Port Franks Forested Dunes

Important Bird Area Conservation Action Plan

Prepared for the Port Franks Forested Dunes IBA Stakeholders

By William G. Wilson and Edward D. Cheskey

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Executive Summary

Port Franks Forested Dunes Important Bird Area is a continuous stretch of unique forest habitat along the southern coast of Lake Huron, from Kettle Point to Grand Bend. It is an exceptional area biologically, with globally rare and threatened habitats. Two species of nationally rare and threatened birds, Hooded Warbler and Acadian Flycatcher, breed in the IBA along with an amazing diversity of woodland species, many of which are regionally and provincially significant.

The IBA contains a mix of public and private lands, with a considerable amount of forest formally protected in Pinery Provincial Park, the Lambton County Heritage Forest, and a number of smaller tracts. Two large tracts of land under the jurisdiction of the Kettle-Stoney Point First Nations are also part of the continuous forest habitat.

Threats to the IBA include:

- Housing development
- Recreational overuse
- Dune erosion
- Over-browsing from deer
- Diversion of water and canalization

The Action Plan component of this conservation plan includes the following vision and goals. Objectives and strategies supporting the goals are presented in Chapter 11.

Vision

The Port Franks Forested Dunes IBA will promote, conserve and enhance continuous natural forest cover from Kettle Point to Grand Bend to support viable populations of forest birds and habitat for migrant birds.

Goals

1. *To maintain and enhance breeding populations of IBA forest species of concern, specifically, Hooded Warbler, Acadian Flycatcher, Cerulean Warbler, Red-shouldered Hawk, Red-headed Woodpecker, and Tufted Titmouse.*
2. *To reduce human-related factors associated with reproductive failure and mortality among forest birds generally and specifically among the IBA species.*
3. *To provide stakeholders and public in the IBA with information and learning opportunities to support the habitat needs of IBA species through stewardship and management.*
4. *To liase with local First Nations about the IBA.*
5. *To develop public awareness and support of IBA and IBA values including the importance of the area as a migration corridor for waterbirds, waterfowl and landbirds.*
6. *To encourage and support monitoring of and research on forest birds, particularly species identified within this Plan, and on migratory birds,*
7. *To promote economic and social benefits associated with the forested landscape.*

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Acknowledgments

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Canadian Nature Federation and Bird Studies Canada are the national partners of BirdLife International in Canada. The Federation of Ontario Naturalists is responsible for site conservation planning in Ontario IBAs.

The following people are part of the Port Franks Forested Dunes IBA Steering committee:
Malcolm Boyd, Terry Crabe, Dave Martin, Alf Rider, Rob Ridley and John Russell.

The following agencies, organizations and people have contributed to the development of this conservation plan:

Pinery Provincial Park – Ontario Parks
The County of Lambton Planning Department
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Heather G. Wilson

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1.0 Introduction

Our flight from Pearson International Airport in Toronto to O'Hara Airport in Chicago followed a trajectory over southern Ontario to Lake Huron just north of Sarnia. "I thought there was forest in Canada . . . what did you do to the forest?" asked my travel companion from Norway. I pointed out the grim fact that most of the land passing below us was stripped of forest decades previous, a few isolated green blobs in the agro-urban patchwork being all that remained. While I was saying this, a broad band of continuous forest along the coast of Lake Huron came into view.

> "What's that?" she asked.
> "That," I replied, "is one of the greatest natural treasures left in southern Ontario."
> "Can we go there?"[1]

This Conservation plan will take you there, into a stretch of woodland with some of the best examples of oak savanna in North America. Home to innumerable unusual and specialised life forms, the area known as the Port Franks Forested Dunes Important Bird Area is of high significance to birds. Many deep forest birds, absent from most of southern Ontario, arrive in these forests in April and May, after wintering in Latin America or the southern United States. These forest interior species are largely the focus of this conservation plan. The area addressed includes the band of contiguous forest and shoreline from just south of Kettle Point on the Lake Huron shoreline, to Grand Bend, several kilometres to the north. Some of this land is in private ownership, some in public ownership and some belongs to the Kettle-Stoney Point First Nation. It is hoped that this plan will assist those living in this area in their management and stewardship decisions, so that the high significance of the area for wildlife endures.

This conservation plan is intended to be a "work in progress." Sections of the Plan describing the site, its birds, and the institutional arrangements are presented in Chapters 3 to 7. Chapter 8 is about the stakeholder activity in the area, while Chapters 9 and 10 explore opportunities within the Important Bird Area (IBA) for conservation as well as threats to the IBA species. Chapter 11 elaborates the conservation action plan, presenting the vision, goals, objectives, and strategies. The Steering Committee adopted the following Vision for the IBA.

> *The Port Franks Forested Dunes IBA will promote, conserve, and enhance continuous natural forest cover from Kettle Point to Grand Bend to support viable populations of forest birds and habitat for migrant birds.*

[1] Edward Cheskey

2.0 The Important Bird Area Program

The IBA program is an international initiative coordinated by BirdLife International, a partnership of member-based organizations in over 100 countries. These organizations seek to identify and conserve sites important to all bird species world-wide. Through the protection of birds and habitats, they also promote the conservation of the world's biodiversity. There are currently IBA programs in Europe, Africa, the Middle East, Asia, and the Americas.

The Canadian BirdLife co-partners are the Canadian Nature Federation (CNF) and Bird Studies Canada (BSC). The Canadian IBA program is part of the Americas IBA program which includes the United States, Mexico, and 17 countries in Central and South America. The Federation of Ontario Naturalists is responsible for implementing conservation planning for IBAs in Ontario.

The goals of the Canadian IBA program are to:

- identify a network of sites that conserve the natural diversity of Canadian bird species and are critical to the long-term viability of naturally occurring bird populations;
- determine the type of protection or stewardship required for each site, and ensure the conservation of sites through partnerships of local stakeholders who develop and implement appropriate on-the-ground conservation plans; and
- establish ongoing local involvement in site protection and monitoring.

IBAs are identified by the presence of birds on sites falling under one or more of the following internationally agreed-upon categories:

1) Sites regularly holding significant numbers of an endangered, threatened, or vulnerable species;
2) Sites regularly holding an endemic species, or species with restricted ranges;
3) Sites regularly holding an assemblage of species largely restricted to a biome;
4) Sites where birds concentrate in significant numbers when breeding, in winter, or during migration.

In Ontario, the Federation of Ontario Naturalists is conducting community conservation planning in approximately 20 sites as of 2000. Community conservation planning means engaging the local community in the development and implementation of the conservation plan. While the program at all stages is a voluntary one, the advantages of IBA recognition extend beyond those of conservation of IBA species. Community conservation planning means that people with common interests are brought together to focus on shared concerns. Each stakeholder brings a different perspective to the table, and the process that follows can take unexpected and innovative directions. Along with the development of a conservation action plan, the program also offers a dedication ceremony focusing attention on the site.

3.0 IBA Site Information

3.1 Location and description

Site: Port Franks Forested Dunes Important Bird Area, CAON024N
Location: 43°13' N, 81°54' W

The Port Franks Forested Dunes IBA lies along the Lake Huron shoreline between the village of Grand Bend and Lambton United Church Centre, south of Kettle Point (Figure 1). The entire IBA lies between Lake Huron and Lakeshore Road, which is Highway 21 becoming County Road 7 in Bosanquet Township (population 5,356), Lambton County. [2] Communities within the IBA include Port Franks, Ipperwash Beach, and Kettle Point (Chippewas of Kettle and Stoney Point First Nation, population 851). Communities along the eastern boundary include Walker Woods, Walden Place, Ravenswood, and Northville. Grand Bend (population 1,027), is a well-known recreation and resort community whose population during the summer swells to tens of thousands with cottagers and tourists. The Grand Bend beaches are major attractions offering swimming and sunbathing. Grand Bend also offers recreational boating, biking, golf and sport fishing. Much of the land east and south of the IBA is agricultural.

Port Franks Forested Dunes is designated an IBA site of national significance because it provides breeding habitat for an exceptional concentration of threatened bird species. Although the shoreline is intensively developed with cottages for a portion of its length, the three-kilometre strip between the shoreline and Lakeshore Boulevard is mostly unaltered and undisturbed. This forest complex is the largest forested area south of the Bruce Peninsula on the eastern shore of Lake Huron. Within this 45-km^2 area, the forest complex adjacent to, and north of, Port Franks will be the immediate conservation focus. Much of this portion of the IBA, about 70 percent of the total area, is managed land that includes Pinery Provincial Park, Lambton County Heritage Forest, Ausable-Bayfield Conservation Area lands, and a number of other properties (see Section 6). The natural history, particularly the vegetation communities and flora of the sites, has been well studied and documented within the last two decades (Bakowsky 1990, Crabe 1983, Lambton County Heritage Forest Management Plan 1994, Maun and Fahselt 1980).

The entire IBA lies within the "Huron fringe," a narrow strip of shoreline from Sarnia to Tobermory on the Bruce Peninsula. This is a sand beach shore underlain by Palaeozoic sedimentary rocks forming the wave-cut terraces of glacial lakes Algonquin and Nipissing. Within the IBA at Stoney Point and Kettle Point, outcroppings of shale deposits extend into the lake. Sandy soil predominates. In fact, much of the IBA is a series of sand dunes running parallel to the lake created by the depositing action of waves and prevailing winds over a period of 6000 years. Stretching from Kettle Point northward to Grand Bend, this dune system is the largest in Ontario covering approximately 36 km^2, much of it forested. Strong longshore currents along the Lake

[2] Bosanquet Township is about to be amalgamated with 10 other muncipalities to form "Lambton Shores." Amalgamation took place on January 1, 2001.

Huron shoreline transport the sand from the Bruce Peninsula to Goderich, south to the shoreline of the IBA. The youngest dunes, which have formed closest to the lake, are unstable and subject to shifting sands and blowouts. The oldest dunes rise to heights of 25 metres or more and lie parallel and adjacent to Lakeshore Boulevard. Walking the three kilometre distance from the shoreline to the oldest dune is equivalent to walking through 6,000 years of sand dune succession, from lake beach to oak forest.

Vegetation communities within the IBA are very diverse, the basic types being dunes, savannas, forests, wet meadows and river communities (Bakowsky 1990). Fire-adapted prairie and savanna vegetation thrive on the drier upland sites. Oaks are the predominant broad-leafed deciduous trees in both savanna and forest communities. A late stage of succession on some sites is an open pine-oak forest. However, many of the pine, however, in this IBA, were planted as a management strategy beginning in the late 1950s (see Section 7). Interspersed between the dunes are low-lying areas that support a rich variety of wetland communities, including wet meadows, ponds, small lakes, creeks, bogs, fens, shrub thickets and swamp forests. Throughout the dune system are examples of Carolinian, prairie and northern flora.

This IBA lies just inside the northern boundary of the Carolinian forest region within the Lake Erie lowland ecoregion. The proximity of Lake Huron and the prevailing winds blowing across the lake moderate the climate and result in warm, humid summers and cool, snowy winters. The average annual precipitation is about 900 mm and mean annual temperature is 8°C. The mean summer and winter temperatures are 19°C and – 5° C. Temperature extremes within the dunes near the lake can be severe. Winter temperatures may infrequently plunge to -30 °C whereas in summer the south facing slopes of some dunes may reach 50° C.

The undulating topography and natural succession have provided a mix of upland and wetland communities, resulting in diverse habitat for wildlife. It is because of this complexity and the contiguous nature of the savannas and forests that Port Franks Forested Dunes IBA supports an exceptional concentration of provincially and nationally threatened vegetation communities, flora and fauna.

Figure 1. The IBA boundaries

4.0 IBA Species Information

The Port Franks Forested Dunes IBA is a nationally significant IBA because it supports an exceptional concentration of rare and threatened species (Table 1).

Table 1: Breeding Species in IBA since 1997 and their Percentage Occurrence at the National Level

Common Name (scientific name)	Maximum number of breeding pairs observed[1] since 1997	Significance N=National P=Provincial	percent of National Population (maximum percent)[2]
Acadian Flycatcher *Empidonax virescens*	1+	N: Endangered P:	2 percent+
Hooded Warbler *Wilsonia citrina*	9	N: Threatened	9 percent
Red-shouldered Hawk *Buteo lineatus*	2	N: Special Concern P: Vulnerable	<1 percent (0.1 percent)
Red-headed Woodpecker *Melanerpes erthrocephalus*	10	N: Special Concern P: Vulnerable	<1 percent (approx. 0.6 percent)
Cerulean Warbler *Dendroica cerulea*	3	N: Special Concern P: Vulnerable	<1 percent (approx. 0.3 percent)
Forster's Tern *Sterna forsteri*	3	N: Special Concern P: Vulnerable	<1 percent
Louisiana Waterthrush *Seiurus motacilla*	1 male	N: Special Concern P: Vulnerable	<1 percent (approx. 0.5 percent)

[1] Numbers = number of breeding pairs from Canadian IBA Database (2000)
[2] Importance = percentage from Canadian IBA Database (2000)

The estimated number of breeding pairs of these rare and threatened species may be lower than actual numbers since some sections of the IBA have either not been monitored or not adequately monitored. The following discussion is based on information from the Canadian IBA Database 2000, and conversations with Alf Rider and Dave Martin, both members of the Port Franks Forested Dunes IBA Steering Committee.

The only nationally endangered species in the IBA is the Acadian Flycatchers (*Empidonax virescens*). A pair was reported on territory during three of the last four years, including 2000 when a pair with fledged young was observed. In 1994, ten territories of Hooded Warbler (*Wilsonia citrina*), a nationally threatened species, were recorded in the forested dunes and wetlands section of the IBA. In 1997, nine territories were reported from this same section. Monitoring took place in approximately one-third of the IBA.

The following four species are designated Species of Concern (nationally) and Vulnerable (provincially). Two, possibly three, pairs of Red-shouldered Hawk (*Buteo lineatus*) nested within the IBA in 2000. Although below the one percent threshold for this species, the population is significant given the scarcity of contiguous forest in southern Ontario. Between five and 10 pairs of Red-headed Woodpecker (*Melanerpes*

erthrocephalus) consistently nest within the forest complex. A complete monitoring of the IBA site may well reveal that one percent of the estimated national population breeds here. At least three singing male Cerulean Warblers (*Dendroica cerulea*) were recorded in 1997 and 2000. In appropriate habitat, Cerulean Warblers are localized, appearing colonial. Uncommon in Ontario, this species is officially designated Vulnerable. The presence of one or two more "colonies" would be nationally significant. In 1997, one singing male Louisiana Waterthrush (*Seiurus motacilla*) recorded. A pair would represent one percent of the estimated Canadian population.

Two species formerly breeding in the IBA are Prothonotary Warbler (*Protonotaria citrea*) and Prairie Warbler (*Dendroica discolor*). If appropriate habitat can be preserved or reclaimed, these species may return. For three years in the mid-1980s, one pair of Prothonotary Warbler bred successfully at Pinery Provincial Park. This species is designated as nationally Endangered and is regulated under the provincial Endangered Species Act. In the 1970s, as many as 20 pairs of Prairie Warbler were recorded. By the early '80s, however, the number of pairs declined to six. In the last four years, singing males have been heard early in the breeding season but none appears to remain to breed. In spite of its dramatic decline within this IBA, Prairie Warbler was downlisted in 1999 from nationally Vulnerable to Not at Risk.

Breeding colonies of Forster's Tern (*Sterna forsteri*) are highly localized and rare in southwestern Ontario. The present status of this tern is Indeterminate, both nationally and provincially. During the Atlas period in the early 1980s, breeding was suspected in the Kettle Point Marshes southwest of Kettle Point on Lake Huron. Three pairs were probably breeding there in 1991 (Austen and Cadman 1994) and at least that number has consistently been present to 2000 (Alf Rider, pers comm. 2000). Should Forster's Tern establish a breeding colony in the nearshore vegetation off the IBA, this would represent a range expansion in Ontario for this species.

4.1 Natural History of IBA Species

4.1.1 Acadian Flycatcher *Empidonax virescens*

To describe the Acadian Flycatcher as a small, gray bird tinged with olive-green, having two white wing bars and eye rings is to describe a dozen Empidonax flycatcher species, five of which are regularly observed in Ontario. On the other hand, to hear such a bird give its unique and explosive two-note song "peet-sah" during breeding season in appropriate habitat identifies it as Acadian Flycatcher. Kaufman (1990) thoroughly discusses and describes the identification of Empidonax flycatchers. Salabanks (1999) summarizes the natural history of the Acadian Flycatcher.

The breeding range of Acadian Flycatcher extends throughout the eastern United States, north to the Great Lakes and southern New England. In Canada, its distribution is confined to the Carolinian and southern edge of the Great Lakes Forest Regions of Ontario. Widespread and common in the United States, the Acadian Flycatcher is

designated an endangered species in this country. Martin et al. (1999) estimate the Canadian population between 50 and 75 pairs. Today its breeding habitat in southwestern Ontario is interspersed within an intensively farmed and urbanized landscape. Whether its rarity is a result of deforestation or whether it has always been rare is impossible to say (Friesen and Martin 1999).

The Acadian Flycatcher arrives in Ontario during mid-May from its winter range in central and northern South America. Its preferred habitat is under large deciduous trees forming tall, closed canopies and a relatively open understorey, often near a stream. Considered a forest-interior species requiring woodlots of 100 hectares or more, this flycatcher also occurs in narrow ravines having little or no forest-interior habitat. Such ravines are suitable habitat if they have closed canopies above a stream, slough or even standing water (Friesen and Martin 1999, Martin et al. 1999). The open understorey provides Acadian Flycatcher with its foraging habitat where it hawks insects out of mid-air, preying upon wasps, ants, bees, small beetles, moths, flies and mosquitoes.

The female builds a nest unlikely to be mistaken for that of any other species. Using a variety of plant parts and spider webbing she forms a shallow basket that is attached hammock fashion in a twig fork toward the end of a lower branch of a large tree. The nest is often located over a stream or a trail about four metres off the ground. Long streamers of fibrous material hang from below the nest to give it an unkempt appearance. The female incubates a clutch of three eggs for about two weeks while the male actively defends the nest site, his call notes or song often betraying its presence. Nest predators include Blue Jay (*Cyanocitta cristata*), Common Grackle (*Quiscalus quiscula*), Raccoon (*Procyon lotor*) and squirrels. The incidence of Brown-headed Cowbird (*Molothrus at*er) parasitism is lowest in forest-interior sites and highest in forests adjacent to agricultural fields (Salabanks 1999). The effects of predation and parasitism on this species in Ontario are under study (Friesen and Martin 1999). Of 37 Acadian Flycatcher nests found by Martin and Snider in Elgin, Middlesex and Lambton Counties from 1998-2000 only 18.9 percent were parasitised and none are known to have been predated (unpublished data).

4.1.2 Hooded Warbler *Wilsonia citrina*

On breeding territory, a male Hooded Warbler will sing loud, penetrating songs from dawn to dusk. Although these songs are easily heard, they are variable and occasionally confused with other species. However, there is no mistaking the bird's appearance. The black hood and throat surrounding a bright yellow face and relatively large black eye is striking. Its underparts are also bright yellow while its back is olive-green.

This warbler was first reported in Ontario in the late 1800s but the first nest wasn't reported until 1949. Throughout much of the 1900s, birds observed in spring were dismissed as migration overshoots (Sutherland and Gartshore 1987). Not until the Atlas period in the 1980s and extensive studies by Gartshore (1988) was the Hooded Warbler

recognized as a regular, though rare, breeder in parts of southwestern Ontario. Perhaps it was more widespread and common prior to European settlement when the landscape was dominated by deciduous forest. Evans, Ogden and Stutchbury (1994) summarize the natural history of the species.

Hooded Warbler breeds throughout the eastern United States, north to the Great Lakes, New York and Connecticut. In Ontario, its range appears to be restricted to the Carolinian zone. Singing males have been reported along the southern fringe of the Great Lakes forest region in south central Ontario. As a forest-interior species restricted to large woodlots (100 ha or more), the Hooded Warbler is threatened by forest fragmentation due to land use practices.

The Hooded Warbler winters in the Neotropics, primarily in Belize and the Yucatan peninsula of Mexico. Arriving in Ontario during mid-May, males sing loudly and persistently to establish territory. Females arrive shortly afterwards and within days settle into a territory. The nesting season extends from late May to mid-July. Territories, which are within the forest interior, include small clearings in which a windfall or selective tree cutting has created a dense understorey of shrubs or saplings such as raspberry, elderberry or Red Maple. Along the edge of this clearing the female will build her nest 30 to 180 cm above the ground in a twig fork of a shrub or sapling. The neat, compact nest contains three to four eggs that the female will incubate for twelve days. The young fledge eight or nine days after hatching.

The productivity of many forest-interior species is largely determined by the frequency of cowbird parasitism and predation on nests (Terborgh 1989). Forest fragmentation likely increases the frequency of both these factors for Hooded Warbler (Evans et al. 1994). Predators include Blue Jay, American Crow (*Corvus brachyrhynchos*), Eastern Chipmunk (*Eutamias minimus*), Striped Skunk (*Mephitis mephitis*), weasels, and Opossum (*Didelphis virginiana*). In southern Ontario the frequency of cowbird parasitism is 45 percent (ibid.).

Forest fragmentation has another consequence as well. DNA fingerprinting has revealed that females often mate with neighbouring males as well as their own mate. In one study, 47 percent of the females produced young fathered by males other than their own mates and about 30 percent of the nestlings were the result of extra-pair mating. This productivity may be less in small forests where there are not as many neighbouring pairs (ibid.). Research studies and monitoring of this nationally threatened species underscore the importance of understanding the natural history of an organism in order for it to be conserved.

4.1.3 Red-shouldered Hawk *Buteo lineatus*

The best view of the "red shoulders" of this hawk can be made at a hawk-watch such as Holiday Beach and Big Creek IBA during fall migration. A shy, secretive forest predator, the Red-shouldered Hawk is often heard rather than seen in its breeding habitat when it gives its piercing territorial call, a two-syllable scream often imitated by Blue Jays. The Broad-winged Hawk (*Buteo platypterus*) is a smaller forest hawk lacking the rust-coloured shoulders but is also distinguished by its broadly banded black and white tail. Similarly banded, the tail of the Red-shouldered Hawk has narrower white bands resembling chalk lines on a blackboard (Dunne et al. 1988).

Crocoll (1994) summarizes the natural history of this hawk. Red-shouldered Hawk was at one time the most common diurnal raptor to breed in the deciduous forests of eastern North America. During the 19th-century it was the most common breeding hawk throughout southern and central Ontario. But since that time, its numbers have declined dramatically particularly in southwestern Ontario. Today, where farmland and hedgerows have replaced forests, the Red-tailed Hawk (*Buteo jamaicensis*) has replaced the Red-shouldered Hawk. Wetlands adjacent to the forest provide foraging habitat for the Red-shouldered Hawk. A number of areas within the Port Franks Forested Dunes IBA fit this description. Red-shouldered Hawks have a varied diet of small upland and wetland animals such as chipmunks, mice, voles, birds, snakes, and insects. Referred to as the swamp hawk in some regions, it also feeds on frogs and crayfish (ibid.).

Red-shouldered Hawk begins breeding at two years of age and establishes a monogamous relationship. The pair tends to return to the same breeding area year after year. A partial migrant, most Red-shouldered Hawks winter in the eastern and southern United States. However, should the food supply and weather permit, some will remain to winter in southwestern Ontario along treed watercourses or in swamps adjacent to open streams or lakes. Once on territory in early April, the Red-shouldered Hawk constructs a bulky stick nest adorned with fresh hemlock branches. The nest is built about halfway up a large, mature tree, often a Beech. The nest tree usually has a straight trunk with few lower branches. In mid to late April the female lays a clutch of two to four eggs. For approximately one month the eggs are incubated by both parents; six weeks later the young are ready to fledge. Of those that fledge, 41 percent will survive their first year of life (Species at Risk 2000).

As wetlands are filled in and forests are cut down, habitat shrinks and the number of prey species declines, thus decreasing the number of Red-shouldered Hawks. On the other hand, the western population of Red-shouldered Hawk shows significant adaptability to human-altered landscapes. In California it has moved into urban areas (del Hoyo 1994a). In southwestern Ontario, no evidence suggests that the Red-shouldered Hawk is able to do so. The changed landscape, whether farmland or urban parkland, is better suited to other predators such as the Red-tailed Hawk and Great Horned Owl (*Bubo virginianus*).

4.1.4 Louisiana Waterthrush *Seiurus motacilla*

In the family of North American birds known as warblers, two are known as waterthrushes, the Northern and Louisiana Waterthrush. Both have drab brown upper parts and white underparts marked with black-brown streaks, and both exhibit tail-bobbing behaviour. In Canada, the Northern Waterthrush breeds in every province and territory, whereas the Louisiana Waterthrush is restricted to Ontario, south of the Canadian Shield and sporadically into southwestern Quebec (Species at Risk 2000). The Louisiana Waterthrush, the rarer of the two species, can be distinguished by its distinctive song, white eyebrow stripe, lack of yellow on underparts, unspotted throat and bright, pink, stout legs.

The Louisiana Waterthrush breeds mainly in the eastern United States where it is widely distributed but nowhere abundant. In Ontario its current population is between 150 and 300 pairs with its primary breeding location (100 pairs) within the Norfolk sand plain on Lake Erie (ibid.). Smaller numbers breed along the southern sections of the Niagara Escarpment and the Kingston area. This species likely breeds in appropriate habitat between Waterloo region and Long Point, along Lake Huron, north to Bayfield, and southern Georgian Bay (Eagles 1987b).

This warbler inhabits mature deciduous forest that forms a canopy over clear, cold streams, which flow through steeply sloping ravines or densely, wooded swamps. Louisiana Waterthrush establishes a linear territory along a streambed where often one pair will occupy a territory one kilometre in length (Robinson, 1995).

When foraging, this warbler mostly walks along banks of streams and in shallow water where it hunts for insects, spiders, seeds, small molluscs, fish, crustaceans, and even small amphibians. This diet is somewhat unusual for a North American songbird.

Nests, containing four to six eggs, are placed in small cavities under the overhang of a stream bank, within the roots of an upturned tree or moss-covered log along the bank, frequently on the south sides of ravines. Nests completely within cavities may be less likely parasitized or predated (Robinson 1995). The Brown-headed Cowbird often parasitizes the nests of this species while Blue Jay, snakes, and mammals, including shrews, red squirrel (*Tamiasciurus hudsonicus*), eastern chipmunk, raccoon, and opossum, feed on eggs and fledglings. Sharp-shinned Hawks (*Accipiter striatus*) will hunt adult birds.

The Louisiana Waterthrush is one of the earliest songbirds to depart after breeding, leaving southern Ontario as early as July, certainly by August. Likewise its arrival in spring is early, often it is heard singing on territory before the end of April.

4.1.5 Red-headed Woodpecker *Melanerpes erthrocephalus*

This woodpecker cannot be mistaken for any other. Its entirely red head, neck, and throat identify adult birds. At all ages, whether perched or flying, this bird exhibits a conspicuous white rump and inner wing patches. The natural history of Red-headed Woodpecker is described in Winkler et al. (1995) and Kaufman (1996).

Historically, the breeding range of this woodpecker extended throughout most of eastern and central North America. Once considered very common throughout eastern North America, its range has shrunk significantly (Godfrey 1986) and its present distribution throughout its historic range is sporadic. In Canada it breeds from southern Saskatchewan east to the St. Lawrence Lowlands of Quebec. This woodpecker occurs sporadically throughout southern and central Ontario, north to the vicinity of Sault Saint Marie and west to the Lake of the Woods region. In southwestern Ontario, populations have fluctuated in response to changes in the landscape (Woodliffe 1996). Red-headed Woodpecker was probably common in oak savanna habitat prior to European settlement. In the 1800s, the clearing of forests for farmland resulted in hedgerows and forest edges adjacent to these lands creating habitat for this woodpecker. In the mid-1900s, elms dying of Dutch elm disease provided both foraging and nesting opportunities.

A short distance diurnal migrant, most Red-headed Woodpeckers winter in the American Midwest and the Mississippi Valley, although a few winter in woodlots in southwestern Ontario. The Red-headed Woodpecker arrives on territory in central Ontario in early to mid-May. It avoids the dense forest interior, favouring open woodland or clearings, forest edges, orchards, open pine woods, or groves of tall trees in open country. Components of its habitat include clumps of trees, bushes and hedgerows. The female chooses the nest site while the male does most of the excavation of the cavity, which is often in a dead tree, though sometimes in a fence post or utility pole. Excavation takes 12 to 14 days. Normally four or five eggs are laid, incubation lasting 12 to 13 days, with both male and female sharing incubation and brooding equally. The young fledge after 31 days. A second brood may be raised in the same cavity, although usually a new one is made. The Red-headed Woodpecker nests later than any other woodpecker; young have been observed in the nest cavity as late as the second week of September.

The Red-headed Woodpecker is an opportunistic feeder, feeding on insects, spiders, earthworms, seeds, acorns and various wild and cultivated fruit. It forages in a variety of habitats from the ground to treetops. In addition to drilling holes in trees to find food, typically, it will swoop down from roadside perches capturing insects on the wing; flying insects are the important part of its diet. The Red-headed Woodpecker stores food in cavities and blocks the opening with damp woodchips that harden, sealing in the cache (Axley 2000).

The introduction of the European Starling (*Sturnus vulgaris*) into North America in the 1890s contributed to the decline of the Red-headed Woodpecker. Starlings compete for nesting holes and aggressively drive the woodpeckers from these cavities. Other factors have also contributed to the decline of the species. In the United States, during the last

century, the Red-headed Woodpecker was hunted to reduce damage attributed to it in fruit orchards and on utility poles. The removal of dead trees from farms, park-like woodlands, golf courses, and managed woodlots has resulted in a loss of nesting and foraging habitat.

4.1.6. Forster's Tern *Sterna forsteri*

Forster's Tern is a white, black-capped tern with a black-tipped orange bill. In flight, the upper wing shows silvery white in the primaries which lack the distinctive dark wedge found in the similar Common Tern. The natural history of Forster's Tern is briefly summarized in del Hoyo (1996b). Austen and Cadman (1994) document Canadian studies.

Forster's Tern breeds in the freshwater marshes of the North American interior and the saltwater marshes of the American Atlantic, Gulf, and Pacific coasts. In Canada, it breeds primarily in the prairies with small populations in both southeastern British Columbia and southwestern Ontario. Its winter range includes North Carolina to the Gulf of Honduras and southern California to Panama.

Although reported in Lake St. Clair marshes in the latter half of the 1800s, nesting in Ontario was not documented until 1976. Nesting in nearby Saginaw Bay, Michigan has been reported since 1956 (ibid.). High water levels in Lake Erie during the 1970s and 1980s contributed to both an increase in numbers and a range expansion in southwestern Ontario. By the mid 1980s, numbers in Ontario were at an all time high (McNicholl 1987). These breeding sites included Long Point and Rondeau Bay on Lake Erie, Walpole Island and St. Clair National Wildlife Area on Lake St. Clair and Kettle Point on Lake Huron. In Ontario, populations of Forster's Terns are small and highly localized; Austen and Cadman (1994) considered it provincially rare.

Forster's Tern tends to arrive earlier in southwestern Ontario than other breeding tern species – early April, occasionally in March, and in numbers by mid-April. Nesting begins in nearby Lake St. Clair marshes by mid-May (McNicholl 1988). These terns nest in either compact or loose colonies of five to 250 pairs (del Hoyo 1996). Nesting sites are often in inaccessible deep-water marshes. Nest site location may be determined by watching for courtship behaviour which is both conspicuous and prolonged (McNicholl 1988). Forster's Terns feed mainly on small fish (5-7 cm), aquatic insects and crustaceans by hunting over water less than a metre deep.

Nests are placed among floating and emergent vegetation, frequently on muskrat (*Ondatra zibethicus*) lodges. Artificial nest sites have included floating boards and dredge-spoil islands and use of such sites may be due to loss of marsh habitat. Nest losses result from predation, muskrat activity about the nest site and even spawning Carp uprooting vegetation. Changes in water levels from either flooding or managed level changes may cause egg loss, chick mortality or abandonment of nest sites (Austen and Cadman 1994). Colonies on the coastal marshes of Lake Erie and Lake St. Clair have

had a much lower hatching success and more developmental defects than nearby inland colonies in the United States (del Hoyo 1996b).

4.1.7 Cerulean Warbler *Dendroica cerulea*

High in the canopy of tall deciduous trees lives the diminutive Cerulean Warbler. Its buzzing, weak song is often the only clue of its presence. The upperparts of adults are sky blue with variable black streaking, while the underparts are white with dark streaking on the flanks and a conspicuous black breast band. Hamel (2000) describes the natural history of this species.

The breeding range of Cerulean Warbler is limited to central eastern United States from northern Mississippi to central Wisconsin, and eastern Oklahoma to eastern Virginia, and parts of southeastern Canada including southern and south-eastern Ontario and extreme southwestern Quebec (Eagles 1987a, Bannon et Robert 1995, Hamel 2000). This warbler migrates to the east and west slopes of the Andes in Columbia, Venezuala, Ecuador and Peru where it spends the balance of the year (Hamel, 2000).

Historical populations for this species have declined in many parts of its range, particularly lowland forests along the Mississippi and Ohio Rivers. Breeding Bird Survey (BBS) results show that this species declined at a rate of –3.7 percent per year from 1966 to 1996 (ibid.). This decline was the steepest for all species of warbler between 1966 and 1986 (Robbins et al. 1992), though the accuracy of BBS at sampling populations of forest interior species such as the Cerulean Warbler has been questioned (Peterjohn et al. 1995). In Ontario, the Atlas of Breeding Birds, conducted between 1981 and 1985, illustrated two distinct bands of breeding activity: one band included parts of southwestern Ontario, while the second was along the southern edge of the Canadian shield extending from north of Kingston towards Georgian Bay (Eagles, 1987).

Cerulean Warbler gleans insects and other small organisms from leaves and twigs in the forest canopy. Its nest is a small, open cup, made of fine plant material and spider or caterpillar web. The nest is typically constructed on a lateral branch in the middle to upper canopy, and is usually concealed by vegetation. Nests contain two to five eggs, averaging 3.5 eggs per nest (Hamel, 2000). Brown-headed Cowbird is known to impact this species nesting success in parts of its range. 18 percent of 36 nests reported for the Ontario Nest Record Scheme were parasitized (Peck and James, 1987).

In Ontario, Cerulean Warbler arrives on breeding grounds in early to mid May. The species is considered by many to be loosely colonial (Hamel, 2000). Very little information exists on departure dates from Ontario, though in Michigan and Quebec, departure takes place from late July to early September (ibid.).

Hamel (2000), describes four threats to this species' breeding habitat:

- Loss of mature deciduous forest, especially along stream valleys;
- Fragmentation and increasing isolation of remaining mature deciduous forest;

- Forest management practices resulting in shorter rotations and even-aged management; and
- Loss of key tree species such as elm and oaks to disease.

Blue Jay, a species that is very successful in settled areas, is known to prey on eggs and nestlings (ibid.).

On migration, in addition to loss of stopover habitat, collisions with stationary or moving structures such as sky scrapers or relay towers, takes a toll on this species. Wintering habitat is threatened, as montane subtropical forest is converted to pasture and crops such as coca and coffee (ibid.).

5.0 Other Elements of High Conservation Value

5.1 Species Richness

A great diversity of organisms has been recorded within the IBA, including almost 800 species of plants, about 320 species of birds, 60 species of butterflies, 30 species of mammals and over 20 species of amphibians and reptiles.

Naturalists who have undertaken surveys and research of portions of the IBA are not only well aware of species richness within their study areas but also of the potential for further finds since a number of areas are unsurveyed. As Eagles and Beechey (1985) stated during their survey of the forested areas near Port Franks: "this is the site where John Macoun [Canada's foremost naturalist] collected *Magnolia acuminata* (Cucumbertree) and it may yet be rediscovered." Bakowsky (1995) recently recognized the potential of discovery in future surveys and inventories within the IBA: "37 rare species of insects have been collected and identified from Pinery. There are a further 33 rare species of insects from adjacent areas [within the IBA]. It's highly likely that these species also occur in Pinery."

5.1.1 Other significant birds

The Port Franks Forested Dunes IBA is significant for birds in general. Forty-one species of birds breeding within the IBA are considered to be of Conservation Priority for Lambton County (Martin 1999). Of these, 26 species are considered to be area-sensitive species, which speaks to the size and value of the forest complex defining this IBA. Few forests remain in southwestern Ontario that can support such numbers. Tufted Titmouse (*Parus bicolor*) is considered to be Rare in Ontario with only 26 to 40 pairs estimated in the early 1990s. (Austen et al. 1994). During the mid-90s, there were an estimated 10 territorial males within the provincial park. The numbers of Whip-poor-will (*Caprimulgus vociferus*) breeding in southern and central Ontario are relatively low and even precarious in southwestern Ontario (Mills 1987). The IBA is a regional stronghold

for this species with 20 or more pairs recorded during a season in Pinery Provincial Park alone.

In four monitoring surveys between 1994 and 1999, 16 species of breeding warblers were recorded (Martin 1999). During fall migration in some years, warblers arrive in huge numbers in late August and early September in response to caterpillar outbreaks in oaks. The IBA is well situated to act as a migrant funnel for large numbers of warblers and other songbirds as they pass between the open waters of Lake Huron to the west and the extensive agriculture landscape to the east. Numbers of songbird migrants are not well documented. In winter, the IBA offers one of the few locations in southwestern Ontario where Bohemian Waxwings (*Bombycilla garrulus*) and Pine Grosbeaks (*Pinicola enucleator*) can be expected almost annually.

In the second half of March, thousands of Tundra Swans (*Cygnus columbianus*) stop over in the fields adjacent to the IBA, east of Pinery Provincial Park during spring migration. As many as 16 000 birds have been observed in these fields. Tundra Swans also congregate off Kettle Point. In the early 1970s, when lake water levels were low, swans would feed on the aquatic vegetation in the shallows. Subsequently, Tundra Swans roost on the ice off Kettle Point particularly when the grain fields are frozen. As many as 10 000 have been observed (Alf Rider pers comm. 2000). Peak numbers of swans adjacent to the IBA represent between 5 and 8 percent of the eastern population.

5.1.2 Rare and threatened species other than birds

Of the more than two dozen types of vegetation communities, eight are considered provincially rare (Bakowsky 1995). Two of these meadow marsh communities are very rare globally and provincially. In Ontario, as well as globally, three dune communities are extremely rare. In these open dune communities, 9 percent of the flora are either nationally or provincially rare (Bakowsky 1990). Some of the most extensive stands of fruticose lichens in southern Ontario are located within these beach dunes of the IBA (Maun and Fahselt 1980).

The diversity of rare and threatened organisms is equally impressive: several examples are listed in Table 2. Within Pinery Provincial Park over 30 species of rare plants have been identified and, from various parts of the IBA, as many as 70 species of rare insects have been collected and identified (Bakowsky 1995). Eastern Hognose Snake, Five-lined Skink and Spotted Turtle are Species of Concern nationally and Vulnerable provincially. Within the last several decades, three species have been extirpated: two butterflies, the Frosted Elfin and Karner Blue (*Lycaeides melissa samuelis*) and a snake, the Blue Racer (*Coluber constrictor foxii*). The Nationally endangered Karner Blue butterfly was present in Pinery Park and the Port Franks area as recently as the 1980s. Much of the management effort of the "County Forest" has been focussed on restoring habitat to support the Karner Blue butterfly and other open oak forest species (M. Boyd, pers comm.).

Table 2: Various examples of rare and threatened organisms in The Port Franks Forested Dunes IBA

Type of Organism	Name	Status
fungus	*Hebeloma affine* (no common name)	two locations known globally
plants	Tulip-tree (*Liriodendron tulipifera*)	nationally and provincially rare
	Dwarf Chinquapin Oak (*Quercus prinoides*)	nationally and provincially rare
	Pitcher's Thistle (*Cirsium pitcheri*)	rare to uncommon globally
	Bluehearts (*Buchnera americana*)	extremely rare provincially and declining throughout its range
insects	Owlfly (*Ascalaphidae* sp.)	only known non-vagrant Ontario site
	Rhinoceros Beetle (*Xyloryctes* sp.)	only known Canadian site
	Tiger Beetle (*Cicindelidae* sp)	very rare in Ontario; confined to IBA
	Dusted Skipper (butterfly) (*Atrytonopsis hianna*)	extremely rare in Ontario; confined to IBA
	Ernestine's Moth (*Phytometra ernestinana*)	only known Ontario site
	Chytonia ruperti (no common name)	Pinery Provincial Park is the global exemplary site.
	four species of ant	only known Ontario site
reptile	Blue Racer (*Coluber constrictor*)	endangered and regulated under provincial Endangered Species Act (extirpated)

5.1.3 Site elements of interest

Only 0.03 percent of the oak savanna ecosystem of North America remains. About half of this ecosystem is within the Port Franks Forested Dunes IBA. Furthermore, the contiguous nature of this forest complex offers residents of Lambton County and neighbouring counties a unique opportunity and experience. Outside of the IBA, two-thirds of Lambton County has less than 10 percent of the area in woodlands, either upland or wetland; the remaining one-third has between 10 and 15 percent (Larsen et al. 1999).

Port Franks Forested Dunes IBA contains the best provincial example of the rarest of Ontario's plant communities – dry sand savanna vegetation (Bakowsky 1990). Prairie grasses, wildflowers and oaks dominate this landscape formed of old sand dunes. This oak savanna ecosystem is an endangered one, a remnant of a community of oaks, prairie grasses and associated wildlife that once occupied 12 million hectares in North America between the midwestern prairie and northeastern deciduous forest regions. Today, only 3000 ha of oak savanna remain, about half of which is in the Port Franks Forested Dunes IBA. This IBA encompasses a rare Great Lakes basin ecosystem that is considered to be Globally Imperilled (Bakowsky 1995).

The shale outcroppings at Kettle Point and Stoney Point are unique in that this is the only location in southern Ontario where this type of formation is exposed. Within the small bluff of black shale at Kettle Point are large (30 to 120 cm in diameter), somewhat spherical, limestone concretions called "kettles." At Stoney Point, jutting out into the lake where exposed black shale contacts the underlying limestone, a layer of nodules of black chert or flint is exposed. This site is reputed to be the best example of flint in North America (Lambton County Heritage Forest Management Plan 1994). For centuries native peoples used this flint to make tools and weapons. The flint deposits are of historical and cultural significance to First Nation peoples and historians. The "kettles" are significant to geologists, naturalists and tourists.

A sand beach extends most of the length of the IBA, a distance of approximately 20 kilometres. This coastal, lake beach is rare both globally and provincially (Bakowsky 1990).

6.0 Land Ownership and Use

6.1 Land ownership

Land ownership within the Port Franks Forested Dunes IBA is both public and private (Table 3). The largest property, Pinery Provincial Park, represents about 56 percent of the IBA. Of the 45-km^2 area of the IBA, about 30 percent is privately owned.

Table 3: Names and Owners of Property within the Port Franks Forested Dunes IBA

Name	Area (ha)	Owner
Karner Blue Sanctuary[1]	14	Lambton Wildlife, Inc.
Camp Attawandaron	approx. 32	Boy Scouts of Canada Ausable-Bayfield Conservation Area
Chippewas of Kettle and Stoney Point First Nation	approx. 1000	Chippewas of Kettle and Stoney Point First Nation
Cottages, permanent residences	?	Private landowners
Former Camp Ipperwash[1]	approx. 800	First Nation/Federal Government
L-Lake Management Area[1]	28	Ausable-Bayfield Conservation Area
Lambton County Heritage Forest[1]	238	County of Lambton
Pinery Provincial Park	2532	Ontario Ministry of Natural Resources
Port Franks Conservation Area	1	Ausable-Bayfield Conservation Authority
Thedford Conservation area[1]	16	Ausable-Bayfield Conservation Authority
Watson Property (Port Franks Forested Dunes and Wetlands)[1]	40	Nature Conservancy of Canada, managed by Lambton Wildlife, Inc.

[1] designated Life Science Area of Natural and Scientific Interest (ANSI)

6.2 Land Use

Historical

Neither the aboriginals, who were hunter-gatherers, nor European settlers, who were farmers, found the lands along the Lake Huron shoreline suitable for settlement. Lands further inland were more fertile and more suitable for habitation. For the most part, the dunes and forest covering the dunes were ignored. For aboriginals, the primary interest lay in the flint deposits found in the shale outcroppings at Stoney Point as well as sites within the forest. These deposits were mined for centuries to make tools and weapons (Lambton County Heritage Forest Management Plan 1994). European settlers made forays into these forests for hunting, fishing, and selective cutting of trees. The historical events described below increased human use and impact on the forest but, at the end of the 20th century, the land within the IBA still remains in forest.

Following the War of 1812, the British government undertook the signing of treaties and establishment of reserves for native peoples, many of whom served with British forces during the war. Both the Kettle and Stoney Point Reserves were established at that time, each about 900 hectares in size. In the late 1920s, a part of the waterfront of the Kettle Point Reserve, now known as West Ipperwash, and most of the Stoney Point Reserve were sold to private interests. In time, these sites became developed with cottages and permanent homes. In 1929, the remainder of the Stoney Point Reserve was expropriated by the Province of Ontario to create the fourth provincial park in Ontario, Ipperwash Provincial Park.

Under the authority of the *War Measures Act* in 1942, the Government of Canada appropriated the remainder of the Stoney Point Reserve to create an Advanced Infantry Training Centre. When no longer required for war-training exercises, Camp Ipperwash became Ipperwash Army Cadet Camp. For over fifty years the Chief and the Band Council of the Chippewas of Kettle and Stoney Point First Nation petitioned the federal government to return the appropriated lands. This period of time has been marked by negotiation and frustration, confrontation and tragedy. In 1998, an agreement-in-principle to return the former Camp Ipperwash was signed by the government and First Nation representatives. An environmental assessment is to be carried out prior to the rehabilitation of property. Unresolved issues remain. These include clarification of the terms under which the lands are returned, procedures regarding the cleanup of unexploded munitions and contaminants, and claims of rightful ownership. (History of the Stoney Point Appropriation 1998, Indian and Northern Affairs New Release 1998, Kettle and Stoney Point First Nation July 2000, Lackenbauer 1999, ON F.I.R.E. 2000).

With the arrival of European settlers in Lambton County in the mid- to the late 1800s, much of the land was cleared for farming as elsewhere in southern Ontario. The sand dunes and sandy soils of the Lake Huron shoreline in Bosanquet Township discouraged farming, and the very few who tried were quickly unsuccessful. In 1872, the Canada Company, the colonization company of Upper Canada, cut off a section of the Ausable River and channelled the flow through a cut to Lake Huron at Port Franks. This

eliminated swampy areas to create arable land and relieved flooding in the Grand Bend area. Flooding continued, and so, in 1892, at Grand Bend a second cut to the lake was added, which created a port. The section of the old Ausable River between Grand Bend and Port Franks became an elongated pond maintained only by numerous springs and surface run-off. Today it lies within Pinery Provincial Park where it provides wetland habitat and recreational opportunities for park visitors.

In 1929, a proposed million-dollar resort by an American entrepreneur to develop a golf course and yacht harbour failed to generate financial support. In 1957, the Ontario government purchased the land and established Pinery Provincial Park, which opened to the public in 1959. Over 500,000 people visit the park annually.

In the 1930s, Lambton County purchased Lambton County Heritage Forest, a site within the IBA, from the Canada Company. Over 50 hectares of trees were planted between 1930 and the 1960s. Since that time land use has included selective cutting and passive recreational activities. In 1987, as a part of a federal government job creation program, a portion of the forest was logged and firewood extracted. As a result of this cutting, the county placed a moratorium on cutting on the site and undertook a comprehensive management planning process (completed in 1994) and initiated restoration activities for the site.

In the 1960s, the sand dune ecosystem was not well understood by park managers who perceived it as a degraded oak forest rather than a healthy oak savanna ecosystem. Over half a million pine trees were planted among the oaks, often into openings or savanna areas. Management efforts to restore this ecosystem began in the 1980s.

Current

Several properties within this IBA are open to the public and are multiple use areas.

Pinery Provincial Park, owned and operated by Ontario Parks, offers an extensive interpretive program during the summer, including naturalist-led hikes, evening programs, and children's programs. In winter, the park offers a limited interpretive program, groomed cross-country ski trails, and tobogganing hills. Within the park there are ten nature trails, many self-guiding, for nature viewing and hiking as well as nine picnic areas for day use and a 10-kilometre beach for swimmers and sunbathers. For campers, there are 1000 campsites, a store, and washroom and shower facilities.

Lambton County Heritage Forest consists of two portions of land, a 230-ha portion and a 7.5-ha portion. The Lambton County Heritage Forest Management Plan lays out the goals for managing this significant forested tract. These goals include restoration of open oak forest and oak savanna habitat for Lupine (*Lupinus perennis*) and Karner Blue Butterfly (M. Boyd, pers comm.). Traditional use of the property continues in the smaller portion. Use of the larger portion is limited to activities that will not compromise its ecological integrity. A limited trail system is maintained.

L-Lake Management Area provides a trail system and opportunities for nature viewing and outdoor education. Facilities include a parking lot, privies, canoe docking, and a lake and wetland system.

Thedford Conservation Area is open year-round, offering a system of nature trails and picnic shelters. Fishing is permitted and a boat ramp provided. During the winter, facilities are provided for cross-country skiing and snowshoeing.

Port Franks Conservation Area is a small area of manicured lawn, boat docks and boat launch, and restrooms. Fishing is encouraged along the river.

Camp Attawandaron has a system of nature trails for nature viewing and nature interpretation. Cabins, washroom facilities, and open areas for tenting are provided for members. The camp is adjacent to Pinery Provincial Park, and contains similar vegetation communities.

Karner Blue Sanctuary, a 14 hectare tract of oak savanna forest, is owned and managed by Lambton Wildlife, Inc. Trails provide public access into this area.

The Watson Property, also known as the Port Franks Forested Dunes (not to be confused with the name of this IBA), is owned by the Nature Conservancy of Canada and managed by Lambton Wildlife, Inc. This 40 hectare forest, which is adjacent to the Lambton County Heritage Forest, also has public access.

7.0 Management Achieved within the IBA

The areas within the IBA of immediate conservation focus are Pinery Provincial Park and the dune forest complex in the Port Franks area which includes the Lambton County Heritage Forest properties of the Ausable-Bayfield Conservation Authority, the Watson Property, and the Karner Blue Sanctuary.

7.1 Management achieved in Pinery Provincial Park

The World Conservation Union (IUCN) promotes a common approach to the world's environmental pressures and serves as a global advocate for the environment (IUCN 2000). It is a world partnership of governments and private organizations working to conserve the integrity and diversity of nature. One of their initiatives is to classify the different kinds of protected areas. Pinery Provincial Park is designated an IUCN, Category 2, Protected Area, so designated to protect outstanding natural and scenic areas of national or international significance for scientific, educational, and recreational use. Parks in this category are relatively large, not altered by human activity, and extractive resource industry is not permitted.

Within the Ontario Parks system there are six categories; Pinery Provincial Park is in the category Natural Environment Park. A Natural Environment Park "incorporates outstanding recreational landscapes with representative natural features and historical resources to provide high quality recreational and educational experiences" (Ontario Parks: Building a Park System 1996). One of the major purposes in this Natural Environment Park is the maintenance of about 1300 ha of Black and White Oak savanna (Van Wagner 1993). Portions of Pinery Provincial Park have been designated as Nature Reserve. A Nature Reserve is an area managed by Ontario Parks and the Ontario Ministry of Natural Resources and "selected to represent the distinctive natural habitats and landforms of the province, and are protected for educational purposes and as gene pools for research to benefit present and future generations" (Ontario Parks 2000).

During the past 15 years, the park resource managers have initiated management schemes to conserve critical components of the dune ecosystem. These programs include dune rehabilitation, removal of pine plantations, controlled burns, and White-tailed Deer culling.

To stabilize portions of the first dune ridge, beach grass (*Ammophila breviligulata*) has been planted by groups of volunteers including Friends of Pinery Park, high school students, youth groups and club groups. Where foot traffic over dunes has resulted in excessive erosion and trampling, some pathways have been closed to the public and others provided with boardwalks to direct traffic flow and eliminate such damage to the dunes.

In the mid 1900s, the open meadows and oak woodland throughout the dunes were not recognized as an oak savanna ecosystem but rather as degraded forest lands on poor sandy soils. Since early in the 1900s, government initiatives to reclaim such land throughout southern Ontario included the planting of pine trees to reduce erosion and provide a harvestable crop of trees (T. Crabe, pers comm. 2000, Lambert 1967). Beginning in 1957, and continuing for the next 15 years, over three million pine trees were planted throughout the park. As these pines matured, their dense shade and pine litter effectively eliminated the grasses and prairie vegetation of the oak savanna ecosystem (Bakowsky 1995). Recognizing that one of the largest remnants of this globally imperilled ecosystem was located in Pinery Provincial Park, park resource managers began initiatives to restore it. Since the mid 1980s, work parties of volunteers under the direction of Ministry of Natural Resources personnel have removed substantial numbers of these introduced pines to recreate openings among the oaks.

Coupled with the planting of pines, the suppression of fire within the park has also jeopardized this ecosystem (Bakowsky 1990, 1995, Van Wagner 1993). Prior to European settlement, naturally occurring burns maintained conditions for prairie and savanna vegetation. Since the late 1980s, about 800 ha of the park have undergone controlled burns to rejuvenate the oak savanna vegetation. This effort to rehabilitate the oak savanna by controlled burns was being compromised by over-browsing of germinating and re-sprouting prairie and savanna vegetation by White-tailed Deer in the

Ecological Interaction: Deer and Hooded Warbler

A fundamental precept in ecology is that "everything is connected to everything else." The extirpation and proposed re-introduction of the Karner Blue butterfly within this IBA is an example of this precept. During its larval stage, the Karner Blue requires a specific host plant, namely Wild Lupine (*Lupinus perennis*) that grows in oak savanna (Schappert 2000). In time, natural succession within the oak savanna creates habitat unsuitable for this plant. Without periodic fires, the fire-adapted oaks and prairie species are displaced by fire-intolerant ones that shade plants such as Wild Lupines, thus eliminating them. Burns rejuvenated the shade-suppressed native ecosystem. Results seemed positive over the short term; however, within a few years of controlled burning, prairie and savanna species were not surviving. Severe browsing and grazing by a large population of White-tailed Deer were preventing the restoration of the oak savanna ecosystem (Bakowsky 1995). The efforts to restore oak savanna demonstrate the complexities of ecosystem management. White-tailed Deer numbers not only impact upon Wild Lupines and the Karner Blue but, as their over-browsing raises the browse-line, the deer struggle to reach higher. By supporting themselves on branches of rare species such as Dwarf Hackberry, the deer break branches and damage the plants. Their excessive browsing of vegetation also reduces the amount of plant food and shelter for other animals such as squirrels and chipmunks. The elimination of the understorey of shrubs and saplings removes nesting habitat for Hooded Warbler.

Reduction and management of deer populations at lower levels should allow recovery of the conditions to recover that could potentially support Karner Blue Butterfly once again.

park. In the late 1960s, there were an estimated 35 White-tailed Deer in Pinery Provincial Park. By 1992, there were about 880 deer; six times the number that this 2500 ha park can support if the vegetation and other animals are to thrive as well (Bakowsky 1995). Pinery Provincial Park should be able to support around 150-175 deer. Deer culls in November 1998 and 1999 reduced the herd significantly so that in March 2000 there were 216 deer (T. Crabe pers comm. 2000).

Lambton County Forest

The implementation of a management plan has included dune rehabilitation and removal of pine plantations, and has permitted a limited hunt to control population of white-tailed deer. Slash has become habitat for Hooded Warbler, and there been a recolonization of wild lupine.

7.3 Management achieved in the forest dune complex near Port Franks

About 500 ha of land in the vicinity of Port Franks are protected by the Great Lakes Wetlands Conservation Action Plan (GLWCAP), Ontario Ministry of Natural Resources, Lambton County Official Plan, Ausable-Bayfield Conservation Authority, and Lambton Wildlife, Inc. Through GLWCAP, 121 ha identified as Port Franks Wetlands and Dunes have been secured (Mason 1998). This site is designated a high security acquisition (GLWCAP Highlights Report 2000).

The Lambton County Heritage Forest together with other sites near Port Franks, has been designated an Environmentally Sensitive Area and an Area of Natural and Scientific Interest (ANSI) (Table 3). Provincially Significant Life Science ANSIs are the most significant and best examples of the natural heritage features in the province. Such

features have life science values related to protection, scientific study, or education. ANSIs play an important role in the protection of Ontario's natural heritage. As a Life Science ANSI, this county forest is recognized as one of the most significant and best examples of a Dune Forest Complex in the province. Wetlands in the Port Franks area have been designated provincially significant. A significant wetland is an area identified by the Ministry of Natural Resources using evaluation procedures established by the Province.

The Official Plan for Lambton Shores is in revision at present. In the Lambton County Official Plan (1998), the forest complex within the IBA is identified as an Anchor Site because of its size and almost 100 percent forest cover. Within the Lambton County Natural Heritage System, all lands within the IBA are designated as a primary Natural Heritage Corridor. Portions of the IBA containing provincially significant wetland and habitat of threatened species are classified as Group A features where no development is permitted. Adjacent to the Group A features are Group B features within which development may be permitted only if "it can be demonstrated that no negative impacts on the features or their associated ecological functions will result" (Lambton County Official Plan 1998). Group B features within the IBA are comprised of the primary corridor (including the Anchor Site), fish habitat, significant woodland and wildlife habitat, the ANSI and wetlands of local significance.

Lambton Wildlife, Inc., has conducted prescribed burns in 1999 and 2000 in cooperation with the Ontario Ministry of Natural Resources burn team at their Karner Blue Sanctuary. The burns are part of their efforts to create conditions for the growth of Wild Lupine. Plans and work are in progress to reintroduce the now extirpated Karner Blue butterfly (Elliott 2000).

The Ausable-Bayfield Conservation Authority owns L-Lake Management Area, which is a recognized songbird migratory stopover area. The property is managed by the conservation authority to preserve the wetlands and the forested dunes and to manage both forest and wildlife.

8.0 Stakeholder and First Nation Activities

Pinery Provincial Park, owned and managed by Ontario Parks, is the largest landowner within the IBA. In addition to receiving and catering to large numbers of visitors, the park actively manages its ecosystems to restore natural habitat including oak woodland conditions and the beach dune system.

The County of Lambton, which owns the central "Port Franks Forested Dunes" tract, is gradually implementing its management plan to restore open oak forest habitat. Management has included selective cutting to remove planted pines. Lambton Wildlife, Inc. has also managed their property adjacent to the County forest to promote oak

savanna conditions and support habitat conducive to recolonization by the Karner Blue Butterfly.

Lambton Wildlife, Inc. is a non-profit, volunteer organization of Lambton County residents. They actively promote the natural history of the county and support the establishment and care of conservation areas and wildlife sanctuaries. Members are active in documenting wildlife observations in the area, and involved in formal monitoring programs. A long-term initiative is to re-introduce the Karner Blue butterfly to the county at their Karner Blue Sanctuary. Like Pinery Provincial Park, Lambton Wildlife Inc has used prescribed burning on their property. Currently Lambton Wildlife, Inc. is completing an insect inventory in the area around Port Franks. The organization offers its members both indoor and outdoor programs exploring natural history and environmental issues. It also provides a Young Naturalists Program.

The Ausauble-Bayfield Conservation Authority owns land near and adjacent to the County Forest, and has conservation as part of its mandate. The Attawandaron Scout Camp is situated adjacent to Pinery Provincial Park, and includes a substantial tract of forest. The Chippewas of Kettle and Stoney Point First Nation are situated on the southwestern part of the IBA. They are presently negotiating terms of the return of the former military camp Ipperwash with the federal government. Much private land, including permanent residences and cottages, is situated throughout the area, with major settlements located at Kettle Point, Ipperwash, Port Franks and Grand Bend.

The Friends of Pinery Park is a non-profit, charitable organization whose members are actively involved in nature interpretation, environmental education, and scientific surveys and in monitoring of the park's flora and fauna. During the third weekend of May, Friends of Pinery Park and staff of the provincial park host the Pinery Migration Weekend, an opportunity for visitors to observe birds and learn about migration with the help of park interpreters and naturalists. For children, members offer a Junior Friends program. Friends of Pinery Park operate Savanna Shores Nature Gift Shop. The shop's profits fund projects and facilities identified by Friends of Pinery Park board of directors in co-operation with park administration. As participants in resource management of the park, members maintain an Osprey nesting platform, plant beach grass to stablilize sand dunes, and clean up trails, rivers, and campgrounds. The Friends have also supplied money to support research including Dr. Bazely's work to monitor the recovery of the oak savanna in the post deer herd period and post burn states, and Dr. Maun's work on the recovery of the Pitcher's Thistle.

9.0 Threats

9.1 Housing development (loss of habitat)

In their preliminary Environmentally Sensitive Area surveys in the early 1980s, Eagles and Beechey (1985) suggested that the portion of the forest complex in the vicinity of Port Franks "appears to be threatened by development." During this time a new road was constructed along the eastern edge of the then Ipperwash Military Reserve and across the northern edge of the wetlands. The paved road between Northville and Port Franks bisects the entire forest complex in this area. At that time, the Township of Bosanquet zoning by-law prescribed the Port Franks site as environmental protection (20 percent), open space (25 percent), future development (35 percent), residential (5 percent), commercial highway (10 percent), and industrial extractive (5 percent) (Crabe 1983). The extremely high aesthetic value of this area, combined with relatively low land costs, may stimulate building. The provincial government recently removed the a surtax on lands purchased by nonresidents. This action is causing a buying frenzy along southern Great Lakes shorelines adjacent to the United States. (John Russell, pers comm.). Housing development within the forest ecosystem fragments the forest and introduces a range of threats and issues, many of which are described below.

9.2 Increased Predation and Parasitism

A stable population is one where natality (birth rates) and mortality (death rates) balance. When the scale is tipped towards mortality, a population declines and eventually becomes extirpated (goes extinct in the area). Such was the case of the Prairie Warbler and Karner Blue Butterfly populations at Pinery Provincial Park. When increased mortality resulting in population declines or extirpation is a result of human behaviour, there is a strong ethical argument to stop or change the behaviour.

There is strong evidence the complex consequences of people living near or in forests or natural areas includes damage to many species' populations. Some of these activities result in increased numbers of natural nest predators including raccoons, squirrels, chipmunks, Blue Jays, Common Grackles and Common Crows. The Brown-headed Cowbird is a nest parasite which lays its eggs in other bird's nests, often at the expense of the host species. It also benefits from feedlots and certain types of bird feed. Then, of course, there are domestic cats, the human introduced predators that efficiently prey on both adult and nestling birds.

Garbage and food wastes, waste grain, certain types of bird seed, and compost are all implicated in creating inflated populations of nest predators (and cowbirds). These species are consequently more abundant in our surrounding forests, and inflict a greater toll on forest birds, particularly those nesting in "open cup" type nests (Terborgh, 1989, Cheskey 1991, Friesen et al., 1998).

9.3 Recreational development/overuse

Bosanquet Township provides year-round recreational opportunities for hundreds of thousands of visitors as well as residents. Tourism is a major economic contributor to this community. The Lambton County Heritage Forest Management Plan (1994) examines the impact of nine recreational activities upon the county forest. These include passive activities such as hiking and nature observation, and more active pursuits such as mountain biking and snowmobiling.

9.4 Dune erosion

Young dunes are fragile. Embryo dunes, those closest to the lake, are subject to natural erosion by wind and occasionally by water during severe storms off Lake Huron. As dunes grow older (and "move" further from the lake beach), the extensive root systems of growing vegetation tends to stablilize them. Very old dunes are covered with forest. Throughout a dune system, wherever foot traffic is heavy, root systems are exposed and damaged; ultimately, erosion begins. The dune located directly behind MacPherson's Restaurant is a classic example of human-induced erosion (Lambton County Heritage Forest Management Plan 1994). Within Pinery Provincial Park, unauthorized trails across dunes are closed and people discouraged from using them by signage. Boardwalks have been constructed across dunes to direct foot traffic and Marram Grass planted to reduce erosion.

9.5 Over-browsing

As previously discussed, the large population of deer had caused significant over-browsing throughout the park. Efforts to rehabilitate the oak savanna with its associated prairie grasses and wildflowers by controlled burns were being compromised by over-browsing of the germinating and re-sprouting prairie and savanna species. Having reduced the numbers of deer to approximately 275 after two culls, park managers are confident that a third cull in the fall of 2000 will reduce the population of White-tailed Deer to the desired number, 150 to 175. Current monitoring indicates that the savanna is already recovering. Pinery Provincial Park has a five year herd reduction agreement with the Kettle and Stoney Point First Nation to reduce and maintain the herd at the carrying capacity level. Year 2000 is the second year of that agreement.

9.6 Diversion of water/canalization

A municipal drain runs through the Lambton County Heritage Forest along the Mud Creek floodplain. The Drainage Act permits the cleaning of the drain at any time by the Municipality (Lambton County Heritage Forest Management Plan 1994). Lambton Wildlife, Inc. has expressed concern that the dredging and opening up of Mud Creek could have consequences for IBA bird species (Elliott 2000). The floodplain along this creek may be prime habitat for Acadian Flycatcher and Red-shouldered Hawk.

10.0 The Action Plan

The following action plan lays out the basics for bird conservation in The Port Franks Forested Dunes Important Bird Area. The vision, goals, and objectives were developed over several meetings with the IBA Steering Committee. Bulleted strategies or actions follow each goal and objective. In some cases, a group or person responsible for leading implementation is suggested in brackets. This listing is not intended to imply priority, but simply present the intent of the Action Plan in a logical way. The IBA partnership is encouraged to establish a priority for undertaking or implementing the objectives and actions. Implementation and timeline will depend upon the interest and commitment of stakeholders, as well as the availability of resources. The suggested group responsible for implementation is listed in brackets, followed the action's priority: H=high, M=moderate, L=low. Note that "IBA Partners" refers to members of the IBA steering committee and the organizations that they represent.

The organizations and groups suggested as leading certain actions are as follows:

IBA steering committee	SC
Breeding Bird Atlas	OBBA
County of Lambton	LC
Pinery Provincial Park	PPP
Acadian Flycatcher/Hooded Warbler Recovery Team	RC
Federation of Ontario Naturalists	FON
Ausable Bayfield Conservation Authority	AB

10.1 Vision:

The Port Franks Forested Dunes IBA will promote, conserve, and enhance continuous natural forest cover from Kettle Point to Grand Bend to support viable populations of forest birds and habitat for migrant birds.

Caveat: The goals of this IBA will respect the goals of other management plans and policies for the area of concern.

10.2 Goals:

1. *To maintain and enhance breeding populations of IBA forest species of concern, specifically, Hooded Warbler, Acadian Flycatcher, Cerulean Warbler, Red-shouldered Hawk, Red-headed Woodpecker, and Tufted Titmouse*

    a. Establish population and habitat targets for these species within the IBA.
        - Determine populations of target species within the IBA (OBBA, IBA partners) (H)

- GPS and map territories (RT) (M)
- Establish habitat descriptions and guidelines for target species (RT, IBA partners) (M)
- Assess the amount of available habitat and current populations of these species (RT) (M)
- Enhance nesting and breeding opportunities for these species (e.g. protected "no cut" zones for Acadian Flycatcher and Cerulean Warbler, selective logging areas for Hooded Warbler, protected areas around Red-shouldered Hawk nest sites, and standing dead trees for Red-headed Woodpecker) (Stakeholders) (M)

b. Encourage major landowners to maintain mosaics of habitats and management regimes that reflect the needs of all species at risk while respecting the biodiversity of the site (IBA partners) (H)
   - Meet with forest managers of the County of Lambton, Pinery Provincial Park and Ausable Bayfield C. A. properties to review management plans as required (RT, CL, PP) (H)
   - Ensure that current management practices are not threatening known populations of species at risk (IBA partners) (H)
   - Continue removing pine plantations to create savanna habitat (Pinery PP, County of Lambton) (ongoing) (H)

c. Encourage consolidation of forest patches within the IBA, and connectivity of the forest patches within the IBA to large forests outside of the IBA
   - Conduct gap analysis to identify conservation priorities related to management and securement in the IBA (LC, RT, IBA partners) (M)
   - Produce overlays of breeding sites of priority species, rare habitats, and ownership (LC, RT, IBA partners) (M)
   - Secure key parcels as they become available and as resources permit (IBA partnership, NCC) (M)
   - Encourage connections between the IBA forests and those of the Ausable valley (M)
   - Explore starting, or encouraging a Land Trust within the IBA to facilitate land securement (FON, IBA partnership)

d. Communicate this plan to the County of Lambton for consideration and recognition in their Official Plan review and for recognition in the North Lambton Official Plan
   - Send copies of plan once completed to the mayors and planning departments (IBA partnership) (H)
   - Share the Plan with councils where possible (IBA partners) (M)

2. *To reduce human-related factors associated with reproductive failure and mortality among forest birds generally, and specifically among the IBA species*

a. Encourage and implement waste management strategies within the IBA that reduce available waste food and grains for species such as cowbirds, Blue Jays and raccoons
   - Work with major stakeholders (e.g., Pinery P.P., Municipality of North Lambton, Port Franks Ratepayers, Town of Grand Bend) to reduce availability of waste food (IBA partnership) (M)

b. Reduce the impact of residential-associated nest predators
   - Promote "Cats Indoors[3]" program where possible in the IBA (Lambton Wildlife Inc. Pinery PP) (M)
   - Discourage bird feeding which is likely to attract squirrels, Raccoons, Common Grackles, Blue Jays and Brown-headed Cowbirds (Lambton Wildlife Inc., Pinery PP)
   - Install signage to keep pets on leash within the "County Forest" (County of Lambton) (M)

3. *To provide stakeholders and public in the IBA with information and learning opportunities to support the habitat needs of IBA species through stewardship and management*

   a. Provide decision makers with information on habitat needs of species
      - Develop fact sheets on habitat needs of forest interior species, focusing on species at risk, based on Section 4 in this plan (Species at Risk Recovery Teams, IBA Partners) (M)
      - Distribute fact sheets to stakeholders and landowners in the IBA (County or Municipality) (M)

   b. Promote extension work through Pinery Provincial Park to general public about residential property management and how it can help (or hurt) forest species
      - Hold public workshops for Port Franks (and Kettle Point) residents on landscape management to benefit wildlife (especially IBA species) (Pinery PP, Lambton Wildlife Inc., Recovery Team) (M)
      - Produce information flyer tailored to local landowners and land managers about management options that benefit forest birds (IBA partnership) (M)

   c. Encourage involvement of Lambton Stewardship Council in promoting IBA goals and values
      - Share IBA plan with Lambton Stewardship Council (IBA Partnership) (M)
      - Inform the public of incentives for conservation and stewardship of private lands (Steering Committee, County, Lambton Stewardship, NCC) (M)

4. *To liase with local First Nations about the IBA*

[3] A program of the American Bird Conservancy, The Humane Society of the United States, and the American Humane Association.

a. Present IBA conservation plan to Stoney/Kettle Point First Nations (IBA partnership representatives) (H)

b. Explore with First Nation representatives what activities can support IBA goals, while maintaining and respecting their traditions, needs, and interests. (Steering Committee representatives, Stoney/Kettle Point First Nations) (M)

5. *To develop public awareness and support of IBA values including the importance of the area as a migration corridor for waterbirds, waterfowl, and landbirds*

a. Hold public events to promote the IBA and bird/nature conservation within the IBA
   - Hold public dedication ceremony for the IBA (done)
   - Conduct periodic hikes for the public (especially residents in the IBA) at different locations within the IBA to build awareness and appreciation of nature and forest birds specifically (IBA partners) (ongoing) (M)

b. Communicate relevant information about the IBA to community leaders and interest groups
   - Produce concise version of IBA plan for distribution to stakeholders (Steering Committee, FON) (H)
   - Put IBA information on Stakeholders' web pages (Stakeholders) (M)

c. Work with local schools and teachers to create awareness and interest in the areas' natural history, rich ecology and conservation issues
   - Develop resources appropriate for local schools related to the IBA
   - Deliver existing materials such as the FON's Wildlife in Jeopardy kits to teach young people about species at risk, and how their own actions and behaviours can both negatively and positively impact these species

d. Support the securement of swan/waterfowl staging area
   - Support and promote designation of "Lake Smith" as an IBA, and have it recognised in County and Municipal Official Plans (IBA Partners, FON) (M)
   - Work with Ducks Unlimited Canada, Lake Smith Conservationists, and other conservation groups towards securement of this area (IBA partners) (L)

6. *To encourage and support monitoring of and research on forest birds, particularly species identified within this Plan, and migratory birds, within the IBA*

a. Conduct thorough inventories to assess populations of IBA species of concern, and all Federal and Provincial species at risk
   - Develop target list of species and habitats for Breeding Bird Atlassers in IBA (Atlas Regional Co-ordinator, Atlas administration) (H)
   - Incorporate these inventories into Breeding Bird Atlas work (H)
   - Map distribution of significant species in IBA encountered during Atlas work (M)

- Establish plan to monitor locations of significant species in future years (IBA partnership) (M)
- Keep a secure copy of data set on species locations from Atlassing efforts (significant species reports) (Pinery PP, Lambton Wildlife Inc., Atlas Regional Co-ordinator) (H)

b. Establish protocols to monitor migration of landbirds through the IBA
   - Work with Bird Studies Canada, The Nature Conservancy and other organizations developing methods for describing the importance of an area for landbird migration (Lambton Wildlife Inc. Pinery PP) (M)
   - Determine relative significance of habitats for migrants, and promote habitat restoration where migrant habitat is degraded (IBA partners) (L)

c. Monitor and describe the significance of the coast for migrating water birds.
   - Establish "seawatch", and keep data set (Pinery PP, Lambton Wildlife Inc.) (L)

d. Assess the impact of nest parasitism and predation on nesting success within the IBA
   - Undertake population viability research on common forest interior species to determine reproductive success and impact of predators and nest parasitism (CWS, MNR, IBA parters) (M)

7. *To promote economic and social benefits associated with the forested landscape.*
   a. Promote IBA as a good birding site
      - Develop "birding guide" to the area similar to the Carden Plain guide produced in *Ontario Birds* (Lambton Wildlife, Pinery PP, Municipality, Chamber of Commerce) (L)
      - Promote significance of area for birds in general, without impacting sensitive species (IBA partnership) (M)
      - Promote opportunities to observe breeding Tufted Titmouse and migrant birds in birding journals and on Web pages (IBA partnership) (M)

   b. Develop protocol for reporting locations of significant breeding species (so as not to negatively impact significant species) (Lambton Wildlife Inc. IBA partners) (M)

   c. Promote ecotourism – opportunities to promote sustainable experiences in nature
      - Provide local service sector with IBA information including "birding guide" (IBA partners) (L)
      - Encourage local businesses to contribute to sponsorship of guide (IBA partners) (L)
      - Develop trail system and infrastructure to provide observation opportunities while directing visitors away from sensitive locations and features (County of Lambton, Municipality of North Lambton) (H)

11.0 Evaluation

Planning in complex circumstances should include a system of evaluating progress, rethinking goals and objectives and revising actions. This iterative approach to planning means not only that the plan is open to revision, but also that evaluation and revision are a fundamental part of the planning process. The FON and its national partners are committed to supporting IBAs in plan implementation. Local stakeholders have already invested in the IBA, and have a stake in its success.

While some of the actions within this plan fall within the mandates of stakeholders, other will require funding and human effort. The IBA committee is encouraged to meet annually to consider implementation priorities and collectively lever resources towards achieving some of the objectives.

An annual update on the conservation plan implementation would be of great value to the CNF, FON, and BSC. As Port Franks has joined the global family of IBAs, information on Port Franks Forested Dunes will be incorporated into BirdLife's global IBA database. This database will be used to report on conservation progress in IBAs. The information required is listed below.

- summary of general progress by the stakeholders group
- update on actions, objectives, and goals
- changes in actions, objectives, and goals (explaining why changes were needed)
- any changes in threats affecting the IBA species and site
- copies of any media coverage or materials produced
- an updated list of groups involved in the stakeholder group
- successes and failures within the IBA

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Appendix 1. IBA Program Partners

BirdLife International

A pioneer in its field, BirdLife International (BL) is the first non-government organisation dedicated to promoting world-wide interest in and concern for the conservation of all birds and the special contribution they make to global biodiversity. BL operates as a partnership of non-governmental conservation organisations, grouped together within geographic regions (e.g. Europe, Africa, Americas) for the purpose of planning and implementing regional programmes. These organisations provide a link to on-the-ground conservation projects that involve local people with local expertise and knowledge. There are currently 20 countries involved in the Americas program throughout North, Central and South America. For further information about BirdLife International, check the following web site: <http://www.birdlife.net/>. The Canadian Important Bird Areas Program has been undertaken by a partnership of two lead agencies. The Canadian Nature Federation and Bird Studies Canada are the Canadian BirdLife International partners.

The Canadian Nature Federation (CNF):

The Canadian Nature Federation is a national conservation organization with a mission to be Canada's voice for the protection of nature, its diversity, and the processes that sustain it. The CNF represents the naturalist community and works closely with our provincial, territorial and local affiliated naturalists organizations to directly reach 100,000 Canadians. The strength of our grassroots naturalists network allows us to work effectively and knowledgeably on national conservation issues that affect a diversity of ecosystems and human populations in Canada. The CNF also works in partnership with other environmental organizations, government, and industry, wherever possible. Our approach is open and co-operative while remaining firm in our goal of developing ecologically sound solutions to conservation problems. CNF's web site is http://www.cnf.ca.

Bird Studies Canada (BSC)

The mission of Bird Studies Canada is to advance the understanding, appreciation and conservation of wild birds and their habitats, in Canada and elsewhere, through studies that engage the skills, enthusiasm, and support of its members, volunteers, staff, and the interested public. BSC believes that thousands of volunteers working together, with the guidance of a small group of professionals, can accomplish much more than could the two groups working independently. Current programs collectively involve over 10,000 volunteer participants from across Canada. BSC is recognized nation-wide as a leading and respected not-for-profit conservation organization dedicated to the study and understanding of wild birds and their habitats. BSC's web site is http://www.bsc-eoc.org/.

Federation of Ontario Naturalists

The Federation of Ontario Naturalists (FON) protects Ontario's nature through research, education, and conservation action. FON champions wildlife, wetlands, and woodlands, and preserves essential habitat through its own system of nature reserves. FON is a charitable organization representing 15,000 members and over 105 member groups across Ontario. FON's web site is <http://www.ontarionature.org