Prince Edward County South Shore Important Bird Area Conservation Plan

Written for the

Prince Edward County South Shore Important Bird Area

Steering Committee and Stakeholders

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Acknowledgments

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1.0 Introduction

Try as I might, I just could not rouse either my daughter or son. *Morphee*, the goddess of sleep, had them firmly in her grasp. Giving up, I pulled my coat on and stepped outside into the cold late October air. The sky had cleared, the blustery northerlies had dropped, and conditions seemed perfect. Orion sparkled in the east sky. I smiled to myself. I loved these moments. The ground crunched under my feet and I pulled my touque down over my ears and turned on the headlamp. To this point, our "big birding trip" to Prince Edward Point had been disappointing to the children. The storm had put the kibosh on banding; no owls Friday night and bad weather most of Saturday. For some reason they were not interested in standing in a gale, watching for black specks over the grey water with almost indiscernible white marks on their wings through their foggy binoculars, or for the strings of loons and scaup.

Now it was 2:00 a.m. Sunday morning. Our last chance, I thought. Only an hour before we had been able to open nets for the first time. Now I hoped that I could return to a surprise. Around the bend, under the tree, and before me was the first lane with two 40 foot mist nets. Nothing! Along the trail to a second set of nets and . . . nothing! I started to despair as I approached the next group of nets. The beam of my light shone down the linear corridor and cut through the vegetation, illuminating the mesh, a few caught leaves, and some tattered string. But no -- wait. Something different caught my eye. I directed the beam to the back part of the second net. There it was. As I approached, it became clear that the one owl I'd seen was in fact two, one beside the other. Adrenaline coursed through my veins as I approached. The first bird was a feisty Northern Saw Whet Owl. I removed it without difficulty and slipped it into a carrying bag. Its warmth felt good against my cold hands. The second bird seemed a bit larger and darker. My heart pounded. As I carefully grabbed hold of its talons, it squeezed and I grimaced. We looked at each other. I noticed a different facial pattern, as did it no doubt on me as I extracted a claw from a tender part of my hand. This was no Saw Whet Owl.

So run the emotions of owl banders at Prince Edward Point Bird Observatory (PEPtBO), on the remote southeastern tip of Prince Edward County. This observatory, and particularly the Kingston Field Naturalists, have been instrumental in documenting the rush of birds through this part of Ontario each spring and fall. The area is a concentration point for migrating songbirds and raptors. Diving waterfowl, loons, and grebes congregate in huge numbers off the coast each fall, winter, and spring. [1]

Beyond Prince Edward Point, moving west along the south shore, is a band of wild habitat, some grazed at one time, most of it in various stages of natural succession. This area both historically and potentially provides habitat for a number of threatened species of birds including Henslow's Sparrow, and Loggerhead Shrike, and large numbers of continentally declining grassland bird species such as Upland Sandpiper. King Rail, Least Bittern, and Black Tern have been recorded in some of the wetlands.

Prince Edward County South Shore IBA is located in Prince Edward County along the northeastern shoreline of Lake Ontario in Southern Ontario (Figure 1). Prince Edward County is an irregularly shaped peninsula surrounded by the lake to the south and west, and the Bay

[1] E. Cheskey

of Quinte to the north and east. The IBA has been recognized as globally significant under the congregatory species category and nationally significant under the threatened species category.

Bird conservation within the IBA context was introduced to the Hastings Prince Edward Land Trust, a group of individuals and organizations working to protect and conserve the natural areas and the wild character of southern Prince Edward County. During the fall of 2000, an Important Bird Area Steering Committee was formed, largely from the Land Trust, augmented by representation from the PEPtBO and Kingston Field Naturalists. The steering committee has met several times to discuss issues and develop the foundation for this plan. Plans are works in progress, open to revision and rethinking. An expedited planning process has meant that not all stakeholders have had an opportunity to comment and provide input. New thoughts and ideas should and will be encouraged. It is hoped that this plan will be revised, an indication that it will have served a purpose.

The layout for this conservation plan is as follows. Chapter 2 describes the IBA program. Chapter 3 provides a geographical and biophysical context to the IBA. Chapters 4 and 5 describe the biologically significant features, particularly with respect to the birds. Chapters 6 to 8 discuss the human cultural activity and history of the site. Chapters 9 and 10 present opportunities and threats. The Action Plan is presented in Chapter 11. This document is fully referenced.

The Vision statement for the Prince Edward County South Shore IBA is as follows.

> *To conserve, manage and enhance the values of Prince Edward County South Shore Important Bird Area for all migratory and resident birds, contribute to bird habitat conservation, science, stewardship and education, and maintain, and restore the wild and natural character of the area for the citizens of Prince Edward County and beyond.*

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 seeking 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 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.

While the program at all stages is a voluntary one, the advantages of IBA recognition extend beyond those of conservation alone. There can be increased awareness of the true worth of the site among the local community, and community involvement can result in diverse groups working for a common cause.

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. Prince Edward County South Shore IBA has had the benefit of other groups' involvement in conservation activities such as the Hastings Prince Edward Land Trust, Quinte Conservation, and other stakeholders. IBA conservation plans are intended to be tools for stakeholders and interested parties and individuals to further bird conservation at their site.

3.0 IBA Site Information

3.1 Location and description

Site: Prince Edward County South Shore IBA, CAON003G
Location: 43°56' N, 76°53' W

Figure 1 IBA Boundaries

Prince Edward County South Shore IBA is located in Prince Edward County along the northeastern shoreline of Lake Ontario in Southern Ontario (Figure 1). Prince Edward County is an irregularly shaped peninsula surrounded by the lake to the south and west, and the Bay of Quinte to the north and east. With the construction in 1889 near Carrying Place of a three-kilometre canal across the peninsula's only connection to the mainland, Prince Edward County became Ontario's island county, home to 25,000 inhabitants. Bridges near Trenton (population 17,179), at Belleville (population 37,083) and near Deseronto (population 1,811), provide vehicular access to the county. Each bridge is about a ten-minute drive south of Highway 401. From Kingston (population 56,597), by way of the Loyalist Parkway, there is a fourth point of entry: a 15-minute ferry service that crosses the Bay of Quinte to Glenora. Picton (population 4,673), a 20-minute drive north of the IBA, is the county seat.

Prince Edward County has one of Ontario's highest percentages of seniors – 31 percent of the population (Henderson 2000). Tourism and agriculture are the county's major industries. Tourists are attracted by the many bays, coves, and beaches surrounding the rolling farmland that is scattered throughout with primarily deciduous forests and by one of the finest freshwater sand dune systems in the world at Sandbanks Provincial Park. Wellington Mushroom Farm is the largest producer of mushrooms in Canada. Black River Cheese Company is an award-winning industry. Essroc Cement Limited is the third-largest cement plant in Canada. Recently the county has been designated an Ontario Wine Region since the soil and the modifying effect of Lake Ontario provide ideal conditions for growing grapes (ibid.).

The IBA is on the south shore of the townships of Athol and South Marysburg between Point Petre and Prince Edward Point and Point Traverse at the tip of the Long Point Peninsula. The IBA is comprised of approximately 26 square kilometres of land and 65 square kilometres of nearshore waters. The land portion of the IBA lies between the lake and its northern boundary formed by Army Reserve Road, Hill Top Road to the hamlet of South Bay. From South Bay the northern limit of the IBA follows the shoreline of the peninsula including Flatt Point, Halfmoon Point, and Point Traverse to Prince Edward Point. East of this area the entire Long Point Peninsula lies within the IBA. Much of the IBA, about 45 percent, is public land that includes Point Petre Provincial Wildlife Management Area, Point Petre Antenna Site, Ostrander Point Crown Land Block, Little Bluff Conservation Area, and Prince Edward Point National Wildlife Area. The remaining land within the IBA encompasses approximately 60 privately owned properties. About 50 percent of these properties have a land use designation of "vacant land" (Ross 1999). The Prince Edward County South Shore IBA encompasses about 30 kilometres of shoreline, the only lengthy, undeveloped strip of shoreline remaining in Prince Edward County – indeed, one of the few shorelines of Lake Ontario that has remained undeveloped (Ross 1999).

The nearshore waters of the IBA in Lake Ontario extend from Salmon Point east to Prince Edward Point. The waters between the end of the Long Point Peninsula and the offshore islands Timber Island Provincial Nature Reserve and False Duck Island are also within the IBA. The IBA includes the nearshore waters of Prince Edward Bay extending from Point Traverse to the sheltered waters of South Bay and north to the mouth of the Black River. The northern boundary of the nearshore waters is Van Dousens Point, the north headland off the mouth of the Black River. The waters of the IBA extend five kilometres out from the shore along its entire length, Salmon Point to Van Dousens Point.

Prince Edward County South Shore IBA lies within the Mixed Woodland Plain Ecozone. The adjacent waters of Lake Ontario moderate the climate in all seasons: winds off the lake reduce the effects of humidity in summer and produce a bone-chilling dampness in winter. There are more frost-free days in the county than on the adjacent mainland. Although snowfall is about the same in the county as on the adjacent mainland, the amount of rainfall is less. The south shore of the county is the most drought susceptible area in southern Ontario (Levesque 1985).

Part of Prince Edward County is typical of rural Ontario with a picturesque landscape of pastoral farms and orchards, interspersed with small deciduous forests. About one-half of the county, however, has shallow soils less than 0.76 m deep over limestone bedrock. Glacier scraped

portions of the landscape expose a flat limestone plateau. Within the IBA, the limestone plateau is either covered with a shallow layer of loam topsoil or exposed bedrock creating alvar-like conditions. Limestone ledges along the southern shoreline extend into the lake, forming shoals before giving way to deep water.

The limestone bedrock slopes north so that on the north shore of Long Point Peninsula, for example, the sloping bedrock forms 18-metre cliffs along the Prince Edward Bay shoreline readily seen at Little Bluff Conservation Area. Along the lake are low-lying areas in which cobblestones pushed up by winter storms have formed barrier beaches. Protected from Lake Ontario, wetlands form behind some of these barriers. An example is Big Sand Bay Wetland at the base of Long Point Peninsula. Such a wetland is fed by drainage patterns created by the sloping bedrock forming an open water marsh with cattails and grasses. Black Ash and dogwoods may surround the inland side of the marsh forming swampland.

Away from the beach and shoreline where the limestone plateau is covered with a shallow layer of soil are abandoned pastures and fields created by early settlers for farmland. Shrubs and small trees are invading vacant lands no longer used for agriculture. In seasonally moist areas, dense dogwood thickets and copses of White Cedar have formed. In the dry grasslands, Red Cedar invades. Both private and public lands are undergoing natural succession.

4.0 IBA Species Information

4.1 Why South Prince Edward County Is an Important Bird Area

Prince Edward County South Shore IBA has been designated a globally significant IBA under the congregatory species category and nationally significant under the threatened species category. During spring and fall, the geographical and habitat features of the peninsula that forms Prince Edward County act as a funnel for birds on migration (Sprague 2000c). Of all the points and headlands of this irregularly shaped peninsula, Prince Edward Point is the most important. A total of 310-311 species of birds, mostly migrants, have been recorded at Prince Edward Point (Sprague 2000a), 92 percent of the birds recorded in Prince Edward County.

4.2 Congregatory Species

4.2.1 Waterfowl

In January 1996 and 1997, one-day peak numbers of Long-tailed Ducks totalled about 37,700, almost 2 percent of the global population (Canadian IBA Database 1998). On 17 April 2000, there were an estimated 150,000 Long-tailed Ducks in the waters of this IBA, 7.5 percent of the global population (Bain and Shanahan 2000). About 5,000 White-winged Scoters occur regularly in winter with recent one-day peak numbers of 12,800 in 1995 and 15,000 in 1996 (Canadian IBA Database 1998). This latter number represents 1.5 percent of the global population. The Greater Scaup overwinters regularly in numbers estimated at 10,000, 1.4 percent of the global population; however, a one-day peak of 39,000 in January 1995 represents more than 5 percent of this population (ibid.).

Other waterfowl regularly occurring during winter in large numbers include Common Goldeneye, Common Merganser, and Red-breasted Merganser. As well, Common Loon and Horned Grebe occur regularly in large numbers in the waters of this IBA during winter.

4.2.2 Raptor Concentrations

During the fall, large numbers of raptors move along the mainland shoreline of Lake Ontario. Winds from the west or northwest push these raptors into Prince Edward County and southward into the IBA (Sprague and Weir 1984). Prevailing winds tend to push these migrants along the southern shoreline, eastward to Prince Edward Point (Sprague 1987). The western end of the IBA, Point Petre, is also a concentration point as some raptor species and Turkey Vultures hesitate and shift flight directions to avoid the open waters of Lake Ontario. As many as 2,000 hawks per day have been regularly recorded in the skies over Prince Edward County South Shore IBA, including large numbers of Sharp-shinned Hawks, Red-shouldered Hawks, and Red-tailed Hawks (Canadian IBA Database 1998). A total of 17 species of raptors have been observed, including Bald Eagle and Peregrine Falcon. Vagrants include Swainson's Hawk and Ferruginous Hawk.

Daily maximum estimates for selected species during fall migration are described in Sprague and Weir (1984) and the Canadian IBA Database (1998): Red-tailed Hawk, 1,000; Broad-winged Hawk, 1,000; Turkey Vulture, 350; Sharp-shinned Hawk, 510; Red-shouldered Hawk, 100.

Prince Edward Point National Wildlife Area is unequalled in North America for the numbers of Northern Saw-whet Owl migrating during fall (Levesque 1985). Between 1975-81, for example, 2700 Northern Saw-whet Owl were banded (Harris 2000).

4.2.3. Landbird Concentrations

An outstanding number and variety of landbirds concentrate within this IBA, particularly at Prince Edward Point at the tip of Long Point Peninsula during spring and fall migration. The geographical features and the variety of habitats with good vegetation cover concentrate migrants in very large numbers in this IBA. A total of 162 species (excluding raptors) have been recorded, including 36 species of warblers, 20 species of sparrows and 12 species of flycatchers (Canadian IBA Database 1998). Hooded Warbler, a Threatened species in Canada, and Yellow-breasted Chat, a warbler of Special Concern nationally and Vulnerable provincially, are observed annually on migration. Daily censuses conducted during the migration period have recorded peak numbers of 200 to 500 individuals of common migrants in Ontario including Tree Swallow, Blue Jay, Black-capped Chickadee, Golden-crowned Kinglet, Ruby-crowned Kinglet, Yellow-rumped Warbler, White-throated Sparrow and Dark-eyed Junco. Migration events, here as elsewhere, are often weather dependent. When conditions cause particularly large fallouts of migrants, numbers in excess of 2,000 birds can occur. Numbers of Tree Swallow, Yellow-rumped Warbler and White-throated Sparrow may be as high as 10,000; 70,000 Dark-eyed Juncos have been recorded (ibid.)

4.3 Threatened Species

4.3.1 Potential IBA Species

Provincially, the Committee on the Status of Species at Risk in Ontario, and nationally, the Committee on the Status of Endangered Wildlife in Canada, assign status designation to species within their jurisdiction. Four species assigned such status within Prince Edward County South Shore IBA may occur in numbers that meet IBA criteria for Threatened species category; however, monitoring has yet to confirm breeding or, in some cases, to establish breeding numbers of these species. A decision to include Loggerhead Shrike and Henslow's Sparrow as IBA species is based on historical occurrence of these species and habitat potential within the IBA. If these species are not recorded within the IBA over the next five years, they should be removed from the list of IBA species.

Least Bittern

An uncommon breeder in the marshes of eastern Lake Ontario, Least Bittern is designated as Vulnerable provincially and of Special Concern nationally. On June 5, 2000, Craighead recorded two calling males in the Simpson Road Marsh and six in the Charwell Point Road Marsh, both in Point Petre Provincial Wildlife Area. Should 10 breeding pair occur within this IBA, then the population would be of national significance.

King Rail

King Rail is designated an Endangered species, both provincially and nationally. This rail is described as a very rare and irregular visitor in the region (Ron Weir, pers. comm). On June 5, 2000, Don Craighead heard one call in the Simpson Road Marsh, Point Petre Provincial Wildlife Management Area (Harris 2000). The presence of one of these birds in an area is nationally significant for it represents 1 percent of the Canadian population.

Black Tern

Black Tern has been observed at three locations in the IBA during the breeding season. On June 5 and June 24, 2000, 32 and 16 terns respectively were observed (Harris 2000). Although no breeding was confirmed, it was strongly suspected. A small colony exists within wetlands of Ostrander Point Crown Land Block. Agitated behaviour exhibited by adult birds suggests breeding; however, breeding has yet to be confirmed (Bland 1997). As well, adult birds have been observed in Big Sand Bay Wetland during the breeding season (Big Sand Bay Wetland 2000). Black Tern is designated a Vulnerable species in Ontario. Although no Canadian population estimate is available, a threshold of 50 pairs is used to identify nationally significant sites (Canadian IBA Database 1999). Should Prince Edward County South Shore IBA marshes contain 50 pairs or more of Black Tern, then the population would be of national significance.

Loggerhead Shrike

Loggerhead Shrike is designated an Endangered species both provincially and nationally. Two pairs of Loggerhead Shrike breeding in a specified area such as an IBA would warrant designation of the site as nationally significant for a threatened species. This species has not been recorded nesting on the southern shore of Prince Edward County since the early 1980s (Harris 2000). No Loggerhead Shrikes were observed during the 2000 season within the IBA, although one nest was found in the northern end of the county (ibid.). The Napanee Plain, about 35 km to the north on the "mainland," is the closest core breeding area of this species. Although the present landscape of the IBA is not ideal habitat for Loggerhead Shrike, the potential for Loggerhead Shrike breeding habitat exists (ibid.).

Presently in Ontario the Loggerhead Shrike Recovery Team, through the Ontario Birds At Risk program, spearheads the implementation of recovery of the eastern migrant population of Loggerhead Shrike. This program involves population and habitat monitoring, landowner education and, unique to a passerine recovery project in Canada, a captive breeding and release program. With the goal of providing a stock of birds for possible reintroduction into the wild and with the purpose of maintaining genetic diversity of the eastern migrant subspecies of Loggerhead Shrike, the Loggerhead Shrike Recovery Team developed a captive breeding program in 1997 (Loggerhead Shrike Recovery Actions 2000). During the 1997 and 1998 breeding season, about 30 young birds were taken into captivity and housed at the Metro Toronto Zoo and at McGill University. Two pairs bred in captivity in 1998 produced five young. At the end of the 1998 breeding season the total captive population was 49 birds.

Henslow's Sparrow

Four singing males heard in mid-May 1999 and two in May 2000 increase optimism that Henslow's Sparrow may again breed on Long Point Peninsula of the Prince Edward County South Shore IBA (Harris 2000). For one pair to do so would represent 2 percent of the national population of this nationally Endangered and globally Near-Threatened species. An uncommon breeder in eastern Ontario, about 40 pairs were found in the Kingston area during the 1981-85 Ontario Breeding Bird Atlas period (ibid.). Within the IBA, regular surveys along this southern shore of Prince Edward County during the last two decades indicate that Henslow's Sparrow was present throughout much of the 1980s and reappeared on three occasions since then: 1991, 1999, and 2000. In 1984, Sprague and Weir declared the status of this species in Prince Edward County as not fully understood; such continues to be the case today (ibid.).

While no sightings were made along the southern shore of what is now Prince Edward County South Shore IBA during the mid-1990s, just 100 kilometres to the east in the fields of Fort Drum, Jefferson County, New York, about 100 territorial males were recorded in 1995 (Levine 1998). Successful breeders here and elsewhere in New York State may well provide the source of breeding birds for eastern Ontario, including Prince Edward County South Shore IBA.

4.4. Natural History of IBA Species

4.4.1 Greater Scaup

The scaup, Greater Scaup and Lesser Scaup, are freshwater diving ducks, closely related to the Ring-necked Duck, Canvasback, and Redhead. Combined, the scaup are the most widespread diving duck in North America – their breeding population is larger than that of any of the other diving ducks and most dabbling ducks (Austin et al.1999). Referred to as "bluebills" by hunters, the two species are often considered together by waterfowl biologists because the two species are only distinguished with great difficulty from one another during aerial surveys. This presents biologists with species-specific management problems. Experienced birdwatchers familiar with scaup use several somewhat subtle morphological differences to distinguish between them (Kaufman 1990).

Mussels, Anyone?

A non-native mussel, the Zebra Mussel, was introduced into the Great Lakes system in 1986 by the dumping of ships' ballast water into Lake St. Clair. Within a few years, in Lakes St. Clair and Erie, the population density of this mussel (100,000/m^2) far exceeded the densities of native bivalves (10/m^2) (Petrie 1999). Zebra Mussel, a filter feeder, is capable of filtering a litre of water per day and removing most single-celled organisms that live suspended in a lake (Wittman 1999). Because of their high body fat content and ability to filter large quantities of water, Zebra Mussels concentrate ten times as much toxic substance, including PCBs, in their fatty tissues than native mussels do (ibid.). Organisms high in the food chain that feed on Zebra Mussels, including waterfowl such as scaup, will accumulate these toxic substances in their body fat. Studies of Tufted Duck, a related species living in Europe, showed that reproductive success dropped 60 percent when fed contaminated Zebra Mussels (Petrie 1999). Several research programs are currently underway in various regions, including Ontario (e.g., Long Point Waterfowl and Wetlands Research Fund and the University of Western Ontario) to examine the impact of contaminated mussels on Greater Scaup reproduction. As well, research on several aspects of the stopover ecology of both Greater and Lesser Scaup are underway at Long Point, Lake Erie under Dr. Scott Petrie (ibid.).

Greater Scaup breed across the north from Alaska through Central Canada to specific eastern regions including western Quebec and eastern Newfoundland. In Eurasia, Greater Scaup breeds from Iceland across northern Scandinavia, Russia, and Siberia. In winter, this species gathers along coastal waters of North America, northwestern Europe, and seas along the coasts of Japan and China. Significant numbers gather inland along the lower Great Lakes and in some localities of central Europe and western Asia (del Hoyo 1992).

Breeding populations of scaup have fluctuated markedly since 1955, according to the Waterfowl Breeding Ground Population and Habitat Survey; since the mid-80s, there has been a steady decline in numbers of about 150,000 scaup per year in North America (Austin et al. 1999). In 1998, less that 3.5 million breeding scaup were counted – the lowest number ever recorded (Anderson 1999). This number was 36 percent below the long-term

average for breeding scaup and 44 percent below the North American Waterfowl Management Plan's goal for these scaup species. During the 1990s, while populations of many common North American ducks remained stable or increased, scaup numbers declined significantly.

In fact midwinter counts have shown a steady decline throughout North America. Surveys demonstrate that such decline has not been the result of hunting (Austin et al. 1999). Most disturbing information from hunter-killed birds is that the proportion of young birds in the annual harvest has gradually declined since the 1960s. As well, the proportion of males to females has been increasing. Both these trends – decline in young birds and females – suggest declining reproductive success. In the late summer of 1998 a Scaup workshop brought scaup biologists from Canada and the United States together to discuss the decline in scaup populations and to initiate research to understand and prevent further declines (ibid.).

Adding confusion to this concern, observations during migration through the lower Great Lakes show significant increase in numbers of scaup and longer stopovers (Austin et al.1999, Petrie 1999, Wormington and Leach 1992). These observations are the result of shifting migration routes by scaup to and through Lakes Ontario and Erie and have been noted since the Zebra Mussel invasion of these waters (Wormington and Leach 1992).

This species breeds throughout the prairies and western boreal forest on small, shallow lakes and the western sub-Arctic adjacent to tundra pools. Nests, often clustered on small islands to avoid predation (Benoit and Rail 1996), take the appearance of loose colonies. Breeding predominantly in Alaska and northwestern Canada, Greater Scaup migrate across the boreal forest region of the country to winter on the Atlantic and Gulf Coasts of the United States or on the Great Lakes, particularly Lakes Ontario and Erie (ibid.). Estimated wintering numbers indicate that about 60 percent of the Greater Scaup winter on the Atlantic, 20 percent on the Pacific and 20 percent in the Interior, including the Great Lakes (Bellrose 1980). Along the coast, Greater Scaup favour the shallow waters of lagoons, estuaries, and sheltered bays. In the interior, they select the larger lakes. One half of the Greater Scaup wintering on the Atlantic coast do so between Massachusetts and Chesapeake Bay. One of the major migration corridors from the northwest of the continent to these coastal waters passes through the eastern end of Lake Ontario (ibid.). The adult males tend to remain further north than either females or immatures (del Hoyo 1992). Del Hoyo suggests that the tendency of Greater Scaup to concentrate in large numbers near sewage outlets in winter, particularly along maritime coasts, puts them at risk from pollution, perhaps more so than other ducks. Vulnerability to oil spills is also a concern (Benoit and Rail 1996).

Greater Scaup are opportunists when foraging, preferring to forage in shallow water less than 1.5 metres in depth (ibid.). They feed on animal and plant matter, consuming insects, crustaceans, worms, small fish, tadpoles, fish roe, and seeds. Studies indicate that molluscs make up over 80 percent of their diet (Bellrose 1980, del Hoyo 1992), although in some fresh water habitats plant matter may be the number-one food ahead of molluscs (Bellrose 1980).

4.4.2 White-winged Scoter

White-winged Scoter is one of three large, stocky sea ducks called scoters – others being Surf and Black. Males of each scoter species are predominantly black; females are dark brown.

There is no dramatic change in plumage during the year. The colourful bills or knobs at the base of the bill aid in distinguishing among breeding males (National Geographic 1999). This species is further distinguished from other scoters by a prominent white speculum on the wings, most evident in flight and as a small patch of white often visible when this duck is swimming. A small, white crescent-shaped dash below and behind the eye is evident in breeding males. Like all sea ducks, White-winged Scoter runs and flies on the water's surface during take-off. The flight is swift and direct, often low over the water. In flight, wing movements generate a whistling sound that may be heard up to 0.8 km away (Bellrose 1980). Behavioural and morphological studies suggest that scoters are closely related to Long-tailed Duck, mergansers, and goldeneyes (Brown and Fredrickson 1997).

White-winged Scoter is distributed throughout much of the northern region of the Northern Hemisphere and is absent only from eastern Canada to Norway (del Hoyo 1992). In North America, it breeds from the James Bay coastline of Quebec through the Hudson Bay lowlands of Ontario, the boreal forests in northwestern Ontario, Manitoba, the Prairie Provinces, and through northeastern and north-central British Columbia. Its breeding range extends below the tree-line through southern Nunavut, the Northwest Territories, and Yukon Territory extending into the Alaska interior. During the breeding season the greatest numbers of White-winged Scoter are found between Great Slave Lake, Northwest Territories, and the Arctic Ocean (Bellrose 1980). Formerly, White-winged Scoter bred into the contiguous United States in North Dakota.

Population status and trends of waterfowl are conducted by aerial surveys. Distinguishing among all three scoters from the air is difficult, so obtaining accurate population estimates for any individual species is not possible. Midwinter inventories of scoters reveal declining populations during a 40-year period from 1954 to 1994. Ground surveys in southern Manitoba revealed a drastic decline in that region of breeding White-winged Scoters (Bellrose 1980).

White-winged Scoter winters along both the Atlantic and Pacific coasts of North America as far south as Florida, the Gulf Coast, and Baja California. It winters in Europe, south to the Mediterranean, Black, and Caspian Seas and, in Asia, along the coasts south to Japan and eastern China (del Hoyo 1992). All three species of scoter winter on the Great Lakes but mostly on Lake Ontario where 97 percent of these scoters are White-winged Scoters (Bellrose 1980). On the Great Lakes, surveys suggest that numbers declined during the 1970s; however, more recently, in the 1990s, numbers appear to have increased in response to Zebra Mussels (Brown and Fredrickson 1997). Goodwin (1995) notes that 13,000 were recorded at the west end of Lake Ontario in February 1993. The Lake Ontario Mid-winter Waterfowl Inventory in January 1997 tallied 9,299 White-winged Scoters, most of which were in the waters at the east end of the lake (Bain and Holder 1997).

Wintering White-winged Scoters on Lake Ontario are joined by migrants in mid-May from the eastern seaboard of the United States between Long Island, New York, and Chesapeake Bay where 70 percent of the Atlantic White-winged Scoter population spends the winter. Spring migration begins as early as mid-March and continues into late May. Numbers build on Lake Ontario, for example, during the latter half of May (Goodwin 1995). Much of the White-winged Scoter migration occurs over land and during the day; over water, strings of White-winged Scoter often migrate during both day and night. White-winged Scoter is one of the last waterfowl

to reach its breeding grounds and one of the last to nest (Bellrose 1980). In Delta Marsh, Manitoba, for example, nesting occurs during the first two weeks of June. Breeding habitat includes large lakes often greater that 50 hectares or permanent ponds with lush aquatic vegetation and sandy bottoms (Brown and Fredrickson 1997). White-winged Scoter often nests in the dense cover of thorny bushes such as rose, raspberry, and gooseberry. Brown and Fredrickson (1997) thoroughly describe the natural history of the White-winged Scoter.

Predominantly a bottom feeder on breeding grounds and wintering areas, White-winged Scoters feed in water 5-20 m deep, although water depth in breeding areas may be less (ibid.). Molluscs, especially bivalves, crustaceans, and aquatic insects, are major food items. Studies suggest that White-winged Scoters often concentrate on specific foods at particular sites. Since White-winged Scoters feed on molluscs such as Blue Mussel and Zebra Mussel that are known to concentrate toxic chemicals, this species may serve as a bio-indicator of pollution in both marine and freshwater habitats (ibid.). Liver, muscle, and brain tissues of White-winged Scoter collected and analysed from north-central New York had measurable levels of PCBs (ibid.). Sea ducks such as White-winged Scoter often form large rafts in open waters adjacent to coastlines along oil transportation routes, making them highly vulnerable to oil spills.

4.4.3 Long-tailed Duck

Long-tailed Duck is one of several species of sea ducks, including scoters and eiders, that winter on the Great Lakes. The Long-tailed Duck is unmistakable in its dark brown and white plumage. The head is mainly white with a large dark brown cheek patch extending somewhat into the sides of the neck. Bellrose (1980) describes this duck's seasonal plumage as the most unusual of all ducks: predominantly white and grey in fall and winter and mainly brown in spring and summer. The contrast in both plumages is greater in the male than in the female. At a distance, Long-tailed Duck appears as a trim, swift flier low over the water, flashing white belly, then dark back as it twists and turns in flight. The name describes the two 25-cm central tail feathers of the male, often visible in flight but best seen when held at a 45-degree angle when swimming (ibid.).

Distributed throughout the Arctic of North America and Eurasia, numbers of Long-tailed Duck are considered stable in most regions (del Hoyo 1992). Generally speaking, Long-tailed Duck winter at sea in northern waters far off shore extending south to Washington State and the Carolinas in North America, northern France, the Korean peninsula and northern Japan in Eurasian waters. They also winter in large inland lakes of central Europe and North America, e.g. the Great Lakes. More Long-tailed Ducks winter in the waters of the Great Lakes than all other sea ducks combined. Banding suggests homing to specific wintering areas (Bellrose 1980). Immatures tend to arrive on Lake Ontario from the last half of September to the third week of October, remaining for a short time before continuing to the Atlantic coast. Adults arrive in mid-November and constitute most of the wintering numbers on Lake Ontario.

Pair formation or courtship behaviour occurs on the wintering grounds as early as December. Males gather in flocks, displaying to each other, before hen groups join them. The females respond aggressively during display until early February when displays become less frequent. In spring, they leave for the north between the third week of April and mid-May. Breeding Long-

tailed Ducks are spread across the Arctic tundra more than any other waterfowl (Bellrose 1980, del Hoyo 1992). They breed in remote northern areas in both the low and high Arctic on small tundra lakes, pools, bays, and rivers where their nesting activities are relatively unaffected by human activity (Lamothe 1996).

One threat to this diver on its wintering grounds is drowning by entanglement in commercial gill nets. As gill net fishing in the Great Lakes has decreased, so has mortality. Wintering birds form large rafts at sea and, when in nearshore waters, are particularly vulnerable to massive oil spills (del Hoyo 1992). Hunting has apparently little impact on numbers, for their fishy taste means they are not favoured by hunters. In Quebec, for example, Long-tailed Duck represents only 1 percent of the annual duck harvest (Lamothe 1996).

Long-tailed Duck will dive for food deeper than any other duck (Bellrose 1980). In waters off Wolfe Island in Lake Ontario, Long-tailed Duck were reputed to be caught in nets set at almost 75-80 m deep, although normal foraging depths observed in eastern Lake Ontario are in the 1-10 m. range (ibid.). Foods are predominantly crustaceans, molluscs, worms, and fish. In freshwater, small crustaceans called amphipods, aquatic insect larvae such as caddisflies, and midge larvae are major food items.

5.0 Other Elements of Conservation Value

The southern shoreline from Point Petre to Prince Edward Point within this IBA is a vast plain of limestone bedrock (Ross 1999). The flat, open spaces have very shallow soil or none at all. Frequently treeless, these surfaces have distinctive flowering plants, mosses, lichens, and often-distinctive animal life – snails, insects, and other invertebrates – as well as their own suite of birds (Reid 1996). Ross (1999) states that the southern shoreline of the IBA contains globally rare alvar habitat and suggests that this landscape is conducive to the creation of alvar communities. Alvars occur only the Great Lakes Basin and in southern Sweden and Estonia, particularly the islands in the Baltic Sea. Eighty-five percent of North American alvars are in Ontario (Reid 1996).

As well as migrant birds, large numbers of migrant Monarch Butterflies, damselflies, and dragonflies move through the IBA in fall. In 1995, Prince Edward Point was declared an International Monarch Butterfly Reserve. On this point of land reaching into Lake Ontario, large numbers of Monarchs wait for favourable winds so they can cross the lake (Levesque 1985).

Rare plants such as Ontario Aster, Downy Woodmint, and Clammyweed, requiring largely undisturbed sites, thrive within the IBA (Sprague, pers.comm.). The Black Creek Valley Marshes and Forest and the McMahon Bluff Escarpment Forests are adjacent noteworthy woodlands (Larson et al. 1999).

6.0 Land Ownership and Use

6.1 Land Ownership

Land ownership within the Prince Edward County South Shore IBA is both public and private (Table 1) with approximately 45 percent of the land in public ownership. The largest property, Point Petre Provincial Wildlife Management Area, is 1276 ha. The nearshore waters of the IBA are under federal jurisdiction.

Table 1: Name and owner of properties within the Prince Edward County South Shore IBA

Name	Area (ha)	Owner
Prince Edward Point National Wildlife Area	560	Canadian Wildlife Service
Prince Edward Point Lighthouse		Parks Canada
Point Petre Antenna Site	63	Department of National Defence
Ostrander Point Crown Land Block	324	Ontario Ministry of Natural Resources
Point Petre Provincial Wildlife Management Area	1276	Ontario Ministry of Natural Resources
Little Bluff Conservation Area	70	Prince Edward Region Conservation Area
False Duck and Timber Islands		Ontario Parks - Ontario Ministry of Natural Resources (Provincial Park)

6.2 Land Use

Historical

Archaeological studies provide evidence of native peoples of Algonquin and Iroquois culture living on lands in Prince Edward County (Ross 1999). By the late 1600s, both native peoples and Europeans hunted and fished the lands and waters of Prince Edward County. Settlement in numbers began in 1783 with the arrival of United Empire Loyalists after the American War of Independence (Levesque 1985). Lands within the IBA were assigned in large blocks. For example, Captain Joseph Allan was assigned the lands on Long Point Peninsula. Large sections of the county were cleared of trees, and farming began. Along the south shore, within the IBA, the shallow soils were unproductive and suitable only for livestock grazing. Farmers in other parts of the county where soil quality and depth of soil were better grew wheat and other grain crops. By the mid-1800s many farmers were growing hops and barley, with Prince Edward County producing more hops than any other Ontario county (Capon 1986). Most of these crops were exported to New York State for the brewing industry. By the 1880s vegetable crops such as peas, corn, and tomatoes were replacing the diminishing hop and barley trade, and by 1900, of the 15 canning factories operating in Canada, eight were in Prince Edward County.

As farming proved unproductive along the southern shore of the county, settlers either abandoned the land or turned to other occupations. Commercial fishing provided a living for

several families living at Prince Edward Point (Levesque 1985). The offshore waters of eastern Lake Ontario and the Bay of Quinte have been and continue to be the primary fish habitat in the Canadian waters of Lake Ontario (Hoyle et al. 2000). During much of the 1800s, transportation in Ontario was by means of water routes, as roads were in poor condition or non-existent. A number of shipyards sprang up in the county, including Prince Edward Point. Lake navigation had its perils, particularly on eastern Lake Ontario. By 1883 about 40 vessels and 672 lives had been lost in these waters at the eastern end of the lake. Fall weather could be severe. In the fall of 1878, for example, 64 vessels anchored off Prince Edward Point during a four-day storm (Levesque 1985). The waters off the IBA part of Prince Edward County are known as the "Marysburgh Vortex," Prince Edward County's "Bermuda Triangle." Here most of the shipwrecks on the Great Lakes occurred during the schooner era (Ross 1999). In 1881 a lighthouse was built at Prince Edward Point and manned until 1941 when the light was automated.

The hops and barley trade with America may have diminished for county farmers in the late 1800s; however, the American prohibition of the 1920s ushered in trade in bottle form – rum running. Smuggling Canadian spirits to New York State ports from Prince Edward Point under cover of darkness provided substantial income for some and folklore for many along the border region of Ontario and New York (Levesque 1985).

The poor soil conditions that led to abandonment of the land as farmland likely attracted the attention of the Canadian Army during World War II. As elsewhere in the province, marginal agricultural lands became training sites and, in this case, used for tracked vehicles (Harris 2000)

Judd and Spiers (1964) in *A Naturalists' Guide to Ontario* make no mention of the southern shore of Prince Edward County. In 1930 a faunal survey of the county undertaken by the Royal Ontario Museum determined that this region of Ontario was an important area for birds (Harris 2000). During the 1960s the Kingston Field Naturalists banded and observed birds and recognized the lands now designated as an IBA as an important staging area for birds during spring and fall migration (ibid.). Between 1975 and 1981 the Kingston Field Naturalists established Prince Edward Point as an important migration monitoring location where they banded over 64,000 birds of 160 species, including 2,700 Northern Saw-whet Owls. During this time the Kingston Field Naturalists, with the cooperation of the Canadian Wildlife Service, prepared a proposal for the acquisition of lands at the tip of the Long Point Peninsula for a National Wildlife Area (Machell 2000) (See Section 7.0.). In 1980 Prince Edward Point National Wildlife Area was established and a portion of this important staging area protected. Previously, the point was owned by American interests, whose intentions were to build a luxury cottage complex with an accompanying airfield (Ross 1999).

Current

The south shore of Prince Edward County, Point Petre to Prince Edward Point, is a conservation project of the Hastings Prince Edward Land Trust. The Background Research Report prepared by Allison Ross (1999) examines the goals of the Land Trust in terms of the Prince Edward County Official Plan, general development strategies, and land use designation policies. Rural, Outdoor Recreational and Environmental Protection land use designations apply to properties of the

southern shoreline within the IBA. The crown lands are designated Outdoor Recreational in the Prince Edward County Official Plan and private properties are designated Rural. Much of the land along the immediate shoreline of the lake is Environmentally Protected. Ross (ibid.) points out in her report that Rural may be considered a "holding zone" in which the land use may change pending development opportunities. Under both Rural and Outdoor Recreational use designations a broad range of development is permitted.

The private lands between Point Petre and Prince Edward Point are about 34 percent vacant, 9 percent residential, including cottages, and 28 percent dairy or mixed farming. There is no specific use documented for the remaining 29 percent. Much of the vacant land was formerly farmland, abandoned because of poor soil and poor agricultural production and allowed to go fallow. People currently use these lands within the IBA for camping, hunting, nature study, off-road tracking, and snowmobiling. Picnicking, sunbathing, and swimming are popular activities at Point Petre. At the eastern end of the IBA at Prince Edward Point National Wildlife Area, swimming and picnicking are also popular summer activities. No camping or use of off-road vehicles is permitted. The Department of National Defence maintains the Point Petre Antenna Site, which is fenced and access prohibited. In the spring of 1995 the Prince Edward Point Bird Observatory was established (Machell 2000). A non-profit organization, the observatory operates each spring with a number of local volunteers, university students gaining field and research experience, and birders from Europe wishing to experience the North American bird migration. In 1999 Prince Edward Point Bird Observatory became a member of the Canadian Migration Monitoring Network. During its first six years in operation, observatory volunteers have banded approximately 17,000 birds of 120 species. This work continues the banding program begun in 1976-81 by the Kingston Field Naturalists. The observatory has facilities for its banding laboratory and accommodation, courtesy of the Canadian Wildlife Services.

Commercial fishing continues from a small fishing village at the tip of Prince Edward Point adjoining Long Point Harbour. The Canadian Wildlife Service owns lots that it leases to commercial fishers (Levesque 1985). At present there are 12 licensed fishers whose activities are regulated by the Ontario Ministry of Natural Resources. Between 90,000 and 140,000 kg per year of Lake Whitefish are caught, primarily in November (Stewart Murray, pers. comm.). Sport fishing and fishing charters are limited activities from Long Point Harbour: Lake Trout in spring and bass later in the season. The waters of eastern Lake Ontario and Bay of Quinte are the primary Canadian waters of the lake that support a small but locally significant commercial fishery (Hoyle et al 2000). The wholesale value of the catch is $1 million annually. Fish caught include Yellow Perch, Lake Whitefish, eel, and Brown Bullhead. Concern about the viability of this fishery exists because for a number of years the production of young fish has been poor, attributed to recent rapid changes to the ecosystems of Lake Ontario and the Bay of Quinte (Hoyle et al 2000).

In the nearshore waters of the IBA, three dive charter operators and individuals seek shipwrecks off the coast of Long Point Peninsula. The diving season operates from May to October with an average of 12 dives per week (Stewart Murray, pers. comm.). Recreational boating is a summer activity in these waters.

7.0 Management Achieved

The IBA species and landbird migrants are protected under the Migratory Bird Convention Act of 1917. The birds of prey and Turkey Vulture are protected in Ontario under the Fish and Wildlife Conservation Act of Ontario. Bald Eagle and Peregrine Falcon are also protected under the Endangered Species Act of Ontario. The Prince Edward Point National Wildlife Area is managed by the Canadian Wildlife Service and protected under the regulations of the Canada Wildlife Act of 1973. The Management Plan of Prince Edward Point National Wildlife Area was prepared in 1985 by Helene Levesque to provide the framework for management activities within the National Wildlife Area. The establishment of this National Wildlife Area in 1980 was hailed as a significant achievement of the Canadian Wildlife Service. The National Wildlife Area program began in 1966 with the objective of protecting essential habitats for wildlife in Canada. Many of the early National Wildlife Areas preserved wetlands, habitat for waterfowl, marsh birds and shorebirds. The designation of Prince Edward Point National Wildlife Area expanded the role of National Wildlife Areas to that of preserving habitat for migrating landbirds and raptors. The nearshore waters of the IBA have no environmental protection at this time.

Bringing Back the Grassland

Scott Weidensaul (1999) describes the loss of native grassland habitat for grassland birds as "nearly apocalyptic." The long-abandoned fields within Prince Edward County South Shore IBA present a unique opportunity to enhance and increase grassland bird habitat in a strategically important part of Ontario.

Based upon his research in Ostrander Point Crown Land Block, one of the largest, undisturbed public lands in eastern Ontario, David Bland (1997) proposes an environmental management plan for grassland birds. Bland recommends mowing and cutting to reduce and control the invasion of these fields by woody shrubs and trees. Natural succession would be slow because of the poor, unproductive soil. Of course, the location is ideal for being discovered by migrating birds. Bland's specific proposal would result in 60 ha of high quality grassland. If his plan is implemented at Ostrander Point and proves successful, other pastures and old fields within the IBA could be similarly managed for grassland species. Opportunities to increase grassland could involve ranching and pasturing of animals to maintain the early successional stages – a strategy that is being pursued in the Carden Plain IBA.

Declining grassland species breeding within this IBA such as Grasshopper Sparrow and Upland Sandpiper would benefit from active management. Perhaps with appropriate management the Endangered Henslow's Sparrow may be encouraged to become part of the suite of grassland birds within Prince Edward County South Shore IBA. Historically, they have bred here and most recently they have sung on territory – albeit briefly – perhaps announcing their intention to return.

Parks Canada has proposed the offshore areas within the IBA as a Candidate Marine Conservation Area for Lake Ontario on the basis of both cultural and natural heritage. If this

designation is realised, it should provide a policy basis for protecting much of the aquatic zone of the IBA.

Point Petre Wildlife Management Area is one of 33 Wildlife Management Areas for recreational day use by Ontario residents. Activities are regulated and may be restricted. The Kingston area office of the Ontario Ministry of Natural Resources administrates the management and responsibilities of ownership of this Wildlife Management Area. In 1982 and 1983, two wetland enhancement initiatives were undertaken by Ducks Unlimited Canada (DUC), resulting in a 56.5 hectare and 57.4 hectare impoundment respectively. A conservation agreement is in place between DUC and OMNR directing the management of these two project sites. In 1998 a natural history inventory of the adjacent Point Petre Antenna Site was undertaken (Harris 2000). The Ontario Ministry of Natural Resources manages the Ostrander Point Crown Land Block. An integrated land-use plan is in preparation for this Crown Land Block. The Ontario Ministry of Natural Resources with its partners, Canadian Wildlife Service, Bird Studies Canada, Ducks Unlimited Canada, and Kingston Field Naturalists, recognizes the need for an integrated planning process to guide the management of this property. In 1997 David Bland prepared "An Assessment and Management Prescription for the Ostrander Point Crown Land Block in Prince Edward County" for the Ontario Ministry of Natural Resources, which includes a management plan for the property.

In 1995 an International Monarch Butterfly Reserve was established at Prince Edward Point by the Commission for Environmental Cooperation (CEC), an international organization created by Canada, Mexico, and the United States under the North American Agreement on Environmental Cooperation (NAAEC). Canada and Mexico are creating an international network of reserves for this butterfly in recognition of its migratory cycles. At present there are three reserves in Canada and one reserve together with five sanctuaries in Mexico (North American Commission for Environmental Cooperation 2000).

Prince Edward County South Shore IBA is the latest in a number of areas of the county to be recognized for nature conservation. Collectively these sites all enhance the opportunity for residents and tourists to the region to experience the natural attractions of this county. Two Areas of Natural and Scientific Interest (ANSI) are adjacent to this IBA: the McMahon Bluff Escarpment Forests and Black Creek Valley Marshes and Forest, both regionally significant ANSIs. As well as Little Bluff Conservation Area within the IBA, the Prince Edward Region Conservation Authority manages nine other properties. Macaulay Mountain, on the outskirts of Picton, is a 172 ha conservation area that is the Conservation Authority's headquarters as well as a year-round education and recreation facility. Just 10 kilometres northwest of the IBA is Beaver Meadow Wildlife Management area, a waterfowl and upland game bird sanctuary that provides controlled waterfowl hunting opportunities, an excellent site for nature interpretation, and a link to the Quinte Nature Trail. To the west of the IBA, across Athol Bay, lies Sandbanks Provincial Park, one of Ontario's unique Natural Environment Parks for it contains one of the finest freshwater sand dune systems in the world. The Sandbanks provides a wide variety of habitats for both breeding and migrating birds. About two kilometres offshore from Prince Edward Point National Wildlife Area is Timber Island Provincial Nature Reserve, an important stopover site for migrating birds in eastern Lake Ontario (Timber Island Provincial Park 1997).

8.0 Stakeholder Activity

Canadian Wildlife Service
The Canadian Wildlife Service contributes to the conservation of wildlife and natural habitats through research, monitoring, enforcement, management, and partnership programs. In cooperation with the province of Ontario and other government and non-government organizations, innovative approaches are developed and applied to conserve and restore critical remaining natural areas through programs such as the Great Lakes Wetlands Conservation Action Plan and the management of National Wildlife Areas and Migratory Bird Sanctuaries (Canadian Wildlife Service web page). CWS owns and manages Prince Edward Point National Wildlife Area and is responsible for the enforcement of the Migratory Bird Convention Act. The CWS web page is: http://www.on.ec.gc.ca/wildlife_e.html

Transport Canada
Owns and operates lighthouse facilities at Prince Edward Point and on Timber and False Duck Islands.

Parks Canada
Parks Canada's mandate presented as follows on their web page: "On behalf of the people of Canada, we protect and present nationally significant examples of Canada's natural and cultural heritage and foster public understanding, appreciation and enjoyment in ways that ensure their ecological and commemorative integrity for present and future generations." Parks Canada is proposing a Candidate Marine Conservation Area for Lake Ontario that would include the offshore waters within the IBA. The Parks Canada website is:
http://parkscanada.pch.gc.ca/parks/main_e.htm

Department of National Defence
Canadian Forces Base Trenton is the owner of Point Petre Antennae Site and operates the nearby Canadian Forces Base Trenton. 8 Wing CFB Trenton's webpage is:
http://www.8wing.trenton.dnd.ca/

Ontario Ministry of Natural Resources
The OMNR core business is to "manage forests, fish, wildlife, Crown lands and waters, aggregates, fuel resources, and provincial parks and protected areas sustainability, so as to provide environmental, social and economic benefits. Sustainable development recognizes and supports the needs of society in a way that is consistent with the ecological capacity of the natural environment. The programs within the core business of natural resource management strive to achieve a balance between use and protection and ensure a broad range of values is recognized, through open decision-making and integrated delivery" (OMNR web page). The OMNR owns and manages Ostrander Point Crown Land Block and Point Petre Provincial Wildlife Area, as well as Timber and False Duck Islands. The OMNR web page is:
http://www.mnr.gov.on.ca/MNR/

Prince Edward County

This is the county within which the IBA falls. County governments are responsible for developing an Official Plan which determines land use, economic development policy tourism and settlement areas among other things. The Official Plan also provides for an environmental policy that may include identifying protected areas, including significant wetlands, woodlands and species. The municipality is also largely responsible for road maintenance. The Prince Edward County tourism webpage is http://www.pec.on.ca

City of Belleville

The largest proximate city, Belleville is a participant in Hastings Prince Edward Land Trust. The City of Belleville webpage is http://www.city.belleville.on.ca

Quinte Conservation

Quinte Conservation Authority's area of jurisdiction includes the Bay of Quinte area. Quinte Conservation offers a large array of services including an excellent educational and interpretive program that reaches into the IBA. It is a participant in Hastings Prince Edward Land Trust. Quinte Conservation's website with program information is:
http://www.pec.on.ca/conservation/events.html

Prince Edward Region Conservation Authority

This Conservation Authority Owns the Little Bluff Conservation Area. For information on conservation areas in Prince Edward County visit the webpage:
http://www.pec.on.ca/maps/conservationareas.html

Hastings Prince Edward Land Trust

This land trust is a collaboration of many people and groups concerned about securing and protecting the natural and cultural heritage of Hastings and Prince Edward County. The group uses its collective power to lever resources for land securement, resource inventory, and education.

Prince Edward County Stewardship Council

Stewardship councils are semi-autonomous organizations created by the MNR to organize and involve private landowners, particularly farmers, in the stewardship of their land. The Prince Edward County Stewardship Council "reflects the community. The individuals on the Council have a mix of skills and local landowner experience, including farming, tourism and commercial fishing. Although they are supported the Ministry of Natural Resources Stewardship Coordinator, who provides access to government resources as may be appropriate, final decisions on community stewardship priorities are made by the Council." The council's webpage is:
http://www.ontariostewardship.org/PEC/princeprof.htm

Ducks Unlimited Canada

Ducks Unlimited Canada (DUC) is a charitable non-governmental organization with a long and effective history of wetland conservation and restoration. DUC established impoundments at Simpson's Road and Charwell Point Road in the Point Petre Wildlife Area. The web page for Ducks Unlimited Canada is: www.ducks.ca

Prince Edwards Point Bird Observatory

The Prince Edward Point Bird Observatory (PEPtBO) is located along the eastern tip of Prince Edward County about 20 minutes southeast of Picton, Ontario, in a National Wildlife Area. The observatory was established as a migration monitoring station in 1995 to continue the research started by the Kingston Field Naturalists in the 1970s and '80s. The main objective of PEPtBO is to monitor migratory bird populations in the spring through observations, a daily census, and banding practices. The information collected each year can help to provide an idea of population densities, longevity, and migratory routes of various bird species. The PEPtBO webpage is: http://home.interhop.net/~peptbo/home.htm

Kingston Field Naturalists

The objectives of the Kingston Field Naturalists, an affiliate of the Federation of Ontario Naturalists and a non-profit, charitable organization, are: to acquire, record and disseminate knowledge of natural history; to stimulate public interest in nature and in the protection and preservation of wildlife and natural habitats, and; to acquire, receive and hold lands for the purpose of preserving their natural flora and fauna, and to encourage and assist other organizations to do likewise. The KFN webpage is: http://psyc.queensu.ca/~davids/kfn.html

Prince Edward County Field Naturalists

The Prince Edward County Field Naturalists, an affiliate of the Federation of Ontario Naturalists, was formed in 1997 to address the interests of a growing number of county residents curious about the natural world around them. The organization fosters and encourages conservation of natural habitat and undertakes projects related to public education, conservation, and awareness of natural history. The webpage for PECFN is:
http://www.pec.on.ca/naturestuff/pecnaturalist/index.html

Quinte Field Naturalists

The Quinte Field Naturalists Association, an affiliate of the Federation of Ontario Naturalists is non-profit organization sponsoring nature education, conservation and research. It was founded in 1949 and incorporated in 1990, and encompasses the counties of Hastings and Prince Edward. The Quinte Field Naturalists Association is legally entitled to hold real estate and accept bequests. The Quinte Field Naturalists webpage is:
http://www.pec.on.ca/naturestuff/quintenaturalist/index.html

9.0 Opportunities

The Prince Edward County South Shore IBA spans the southern shoreline of a region that Clive Goodwin (1995) in his *Bird Finding Guide to Ontario* describes as "one of the premier migrant concentration points in the province." With 336 species of birds recorded in Prince Edward County and 92 percent of those observed within the IBA, this site has the highest concentration and abundance of any site on the Canadian side of Lake Ontario (Sprague 2000a). Birdwatching opportunities are not only excellent during the spring and fall migration when landbirds such as warblers and sparrows are in large numbers but also during the winter when

large rafts of diving and sea ducks feed and rest offshore. The abandoned pasture and fields of the IBA provide breeding habitat for a variety of grassland species. In fact, the variety of habitats within the entire Prince Edward County peninsula provides birdwatchers with an impressive array of species during the breeding season – marsh birds on Big Island to the north and grassland birds along the southern shore of the IBA.

Residents of the county and surrounding region have the opportunity to experience birding within the IBA with experienced birdwatchers and naturalists of local clubs. The Prince Edward County Field Naturalists was formed in 1997. The club participates in conservation activities and field trips and holds monthly meetings as well as maintains a weekly birding column in the *Picton Gazette*. Members of the Kingston Field Naturalists have been active in the conservation and protection of the south shore of Prince Edward County and recording nature observations since the 1960s (see Section 6.1). The Quinte Field Naturalists Association has sponsored nature education, conservation, and research in Hastings and Prince Edward Counties since 1949. Over the years the Federation of Ontario Naturalists and the Ontario Field Ornithologists has sponsored annual trips to this area, led by local naturalist and co-author of *The Birds of Prince Edward County*, Terry Sprague.

Since 1997 the Quinte Field Naturalists and the Prince Edward County Field Naturalists, together with the local business community, have hosted the Prince Edward County Birding Festival during the third week of May. Guided birding tours and nature viewing opportunities are undertaken and promoted throughout the county; however, most of the activity occurs within the IBA at Prince Edward Point. In 1999, 500-600 participants joined local field naturalists in viewing the spring migration. Guest speakers, nature photography workshops, and guided hikes were offered (Sprague 2000b). The birding festival is a significant birdwatching opportunity and tourism event for the Prince Edward County community. Birdwatching is one of the fastest growing activities in North America, and in terms of numbers of participants is growing at a faster rate than golfing and gardening in the United States (Ross 1999). In Canada, over 25 birding festivals are organized annually. Well-known birding spots in the province, Presqu'ile Provincial Park and Point Pelee National Park, have long-running festivals that in 1999 attracted 10,000 and 80,000 participants respectively (ibid.).

Also supporting the birding festival is the Prince Edward Point Bird Observatory, which was established in the spring of 1995 (see Section 6.1). Prince Edward Point Bird Observatory is a non-profit organization of volunteers who monitor the spring migration through banding and a daily bird census. The observatory provides opportunities for public education and conservation concerning migratory birds. The banding program operates from mid-April to the end of May. The observatory publishes two newsletters each year. The next goal of the observatory is to expand its program to include the fall migration (Machell 2000).

The Hasting Prince Edward Land Trust is a community-based organization that encourages members of the community to work cooperatively to conserve the natural and cultural heritage of the community (Ross 1999). Through its volunteers, the Land Trust promotes related scientific research, educational and social activities, and the application of land conservation practices. The latter includes the protection of ecologically significant land and the rehabilitation of degraded areas. The long-term goal is to manage the land in a sustainable way. In Prince Edward County,

the Hastings Prince Edward Land Trust has initiated a project to conserve and preserve its southern shoreline. To this end the Land Trust has undertaken background research and developed a policy guide. Through public education and a landowner contact program, the Land Trust encourages good stewardship of the land (Ross 1999). This conservation project supports the vision and long-term goals of the Prince Edward County Official Plan and endorses the participation and goals of the IBA Ontario Program.

The southern shoreline, designated the Prince Edward County South Shore IBA, is one of the few shorelines of Lake Ontario that have remained undeveloped. A natural landscape of about 40 kilometres from Point Petre to Prince Edward Point along an alvar-like landscape would provide a special experience for residents and tourists alike. Using IBA species as a focus – grassland bird species in summer, waterfowl in winter, and migrants during the transitional seasons – there is opportunity to establish trails and viewing stations for visitors to experience nature areas on foot, by bicycle, or cross-country skis and to learn about environmental conservation. By conserving and preserving the southern shoreline, stakeholders will be ensuring the foraging and resting stopover habitats for thousands of migrating landbirds. By applying management practices to achieve grassland habitats, stakeholders will be ensuring breeding habitat for a group of endangered birds in North America, namely grassland birds. Such measures will attract tourists from many parts of the province, the country, and the world. Economically, aesthetically, recreationally, and educationally, the efforts of local nature clubs, the bird observatory, the Land Trust and IBA stakeholders can enhance the quality of life for county residents and their visitors.

10.0 Threats

The IBA steering committee identified several potential and real threats to IBA species. The highest priority threats are presented in Table 2 below. The following three threats are discussed in more detail.

10.1 Human Disturbance

Migrating birds disturbed from their foraging sites or resting areas may have their survival compromised. Migration requires large amounts of energy, and replenishing of energy supplies is crucial. Migrants require resting areas safe from attack by predators to recover from the previous night's flight and to preen or "prepare" flight feathers to continue their migration. With a potential of five threatened IBA species – Least Bittern, King Rail, Black Tern, Loggerhead Shrike, and Henslow's Sparrow – minimizing disturbance during the breeding season is crucial. Bland (1997) states, that in order to successfully manage nesting habitat for grassland birds within the IBA, human disturbance should be controlled.

10.1.1 Unregulated recreational vehicles

Off-road vehicles including 4x4 trackers and snowmobiles damage vegetation and soil profiles, particularly in low-lying areas or wetlands. These disturbances are particularly intrusive on the two provincially owned properties, Point Petre Wildlife Management Area and Ostrander

Point Crown Land Block. Camping occurs within the Wildlife Management Area although it is prohibited. The fire pits, garbage, and litter encourage others to misuse the properties.

Point Petre Wildlife Management Area is the only Wildlife Management Area in Wildlife Management Unit 70, Prince Edward County. Concern exists for poaching that results in indiscriminate shooting throughout the year (Ross 1999).

10.1.2 Human population growth

The expression "some place undiscovered" introduces a Prince Edward County tourist pamphlet. In many respects the attractiveness of this county has been its out-of-the-way appeal. The county population is predicted to increase by 3,000 to 4,000 people by 2011 (Ross 1999). With one of the highest percentages of seniors in the province, more seniors will be attracted to the region. A further prediction is that more commuters to Belleville and Trenton will choose to live in Prince Edward County.

The lands within the IBA are not serviced, and the Prince Edward County Official Plan acknowledges the problems concerning groundwater and bedrock along the southern shoreline within the IBA (Ross 1999). The Official Plan does not encourage development along this southern shoreline. In fact, lands designated within the IBA lie outside of the designated tourist corridor in the Official Plan (ibid.).

10.1.3 Exotic species

Much of the south shore area has experienced significant disturbance historically, whether cutting or burning of forest or grazing of livestock. Exotic plant species such as Dog Strangling Vine (*Vincetoxicum spp*), Garlic mustard (*Alliaria petiolata*), and Purple Loosestrife (*Lythrum salicaria*) have become well established and in many cases the predominant species within certain communities. These species displace native species, lowering the value and quality of habitat. Eradication of exotics and restoration of native vegetation on the thin soils of the IBA would present a significant challenge to those attempting to restore a healthy ecosystem.

10.2 Succession

The natural succession of plant communities impacts upon the lives of organisms, particularly if they are species adapted to live in early successional stages of vegetation growth. As Red Cedar and willow and dogwood thickets invade the old-field and abandoned farm and pasture lands of this IBA, birds that breed or forage during migration in such habitats are threatened with habitat loss. The problem is not so much that of natural succession – which has always impacted on these grassland species – but that such habitat is not readily available elsewhere anymore. Grassland birds face a bleaker future in terms of habitat loss in North America than any other group of birds (Weidensaul 1999).

The management proposal for the Ostrander Point Crown Land Block within the IBA by David Bland (1997) recommends the implementation of grassland management strategies that would enlarge and enhance the existing grassland communities and stop natural succession by

eliminating shrubs and small trees. A half-dozen grassland bird species could benefit from this management plan including the globally near Threatened and nationally Endangered Henslow's Sparrow. Implementing such a large-scale project may not be sustainable if it involves periodic manual removal of trees and shrubs, and would likely be unacceptable if it involved use of herbicides. Projects elsewhere have involved the use of prescribed burning or grazing animals. Finding agreement on sustainable grassland restoration methods will be a challenge.

10.3 Communication Towers

At the beginning of the 21st Century, communication towers are increasing in use and number. Such towers serve cellular telephones, digital television, radio, paging, messaging, and wireless data systems. The first public workshop addressing this concern was held in 1999 at Cornell University in New York State. In the United States, for example, there are 77,000 towers that pose threats to both planes and birds. Pilots respond to flashing lights on towers by avoiding them. Birds on the other hand, particularly at night and in foggy weather, tend to fly into them. The tower, guy wires, and related structures are all death threats. Shire et al. (2000) estimate that four to five million birds per year are killed flying into towers. Communication towers have killed over 230 species, mostly songbirds migrating at night, when the lights on the towers have confused them. Warblers and sparrows are most vulnerable, the two most common groups of birds banded within Prince Edward County South Shore IBA. Other vulnerable species include Bobolink, Clay-coloured Sparrow, and Henslow's Sparrow – all grassland birds breeding or possibly breeding within the IBA. The Henslow's Sparrow is considered Extremely High Priority on the Partners In Flight watch list and is an Endangered species in Canada as well as near Threatened globally. Of the 230 species mentioned above, 52 are on the Partners In Flight Watch list. The three most common species killed at communication towers in the United States include Ovenbird, Red-eyed Vireo, and Tennessee Warbler (ibid.).

The Point Petre Antenna site has a large number of towers which may pose a significant risk to migrating birds.

Table 2. High priority stresses on IBA species

Stress	Species affected	Source
Urbanization and settlement	Landbirds and waterbirds	Market, land values, economy, demographics
Succession	Landbirds	Natural process and historical land use
Recreational use ATVs	Landbirds nesting	Residents, visitors – 'thrill seekers', lack of education
Exotic species (Dog strangling Vine, Garlic Mustard, Purple Loosestrife, Mute Swans)	Land and marsh birds	Ecology
Towers – communication	Migrants	Siting of towers, lack of information on site, communications needs, Department of National Defence.
Commercial shipping (oil spills, disturbance)	Waterfowl	Shipping lanes and cargo, accidents, bilge
Hay harvest timing	Henslow's Sparrow and grassland birds	Timing of harvest and nesting activity
Loss of active ranching	Loggerhead Shrike	Economy, productivity of land, cost of fencing
Waste management and garbage	Waterfowl	Carelessness, lack of respect, remoteness

11.0 The Action Plan

The following action plan lays out the basics for bird conservation in the Prince Edward County South Shore 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. The suggested group or person responsible for implementation is listed in brackets. A suggested priority of actions is provided after each action with a notation of H (high), M (moderate), L (low) or ongoing.

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

IBA Steering Committee	IBA
Canadian Wildlife Service	CWS
Parks Canada	PC
Department of Nation Defence	DND
Ministry of Natural Resources	MNR
Prince Edward County	PEC
Quinte Conservation	QC
Hastings Prince Edward Land Trust	HLT
Prince Edward County Stewardship Council	PECSC
Prince Edward Point Bird Observatory	PEP
Federation of Ontario Naturalists	FON
Ducks Unlimited Canada	DUC
Ontario Breeding Bird Atlas Regional Coordinator	RC
Naturalist Clubs (Kingston, Prince Edward County, Quinte)	NAT
Friends of Point Petre	FPP
Fatal Light Awareness Program	FLAP

11.1 Vision

To conserve, manage and enhance the values of Prince Edward County South Shore Important Bird Area for all migratory and resident birds, contribute to bird habitat conservation, science, stewardship and education, and maintain, and restore the wild and natural character of the area for the citizens of Prince Edward County and beyond.

11.2 Goals, Objectives, and Actions:

1. Undertake habitat mapping and analysis of key features and functions

    a) Develop community level mapping within IBA locating key habitats, species and restoration potential of terrestrial and littoral zones

        - Secure resources and leadership for mapping project (ongoing) (HLT, CWS, MNR) (ongoing)

- Ensure that maps are GIS compatible (ongoing) (HLT, CWS, MNR)

- Undertake surveys and monitoring of Species at Risk (ongoing) (IBA, MNR, CWS, RC) (ongoing)

2. Develop protection, management, enhancement, and restoration objectives for IBA based upon existing habitat structure and ownership

    a) Develop and implement strategies for private land securement and protection

        - Secure priority lands within the IBA, as identified through mapping (M) (HLT)

        - Undertake landowner contact to communicate goals of the Land Trust (ongoing) (PEDSC, HTL)

        - Present IBA plan to Stewardship Council (H) (FON, IBA)

        - Promote private land stewardship for bird conservation such as compatible farm activities, e.g., grazing of cattle, sheep or horses within area in or adjacent to the IBA to sustain grassland (M) (HLT, PECSC)

    b) Develop and implement management strategies for Crown lands

        - Encourage the Ministry of Natural Resources to develop management plans for Point Petre Provincial Wildlife Area and Ostrander Point Crown Land Block and incorporate into the plan objectives and actions identified in this plan (H) (IBA)

        - Identify, through mapping and fieldwork, areas within the Provincial land holdings suitable for restoration of grasslands, forest, and wetlands (H) (MNR, IBA, DUC)

        - Establish restoration priorities and implement restoration projects to establish and maintain grasslands in both provincial land holdings, including 60 hectares within Ostrander Point Crown Land Block (M) (MNR, IBA, DUC)

        - Enforce regulations and policies governing use of Point Petre Wildlife Management Area to reduce and eliminate activities that are perceived as a threat to people and/or the environment (H) (MNR, PEC, FPP).

    c) Develop and implement management strategies for federal lands

        - Encourage the Canadian Wildlife Service to revise the Management Plan for Prince Edward Point National Wildlife Area and incorporate objectives and actions identified in this plan (H) (IBA, CWS)

- Identify, through mapping and fieldwork, areas within the National Wildlife Area suitable for restoration of grasslands, forest, and wetlands and develop an implementation strategy (M) (CWS, IBA)

- Request DND to undertake a study on mortality of migrant birds from impact with towers at their Point Petre antennae station (M) (IBA, FLAP, CWS, DND)

d) Develop and implement strategies to protect nearshore and shoreline habitats within the IBA

- Secure unprotected shoreline and littoral zones of the IBA (M) (HLT, PC, PEC)

3. Establish and support long-term monitoring and research within the IBA

a. Support the establishment of a fully operational migration monitoring station at Prince Edward Point

- Acquire necessary funding for PEPtBO's development of full spring and fall season monitoring programs (ongoing) (PEP)

- Encourage PEPtBO to serve as a catalyst for avian conservation research and as a research facility to agencies, universities, and colleges. (ongoing) IBA)

b. Establish regular avian monitoring throughout the IBA

- Establish a BBS route through the IBA (M) (PEPtBO, NAT)

- Undertake marsh monitoring within the IBA (M) (NAT, DU, PEP)

- Encourage full coverage for the Breeding Bird Atlas within the IBA, including completing all point counts within Breeding Bird Atlas squares within the IBA (H) (RC, PEP, NAT)

- Develop capacity to collect and store all data on birds at site in one location in a computer data base (ongoing) (IBA, NAT)

4. Undertake communications and education activities that support the IBA, promote bird conservation, and benefit the local economy

a) Support educational function of PEPtBO

- Develop capacity to deliver educational programming at PEPtBO (ongoing) (PEP)

- Promote educational opportunities with local school board and other educational institutions (ongoing) (PEP, QC)

b. Promote natural history outings and events in the IBA

- Support annual birding festival (ongoing) (IBA)

- Conduct seasonal outings into the IBA for the public (ongoing) (NAT, PECSC)

c. Raise the profile of the IBA designation through various media and information products

- Install the IBA plaque in Prince Edward Point National Wildlife Area (H) (IBA)

- Design and install IBA identification signs for placement at appropriate locations within the IBA (L) (IBA, HLT, PECSC)

- Include links to the IBA plan on web pages of IBA partners (M) (IBA)

- Develop birding guide to the IBA (M) (NAT, PEP, HLT)

d. Promote economic benefits of IBA

- Present IBA plan to local tourism office or Chamber of Commerce and relevant municipal and provincial groups (M) (IBA)

- Establish project specific partnerships with Chamber of Commerce and private sector partners to promote birding events and other compatible activities within the IBA (M) (IBA)

5. Develop an infrastructure that enhances visitors' experiences within the IBA

a. Establish or refurbish visitor facilities at the NWA and Point Petre

- Establish permanent, clean toilet at the PEP NWA in cooperation with the land manager (H) (CWS)

- Construct an observation tower at in the NWA (M) (CWS, PEPtBO)

- Reduce vehicle parking conflicts with boaters at boat launch facility in the NWA (M) (CWS)

- Establish, monitor, and maintain trails to reduce visitor impacts in NWA (M) (CWS)

- Direct circulation of people away from sensitive areas (H) (CWS, MNR, HLT, PEC)

- Consider use of solar panels to generate electricity for observatory operation (L) (CWS, PEPtBO)

- Develop waste management plan to reduce litter and enhance aesthetics at key access points to NWA and Point Petre (M) (CWS, MNR, PEC, HLT)

- Establish, monitor, and maintain wind/rain breaks and/or blinds to enhance comfort and value of observing points for birders (L) (CWS, MNR, IBA)

b. Establish signage to and within the IBA for direction and identification (PEC, HLT, IBA)

    - Establish communications link with municipality and municipal roads department to consider directional signage (L) (IBA)

11.3 Implementation

It will be the responsibility of the IBA steering committee or the respective partners to implement this plan if the committee disbands or does not continue in the same format. Whether or not a committee exists, it would be wise for committee partners to meet annually to review implementation, priorities, and resources. Implementation of this plan is contingent upon access to resources. Communications between partners is critical to avoid competition for the same resources. Ideally, partners should focus on mutually beneficial projects. The Hastings, Prince Edward Land Trust, and the Prince Edward Point Bird Observatory have been successful in obtaining funds to address some of these actions. Two additional potential sources of money are the Federal and Provincial Species at Risk programs and the Eastern Habitat Joint Venture. The Species at Risk Programs of both Federal and Provincial governments have funds attached to them for stewardship work, monitoring, and management. The Eastern Habitat Joint Venture (EHJV) has been the delivery mechanism for the North American Waterfowl Management Program but is expanding to include other bird groups including colonial birds, landbirds, and shorebirds.

12.0 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 fundamental elements 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 the IBA steering committee may not continue in its present form, a mechanism to oversee implementation of these actions should be established. Several stakeholders and interest groups are well placed to oversee the implementation of this plan. In addition to the principal public landowners, the Hastings Prince Edward Land Trust has a strong interest in protecting the lands associated with this IBA. Several other groups including the PEPtBO and the local naturalist clubs are contributing to knowledge of the area.

An annual update on the conservation plan implementation would be of great value to the CNF, FON, and BSC. As Prince Edward County has joined the global family of IBAs, information on the IBA 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 (explain 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 (BL)

A pioneer in its field, BirdLife International is the first non-government organization 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 organizations, grouped together within geographic regions (e.g., Europe, Africa, the Americas) for the purpose of planning and implementing regional programs. These organizations 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 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 cooperative 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, and 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 (FON)

The Federation of Ontario Naturalists 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