forest	Dominated by Red Pine (CC=7)	n/a	102m	n
Woodland-WO05-	0.12	Unknown	Pine Coniferous Forest	Pine	n/a	106m	n
Woodland -WO06	0.13	Unknown	Pine Coniferous Forest	Pine	n/a	95m	n
Woodland WO07	0.12	Unknown	Pine Coniferous Forest	Pine	n/a	10m	n
Woodland -WO08	0.29	Unknown	Mixed Forest	Unknown	n/a	94m	n

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Appendix A

Qualifications of Personnel

Chris Ellingwood, President and Sr. Terrestrial and wetland biologistBird survey qualifications

Mr. Ellingwood has conducted breeding bird surveys for numerous projects including wind power and hydroelectric facilities and for over 900 EIS reports. The surveys are conducted using standard surveys techniques. He also participates annually in various volunteer projects, several for over 15 years including the Ontario Breeding Bird Survey, Forest Bird Monitoring Survey, Breeding Bird Census, Ontario Breeding Bird Atlas, Maritime Breeding Bird Atlas, Ontario Marsh Monitoring Program (amphibian and bird surveys), Spring Red-shouldered Hawk and Woodpecker Survey, Nocturnal Owl Survey, Ontario Nest Record Scheme, Christmas Bird Counts, Ontario Rare Breeding Bird Program, Project Feederwatch, Canadian Lakes Loon Survey, Loggerhead Shrike Survey (1987), Couchiching Conservancy volunteer monitoring Shrike Survey, Ontario Grassland Bird Survey, Central Ontario Whip-poor-will survey and the Peregrine Falcon Reintroduction Program.

He acted as Regional Coordinator (Region 14) for the second Ontario Breeding Bird Atlas project (2001-2005) and is currently the volunteer regional coordinator for Bird Studies Canada's Marsh Monitoring Program in the Kawartha Lakes area. He is also the coordinator for the Lindsay Christmas Bird Count.

He regularly conducts workshops for birdwatching, leads nature tours and participates in the Carden Challenge (a 24 hr birding event) in the Carden Plain. He has over 35 years experience as an expert bird watcher.

Kelly Cordick, Terrestrial and wetland biologistVegetation and wetland surveys

Ms. Cordick has over 10 years of experience as a biologist and has worked as a terrestrial and wetland biologist for NEA for 5 years. She has training in the ELC southern Ontario system, the Ontario Wetland Evaluation System and plant biology. As a biologist with NEA, Ganaraska and Toronto Region Conservation Authorities, she has conducted numerous surveys across Ontario in grasslands, woodlands, wetlands and valleylands. She has a strong background in plant identification of Ontario trees, shrubs, groundcover and aquatic/wetland species. She is also a qualified MFTIP evaluator for woodlands on private lands.

Ali Giroux, Terrestrial and wetland biologistAmphibian survey

Ms. Giroux has four years of experience as a biologist and has worked as a terrestrial and wetland biologist for NEA for less than a year. She has experience identifying amphibians in the field by both sight and sound. Ali was a terrestrial monitoring volunteer with the Toronto and Region Conservation Authority (TRCA) in 2006 which involved amphibian surveys on TRCA land. She has also been involved with the Marsh Monitoring Program performing marsh bird and amphibian surveys in the Aylmer area. She has completed many amphibian surveys this past spring with NEA for projects across Southern Ontario and currently, Ali monitors a route for the marsh monitoring program in Peterborough for both amphibian and marsh birds.

Katherine Ryan, Terrestrial and wetland biologistAmphibian survey

Ms. Ryan has two years of experience as a biologist and has worked as a terrestrial and wetland biologist for NEA for almost a year. She began with technical training for the identification of frogs through sight and sound at Fleming College. Katherine worked with Otonabee Region Conservation Authority (ORCA) and completed amphibian surveys on ORCA lands. She has completed many amphibian surveys this past spring with NEA for projects across Southern Ontario and is currently a Marsh Monitoring Volunteer for a route in the Lindsay area monitoring amphibians.

Appendix B

Field Notes



Niblett
Environmental
Associates

Vegetation community form

Van Dorp

Date: June 25/10

Project Name: Penn Energy - Ritt Borden

Project Number:

Community No.

Soils/bedrock:

Sand, clay, silt, organic
gravel, rock, cobble,
shingles, limestone,
granitic

Type: _____

Community type:

deciduous forest
mixed forest
coniferous forest
plantation
old field meadow
swamp/marsh/bog/fen
alvar/ledge/talus slope
cliff/ rock barren/outcrop
sand dune/beach

Community age:

1-Pioneer, 2-young
3-mid-aged, 4-mature
5-old growth 6-regen

Physiography:

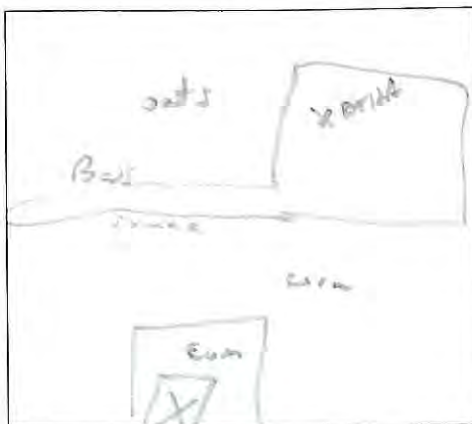
Rolling, hummocky, hilly
valley, floodplain, slope,
bottomland, tableland,
alvar, riverine, shore

Disturbances:

ELC code:

ELC veg. type:

Layer	dbh	% cover	Dominant species
Canopy			ML forest
Understory			①
Groundcover			OPEN FIELD



✓ VMOD	1111	✓ BLTY	1
✓ BARS	111	✓ INBU	1
✓ WOSP	11	✓ CEDW	11
✓ SOSP	1	✓ SOSP	1
✓ TRSW	11	✓ QEV1	11
✓ AMRS	1	✓ ELWP	1
✓ SOSP	1	✓ BCLH	1
✓ EOST	1	✓ GCEL	1
✓ AMCR	1	✓ EAK1	1

Trees

		✓ VESPA	1
		✓ QHCO	1
		✓ RUBC	
		✓ KIDL	

Shrubs

Birds:

Wildlife:

1/4



Niblett Environmental Associates Inc.
Biological Consultants

Use
all entered
Aug 2/10

Community Description Sheet

Project Name: Penn Energy (Van Dorp Parcel)

Date: July 22 Project #: 10-066

Community #: South border
ELC Community type: hedgerow
Location/boundary:



Dominant species (% dbh range)
canopy-

understory-

soil-

Herbaceous

Herbaceous

W. white clover

all

QAL

c. raymond

W. sp. clover

y. asters

c. fleck

b. tree

c. Arnold

Upper's

c. St. John's

ABE

goats

b. clover

bl. camp

c. gold

b. hawk

W. vetch

c. milkweed

Wild bergamot

c. yarrow

W. bush

bit n-s

Wild cham

Tree Species(*=dominant)

Shrub Species

✓ SW

✓ Stag

✓ crab (itch)

✓ W. grape

✓ Dr

✓ Cc

✓ Ce

✓ lilac

✓ E. buck

✓ RDB

✓ ORA

Birds:

✓ AMCH
✓ RWBL

Wildlife:

monarch

3



Niblett Environmental Associates Inc.
Biological Consultants

Community Description Sheet

Project Name: Penn Energy (Van Dorp Parcel)

Date: July 28 Project #: 10-066

Community #: W100167

ELC Community type:

Location/boundary:



Dominant species (% dbh range)
canopy-

understory-

soil-

Herbaceous

Herbaceous

✓ herb wbt

✓ lw encl n-s

✓ p. an

✓ clow mead

✓ JTP

✓ 15 trich

✓

Tree Species(*=dominant)

Shrub Species

✓ Mh

✓ w grape

✓ Bd

✓ c. Blum

✓ Δw

✓ Euro buch

✓ Δw

✓ p-f ad

✓ Id

✓ Galleg. blackb

✓ Bc

✓ Cc

✓ Ch

✓ HBC

✓ Creeper

✓ ΔLW

Mh ↑

Cc ↓

✓ little herbaceous

lots of dead lft

some lg trees blank

over

Birds:

Wildlife:

✓ WIDE

4



Niblett Environmental Associates Inc.
Biological Consultants

Community Description Sheet

Project Name: Penn Energy (Van Dorp Parcel)

Date: July 28 Project #: 10-066

Community #:

ELC Community type:

Location/boundary:



Dominant species (% dbh range)
canopy-

understory-

soil-

Herbaceous

Herbaceous

✓ C. arbutus
✓ L. lucidum n-s

Tree Species(*=dominant)

Shrub Species

✓ M. h. (south end) ✓ S. tax
✓ F. (?) by bus n. end ✓ W. grape
✓ D. w. ✓ P. (crabapple)
✓ C. h. (north end) ✓ F. buckleyi
✓ W. ✓ W. + P. h.
✓ A. p. ✓ L. l. a. c.

✓ edg. s.
✓ W. n. s.
✓ A. s. v. bad in n. end

✓ L. l. a. c.
✓ S. tax
✓ W. grape
other weeds

Birds:

✓ M. D. D.

Wildlife:

✓ A. C. C.

4



Niblett Environmental Associates Inc.
Biological Consultants

Community Description Sheet

Project Name: Penn Energy (Van Dorp Parcel)

Date: July 22 Project #: 10-066

hedgerow

Community #: woodlot @ centre of prop (only portions are within subject property)
ELC Community type: woodlot
Location/boundary: woodlot @ centre of prop (only portions are within subject property)



Dominant species (% dbh range)

canopy- not on subject property
understory-

soil-

Herbaceous

Herbaceous

✓ hilt n-s

✓ AB 9

✓ V. au

✓ d. ench n-s

✓ c. milk

✓ gold

✓ V. this

✓ blue verv

✓ r. cing

✓ w. plant

✓ sp. sun this

✓ 30/4

✓ 5/1

✓ w. calyx

✓ lush 5 thumb

✓ 5 golden

✓ G. r. wood

✓ G. r. wood

✓ G. r. wood

✓ V. swt chv

Tree Species(*=dominant)

Shrub Species

✓ Bd

✓ 5/1

✓ Mh

✓ R2D

✓ apple

✓ W. R. Ras

✓ Idl

✓ allee black

✓ Ch

✓ w. gnar

✓

✓ E. bruch

✓

✓ See PIX -> shrub

✓

✓ w. berries - H. 2/4

✓

✓

✓

✓

✓

✓

✓

✓

✓

✓

Birds:

✓ MODO

Wildlife:

✓ BLJA

5



Niblett Environmental Associates Inc.
Biological Consultants

Community Description Sheet

Project Name: Penn Energy (Van Dorp Parcel)

Date: July 22 Project #: 10-066

Community #:

ELC Community type:

Location/boundary:



Dominant species (% dbh range)
canopy-

understory-

soil-

Herbaceous

Herbaceous

Tree Species(*=dominant)

Shrub Species

✓ Ph

✓ Cb

✓ Co

✓ Tren

✓ Sw

✓ Trem

✓ Ew

✓ Bw

✓ Ps

✓ Star

✓ wpt ras

✓ w grape

✓ allec

✓ Creoked

✓ cc

✓ ALD

✓ o-f ras

✓ h200

✓ hawk

✓ holled

✓ horse

✓ v. au

✓ pens

edge comp ind. (unl)

✓ Taster

✓ 314 zug

✓ lotsa tasters

✓ timothy

✓ 50-5

g-rods

Birds:

✓ SNCR

✓ EALC

Wildlife:

7

KAC



Niblett Environmental Associates Inc.
Biological Consultants

Community Description Sheet

Project Name: Penn Energy (Van Dorp Parcel)

Date: July 22, 2015 Project #: 10-066

Community #: 502B MIN MAS

ELC Community type:

Location/boundary:



Dominant species (% dbh range)
canopy-

understory-

soil-

Herbaceous

Herbaceous

JAN

✓ fringed lo

✓ SPM

✓ r. straub

✓ p. rich

✓ w. bas

✓ sp. j. herb

✓ r. st. 10ms

✓ H. A-5

✓ winter horse

✓ ROK

✓ purple-td will. herb

✓ w. c. l.

✓ w. c. l.

Tree Species (*=dominant)

Shrub Species

✓ C

✓ w. grape

✓ CRACK

✓ PI

✓ KW

✓ E. huch

✓ SW

✓ pr. rose

✓ AB

✓ pr. rose

✓ w. c. l.

✓ w. c. l.

✓ w. c. l.

✓ w. c. l.

✓ w. c. l.

✓ w. c. l.

✓ w. c. l.

✓ w. c. l.

✓ w. c. l.

✓ w. c. l.

✓ w. c. l.

✓ w. c. l.

✓ w. c. l.

✓ purple-td willow-herb

hairy, single lf, finely tilted

Birds:

Wildlife:

pink flow, 4 petals, indent @ top of petal (8 petals?)

11



Niblett Environmental Associates Inc.
Biological Consultants

Community Description Sheet

Project Name: Penn Energy (Van Dorp Parcel)

Date: July 11 Project #: 10-066

Community #:

ELC Community type:

Location/boundary:



Dominant species (% dbh range)
canopy-

understory-

soil-

Herbaceous

Herbaceous

✓ cow v
✓ l-s aster
✓ b & c
✓ ① AL

Tree Species(*=dominant)

Shrub Species

mostly cum l-l w crown-vetch ✓ c-drilled
✓ w grape ✓ c. st john ✓ c this
✓ ① w ✓ Stag
✓ c
✓ shrub
✓ ROD

Birds:

Wildlife:

12



NEA Niblett Environmental Associates Inc.
Biological Consultants

Community Description Sheet

Project Name: Penn Energy (Van Dorp Parcel)

Date: July 22 Project #: 10-066

Community #: woodlot s. of FOM
ELC Community type: prop.
Location/boundary: prop.



Dominant species (% dbh range)
canopy-

understory-

soil-

Herbaceous

Herbaceous

Tree Species(*=dominant)

Shrub Species

✓ Pw
✓ Sw
✓ Aw
✓ apple
✓ Ew
✓ trem
✓ P o b
✓ B d

✓ Cl
✓ W grape
✓ stay
✓ F buel
✓ hawth
✓ R O D

Birds:

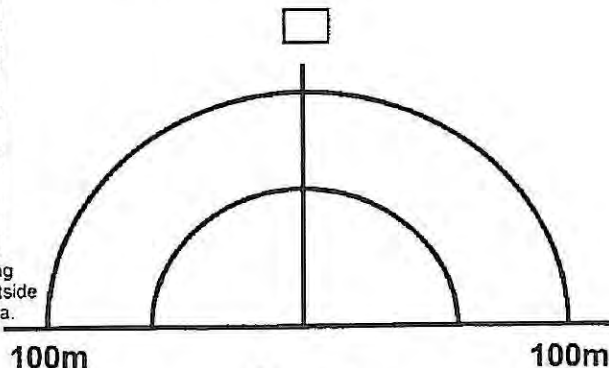
Wildlife:

10-0606

Species	In*	Out*
AMTO		
BCFR		
BULL		
CHFR		
CGTR		
FOTO		
GRTR		
GRFR		
MIFR		
NLFR		
PIFR		
SPPE		
WOFR		

* Check if species calling from inside and/or outside 100-metre station area.

Station H



Amphibian Data Form

Return by 31 July to Aquatic Surveys Officer, Bird Studies Canada, P.O. Box 160, Port Rowan, Ontario, Canada, N0E 1M0

Please write legibly (in pen).

Observer: KR, AG
Route name: Van Doo P

Date (dd-mm-yr): 14/04/11	Visit No.: 1	Start time (24 hr clock): 20:35
Beaufort Wind Scale No.: 2	Cloud Cover (10ths): 0	Air Temp (°C or °F): 6
Precipitation (check one): None/dry: <input checked="" type="checkbox"/> Damp/Haze/Fog: <input type="checkbox"/> Drizzle: <input type="checkbox"/> Rain: <input type="checkbox"/>		
Has the habitat on your route changed from previous years: Yes: <input type="checkbox"/> No: <input checked="" type="checkbox"/> Not applicable: <input type="checkbox"/>		
Remarks: Background noise - high. No frogs heard.		

CALL LEVEL CODES
Code 1: Calls not simultaneous, number of individuals can be accurately counted
Code 2: Some calls simultaneous, number of individuals can be reliably estimated
Code 3: Full chorus, calls continuous and overlapping, number of individuals cannot be reliably estimated

Vegetation community form

Date: Aug 16/11

Project Name: Van Dorp

Project Number:

Community No.

Soils/bedrock:
Sand, clay, silt, organic
gravel, rock, cobble.
shingles, limestone,
granitic

Community type:

deciduous forest
mixed forest
coniferous forest
plantation
old field meadow
swamp/marsh/bog/fen
alvar/ledge/talus slope
cliff
sand dune/beach

Community age:

1-Pioneer, 2-young
3-mid-aged, 4-mature
5-old growth

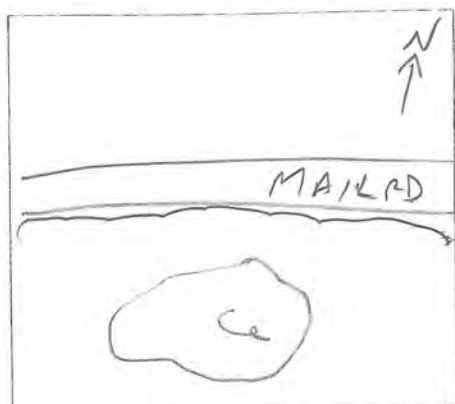
Physiography:

Rolling, hummocky,
valley, floodplain, slope,
bottomland, tableland,
alvar, riverine, shore

ELC code:

ELC veg. type: dnf ash/ce deciduous forest

Layer	dbh	% cover	Dominant species
Canopy			Ag >> Mh / Ce
Understory			
Groundcover			



sp. jaralwood
cedar
C. goldman
Queen Anne lace
p. fl. campb.
Viny maple
w. grape
fern maple

red maple
honey maple
p. irish
jack pine
p. fl. seed
p. fl. seed

Trees

Ag	Ce
Mh	Mh
Or	Aw
Ar	Beil.
Cb	Mr.
	Pu

Shrubs

w. red maple
sumac
h. b. maple
ch. dogwood

Notes:

INBU AGCO
SOSP AARU
DINO

Sept 6/11 2:00pm

Vernal P - partly cloudy 22°

woodlot - S - mainly open

large cedars, hemlock, ash, basswood, cottonwood
40 m dbh (40 dbh)

ground layer sparse, only green where openings

cotton growth

- fine sand

- 1 m off - snake

- mixed forest, lots of dead woody debris

- raccoon

- wet sp. in vernal pools

- buckthorn in understory

- encinitas nightshade, herb robust, j-in-p.

rasp, strawberry, m-l vib.

- some cutting grass, snags along roadside

- mixed air photos, read on S side - on western side

- mix in present photo. (each pile @ end)

ichne ag - com

flicker eastern extent of woodlot - more deciduous

hairy woodpecker, zig-zag, 100% maple, yellow

sugar maple - 57 dbh

wh. ash - 87 dbh - raccoons using it.

Some dumping of garbage

- no woodpecker left or little left leading to
woodpecker forest

Fields -

ragweed, pigweed, broad grass, lady's thumb
switchgrass, foxtail, barnyard grass, bterock piles - along fence row - disturbed - mulling
various tracks

Wedgwood - Sugar corn, maple, blackberry, apple

Some rock piles - 50 - 60 m from road

middle woodlot

- mature trees - maple

New plants

hairy milkweed + milkweed in field (S edge)

→ small caterpillars on base
long

lots of vegen - many sm. maple saplings

nest in maple - by fence row - tree dbh 52 cm

v-clean ground base of tree, little white wax

feathers - wasp 503

- black-throated blue warbler

sugar, w. ash, basswood

- blackbird, downy yellow violet

lots of vegen.

good migration spot for birds

Ontario Breeding Bird Atlas - Point Count Form - South Central



Zone		Block		Square		Atlas Number		Atlas Name		Year	
								VAN DORP SOLAR		2002	

Point A Designated Number: A UTM (if not designated point) <input type="radio"/> On Road <input type="radio"/> GPS <input type="radio"/> NAD83 <input checked="" type="radio"/> Off Road <input type="radio"/> Map <input type="radio"/> NAD27 Mon: 5 / 08 Day: 07 : 30 Start Time (24-hr): 07 : 30 UTM Easting: UTM Northing: Habitat: Class Sub: Structure (Optional): +13°C Modification (Optional): p. cloudy 1st: 2nd: wind W-1			Point B Designated Number: UTM (if not designated point) <input type="radio"/> On Road <input type="radio"/> GPS <input type="radio"/> NAD83 <input type="radio"/> Off Road <input type="radio"/> Map <input type="radio"/> NAD27 Mon: / Day: Start Time (24-hr): : UTM Easting: UTM Northing: Habitat: Class Sub: Structure (Optional): Modification (Optional): 1st: 2nd: 			Point C Designated Number: UTM (if not designated point) <input type="radio"/> On Road <input type="radio"/> GPS <input type="radio"/> NAD83 <input type="radio"/> Off Road <input type="radio"/> Map <input type="radio"/> NAD27 Mon: / Day: Start Time (24-hr): : UTM Easting: UTM Northing: Habitat: Class Sub: Structure (Optional): Modification (Optional): 1st: 2nd: 		
---	--	--	--	--	--	--	--	--

Species Name	Point A		Point B		Point C		Species Name	Point A		Point B		Point C	
	<100m	>100m	<100m	>100m	<100m	>100m		<100m	>100m	<100m	>100m	<100m	>100m
Killdeer							Common Yellowthroat						
Ring-billed Gull							Scarlet Tanager						
Rock Dove							Chipping Sparrow						
Mourning Dove			0.3		"		Savannah Sparrow			"		"	
Downy Woodpecker							Song Sparrow	1				"	
Northern Flicker							Swamp Sparrow						
Eastern Wood-Pewee							White-throated Sparrow						
Least Flycatcher							Northern Cardinal						
Eastern Phoebe							Rose-breasted Grosbeak						
Great Crested Flycatcher							Indigo Bunting						
Eastern Kingbird	1						Bobolink						
Warbling Vireo							Red-winged Blackbird	"		"		"	
Red-eyed Vireo							Eastern Meadowlark	0.1					
Blue Jay							Common Grackle	"				"	
American Crow	"						Brown-headed Cowbird						
Tree Swallow	"		"		"		Baltimore Oriole						
Barn Swallow	0.8		0.1		0.4		American Goldfinch	"					
Black-capped Chickadee							House Sparrow						
White-breasted Nuthatch							Additional species or species with > 100 individuals						
House Wren													
Veery							Species Name	Species Code	Point A	Point B	Point C		
Wood Thrush								HOLA		"			
American Robin			1					WCSP		1			
Gray Catbird								CLSW				1	
Brown Thrasher													
European Starling													
Cedar Waxwing													
Yellow Warbler			1		"								
Black-and-white Warbler													
American Redstart													
Ovenbird													
Northern Waterthrush													

Ontario Breeding Bird Atlas - Point Count Form - South Central



Zone		Block	Square	Atlasser Number	Atlasser Name	Year
				10-066	VAN DORP SOLAR	2012

Point A Designated Number: ① UTM (if not designated point): <input type="radio"/> On Road <input type="radio"/> GPS <input type="radio"/> NAD83 <input checked="" type="radio"/> Off Road <input type="radio"/> Map <input type="radio"/> NAD27 Mon: 5 Day: 08 UTM Easting: UTM Northing: Start Time (24-hr): 07:30 Habitat: Class Sub. Structure (Optional): Modification (Optional): 13°C, wind-W-(1) 1st: 2nd: p. cloudy	Point B Designated Number: ② UTM (if not designated point): <input type="radio"/> On Road <input type="radio"/> GPS <input type="radio"/> NAD83 <input checked="" type="radio"/> Off Road <input type="radio"/> Map <input type="radio"/> NAD27 Mon: / Day: / UTM Easting: UTM Northing: Start Time (24-hr): : Habitat: Class Sub. Structure (Optional): Modification (Optional): 1st: 2nd:	Point C Designated Number: ③ UTM (if not designated point): <input type="radio"/> On Road <input type="radio"/> GPS <input type="radio"/> NAD83 <input checked="" type="radio"/> Off Road <input type="radio"/> Map <input type="radio"/> NAD27 Mon: / Day: / UTM Easting: UTM Northing: Start Time (24-hr): : Habitat: Class Sub. Structure (Optional): Modification (Optional): 1st: 2nd:
---	---	---

Species Name	Point A		Point B		Point C		Species Name	Point A		Point B		Point C		
	<100m	>100m	<100m	>100m	<100m	>100m		<100m	>100m	<100m	>100m	<100m	>100m	
Killdeer	1						Common Yellowthroat	1				1		
Ring-billed Gull							Scarlet Tanager							
Rock Dove							Chipping Sparrow							
Mourning Dove	11				1		Savannah Sparrow	11				1		
Downy Woodpecker							Song Sparrow	11				1		
Northern Flicker							Swamp Sparrow							
Eastern Wood-Pewee							White-throated Sparrow							
Least Flycatcher							Northern Cardinal							
Eastern Phoebe							Rose-breasted Grosbeak							
Great Crested Flycatcher							Indigo Bunting							
Eastern Kingbird							Bobolink							
Warbling Vireo					1		Red-winged Blackbird	11		1		11		
Red-eyed Vireo							Eastern Meadowlark							
Blue Jay							Common Grackle	11		1				
American Crow							Brown-headed Cowbird	11						
Tree Swallow					111		Baltimore Oriole							
Barn Swallow					1		American Goldfinch					1		
Black-capped Chickadee							House Sparrow							
White-breasted Nuthatch							Additional species or species with > 100 individuals							
House Wren							Species Name		Point A		Point B		Point C	
Veery							Species Code	<100m	>100m	<100m	>100m	<100m	>100m	
Wood Thrush							Horned Lark	HOLA	1				1	
American Robin	1		1					WCSA	1					
Gray Catbird														
Brown Thrasher														
European Starling														
Cedar Waxwing	11													
Yellow Warbler	111													
Black-and-white Warbler														
American Redstart														
Ovenbird														
Northern Waterthrush														

APPENDIX II Project Bird Status Report

Bird species observed by NEA are listed in the order followed the American Ornithologists' Union (AOU) Check-list of North American birds (7th edition, 1999, 47th Supplement). Common and scientific nomenclature are based on those used by AOU. Any significant status for a species on national and provincial lists is displayed as well as those from relevant regional lists.

List Status :	END - endangered	A wildlife species facing imminent extirpation or extinction.
	END-R -endangered regulated	A wildlife species facing imminent extirpation or extinction in Ontario which has been regulated under Ontario's Endangered Species Act (ESA).
	THR - threatened	A wildlife species likely to become endangered if limiting factors are not reversed.
	SC - special concern	A wildlife species that may become threatened or an endangered species because of a combination of biological characteristics and identified threats.
	YES - Area Sensitive	A wildlife species that requires large areas of suitable habitat in order to sustain their population numbers.
	* Other status levels are not displayed	

List Sources:	COSEWIC	The Committee on the Status of Endangered Wildlife in Canada, May 2012.
	COSSARO	The Committee on the Status of Species at Risk in Ontario, January 2012.
	SARA	Species At Risk Act, Schedule 1, Government of Canada, 2011.
	Area Sensitive	Significant Wildlife Technical Guide, Appendix C, OMNR, Oct. 2000
	Region 6	Northern Ontario Wetland Evaluation Appendix 11B, February 2000

Breeding Status: B -species observed in breeding season in suitable habitat with some evidence of breeding
(Observed By NEA) (confirmed, probable or possible as per Ontario Breeding Bird Atlas, 2002).

F -species observed in breeding season but no evidence of breeding or suitable nest sites available
on the study site (includes flyovers, migrants and foraging colonial breeders).

M -species observed outside of breeding season for that species and in area outside of the known
breeding range for that species.

STATUS LISTS

Common Name	Scientific Name	Observed Breeding Status	Area						
			COSEWIC	COSSARO	SARA	Sensitive	Region 6		
Red-tailed Hawk	<i>Buteo jamaicensis</i>	B				No			
Killdeer	<i>Charadrius vociferus</i>	B				No			
Mourning Dove	<i>Zenaida macroura</i>	B				No			
Downy Woodpecker	<i>Picoides pubescens</i>	B				No			
Northern Flicker	<i>Colaptes auratus</i>	B				No			
Eastern Wood-Pewee	<i>Contopus virens</i>	B				No			
Great Crested Flycatcher	<i>Myiarchus crinitus</i>	B				No			
Eastern Kingbird	<i>Tyrannus tyrannus</i>	B				No			
Warbling Vireo	<i>Vireo gilvus</i>	B				No			
Red-eyed Vireo	<i>Vireo olivaceus</i>	B				No			
Blue Jay	<i>Cyanocitta cristata</i>	B				No			
American Crow	<i>Corvus brachyrhynchos</i>	B				No			
Horned Lark	<i>Eremophila alpestris</i>	B				No			
Tree Swallow	<i>Tachycineta bicolor</i>	B				No			
Cliff Swallow	<i>Petrochelidon pyrrhonota</i>	B				No			
Barn Swallow	<i>Hirundo rustica</i>	B	THR	THR		No			
Black-capped Chickadee	<i>Poecile atricapillus</i>	B				No			
American Robin	<i>Turdus migratorius</i>	B				No			

STATUS LISTS

Common Name	Scientific Name	Observed Breeding Status	Area						
			COSEWIC	COSSARO	SARA	Sensitive	Region 6		
European Starling	<i>Sturnus vulgaris</i>	B				No			
Cedar Waxwing	<i>Bombycilla cedrorum</i>	B				No			
Yellow Warbler	<i>Dendroica petechia</i>	B				No			
Black-throated Blue Warbler	<i>Dendroica caerulescens</i>	B				Yes			
Common Yellowthroat	<i>Geothlypis trichas</i>	B				No			
Chipping Sparrow	<i>Spizella passerina</i>	B				No			
Vesper Sparrow	<i>Pooecetes gramineus</i>	B				No			
Savannah Sparrow	<i>Passerculus sandwichensis</i>	B				Yes			
Song Sparrow	<i>Melospiza melodia</i>	B				No			
White-crowned Sparrow	<i>Zonotrichia leucophrys</i>	M				No			
Indigo Bunting	<i>Passerina cyanea</i>	B				No			
Red-winged Blackbird	<i>Agelaius phoeniceus</i>	B				No			
Eastern Meadowlark	<i>Sturnella magna</i>	B	THR	THR		No			
Common Grackle	<i>Quiscalus quiscula</i>	B				No			
Brown-headed Cowbird	<i>Molothrus ater</i>	B				No			
American Goldfinch	<i>Carduelis tristis</i>	B				No			
House Sparrow	<i>Passer domesticus</i>	B				No			

NO. of SPECIES: 35
BREEDING SPECIES: 34
2 2 0 2 0 0 0

BIRD SPECIES WITH SIGNIFICANT STATUS

Appendix C

Plant Species List

APPENDIX C Plant Species by Community

Families and genera for the plant species found in this appendix are listed in taxonomic order. The species are listed alphabetically by scientific name within each genus.

Three standard reference works were used for the botanical nomenclature and taxonomy (Newmaster et. al., 1998; Gleason and Cronquist 1991; Voss 1980; 1985). Other published works for botanical names included; ferns (Cody and Britton 1989); grasses (Dore and McNeill 1980); orchids (Whiting and Catling 1986); shrubs (Soper and Heimbürger 1982) and trees (Farrar 1995).

Total: Number of communities where plant species was recorded

X : Plant species recorded

Common Name	Scientific Name	Total	COMMUNITY NUMBER											
			1	2	3	4	5	6	7	8	9	10	11	12
HORSETAIL FAMILY	<i>EQUISETACEAE</i>													
field horsetail	<i>Equisetum arvense</i>	3					X		X		X			
water horsetail	<i>Equisetum fluviatile</i>	2							X	X				
WOOD FERN FAMILY	<i>DRYOPTERIDACEAE</i>													
ostrich fern	<i>Matteuccia struthiopteris</i>	4			X		X		X		X			
sensitive fern	<i>Onoclea sensibilis</i>	6				X	X		X	X	X	X		
PINE FAMILY	<i>PINACEAE</i>													
white spruce	<i>Picea glauca</i>	2				X								X
red pine	<i>Pinus resinosa</i>	1											X	
eastern white pine	<i>Pinus strobus</i>	2					X							X
Scot's pine	<i>Pinus sylvestris</i>	1					X							
eastern hemlock	<i>Tsuga canadensis</i>	1												X

		COMMUNITY NUMBER												
Common Name	Scientific Name	Total	1	2	3	4	5	6	7	8	9	10	11	12
CYPRESS FAMILY	CUPRESSACEAE													
eastern white cedar	Thuja occidentalis	6				X	X	X	X		X	X		
BUTTERCUP FAMILY	RANUNCULACEAE													
early meadow rue	Thalictrum dioicum	1			X									
BARBERRY FAMILY	BERBERIDACEAE													
mayapple	Podophyllum peltatum	1												X
POPPY FAMILY	PAPAVERACEAE													
bloodroot	Sanguinaria canadensis	1												X
ELM FAMILY	ULMACEAE													
American elm	Ulmus americana	7		X	X		X	X	X		X			X
HEMP FAMILY	CANNABACEAE													
cannabis	Cannabis sativa	1							X					
NETTLE FAMILY	URTICACEAE													
wood nettle	Laportea canadensis	2							X		X			
BEECH FAMILY	FAGACEAE													
American beech	Fagus grandifolia	1			X									
red oak	Quercus rubra	1				X								
BIRCH FAMILY	BETULACEAE													
white birch	Betula papyrifera	1					X							
ironwood	Ostrya virginiana	3			X	X								X
PINK FAMILY	CARYOPHYLLACEAE													
white campion	Silene latifolia	1				X								
bladder campion	Silene vulgaris	1	X											
BUCKWHEAT FAMILY	POLYGONACEAE													
lady's thumb	Polygonum persicaria	1				X								
ST. JOHN'S-WORT FAMILY	GUTTIFERAE													
common St. John's-wort	Hypericum perforatum	3	X			X			X					
LINDEN FAMILY	TILIACEAE													
American basswood	Tilia americana	3			X	X								X

		COMMUNITY NUMBER												
Common Name	Scientific Name	Total	1	2	3	4	5	6	7	8	9	10	11	12
VIOLET FAMILY	VIOLACEAE													
downy yellow violet	Viola pubescens	1												X
GOURD FAMILY	CUCURBITACEAE													
wild cucumber	Echinocystis lobata	3						X	X		X			
WILLOW FAMILY	SALICACEAE													
balsam poplar	Populus balsamifera	2										X		X
trembling aspen	Populus tremuloides	5		X		X	X					X		X
crack willow	Salix fragilis	3	X						X		X			
PRIMROSE FAMILY	PRIMULACEAE													
fringed loosestrife	Lysimachia ciliata	2							X	X				
ROSE FAMILY	ROSACEAE													
hawthorn species	Crataegus spp.	2					X							X
common strawberry	Fragaria virginiana	4							X		X	X		X
yellow avens	Geum aleppicum	4	X		X	X	X							
apple	Malus domestica	2				X								X
rough cinquefoil	Potentilla norvegica	1				X								
Canada plum	Prunus nigra	1			X									
black cherry	Prunus serotina	3			X	X	X							
choke cherry	Prunus virginiana	5	X		X	X	X							X
prickly rose	Rosa acicularis	1							X					
Alleghany blackberry	Rubus allegheniensis	3			X	X	X							
wild red raspberry	Rubus idaeus	3				X	X							X
purple-flowering raspberry	Rubus odoratus	3			X		X							X

		COMMUNITY NUMBER												
Common Name	Scientific Name	Total	1	2	3	4	5	6	7	8	9	10	11	12
PEA FAMILY	FABACEAE													
hog-peanut	Amphicarpa bracteata	2							X		X			
crown-vetch	Coronilla varia	1	X											
bird's-foot trefoil	Lotus corniculatus	1	X											
alfalfa	Medicago sativa ssp. Sativa	1	X											
white sweet-clover	Melilotus alba	1	X											
yellow sweet-clover	Melilotus officinalis	1				X								
red clover	Trifolium pratense	1	X											
cow vetch	Vicia cracca	2	X			X								
EVENING PRIMROSE FAMIL	ONAGRACEAE													
dwarf enchanter's nightshade	Circaea alpina	3			X	X		X						
Canada enchanter's nightshade	Circaea lutetiana L. ssp.canadensis	2					X							X
purple-veined willow-herb	Epilobium coloratum	1							X					
DOGWOOD FAMILY	CORNACEAE													
alternate-leaf dogwood	Cornus alternifolia	3			X		X	X						
red-osier dogwood	Cornus stolonifera	6	X			X	X		X		X			X
BUCKTHORN FAMILY	RHAMNACEAE													
European buckthorn	Rhamnus cathartica	7	X		X	X		X	X		X			X
GRAPE FAMILY	VITACEAE													
Virginia creeper	Parthenocissus inserta	3			X		X	X						
wild grape	Vitis riparia	9	X	X	X	X	X	X	X		X			X
MAPLE FAMILY	ACERACEAE													
Manitoba maple	Acer negundo	2				X		X						
black maple	Acer saccharum ssp. nigrum	1			X									
sugar maple	Acer saccharum ssp.saccharum	3			X	X								X
CASHEW FAMILY	ANACARDIACEAE													
staghorn sumac	Rhus typhina	6	X	X		X	X	X						X
WOOD-SORREL FAMILY	OXALIDACEAE													
European wood-sorrel	Oxalis stricta	1				X								

Common Name	Scientific Name	Total	COMMUNITY NUMBER											
			1	2	3	4	5	6	7	8	9	10	11	12
GERANIUM FAMILY	GERANIACEAE													
herb Robert	Geranium robertianum	2			X									X
TOUCH-ME-NOT FAMILY	BALSAMINACEAE													
spotted jewelweed	Impatiens capensis	3					X		X	X				
CARROT FAMILY	APIACEAE													
Queen-Anne's lace	Daucus carota	1	X											
MILKWEED FAMILY	ASCLEPIADACEAE													
common milkweed	Asclepias syriaca	2	X			X								
swallow-wort	Cynanchum rossicum	2				X	X							
NIGHTSHADE FAMILY	SOLANACEAE													
bitter nightshade	Solanum dulcamara	5	X			X	X		X		X			
MORNING-GLORY FAMILY	CONVOLVULACEAE													
field bindweed	Convolvulus arvensis	1				X								
BORAGE FAMILY	BORAGINACEAE													
Viper's bugloss	Echium vulgare	1	X											
VERVAIN FAMILY	VERBENACEAE													
blue vervain	Verbena hastata	3				X			X	X				
MINT FAMILY	LAMIACEAE													
American water-horehound	Lycopus americanus	2							X	X				
wild mint	Mentha arvensis	2							X	X				
wild bergamot	Monarda fistulosa	1	X											
wild basil	Satureja vulgaris	4	X			X			X		X			
PLANTAIN FAMILY	PLANTAGINACEAE													
broad-leaved plantain	Plantago major	1				X								
OLIVE FAMILY	OLEACEAE													
white ash	Fraxinus americana	8	X		X	X	X	X	X		X			X
black ash	Fraxinus nigra	1							X					
green ash	Fraxinus pennsylvanica var. subintegerr	1												X
lilac	Syringa vulgaris	1				X								

		COMMUNITY NUMBER												
Common Name	Scientific Name	Total	1	2	3	4	5	6	7	8	9	10	11	12
FIGWORT FAMILY	SCROPHULARIACEAE													
butter-and-eggs	Linaria vulgaris	1	X											
common mullein	Verbascum thapsus	2	X			X								
MADDER FAMILY	RUBIACEAE													
marsh bedstraw	Galium palustre	1							X					
HONEYSUCKLE FAMILY	CAPRIFOLIACEAE													
maple-leaved viburnum	Viburnum acerifolium	1												X
high bush cranberry	Viburnum trilobium	2			X	X								
ASTER FAMILY	ASTERACEAE													
common yarrow	Achillea millefolium	2	X			X								
common ragweed	Ambrosia artemisiifolia	1	X											
great burdock	Arctium lappa	1				X								
heart-leaved aster	Aster cordifolius	2		X			X							
purple-stemmed aster	Aster puniceus	2	X			X								
Canada thistle	Cirsium arvense	2	X			X								
daisy fleabane	Erigeron annuus	2	X			X								
spotted joe-pyeweed	Eupatorium maculatum	2							X	X				
orange hawkweed	Hieracium aurantiacum	1	X											
wild lettuce	Lactuca canadensis	1					X							
german chamomile	Matricaria recutita	1	X											
Canada goldenrod	Solidago canadensis	5	X	X		X	X					X		
zig-zag goldenrod	Solidago flexicaulis	3		X			X							X
spiny-leaved sow thistle	Sonchus asper	1				X								
goat's-beard	Tragopogon dubius	1	X											
ARUM FAMILY	ARACEAE													
Jack-in-the-pulpit	Arisaema triphyllum	2			X									X
SEDGE FAMILY	CYPERACEAE													
Bebb's sedge	Carex bebbii	1										X		

		COMMUNITY NUMBER												
Common Name	Scientific Name	Total	1	2	3	4	5	6	7	8	9	10	11	12
GRASS FAMILY	POACEAE													
awnless brome grass	Bromus inermis ssp.inermis	2	X			X								
timothy	Phleum pratense	2		X			X							
common reed	Phragmites australis	2							X	X				
CATTAIL FAMILY	TYPHACEAE													
narrow-leaved cattail	Typha angustifolia	2							X	X				
common cattail	Typha latifolia	2							X	X				
ORCHID FAMILY	ORCHIDACEAE													
helleborine	Epipactis helleborine	2					X							X
Total Number of Plant Species		110	34	8	23	46	32	11	32	11	16	7	1	30
Number of Plant Species Per Community														

Appendix D

Bird Species List

APPENDIX D Project Bird Status Report

Bird species observed by NEA are listed in the order followed the American Ornithologists' Union (AOU) Check-list of North American birds (7th edition, 1999, 47th Supplement). Common and scientific nomenclature are based on those used by AOU. Any significant status for a species on national and provincial lists is displayed as well as those from relevant regional lists.

List Status :	END - endangered	A wildlife species facing imminent extirpation or extinction.
	END-R -endangered regulated	A wildlife species facing imminent extirpation or extinction in Ontario which has been regulated under Ontario's Endangered Species Act (ESA).
	THR - threatened	A wildlife species likely to become endangered if limiting factors are not reversed.
	SC - special concern	A wildlife species that may become threatened or an endangered species because of a combination of biological characteristics and identified threats.
	YES - Area Sensitive	A wildlife species that requires large areas of suitable habitat in order to sustain their population numbers.
	* Other status levels are not displayed	

List Sources:	COSEWIC	The Committee on the Status of Endangered Wildlife in Canada, April 2010.
	COSSARO	The Committee on the Status of Species at Risk in Ontario, September 2009.
	SARA	Species At Risk Act, Schedule 1, Government of Canada, 2009.
	Area Sensitive	Significant Wildlife Technical Guide, Appendix C, OMNR, Oct. 2000
	Region 6	Northern Ontario Wetland Evaluation Appendix 11B, February 2000

Breeding Status: B -species observed in breeding season in suitable habitat with some evidence of breeding
(Observed By NEA) (confirmed, probable or possible as per Ontario Breeding Bird Atlas, 2002).

F -species observed in breeding season but no evidence of breeding or suitable nest sites available on the study site (includes flyovers, migrants and foraging colonial breeders).

M -species observed outside of breeding season for that species and in area outside of the known breeding range for that species.

STATUS LISTS

Common Name	Scientific Name	Observed Breeding Status	Area						
			COSEWIC	COSSARO	SARA	Sensitive	Region 6		
Red-tailed Hawk	<i>Buteo jamaicensis</i>	B				No			
Killdeer	<i>Charadrius vociferus</i>	B				No			
Mourning Dove	<i>Zenaida macroura</i>	B				No			
Downy Woodpecker	<i>Picoides pubescens</i>	B				No			
Northern Flicker	<i>Colaptes auratus</i>	B				No			
Eastern Wood-Pewee	<i>Contopus virens</i>	B				No			
Great Crested Flycatcher	<i>Myiarchus crinitus</i>	B				No			
Eastern Kingbird	<i>Tyrannus tyrannus</i>	B				No			
Red-eyed Vireo	<i>Vireo olivaceus</i>	B				No			
Blue Jay	<i>Cyanocitta cristata</i>	B				No			
American Crow	<i>Corvus brachyrhynchos</i>	B				No			
Tree Swallow	<i>Tachycineta bicolor</i>	B				No			
Barn Swallow	<i>Hirundo rustica</i>	B	SC			No			
Black-capped Chickadee	<i>Poecile atricapillus</i>	B				No			
American Robin	<i>Turdus migratorius</i>	B				No			
European Starling	<i>Sturnus vulgaris</i>	B				No			
Cedar Waxwing	<i>Bombycilla cedrorum</i>	B				No			
Black-throated Blue Warbler	<i>Dendroica caerulescens</i>	B				Yes			

STATUS LISTS

Common Name	Scientific Name	Observed Breeding Status	Area						
			COSEWIC	COSSARO	SARA	Sensitive	Region 6		
Vesper Sparrow	Poocetes gramineus	B				No			
Savannah Sparrow	Passerculus sandwichensis	B				Yes			
Song Sparrow	Melospiza melodia	B				No			
Indigo Bunting	Passerina cyanea	B				No			
Red-winged Blackbird	Agelaius phoeniceus	B				No			
Brown-headed Cowbird	Molothrus ater	B				No			
American Goldfinch	Carduelis tristis	B				No			
House Sparrow	Passer domesticus	B				No			
NO. of SPECIES:	BREEDING SPECIES:		1	0	0	2	0	0	0

BIRD SPECIES WITH SIGNIFICANT STATUS