



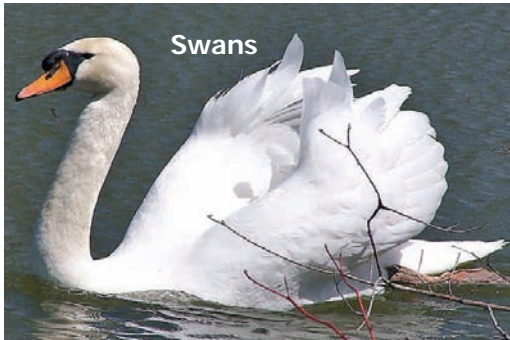
International Power

# Erie Shores Wind Farm Case Study: Bird Count

## Description of Wind Farm

Location: East and West of Port Burwell, Elgin County  
 Shoreline span: 29 km along the north shore of Lake Erie  
 Distance to shore: Between 150 m to 2.5 km

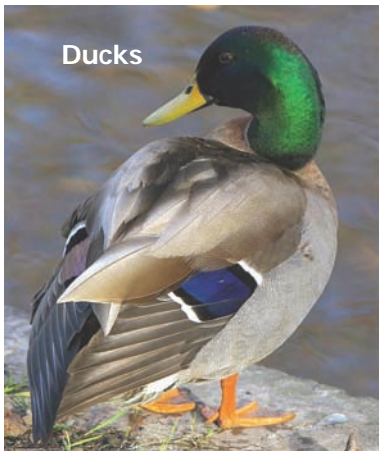
Size of Project: 66 turbines of 1.5 MW  
 Turbine dimensions: 80 m to hub height with rotor of 77 m  
 Turbine spacing: 300 m minimum, often much farther  
 Rotational speed: Maximum rotation is 22 rpm, typically 13 rpm



Swans

> 1100 observed  
 Flight was observed between turbines and at blade height  
 77 were 200 m from turning blades  
 8 were 100m from turning blades  
 At non-operating turbines:  
 200 were less than 50 m from towers and blades

**There is no evidence that any waterfowl was killed by the turbines in two years**



Ducks

550 observed during Spring migration  
 4 were as close as 300 m to blades  
 Most fly well above blade height at any time  
 Two nests were found within 250 m of a turbine base, one being within 100m



Canada Geese

1600 observed:  
 Flight below blade height, less than 100 m from towers  
 5520 observed:  
 Flying through the Project, less than 200 m from turbines  
 Of 2000 at or below blade height:  
 2 % were even as close as 50 m from blades. Thousands were seen on the same fields as turbines.  
 In flight, they kept a minimum distance of 100 m from turning blades. On fields, they readily walked closer and flew closer below blades.

## Breeding Birds

There was no decline in bird populations. Numbers were higher in all habitats, at all distances from the turbines, during the second year of monitoring. Birds nested as close as habitat allowed.



Cooper's Hawk

Nests at 112 and 170 m from turbine base



Red-tailed Hawk

Successfully raised a young in a nest 135 m from a turbine base



Killdeer

10 nests close to towers, some at 3 m from the tower base



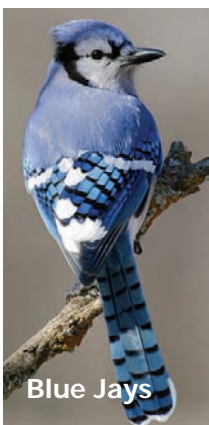
Horned Lark

Nests at 15, 21, 37 and 40 m from turbine bases

## Autumn Diurnal Migrants

Autumn diurnal migrants fly close to the blades when turbines are not operating. When turbines are operating, less than 1 % fly closer than 50 m from blades.

The count of migrant hawks was higher in the two years after the turbines began operating than in the year before operation. The count after operation were above the average of recent years.



Blue Jays

Count: 19,000



Sharp-shinned Hawks

Count: 2300

A pair nested 900 m from a turbine in 2006 and successfully raised two eaglets. A pair returned to the same nest in 2007.  
 Bald Eagles flew past active turbines:  
 < 200 m on 137 occasions  
 < 300 m on 170 occasions  
 < 50 m of blades on 5 or 6 times



Bald Eagle