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Canadian Environmental Sustainability Indicators

Species at Risk Population Trends



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Canadian Environmental Sustainability Indicators

Species at Risk Population Trends

February 2016

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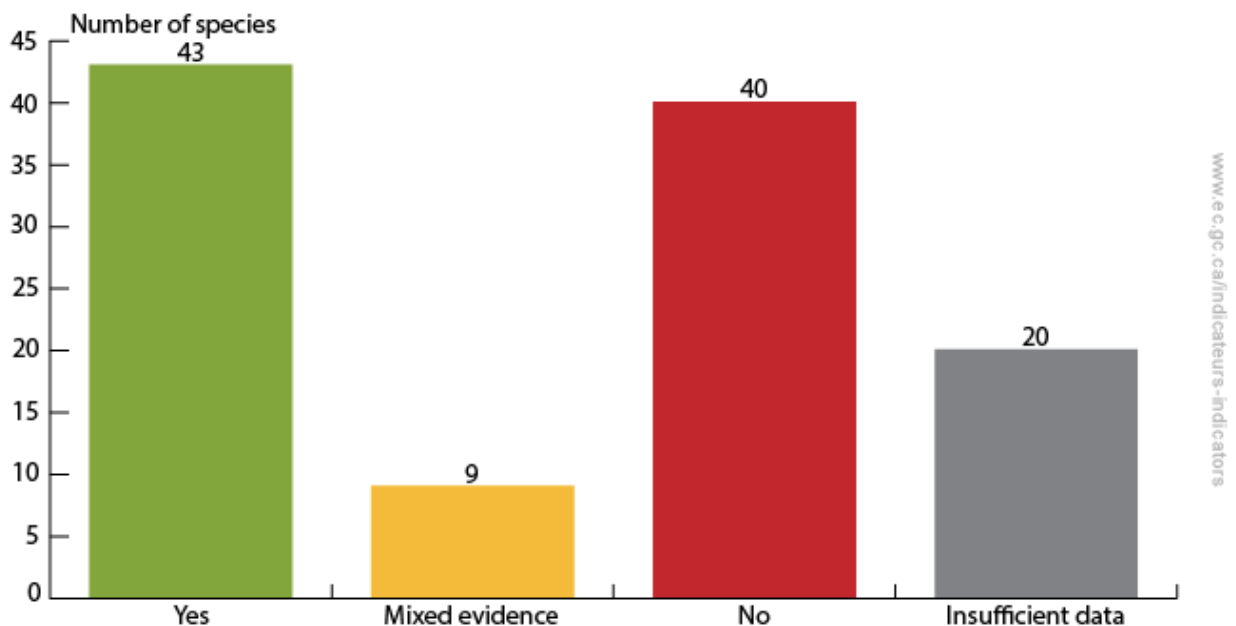
Part 1. Species at Risk Population Trends Indicator

Some wildlife species in Canada are at risk of extinction. The goal of the *Species at Risk Act* (SARA) is to prevent losses of endangered or threatened plants and animals from the wild, and to help in their recovery. Recovery strategies for these species¹ assess whether recovery is feasible, what threats need to be addressed, objectives and approaches for recovery, and critical habitat. The Act is also intended to manage species of special concern and to prevent them from becoming endangered or threatened. These species have management plans prepared.

Of the 307 species at risk that had final recovery strategies or management plans as of May 2015, 112 species have population-oriented objectives and have been reassessed since their final recovery documents were finalized.² Of these 112 species, 43 (38%) have current population trends that are consistent with the objectives laid out in the recovery documents, and 40 (36%) show trends that are inconsistent with the objectives. Another nine (8%) have both some indication of improvement and some indication of decline. For the remaining 20 species (18%), there are insufficient data to determine trends.

Species require time to recover and long-lived species may require many decades. In addition, observations of rare species are often difficult to collect. The indicator results should not be interpreted as a measure of recovery success until sufficient time has passed to allow species to recover and to collect sufficient information to assess that recovery.

Figure 1. Are population trends of species at risk consistent with the objectives?, Canada, May 2015



[Data for Figure 1](#)

¹ Recovery strategies are also prepared for extirpated species, which are species that are no longer present in Canada but exist elsewhere.

² Species that are not deemed feasible to recover at this time (8) and species with operational, rather than population-related, goals (9) are not included in this total.

Note: Categories are assigned based on the most recent available information, accounting as much as possible for the amount of time that has been available for recovery.

Source: Fisheries and Oceans Canada, Environment and Climate Change Canada, Parks Canada, and Committee on the Status of Endangered Wildlife in Canada Secretariat (2014).

Canada has a [two-step process](#) to determine which species require recovery documents:

1. Scientific assessment: The Committee on the Status of Endangered Wildlife in Canada (COSEWIC) provides advice to the Government of Canada on the status of wildlife species.
2. Listing decision: The Government of Canada reviews this information and decides whether to add the species to Schedule 1 under SARA. Schedule 1 is the official list of species at risk in Canada. Inclusion on Schedule 1 brings SARA into effect.

Determining population trends in rare species can present some challenges. Many of these individuals are difficult to find and identify. For example, the most reliable way to distinguish the threatened Eastern Ribbon Snake from the more common Eastern Garter Snake is to see which scale rows have yellow stripes: those of the Ribbon Snake fall on scale rows 3 and 4, whereas those of the Garter Snake are on scale rows 2 and 3.



This indicator is used to measure progress toward [Target 4.1: Species at Risk – By 2020, populations of species at risk listed under federal law exhibit trends that are consistent with recovery strategies and management plans](#) of the [Federal Sustainable Development Strategy 2013–2016](#).

Part 2. Data Sources and Methods for the Species at Risk Population Trends Indicator

Introduction

The [Species at Risk Population Trends](#) indicator is part of the [Canadian Environmental Sustainability Indicators](#) (CESI) program, which provides data and information to track Canada's performance on key environmental sustainability issues. This indicator is also used to measure progress towards the goals and targets of the [Federal Sustainable Development Strategy](#) and the [2020 Biodiversity Goals and Targets for Canada](#).

Description and rationale of the Species at Risk Population Trends indicator

Description

The indicator provides an assessment of the recovery trends of species at risk that i) are included on the [List of Wildlife Species at Risk](#) under the federal *Species at Risk Act* (SARA), ii) have a final recovery strategy or management plan that contains population objectives, iii) are determined to be biologically and technically feasible to recover if listed as Extirpated, Endangered or Threatened, and iv) have been reassessed by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC) since the final recovery document (recovery strategy or management plan) was published.

Rationale

The degree to which species respond positively to management is a measure of success.

Species listed on the [List of Wildlife Species at Risk](#) under SARA as Extirpated, Endangered or Threatened must have recovery strategies prepared as a mean to focus management actions. Species recognized as Special Concern have management plans prepared. Recovery strategies focus on recovering species while management plans target conservation. These strategies and plans are referred to here as "recovery documents." Recovery takes time: once recovery efforts are in place, it may take many years for changes in populations to be measurable. Early signs of progress may include, for example, a reduced rate of decline.

In general, successful recovery of species should arrest or reverse any unnatural decline, and remove or mitigate anthropogenic pressures, in order to improve or stabilize the likelihood of the species' persistence in the wild. A species will be considered recovered when its long-term persistence in the wild has been achieved.

Recovery strategies and management plans are as varied as the biology of, and threats to, the species they address. Recovery documents contain overall objectives which often relate to population numbers and distribution. The documents consider the current and past abundance and distribution of the species, and also recommend approaches for recovery or conservation. For Extirpated, Endangered or Threatened species, recovery feasibility is also considered. Recovery strategies must be completed within one year of a species being listed as Endangered, and within two years of a species being listed as Threatened or Extirpated. Management plans must be completed within three years of a species being listed as Special Concern.

Recent changes to the indicator

In 2014, the indicator was extended to include both recovery strategies and management plans. As a result, species of Special Concern are included. For the 2015 update, new data have been included.

Data

Data source

Recovery strategies: objectives

Recovery objectives were drawn from final recovery strategies³ of species listed as Extirpated, Endangered or Threatened on the [List of Wildlife Species at Risk](#) under the *Species at Risk Act* (SARA). Final and proposed species recovery strategies are made available to the public through the [Species at Risk Public Registry](#). Under SARA, progress towards meeting the objectives of a species' recovery strategy is to be reported every five years until the objectives have been met.

Management plans: objectives

Management plans contain objectives that relate to preventing species of Special Concern from becoming Threatened or Endangered. Like recovery strategies, final and proposed species management plans are made available to the public through the [Species at Risk Public Registry](#). Implementation of management plans is monitored five years after its posting and every subsequent five years until objectives have been achieved.

Population trends

The Committee on the Status of Endangered Wildlife in Canada (COSEWIC) is a committee of experts that determines the national status of Canadian wildlife species, subspecies, varieties or other designatable units that are suspected of being at risk of extinction or extirpation. The assessment report gathers the available science as well as Aboriginal and community knowledge, to provide a comprehensive view of species status. COSEWIC reassesses species every 10 years or more often if warranted. It should be noted that COSEWIC reports, including reassessments, are independent from other work under SARA.

The latest available information on population trends was extracted from the most recent COSEWIC assessments, which are also available through the [Species at Risk Public Registry](#). In a few cases, additional information was drawn from federal documents.

Spatial coverage

Coverage is national, but significant biases in information availability exist. Species knowledge is greatest in southern Canada, in part because the area is more accessible, and in part because more species at risk occur in southern Canada.

Temporal coverage

The first final recovery strategies and management plans were published in 2006. The indicator includes all species meeting the criteria for inclusion from that date.

³ The [Species at Risk Public Registry](#) provides both final and proposed recovery documents for species at risk in Canada, in keeping with the provisions of SARA. A recovery strategy is considered final once all consultation and approval processes have been completed. The process is similar for management plans.

Data completeness

All species with final recovery documents are considered; these are species with a status under SARA as Extirpated, Endangered, Threatened, or Special Concern. Three criteria are considered:

1. Species listed as Extirpated, Endangered or Threatened must be deemed feasible to recover.
2. Species must have objectives relating to population size, distribution or both.
3. Species must have been reassessed since the publication of the final recovery strategy/management plan, to allow a comparison to previous conditions.

All species meeting these criteria are included.

Eight species were deemed not feasible to recover at the time of their assessment: [Dwarf Wedgemussel](#), [Eskimo Curlew](#), [Grey Whale \(Atlantic population\)](#), [Grizzly Bear \(Prairie population\)](#), [Incurved Grizzled Moss](#), [Paddlefish](#), [Tiger Salamander \(Great Lakes population\)](#) and [Timber Rattlesnake](#).

The recovery strategies for nine species contain only operational objectives, such as verification of the presence of the species in Canada. These are [Blanchard's Cricket Frog](#), [Gravel Chub](#), [Island Blue](#), [Kirtland's Warbler](#), [Margined Streamside Moss](#), [Mormon Metalmark \(Prairie population\)](#), [Ottoe Skipper](#), [Puget Oregonian Snail](#) and [Silver Hair Moss](#). Kirtland's Warbler has since been sighted.

Data timeliness

This indicator is current to May 2015.

Methods

Listing

Species potentially at risk undergo an assessment by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC), an independent body of experts. COSEWIC completes a species assessment (status report) and assigns species to risk categories: Extinct, Extirpated, Endangered, Threatened, Special Concern, Not at Risk or Data Deficient. COSEWIC reassesses each species at risk at least once every 10 years, or at any time if it has reason to believe that the status of the species has changed.

COSEWIC assessments are provided to the Minister of the Environment, who recommends to the Governor in Council which species to add to the [List of Wildlife Species at Risk](#) under the *Species at Risk Act* (SARA). Species listed as Endangered, Threatened or Extirpated under SARA must have a recovery strategy prepared by Environment and Climate Change Canada, Parks Canada or Fisheries and Oceans Canada, as appropriate. For species listed as Special Concern, a management plan must be prepared.

Recovery strategies

Recovery strategies assess whether recovery is feasible, outline what threats need to be addressed, set objectives and broad strategies and approaches for the species recovery, and, in some cases, identify critical habitat. Co-occurring species may share a strategy. Recovery strategies for species deemed recoverable are followed by action plans, which outline specific measures required to meet the objectives of the recovery strategy.

Species recovery strategies must be completed within one year of the species being listed as Endangered, and within two years of the species being listed as Threatened or Extirpated on the [List of Wildlife Species at Risk](#) under SARA.

Management plans

Management plans include measures for the conservation of species of Special Concern and their habitat and, when possible, are prepared for multiple species in a shared ecosystem or landscape. Management plans are required within three years of the species being listed as Special Concern on the [List of Wildlife Species at Risk](#) under SARA.

Data extraction

Species meeting the criteria for inclusion were those deemed feasible to recover at the time of assessment and which had objectives related to population size and/or distribution. Recovery objectives were drawn from recovery documents. Population recovery objectives could include, for example, maintaining or increasing the total number of individuals of a species, restoring the area of occupation, and/or increasing the number of sites occupied by a species.

A search was made for COSEWIC reassessments produced since the recovery document was finalized. Relevant data were extracted from these reassessments, based on the recovery objectives.

Scoring

A comparison was made between the recovery objectives and the trends in observed data, accounting as much as possible for the length of time elapsed between the recovery document and the reassessment, and for the biology of the species. Using a weight-of-evidence approach, species were categorized into one of four groups, and the rationale was recorded:

1. Population trends consistent with recovery objectives ("Yes").
2. Population trends not consistent with recovery objectives ("No").
3. A mix of consistent and inconsistent population trends ("Mixed evidence").
4. Available data is insufficient to determine population trends ("Insufficient data to determine trends").

The indicator is a count of the number of species categorized in each group.

Caveats and limitations

Coverage of species is very narrow compared to the number of wildlife species assessed by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC) as Extirpated (23), Endangered (316), Threatened (167) or of Special Concern (205), or compared to the number of species listed on Schedule 1 of the *Species at Risk Act* (SARA) as Extirpated (23), Endangered (241), Threatened (127), or of Special Concern (130).

It takes time for response to become apparent: while an insect population might begin to recover in a few years, it takes many years to detect changes in tree or whale populations. While the indicator uses the best information available, this may include periods of time before recovery documents were finalized. Indicator results should not be interpreted as a measure of recovery success until sufficient time has passed to allow species to recover and to collect sufficient information to assess that recovery.

Observations of rare species are often difficult to collect, and assessments are necessarily based on incomplete information.

With time, the number of species with completed recovery documents and the number of reassessed species will increase, and trends will become more meaningful as populations have sufficient time to respond.

Part 3. Annexes

Annex A. Data tables for the figures presented in this document

Table A.1. Data for Figure 1. Are population trends of species at risk consistent with the objectives?, Canada, May 2015

Common name	Trends consistent with objectives?	Rationale
Atlantic Salmon (Inner Bay of Fundy populations)	No	The Atlantic Salmon (Inner Bay of Fundy population) has less than 200 mature individuals left in the wild and is not self-sustaining.
Atlantic Whitefish	Yes	Individuals have been introduced to suitable watersheds in order to expand the species' range.
Atlantic Wolffish	Yes	There are signs of population recovery.
Banded Cord-moss	Insufficient data to determine trends	Population trends are unknown.
Banded Killifish (Newfoundland population)	Yes	Population appears to be stable. No indication of decline in either the number of populations or abundance within populations.
Banff Springs Snail	Yes	There is a population increase.
Bearded Owl-clover	Insufficient data to determine trends	Due to a lack of reliable counts and the sizable fluctuations in the number of mature individuals, current population trends cannot be determined.
Beluga Whale (St. Lawrence Estuary population)	No	The population has been declining and reasons for this decline are not understood.
Blackstripe Topminnow	Yes	Canadian population appears to be stable.
Black-tailed Prairie Dog	Insufficient data to determine trends	Populations do not appear to be increasing, and the probability of catastrophic disturbances is increasing as climate changes. It is difficult to determine the probability of population survival.

Common name	Trends consistent with objectives?	Rationale
Blue Whale (Atlantic population)	Insufficient data to determine trends	The Blue Whale (Atlantic population) is estimated to contain <250 mature individuals; however further data on changes in population size is needed to determine if progress has been made.
Blue Whale (Pacific population)	Insufficient data to determine trends	The rarity of the Blue Whale (Pacific population) has been confirmed, but data on changes in population size is needed to determine if any recovery progress has been made.
Boreal Felt Lichen (Atlantic population)	No	Both the number of occurrences and number of individuals are declining. Available habitat has declined between 1988 and 2005.
Boreal Felt Lichen (Boreal population)	Mixed evidence	It is not clear whether observed increases at some sites offset the declines observed at other sites.
Bridle Shiner	Insufficient data to determine trends	Population sizes have not been estimated in Canada.
Buffalograss	Insufficient data to determine trends	Population trends in Canada are unknown.
Coastrange Sculpin (<i>Cultus</i> population) (also <i>Cultus Pygmy Sculpin</i>)	No	The species appears to have declined in abundance.
Columbian Carpet Moss	Insufficient data to determine trends	Detailed population data do not exist.
Copper Redhorse	No	No increase in population abundance and one location has been extirpated.
Cucumber Tree	Yes	Ontario populations appear to be at a steady state. Large trees have increased in number.
Dakota Skipper	No	Population has declined.
Deltoid Balsamroot	No	There is a sharp decline in the total Canadian population.

Common name	Trends consistent with objectives?	Rationale
Eastern Mountain Avens	Mixed evidence	Overall, one population has declined, the other appears stable.
Eastern Ribbonsnake (Atlantic population)	Insufficient data to determine trends	Long-term population trends of the Eastern Ribbonsnake could not be established. There is limited evidence that some Eastern Ribbonsnake populations may be declining in parts of Nova Scotia.
Enos Lake Benthic Threespine Stickleback	No	It is unlikely that genetically pure benthics remain in Enos Lake and no captive populations have been established.
Enos Lake Limnetic Threespine Stickleback	No	It is unlikely that genetically pure limnetics remain in Enos Lake and a captive population appears to be different.
Ermine, <i>haidarum</i> subspecies (<i>Haida ermine</i>)	No	A historical population decline since the 1950s is inferred and habitat is declining.
Fernald's Braya	No	Population size is declining.
Frosted Glass-whiskers (Atlantic population)	Yes	Known occurrences have been maintained.
Furbish's Lousewort	No	Populations continue to decline at existing sites.
Golden Paintbrush	No	Decline in population size is inconsistent with goal of attaining self-sustaining populations at existing sites. No new populations have been established.
Goldencrest	No	Population size is declining slowly.
Grass Pickerel	No	There is a decline in abundance of three sub-populations and the range has also decreased.
Greater Sage-Grouse <i>urophasianus</i> subspecies	No	Population and number of occupied leks are in decline.
Haller's Apple Moss	Yes	Currently, nine populations appear to be stable; trends for the five most recently discovered populations are unknown.
Harlequin Duck (Eastern population)	Yes	Population size is increasing, and appears to have met the population levels outlined in the goals.

Common name	Trends consistent with objectives?	Rationale
Henslow's Sparrow	Insufficient data to determine trends	Data are too few to determine recent trends. There are no indications of any increase since 2000.
Hoary Mountain-mint	Insufficient data to determine trends	Population sizes are not sufficiently well documented to indicate trends.
Hooded Warbler	Yes	Increasing population has reached recovery goals.
Hotwater Physa	Yes	Although populations fluctuate widely, there appears to be no change to abundance or distribution.
Island Marble	No	Available evidence suggests the Island Marble is extirpated in Canada.
Kidneyshell	Mixed evidence	Although populations in the Sydenham River appear stable, populations continue to decline in Lake St. Clair and Ausable River.
Killer Whale (Northern Resident population)	Yes	Population trend is increasing or stable.
Killer Whale (Southern Resident population)	No	Only 81 animals in the population with a stable trend.
Killer Whale (Northeast Pacific Transient population)	Yes	The population has been increasing.
Leatherback Sea Turtle (Atlantic population)	Yes	The population appears to be stable or slightly increasing.
Leatherback Sea Turtle (Pacific population)	No	Nesting colonies in the Pacific are in a steep and continuing decline.
Mountain Plover	Insufficient data to determine trends	Long term trends cannot be established with existing data.
North Atlantic Right Whale	Yes	The North Atlantic Right Whale population increased by about 50% between 1990 and 2010.

Common name	Trends consistent with objectives?	Rationale
North Pacific Right Whale	Insufficient data to determine trends	Population trends are unknown.
Northern Abalone	No	There has been no evidence of population recovery since the fishery closed in 1990.
Northern Bottlenose Whale (Scotian Shelf population)	Yes	The population appears to be stable and there has been no decline in the area of occupancy.
Northern Riffleshell	Yes	The trends are consistent with early recovery: the Northern Riffleshell is found in the Sydenham and Ausable rivers, and recruitment is occurring at several sites in the Sydenham River.
Northern Wolffish	Yes	There have been early signs of recovery in distribution and abundance.
Olympia Oyster	Yes	Although quantitative estimates on population sizes are not available, the Olympia Oyster appears to be stable in recent decades.
Paxton Lake Benthic Threespine Stickleback	Yes	Benthics appear to be stable and locally abundant in Paxton Lake.
Paxton Lake Limnetic Threespine Stickleback	Yes	Limnetics appear to be stable and locally abundant in Paxton Lake.
Pink Coreopsis	Yes	The Canadian population is relatively stable; estimates have increased due to increased survey effort.
Piping Plover <i>circumcinctus</i> subspecies	No	Population is about 2/3 of population goal and appears to be declining.
Piping Plover <i>melodus</i> subspecies	No	Population is less than the short-term population goal and declining.
Plymouth Gentian	Mixed Evidence	Relative stability is consistent with maintenance of populations, yet a minor decline may have occurred.
Poor Pocket Moss	Mixed Evidence	Individual moss plants are difficult to identify. Poor pocket moss now occupies more patches but the original patch is smaller than previously.

Common name	Trends consistent with objectives?	Rationale
Poweshiek Skipperling	Mixed evidence	Population decline is uncertain, area of occupancy is stable.
Prairie Lupine	Yes	No evidence of total population decline has been observed, and one additional population was discovered.
Pugnose Minnow	No	Population sizes are unknown in Canada. There is evidence of continuing decline in extent of occurrence and the quality of habitat.
Pugnose Shiner	Insufficient data to determine trends	Population trends are not available.
Rayed Bean	Yes	The population in the Sydenham River appears to have increased.
Red Mulberry	No	Population size and distribution are declining.
Roseate Tern	No	Population of 100 pairs below population goal with no increasing trend.
Round Hickorynut	No	The estimated trend in decline of Round Hickorynut between 2003 and 2013 is between 75% and 95%, in addition to a 92% decline in extent of occurrence since 2001.
Round Pigtoe	No	There has been a decline in the area, extent and quality of habitat and an apparent decrease in the number of live individuals.
Salamander Mussel (also Mudpuppy Mussel)	No	Habitat quality continues to decline and the species is currently found in only one river.
Sand-verbena Moth	Insufficient data to determine trends	Population numbers are not well-enough known to assess change in the number of moths.
Savannah Sparrow <i>princeps</i> subspecies	Yes	Stable population is consistent with recovery goals.
Seaside Birds-foot Lotus	Mixed Evidence	Seaside Birds-foot Lotus populations appear to be self-sustaining. No new populations have been established.

Common name	Trends consistent with objectives?	Rationale
Sei Whale (Pacific population)	Insufficient data to determine trends	The population is likely well below 250 mature individuals; however additional information is required to determine if any recovery progress has been made.
Short-tailed Albatross	Yes	Population size continues to increase.
Silver Chub	No	Population has declined substantially.
Small Whorled Pogonia	No	No new sighting of this species in Canada have been recorded. Species habitat is declining in quality.
Snuffbox	Yes	Populations in the Sydenham and Ausable rivers appear to be viable as reproduction is occurring at both. The extent of occupancy in these rivers has remained stable.
Soapweed	Yes	No decline or fluctuation in population has been documented. Fruiting success has increased at one site.
Spotted Owl <i>caurina</i> subspecies	No	Population continues to decline; extirpation appears likely.
Spotted Sucker	No	Observed a decline in the number of sub-populations and a continuing decline in quality and quantity of habitat.
Spotted Wolffish	Yes	There have been signs of increases in abundance and area of occupancy.
Sprague's Pipit	Yes	The long-term decline of Sprague's Pipit appears to have stopped, although no significant recovery has yet occurred.
Steller Sea Lion	Yes	Steller Sea Lion populations have been increasing since the 1970s, and there has been an increase in number of breeding sites.
Striped Bass (St. Lawrence Estuary population)	Yes	Reintroduction efforts have resulted in natural spawning and an increase in distribution.
Sweet Pepperbush	Yes	Population appears to be stable or declining slightly.

Common name	Trends consistent with objectives?	Rationale
Swift Fox	Yes	The Canadian population increased from 1996 to 2001 and has remained stable to 2006, meeting the 2012 goal. Apparent increases are likely to be in part due to increased survey effort.
Taylor's Checkerspot	No	Taylor's Checkerspot currently occurs at only one location; population size trends are unknown, but geographic range is not increasing.
Tiny Cryptantha	Insufficient data to determine trends	Currently not possible to determine population trends for this species.
Twisted Oak Moss	Insufficient data to determine trends	Trends cannot be determined.
Vananda Creek Benthic Threespine Stickleback	Yes	Benthics appear to be stable in Vananda Creek.
Vananda Creek Limnetic Threespine Stickleback	Yes	Limnetics appear to be stable in Vananda Creek.
Vancouver Lamprey	Insufficient data to determine trends	Population trends are unknown.
Warmouth	No	Observed decline in the quality and quantity of habitat.
Water-pennywort	Yes	Populations are stable.
Water-plantain Buttercup	Mixed Evidence	Fluctuations in population size are likely the result of variable environmental conditions and no clear trend exists. However, no new sites have been established.
Wavy-rayed Lampmussel	Yes	Population sizes are increasing and the area of occupancy is expanding.
Western Brook Lamprey (Morrison Creek population)	Insufficient data to determine trends	Population trends are unknown.

Common name	Trends consistent with objectives?	Rationale
Western Silvery Minnow	Yes	The species appears to be stable.
White Flower Moth	No	Population declines are expected.
White-top Aster	No	Populations of White-top Aster are stable or declining.
Whooping Crane	Yes	Increasing population is consistent with recovery goals.
Woodland Caribou (Atlantic-Gaspésie population)	No	Population size and distribution are declining.
Woodland Caribou (Boreal population)	No	Most local populations are declining.
Woodland Caribou (Northern Mountain population)	Mixed evidence	Northern herds are stable or increasing, while southern herds are declining. Survey data are dated and incomplete.
Wood-poppy	Yes	Recent stable population trend is consistent with recovery objective to stabilize or increase population sizes of mature plants at all known sites.
Yellow Lampmussel	Yes	There is no information on population trends, but habitat conditions appear stable.
Yellow Montane Violet <i>praemorsa</i> subspecies	No	An overall trend cannot be determined due to fluctuations in population sizes. However, no new sites have been established and habitat quality is declining.
Yellow-breasted Chat <i>virens</i> subspecies	No	Population size is declining.
Yucca Moth	Yes	Larvae successfully emerged from Soapweed seedpods at the Pinhorn site in 2011, confirming the presence of Yucca moth.

Note: Categories are assigned based on the most recent available information, accounting as much as possible for the amount of time that has been available for recovery.

Source: Fisheries and Oceans Canada, Environment and Climate Change Canada, Parks Canada, and Committee on the Status of Endangered Wildlife in Canada Secretariat (2014).

Annex B. References and additional information

References and further reading

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Related information

[Changes in Wildlife Species Disappearance Risks](#)

[Committee on the Status of Endangered Wildlife in Canada](#)

[Environment and Climate Change Canada – Species at Risk](#)

[Global Trends in Bird Species Survival](#)

[Species at Risk Public Registry](#)

www.ec.gc.ca

Additional information can be obtained at:

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