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Report of the Commissioner of the Environment and Sustainable Development

CHAPTER 3

Conservation of Migratory Birds

OAG

Office of the Auditor General of Canada

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CHAPTER 3

Conservation of Migratory Birds

Performance audit reports

This report presents the results of a performance audit conducted by the Office of the Auditor General of Canada under the authority of the *Auditor General Act*.

A performance audit is an independent, objective, and systematic assessment of how well government is managing its activities, responsibilities, and resources. Audit topics are selected based on their significance. While the Office may comment on policy implementation in a performance audit, it does not comment on the merits of a policy.

Performance audits are planned, performed, and reported in accordance with professional auditing standards and Office policies. They are conducted by qualified auditors who

- establish audit objectives and criteria for the assessment of performance,
- gather the evidence necessary to assess performance against the criteria,
- report both positive and negative findings,
- conclude against the established audit objectives, and
- make recommendations for improvement when there are significant differences between criteria and assessed performance.

Performance audits contribute to a public service that is ethical and effective and a government that is accountable to Parliament and Canadians.

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Conservation of Migratory Birds

Main Points

What we examined

In Canada, as many as 658 different species of birds have been identified. More than 75 percent of Canadian bird species spend at least half the year outside Canada, following various migratory routes.

Environment Canada is the federal government's lead authority for the conservation and protection of migratory birds and their habitat. Under the *Migratory Birds Convention Act, 1994,* the Department is responsible for the conservation of 555 migratory bird species. The Department conducts monitoring and research to understand the status and trends of bird populations and develops conservation plans. It relies heavily on help from partners to achieve its conservation goals and is involved in bird conservation activities outside of Canada, for example, in South America.

We examined whether Environment Canada has fulfilled its responsibilities regarding conservation plans and activities for migratory birds, including monitoring activities and assessing the results achieved.

Audit work for this chapter was completed on 30 July 2013. More details on the conduct of the audit are in **About the Audit** at the end of this chapter.

Why it's important

Birds play an important role in ecosystems, as well as in Canada's economy and society. For example, they play an important ecological role as pollinators and an economic role in supporting recreational activities such as birdwatching and hunting.

Birds in Canada face a number of different threats and pressures. The loss and degradation of habitat is recognized as one of the main threats to migratory birds. According to The State of Canada's Birds, 2012, bird populations have declined overall by 12 percent since 1970. While some species have increased in population, certain bird groups, such as grassland birds and shorebirds, have experienced major declines. Changes in bird populations are often an early indicator of environmental problems.

What we found

- Environment Canada's efforts in migratory bird conservation have centred primarily on waterfowl, with good results. Many waterfowl populations have increased, showing what is possible through partnerships and concerted efforts, based on good conservation planning and agreed-upon conservation objectives.
- Environment Canada's conservation planning for other bird groups is inadequate. Trends indicate that some of these bird populations—such as shorebirds, grassland birds, and even more dramatically, aerial insectivores that depend on flying insects for food—are in major decline.
- The Department has missed its 2010 deadlines for completing its 25 Bird Conservation Region Strategies, meant to address conservation objectives and actions for all bird groups. Less than half are completed, and the completed strategies do not identify who should contribute to the proposed actions, timelines, and required resources.
- Environment Canada has acknowledged that there are many gaps in monitoring bird populations. A 2012 departmental scientific review found that for 30 percent of all bird species in Canada, monitoring is insufficient to determine whether they are at risk. Incomplete information can affect the Department's ability to make informed decisions regarding conservation actions for migratory birds and to track results of conservation efforts.

The Department has responded. The Department agrees with all of the recommendations. Its detailed responses follow the recommendations throughout the chapter.

Introduction

Why birds are important

3.1 Birds play an important role in ecosystems, as well as in our economy and society. Among other things, birds have an ecological role as pollinators of plants, an economic role in supporting birdwatching and hunting, and a symbolic and spiritual role for Aboriginal communities. Changes in bird populations are often the first indication of environmental problems.

3.2 In Canada, as many as 658 species of birds have been identified across the country. Of these, 555 are migratory species listed under the *Migratory Birds Convention Act, 1994*. Birds in Canada fall into four major groups:

- waterfowl (for example, ducks, geese, swans);
- waterbirds, including inland waterbirds (for example, herons, loons) and seabirds (for example, puffins, gannets, shearwaters, petrels, murrelets);
- shorebirds (for example, plovers, sandpipers);
- landbirds, including grassland birds (for example, sparrows, meadowlarks), aerial insectivores (for example, swallows, swifts), forest birds (for example, warblers, woodpeckers), and raptors (for example, falcons, hawks).

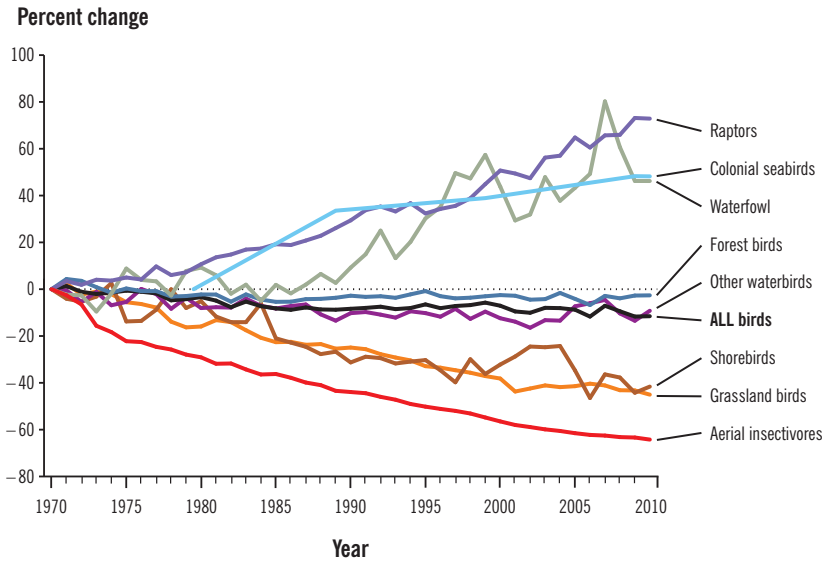
More than 80 percent of the world's Red Knot (rufa subspecies) population is estimated to be in Canada. This shorebird species, which is listed as endangered under the *Species at Risk Act*, has experienced a decline of about 80 percent since the 1980s. It nests in the Arctic and migrates to the tip of South America in the winter.

Photo: © Gérard Proulx

3.3 Birds in Canada face a number of different threats and pressures. The loss and degradation of habitat is recognized as one of the main threats to migratory birds. Other threats include pollution, pesticides, illegal hunting, collisions with human-built structures and vehicles, climate change, and domestic and feral cats. These factors, together with threats in wintering grounds and along migration routes, have a cumulative impact on migratory bird populations.

3.4 According to The State of Canada's Birds, 2012, bird populations have declined overall by 12 percent since 1970 (Exhibit 3.1). Some species have increased, but there have been major declines for certain bird groups, such as grassland birds, shorebirds, and aerial insectivores.

Exhibit 3.1 **While some bird populations have increased since 1970, others have experienced declines**



Source: Adapted from The State of Canada's Birds, 2012.

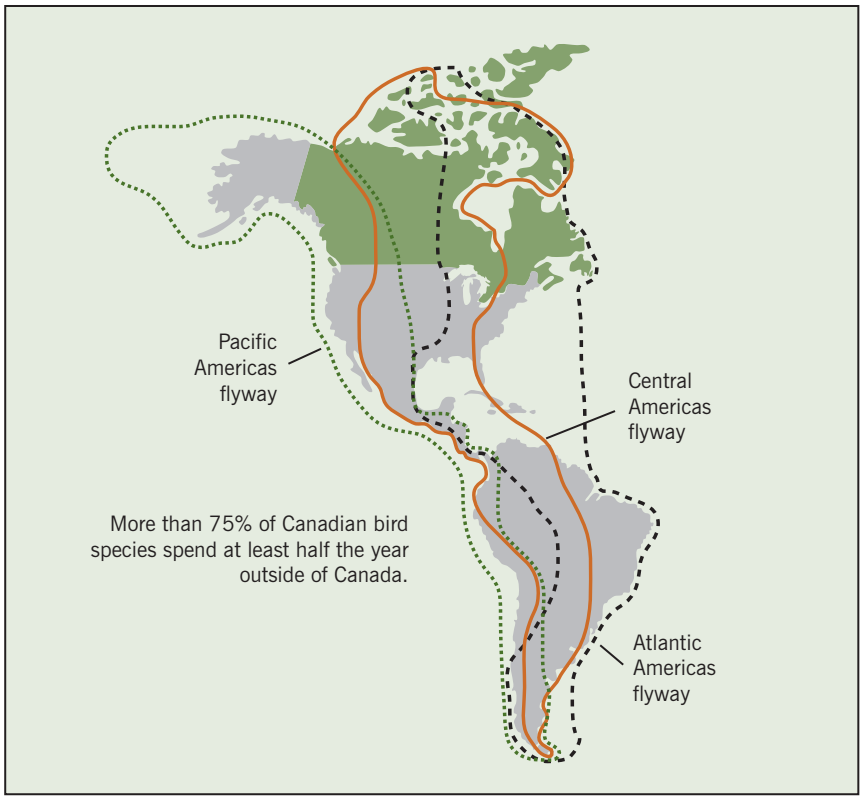
3.5 More than 75 percent of Canadian bird species spend at least half the year outside Canada following various migratory flyway routes (Exhibit 3.2). What happens in other countries may have a significant impact on these migratory birds.

3.6 For some migrating birds, the population has declined to the point that they are now identified as species at risk. As of March 2013, 55 species listed under the *Migratory Birds Convention Act, 1994*, were also listed under the *Species at Risk Act*. This number includes

- 31 species of landbirds,
- 8 species of shorebirds,
- 14 species of waterbirds, and
- 2 species of waterfowl.

As a result of factors within and outside of Canada, some of these species have undergone major declines (Exhibit 3.3).

Exhibit 3.2 **Birds that migrate south every year use three flyway routes**



Source: Adapted information from Bird Life International.

Exhibit 3.3 **Some bird species at risk**

Bird group	Bird species	Status under *Species at Risk Act*	State of the population
Landbird	Canada Warbler	**Threatened**	Significant long-term decrease since about 1970.
Waterbird	Marbled Murrelet	**Threatened**	Large decrease in population since about 1970.
Landbird	McCown's Longspur	**Of special concern**	Steep decline since the 1970s—over 98% of population lost.
Landbird	Chimney Swift	**Threatened**	Dramatic decrease since the 1970s—estimated 92% of population lost.
Landbird	Olive-sided Flycatcher	**Threatened**	Consistent decrease since about 1970—almost 80% of the breeding population lost.

Source: Environment Canada (website): Status of Birds in Canada, 2011

Endangered species—A wildlife species that is facing imminent **extirpation** or extinction (that is, the species no longer exists anywhere in the world).

Extirpated species—A wildlife species that no longer exists in the wild in Canada, but exists elsewhere in the wild.

Threatened species—A wildlife species that is likely to become an endangered species if nothing is done to reverse the factors leading to its extirpation or extinction.

Species of special concern—A wildlife species that may become a threatened or endangered species because of a combination of biological characteristics and identified threats.

Source: *Species at Risk Act*

Environment Canada's role

3.7 Environment Canada plays an important role in the conservation of biodiversity in Canada. Environment Canada is the federal government's lead department for conserving migratory birds. The Department is responsible for applying the *Migratory Birds Convention Act, 1994* and related *Migratory Birds Regulations*. The purpose of the Act is to protect migratory birds, their eggs, and their nests, pursuant to the 1916 Migratory Bird Convention. The Regulations also set annual hunting seasons and harvest limits for species designated as game birds (primarily ducks and geese). In 1995, the Convention was amended to include the conservation principle to provide for and protect habitat necessary for the conservation of migratory birds.

3.8 Environment Canada has the mandate for conservation of 555 migratory bird species, including birds such as cardinals, robins, hummingbirds, herons, and loons, as well as game birds (such as waterfowl). Because certain species, such as raptors (for example, eagles and falcons), owls, some blackbirds, cormorants, kingfishers, and grouse, are not covered by the *Migratory Birds Convention Act, 1994,* the Department's mandate does not include the conservation of these species unless they are protected by the *Species at Risk Act*.

3.9 The Department conducts monitoring and research to understand the status and trends of bird populations, and develops conservation plans. The Department is also involved in bird conservation activities outside Canada, for example, in South America.

3.10 Environment Canada relies heavily on help from partners to achieve its conservation goals. Major partners in its work are from the **North American Bird Conservation Initiative (NABCI)**. Environment Canada is the chair of NABCI in Canada.

North American Bird Conservation Initiative (NABCI)—A 1999 initiative supported by the Commission on Environmental Cooperation. In Canada, NABCI members include federal, territorial, and provincial governments, conservation non-governmental organizations, private sector organizations, and partners from Canada's major bird initiatives: the North American Waterfowl Management Plan, Partners in Flight—Canada, the Canadian Shorebird Conservation Plan, and the North American Waterbird Conservation Plan.

3.11 According to Environment Canada, in the 2011–12 fiscal year, it spent about $21.3 million for its Migratory Birds Program. About half of this amount was spent on monitoring. Waterfowl monitoring accounted for 35 percent of the amount spent. The balance was used for a number of activities, such as developing conservation plans and strategies.

Focus of the audit

3.12 The objective of our audit was to determine whether Environment Canada has fulfilled selected responsibilities regarding migratory birds. Specifically, we looked at the Department's

- conservation plans and activities (including monitoring), and
- assessments (performance measurement) of results achieved by its conservation activities.

3.13 More details on the audit objectives, scope, approach, and criteria are in **About the Audit** at the end of this chapter.

Observations and Recommendations

Conserving bird species and their habitat

3.14 Conservation strategies and plans can play an important role in coordinating conservation efforts by identifying priority species and habitats and outlining conservation objectives and related actions, as well as roles and responsibilities. We examined whether the Department had prepared conservation strategies and plans for migratory birds and whether it was measuring results achieved by its conservation activities. We also looked at bird population monitoring, given its importance to planning and measuring results. We reviewed program documentation, interviewed staff, and visited the western and Quebec regions. Our findings are presented for waterfowl and the three other bird groups—waterbirds, shorebirds, and landbirds.

Efforts to restore waterfowl populations are working

3.15 Historical data has indicated that the number of waterfowl was declining across Canada and the United States. By 1985, at least 53 percent of wetlands in the United States and up to 71 percent of wetlands in settled areas in Canada had been destroyed. The destruction led to further declines in waterfowl populations (Exhibit 3.1).

3.16 **The North American Waterfowl Management Plan.** In response to the decline in waterfowl populations, the governments of Canada and the United States developed a strategy for restoring waterfowl populations by protecting, restoring, and enhancing habitats. The strategy was documented in the North American Waterfowl Management Plan, which Canada and the United States signed in 1986, that has a clear objective of restoring waterfowl populations to their 1970s level.

3.17 The Plan is delivered through regional partnerships called habitat and species "joint ventures." Over 340 partners are involved in undertaking conservation projects, including

- federal and provincial departments;
- organizations such as Ducks Unlimited Canada, the Nature Conservancy of Canada, and Wildlife Habitat Canada; and
- various industries ranging from ranchers' associations to oil and gas companies.

In Canada, there are four habitat-focused joint ventures (Pacific Coast; Canadian Intermountain; Prairie Habitat, which includes the Western Boreal Forest; and Eastern Habitat) and three species-focused joint ventures (for the Arctic Goose, Black Duck, and sea ducks).

3.18 Funding made available under the United States 1989 *North American Wetlands Conservation Act* for activities in Canada has been significant. The 2012 Canadian Habitat Matters report indicated that from 1986 to 2012, Canada contributed $989 million and the United States contributed $939 million, totalling $1.93 billion for Canada's North American Waterfowl Management Plan program (all figures are in Canadian dollars).

3.19 **Results achieved.** We found that Environment Canada, in collaboration with its partners, conducted appropriate conservation planning where players, conservation objectives, funding, and actions on the ground were identified. The measurement of results shows that the North American Waterfowl Management Plan has, for the most part, been successful in conserving waterfowl. Many waterfowl populations have increased, showing what is possible through partnerships and concerted efforts, based on agreed-upon conservation objectives.

3.20 In 2012, Environment Canada reported that between 1986 and 2012, the Plan resulted in securing 8 million hectares of wetlands and **uplands** habitat in Canada (an area about the size of New Brunswick). These habitats are secured through land acquisition or legally binding agreements with landowners for at least 10 years. Methods used for securing land include, for example, land purchases or donations to conservation agencies, and easements.

Uplands—Land area that is higher in elevation and better drained than wetlands. Uplands are not often affected by high water levels or excess surface water, but if so, usually only for short periods.

3.21 Reviews of the Plan indicate that it has played an important role in the recovery of waterfowl. Bird population monitoring shows that many waterfowl species (such as the Prairies' Northern Shoveler and Gadwall) have recovered, and their populations now fluctuate near the

Plan's population objective. Some species, however (such as the Northern Pintail, Lesser Scaup, Black Duck, and some sea duck populations), remain well below the Plan's population objective.

Snow geese

Photo: © Francis St-Pierre

3.22 On the other hand, overabundance of geese continues to be a management challenge. Goose populations have increased due to a number of factors: namely, the availability of food in agricultural regions, the reduced hunting pressure and decline in the number of hunters, and the establishment of wildlife refuges. Snow Goose populations in particular have increased by more than 300 percent since the 1970s, causing serious damage to arctic and subarctic ecosystems. This situation underscores the need not only for continued monitoring, but also, in some cases, for population control.

3.23 Assessments of the North American Waterfowl Management Plan and bird population monitoring indicate that while waterfowl conservation has been successful overall, challenges still remain. Pressures such as climate change and the ongoing loss and degradation of wetland and grassland habitat still threaten waterfowl populations.

Conservation planning for other bird groups is inadequate

3.24 **Bird conservation plans.** In addition to the North American Waterfowl Management Plan, Environment Canada, working with collaborators such as partners from the North American Bird Conservation Initiative, has developed conservation plans for other groups of birds, including

- Framework for Landbird Conservation in Canada (1996),
- Canadian Shorebird Conservation Plan (2000), and
- Wings Over Water: Canada's Waterbird Conservation Plan (2003).

3.25 We found that these other bird conservation plans provide information on some of the issues and threats the birds face, and outline conservation goals. However, unlike the North American Waterfowl Management Plan, these plans lack clear, measureable objectives and targets for conservation. They also do not identify specific actions that should be taken or state who should undertake them. As well, there is no funding identified for implementing these plans. Such information is needed to implement the plans and forms the basis for measuring results. Further, the conservation plans for these birds are becoming outdated. For example, none of the plans refer to the *Species at Risk Act*. Periodic reassessments ensure that effective responses are prepared to address changing needs for species

conservation. Environment Canada does not have programs that are specifically designed for habitat conservation of shorebirds, waterbirds, or landbirds, as it does through the North American Waterfowl Management Plan, for the conservation of wetlands for waterfowl.

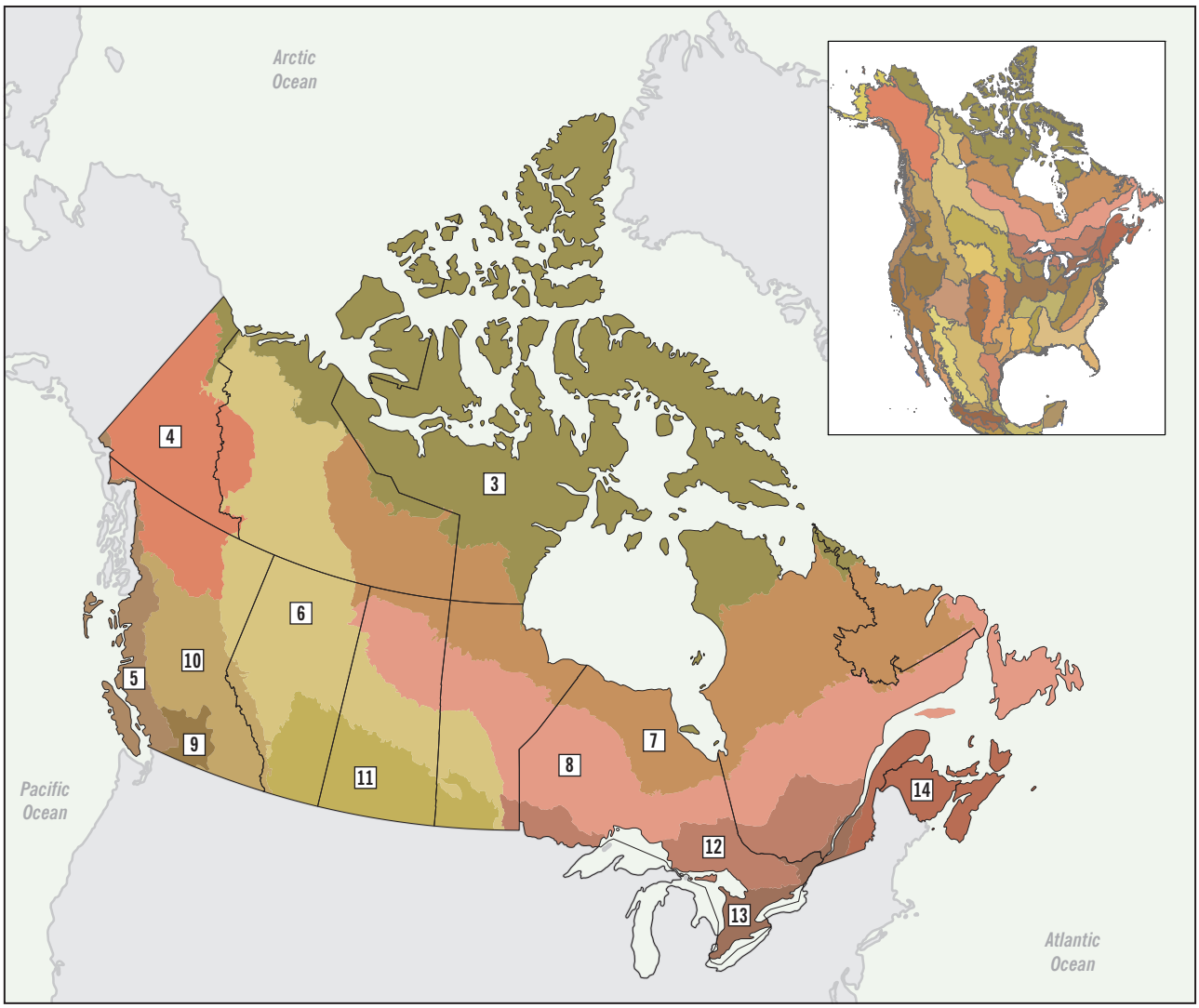
3.26 **Bird Conservation Region Strategies.** In 1999, Environment Canada committed to develop Bird Conservation Region Plans. These plans, now called strategies, stem from the North American Bird Conservation Initiative (NABCI). The strategies, which identify conservation objectives and proposed actions for species of conservation concern, are used to present Environment Canada's priorities for migratory bird conservation. Because they cover all bird groups, they provide an opportunity to give greater consideration to species that have not received the attention and resources devoted to waterfowl.

3.27 Because causes for declines in migratory birds can originate from outside Canada, working with international partners is a key element in bird conservation. The strategies are meant to guide bird conservation efforts nationally and identify international conservation issues. For example, possible causes of the decline in Canada Warbler populations may include loss of wintering habitat in South America as well as loss and degradation of habitat on the Canadian breeding grounds. To reach Canada's conservation goals for these birds, international conservation initiatives may also be needed.

3.28 Environment Canada intended to complete the 25 strategies, covering 12 ecosystem regions, by 2010 (Exhibit 3.4). We found that, as of July 2013, the Department had completed 9 of the required 25 strategies, and 4 more were in draft form.

3.29 The Department encourages NABCI partners (including provincial governments, Bird Studies Canada, Nature Conservancy of Canada, and Ducks Unlimited Canada) to contribute to the implementation of the strategies. We note that Environment Canada has no plan or budget to contribute to implementing these strategies beyond its existing activities. The Department expects to make them available on its website as guides for others to use; however, at the time of our audit, none of the completed strategies were posted on the Department's website.

Exhibit 3.4 **Bird conservation regions cover 12 ecosystem regions in Canada**



Conservation Regions 1 and 2 are in Alaska (United States)

- 3 Arctic Plains and Mountains (includes 3 sub-regions)
- 4 Northwestern Interior Forest
- 5 Northern Pacific Rainforest
- 6 Boreal Taiga Plains
- 7 Taiga Shield and Hudson Plains (includes 4 sub-regions)
- 8 Boreal Softwood Shield (includes 4 sub-regions)
- 9 Great Basin
- 10 Northern Rockies
- 11 Prairie Potholes
- 12 Boreal Hardwood Transition (includes 2 sub-regions)
- 13 Lower Great Lakes/St. Lawrence Plain (includes 2 sub-regions)
- 14 Atlantic Northern Forest (includes 4 sub-regions)

Note: Some bird conservation regions include the marine 200-nautical mile exclusive economic zone.

Source: Adapted from Environment Canada documents.

3.30 We found that the strategies that have been completed do not include

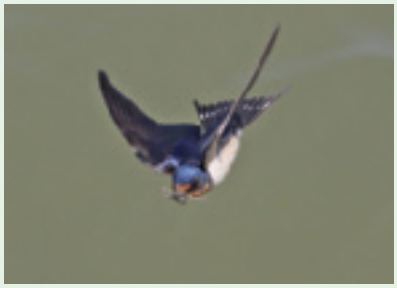
- information on who is expected to undertake the proposed conservation actions,
- timelines for their completion, or
- an estimate of the resources required to implement them.

3.31 For example, the final strategy for the Northern Pacific Rainforest, where logging and wood harvesting are identified as threats to the Marbled Murrelet (a migratory bird listed as threatened), recommends securing coniferous forest and avoiding habitat fragmentation, but does not identify how this recommendation should be carried out.

3.32 Environment Canada funds certain activities outside the country—mainly monitoring—on a case-by-case basis. The Department estimates that some progress has been achieved for certain shorebirds and grassland birds, but recognizes that more work is needed for aerial insectivores. Research to identify the causes behind the decline in aerial insectivores has been undertaken by a number of organizations, including Environment Canada, academics, and non-governmental organizations. Several hypotheses have been proposed, but the specific causes of the decline are still not clear. Further research is needed to identify what has caused the decline of these birds (Exhibit 3.5). Bird Conservation Region Strategies recognize that actions are needed at the international level for several species; however, there are no specific actions identified for implementation.

Exhibit 3.5 The declines in aerial insectivores are cause for concern

Aerial insectivores are landbird species that depend on flying insects for food. These common species have declined in population more than any other group in Canada. Some species, such as the Barn Swallow, Chimney Swift, and Common Nighthawk, have declined by over 60 percent since the 1970s. The magnitude and geographic extent of the decline are cause for conservation concern. For example, the Barn Swallow was once abundant, but in 2011 the committee on the Status of Endangered Wildlife in Canada declared it a threatened species, and Environment Canada is considering listing it under the *Species at Risk Act*.



Barn Swallow

Photo: © Glen Tepke

3.33 **In summary.** Considering the Department's delay in developing the strategies, and the lack of clarity concerning who will implement them and how they will be funded, we believe that Environment Canada is missing the opportunity to advance the conservation of birds beyond the waterfowl group. Without proper conservation actions, more species may become at risk. Without a clear plan for implementing conservation actions, the investment in planning will be wasted, and the mandate for bird and habitat conservation will not be met.

3.34 **Recommendation.** In addition to finalizing its Bird Conservation Region Strategies, Environment Canada should develop an action plan to support implementation of each strategy and to identify opportunities for international ventures. In doing so, the Department should identify key players, and timelines to implement proposed conservation actions, including its own planned implementation activities and resources.

The Department's response. Agreed. In addition to finalizing all Bird Conservation Region Strategies by the end of fiscal year 2013–14, Environment Canada will engage stakeholders. As achieving migratory bird conservation relies on the actions of many, the action plans will be developed under the umbrella of Canada's committee for the North American Bird Conservation Initiative, a key partnership for bird conservation nationally. The Department will support the overall effort and will implement actions identified in the plans that are in line with its own responsibilities and priorities.

Gaps in monitoring affect the Department's ability to track results and make informed decisions

3.35 Monitoring bird populations is a key activity in the conservation of bird populations. Monitoring data are required at relevant times and geographic scales to evaluate the status of bird populations, to direct management and science priorities, and to guide and track results of conservation actions. For example, monitoring is used for

- planning conservation actions,
- setting annual harvest levels for species such as waterfowl,
- assessing whether a bird species is at risk, and
- evaluating the effectiveness of specific conservation actions (Exhibit 3.6).

Exhibit 3.6 Monitoring combined with research and direct intervention can lead to results

Ongoing monitoring and sound action are essential to ensure that potential threats and related impacts are detected, promptly assessed, and addressed.

- Following monitoring and subsequent research in the Great Lakes, concerted efforts to reduce the use of harmful chemicals such as DDT (dichlorodiphenyltrichloroethane) and PCBs (polychlorinated biphenyls) contributed to substantial population increases of waterbirds (such as gulls, terns, herons, cormorants, and pelicans) characteristic to the shorelines and islands of the lakes.
- Many raptor populations, hit hard by chemical contamination in the mid-1900s, have experienced dramatic recoveries since 1970 as a result of the banning of persistent pesticides such as DDT, combined with recovery programs for individual species such as the Peregrine Falcon. Monitoring allowed the detection of changes in their populations.

Source: Adapted from The State of Canada's Birds, 2012.

3.36 Environment Canada is involved in 190 monitoring programs across Canada. It does not undertake monitoring alone; instead, the Department depends on collaborative arrangements with other government agencies, other countries, non-governmental organizations, and universities, as well as the contributions of volunteers.

3.37 In 2012, Environment Canada completed a scientific review of programs for monitoring bird population that it supported. The Avian Monitoring Review concluded that most programs continue to be relevant and support the Department's information needs.

3.38 However, the Review also concluded that many gaps exist in the scope of bird monitoring. Some gaps present significant risks to Environment Canada's ability to make informed decisions regarding migratory bird conservation. For example, the Review found monitoring to be insufficient for some species of waterfowl, particularly sea ducks. As well, for 30 percent of all bird species in Canada, the Review found that monitoring is insufficient for determining whether they are at risk. This includes at least a few species in all bird groups, with the largest numbers among shorebirds in the Arctic and landbirds in the boreal forest and the western mountains. These information gaps reduce the Department's ability to identify appropriate actions in its conservation plans (such as the Bird Conservation Region Strategies) and to assess the effectiveness of conservation actions.

3.39 We found that the Department has recently started to respond to the recommendations included in its Review, including

- creating an Avian Monitoring Committee to manage and oversee the implementation of the Review's recommendations,
- shifting resources from monitoring waterfowl to other bird groups,
- working on improving survey design, and
- considering the use of new technologies to address gaps in monitoring in remote areas.

The Department notes, however, that it would need significant new resources to address major gaps, such as on-the-ground monitoring of boreal landbirds and monitoring of waterbirds nationally, and of seabirds and shorebirds in the Arctic.

The Department lacks clear objectives for monitoring bird habitat

3.40 The loss and degradation of habitat is recognized as one of the main threats to migratory birds. For example, the prairie grasslands have been reduced to a fraction of their original size. Although most of the 70 percent loss occurred before the 1990s, the decline continues in some areas. Grassland bird populations are dropping sharply. In Canada, there has been an overall loss of 45 percent of grassland bird populations since the 1970s, with some species showing significant declines. For example, loss and degradation of habitat has contributed to a 93 percent decline in the Chestnut-collared Longspur population and an 83 percent decline in the population of the Sprague's Pipit. Both grassland species are listed as threatened under the *Species at Risk Act*.

3.41 Insight into habitat change is essential for understanding potential causes of population change, as well as for developing appropriate management and conservation programs. As noted by the Avian Monitoring Review, habitat monitoring can help to reduce risks resulting from gaps in monitoring. Because many bird population trends may be driven by changes in habitat quantity and quality, habitat monitoring not only complements bird population monitoring but also, in some cases, may reduce requirements for population monitoring. Although the Review did not focus its assessment on the Department's habitat surveys, it noted that these surveys generally lack clear objectives and coordinated application of results. The Review concluded that an overall assessment of Environment Canada's bird habitat monitoring programs is a high priority. However, this assessment has not begun.

3.42 **Recommendation.** To support its bird conservation activities and bird monitoring efforts, Environment Canada should review its habitat monitoring and habitat information needs, and develop an effective approach to compiling available habitat data and addressing any information gaps.

The Department's response. Agreed. Habitat monitoring and information are an important component of the conservation of migratory birds. While large-scale habitat monitoring is beyond the scope of departmental responsibility, the Department continues to assess and compile habitat information needed for the identification of priority areas for conservation of migratory birds in cooperation with other partners such as other departments, agencies, provincial counterparts, and stakeholders. Recognized as a key requirement for the implementation of Bird Conservation Region Strategies, priority habitats for migratory birds will be identified in order to target conservation and stewardship actions by stakeholders best placed to undertake such actions.

Effectiveness of actions to avoid accidental destruction of birds needs to be assessed

3.43 Under the *Migratory Birds Regulations*, it is forbidden to disturb, destroy, or take nests, eggs, and migratory birds except under the authority of a permit. There are no regulations on issuing permits for industrial activities. However, many nests, eggs, and birds are accidentally destroyed at industrial sites, in urban environments, and by resource exploitation activities (such as forestry, mining, and agriculture). This accidental destruction is called incidental take and is prohibited under the *Migratory Birds Regulations*.

3.44 Environment Canada's primary tool for reducing incidental take is the information it provides (known as avoidance guidelines) on topics such as the different breeding seasons of birds in Canada and the presence of nests. This information is meant to increase public awareness so that individuals and industries can avoid accidentally destroying birds, eggs, and nests.

3.45 In 2007, the Department initiated a process to develop regulations that would allow some incidental take while maintaining healthy bird populations. The Department also committed to developing these regulations in the 2010 Federal Sustainable Development Strategy. Later in 2010, the Department announced that it was no longer taking a regulatory approach. In its place, the Department has been promoting the use of "beneficial management practices" in addition to its avoidance guidelines to prevent incidental take.

3.46 Environment Canada encourages stakeholders, such as industrial sectors, to develop their own beneficial management practices for conserving bird populations and their habitat. The Department drafted a guide in 2011 to help industry develop practices beneficial to birds, but the guide has not yet been approved. The Department has, however, taken the position that it does not "have the authority to prescribe or recognize specific best management practices for specific activities." In other words, Environment Canada will not validate an industry's practices.

Environmental petition—A formal means, established under the *Auditor General Act*, for Canadians to bring their concerns about environmental issues to the attention of federal ministers and departments and to obtain a response. For further information on the petitions process, please visit www.oag-bvg.gc.ca.

3.47 In response to an **environmental petition** received by the Commissioner of the Environment and Sustainable Development in 2011, the Minister of the Environment stated that in 2012, "Environment Canada will start implementing a framework to support the development of beneficial management practices, as well as begin developing the framework to assess results achieved by their implementation by stakeholders against conservation priorities" (Petition no. 311). We found that this framework has not yet been completed. Once the Department has developed an approach to incidental take, it needs to assess the results of this approach against its established conservation priorities.

3.48 **Recommendation.** Environment Canada should define how it will support and promote the development of management practices that are beneficial to birds. It should assess the effectiveness of its actions to promote beneficial management practices and its guidance on avoiding incidental take on bird conservation.

The Department's response. Agreed. Environment Canada will support the development and implementation of beneficial management practices by providing guidance to industrial sectors that explains the Bird Conservation Region Strategies, which identify the priority species and priority threats to be addressed in each region. Environment Canada will assess its actions to promote adoption of beneficial management practices and avoidance guidelines. Development of beneficial management practices should be undertaken by those best placed to do so.

Conclusion

3.49 We concluded that Environment Canada, through the North American Waterfowl Management Plan, has adequately undertaken conservation planning for waterfowl and is tracking results of conservation actions for this bird group. This initiative, for the most part, has proven successful.

3.50 With regard to the other bird groups—landbirds, shorebirds, and waterbirds—we concluded that the Department has not adequately undertaken conservation planning and results measurement. Meanwhile, shorebirds and landbirds such as grassland birds and aerial insectivores continue to suffer steep declines.

3.51 Bird Conservation Region Strategies meant to address all bird groups were targeted for completion in 2010; however, as of July 2013, less than half of the 25 strategies had been completed. Furthermore, those that have been completed do not identify who should contribute to the proposed actions, timelines, and required resources. The Department expects to make them available on its website as guides for stakeholders to implement.

About the Audit

All of the audit work in this chapter was conducted in accordance with the standards for assurance engagements set by The Canadian Institute of Chartered Accountants. While the Office adopts these standards as the minimum requirement for our audits, we also draw upon the standards and practices of other disciplines.

As part of our regular audit process, we obtained management's confirmation that the findings reported in this chapter are factually based.

Objectives

This audit sought to determine whether Environment Canada has fulfilled selected responsibilities regarding migratory birds.

Specifically, we examined the Department's

- conservation plans and activities (including monitoring), and
- assessments (performance measurement) of results achieved by its conservation activities.

Scope and approach

We examined whether Environment Canada had developed conservation plans for migratory birds and whether the Department was measuring the results achieved by its conservation activities. We also examined the Department's monitoring of bird populations and habitat, and its efforts to prevent the accidental destruction of birds, nests, and eggs.

In carrying out the audit, we interviewed Environment Canada officials and relevant stakeholders, and reviewed the Department's files, reports, and other supporting documentation. We also visited two regions, the western and Quebec regions, to better understand the Department's conservation responsibilities.

Criteria

Criteria	Sources
To determine whether Environment Canada has fulfilled selected responsibilities regarding migratory birds, we used the following criteria.	
• Environment Canada has developed bird conservation region plans. • Environment Canada has measured the results achieved by its migratory bird conservation activities.	• *Migratory Birds Convention Act, 1994* and associated regulations • Federal Sustainable Development Strategy, 2010 • 2012–13 Report on Plans and Priorities, Environment Canada • Policy on Management, Resources and Results Structures, Treasury Board

Management reviewed and accepted the suitability of the criteria used in the audit.

Period covered by the audit

The audit covered the period from April 2008 to April 2013. Audit work for this chapter was completed on 30 July 2013.

Audit team

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Appendix List of recommendations

The following is a list of recommendations found in Chapter 3. The number in front of the recommendation indicates the paragraph number where it appears in the chapter. The numbers in parentheses indicate the paragraph numbers where the topic is discussed.

Recommendation	Response
Conserving bird species and their habitat	
3.34 In addition to finalizing its Bird Conservation Region Strategies, Environment Canada should develop an action plan to support implementation of each strategy and to identify opportunities for international ventures. In doing so, the Department should identify key players, and timelines to implement proposed conservation actions, including its own planned implementation activities and resources. **(3.24–3.33)**	Agreed. In addition to finalizing all Bird Conservation Region Strategies by the end of fiscal year 2013–14, Environment Canada will engage stakeholders. As achieving migratory bird conservation relies on the actions of many, the action plans will be developed under the umbrella of Canada's committee for the North American Bird Conservation Initiative, a key partnership for bird conservation nationally. The Department will support the overall effort and will implement actions identified in the plans that are in line with its own responsibilities and priorities.
3.42 To support its bird conservation activities and bird monitoring efforts, Environment Canada should review its habitat monitoring and habitat information needs, and develop an effective approach to compiling available habitat data and addressing any information gaps. **(3.40–3.41)**	Agreed. Habitat monitoring and information are an important component of the conservation of migratory birds. While large-scale habitat monitoring is beyond the scope of departmental responsibility, the Department continues to assess and compile habitat information needed for the identification of priority areas for conservation of migratory birds in cooperation with other partners such as other departments, agencies, provincial counterparts, and stakeholders. Recognized as a key requirement for the implementation of Bird Conservation Region Strategies, priority habitats for migratory birds will be identified in order to target conservation and stewardship actions by stakeholders best placed to undertake such actions.
3.48 Environment Canada should define how it will support and promote the development of management practices that are beneficial to birds. It should assess the effectiveness of its actions to promote beneficial management practices and its guidance on avoiding incidental take on bird conservation. **(3.43–3.47)**	Agreed. Environment Canada will support the development and implementation of beneficial management practices by providing guidance to industrial sectors that explains the Bird Conservation Region Strategies, which identify the priority species and priority threats to be addressed in each region. Environment Canada will assess its actions to promote adoption of beneficial management practices and avoidance guidelines. Development of beneficial management practices should be undertaken by those best placed to do so.