Ontario Shorebird

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The province of Ontario provides vitally important staging and breeding habitat for Western Hemisphere shorebirds. Of 29 shorebird species commonly occurring in Ontario, major staging concentrations of 14 species amass in the hundreds of thousands. Of 40 species of shorebirds that breed routinely in Canada, 22 regularly breed in Ontario, including significant proportions of the populations of seven species.

However, of shorebirds regularly occurring in the province, populations of at least 21 species are either suspected or confirmed to be in long-term decline. There is a need for Ontario to join with the rest of Canada, the United States, Mexico and other nations of the Western Hemisphere to form a comprehensive shorebird conservation plan to address hemispheric declines in many shorebird species.

A similar conservation initiative has been applied to waterfowl for over a decade under the North American Waterfowl Management Plan (NAWMP). Because of the success of this plan to both birds and landowners, the same approach is being extended to other groups of birds. Other initiatives, such as Partners in Flight (PIF), Important Bird Areas (IBAs), Wings Over Water (WOW – the Canadian component of the North American Waterbird Conservation Plan), Canadian Landbird Monitoring Strategy, and Canadian and United States Shorebird Conservation Plans, broaden bird conservation to include many additional species. The North American Bird Conservation Initiative (NABCI) is attempting to provide coordination among nations and peoples of this continent to improve effectiveness of these various conservation initiatives. The Ontario Shorebird Conservation Plan (OSCP) provides a working complement in the Ontario region to the broader Canadian Shorebird Conservation Plan to help sustain healthy shorebird populations in North America.

The OSCP has been prepared by a committee representing a range of government and non-government organizations, and is derived from existing information and expert opinion in order to define the state of the shorebird resource in Ontario, identify critical information gaps and science needs, and to identify conservation measures that can be acted on immediately. It is intended that this plan be updated routinely as needed information comes available and further conservation actions are determined.

The overall goals of the OSCP are to:

1) sustain, and restore when necessary, the distribution, diversity, and abundance of breeding and migrating shorebirds in Ontario;
2) ensure sufficient high-quality habitat to support healthy shorebird populations in Ontario;
3) ensure coordinated efforts are instituted to address vital conservation issues for shorebirds in Ontario, based on information on conservation needs and practices made widely available to decision makers, land managers, and the public.

The specific objectives of the OSCP are to:

1) determine population sizes and trends for each species breeding in or migrating through Ontario;
2) identify and evaluate habitat needs and significant sites for breeding and migrating shorebirds in Ontario;

To achieve the above goals and objectives, the following science needs are considered priorities:

- Accurately determine breeding distributions and develop abundance estimates for northern breeding species, and update knowledge of distribution and abundance for southern breeding species.
- Monitor population trends of some northern breeding species where possible, and of southern breeding species, through enhanced use of existing surveys; for any species determined to be in serious decline, identify the population parameters having greatest effect on trend and the stressors impacting them in order to develop and assess management programs.
- Accurately monitor total numbers of migrant shorebirds passing through the province by studying the distribution of birds and turnover rates in both northern staging concentrations and more dispersed southern movements.
- In cooperation with other jurisdictions, establish breeding origins, migratory pathways, and wintering areas for breeding and migrating shorebirds using Ontario habitats.
- Determine specific habitat requirements of breeding and migrant shorebirds to identify critical habitat.
- Examine and determine the severity of potential threats to shorebird populations.

These actions will contribute to the refining of the following conservation and management strategies, aspects of most of which can in fact be pursued immediately:

- Contribute to the development of land use policies, habitat management plans, recovery plans, and site designations of various types (e.g., Western Hemisphere Shorebird Reserve Network and Important Bird Areas).
- Determine appropriate conservation actions in response to active threats to shorebird populations.
- Monitor hunting pressure, and ensure that harvest is at a level sustainable for the target populations.
- Develop educational initiatives to inform the public and interest groups about shorebird biology, habitat, and conservation requirements to increase understanding of the value of shorebirds generally and of their importance in Ontario.
- Develop landowner and/or manager agreements and experimental management activities to secure, protect, enhance, and restore shorebird habitats.

The OSCP also provides information on the species occurring in the province, their general distribution, status, and habitat associations; outlines research programs that, in part at least, have included shorebirds; discusses efforts toward avian conservation in the province that directly or indirectly benefit shorebirds; describes potential threats to populations; and indicates significant areas for shorebirds in the province. The communications section sets out the direction and key messages to be put forth from the plan, and the implementation section illustrates how a variety of partnerships and programs can be integrated to further develop and implement this plan.

1.0 introduction

1.1 Goals and Objectives

The **vision** of the Canadian Shorebird Conservation Plan (CSCP: Donaldson et al. 2001) is to maintain healthy populations of shorebirds throughout their range and diversity of habitats in Canada and throughout their global range.

Its **mission** is to build the scientific basis for shorebird conservation, identify and protect crucial habitat, restore species that are declining, and establish links with other countries that share Canada's shorebirds.

The Ontario Shorebird Conservation Plan (OSCP) is to serve as a working complement in Ontario to the broader national plan by providing a provincial context and detailing specific conservation initiatives.

The *goals* of the OSCP are as follows:

- **Populations** – to sustain, and restore when necessary, the distribution, diversity, and abundance of breeding and migrating shorebirds in Ontario;
- **Habitats** – to ensure sufficient high-quality habitat to support healthy shorebird populations in Ontario;
- **Conservation** – to ensure coordinated efforts are instituted to address vital conservation issues for shorebirds in Ontario, based on information on conservation needs and practices made widely available to decision makers, land managers, and the public.

Specific *objectives* of the OSCP are to:

- Determine population sizes and trends for each species breeding in and migrating through Ontario;
- Identify and evaluate habitat needs and significant sites for breeding and migrating shorebirds in Ontario;
- Identify Ontario-based causes of declines in shorebird populations;
- Set conservation priorities for shorebirds in Ontario, reflecting the ranking in the Canadian Plan, their biological vulnerability, and the responsibility Ontarians share for these species;
- Identify specific actions that can be taken to reduce or eliminate present and potential threats to shorebirds and their habitats in Ontario; and,
- Identify and, where possible, assist in reducing or eliminating causes of declines in other parts of the hemisphere of those species which are important to Ontario.

1.2 Ontario in the National Perspective

Ontario environments play a significant role in the annual cycle of shorebirds in Canada, with respect to both migrating and breeding

Canadian population, much of that in Ontario. The Hudson Bay Lowlands may also provide the most extensive suitable habitat in Canada for boreal nesting shorebirds such as Greater Yellowlegs, Lesser Yellowlegs, and Common Snipe.

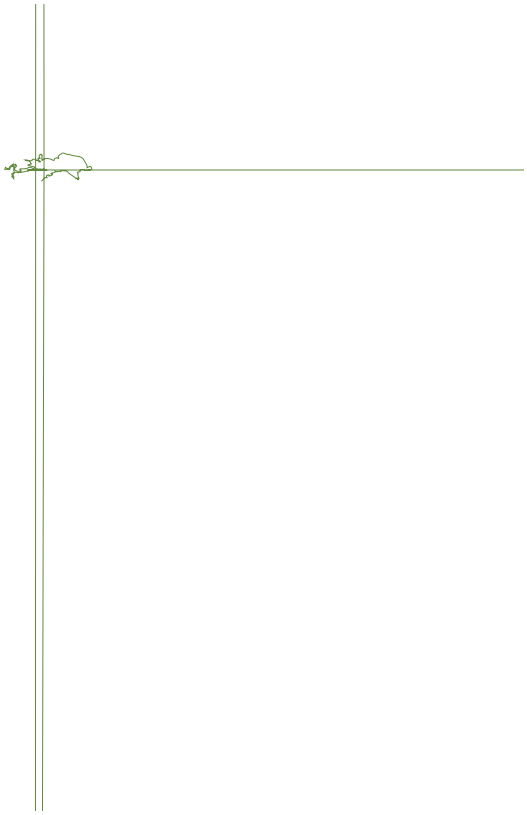
Southern Ontario (Figure 2B) regularly hosts 25 species of migratory shorebirds in substantial numbers, with smaller numbers of 10 others. Although large concentrations are restricted to a few locations such as Presqu'ile and the onion fields in the south-west, most migrant shorebirds are found widely dispersed in smaller numbers among the many small wetlands, river and lake shores, and sewage lagoons inland, as well as countless places along the entire length of the Great Lakes coasts. Shorebirds are very opportunistic in their use of every wetland, capable of exploiting the smallest areas, as well as those varying in water levels from year to year. It is likely that tens of thousands regularly use southern habitats during both migration periods.

Southern Ontario also hosts six species of breeding shorebirds, including populations of American Woodcock and Upland Sandpiper, that are of conservation concern. mof ts six species olcati0

summaries indicate most importantly that population declines are suspected or confirmed for at least 21 of these species.

The significance of Ontario to shorebirds is emphasized throughout this plan. However, conservation efforts for shorebirds will often overlap with those for other bird species, with mutual benefits. The OSCP forms part of the CSCP, with the latter plan providing the framework for conservation at a national and international level and the Ontario plan providing prioritized goals for implementation of conservation efforts. Shorebird conservation in Canada is linked to the United States Shorebird Conservation Plan (Brown et al. 2000) through cooperative programs. As other shorebird conservation efforts develop elsewhere in the hemisphere, such as the Mexican Shorebird Conservation Initiative, similar linkages are expected. The integration of conservation for all birds at a landscape level is now being undertaken through the North American Bird Conservation Initiative (NABCI). To facilitate this integration, the continent has been divided into ecological units called Bird Conservation Regions (BCRs) that provide a geographical basis for planning. Ontario contains parts of four BCRs (Nos. 7, 8, 12, and 13 – see Figure 1) of which two (7 in the north and 13 in the south) are the most important for shorebird conservation. BCRs are referenced throughout this document to support the planning process.

In Canada, NABCI will provide the framework that integrates and coordinates four bird conservation initiatives: the CSCP for shorebirds, the North American Waterfowl Management Plan (NAWMP), Partners in Flight (PIF) for landbirds, and Wings Over Water (WOW) for other waterbirds. Some of Ontario's wetlands critical for shorebirds are also internationally recognized, or candidates for recognition, under complementary programs of the Western Hemisphere Shorebird Reserve Network (WHSRN), the Ramsar Convention, and Important Bird Areas (IBAs) program. Lastly, Ontario's plan is directly linked with the *Species at Risk Act* and the Committee on the Status of Endangered Wildlife in Canada (COSEWIC).



1.3.3 CONSERVATION OF SHOREBIRD HABITAT IN ONTARIO

Several programs are active in Ontario that will help to identify, protect and enhance habitats that are of importance to shorebirds. The Ramsar Convention on Wetlands was drafted in 1971 to draw international attention to serious threats to wetlands recognized to be of international importance. Canada became a signatory in 1981, pledging to maintain the ecological, zoological, botanical, limnological, and hydrological significance of designated wetlands. In Ontario, eight sites have been designated (Ramsar Convention Bureau 1998), protecting 2,449,528 hectares of wetlands, including Point Pelee National Park, St. Clair National Wildlife Area, Long Point, the Southern James Bay Migratory Bird Sanctuaries, Polar Bear Provincial Park, Matchedash Bay Provincial Wildlife Area, and Mer Bleue Conservation Area (Figure 2). These sites provide valuable resources for migrant shorebirds and in the case of Polar Bear Provincial Park, to breeding shorebirds.

A major program, directed specifically at shorebirds, is the WHSRN, which is an international initiative to promote shorebird conservation throughout their ranges in the Western Hemisphere. WHSRN is both a network of people and a network of key shorebird habitats. Individuals and organizations are encouraged to work in partnership with others locally and within the network. Through this program, critical habitats/sites are designated as hemispherically, internationally, or regionally important, or essential for endangered species (Morrison et al. 1995), depending upon overall numbers and proportions of populations using the sites. While no site has been officially designated in Ontario, the west coast of James Bay is considered to be potentially of hemispheric importance, and four stretches of

the coastline are identified as concentration areas (Figure 3A). Also identified is a potentially internationally important site on the Hudson Bay coast around the Pen Islands. On Lake of the Woods, Sable Islands, now designated as a provincial nature reserve in the provincial parks system, have been identified as potential Endangered Species sites. Piping Plover may still breed in these areas, the last known nesting sites in the province. Three regionally important sites in southern Ontario at Presqu'ile Provincial Park, the western end of Lake Ontario, and the onion fields and St. Clair Lowlands of south-western Ontario are also being considered.

The IBA program is a site-based initiative that builds on existing bird conservation efforts. It is a conservation program of

2.1 Introduction

Ontario has a wide range of habitats available to breeding shorebirds. Twenty-two species are regularly found nesting here (Table 3; James 1991) and one other (American Avocet) has been known to nest occasionally. Northern Ontario is a more important breeding area than southern Ontario for most of these species. Huge areas of fens and bogs are scattered through the boreal forests, and blanket the Hudson Bay Lowlands covering nearly a third of the province, providing extensive habitat for boreal nesters. The coastal and tundra strip near the James Bay and Hudson Bay coasts attracts a variety of arctic and subarctic nesters. The extensive coastal marshes provide important habitat for several others. Species typical of more prairie-like conditions may extend as far eastward as the western Rainy River District and southern Ontario. The many lakes and rivers, which cover over a sixth of the province, provide shorelines and associated wetlands for other shorebird species.

2.2 Occurrence, Status, and Habitats of Breeding Shorebirds in Ontario

A summary of Ontario's breeding shorebird species, their status, and habitat choices is found in Table 3; distribution maps for most species (from Cadman et al. 1987) are presented in Appendix 1. Killdeer, Spotted Sandpiper, and Common Snipe are the most common and widespread species, being found almost everywhere in the province. Killdeer is far more common in the south, doing very well in

2.3 Significant Areas

The greatest diversity of Ontario's breeding shorebird species is found in the areas along and adjacent to the Hudson and James Bay coasts. Many of the species occurring there have among the most restricted ranges in the province. These northern coastal areas must be seen as essential habitat in the province for nesting shorebirds. Much of these shoreline areas now receive protection in

3.1 Introduction

Many North American species of shorebirds tend to migrate toward the Atlantic coast when moving south in autumn, and to return north through the centre of the continent (James in prep.). As a result, the largest numbers of migrants are seen in Ontario in autumn. These migrants also tend to concentrate in relatively small areas of high food abundance, to fatten up in preparation for long southward flights. On their return in spring, birds are moving rapidly, in a more dispersed fashion, or shift toward the centre of the continent, and considerably fewer of the arctic nesting species are likely to be seen.

In northern Ontario, huge concentrations of 14 species on migration are seen in coastal areas, as well as smaller but often significant numbers of 15 other species. There may be more than 100,000 birds at one time on one section of shoreline. Overall numbers for all species are uncertain, but probably in aggregate several million birds congregate there to take advantage of the food resources over the course of each autumn. At present we can only speculate on the extent of the importance of these shores to most of the abundant migrants that congregate there. The wide intertidal flats provide an abundance of the bivalve *Macoma balthica*, and in southern James Bay, the gastropod *Hydrobia minuta*, as well as a variety of other crustaceans, worms and dipteran larvae (Morrison and Gaston 1986).

In southern Ontario, such vast concentrations are not seen although moderately large numbers are found at several sites. Instead, the birds tend to be widely dispersed among many ponds, marshes or fields, and along the Great Lakes shorelines. They seem very opportunistic and adept at finding and using many widely dispersed and annually variable small sites.tunlate ooif these shor

before continuing their autumn migration (R.I.G. Morrison, pers. comm.).

Although Greater and Lesser Yellowlegs form large flocks on the north coast, these may still represent a relatively small proportion of the population as these species tend to migrate on a broad front. Six other species (Killdeer, Solitary Sandpiper, Spotted Sandpiper, Upland Sandpiper, Common Snipe, and American Woodcock) also seldom congregate although small flocks of some of these species may occasionally be seen. Most frequent a variety of mudflats, shores, and shallow open marshy situations

4.0

Shorebirds are subject to a wide range of threats throughout their life cycle, which can extend from the Arctic to South America. Several such stressors continue to affect shorebirds in Ontario. Most of these factors are directly related to human activity, and hence are felt most strongly in southern Ontario where most people reside. The greatest danger may arise from the cumulative impact of several threats operating in an area. Northern Ontario shorebirds have encountered minimal threats on breeding and staging areas. However, we may still be seeing the legacy of actions that reduced populations of migrants a century earlier, or continuing threats far away in other countries. Overarching all of these is climate change, the implications of which are not well understood.

Urbanization

Human population growth results in increased pressures on all forms of habitat, especially wetlands by encouraging drainage and through such activities as increased recreational use, the

Shoreline Loss

Loss of shoreline habitat is particularly severe on the Great Lakes where encroaching development and shoreline stabilization activities continue to degrade shorelines. Also, seaway power dams and control structures, dampening yearly water cycles and reducing periodic shoreline exposure in particular have stabilized water levels of Lake Ontario. As well, there is intense recreational use of the shores – including recreational vehicles, joggers,

Toxic Substances and Disease

Industrial effluents powul6 7areas such as Hamilton Harbour, and hundreds of synthetic chemicals have been found in Great Lakes waters, including persistent chlorine-containing organic compounds. These have been reduced substantially in recent years, but7are still present in contaminated bottom sediments and are being added through atmospheric deposition and

Timber harvesting, particularly intensive practices such as clear-

5.1 Introduction

This section sets out the science needs and management actions that are important to shorebird

2. To monitor population trends of species sampled during various spring surveys, either volunteer or agency-based. Priority should be given to analyzing these data and improving the surveys where possible. Surveys would include the Breeding Bird Survey, Forest Bird Monitoring Program, Marsh Monitoring Program, Black Duck Survey, and Spring Woodcock Survey. **(High Priority – BCR 8, 12, 13)**

3. To examine population dynamics in order to identify and monitor indices of production and mortality for those species whose populations are known to be declining significantly. There is presently little or no information on reproductive output, fledging success, or age-specific mortality for any populations of shorebirds breeding in Ontario. Therefore, it is not possible to determine if breeding factors are currently affecting those populations of concern. This information could be very important in the development and assessment of management programs. **(High Priority – BCR 7, 8, 12, 13)**

4. To undertake colour marking or telemetry studies to determine migration routes and wintering grounds of certain northern Ontario breeding species, such as the godwits and the yellowlegs. Migratory pathways followed by some species of shorebirds that nest in northern Ontario, and the areas where they stage and overwinter are largely unknown. Thus, it is not possible to assess the potential causes of declines that may result from factors outside the breeding range. **(Medium Priority – BCR 7)**

5. To document more completely the annual variation in numbers and distribution of the endangered Piping Plover. The Piping Plover may still breed in Ontario at least occasionally in two known locations in Lake of the Woods. As part of the recovery plan for this species, a search of all possible nesting areas will be conducted and monitoring of its occurrence will continue (Goossen et al. 2002). **(High Priority – BCR 12, 13)**

6. To identify areas with highest breeding densities of certain species. Priority should go to species with the largest proportion of their ranges in southern Ontario and facing the greatest probability of decline (Upland Sandpiper, American Woodcock) due to anthropogenic impacts. Identifying the areas of highest breeding potential provides crucial information on habitat relationships, and helps to identify priority locations for conservation action. **(High Priority – BCR 13)**

Migrating Shorebirds

Science needs with respect to habitat relationships of shorebird species migrating in Ontario are:

1. To determine the importance of specific James and Hudson Bay shoreline habitats through studies of temporal and spatial variation in invertebrate resources in response to

5.3 Conservation and Management

Given a better understanding of shorebird population numbers and trends, their distribution, and specific habitat associations, we

6.0 communication

The OSCP forms part of the continent-wide implementation goals of the Canadian and United States Shorebird Conservation Plans. Within this comprehensive approach, the OSCP seeks to develop communication tools to enhance public understanding of the biology of shorebirds throughout their annual cycle, to present an overview of what is known and needed with respect to shorebird biology and conservation in the province, and to indicate the importance of Ontario to international conservation efforts for shorebirds. The formal adoption of the OSCP should be followed by the development of a comprehensive communications strategy aimed at specific target audiences, done in cooperation with other shorebird initiatives, including the national plans and WHSRN.

Target audiences for which the information presented in the OSCP will be of particular relevance include:

- Environmental managers in provincial and federal governments, and private organizations involved in shorebird conservation and/or management of water resources, wetlands, and other lands with shorebird habitat.
- Landowners and lessees of private or public lands that provide shorebird habitat, and who manage for agricultural, recreational, or forestry use.
- Elected representatives in local, provincial, and federal governments responsible for decisions affecting shorebirds and their habitat.
- Public individuals and groups with an interest in wildlife conservation, including local communities, tourism associations, educators, students, clubs, tourists, and birders.

Key messages to be conveyed include:

- Shorebirds were once generally more abundant but now a large number of shorebird species are declining, including some that breed in and/or migrate through Ontario. One species (Piping Plover) is endangered.
- Shorebird populations are slow to recover as these species have small clutches, little renesting, and often have delayed age of first breeding. Small decreases in adult survival can have major effects on population size.
- Ontario provides substantial amounts of important and critical habitat for shorebirds. For some species, a large proportion of the global population is found here.
- Loss and degradation of habitat have the greatest negative impacts on shorebird populations in Ontario. Potentially, climatic change will have the greatest impact on habitat.
- Opportunities exist to expand and to improve conservation initiatives to enhance protection of shorebirds and their habitats through public policy and direct habitat initiatives.
- Habitat conservation practices on both public and private lands offer significant potential to provide improved shorebird breeding and staging habitat.
- Community and landowner support for and participation in shorebird conservation are essential, and can result in local economic benefits.
- A similar conservation initiative has been successfully applied to waterfowl through NAWMP, and has been shown to benefit landowners and bird populations. This approach is being developed for many other species groups through initiatives such as PIF, IBAs, Canadian Landbird Monitoring Strategy, and the Canadian Colonial Waterbird Conservation Strategy. NABCI will provide overall coordination.

7.1 Introduction

Implementation of the OSCP provides an opportunity for federal and provincial governments, non-government organizations, industry, and landowners to build on existing partnerships and to foster new ones. A coordinated approach will reduce costs and deploy a larger effort across a greater area. Partnerships will be created by matching partners' strengths in research, monitoring, habitat protection, wetland and upland management, marketing, environmental education, communication, and public policy development. The expansion of existing partnerships will avoid the duplication of efforts and lead to more innovative support for shorebird conservation.

7.2 Partnerships and Linkages

Shorebirds in Ontario form only a component of hemispheric populations and, as such, efforts must be coordinated with conservation activities elsewhere in their breeding, migration and wintering areas. Effective shorebird conservation requires partnerships with broader linkages to other Canadian programs and agencies, and through initiatives such as WHSRN, with other countries visited by these birds. Links to shorebird conservation initiatives implementing the United States and Mexican national plans are also essential. These links with partners in other parts of BCRs 7, 8, 12 and 13 are essential to maximize the effectiveness

The following are examples of how partnerships are contributing to shorebird conservation in Ontario:

Habitat Conservation

In Ontario, most wetland and upland securement, enhancement, restoration, management and stewardship activities are undertaken by partners of the EHJV. With the advent of the NABCI, the mandate of the EHJV has been expanded to include all native North American birds and their habitats.

To facilitate NABCI, the natural habitats of the continent have been mapped into 67 BCRs. Integrated planning across jurisdictions and across borders is currently underway for many BCRs utilizing these ecologically-based units as a common language (Figure 1). In Ontario, integrated biological planning for waterfowl, waterbirds, landbirds and shorebirds has begun in BCR 13 (Lower Great Lakes/St. Lawrence Plain), which extends into Québec and four American states. Although preliminary, the important shorebird areas for this BCR have been mapped using known IBA and WHSRN site information and other available expert data. These areas will be subsequently overlaid with priority areas for other birds to illustrate, among other things, where conservation activities could benefit the greatest number of species.

This planning initiative is the first step in integrating the habitat conservation needs of shorebirds with those of other bird groups to help direct habitat conservation activities on-the-ground in a coordinated fashion. The introduction of a shorebird component into Ontario EHJV program activities should be very cost effective. Much of the habitat conservation work for shorebirds in the east will likely be done through the EHJV, which is taking a BCR approach to integrated planning for all birds.

Population Monitoring

Traditionally, shorebird populations have been monitored by volunteers who have undertaken systematic counts during the spring and autumn migrations. These programs, which represent the most basic form of partnership, were developed by Guy Morrison in Canada (Maritime Shorebird Survey – MSS) and Brian Harrington in the United States (International Shorebird Survey). The Ontario Shorebird Survey, which is an offshoot of the MSS, has provided much useful information on population trend and migrational phenology and will contribute to PRISM internationally. Specifically, monitoring efforts in Ontario will contribute information on breeding birds in arctic and boreal regions of North America as well as temperate, non-breeding shorebirds on migration. It is desirable to expand this program to take advantage of both the large pool of observers in Ontario and the increasing knowledge of habitat availability. These surveys could also be performed on demonstration areas of managed habitat for shorebirds to provide information for both assessment and population monitoring.

Ontario Breeding Bird Atlas

The current round of atlassing (2001-2005) for the second Ontario Breeding Bird Atlas, which itself is a partnership of various government and non-government bodies along with private cooperators, will provide an updated picture of breeding shorebird distributions and population changes. Moreover, the wide distribution of cooperators may provide the opportunity to inventory shorebird migration habitat, particularly in southern and central Ontario, and to assess use by migrant shorebirds of these areas.

Species at Risk

The new legislation, *Species at Risk Act*, which received Royal Assent in December 2002, contains a stewardship component for the development of partnerships with landowners to protect species at risk and their habitats on private property. While such actions should benefit the target species, they may well help other species if they share habitats, including shorebirds. As well, listed species such as Piping Plover should benefit from increased funding of recovery activities by various partners.

8.0 acknowledgments

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SPECIES[1]					
Black-bellied Plover	i	d	i	D	3
American Golden-Plover		d	d		4
Semipalmated Plover	d	D	d	d	2
Piping Plover*					5
Killdeer	d	D		d	3
Greater Yellowlegs	d	i		i	3
Lesser Yellowlegs	d	d		i	2
Solitary Sandpiper	d	d			3
Spotted Sandpiper	d	D	d		3
Upland Sandpiper		d			2
Whimbrel		i	i	D	4
Hudsonian Godwit		d	d		4
Marbled Godwit					4
Ruddy Turnstone		D	D	d	4
Red Knot		D	D	d	4
Sanderling	d	D	D	D	4
Semipalmated Sandpiper	D	D	D	d	3
Least Sandpiper	d	d	D	i	3
White-rumped Sandpiper		i	d		2
Baird's Sandpiper					2
Pectoral Sandpiper	d	i	i		2
Dunlin	i	d	(D)		3
Stilt Sandpiper					3
Buff-breasted Sandpiper					4
Short-billed Dowitcher	d	d	D	D	3
Common Snipe	(D)	D			3
American Woodcock					4
Wilson's Phalarope		d			4
Red-necked Phalarope		D			3

Table 2.

STATUS, SEASONAL OCCURRENCE, AND POPULATION TRENDS IN NORTHERN AND SOUTHERN ONTARIO, AND ONTARIO CONSERVATION PRIORITY FOR 29 SPECIES OF SHOREBIRDS COMMONLY OCCURRING IN THE PROVINCE.

SPECIES	Northern occurance & status[1]	Southern occurance & status[1]	Trend in southern Ontario[2]	Conservation Priority[3] North	South
Black-bellied Plover	s A	s a	i	M	M
American Golden-Plover	s b A	s a		M	M
Semipalmated Plover	s b A	s a	d	M	L
Piping Plover*	(b)	(s) ( ) (a)		H	H
Killdeer	s b a	s B a	d	L	L
Greater Yellowlegs	s B A	s a	d	H	L
Lesser Yellowlegs	s B A	s a	d	H	L
Solitary Sandpiper	s B a	s (b) a	d	M	L
Spotted Sandpiper	s B a	s B a	d	L	L
Upland Sandpiper	b	s b a	d?	L	M
Whimbrel	s b A	s a	d?	H	L
Hudsonian Godwit	s B A	(s) a		H	L
Marbled Godwit	s b a	(s) (a)		H	L
Ruddy Turnstone	s a	s a		M	L
Red Knot	s A	s a		H	L
Sanderling	s A	s a	d	M	L
Semipalmated Sandpiper	s b A	s a	D	M	L
Least Sandpiper	s b A	s a	d	M	L
White-rumped Sandpiper	s A	s a		M	L
Baird's Sandpiper	s a	(s) a		L	L
Pectoral Sandpiper	s b A	s a	d	M	L
Dunlin	s b A	s a	i	M	M
Stilt Sandpiper	s b a	(s) a		L	L
Buff-breasted Sandpiper	s a	(s) a		M	M
Short-billed Dowitcher	s b a	s a	d	L	L
Common Snipe	s B a	s B a	d	L	L
American Woodcock	s b	s B a	d?	L	M
Wilson's Phalarope	s b a	s b a	i	L	L
Red-necked Phalarope	s b a	(s) (a)		L	L

[1] From literature and expertise of drafting team and reviewers. S or s = spring, B or b = breeding, A or a = autumn; uppercase = abundant, lowercase = smaller numbers, ( ) = very small numbers to former.1

SPECIES			
American Golden-Plover	Rare	Few 100s	Restricted to extreme northeast heath-lichen tundra
Semipalmated Plover	Uncommon	1,000s	Sand and gravel shores and ridges along and near the north coasts
Piping Plover	Endangered	< 10	Only 2 locations in recent years on wide sand and gravel beaches
Killdeer	Common	100,000s	Throughout, on pastures, shores, lawns, gravel pits, clearings, disturbed areas
Greater Yellowlegs	Common	10,000s	Widespread in Hudson Bay Lowlands and some boreal forest wetlands
Lesser Yellowlegs	Common	10,000s	Widespread in and near Hudson Bay Lowlands ponds, wetlands and clearings
Solitary Sandpiper	Common	10,000s	Across northern Ontario near forest ponds and wetlands
Spotted Sandpiper	Common	100,000s	Throughout on sand and gravel shores of lakes and rivers
Upland Sandpiper	Uncommon	1,000s	Pastures and grasslands, mainly in southern Ontario south of the Canadian Shield
Whimbrel	Uncommon	1,000s	Dry and wet tundra along Hudson Bay coast

Table 4.

OCCURRENCE, STATUS, AND MAIN HABITATS OF REGULARLY OCCURRING MIGRANT SHOREBIRDS IN ONTARIO.

SPECIES						
Black-bellied Plover	+			+		Mudflats, beaches, fields, marsh
American Golden-Plover	+			+		Fields, beaches, mudflats
Semipalmated Plover	+			+		Beaches, mudflats
Killdeer		+		+		Open uplands, mudflats
American Avocet			+		+	Shallow water shores
Greater Yellowlegs	+			+		Mudflats, marshes, shores
Lesser Yellowlegs	+			+		Mudflats, marshes, shores
Solitary Sandpiper		+		+		Muddy margins ponds and rivers
Willet			+		+	Beaches, mudflats
Spotted Sandpiper		+		+		Sand, gravel, or muddy shores
Upland Sandpiper			+	+		Short grass uplands
Whimbrel	+			+		Coastal marsh, mudflats, beaches
Hudsonian Godwit	+				+	Intertidal mudflats, shores
Marbled Godwit		+			+	Coastal marsh, mudflats, shores
Ruddy Turnstone		+		+		Rock, gravel, and sandy shores
Red Knot	+			+		Mudflats, beaches
Sanderling	+			+		Sandy beaches, mudflats
Semipalmated Sandpiper	+			+		Beaches, mudflats
Western Sandpiper			+		+	Mudflats, beaches
Least Sandpiper	+			+		Mudflats, fields, marsh
White-rumped Sandpiper	+			+		Mudflats, beaches, fields
Baird's Sandpiper			+		+	Drier marshy edges and shores
Pectoral Sandpiper	+			+		Coastal marsh, fields, mudflats
Purple Sandpiper			+		+	Rocky shores
Dunlin	+			+		Mudflats, wet fields, beaches, mud
Stilt Sandpiper						

Institutional Support for Shorebird Conservation

Migratory shorebirds are protected in Canada under the federal Migratory Birds Convention Act *of 1917, and revisions in 1994. Primary responsibility for conservation of shorebirds is vested in the Canadian Wildlife Service, which has been a leader and partner in shorebird research and conservation actions in Ontario. The* Canada Wildlife Act *of 1973 makes provisions for the protection of wildlife and their habitats. Through provisions of the Act, many habitats have been 26.5 69*

hectares in area. In addition, nearly 400 kilometres of waterways and adjacent lands covering about one million hectares have been recommended as Heritage Waterways by the Lands for Life process. These corridors would conserve special waterways to ensure no impairment of natural values if the recommendations are adopted. These would be of immense value to thousands of migrant shorebirds, and several shoreline nesting species in Ontario.

The Federal Policy on Wetland Conservation (Environment Canada 1991), in cooperation with the provinces and territories, and the Canadian public, makes a commitment to include wetland conservation as a fundamental part of all land use decisions involving federal lands or federal funds. The objective of the policy is to promote conservation and to sustain the ecological and socio-economic function of wetlands.

Provincially, the Ontario Cabinet (1984) approved the Ministry of Natural Resources' "Guidelines for Wetlands Management in Ontario", for land use planning purposes. These guidelines were released, along with an evaluation system for wetlands in southern Ontario, now updated, with a similar system for northern wetlands released in 1993. The purpose of these evaluation systems is to assess wetland significance, and provide a measure of the relative value of wetlands, for land use planning purposes. Ontario's first Wetland Policy Statement came into effect in 1992, under the authority of the province's *Planning Act*, and was included in revisions in 1995, which direct that natural heritage features and areas, including provincially significant wetlands, will be protected from incompatible development. By 1995, more than 2,600 wetlands had been evaluated and more than 350,000 hectares had been identified as provincially significant (Environment Canada 1995). These policy directions help to preserve both nesting and migratory habitats for shorebirds and other marsh nesting birds.

Conservation of upland habitat can also benefit some shorebird species such as Upland Sandpipers and the large plovers. Work to protect and enhance grasslands by organizations such as Tallgrass Ontario and the Barn Owl Recovery Team could indirectly help these species.

The aboriginal people of Ontario with their cultural association and intimate knowledge of the land are in a unique position to play a role in shorebird conservation in the province. They are major beneficiaries of wildlife, particularly in northern Ontario. They should be considered in, consulted with, and encouraged to be participants in all relevant conservation efforts.

Spotted Sandpiper / ***Mark Peck***